

 <b>SURFACE VEHICLE RECOMMENDED PRACTICE</b>	 <b>J1939 JUN2012</b>
	Issued      2000-04 Revised      2012-06  Superseding J1939 APR2011
Serial Control and Communications Heavy Duty Vehicle Network - Top Level Document	

## RATIONALE

This document has been modified to reflect SPN, PGN, and other ID assignments approved by the Committee through May 2011. New parameters, parameter groups and other assignments are reviewed and discussed by the Committee on a regular basis.

## FOREWORD

The SAE J1939 communications network is defined using a collection of individual SAE J1939 documents based upon the layers of the Open System Interconnect (OSI) model for computer communications architecture. The J1939 Top Level document is the parent document for all other SAE J1939 documents. This document provides the comprehensive list of all assigned data parameter and diagnostic identifiers (SPNs), all assigned messages (PGNs), and all assignments for NAME and Address identifiers. This document serves as the central registry for these assignments even though the technical details for most SPNs and PGNs are specified throughout the collection of other SAE J1939 documents.

The SAE J1939 communications network is a high speed ISO 11898-1 CAN based communications network that supports real-time closed loop control functions, simple information exchanges, and diagnostic data exchanges between Electronic Control Units (ECUs) physically distributed throughout the vehicle. The SAE J1939 network is the next generation successor to the SAE J1708 and SAE J1587 low speed networks. SAE J1708 and SAE J1587 are older, widely used networks intended to provide simple information exchange, including diagnostic data, between ECUs. SAE J1939 is capable of performing all of the functions of SAE J1708 and SAE J1587 networks as well as provides control system support.

The SAE J1939 communications network is developed for use in heavy-duty environments and suitable for horizontally integrated vehicle industries. The SAE J1939 communications network is applicable for light-duty, medium-duty, and heavy-duty vehicles used on-road or off-road, and for appropriate stationary applications which use vehicle derived components (e.g. generator sets). Vehicles of interest include, but are not limited to, on-highway and off-highway trucks and their trailers, construction equipment, and agricultural equipment and implements. The physical layer aspects of SAE J1939 reflect its design goal for use in heavy-duty environments. Horizontally integrated vehicles involve the integration of different combinations of loose package components, like as engine and transmissions, that are sourced from many different component suppliers. The SAE J1939 common communication architecture strives to offer an open interconnect system that allows the ECUs associated with different component manufacturers to communicate with each other.

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## 1. SCOPE

This top level document describes the network in general, the OSI layering structure, the subordinate document structure, and provides control for all preassigned values and names. The Appendices of this document lists all SPN assignments, PGN assignments, NAME Function assignments, Manufacturer Code assignments, and Preferred Address assignments. All SPN and PGN assignments are listed in this document even though the complete definition details might be recorded in another standard. The SPN and PGN listings in this document identify the standard document that either contains the definition details or is associated with the identifier.

### 1.1 Degree of Openness

An SAE J1939 network is open to the degree that any two ECUs which conform to the same SAE J1939-0X document can be connected via the network and communicate with each other without functional interference. The SAE J1939-0X documents describe a specific type of application, typically representing a specific industry to which it pertains such as agricultural or heavy duty trucks. ECUs which conform to a different SAE J1939-0X document may not be capable of communicating directly with one another and in some cases may cause degradation or complete disruption of the entire network.

### 1.2 Proof of Compliance

There is no procedure presently in place to test, validate, or provide formal approval for ECUs utilizing the SAE J1939 network. Each developer is expected to design their products to the spirit of, as well as the specific content of, this recommended practice. Provisions are made in SAE J1939-11 and SAE J1939-15 for self certification to these documents. In the future, additional procedures may be defined and implemented to test new products to ensure full compliance with all appropriate SAE J1939 documents. Until that time, compliance will be determined by the manufacturer of the component. Should questions arise regarding the use or interpretation of any part of these recommended practices they should be directed to the SAE Control and Communications Committee for resolution.

## 2. REFERENCES

### 2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

#### 2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), [www.sae.org](http://www.sae.org).

SAE J1213      Glossary of Automotive Electronic Terms

SAE J1939-01    On-Highway Control and Communication Network

SAE J1939-02    Agricultural and Forestry Off-Road Machinery Control and Communication Network

SAE J1939-03    On Board Diagnostics Implementation Guide

SAE J1939-05    Marine Stern Drive and Inboard Spark-Ignition Engine On-Board Diagnostics Implementation Guide

SAE J1939-11    Physical Layer, 250K bits/s, Twisted Shielded Pair

SAE J1939-13    Off-Board Diagnostic Connector

SAE J1939-15    Reduced Physical Layer, 250K bits/sec, UN-Shielded Twisted Pair (UTP)

SAE J1939-21    Data Link Layer

SAE J1939-31    Network Layer

SAE J1939-71    Vehicle Application Layer

SAE J1939-73    Application Layer - Diagnostics

SAE J1939-74    Application - Configurable Messaging

SAE J1939-75    Application Layer - Generator Sets and Industrial

SAE J1939-81    Network Management

SAE J1939-82    Compliance - Truck and Bus

SAE J1939-84    OBD Communications Compliance Test Cases for Heavy Duty Components and Vehicles

SAE CS1939    J1939 Companion Spreadsheet

## 2.1.2 ISO Publications

Available from American National Standards Institute, 25 West 43rd Street, New York, NY 10036-8002, Tel: 212-642-4900, [www.ansi.org](http://www.ansi.org).

ISO 7498 Information processing systems - Open systems interconnection (OSI) - Basic reference model

ISO 11898-1 Road vehicles - Controller area network (CAN) - Part 1: Data link layer and physical signalling

## 2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

### 2.2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), [www.sae.org](http://www.sae.org).

SAE J1587 Electronic Data Interchange Between Microcomputer Systems in Heavy-Duty Vehicle Applications

SAE J1708 Serial Data Communications Between Microcomputer Systems in Heavy-Duty Vehicle Applications

SAE J1922 Powertrain Control Interface for Electronic Controls Used in Medium- and Heavy-Duty Diesel On-Highway Vehicle Applications

### 2.2.2 ASAM (Association for Standardisation of Automation and Measuring Sytems) Publications

Available from ASAM, Altlaufstr. 40, 85635 Höhenkirchen, Germany, [www.asam.net](http://www.asam.net)

ASAM MCD-1 CCP CAN Calibration Protocol

### 2.2.3 ISO Publications

Available from American National Standards Institute, 25 West 43rd Street, New York, NY 10036-8002, Tel: 212-642-4900, [www.ansi.org](http://www.ansi.org).

ISO 11783 Tractors and machinery for agriculture and forestry — Serial control and communications data network (Part 1 through Part 13)

ISO 11992 Road vehicles - Electrical connections between towing and towed vehicles - Interchange of digital information (Parts 1, 2, 3)

ISO 15765-3 Road Vehicles – Diagnostics on controller area network (CAN) – Part 3: Implementation of unified diagnostic services (UDS on CAN)

### 2.2.4 NMEA (National Marine Electronics Association) Publications

Available from NMEA, 7 Riggs Ave., Severna Park, MD 21146, Tel: 410-975-9425, [www.nmea.org](http://www.nmea.org).

NMEA 2000 NMEA 2000 interface standard

### 3. DEFINITIONS AND ABBREVIATIONS

Definitions provided herein will supersede those contained in SAE J1213. SAE J1213 will otherwise apply throughout.

#### 3.1 DEFINITIONS

##### 3.1.1 ACKNOWLEDGMENT (ACK)

Confirms that the requested action has been understood and performed.

##### 3.1.2 ADDRESS

The 8 bit field (or fields) used to define the source (and destination when applicable) of a message (e.g. engine, transmission, etc.).

##### 3.1.3 ARBITRATION

The process by which one or more ECUs resolve conflicts in obtaining access to a shared network bus.

##### 3.1.4 BASE FORMAT

A CAN data frame using an 11 bit identifier as defined in the ISO 11898-1 specification. Formerly referred to as Standard Frame.

##### 3.1.5 BIT STUFFING

A procedure used to assure the transmitted and received messages maintain a minimum number of dominant to recessive edges, and vice versa, to maintain the proper resynchronization within the string of bits in a CAN Data Frame. See CAN specification for a more detailed discussion.

##### 3.1.6 BRIDGE

A device which stores and forwards messages between two SAE J1939 network segments. This permits changes in the media, the electrical interface, and data rate between segments. The protocol and address space remain the same on both sides of the bridge. Note that a bridge may selectively filter messages going across it so that the bus load is minimized on each segment.

##### 3.1.7 BUS

See Segment.

##### 3.1.8 CAN DATA FRAME

The ordered bit fields necessary to create a CAN frame used to convey data, beginning with an SOF and ending with an EOF.

### 3.1.9 CONTROLLER APPLICATION (CA)

The software within a particular controller is the “Controller Application” (CA). A controller is made up of the software and the hardware within an Electronic Control Unit (ECU) that performs a particular control function. An ECU may serve as one or more controllers and hence may contain one or more CAs. Each CA will have one address and an associated NAME in order to communicate on the SAE J1939 network.

### 3.1.10 CYCLIC REDUNDANCY CHECK (CRC)

An error control mechanism. A 15 bit cyclic redundancy check is performed for detecting transmission errors. Given a  $k$ -bit frame or message, the transmitter generates an  $n$ -bit sequence, known as a frame check sequence so that the resulting frame, consisting of  $k + n$  bits is exactly divisible by some predefined number. The receiver then divides the incoming frame by the same number and, if there is no remainder, assumes that there was no error.

### 3.1.11 DATA FIELD

A 0 to 64-bit field normally placed in a CAN data frame which contains the data as defined in the Application Layer (document SAE J1939-7X).

### 3.1.12 DATA PAGE

A one-bit field in the Identifier portion of the CAN Arbitration Field that is combined with the Extended Data Page bit to select one of four pages of message definitions. The page selections for the Data Page and Extended Data Page bits are listed in Table 1. It also is one of the fields used to determine the Parameter Group Number which labels the data field of the CAN Data Frame.

### 3.1.13 DESTINATION ADDRESS (DA)

This is a Protocol Data Unit (PDU) specific field in the 29 bit CAN identifier used to indicate the address of the ECU intended to receive the SAE J1939 message.

### 3.1.14 DEVICE

A physical component with one or more ECUs and network connections.

### 3.1.15 ELECTRONIC CONTROL UNIT (ECU)

A computer based electronic assembly from which SAE J1939 messages may be sent or received.

### 3.1.16 END OF FRAME (EOF)

A 7 bit field marking the ending of a CAN data frame.

### 3.1.17 EXTENDED DATA PAGE (EDP)

A one-bit field in the Identifier portion of the CAN Arbitration Field that is combined with the Data Page bit to select between multiple pages of decoding of the remaining sections of the Identifier field. The page selections for the Data Page and Extended Data Page bits are listed in Table 1.

### 3.1.18 EXTENDED FORMAT

A CAN data frame using a 29 bit identifier as defined in the ISO 11898-1 specification. Formerly known as Extended Frame.

### 3.1.19 EXTENDED FRAME

See Extended Format.

### 3.1.20 FRAME

A series of data bits making up a complete message. The frame is subdivided into a number of fields, each field containing a predefined type of data. See CAN Data Frame

### 3.1.21 FUNCTION

A capability of a vehicle system having one or more ECUs that are connected to a SAE J1939 bus segment of a Vehicle System. The function value is used in the 8 bit Function field in the 64 bit NAME entity (See SAE J1939-81, Section 4.1)

### 3.1.22 GATEWAY

This device permits data to be transferred between two networks with different protocols or message sets. The gateway provides a means to repackage parameters into new message groups when transferring messages from one segment to another.

### 3.1.23 GROUP EXTENSION (GE)

This is a PDU specific field of a SAE J1939 CAN Data Frame that is used as part of the information necessary to determine the Parameter Group Number.

### 3.1.24 IDENTIFIER

The identifier portion of the CAN arbitration field.

### 3.1.25 IDLE

A state on the CAN bus where no node is transmitting or attempting to transmit data.

### 3.1.26 IMPLEMENT

A machine consisting of one or more ECUs which may be attached to or detached from the vehicle as a unit.

### 3.1.27 MEDIA

The physical entity which conveys the electrical transmission (or equivalent means of communication) between ECUs on the network. For SAE J1939-11, the media consists of shielded twisted pair copper wires. For SAE J1939-15, the media consists of un-shielded twisted pair copper wires.

### 3.1.28 MESSAGE

A “message” is equivalent to one or more “CAN Data Frames” that have the same Parameter Group Number. For instance the information related to a single Parameter Group Number to be transferred on the bus may take several CAN data frames.

### 3.1.29 MULTIPACKET MESSAGES

A type of SAE J1939 message which is used when more than one CAN data frame is required to transmit all data specific to a given Parameter Group Number. Each CAN data frame will have the same identifier but will contain different data in each packet.

### 3.1.30 NAME

An 8 byte value which uniquely identifies the primary function of an ECU and its instance on the network. A device's NAME must be unique, no two devices may share the same NAME value on a given vehicle network.

### 3.1.31 NODE

A specific hardware connection of an ECU to the physical media. A specific node may have more than one address claimed on the network.

### 3.1.32 NON-VOLATILE

Retention of changeable memory values even though power is turned off for any reason. This term is used with respect to data values, such as ECU addresses or NAMES, that are changed during use. Read Only Memory (ROM) is technically non-volatile, but is not changeable during use and thus not what is referred to in these documents.

### 3.1.33 NEGATIVE-ACKNOWLEDGMENT (NACK)

A response which indicates that a message has not been understood or a requested action could not be performed.

### 3.1.34 PACKET

A single CAN data frame. This can also be a message if the Parameter Group to be transferred can be expressed in one CAN data frame.

### 3.1.35 PARAMETER GROUP (PG)

A collection of parameters that are conveyed in a SAE J1939 message. Parameter Groups include commands, data, requests, acknowledgments, and negative-acknowledgments. The PG identifies the data in a message, regardless of whether it is a single packet or multipacket message. Parameter Groups are not dependent on the source address field thus allowing any source to send any Parameter Group.

### 3.1.36 PARAMETER GROUP NUMBER (PGN)

A three byte, 24 bit, representation of the Extended Data Page, Data Page, PDU Format, and GE fields. The Parameter Group Number uniquely identifies a particular Parameter Group.

### 3.1.37 PDU FORMAT (PF)

An 8 bit field in the 29 bit identifier that identifies the PDU format and is used in whole or in part to provide a label for a Parameter Group. It also is one of the fields used to determine the Parameter Group Number which labels the data field of the CAN Data Frame.

### 3.1.38 PDU SPECIFIC (PS)

An 8-bit field in the 29 bit identifier whose definition depends upon the value of the PDU Format field. It can be either a destination address (DA) or Group Extension (GE). It also is one of the fields used to determine the Parameter Group Number which labels the data field of the CAN Data Frame.

### 3.1.39 PDU1 FORMAT

A PDU format used for messages that are to be sent to a destination address (DA). The PS field contains the destination address (specific or global).

### 3.1.40 PDU2 FORMAT

A PDU format used to send information that has been labeled using the Group Extension technique. This PDU does not contain a destination address. The PS field contains the Group Extension in the case of PDU2 formats.

### 3.1.41 PREFERRED ADDRESS

The address that an ECU will attempt to use first when claiming an address. Preferred Addresses are assigned by the committee. The J1939 Committee is discontinuing most new assignments of Preferred Addresses, especially Industry Group specific Preferred Addresses (see APPENDIX B, Table B3 through Table B9).

### 3.1.42 PRIORITY

A 3-bit field in an identifier that establishes the arbitration priority of the information communicated. The highest priority is zero and the lowest priority is seven.

### 3.1.43 PROTOCOL DATA UNIT (PDU)

A PDU is a SAE J1939 specific CAN Data Frame format.

### 3.1.44 REMOTE TRANSMISSION REQUEST (RTR)

A feature of the CAN protocol allowing an ECU to request that another ECU or ECUs send a message. This feature of CAN is not used in SAE J1939. An alternate request mechanism is specified for SAE J1939.

### 3.1.45 REPEATER

An ECU which regenerates the bus signal onto another segment of media. This permits the network to connect more electrical loads (ECUs) onto the bus, or to connect to another type of media (Physical Layer Expansion). The speed (data rate), protocol (data link layer), and address space are the same on both sides of the repeater. For SAE J1939, any delays in regenerating the data signal must be kept to a very small fraction of one bit interval.

### 3.1.46 RESERVED BIT

An SAE J1939 term that became obsolete with the December 2006 revision of SAE J1939-21 when the 'Reserved' bit was redefined as the 'Extended Data Page' bit. Originally, this term referred to the 5th bit in the SAE J1939 29-bit identifier that was noted as 'Reserved for future definition by SAE'.

### 3.1.47 ROUTER

An ECU which allows segments with independent address spaces, data rates, and media to exchange messages. A router may permit each segment to operate with minimum bus loading yet still obtain critical messages from remote segments. The protocol remains the same across all segments. Note that the router must have look up tables to permit the translation and routing of a message with ID X on segment 1 to ID Y on segment 2.

### 3.1.48 SEGMENT

The physical media and attached nodes of a network not interconnected by network interconnection ECUs. A single segment of a network is characterized by all of the ECUs "seeing" the signal at the same time (i.e., there is no intermediate ECU between electrical sections of the network). Multiple segments can be connected together by network interconnection ECUs including repeaters, bridges, and routers.

### 3.1.49 SOURCE ADDRESS (SA)

An 8-bit field in the 29 bit identifier which allows for the unique identification of the source of a message. The SA field contains the address of the ECU that is sending the message.

### 3.1.50 STANDARD FRAME

See Base Format.

### 3.1.51 START OF FRAME (SOF)

The initial bit in a CAN frame serving only to indicate the beginning of the frame.

### 3.1.52 SUBNETWORK

This refers to the network activity (message traffic) on a specific SAE J1939 segment when multiple segments are used. Subnetworks may include: Tractor; Trailer, Implement, and Braking System. Note that they may be separated by a bridge or router to minimize total bus loading. Collectively the subnetworks are the SAE J1939 Vehicle Network.

### 3.1.53 VEHICLE

A machine which, in most applications, includes a capability to propel itself and includes one or more SAE J1939 segments. A vehicle may be assembled of one or more Vehicle systems which are connected together to form the whole vehicle.

### 3.1.54 VEHICLE SYSTEM

A subcomponent of a vehicle, or a component that is analogous to a subcomponent of a vehicle, that includes one or more SAE J1939 segments and may be connected or disconnected from the vehicle. A Vehicle System may be made up of one or more Functions, which have ECU's that are connected to a SAE J1939 segment of the Vehicle System.

### 3.2 Abbreviations

ABS	Antilock Braking System
ACK	Acknowledgment
AP	Accelerator Pedal
ASR	Acceleration Slip Regulation (Traction Control)
ASCII	American Standard Code for Information Interchange
CA	Controller Application
CAN	Controller Area Network
Con-Ag	Construction-Agriculture Industry
CRC	Cyclic Redundancy Check
DA	Destination Address
DLC	Data Length Code
DP	Data Page
ECM	Engine Control Module, Electronic Control Module (see also ECU)
ECU	Electronic Control Unit
EDP	Extended Data Page
EOF	End of Frame
GE	Group Extension
ID	Identifier
IDE	Identifier Extension Bit
LLC	Logical Link Control
LSB	Least Significant Byte or Least Significant Bit
MAC	Medium Access Control
MID	Message Identifier
MSB	Most Significant Byte or Most Significant Bit
NA	Not Allowed
NA	Not Available
NACK	Negative-Acknowledgment
OSI	Open System Interconnect
P	Priority
PDU	Protocol Data Unit
PF	PDU Format
PG	Parameter Group
PGN	Parameter Group Number
PID	Parameter Identifier
PS	PDU Specific
PS_GE	PDU Specific - Group Extension
PS_DA	PDU Specific - Destination Address
PTO	Power Take-Off
R	Reserved
RTR	Remote Transmission Request
SA	Source Address
SID	Subsystem Identifier
SLOT	Scaling, Limits, Offset, and Transfer Function
SOF	Start of Frame
SPN	Suspect Parameter Number
SRR	Substitute Remote Request
un	Undefined

### 3.3 References to the OSI Model

The Open System Interconnect (OSI) model was developed by the International Organization for Standardization (ISO) in 1984 as a model of a computer communications architecture. There are seven layers to the OSI model as shown in Figure 1. The intent is that protocols be developed to perform the functions of each layer as needed. SAE J1939 is structured into several parts based on this ISO Model. While there is a SAE J1939 document allocated to each layer, not all of them are explicitly identified by having their own SAE J1939 document. Some of the layers not having their own documents are supported by functionality included within other documents.

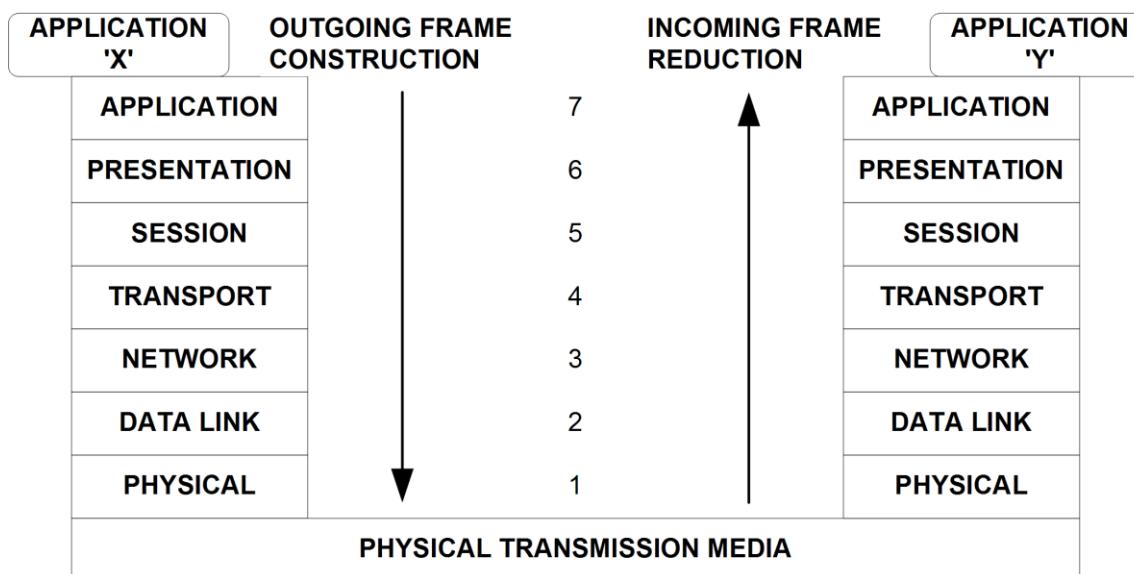


FIGURE 1 - THE OSI SEVEN LAYER MODEL

The functionality of each layer is:

1. Physical - Concerns the transmission of structured bit stream over physical media; deals with the mechanical, electrical, functional, and procedural characteristics to access the physical media
2. Data Link - Provides the reliable transfer of information across the physical layer; sends blocks of data (frames) with the necessary synchronization, error control, sequence control, and flow control;
3. Network - Provides upper layers with independence from the data transmission and switching technologies used to connect systems; responsible for establishing, maintaining, and terminating connections;
4. Transport - Provides reliable, transparent transfer of data between end points; provides end-to-end error recovery and flow control; provides segmentation and reassembly of very large messages;
5. Session - Provides the control structure for communication between applications; establishes, manages, and terminates connections (sessions) between cooperating applications;
6. Presentation - Provide independence to the application process from differences in data representation (syntax); and
7. Application - Provides access to the OSI environment for users and also provides distributed information services.

The purpose of the OSI model is to provide a common basis for coordinating standards development by placing them within the perspective of the overall model. Any resulting standard, such as SAE J1939, is not required to be explicitly partitioned into these seven layers as long as the fundamental functionality is supported. In addition, the hardware and software which perform the functions of each layer need not be rigidly defined such that each layer is recognizable within the system design. The distinction between layers can become totally obscured upon allocating these functions to a specific system design. In reviewing the SAE J1939 layer documents, it can be seen that some SAE J1939 layers include some functions normally associated with other OSI layers. This usually occurs when a layer may not require, or justify having, a standalone document of its own.

Because the SAE J1939 network is a specific communications system, supporting specific sets of applications and a specific industry, rather than being generalized, not all of the OSI layers are required. Only those layers which are required for the anticipated SAE J1939 uses will be defined, with a separate document being used for each of these layers.

### 3.4 Documentation Structure and Guide

This SAE J1939 document is merely the top level of a hierarchy of related documents. A separate document, identified as SAE J1939-N, has been defined for each application of the network and for each of the seven OSI model layers. To accommodate multiple versions of any one layer, a second digit (X) after the dash is used to identify the version of a document. Thus to determine the total network definition for a particular application, such as for North American agricultural equipment, one must obtain the top level application document, SAE J1939-02, which identifies all of the layer versions used, and then obtain each of these individual layer documents. The presently defined documents and numbering system are as follows:

J1939	Top Level Document for a Serial Control and Communications Vehicle Network.
J1939-0X	An application document, where X refers to a specific network/application version of the network. This document will identify the industry or applications for which it pertains and will list the specific versions of each layer that makes up this network.
J1939-01	Recommended Practice for Control and Communications Network for On-Highway Equipment
J1939-02	Agricultural and Forestry Off-Road Machinery Control and Communication Network
J1939-03	On Board Diagnostics Implementation Guide
J1939-05	Marine Stern Drive and Inboard Spark-Ignition Engine On-Board Diagnostics Implementation Guide
J1939-1X	A Physical Layer document, where X refers to a specific version of the Physical Layer.
J1939-11	Physical Layer, 250K bits/s, Twisted Shielded Pair
J1939-13	Off-Board Diagnostic Connector
J1939-15	Reduced Physical Layer, 250K bits/sec, Un-Shielded Twisted Pair (UTP)
J1939-21	Data Link Layer (no alternative versions permitted)
J1939-3X	Network Layer document, where X refers to a specific version of the Network Layer.
J1939-31	Network Layer
J1939-4X	Transport Layer document, where X refers to a specific version of the Transport Layer. No Transport Layer documents are presently defined.
J1939-5X	Session Layer document, where X refers to a specific version of the Session Layer. No Session Layer documents are presently defined.
J1939-6X	Presentation Layer document, where X refers to a specific version of the Presentation Layer. No Presentation Layer documents are presently defined.
J1939-7X	Applications Layer Document, where X refers to a specific version of the Application Layer.
J1939-71	Vehicle Application Layer
J1939-73	Application Layer - Diagnostics
J1939-74	Application - Configurable Messaging
J1939-75	Application Layer - Generator Sets and Industrial
J1939-81	Network Management (no alternative versions permitted)
J1939-82	Compliance - Truck and Bus
J1939-84	OBD Communications Compliance Test Cases for Heavy Duty Components and Vehicles

Document numbers have been assigned to all seven of the OSI model layers even though they are not all specifically defined within the present definition of SAE J1939. This was done in part to provide an easily recognizable relationship between the documents and the OSI model and also to provide growth capabilities should it be determined later that such documents are needed. Documents in the SAE J1939-8x sequence are kept separate as they represent a vertical slice through all of the layers and are thus best explained and understood as an individual subject.

Multiple application layer documents may be utilized simultaneously on the same network and thus must maintain compatibility. An example of such a system is an on-highway heavy duty tractor that utilizes both SAE J1939-71 for the majority of communications and SAE J1939-73 for diagnostics communications, both sets of messages being carried over the exact same network. A single vehicle/application may also utilize different physical layers within the same system but they need not be compatible if on different segments. An example is on-highway trucks where the physical layer used to connect the tractor to the trailer may be different than that used on the tractor itself.

#### 4. TECHNICAL REQUIREMENTS

Beyond being an introduction to the full set of SAE J1939 documents, this document is meant to aid those unfamiliar with SAE J1939 by answering the most basic questions of:

- How SAE J1939 is intended to work
- How to construct and process messages (transmit and receive)
- How to design an ECU to support SAE J1939
- How typical control sequences are done (application examples)
- How a typical network is wired

##### 4.1 SAE J1939 Tutorial

The following tutorial is for the Truck and Bus Control and Communications Network as specified in SAE J1939-01. SAE J1939-01 is used in this tutorial as a typical example, and not to infer that all applications must follow SAE J1939-01. Other applications may elect to utilize alternative versions of one or more layers resulting in corresponding changes to the following discussion. This section is offered as a means of illustrating and clarifying the network, not as a definition of it. See the individual sub documents, SAE J1939-0X to SAE J1939-81 for the correct definition and specification of each aspect of the network.

###### 4.1.1 Introduction

SAE J1939 is a high speed communications network designed to support real-time closed loop control functions between ECUs which may be physically distributed throughout the vehicle. SAE J1708/SAE J1587 is an older, widely used low speed network intended to provide simple information exchange, including diagnostic data, between ECUs. SAE J1939 is capable of performing all of the functions of SAE J1708/SAE J1587 as well as the control system support. Any one application may utilize one or the other or both of these networks.

SAE J1939 uses the CAN protocol which permits any ECU to transmit a message on the network when the bus is idle. Every message includes an identifier which defines the message priority, who sent it, and what data is contained within it. Collisions are resolved non-destructively due to the arbitration process that occurs while the identifier is transmitted. This permits high priority messages to get through with low latency (delay) times because there is equal access on the network for any ECU, but when multiple ECUs are simultaneously attempting to transmit, the highest priority message prevails.

###### 4.1.2 Message Format and Usage (SAE J1939-21 for 29 Bit Identifier)

SAE J1939 provides a complete network definition using the 29 bit identifier (CAN Extended Format) defined within the CAN protocol shown in Figure 2. SAE J1939-21 enables 11 bit identifier (CAN Base Format) devices to be used within the same network, defining all messages as proprietary, permitting both device types to coexist without interference. The 11 bit identifier definition is not directly a part of SAE J1939 but is included to assure that users of it can coexist on the same network without conflict. SAE J1939 will not provide any further definition of the use of the 11 bit identifier. The CAN Data Frame Bits SOF, SRR, IDE, and RTR bits will not be discussed in the following description (see SAE J1939-21 and ISO 11898).

CAN EXTENDED FRAME FORMAT	S	IDENTIFIER 11 BITS										S	I	IDENTIFIER EXTENSION 18 BITS										R									
	O	PRIORITY	E	D	P	PDU FORMAT (PF) 6 BITS (MSB)						R	E	PF (CONT.)	PDU SPECIFIC (PS) (DESTINATION ADDRESS, GROUP EXT. OR PROPRIETARY)						SOURCE ADDRESS	R											
J1939 FRAME FORMAT	O	D	P		8	7	6	5	4	3	R	E	2	1	8	7	6	5	4	3	2	1	8	7	6	5	4	3	2	1	R		
J1939 FRAME BIT POSITION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
CAN 29 BIT ID POSITION		28	27	26	25	24	23	22	21	20	19	18			17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	

FIGURE 2 - SAE J1939 29 BIT IDENTIFIER

The first 3 bits of the 29 bit identifier are used for determining message priority during the arbitration process. A value of 000 has the highest priority. Higher priority messages would typically be used for high speed control messages. An example of this is the torque control message from the transmission to the engine (see SAE J1939-71). A lower priority would be used for data which is not time critical. An example of this is the engine configuration message. The priority field may be programmable for each message type so that network tuning can be performed by an OEM if necessary.

The next two bits in the identifier field, Extended Data Page and Data Page, are used to select from 4 separate pages of message definitions. The page selections are as noted in Table 1.

TABLE 1 - 29 BIT IDENTIFIER DATA PAGES

Extended Data Page	Data Page	Message Page Definition
0	0	Page 00 – Defined by SAE J1939
0	1	Page 01 – Defined by SAE J1939
1	0	Page 10 – Reserved for future definition by SAE J1939
1	1	Page 11 – Defined by ISO 15765-3

The next set of 8 bits in the identifier is the PDU Format (PF) field. PDU stands for Protocol Data Unit (i.e. Message Format). The PF field identifies one of two PDU formats able to be transmitted. PDU Formats are described in SAE J1939-21, Section 5.3. The SRR and IDE bits are entirely defined and controlled by CAN and therefore not described or modified by SAE J1939.

The next 8 bits of the identifier are PDU Specific (PS), meaning that they are dependent on the value of the PF. If the PF value is between 0 and 239 (PDU1), this PS field contains a destination address. If the PF field is between 240 and 255 (PDU2), the PS field contains a Group Extension (GE) to the PDU Format. The Group Extension provides a larger set of values to identify messages which can be broadcast to all ECUs on the network.

Most messages on SAE J1939 are intended to be broadcast using the PDU2 format. Data transmitted on the network using PDU2 format cannot be directed to a specific destination. When a message must be directed to a particular ECU, it must have been assigned a PGN in the PDU1 format range of numbers so a specific destination address can be included within the identifier of the message. An example of this is the transmission commanding a specific torque value from the engine or a specific torque value from a retarder. Requiring a destination must be considered when the Parameter Group is first defined and published by the SAE committee (see SAE J1939-21).

Collectively, the Extended Data Page bit, Data Page, PF, and PS values define the PG being transmitted. These PGs have definitions which include the parameter assignments within the 8 byte data field of each message as well as the transmission repetition rate and priority. The term "Parameter Group" is used because they are groups of specific parameters. Parameter Groups are identified by a Parameter Group Number (PGN), which uniquely identifies each Parameter Group. The PGN structure permits a total of up to 8672 different Parameter Groups to be defined per page. Parameter Groups and Parameter Group Numbers are described in SAE J1939-21 and current assignments are listed in APPENDIX A.

The last 8 bits of the identifier contain the address of the ECU transmitting the message (Source Address). For a given network, every address must be unique (254 available). Two different ECUs cannot use the same address at the same time. The PGNs are independent of the Source Address, thus any ECU can transmit any message.

#### 4.1.3 Addresses and NAME (SAE J1939-81 and APPENDIX B)

Each ECU on the network will have at least one NAME and one address associated with it. There are examples, such as an engine and engine retarder residing in a common ECU, wherein multiple NAMES and multiple addresses may coexist within a single electronics unit. The address of an ECU defines a specific communications source or destination for messages, and the NAME includes identification of the primary function performed at that address and adds an indication of the instance of that functionality in the event that multiple ECUs with the same primary function coexist on the same network. As many as 254 different ECUs of the same function can coexist on the network, each identified by their own address and NAME.

To uniquely name each ECU, SAE J1939 defines a 64 bit NAME consisting of the fields shown in Table 2. The Function Instance, ECU Instance, and Identity Number fields permit multiple ECUs of the same make and model to coexist on the same network but still have unique NAMEs for each. See SAE J1939-81 for a full description of ECU naming and address assignment and APPENDIX B of SAE J1939 for current committee assignments.

TABLE 2 - NAME FIELDS

Arbitrary Address Capable	Industry Group	Vehicle System Instance	Vehicle System	Reserved	Function	Function Instance	ECU Instance	Manufacturer Code	Identity Number
1 bit	3 bit	4 bit	7 bit	1 bit	8 bit	5 bit	3 bit	11 bit	21 bit

NAMEs identify the primary vehicle function or functions which an ECU performs and uniquely identify each ECU, even when there are more than one of the same type on the network. But with a length of 64 bits, a NAME is inconvenient to use in normal communications. Therefore, once the network is fully initialized, each ECU utilizes an 8 bit address as its source identifier or "handle" to provide a way to uniquely access a given ECU on the network. For example, an engine may be assigned address 0, but if a second engine is present, it needs a separate, unique address (e.g. 1) and instance. ECUs that accept destination specific commands may require multiple addresses. This permits distinguishing which action is to occur. For example, if the transmission is commanding a specific torque value from the engine (address 0), this must be differentiated from commanding a specific torque value from the engine brake (retarder) (address 15). As can be seen by this example, a single ECU on the network may have multiple addresses and each address will have an associated NAME.

Address Claim, defined in SAE J1939-81, is the process for claiming a network address and associating the NAME, or vehicle function, to that address. It also serves as the process for ECUs to determine the network address associated with other vehicle functions. To facilitate the initialization process of determining the address(es) for each ECU on the network, commonly used devices have Preferred Addresses assigned by the committee (Preferred Addresses are listed in APPENDIX B, Table B2 through Table B9). Using the Preferred Addresses minimizes the frequency of multiple devices attempting to claim the same address. If there is no applicable Preferred Address assignment, then it is up to the supplier of a Controller Application (CA) to select the initial address to claim within the range of 128 to 247. The Address Claim process is used after power up to claim a network address and resolve any conflicts when multiple devices attempt to claim the same address. Each ECU must be capable of announcing which address(es) it intends to use. This is the address claim feature. Address Claim is detailed in SAE J1939-81. Two key aspects of Address Claim are:

1. Upon power-up and whenever requested, an ECU must send an Address Claimed message to claim an address. When an ECU sends the Address Claimed message, all ECUs must at least compare the newly claimed address with their own. Should multiple ECUs claim the same address, the one having the lowest value NAME uses this address and the other(s) must claim a different address or stop transmitting on the network. ECUs should record or compare this newly claimed address to their own table of addresses and associated NAMEs on the network. Not all ECUs are required to maintain such a table.
2. An ECU may send a request for Address Claimed message to determine addresses claimed by other ECUs. When an ECU sends a request for Address Claimed, all requested ECUs then send their Address Claimed messages. This permits transitional ECUs (tools, trailers, etc.) or ECUs powering up late to obtain the current address table so that an available address can be found and claimed or to determine which ECUs are currently on the network. This approach permits the option of self-configurable addresses for those ECUs which may need it, but does not make this a requirement for all ECUs. Self-configurable addressing is optional; those ECUs which might be expected to encounter address conflicts are recommended to support this capability.

When an address conflict has been detected, the following four options are available, depending upon the capabilities of the CA involved:

- Self-Configurable CAs - a self-configurable CA is capable of dynamically computing and claiming an unused address. Most service tools and bridges will have this capability.
- Command Configurable CAs - A network interconnection CA, such as a bridge, or a service tool, may command another ECU to use a given address. The CA targeted for the commanded address would then issue an Address Claimed message to acknowledge acceptance of this new commanded address. The CA may be commanded to accept a new address even though it has already claimed a valid address.
- Service Configurable CAs - CAs which are modifiable by service personnel, usually by the means of DIP switches or a service tool. When "commanded address" messages are used, this option differs from the Command Configurable in that a service tool is required and will often use proprietary techniques.
- Non-Configurable CAs - Those CAs that are neither self-configurable nor reprogrammable would have to cease transmitting if they fail to claim a valid address.

#### 4.1.4 Communication Methods

Three primary communication methods exist within SAE J1939 and appropriate use of each type allows effective use of the available Parameter Group Numbers. Each of the communications methods has an appropriate use. The three communications methods are:

- Destination specific communications, using PDU1 (PF values 0 - 239) (includes the use of the global destination address - 255)
- Broadcast Communications using PDU2 (PF values 240 - 255)
- Proprietary Communications using either PDU1 or PDU2 format

##### 4.1.4.1 Destination Specific Communications

Destination specific Parameter Group Numbers are needed where the message must be directed to one or another specific destination and not to both. SAE J1939 currently defines a torque control message which may be sent to an engine or retarder. In the case of more than one engine, this message must be sent only to the desired engine and a destination specific Parameter Group Number is needed and has been assigned.

##### 4.1.4.2 Broadcast Communications

Broadcast Communications apply in several situations, including:

- Messages sent from a single or multiple sources to a single destination
- Messages sent from a single or multiple sources to multiple destinations

Broadcast Communications cannot be used where a message must be sent to one or another destination and not to both.

##### 4.1.4.3 Proprietary Communications

Proprietary communications is provided by the use of three proprietary Parameter Group Numbers. A Parameter Group Number has been assigned for broadcast proprietary communications and two Parameter Group Numbers have been assigned for destination specific proprietary communications. This allows for two functions. One, a specific source can send its proprietary message in a PDU2 type format (broadcast). Two, it allows for situations where a service tool must direct its communication to a specific destination out of a possible group of ECUs. For instance this case arises when an engine uses more than one controller but the service tool must be able to perform calibration/reprogramming while all ECUs are connected to the same network. In this case the proprietary protocol needs to be destination specific. Note that the destination ECU must be capable of properly interpreting the proprietary data.

Proprietary communications are useful in two situations:

- Where it is unnecessary to have standardized communications
- Where it is important to communicate proprietary information

#### 4.1.5 Transmitting Messages (Using SAE J1939-21 and SAE J1939-7X)

In addition to the 29 bit identifier shown in Figure 2, a CAN Data Frame includes a 6 bit control field, a data field which is typically 8 bytes, and terminates with CRC, ACK, and EOF fields. To send a particular data item, a message must be constructed by properly filling each of these fields. This is done by first referencing the applicable SAE J1939 documents. This process will define the Parameter Group Number (PGN) to use, the message update (transmission) rate, and default priority. Since multiple data items are typically packed together within a message, it will also define the data field format. Note that when the ECU does not have data available for a given parameter it sets those bits to "not available" so that a receiver knows that the data is not provided.

Parameter Groups which have more than eight bytes of data must be sent as multipacket messages using the Transport Protocol functions defined in SAE J1939-21 Section 5.10.

#### 4.1.6 Receiving Messages (Using SAE J1939-21 and SAE J1939-7X)

There are various techniques (and electronic ICs) available for capturing selected messages off the network. Several general observations can be made however regarding received messages.

1. If it is a destination specific request or command, the ECU must determine if there is an address match between itself and the incoming messages' destination address. If there is, it must process the message and provide some type of acknowledgment.
2. If a message is a global request, every ECU, even the originator, must process it and respond if the data is available.
3. If a message is broadcast, each ECU must determine if it is relevant or not.

#### 4.1.7 ECU Design (Using SAE J1939-11 or SAE J1939-15, SAE J1939-21, and SAE J1939-7X)

Although every manufacturer will have different performance requirements for the ECU contained within their product, several observations should be made regarding the resources needed to support SAE J1939. The data rate of SAE J1939-11 and SAE J1939-15 is 250 kbps ( $4 \mu\text{S}/\text{bit}$ ). A typical message containing 8 data bytes is 128 bits long (excluding bits used for bit stuffing) which is approximately 0.5 ms. The shortest message is 64 bits long. This means that a new message could be present every 250 microseconds. Even though not every message is relevant, the receiving processor must still be able to handle (or buffer) multiple back to back messages. This will require some RAM space as well as processor time for the memory transfers. The requirement is that no messages should be lost due to ECU hardware or software design limitations.

#### 4.1.8 Network Topology - SAE J1939-01 Using Physical Layer SAE J1939-11 or SAE J1939-15 and Network Layer SAE J1939-31

The SAE J1939-01 network defines a system containing one or more segments connected by network interconnecting ECUs. Each SAE J1939 segment consists of a single, linear, twisted pair of wires running around a section of the vehicle to each ECU. A short stub is permitted to connect this "bus" to each ECU. This simplifies the routing of the main bus wiring by not requiring it to come in direct proximity with each ECU. The linear bus is necessary at a data rate of 250 Kbps in order to minimize reflections of the electrical signals. The termination resistor at each end of the bus also reduces reflections. To support a tractor pulling one or more trailers, and the frequent removal and addition of new trailers, a separate SAE J1939 segment (subnetwork) is used within the tractor and in each trailer or dolly.

The SAE J1939 network may thus be composed of multiple segments, with a network interconnection ECU (bridge) between them. These segments need not be directly compatible with each other, as they may operate at different data rates or use different physical media. For example, a bridge provides electrical isolation between segments, provides initialization support for the subnetwork connected to it, and can provide message filtering to prevent unnecessary message traffic on the subnetworks. In the event of a bus failure on the wires exposed between the tractor and trailer, the main SAE J1939 subnetwork on the tractor will continue to function.

#### 4.2 Preassigned Values

Most identifiers and data elements for parameters, messages, diagnostic identifiers, SAE J1939 NAME identifiers, and network addressing are assigned by the SAE Control and Communications Network Committee (SAE J1939 Committee). Several such identifiers include the Suspect Parameter Numbers (SPNs) for parameter and diagnostic identification, Parameter Group Numbers (PGNs), and Preferred Addresses. For the SAE J1939 NAME object, the SAE J1939 Committee assigns values for the Manufacturer Code, Industry Group, Function, and Vehicle System. Except as noted below, applications must use the actual values that have been assigned by the SAE J1939 Committee. If new values are required that are not already assigned, developers may request new values to be assigned by the SAE J1939 Committee.

The values for several identifiers and data element assignments are not assigned by the SAE Control and Communications Network Committee and the values are at the discretion of the application or developer. Several such identifiers include the data content of the three Proprietary PGNs, the description for the Manufacturer Specific Diagnostic SPNs, the Instance Number elements of the SAE J1939 NAME object, and the Identity Number of the SAE J1939 NAME object.

Application specific parameters and Parameter Groups are defined in the SAE J1939-7X documents. Parameter Groups that are used for control and management of the network are defined in SAE J1939-21, SAE J1939-31, and SAE J1939-81. Assignments for Preferred Addresses, NAME elements, and Parameter Group Numbers are maintained in the appendices to this document. Each of these items are described in this section. The actual values that have been assigned are listed in the Appendices.

##### 4.2.1 Parameter Group Numbers

Parameter Group Numbers are assigned specifically to use either PDU1 format or PDU2 format (PDU types are described in Section 4.1.2 and in SAE J1939-21, Section 5.3). Once assigned to a format the other PDU type is not available for that Parameter Group. The assignment of a Parameter Group Number should be done keeping in mind the following characteristics: priority, update rate, importance of the data in the packet to other ECUs, and length of the data associated with the Parameter Group.

The current Parameter Group Number assignments are listed in APPENDIX A. Parameter Group Numbers are assigned linearly to the various sections of the Parameter Group list in APPENDIX A based on the order of request and other criteria, such as PDU type and update rate. See APPENDIX A, Table A1.

Much of the communications between ECUs constructed by a single manufacturer do not require standardization. The information that is communicated is not generally useful to other ECUs on the network. In this situation the proprietary Parameter Groups can be used. The use of standardized communications is preferred and should be used whenever practical, however the proprietary option is offered as a means of solving unique problems and situations.

If proprietary information is being communicated, or the information to be communicated is not of general interest, the proprietary method should be used. If the information is of general interest and does not require direction of the message to a particular ECU, a Parameter Group Number utilizing the PDU2 broadcast format should be sought. Finally, if the information is of general interest but requires direction to one or another ECUs then destination specific addressing is needed and a PDU1 format Parameter Group Number should be sought. Proprietary and PDU1 communications methods should be considered carefully and used sparingly.

#### 4.2.2 Data Field Grouping

Minimizing message overhead with CAN based systems requires full use of the data fields of messages. Except in the case of very time critical messages, parameters should be grouped to fill the 8 byte data field. Following this principle conserves PGNs for future assignment and allows for minimum network loading when all data bytes are known by and sent from the same address. Strong justification is needed to allow definition of Parameter Group Numbers that result in sparsely used data fields.

Parameters should be grouped as follows:

1. By common subsystem (the ECU likely to measure and send the data)
2. With similar update rates (to minimize unnecessary overhead)
3. By function (Oil, Coolant, Fuel, etc.)

It should be recognized that, while these are guidelines, in most cases when parameters are grouped together they will end up violating one or more of the above rules. Since all parameters defined in SAE J1939 have a technique for identifying when they are not available it is not critical that all of the parameters in one Parameter Group come from the same ECU. If a new parameter is defined and there are spare bytes or bits in an existing Parameter Group, then it can be easily added there. When the update rate is fast, it is desirable to make sure that a Parameter Group is as fully utilized as possible (i.e. uses all 8 data bytes) before defining another PG and preferable that all parameters are normally coming from one specific ECU.

For the slower update rate data it is not as critical that all of the parameters in a Parameter Group come from the same ECU. Even though it is desirable to have parameters come from one ECU, the intention of SAE J1939 is to provide a means for communicating the data and not dictating which ECU is to send what data.

#### 4.2.3 NAME Systems and Functions

A Function is a capability of a component or group of components served by one or more ECUs. The Function of each ECU is identified within an 8 bit field of that ECU's NAME. As there may be multiple ECUs which identify themselves with the same Function, the Function Instance field of NAME is used to distinguish between them. The same Function value (upper 128 only) may mean different things for different Industry Groups or Vehicle Systems, therefore the Function (upper 128 only) identification is dependent upon the Industry Group, and the Vehicle System as shown in Figure 3 (see SAE J1939-81 Section 4.1.1.12).

A Vehicle System is a subcomponent of a vehicle or an analogous component that includes one or more SAE J1939 network segments and may be connected or disconnected from the total vehicle. A Vehicle System may be made up of one or more Functions, which have ECUs that are connected to a SAE J1939 network segment of that Vehicle System. A typical on-highway Vehicle System is a tractor or trailer. Because the definition of Vehicle Systems will vary from one industry to another, the System definition is dependent upon the Industry Group as shown in Figure 3 (see SAE J1939-81 Section 4.1.1.12).

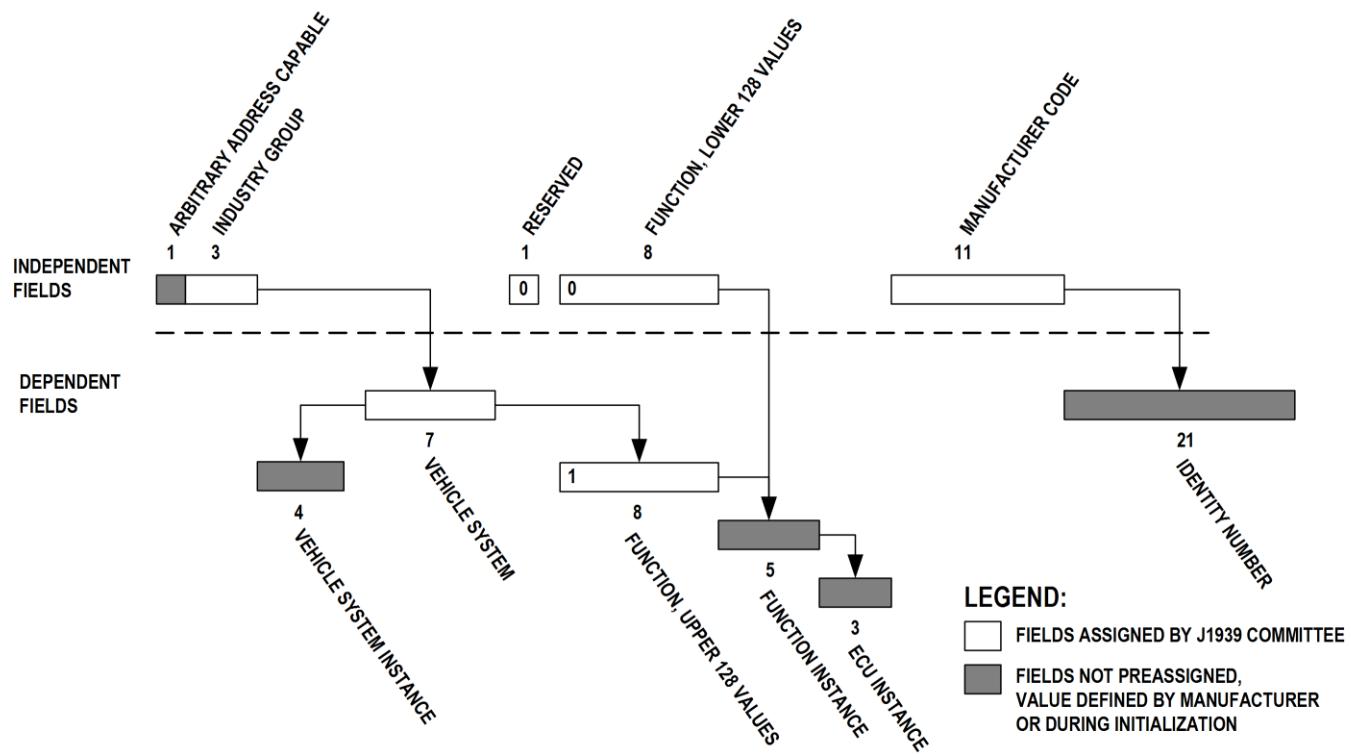


FIGURE 3 - DEPENDENCIES IN THE NAME FIELDS

A single ECU on the network may combine multiple Functions, and would then have the option to claim a separate address for each supported function. The assigned Vehicle System and Function values are listed in APPENDIX B, Tables B11 and B12.

#### 4.2.4 Industry Group

To permit multiple industries to use SAE J1939, an Industry Group code is used to identify the industry to which the ECU is associated. Industry Group Code 0 is a special category of Industry Group in that it identifies Preferred Addresses and NAME Functions that are common to all industries. Any ECU which may be used in more than one industry application, such as diesel engines, should use NAME Functions and Preferred Addresses within this global group. It is the responsibility of those requesting new definitions to consider if this may be the case, and to request the new definition in the correct group. To avoid running out of NAME Function or address values, it is requested that global values be used only when truly applicable. If an ECU may exist in only one group, such as agricultural equipment, it is preferable to add the definition to the applicable group rather than to use a global value. Industry Group codes are listed in APPENDIX B, Table B1.

#### 4.2.5 Manufacturer Code and Identity Number

As defined in SAE J1939-81, the SAE J1939 NAME must be unique for all ECUs communicating on a particular network. The SAE J1939 NAME object includes a Manufacturer Code element and the Identity Number element for establishing unique SAE J1939 NAME values. The Manufacturer Code, assigned by the SAE J1939 Committee, permits NAME uniqueness between manufacturers of similar Controller Applications where the Industry Group, Vehicle System, Functions, and Instance elements would likely use the same values. The Identity Number is assigned by the manufacturer and permits NAME uniqueness between individual products for a manufacturer where all of the other SAE J1939 NAME elements are identical.

The Manufacturer Code assignments are listed in APPENDIX B, Table B10. A manufacturer is permitted to have multiple codes, such as when there are multiple divisions or major product lines. Having a unique Manufacturer Code for each individual product is discouraged as this would quickly exhaust the range of available codes. There are 21 bits available in the Identity Number field of NAME, permitting the manufacturer to include a reference to each particular product if desired.

#### 4.2.6 Preferred Address

The J1939 Committee is discontinuing most new assignments of Preferred Addresses, particularly for Industry Group specific Preferred Addresses, (see APPENDIX B, Table B3 through Table B9). The J1939 Committee may assign new Global Preferred Addresses (see APPENDIX B Table B2) for system functions that warrant the assignment. Preferred address assignments serve to establish the first address to claim by a CA and minimize the frequency of multiple devices attempting to claim the same address. However, too many devices have been designed to be Single Address Capable on the expectation of having an assigned preferred address and hard coded to expect use of specific preferred addresses by other devices on the network. As a result, these design practices have depleted the ability to make unique preferred address assignments within some Industry Groups. Preferred address assignments weren't intended as a means for the vast majority of devices to avoid having to support Address Arbitration. New devices should be designed to be Arbitrary Address Capable and rely upon Address Claim to determine the network address of other system functions.

As defined in SAE J1939-81, a CA claiming a preferred address in the Global Preferred Addresses range of 0 to 127 and 248 to 253 must perform the described function for that preferred address and specify the associated function within its NAME. With less than 40 unassigned Global Preferred Addresses remaining, the J1939 Committee must limit new assignments within this range to functions that warrant the assignment.

If a CA does not have an assigned preferred address, then the CA should initially claim an address in the range of 128 to 247. Such devices should be arbitrary address capable in order to claim an address through Address Arbitration. The discontinuation of preferred address assignments means more devices will not have an assigned preferred address and will need to rely upon Address Arbitration in the range of 128 to 247 to claim an address. The supplier of a CA may provide any strategy for selecting the initial address to claim within the range of 128 to 247.

The number of addresses within a given system cannot exceed 254 (null and global cannot be claimed by devices). Many ECUs that operate on a SAE J1939 network will have an assigned Preferred Address that the ECU may use. If a Preferred Address is not available, then the ECU should perform address arbitration. If the ECU's Preferred Address has been claimed or is in use by another ECU on the network, the conflict will be resolved using the procedures outlined in Section 4.1.3 and detailed in SAE J1939-81. There may be additional constraints or procedures defined in the applicable SAE J1939-0X document. For instance, on-highway trailer bridges and devices have address claiming constraints that differ from Con-Ag systems. A supplier of a Self Configurable ECU may provide any strategy for selecting an address to attempt to claim. However, if an alternative approach is not defined, it should attempt to claim an address in the range 128 - 247, starting at 128. Individual reserved Preferred Address assignments begin at zero and are assigned in a linear fashion as follows:

0 to 127	Reserved for most conventional ECUs in Industry Group 0 - Global
128 to 247	Reserved for Industry Specific assignments
248 to 253	Reserved for special ECUs
254	Null Address
255	Global Address

The current Preferred Address assignments are provided in APPENDIX B. For further information, see SAE J1939-81.

#### 4.2.7 Suspect Parameter Number (SPN)

A Suspect Parameter Number (SPN) is a 19 bit number used to identify a particular element, component, or parameter associated with an ECU. This capability is especially useful for diagnostics, permitting an ECU which has detected a fault associated with a particular component, such as a sensor, to transmit a fault message identifying the faulty component. SPNs are assigned by the SAE J1939 Committee and are listed in Appendix C. The first 511 SPNs are reserved and will be assigned, when possible, to the exact same number as the Parameter Identifier (PID) of SAE J1587. For example, SAE J1587 PID 91 is "Percent Accelerator Pedal Position" and an accelerator pedal position parameter fault could be reported in SAE J1939 by using SPN 91. All other SPNs will be assigned in sequential order as SPN requests are processed.

#### 4.3 SAE J1939 Companion Spreadsheet (CS1939)

Due to the very large number of SPNs and PGNs which have been assigned, and their assignment in order of request, it will be very difficult to simply look through APPENDIX A, Table A2 and APPENDIX C, Table C1 to find the PGN or SPN value assignment for a particular component of interest. To assist those developing SAE J1939 applications, SAE publishes "CS1939 – SAE J1939 Companion Spreadsheet" so that users can perform various similar sorts and searches of the data. The SAE J1939 Companion Spreadsheet is a Microsoft™ Excel spreadsheet document with the last listing of parameters (SPNs) and parameter groups (PGNs) that have been published and/or approved by the SAE J1939 Committee. The CS1939 spreadsheet is an output from a database maintained by the SAE J1939 Committee containing all of the SPN and PGN assignments along with additional data beyond what is published.

The SAE J1939 Committee uses the CS1939 spreadsheet and the SAE J1939 Committee database to verify that new SPN requests are not duplications of existing assignments.

#### 4.4 Requests for New Assignments

If new values are required that are not already assigned, developers may request new values to be assigned by the SAE Control and Communications Network Committee (SAE J1939 Committee). Requests for new values must use the SAE J1939 Committee Request Form. The latest version of the SAE J1939 Request Form is available from SAE International or on the SAE J1939 Discussion Forum portion of the SAE Web Site ([www.sae.org](http://www.sae.org)). In addition, the SAE J1939 Committee also publishes a guidelines document, "J1939\_Request\_Processing\_Guidelines", to help new requesters with the request process. The latest version of this guideline document is also available from SAE or on the SAE J1939 Discussion Forum portion of the SAE Web Site ([www.sae.org](http://www.sae.org)).

The requester should assure they are using and referencing the latest version of the SAE J1939 document, the particular SAE J1939-XX application document, and/or the CS1939 Companion Spreadsheet to avoid making requests for existing assignments at the time of request submittal.

The SAE J1939 Request Form contains sections for requesting Parameter Group Numbers (PGNs), Suspect Parameter Numbers (SPNs) for data parameter and diagnostics, Manufacturer Codes, NAME Functions, NAME Vehicle Systems, and Preferred Source Addresses. When requesting multiple new assignments, the individual item requests can be included within a single Request Form document or submitted in multiple separate Request Form documents. When requesting a new PGN, the request for the PGN and request for the parameters (SPNs) to be contained within the new PGN should be submitted together within the same Request Form document. When requesting several diagnostic SPNs, it is acceptable to include all of them within the same Request Form document. When requesting multiple new PGNs, it is often easier to submit each PGN request in a separate Request Form document; however, this is not required.

The SAE J1939 Request Form is the only document that is required to be submitted for a request. For some requests, the SAE J1939 Request Form is sufficient. For other requests, the SAE J1939 Committee encourages requesters to provide supplemental documentation to help the committee fully understand what is being requested. Requesters should take care to avoid disclosing any trade secret or intellectual property information when they construct their SAE J1939 Request Form and any supplemental documents. Supplemental documents provide a means for the requester to explain the request and provide any relevant technical explanations or illustrations. Supplemental documentation also provides a means for the requester to present their justification for the new assignment, such as when the requester is aware of existing assignments that may appear to be similar to the new requests but the requester has reasons explaining the technical difference between the existing assignment and the requested item.

The SAE J1939 Discussion Forum portion of the SAE Web Site is used by the SAE J1939 Committee for working through most of the technical issues and questions related to a SAE J1939 Request. Requesters are encouraged to be active in leading technical review discussions of their request, usually via teleconference calls. Requesters are also invited to attend SAE J1939 Committee meetings should they wish to make a personal presentation of their request and answer questions about it. Experience has shown that supporting a request in person at the SAE J1939 Committee meeting often results in committee questions being resolved immediately with an approval at that time rather than waiting three to four months for the next committee meeting to take place. If the committee cannot fully understand the request or resolve their issues and questions, it will be necessary to table the request until the committee's questions are answered by the requester, resulting in months of delay before the request can be resolved. All too often, requests have been tabled so that questions arising from committee discussion can be resolved. Once an assignment has been made, it cannot be deleted or significantly altered because systems using this definition may have already been fielded. Consequently, this forces the committee to seriously challenge any request that is not fully understood or which might result in a future request that is very similar.

#### 4.5 Application Examples

A typical shift sequence consists of a series of commands from the transmission to the engine for controlling engine RPM and torque. Messages from the engine provide status and information which is used to determine when a particular condition has occurred. Other messages may also be sent regularly to disable the engine retarder at the proper time interval, or to inhibit ASR functions which might effect engine demand during portions of the shift sequence.

<u>Parameter Group</u>	<u>Msg. Type</u>	<u>Sender</u>	<u>Using ECU</u>	<u>Action/Function</u>
ETC1	Info	Trans	Eng, ASR	Transmission decision to shift (Shift in progress)
TSC1	Cmd	Trans	Eng.	Override Priority bits set for Trans. (01 priority)
				Torque control, Torque = 0
TSC1	Cmd	Trans	Retarder (Eng.)	Disable Mode, Torque = 0
EEC1	Info	Eng.	Trans	Torque = 0 (Clutch may be disengaged)
TSC1	Cmd	Trans	Eng	Speed Control Mode, Requested Speed = X
EEC1	Info	Eng	Trans	Speed = X (Clutch may be engaged)
TSC1	Cmd	Trans	Eng	Speed/Torque Limit Mode (11 priority)
ETC1	Info	Trans	ASR	Allow ASR (11 priority)
TSC1	Cmd	Trans	Ret (Eng)	Enable Mode
TSC1	Cmd	Trans	Eng	Override Disable
ETC1	Info	Trans	Eng, ASR	Shift complete

A typical ABS sequence will cause a message to be transmitted which indicates that the engine should reduce torque and the driveline (transmission) to remain in its existing (stable) state. If the ABS condition is "significant" (i.e. not just bouncing tires), it may request that the driveline also be disengaged. Note that this message must be sent at regular intervals to maintain the condition. Once the event is over, the ABS inactive indicates that the transmission and engine may return to "normal" operation.

<u>Parameter Group</u>	<u>Msg. Type</u>	<u>Sender</u>	<u>Using ECU</u>	<u>Action/Function</u>
EBC1	Info	ABS	Eng, Trans	ABS decision to modulate brakes ABS active
TSC1	Cmd	ABS	Retarder (Eng.)	Disable Mode, Torque = 0 (Prevent engine stall)
TC1	Cmd	ABS	Trans	Disengage Driveline
EBC1	Info	ABS	Eng, Trans	ABS event over ABS inactive

A typical ASR sequence will attempt to reduce torque by sending torque limit messages to the engine. Torque can also be reduced by requesting more driveline retardation or permitting some clutch slip. Ultimately an upshift may be requested in order to achieve acceptable torque values. Note that the transmission takes over engine control during the shift.

<u>Parameter Group</u>	<u>Msg. Type</u>	<u>Sender</u>	<u>Using</u>	<u>Action/Function</u>
EBC1	Info	ASR	Eng, Trans, Retarder (Drv)	ASR Torque Reduction Decision ASR Torque control active
TSC1	Cmd	ASR	Eng	Torque Limit
TSC1	Cmd	ASR	Retarder (Drv.)	Request more retardation
TC1	Cmd	ASR	Trans	Request more clutch slip
TC1	Cmd	ASR	Trans	Request new gear selection, No clutch slip reqe Shift if possible
				Shift complete, ASR continues torque limit ASR event over
EBC1	Info	ASR	Eng, Trans, Retarder (Drv)	ASR inactive, disable override

## 5. NOTES

### 5.1 Marginal Indicia

A change bar (I) located in the left margin is for the convenience of the user in locating areas where technical revisions, not editorial changes, have been made to the previous issue of this document. An (R) symbol to the left of the document title indicates a complete revision of the document, including technical revisions. Change bars and (R) are not used in original publications, nor in documents that contain editorial changes only.

PREPARED BY THE SAE TRUCK AND BUS CONTROL AND COMMUNICATIONS COMMITTEE  
OF THE SAE TRUCK AND BUS ELECTRICAL/ELECTRONICS STEERING COMMITTEE

## APPENDIX A - PARAMETER GROUP ASSIGNMENTS

TABLE A1 - SAE J1939 PARAMETER GROUP TEMPLATE (SEE SAE J1939-21)

Legend: EDP = Extended Data Page (1 bit)

DP	=	Data page (1 bit)	GE	=	Group Extension (8 bits)
PF	=	PDU Format (8 bits)	DA	=	Destination Address (8 bits)
PS	=	PDU Specific (8 bits) (either DA or GE)	MP	=	Multipacket Allowed (Yes or No)
PGN	=	Parameter Group Number (3 bytes) (see SAE J1939-21 for description)			

EDP	DP	PF	PS	Parameter Group Definition	Multipacket	PGN
0	0	0	DA	PDU1 Format - 100 mS or less	NA	0
0	0	1	DA			256
:						
<b>Boundary x</b>						
:						
0	0	237	DA			60672
0	0	238	DA	PDU1 Format - Greater than 100 mS	Allowed	60928
0	0	239	DA	PDU1 Format - Proprietary A1	Allowed	61184
:						
0	0	240	0	PDU2 Format - 100 mS or less	NA	61440
0	0	240	1			61441
:						
<b>Boundary y</b>						
:						
0	0	254	254			65278
0	0	254	255	PDU2 Format - Greater than 100 mS	Allowed	65279
0	0	255	0-255	PDU2 Format - Proprietary B	Allowed	65280-65535
:						
0	1	0	DA	PDU1 Format - 100 mS or less	NA	65536
0	1	1	DA			65792
:						
<b>Boundary x1</b>						
:						
0	1	237	DA			126464
0	1	238	DA	PDU1 Format - Greater than 100 mS	Allowed	126720
0	1	239	DA	PDU1 Format - Proprietary A2	Allowed	136976
:						
0	1	240	0	PDU2 Format - 100 mS or less	NA	12697
0	1	240	1			
:						
<b>Boundary y1</b>						
:						
0	1	255	254			131070
0	1	255	255	PDU2 Format - Greater than 100 mS	Allowed	131071

Note 1: Refer to Table 1, page 16, regarding 29-bit CAN Identifiers with EDP = 1.

TABLE A2 - PARAMETER GROUPS (PGN)

Legend:

EDP = Extended Data Page (1 bit)

DP = Data page (1 bit)

GE = Group Extension (8 bits)

PF = PDU Format (8 bits)

DA = Destination Address (8 bits)

PS = PDU Specific (8 bits)  
(either DA or GE)

MP = Multipacket Allowed (Yes or No)

PGN = Parameter Group Number (3 bytes) (see SAE J1939-21 for description)

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	0	DA	0	Torque/Speed Control 1		TSC1	No	J1939-71
(R)	0	0	1	DA	256	Transmission Control 1		TC1	No	J1939-71
	0	0	2	DA	512	Reserved for ISO 11992		EBS11	No	ISO 11992
	0	0	3	DA	768	Reserved for ISO 11992		EBS21	No	ISO 11992
	0	0	4	DA	1024	External Brake Request	Used for brake control by an external device	XBR	No	J1939-71
	0	0	5	DA	1280	Reserved for CANopen	CANopen Application Message #1/1	CAM11	No	ISO 11992
	0	0	6	DA	1536	Reserved for CANopen	CANopen Application Message #2/1	CAM21	No	ISO 11992
	0	0	7	DA	1792	General Purpose Valve Pressure	The measured load sense pressure and pilot pressure of a valve.	GPV4	No	J1939-71
	0	0	8	DA	2048	Auxiliary Input/Output Status 5	AUXIO PGNs are intended for use in which fixed mapping to functions is not possible.	AUXIO5	No	J1939-71
	0	0	9	DA	2304	Static Roll Angle Sensor Information	Contains Static Roll Angle Data and Status of the Static Roll Angle Sensor	SRASI	No	J1939-71
	0	0	10	DA	2560	Cruise Control / Vehicle Speed 2	Cruise Control / Vehicle Speed 2	CCVS2	No	J1939-71
(R)	0	0	11	DA	2816	Advanced Emergency Braking System 2	Advanced Emergency Braking System message 2.	AEBS2	No	J1939-71
(R)	0	0	135	DA	34560	Engine State Requests		ESR	No	J1939-71
(R)	0	0	136	DA	34816	Radio Beacon Request	Message used to request the wireless transceiver to transmit a special beacon signal and to report the reception of a special beacon signal by a wireless transceiver.	RBR	No	J1939-71
(R)	0	0	137	DA	35072	Reserved for ISO 11992	Running Gear Equipment #2/4 message send by the towed vehicle using ISO 11992	RGE24	No	ISO 11992
(R)	0	0	138	DA	35328	Reserved for ISO 11992	Running Gear Equipment #1/2 message send by the towing vehicle using ISO 11992	RGE12	No	ISO 11992

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	139	DA	35584	CCP Data Transmission Object	The DTO message is the one of two PGNs needed by the CAN Calibration Protocol. It is sent by an ECU in response tool to tool queries or commands.	CCP DTO	No	CAN Calibration Protocol
	0	0	140	DA	35840	CCP Command Receive Object	The CRO message is the one of two PGNs needed by the CAN Calibration Protocol. It is sent by a tool to send queries or commands to a target ECU.	CCP CRO	No	CAN Calibration Protocol
	0	0	141	DA	36096	Sequence Control Client-to-Sequence Control Master	This PGN is for sending response messages from control functions to a Sequence Control Master on the tractor and connected implement(s).	SCCCCM	Yes	ISO 11783-14
	0	0	142	DA	36352	Sequence Control Master-to-Sequence Control Client	The PGN is for a sequence control system, such as a headland management system, which includes tractor and implement functions in one system.	SCMCC	Yes	ISO 11783-14
	0	0	143	DA	36608	Engine Configuration Commands	This PGN contains parameters that are used to configure engine operation.	ECC	No	J1939-71
	0	0	144	DA	36864	Supplemental Fan Command	Command message to control the speed and direction of Supplemental Fan for additional cooling beyond that of the primary cooling fan.	SFC	No	J1939-71
	0	0	145	DA	37120	Vehicle/Chassis Lubrication System 1	Used to command a vehicle/chassis lubrication system	VLS1	No	J1939-71
	0	0	146	DA	37376	Aftertreatment 1 Hydrocarbon Doser Information 1	This PGN contains information about the HC Doser and the Diesel Particulate Filter	HCDI1	No	J1939-71
	0	0	147	DA	37632	NAME Management Message	A message to change fields of the NAME of a CA	NM	No	J1939-81
	0	0	148	DA	37888	Aftertreatment 1 Diesel Particulate Filter Soot Sensor Calibration	The purpose of this PGN is to group the Aftertreatment 1 DPF soot measurement calibration parameters.	AT1DPFSSC	No	J1939-71
	0	0	149	DA	38144	Aftertreatment 2 Diesel Particulate Filter Soot Sensor Calibration	The purpose of this PGN is to group the Aftertreatment 2 DPF soot measurement calibration parameters.	AT2DPFSSC	No	J1939-71
	0	0	150	DA	38400	Low Voltage Disconnect Set Operating Mode	Low Voltage Disconnect (LVD) Set Operating Mode is sent to the LVD to either manually override the normal LVD function and force the outputs to be disconnected or connected, or to put the LVD back into normal mode.	LVDSOM	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	151	DA	38656	Noise Control Status	Used to report the current state of the Noise Control System.	NCS	No	J1939-71
	0	0	152	DA	38912	Noise Control 1	Used to issue commands to the Noise Control System.	NC1	No	J1939-71
	0	0	153	DA	39168	Joystick Lamp Command Message	Used to transfer joystick lamp command informations which are used to switch on/off/blinking joystick 1...3 lamps 1...10.	JLCM	No	J1939-71
	0	0	154	DA	39424	Reserved for ISO 11992	General Purpose Message #1/8	GPM18	No	ISO 11992
(R)	0	0	155	DA	39680	Proprietary Method Identification	This is a standardized mechanism for an ECU to report a listing of the manufacturer specific (i.e. proprietary) methods and formats it supports when using the PropA, PropA2, and PropB PGNs.	PMI	Yes	J1939-71
	0	0	156	DA	39936	Auxiliary Input/Output Status 7	AUXIO PGNs are intended for use in which fixed mapping to functions is not possible.	AUXIO7	No	J1939-71
	0	0	157	DA	40192	Auxiliary Input/Output Status 6	AUXIO PGNs are intended for use in which fixed mapping to functions is not possible.	AUXIO6	No	J1939-71
	0	0	158	DA	40448	DTC Counts	The purpose of this DM is to identify the number of DTCs in each category. The categories are pending, all pending, MIL-on, previously MIL-on, and permanent DTCs.	DM29	No	J1939-73
	0	0	159	DA	40704	Immediate Fault Status	The purpose of this DM is to enable the external test equipment to obtain the instantaneous status of diagnostic results	DM35	Yes	J1939-73
	0	0	160	DA	40960	NTE Status	The status of engine operating in the NTE control areas for given pollutants, such as NOx and PM.	DM34	Yes	J1939-73
	0	0	161	DA	41216	Emission Increasing Auxiliary Emission Control Device Active Time	The total engine run time while each of the Emission Increasing Auxiliary Emission Control Devices (EI-AECDs) is active.	DM33	No	J1939-73
	0	0	162	DA	41472	Regulated Exhaust Emission Level Exceedance	Provides the DTCs and associated timers related to a regulated exhaust emission level exceedance due to an emission control system malfunction.	DM32	No	J1939-73
	0	0	163	DA	41728	DTC To Lamp Association	This message shall provide the applicable lamp(s) for each individual DTC	DM31	No	J1939-73
	0	0	164	DA	41984	Scaled Test Results	This message conveys the scaled test results for the applicable test requested in DM7. The SPN and FMI convey the specific DTC for which the results are being reported.	DM30	No	J1939-73

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	165	DA	42240	Auxiliary Input/Output Status 4	AUXIO PGNs are intended for use in which fixed mapping to functions is not possible.	AUXIO4	No	J1939-71	
0	0	166	DA	42496	Auxiliary Input/Output Status 3	AUXIO PGNs are intended for use in which fixed mapping to functions is not possible.	AUXIO3	No	J1939-71	
0	0	167	DA	42752	Auxiliary Input/Output Status 2	AUXIO PGNs are intended for use in which fixed mapping to functions is not possible.	AUXIO2	No	J1939-71	
0	0	168	DA	43008	Text Display	This provides ASCII text information, for example to an display instrument	DISP1	Yes	J1939-71	
0	0	169	DA	43264	Forward Lane Image Command	Message containing commands, sent to the forward image controller	FLIC	No	J1939-71	
0	0	170	DA	43520	Client (ECU) to File Server message	Used for send Status of the client to the file server, volume handling, file access, file handling and directory handling. Description of messages is given in ISO 11783 Part 13.	CFS	Yes	ISO 11783-13	
0	0	171	DA	43776	File Server to Client (ECU) message	Used for obtaining status of the client, volume handling, file access, file handling and directory handling. Description of messages is given in ISO 11783 Part 13.	FSC	Yes	ISO 11783-13	
0	0	172	DA	44032	Agricultural Guidance Machine Info	Machine system feedback detailing status of machine relative to guidance operation	GMS	No	ISO 11783-7	
0	0	173	DA	44288	Agricultural Guidance System Command	Steering command expressed as desired curvature	GSC	No	ISO 11783-7	
0	0	174	DA	44544	Tire Pressure Reference Setting	For setting the tire pressure reference values.	TPRS	No	J1939-71	
0	0	175	DA	44800	Parameter Locate Message	This message is designed to cause other CAs to respond with the identity of any message that they send in which the particular parameter (identified by specific SPN) is contained	PLM	No	J1939-74	
0	0	176	DA	45056	Configuration Identification Message	Message used to identify the data content (by SPN) of one of the configurable messages (identified by PGN).	CIM	No	J1939-74	
0	0	177	DA	45312	Proprietary Configuration Message #1	Proprietary Configuration message for use in J1939-74.	PCM1	Yes	J1939-74	
0	0	178	DA	45568	Proprietary Configuration Message #2	Proprietary Configuration message for use in J1939-74.	PCM2	Yes	J1939-74	
0	0	179	DA	45824	Proprietary Configuration Message #3	Proprietary Configuration message for use in J1939-74.	PCM3	Yes	J1939-74	
0	0	180	DA	46080	Proprietary Configuration Message #4	Proprietary Configuration message for use in J1939-74.	PCM4	Yes	J1939-74	

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Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	181	DA	46336	Proprietary Configurable Message #5	Proprietary Configuration message for use in J1939-74.	PCM5	Yes	J1939-74	
0	0	182	DA	46592	Proprietary Configurable Message #6	Proprietary Configuration message for use in J1939-74.	PCM6	Yes	J1939-74	
0	0	183	DA	46848	Proprietary Configurable Message #7	Proprietary Configuration message for use in J1939-74.	PCM7	Yes	J1939-74	
0	0	184	DA	47104	Proprietary Configurable Message #8	Proprietary Configuration message for use in J1939-74.	PCM8	Yes	J1939-74	
0	0	185	DA	47360	Proprietary Configurable Message #9	Proprietary Configuration message for use in J1939-74.	PCM9	Yes	J1939-74	
0	0	186	DA	47616	Proprietary Configurable Message #10	Proprietary Configuration message for use in J1939-74.	PCM10	Yes	J1939-74	
0	0	187	DA	47872	Proprietary Configurable Message #11	Proprietary Configuration message for use in J1939-74.	PCM11	Yes	J1939-74	
0	0	188	DA	48128	Proprietary Configurable Message #12	Proprietary Configuration message for use in J1939-74.	PCM12	Yes	J1939-74	
0	0	189	DA	48384	Proprietary Configurable Message #13	Proprietary Configuration message for use in J1939-74.	PCM13	Yes	J1939-74	
0	0	190	DA	48640	Proprietary Configurable Message #14	Proprietary Configuration message for use in J1939-74.	PCM14	Yes	J1939-74	
0	0	191	DA	48896	Proprietary Configurable Message #15	Proprietary Configuration message for use in J1939-74.	PCM15	Yes	J1939-74	
0	0	192	DA	49152	Proprietary Configurable Message #16	Proprietary Configuration message for use in J1939-74.	PCM16	Yes	J1939-74	
0	0	193	DA	49408	Diagnostic Readiness 2	Message to convey information relevant to the readiness of the OBD system.	DM21	No	J1939-73	
0	0	194	DA	49664	Monitor Performance Ratio	Legislated On-Board Diagnostics requirements specify that manufacturers must monitor all emission and OBD system related components throughout the expected life of the vehicle.	DM20	Yes	J1939-73	
0	0	195	DA	49920	Individual Clear/Reset Of Active And Previously Active DTC	All of the diagnostic information pertaining to the specified diagnostic trouble code should be erased when the CLR_PA_REQ or CLR_ACT_REQ action of this PG is requested.	DM22	No	J1939-73	
0	0	196	DA	50176	General Purpose Valve Command	This message provides control of the flow through a general purpose valve. Defined in ISO 11783-7.	GPV3	No	ISO 11783-7	

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Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	197	DA	50432	General Purpose Valve Measured Flow	This message provides the measurement of a general purpose valve. Defined in ISO11783-7.	GPV2	No	ISO 11783-7	
0	0	198	DA	50688	General Purpose Valve Estimated Flow	This message provides the estimated flow of a general purpose valve. Defined in ISO 11783-7.	GPV1	No	ISO 11783-7	
0	0	199	DA	50944	Extended Transport Protocol - Data Transfer	Defined in ISO 11783-6 Annex L	ETP.DT	Yes	ISO 11783-6	
0	0	200	DA	51200	Extended Transport Protocol - Connection Management	Defined in ISO 11783-6 Annex L	ETP.CM	No	ISO 11783-6	
0	0	201	DA	51456	Request 2	Used to Request a PGN from network device or devices and to specify whether the response should use the Transfer PGN or not. PGN and data set for all devices it is tasked with reporting.	RQST2	No	J1939-21	
0	0	202	DA	51712	Transfer	The Transfer PGN provides a mechanism for reporting multiple data sets for a given PGN.	XFER	No	J1939-21	
0	0	203	DA	51968	Process Data Message	The Process Data message has been defined as a destination specific message implying that the sender must decide which implement should receive the message.(Working Set).	PD	No	ISO 11783-7	
0	0	204	DA	52224	Request for Repetition Rate	This message allows the system to adapt the bus bandwidth to the needs of the user of messages.	REQRR	No	ISO 11783-7	
0	0	205	DA	52480	Reserved for ISO 15765	KWP2000 Mixed functional addressing	KWP4	No	ISO 15765	
0	0	206	DA	52736	Reserved for ISO 15765	KWP2000 Mixed physical addressing	KWP3	No	ISO 15765	
0	0	207	DA	52992	Continuous Torque & Speed Limit Request		CTL	No	J1939-71	
0	0	208	DA	53248	Cab Illumination Message	This message contains information that controls illumination devices inside the vehicle's cab.	CL	No	J1939-71	
0	0	209	DA	53504	Air Suspension Control 6	Used for suspension control	ASC6	No	J1939-71	
0	0	210	DA	53760	Air Suspension Control 2	Used for suspension control	ASC2	No	J1939-71	
0	0	211	DA	54016	Calibration Information	Provide information about the calibration to scan tool	DM19	Yes	J1939-73	

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	212	DA	54272	Data Security		The data security parameter group is used to send security entities of a given type and length. These entities are data produced by or used for applications of cryptography and supporting procedures to ensure data security.	DM18	Yes	J1939-73
0	0	213	DA	54528	Time/Date Adjust			TDA	No	J1939-71
0	0	214	DA	54784	Boot Load Data		Used primarily to load boot data/program into a device when a memory access boot load command has been issued.	DM17	Yes	J1939-73
0	0	215	DA	55040	Binary Data Transfer		Used primarily to transfer data for the memory access commands.	DM16	Yes	J1939-73
0	0	216	DA	55296	Memory Access Response		The main use for the Memory_Access_Response is for a device to answer a tool which has attempted to access the memory within the device.	DM15	No	J1939-73
0	0	217	DA	55552	Memory Access Request		The main use for the Memory_Access_Request message is by a tool wishing to alter the memory of a device.	DM14	Yes	J1939-73
0	0	218	DA	55808	Reserved for ISO 15765			KWP2	No	ISO 15765
0	0	219	DA	56064	Reserved for ISO 15765			KWP1	No	ISO 15765
0	0	220	DA	56320	Anti-theft Status			ATS	No	J1939-71
0	0	221	DA	56576	Anti-theft Request			ATR	Yes	J1939-71
0	0	222	DA	56832	Reset			RESET	No	J1939-71
0	0	223	DA	57088	Stop Start Broadcast		This message is used to stop or start broadcast messages. These broadcast messages may be on networks other than SAE J1939.	DM13	No	J1939-73
0	0	224	DA	57344	Cab Message 1		Message containing parameters originating from the vehicle cab.	CM1	No	J1939-71
0	0	225	DA	57600	Reserved for ISO 11992			GPM21	No	ISO 11992
0	0	226	DA	57856	Reserved for ISO 11992			GPM11	No	ISO 11992
0	0	227	DA	58112	Command Non-continuously Monitored Test		The purpose of this command in the diagnostic process is to provide the ability to command On-Board Diagnostic monitoring tests of specific components/ systems that are not continuously monitored	DM07	No	J1939-73
0	0	228	DA	58368	Reserved for ISO 11992			RGE11	No	ISO 11992
0	0	229	DA	58624	Reserved for ISO 11992			RGE21	No	ISO 11992

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	230	DA	58880	Virtual Terminal-to-Node			VT12	Yes	ISO 11783-6
0	0	231	DA	59136	Node-to-Virtual Terminal			VT21	Yes	ISO 11783-6
0	0	232	DA	59392	Acknowledgment Message	The Acknowledgment PG is used to provide a handshake mechanism between transmitting and receiving devices.		ACKM	No	J1939-21
0	0	234	DA	59904	Request	This message type, identified by the PGN, provides the capability to request information globally or from a specific destination.		RQST	No	J1939-21
0	0	235	DA	60160	Transport Protocol - Data Transfer	Used for the transfer of data associated with Parameter Groups that have more than 8 bytes of data.		TP.DT	No	J1939-21
0	0	236	DA	60416	Transport Protocol - Connection Mgmt	Used for the transfer of Parameter Groups that have 9 or more bytes of data.		TP.CM.xx	No	J1939-21
0	0	237	DA	60672	Network Layer			N.xx	Yes	J1939-31
0	0	238	DA	60928	Address Claimed	Message used to claim an address for a Controller Application.		AC	No	J1939-81
0	0	239	DA	61184	Proprietary A	This proprietary PG uses the Destination Specific PDU Format allowing manufacturers to direct their proprietary communications to a specific destination node.		PropA	Yes	J1939-21
0	0	240	0	61440	Electronic Retarder Controller 1	This message will be transmitted by several types of retarding devices.		ERC1	No	J1939-71
0	0	240	1	61441	Electronic Brake Controller 1	Used for brake control information.		EBC1	No	J1939-71
0	0	240	2	61442	Electronic Transmission Controller 1			ETC1	No	J1939-71
0	0	240	3	61443	Electronic Engine Controller 2	Identifies electronic engine control related parameters.		EEC2	No	J1939-71
0	0	240	4	61444	Electronic Engine Controller 1	Engine related parameters		EEC1	No	J1939-71
0	0	240	5	61445	Electronic Transmission Controller 2			ETC2	No	J1939-71
0	0	240	6	61446	Electronic Axle Controller 1			EAC1	No	J1939-71
0	0	240	7	61447	Forward Lane Image urgent msg			FLI1	No	J1939-71
0	0	240	8	61448	Hydraulic Pressure Governor Info	Information to be used for a hydraulic pressure governing control system		HPG	No	J1939-71
0	0	240	9	61449	Vehicle Dynamic Stability Control 2	Contains information which relates to the vehicle's movement.		VDC2	No	J1939-71
0	0	240	10	61450	Engine Gas Flow Rate	Flow rates of Air and mixed gasses into the engine cylinders.		EGF1	No	J1939-71
0	0	240	11	61451	Electronic Steering Control	PGN which indicates the actual angle and the status of a steerable axle		ESC1	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	240	12	61452	Electronic Transmission Controller #8	Electronic Transmission Controller #8	ETC8	No	J1939-71
	0	0	240	13	61453	Land Leveling System Operational Information	Group of operational parameters associated with the Land Leveling System, such as switch states	LOI	No	J1939-71
(R)	0	0	240	14	61454	Aftertreatment 1 Intake Gas 1	The purpose of this PGN is to group the aftertreatment intake sensor data for bank 1. These values include the NOx, %O2 etc.	AT1IG1	No	J1939-71
(R)	0	0	240	15	61455	Aftertreatment 1 Outlet Gas 1	The purpose of this PGN is to group the aftertreatment outlet sensor data for bank 1. These values include the NOx, %O2, etc.	AT1OG1	No	J1939-71
(R)	0	0	240	16	61456	Aftertreatment 2 Intake Gas 1	The purpose of this PGN is to group the aftertreatment intake sensor data for bank 2. These values include the NOx, %O2, etc.	AT2IG1	No	J1939-71
(R)	0	0	240	17	61457	Aftertreatment 2 Outlet Gas 1	The purpose of this PGN is to group the aftertreatment outlet sensor data for bank 2. These values include the NOx, %O2, etc.	AT2OG1	No	J1939-71
	0	0	240	18	61458	Fifth Wheel Smart Systems 1	Fifth wheel smart system information. Parameters used to determine the status of the tractor to trailer coupling system integrity.	FWSS1	No	J1939-71
	0	0	240	19	61459	Slope Sensor Information	The Slope Sensor Information message shall provide a measurement of the vehicles pitch angle, a measurement of the vehicles roll angle, and a measurement of the vehicles pitch rate.	SSI	No	J1939-71
	0	0	240	20	61460	Blade Information	A measurement of the machine's relative blade height and a rotational angle measurement of the machine blade yaw angle around the machine z-axis.	BI	No	J1939-71
	0	0	240	21	61461	Requested Generator Total AC Reactive Power	Contains requested reactive and power factor control values	RGTACRP	No	J1939-75
	0	0	240	22	61462	Cylinder Combustion Status	Used to send the SPNs containing information relating to the state of combustion for 24 cylinders.	CCS	No	J1939-71
	0	0	240	23	61463	Engine Knock Level #1	Used to send the SPNs containing information relating to the level of knock for 8 cylinders.	KL1	No	J1939-71
	0	0	240	24	61464	Engine Knock Level #2	Used to send the SPNs containing information relating to the level of knock for 8 cylinders.	KL2	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	240	25	61465	Engine Knock Level #3	Used to send the SPNs containing information relating to the level of knock for 8 cylinders.	KL3	No	J1939-71	
0	0	240	26	61466	Engine Throttle / Fuel Actuator Control Command	Used to control networked electronic throttle control actuator and/or fuel control actuator valves.	TFAC	No	J1939-71	
0	0	240	27	61467	General Purpose Message #1/7	Message to control lights on towed vehicle(s). See ISO 11992.	GPM17	No	ISO 11992	
0	0	240	28	61468	Requested Generator Average Basic AC Quantities	Contains Requested Generator Average Basic AC Quantities	RGAAC	No	J1939-75	
0	0	240	29	61469	Steering Angle Sensor Information	Contains information which relates to a steering angle sensor.	SAS	No	J1939-71	
0	0	240	30	61470	Generator Control 2	Contains parameters that allow the generator control system to control the engine and to provide information about the generator control system	GC2	No	J1939-75	
0	0	240	31	61471	Electronic Brake System #2/6	Message to transmit data of the towed vehicle to the towing vehicle. See ISO 11992.	EBS26	No	ISO 11992	
0	0	240	32	61472	Electronic Brake System #2/5	Message to transmit data of the towed vehicle to the towing vehicle. See ISO 11992.	EBS25	No	ISO 11992	
0	0	240	33	61473	Engine Speed Sensor Information	This PGN contains the speed information and status signal of each engine speed sensor.	ESSI	No	J1939-71	
0	0	240	34	61474	Machine Selected Speed	Message that provides the current machine selected speed, direction, and source parameters.	MSS	No	ISO 11783-7	
0	0	240	35	61475	Aftertreatment 1 SCR Dosing System Information 1	This message contains SCR dosing system information for aftertreatment system 1 (or bank 1)	A1SCRDSI1	No	J1939-71	
0	0	240	36	61476	Aftertreatment 1 SCR Dosing System Requests 1	This message contains SCR dosing system request information for aftertreatment system 1 (or bank 1).	A1SCRDSR1	No	J1939-71	
0	0	240	37	61477	Aftertreatment 1 SCR Ammonia Information	This message contains aftertreatment outlet ammonia information for aftertreatment system 1 (or bank 1).	A1SCRAI	No	J1939-71	
0	0	240	38	61478	Aftertreatment 2 SCR Dosing System Information 1	This message contains SCR dosing system information for aftertreatment system 2 (or bank 2).	A2SCRDSI1	No	J1939-71	
0	0	240	39	61479	Aftertreatment 2 SCR Dosing System Requests 1	This message contains SCR dosing system request information for aftertreatment system 2 (or bank 2).	A2SCRDSR1	No	J1939-71	

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	240	40	61480	Aftertreatment 2 SCR Ammonia Information	This message contains outlet ammonia information for aftertreatment system 2 (or bank 2).	A2SCRAI	No	J1939-71
	0	0	240	41	61481	Slope Sensor Information 2	The Slope Sensor Information 2 message shall provide a measurement of the vehicle's extended pitch angle and a measurement of the vehicle's extended roll angle.	SSI2	No	J1939-71
	0	0	240	42	61482	Angular Rate Information	The Angular Rate Information message shall provide a measurement of the vehicle's pitch rate, roll rate, and yaw rate measurements.	ARI	No	J1939-71
	0	0	240	43	61483	Crash Notification	This message is transmitted in case of a crash event	CN	No	J1939-71
	0	0	240	44	61484	Magnet Status Information 2	Carries data related to the status of the magnetic material handling system, possibly including the generator that provides power to the magnet.	MSI2	No	J1939-71
	0	0	240	45	61485	Acceleration Sensor	The acceleration sensor message shall provide a measurement of the vehicle's acceleration in the lateral, longitudinal, and vertical axes.	ACCS	No	J1939-71
	0	0	240	46	61486	Engine Turbocharger Wastegate Actuator and Exhaust Back Pressure Regulator Command	This PGN will contain the Engine Turbocharger Wastegate Actuator 1 & 2 control and Exhaust Back Pressure Regulator commands.	ETWAC	No	J1939-71
(R)	0	0	240	47	61487	Advanced Emergency Braking System 1	Advanced Emergency Braking System message 1.	AEBS1	No	J1939-71
(R)	0	0	240	48	61488	Wireless Status	Carries commands received by the wireless transceiver from an off-board transmitter and conveys the status of the on-board wireless transceiver.	WS	No	J1939-71
(R)	0	0	240	49	61489	Wand Sensor	The wand sensor is an electromechanical sensor that detects the angle of deflection of a wand.	WAND	No	J1939-71
(R)	0	0	240	50	61490	Linear Displacement Sensor	The Linear Displacement Sensor is an electromechanical sensor that detects the distance of an object from the body of the sensor.	LDISP	No	J1939-71
(R)	0	0	240	51	61491	Aftertreatment 1 SCR Ammonia Information 2	This message contains aftertreatment intermediate ammonia information for aftertreatment system 1 (or bank 1).	A1SCRAI2	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
(R)	0	0	240	52	61492	Aftertreatment 2 SCR Ammonia Information 2	This message contains aftertreatment intermediate ammonia information for aftertreatment system 2 (or bank 2).	A2SCRAI2	No	J1939-71
(R)	0	0	252	194	64706	Hybrid System Status	Status information of a hybrid system.	HSS	No	J1939-71
(R)	0	0	252	195	64707	Fuel Information 4 (Gaseous)	Gaseous fuel information 4	GFI4	No	J1939-71
(R)	0	0	252	196	64708	Aftertreatment 2 SCR Exhaust Gas Temperature 2	This message contains SCR catalyst gas temperature information for aftertreatment system 2 (or bank 2).	A2SCREGT2	No	J1939-71
(R)	0	0	252	197	64709	Aftertreatment 1 SCR Exhaust Gas Temperature 2	This message contains SCR catalyst gas temperature information for aftertreatment system 1 (or bank 1).	A1SCREGT2	No	J1939-71
(R)	0	0	252	198	64710	OBD Information		DM57	Yes	J1939-73
(R)	0	0	252	199	64711	Engine Emissions Certification Information		DM56	Yes	J1939-73
(R)	0	0	252	200	64712	Electronic Engine Controller 13		EEC13	No	J1939-71
(R)	0	0	252	201	64713	Engine Fuel/Throttle Valve Information 2	This PGN will be used to transmit the Feedback information from the Engine Throttle and Fuel Actuator.	EF/TVI2	No	J1939-71
(R)	0	0	252	202	64714	Engine Exhaust Gas Recirculation 2 Actuator	Engine Exhaust Gas Recirculation 2 Actuator related parameters	EEGR1A	No	J1939-71
(R)	0	0	252	203	64715	Engine Exhaust Gas Recirculation 1 Actuator	Engine Exhaust Gas Recirculation 1 Actuator related parameters	EEGR1A	No	J1939-71
(R)	0	0	252	204	64716	Electronic Engine Controller 12	Engine Related Parameters	EEC12	No	J1939-71
(R)	0	0	252	205	64717	Drive Strategy Status	Message from the tractor to the implement showing the current status of the Drive Strategy priority structure, which indicates the priority of the multiple powertrain functions.	DSS	No	ISO 11783-7
(R)	0	0	252	206	64718	Drive Strategy Command	Message from the tractor used to alter the powertrain DriveStrategy priority structure, which determines the balance between fuel economy/consumption and the torque reserve of the engine.	DSC	No	ISO 11783-7
(R)	0	0	252	207	64719	NOx Sensor Self-Diagnosis Request	Request to initiate the self-diagnosis of the NOx sensors implemented in the system.	NSSR	No	J1939-71
(R)	0	0	252	208	64720	Engine Particulate Sensor Information		EPSI	No	J1939-71
(R)	0	0	252	209	64721	Active Service Only DTCs		DM53	Yes	J1939-73
(R)	0	0	252	210	64722	Previously Active Service Only DTCs		DM54	Yes	J1939-73

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
(R)	0	0	252	211	64723	Diagnostic Data Clear/Reset for All Service Only DTCs	All of the diagnostic information pertaining to the active service only diagnostic trouble codes and previously active diagnostic trouble codes should be erased as well as the DTCs.	DM55	No	J1939-73
(R)	0	0	252	212	64724	XCP Get Slave ID	Used by the XCP master (tool) to identify all XCP slaves on the network.	XCP ID	No	CAN Calibration Protocol
(R)	0	0	252	213	64725	Aftertreatment 1 Diesel Exhaust Fluid Pump 1 Information	Contains information on Diesel Exhaust Fluid Pumps	AT1P1I	No	J1939-71
(R)	0	0	252	214	64726	Aftertreatment 1 Diesel Particulate Filter 2 Soot 5	Diesel particulate filter soot parameters for the aftertreatment 1 diesel particulate filter 2.	AT1DPF2S5	No	J1939-71
(R)	0	0	252	215	64727	Aftertreatment 1 Diesel Particulate Filter 2 Soot 4	This message is used report the analysis frequency and associated soot sensor signal data for two of the requested analysis frequencies for aftertreatment 1 diesel particulate filter 2.	AT1DPF2S4	No	J1939-71
(R)	0	0	252	216	64728	Aftertreatment 1 Diesel Particulate Filter 2 Soot 3	This message is used to specify up to 4 soot sensor analysis frequencies to request the soot sensor signal data associated with those analysis frequencies for aftertreatment 1 diesel particulate filter 2.	AT1DPF2S3	Yes	J1939-71
(R)	0	0	252	217	64729	Aftertreatment 1 Diesel Particulate Filter 1 Soot 5	This message is used report the analysis frequency and associated soot sensor signal data for two of the requested analysis frequencies for the aftertreatment 1 diesel particulate filter 1.	AT1DPF1S5	No	J1939-71
(R)	0	0	252	218	64730	Aftertreatment 1 Diesel Particulate Filter 1 Soot 4	This message is used report the analysis frequency and associated soot sensor signal data for two of the requested analysis frequencies for the aftertreatment 1 diesel particulate filter 1.	AT1DPF1S4	No	J1939-71
(R)	0	0	252	219	64731	Aftertreatment 1 Diesel Particulate Filter 1 Soot 3	This message is used to specify up to 4 soot sensor analysis frequencies to request the soot sensor signal data associated with those analysis frequencies for aftertreatment 1 diesel particulate filter 1.	AT1DPF1S3	No	J1939-71
	0	0	252	220	64732	Cruise Control 3	Cruise Control / Vehicle Speed 3	CCVS3	No	J1939-71
	0	0	252	221	64733	Aftertreatment 2 Air Control 3	This PGN contains information about the Aftertreatment 2 Air Control.	AT2AC3	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	252	222	64734	Aftertreatment 1 Air Control 3	This PGN contains information about the Aftertreatment 1 Air Control.	AT1AC3	No	J1939-71
	0	0	252	223	64735	Engine Fluid Level/Pressure 12	12th PGN which identifies parameters that are either measuring various pressures within the engine or identifying engine fluid levels	EFL/P12	No	J1939-71
(R)	0	0	252	224	64736	Diesel Particulate Filter Control 2	The purpose of this PGN is to group parameters about the diesel particulate filter regeneration control.	DPFC2	No	J1939-71
	0	0	252	225	64737	Fuel Economy 2 (Liquid)		LFE2	No	J1939-71
	0	0	252	226	64738	Supplemental Fan Status	The status of Supplemental Fan.	SFS	No	J1939-71
	0	0	252	227	64739	Engine Exhaust Brake Control	Contains information about the engine exhaust brake system control.	EBCC	No	J1939-71
	0	0	252	228	64740	Engine Fuel Properties	Engine Fuel Properties	EFP	No	J1939-71
	0	0	252	229	64741	Hydraulic Oil Properties	Hydraulic Oil Properties	HOP	No	J1939-71
	0	0	252	230	64742	Vehicle/Chassis Lubrication System 2	Reports vehicle/chassis lubrication systems status	VLS2	No	J1939-71
(R)	0	0	252	231	64743	Engine Configuration 3	The static friction torque map in the EC3 message includes torque points that correspond to the speed points in the EC1 message. The static friction torque map is expected to change as engine temperature changes.	EC3	No	J1939-71
	0	0	252	232	64744	Intake Valve Actuation Control	Contains information about the intake valve actuation system control.	IVAC	No	J1939-71
	0	0	252	233	64745	Armrest Switch Matrix Commands	Operator commands sent via the Armrest Switch Matrices.	ARMSWIMC	No	J1939-71
	0	0	252	234	64746	Vehicle Electrical Power #4	Vehicle Electrical Power 4	VEP4	No	J1939-71
	0	0	252	235	64747	Aftertreatment 2 NOx Adsorber Information	This message contains NOx adsorber information for aftertreatment system 2 (or bank 2).	AFT2NAI	No	J1939-71
	0	0	252	236	64748	Aftertreatment 1 NOx Adsorber Information	This message contains NOx adsorber information for aftertreatment system 1 (or bank 1).	AFT1NAI	No	J1939-71
	0	0	252	237	64749	Aftertreatment 2 Warm Up Diesel Oxidation Catalyst Information	This PGN contains information for the warm up oxidation catalytic converter in exhaust bank 2.	AT2WUDOC	No	J1939-71
	0	0	252	238	64750	Land Leveling System Reference Elevation Data	Used to communicate the reference elvation information for the land leveling system	LLRE	No	J1939-71
	0	0	252	239	64751	Engine Fluid Level/Pressure 11	Engine related parameters.	EFL/P11	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	252	240	64752	Engine Fuel/lube systems 2	Contains information on the engine fuel and lube system	EFS2	No	J1939-71
(R)	0	0	252	241	64753	Engine Turbocharger Wastegate Actuator and Exhaust Back Pressure Regulator Information	This PGN will be used to transmit the Engine Turbocharger Wastegate and Exhaust Back Pressure Regulator Information.	ETWAI	No	J1939-71
(R)	0	0	252	242	64754	Engine Fuel/Throttle Valve Information 1	This PGN will be used to transmit the Feedback information from the Engine Throttle and Fuel Actuator .	EFTVI1	No	J1939-71
(R)	0	0	252	243	64755	Engine Turbocharger Compressor Bypass Information	This PGN will contain the Engine Turbocharger Compressor Bypass information	ETCBI	No	J1939-71
	0	0	252	244	64756	Charge Air Cooler 2	Engine bank 2 Charge Air Cooler parameters	CAC2	No	J1939-71
	0	0	252	245	64757	Charge Air Cooler 2 Precooler	Engine bank 2 CAC precooler parameters	CAC2P	No	J1939-71
	0	0	252	246	64758	Charge Air Cooler 1	Engine bank 1 Charge Air Cooler parameters	CAC1	No	J1939-71
	0	0	252	247	64759	Charge Air Cooler 1 Precooler	Engine bank 1 CAC precooler parameters	CAC1P	No	J1939-71
	0	0	252	248	64760	Diesel Particulate Filter 2 Soot 2	Diesel particulate filter soot parameters for diesel particulate filter 2.	DPF2S2	No	J1939-71
	0	0	252	249	64761	Diesel Particulate Filter 1 Soot 2	Diesel particulate filter soot parameters for diesel particulate filter 1.	DPF1S2	No	J1939-71
(R)	0	0	252	250	64762	Electronic Engine Controller 11	Engine related parameters	EEC11	No	J1939-71
	0	0	252	251	64763	Engine Manifold Actuator Position	Engine manifold actuator position parameters	EMAP	No	J1939-71
	0	0	252	252	64764	Engine Manifold Actuator Control	Engine manifold actuator control parameters.	EMAC	No	J1939-71
	0	0	252	253	64765	Electronic Engine Controller 9	Engine related parameters	EEC9	No	J1939-71
	0	0	252	254	64766	Electronic Engine Controller 10	Engine related parameters	EEC10	No	J1939-71
	0	0	252	255	64767	Engine Temperature 5	Engine related parameters	ET5	No	J1939-71
(R)	0	0	253	00	64768	Engine Fluid Level/Pressure 10	Engine related parameters	EFL/P10	No	J1939-71
	0	0	253	01	64769	Low Voltage Disconnect Status	Status of the Low-Voltage Disconnect (LVD) device.	LVDS	No	J1939-71
	0	0	253	02	64770	All implements stop operations switch state	Message sent by the tractor ECU Message sent by an ECU on the implement bus on forestry or agriculture implements providing to connected systems the current state of the all implement stop operations switch.	AISO	No	ISO 11783-7
	0	0	253	03	64771	Implement Operating State Command	Message sent by the tractor ECU on the implement bus on forestry or agriculture implements providing to connected systems the current commanded implement operating state.	IOS	No	ISO 11783-7

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	0	0	253	04	64772	Direct Lamp Control Data 2	This message will be transmitted by the controller that is illuminating the lamps.command message.	DLCD2	No	J1939-71
	0	0	253	05	64773	Direct Lamp Control Data 1	This message will be transmitted by the controller that is illuminating the lamps.	DLCD1	No	J1939-71
	0	0	253	06	64774	Direct Lamp Control Command 2	Message that directly controls the driver indicator lamps	DLCC2	No	J1939-71
	0	0	253	07	64775	Direct Lamp Control Command 1	Message that directly controls the driver indicator lamps	DLCC1	No	J1939-71
	0	0	253	08	64776	Engine oil message	Engine oil related parameters	EOM	No	J1939-71
	0	0	253	09	64777	High Resolution Fuel Consumption (Liquid)	Engine fuel consumption accumulators.	HRLFC	No	J1939-71
(R)	0	0	253	10	64778	Aftertreatment 2 Outlet Gas NOx Sensor correction data 2		AT2OGC2	No	J1939-71
(R)	0	0	253	11	64779	Aftertreatment 2 Outlet Gas NOx Sensor correction data 1		AT2OGC1	No	J1939-71
(R)	0	0	253	12	64780	Aftertreatment 2 Intake Gas NOx Sensor correction data 2		AT2IGC2	No	J1939-71
(R)	0	0	253	13	64781	Aftertreatment 2 Intake Gas NOx Sensor correction data 1		AT2IGC1	No	J1939-71
(R)	0	0	253	14	64782	Aftertreatment 1 Outlet Gas NOx Sensor correction data 2		AT1OGC2	No	J1939-71
(R)	0	0	253	15	64783	Aftertreatment 1 Outlet Gas NOx Sensor correction data 1		AT1OGC1	No	J1939-71
(R)	0	0	253	16	64784	Aftertreatment 1 Intake Gas NOx Sensor correction data 2		AT1IGC2	No	J1939-71
(R)	0	0	253	17	64785	Aftertreatment 1 Intake Gas NOx Sensor correction data 1		AT1IGC1	No	J1939-71
	0	0	253	18	64786	Magnet Status Information 1	Carries data related to the status of the magnetic material handling system, possibly including the generator that provides power to the magnet.	MSI1	No	J1939-71
	0	0	253	19	64787	Magnet System Configuration Information	This message carries data related to the configuration of the magnetic material handling system, possibly including the generator that provides power to the magnet.	MSCI	No	J1939-71
	0	0	253	20	64788	Battery Charger 2	Parameters for the battery charger connected to the auxiliary battery.	BCH2	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	253	21	64789	Battery Charger 1	Parameters for the battery charger connected to the main battery.	BCH1	No	J1939-71	
0	0	253	22	64790	Occupant Classification System Information	Message containing status of Occupant Classification System for driver, passenger and rear seating positions.	OCSI	No	J1939-71	
0	0	253	23	64791	Beltlock and Airbag Deactivation Switch Information	Message containing Beltlock States and the Passener Airbag Deactivation Switch State.	BDS	Yes	J1939-71	
0	0	253	24	64792	Collision Sensor Information	Message containing Type and Serial number for every sensor of the restraint-system.	CSI	Yes	J1939-71	
0	0	253	25	64793	Ignitor Loop Information	Message containing resistance values for every equipped ignitor loop of the restraint-system.	ILI	Yes	J1939-71	
0	0	253	26	64794	Aftertreatment 1 Warm Up Diesel Oxidation Catalyst Information	This PGN contains information for the warm up oxidation catalytic converter in exhaust bank 1.	AT1WUDOC	No	J1939-71	
0	0	253	27	64795	Diesel Particulate Filter 2 Soot	Diesel particulate filter soot parameters for diesel particulate filter 2.	DPF2S	No	J1939-71	
0	0	253	28	64796	Diesel Particulate Filter 1 Soot	Diesel particulate filter soot parameters for diesel particulate filter 1.	DPF1S	No	J1939-71	
0	0	253	29	64797	Aftertreatment Differential Temperature 2	The purpose of this PGN is to group the aftertreatment differential temperature data	ATDT2	No	J1939-71	
0	0	253	30	64798	Aftertreatment Differential Temperature 1	The purpose of this PGN is to group the aftertreatment differential temperature data.	ATDT1	No	J1939-71	
0	0	253	31	64799	Aftertreatment 2 Diesel Oxidation Catalyst	The purpose of this PGN is to group the aftertreatment diesel oxidation catalyst data for bank 2.	A2DOC	No	J1939-71	
0	0	253	32	64800	Aftertreatment 1 Diesel Oxidation Catalyst	The purpose of this PGN is to group the aftertreatment diesel oxidation catalyst data for bank 1.	A1DOC	No	J1939-71	
0	0	253	33	64801	Aftertreatment 2 Gas Oxidation Catalyst	The purpose of this PGN is to group the aftertreatment gas oxidation catalyst data for bank 2	A2GOC	No	J1939-71	
0	0	253	34	64802	Aftertreatment 1 Gas Oxidation Catalyst	The purpose of this PGN is to group the aftertreatment gas oxidation catalyst data for bank 1.	A1GOC	No	J1939-71	
0	0	253	35	64803	Extended Joystick Message 10	Used to transfer information about the measured status of three additional axes of a joystick and switches of the joystick grip or handle.	EJM10	No	J1939-71	

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	0	0	253	36	64804	Basic Joystick Message 10	Used to transfer information about the measured status of the 1st 2 axes and up to 12 buttons of a joystick.	BJM10	No	J1939-71
	0	0	253	37	64805	Extended Joystick Message 9	Used to transfer information about the measured status of three additional axes of a joystick and switches of the joystick grip or handle.	EJM9	No	J1939-71
	0	0	253	38	64806	Basic Joystick Message 9	Used to transfer information about the measured status of the 1st 2 axes and up to 12 buttons of a joystick.	BJM9	No	J1939-71
	0	0	253	39	64807	Extended Joystick Message 8	Used to transfer information about the measured status of three additional axes of a joystick and switches of the joystick grip or handle.	EJM8	No	J1939-71
	0	0	253	40	64808	Basic Joystick Message 8	Used to transfer information about the measured status of the 1st 2 axes and up to 12 buttons of a joystick.	BJM8	No	J1939-71
	0	0	253	41	64809	Extended Joystick Message 7	Used to transfer information about the measured status of three additional axes of a joystick and switches of the joystick grip or handle.	EJM7	No	J1939-71
	0	0	253	42	64810	Basic Joystick Message 7	Used to transfer information about the measured status of the 1st 2 axes and up to 12 buttons of a joystick.	BJM7	No	J1939-71
	0	0	253	43	64811	Extended Joystick Message 6	Used to transfer information about the measured status of three additional axes of a joystick and switches of the joystick grip or handle.	EJM6	No	J1939-71
	0	0	253	44	64812	Basic Joystick Message 6	Used to transfer information about the measured status of the 1st 2 axes and up to 12 buttons of a joystick.	BJM6	No	J1939-71
	0	0	253	45	64813	Extended Joystick Message 5	Used to transfer information about the measured status of three additional axes of a joystick and switches of the joystick grip or handle.	EJM5	No	J1939-71
	0	0	253	46	64814	Basic Joystick Message 5	Used to transfer information about the measured status of the 1st 2 axes and up to 12 buttons of a joystick.	BJM5	No	J1939-71

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	0	0	253	47	64815	Extended Joystick Message 4	Used to transfer information about the measured status of three additional axes of a joystick and switches of the joystick grip or handle.	EJM4	No	J1939-71
	0	0	253	48	64816	Basic Joystick Message 4	Used to transfer information about the measured status of the 1st 2 axes and up to 12 buttons of a joystick.	BJM4	No	J1939-71
	0	0	253	49	64817	Fan Drive #2	This parameter group transfers status and measured information on the second engine coolant fan.	FD2	No	J1939-71
	0	0	253	50	64818	Reserved for ISOBUS ECU diagnostic protocol	The ECU level 1 diagnostic protocol message identifies the diagnostic protocol required by a service tool to troubleshoot a fault.	TBD	No	ISO 11783-12
	0	0	253	51	64819	Aftertreatment 2 Diesel Exhaust Fluid Supply Information	This message contains diesel exhaust fluid supply information for aftertreatment system 2 (or bank 2).	A2DEFSI	No	J1939-71
	0	0	253	52	64820	Aftertreatment 2 SCR Reagent Tank 2 Information	This message contains SCR reagent tank 2 information for aftertreatment system 2 (or bank 2).	A2SCRRT2I	No	J1939-71
	0	0	253	53	64821	Aftertreatment 2 SCR Reagent Tank 1 Information	This message contains SCR reagent tank 1 information for aftertreatment system 2 (or bank 2).	A2SCRRT1I	No	J1939-71
	0	0	253	54	64822	Aftertreatment 2 Diesel Exhaust Fluid Information	Sensor Information which measures temperature, concentration, and conductivity of the diesel exhaust fluid of the aftertreatment 2 system.	A2DEFI	No	J1939-71
	0	0	253	55	64823	Aftertreatment 2 SCR Service Information	This message contains SCR service information for aftertreatment system 2 (or bank 2).	A2SCRSI	No	J1939-71
(R)	0	0	253	56	64824	Aftertreatment 2 SCR Exhaust Gas Temperature 1	This message contains SCR catalyst intake and outlet exhaust gas temperature information for aftertreatment system 2 (or bank 2).	A2SCREGT1	No	J1939-71
	0	0	253	57	64825	Aftertreatment 2 SCR Exhaust Gas Pressures	This message contains SCR catalyst exhaust gas pressure information for aftertreatment system 2 (or bank 2).	A2SCREGP	No	J1939-71
	0	0	253	58	64826	Aftertreatment 2 SCR Dosing System Requests 2	This message contains SCR dosing system request information for aftertreatment system 2 (or bank 2).	A2SCRDSR2	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	253	59	64827	Aftertreatment 2 SCR Dosing System Information 2	This message contains SCR dosing system information for aftertreatment system 2 (or bank 2).	A2SCRDSI2	No	J1939-71
	0	0	253	60	64828	Aftertreatment 1 Diesel Exhaust Fluid Supply Information	This message contains diesel exhaust fluid supply information for aftertreatment system 1 (or bank 1).	A1DEFSI	No	J1939-71
	0	0	253	61	64829	Aftertreatment 1 SCR Reagent Tank 2 Information	This message contains SCR reagent tank 2 information for aftertreatment system 1 (or bank 1).	A1SCRRT2I	No	J1939-71
(R)	0	0	253	62	64830	Aftertreatment 1 SCR Exhaust Gas Temperature 1	This message contains SCR catalyst intake and outlet exhaust gas temperature information for aftertreatment system 1 (or bank 1).	A1SCREGT1	No	J1939-71
	0	0	253	63	64831	Aftertreatment 1 SCR Exhaust Gas Pressures	This message contains SCR catalyst exhaust gas pressure information for aftertreatment system 1 (or bank 1).	A1SCREGP	No	J1939-71
(R)	0	0	253	64	64832	Aftertreatment 1 SCR Dosing System Requests 2	This message contains SCR dosing system request information for aftertreatment system 1 (or bank 1).	A1SCRDSR2	No	J1939-71
	0	0	253	65	64833	Aftertreatment 1 SCR Dosing System Information 2	This message contains SCR dosing system information for aftertreatment system 1 (or bank 1).	A1SCRDSI2	No	J1939-71
	0	0	253	66	64834	ISOBUS compliance certification	This message reports the compliance certification status of a specific electronic control unit.	ICC	No	ISO 11783-7
(R)	0	0	253	67	64835	Machine Selected Speed Command	Message that provides the control of the machine speed and direction.	MSSC	No	ISO 11783-7
	0	0	253	68	64836	Aftertreatment 2 Fuel Control 2	Contains information about the aftertreatment 2 fuel system. See also PGN 64928.	AT2FC2	No	J1939-71
	0	0	253	69	64837	Aftertreatment 2 Three Way Catalytic Converter	The purpose of this PGN is to group the aftertreatment Three Way Catalytic Converter data for bank 2.	AT2TWCC	No	J1939-71
	0	0	253	70	64838	Aftertreatment 1 Three Way Catalytic Converter	The purpose of this PGN is to group the aftertreatment Three Way Catalytic Converter data for bank 1.	AT1TWCC	No	J1939-71
	0	0	253	71	64839	Transmission Mode Labels	Conveys ASCII "labels" for each of the manufacturer-specified TC1 Transmission Mode "x" / ETC7 Transmission Mode Indicator "x" pairs.	TML	Yes	J1939-71

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Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	253	72	64840	Engine Exhaust Bank 2 O2 Fuel Trim	Provides bank 2 short-term and long-term fuel trim values	O2FT2	No	J1939-71	
0	0	253	73	64841	Engine Exhaust Bank 1 O2 Fuel Trim	Provides bank 1 short-term and long-term fuel trim values	O2FT1	No	J1939-71	
0	0	253	74	64842	Reserved for ISO 11992	General Purpose Message #2/11	GPM211	No	ISO 11992	
0	0	253	75	64843	Reserved for ISO 11992	General Purpose Message #2/10	GPM210	No	ISO 11992	
0	0	253	76	64844	Reserved for ISO 11992	General Purpose Message #2/9	GPM29	No	ISO 11992	
0	0	253	77	64845	Reserved for ISO 11992	General Purpose Message #2/8	GPM28	No	ISO 11992	
0	0	253	78	64846	Reserved for ISO 11992	General Purpose Message #2/7	GPM27	No	ISO 11992	
0	0	253	79	64847	Reserved for ISO 11992	General Purpose Message #2/6	GPM26	No	ISO 11992	
0	0	253	80	64848	Reserved for ISO 11992	General Purpose Message #2/5	GPM25	No	ISO 11992	
0	0	253	81	64849	Aftercooler Coolant Control Valve Command	Transmit status information from the Master ECU to an electronic thermostat	ACCVC	No	J1939-71	
0	0	253	82	64850	Engine Coolant Control Valve Command	Transmit status information from the Master ECU to an electronic thermostat	ECCVC	No	J1939-71	
0	0	253	83	64851	Engine Average Information	Reports averaged engine information	EAI	No	J1939-71	
0	0	253	84	64852	DTCs - C, Previously Active	Previously Active DTCs that are classified as class C severity.	DM52	Yes	J1939-73	
0	0	253	85	64853	DTCs - C, Confirmed and Active	Confirmed and Active DTCs that are classified as class C severity.	DM51	Yes	J1939-73	
0	0	253	86	64854	DTCs - C, Pending	Pending DTCs that are classified as class C severity.	DM50	Yes	J1939-73	
0	0	253	87	64855	DTCs - B2, Previously Active	Previously Active DTCs that are classified as class B2 severity.	DM49	Yes	J1939-73	
0	0	253	88	64856	DTCs - B2, Confirmed and Active	Confirmed and Active DTCs that are classified as class B2 severity.	DM48	Yes	J1939-73	
0	0	253	89	64857	DTCs - B2, Pending	Pending DTCs that are classified as class B2 severity.	DM47	Yes	J1939-73	
0	0	253	90	64858	DTCs - B1, Previously Active	Previously Active DTCs that are classified as class B1 severity.	DM46	Yes	J1939-73	
0	0	253	91	64859	DTCs - B1, Confirmed and Active	Confirmed and Active DTCs that are classified as class B1 severity.	DM45	Yes	J1939-73	
0	0	253	92	64860	DTCs - B1, Pending	Pending DTCs that are classified as class B1 severity.	DM44	Yes	J1939-73	
0	0	253	93	64861	DTCs - A, Previously Active	Previously Active DTCs that are classified as class A severity.	DM43	Yes	J1939-73	
0	0	253	94	64862	DTCs - A, Confirmed and Active	Confirmed and Active DTCs that are classified as class A severity.	DM42	Yes	J1939-73	

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	253	95	64863	DTCs - A, Pending	Pending DTCs that are classified as class A severity.	DM41	Yes	J1939-73	
0	0	253	96	64864	Harmonized B1 Failure Counts (HB1C)	HB1C provides the system specific individual B1 failure counters, when supported by the system.	DM40	No	J1939-73	
0	0	253	97	64865	Cumulative Continuous MI – System (HCMI)	HCMI provides the system specific cumulative.	DM39	No	J1939-73	
0	0	253	98	64866	Harmonized Global Regulation Description (HGRD)	HGRD provides a description of the UN/ECE WWH OBD Global Technical Regulation (GTR) to which the sub-system or component complies.	DM38	No	J1939-73	
0	0	253	99	64867	Harmonized Roadworthiness – System (HRWS)	HRWS reports subsystem (or component) roadworthiness to the VOBD function to aggregate in the HRWV message.	DM37	No	J1939-73	
0	0	253	100	64868	Harmonized Roadworthiness - Vehicle (HRWV)	HRWV provides the aggregated roadworthiness from the VOBD (Vehicle On-Board Diagnostics) to a scan tool or similar inquiry device.	DM36	No	J1939-73	
0	0	253	101	64869	Aftertreatment 1 Fuel Control 2	Contains information about the aftertreatment 1 fuel system	AT1FC2	No	J1939-71	
0	0	253	102	64870	Engine Temperature 4	Engine temperatures	ET4	No	J1939-71	
0	0	253	103	64871	Zero Net Vehicle Weight Change	Zero Net Vehicle Weight Change	ZNVW	No	J1939-71	
0	0	253	104	64872	Gross Combination Vehicle Weight	Gross Combination Vehicle Weight	GCVW	No	J1939-71	
0	0	253	105	64873	Axle Group Calibration Weights	Indicates axle group calibration weights	AGCW	No	J1939-71	
0	0	253	106	64874	Axle Group Weight	Combination of specific axle group and the weight imposed on that axle group	AGW	No	J1939-71	
0	0	253	107	64875	Available Axle Group Weights	Indicates which axle groups are included in the current weight calculation	AAGW	No	J1939-71	
0	0	253	108	64876	Aftertreatment 2 Air Control 2	This PGN contains information about the Aftertreatment 2 Air Control.	AT2AC2	No	J1939-71	
0	0	253	109	64877	Aftertreatment 1 Air Control 2	This PGN contains information about the Aftertreatment 1 Air Control.	AT1AC2	No	J1939-71	
0	0	253	110	64878	Aftertreatment 1 SCR Service Information	Used to provide information to an inspection tool regarding the proper use of reagent in SCR type emissions control systems.	SCR1	No	J1939-71	
0	0	253	111	64879	Electronic Engine Controller 8	Engine related parameters	EEC8	No	J1939-71	
0	0	253	112	64880	Door ramp control	This message reports the current status of door ramps	DRC	No	J1939-71	

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Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	253	113	64881	Brake actuator stroke status	The Brake Stroke Alert (BSA) message will provide the brake actuator stroke status for up to 20 wheel ends.	BSA	No	J1939-71	
0	0	253	114	64882	Engine Spark Voltage 6	This is the secondary voltage of the combustion event, cylinders 21 through 24.	ESV6	No	J1939-71	
0	0	253	115	64883	Engine Spark Voltage 5	This is the secondary voltage of the combustion event, cylinders 17 through 20.	ESV5	No	J1939-71	
0	0	253	116	64884	Engine Spark Voltage 4	This is the secondary voltage of the combustion event, cylinders 13 through 16.	ESV4	No	J1939-71	
0	0	253	117	64885	Engine Spark Voltage 3	This is the secondary voltage of the combustion event, cylinders 9 through 12.	ESV3	No	J1939-71	
0	0	253	118	64886	Engine Spark Voltage 2	This is the secondary voltage of the combustion event, cylinders 5 through 8.	ESV2	No	J1939-71	
0	0	253	119	64887	Engine Spark Voltage 1	This is the secondary voltage of the combustion event, cylinders 1 through 4.	ESV1	No	J1939-71	
0	0	253	120	64888	Aftertreatment 2 Trip Information	This PGN contains trip total information about the aftertreatment 2.	AT2TI	Yes	J1939-71	
0	0	253	121	64889	Aftertreatment 1 Trip Information	This PGN contains trip total information about the aftertreatment 1.	AT1TI	Yes	J1939-71	
0	0	253	122	64890	Aftertreatment 2 Service	This PGN contains information about the aftertreatment 2 (diesel particulate filter 2 soot and ash load).	AT2S	No	J1939-71	
0	0	253	123	64891	Aftertreatment 1 Service	This PGN contains information about the aftertreatment 1 (diesel particulate filter 1 soot and ash load).	AT1S	No	J1939-71	
0	0	253	124	64892	Diesel Particulate Filter Control 1	Contains information about the diesel particulate filter regeneration control.	DPFC1	No	J1939-71	
0	0	253	125	64893	Reserved for FMS Telltale status	Reserved for FMS Telltale Status	FMS1	No	Bus FMS-Standard	
0	0	253	126	64894	Adaptive Front-Lighting System Status	This message reports information about the current operation mode of the Adaptive Front-Lighting System (AFS).	AFSS	No	J1939-71	
0	0	253	127	64895	Engine Configuration 2	Contains static information about the engine.	EC2	Yes	J1939-71	
0	0	253	128	64896	Permanent DTCs	The purpose of this DM is to provide the list of permanent DTCs that are currently present. Permanent DTCs are defined as a confirmed or active MIL-on fault code that is currently commanding the MIL on and is stored in non-volatile memory.	DM28	Yes	J1939-73	

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0	0	253	129	64897	EGR Cooler Bypass	Contains information about the EGR Cooler Bypass	EGRBV	No	J1939-71	
0	0	253	130	64898	All Pending DTCs	To transmit "pending" diagnostic trouble codes detected during current or last completed driving cycle for components/systems that are tested or continuously monitored during normal driving conditions.	DM27	No	J1939-73	
0	0	253	131	64899	Transfer Case Information	Transfer Case Information	TCI	No	J1939-71	
0	0	253	132	64900	Engine Fluid Level/Pressure 9	This message contains Engine Intake Valve Actuation Oil Pressure information.	EFL/P9	No	J1939-71	
0	0	253	133	64901	Engine Fluid Level/Pressure 8	This message contains Engine Intake Valve Actuation Oil Pressure information.	EFL/P8	No	J1939-71	
0	0	253	134	64902	Engine Fluid Level/Pressure 7	This message contains Engine Intake Valve Actuation Oil Pressure information.	EFL/P7	No	J1939-71	
0	0	253	135	64903	Engine Fluid Level/Pressure 6	This message contains Engine Intake Valve Actuation Oil Pressure information.	EFL/P6	No	J1939-71	
0	0	253	136	64904	Engine Fluid Level/Pressure 5	This message contains Engine Intake Valve Actuation Oil Pressure information.	EFL/P5	No	J1939-71	
0	0	253	137	64905	Vehicle Direction/Speed 2	Vehicle Direction/Speed 2 PGN contains the vehicle roll data (used to insure that fluid level measurements are valid.).	VDS2	No	J1939-71	
0	0	253	138	64906	SAE J2012 DTC Display	Conveys basic SAE J2012 DTC information for on-board or service tool displays.	J2012	Yes	J1939-71	
0	0	253	139	64907	Aftertreatment 2 Gas Parameters	Diesel particulate filter gas parameters for system or bank 2	AT2GP	No	J1939-71	
0	0	253	140	64908	Aftertreatment 1 Gas Parameters	Diesel particulate filter gas parameters for system or bank 1	AT1GP	No	J1939-71	
0	0	253	141	64909	Utility Total AC Reactive Energy	This PGN contains quantities for the cumulative AC reactive energy from the utility.	UTACER	No	J1939-75	
0	0	253	142	64910	Generator Total AC Reactive Energy	This PGN contains quantities for the cumulative AC reactive energy from the generator.	GTACER	No	J1939-75	
0	0	253	143	64911	Generator Total AC Percent Power	This PGN contains quantities for the instantaneous AC power from the generator, as percentages of rated power	GTACPP	No	J1939-75	

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	253	144	64912	Advertised Engine Torque Curve	This message conveys the advertised torque curve for the engine, as typically seen on specification sheets available from most engine manufacturers.	AETC	Yes	J1939-71
	0	0	253	145	64913	AC Switching Device Status	This contains parameters indicating the status of various breakers throughout a power generation system.	ACS	No	J1939-75
	0	0	253	146	64914	Engine Operating Information	Contains engine parameters related to operation.	EOI	No	J1939-71
	0	0	253	147	64915	Generator Control 1	Message for the generator set control to change or report the status of the generator system.	GC1	No	J1939-75
	0	0	253	148	64916	Electronic Engine Controller 7	Engine related parameters	EEC7	No	J1939-71
(R)	0	0	253	149	64917	Transmission Fluids 2		TRF2	No	J1939-71
(R)	0	0	253	152	64920	Aftertreatment 1 Historical Information	Contains information about the history of the aftertreatment 1 system.	AT1HI	Yes	J1939-71
(R)	0	0	253	153	64921	Aftertreatment 2 Historical information	Contains information about the history of the aftertreatment 2 system	AT2HI	Yes	J1939-71
	0	0	253	154	64922	Electronic Brake System #2/4	Message to transmit data of the towed vehicle to the towing vehicle. See ISO 11992.	EBS24	No	ISO 11992
	0	0	253	155	64923	Aftertreatment 1 Diesel Exhaust Fluid Information	Sensor Information which measures temperature, concentration, and conductivity of the diesel exhaust fluid of the aftertreatment 1 system.	A1DEFI	No	J1939-71
	0	0	253	156	64924	Sensor Electrical Power #2	Voltage supplies for sensors #2	SEP2	No	J1939-71
	0	0	253	157	64925	Sensor Electrical Power #1	Voltage supplies for sensors #1	SEP1	No	J1939-71
	0	0	253	158	64926	Aftertreatment 2 Air Control 1	Contains information about the aftertreatment 2 air system	AT2AC1	No	J1939-71
	0	0	253	159	64927	Aftertreatment 1 Air Control 1	Contains information about the aftertreatment 1 air system	AT1AC1	No	J1939-71
	0	0	253	160	64928	Aftertreatment 2 Fuel Control 1	Contains information about the aftertreatment 2 fuel system	AT2FC1	No	J1939-71
	0	0	253	161	64929	Aftertreatment 1 Fuel Control 1	Contains information about the aftertreatment 1 fuel system	AT1FC1	No	J1939-71
	0	0	253	162	64930	Fuel Information 3 (Gaseous)	Gaseous fuel information 3	GFI	No	J1939-71
	0	0	253	163	64931	Electronic Engine Controller 6	Engine related parameters	EEC6	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	253	164	64932	PTO Drive Engagement	Information relating to the request for engagement, consent for engagement, and status of engagement of various specific physical PTO drives	PTODE	No	J1939-71
	0	0	253	165	64933	Door Control 2	Used for door information.	DC2	No	J1939-71
	0	0	253	166	64934	Voltage Regulator Excitation Status	Contains voltage regulator parameters that pertain to the generation excitation	VREP	No	J1939-75
	0	0	253	167	64935	Voltage Regulator Operating Mode	Contains operating modes for the voltage regulator functions	VROM	No	J1939-75
	0	0	253	168	64936	Wireless Communications Message 2	Message for reporting status information regarding the second instance of a wireless communications network on a device or system.	WCM2	No	J1939-71
	0	0	253	169	64937	Wireless Communications Message 1	Message for reporting status information regarding the first instance of a wireless communications network on a device or system.	WCM1	No	J1939-71
	0	0	253	170	64938	Engine Fluid Level/Pressure 4	4th PGN which identifies parameters that are either measuring various pressures within the engine or identifying engine fluid levels	EFL/P4	No	J1939-71
	0	0	253	171	64939	Request For Complete Configurable Message Set (no longer used)	This message is designed to cause all CAs to respond with the complete sequence of configuration identification messages for a particular one or all of the configurable messages that they send.	RCMS	No	J1939-74
	0	0	253	173	64941	Request For Complete Configurable Message Set	Request For Complete Configurable Message Set	RCMS	No	J1939-74
	0	0	253	174	64942	Fifth Wheel Smart Systems 2	Fifth wheel smart system information #2. Message to convey operator parameters associated with the tractor to trailer coupling control and error state.	FWSS2	No	J1939-71
	0	0	253	175	64943	Aftertreatment 2 Intermediate Gas	The purpose of this PGN is to group the aftertreatment intermediate gas temperature and pressure messages for bank 2.	AT2IMG	No	J1939-71
	0	0	253	176	64944	Aftertreatment 2 Outlet Gas 2	The purpose of this PGN is to group the aftertreatment outlet gas temperature messages for bank 2.	AT2OG2	No	J1939-71
	0	0	253	177	64945	Aftertreatment 2 Intake Gas 2	The purpose of this PGN is to group the aftertreatment intake gas temperature messages for bank 2.	AT2IG2	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	253	178	64946	Aftertreatment 1 Intermediate Gas	The purpose of this PGN is to group the aftertreatment intermediate gas temperature and pressure messages.	AT1IMG	No	J1939-71
	0	0	253	179	64947	Aftertreatment 1 Outlet Gas 2	The purpose of this PGN is to group the aftertreatment outlet gas temperature messages.	AT1OG2	No	J1939-71
	0	0	253	180	64948	Aftertreatment 1 Intake Gas 2	The purpose of this PGN is to group the aftertreatment intake gas temperature messages for bank 1.	AT1IG2	No	J1939-71
	0	0	253	181	64949	Previously Active Emission Related Faults	This message contains DTCs that are confirmed but for which the MIL is off.	DM23	Yes	J1939-73
	0	0	253	182	64950	SPN Support	This message is used to identify those SPNs supported by the product for freeze frames and data stream messages.	DM24	No	J1939-73
	0	0	253	183	64951	Expanded Freeze Frame	This message defines the expanded freeze frame length	DM25	No	J1939-73
	0	0	253	184	64952	Diagnostic Readiness 3	This message conveys information useful in determining whether the OBD System has a defect or not.	DM26	No	J1939-73
	0	0	253	185	64953	Tire Pressure Reference Information	Information on actual tire pressure reference value for monitoring.	TPRI	No	J1939-71
	0	0	253	186	64954	Farebox Status	Used to report alarms of the fare collection unit.	TR6	No	J1939-71
	0	0	253	187	64955	Farebox Point of Sale	Used to report stop level point of sale detail.	TR5	No	J1939-71
	0	0	253	188	64956	Farebox Service Detail	Used to identify service, assignments, and fare preset detail of the fare collection unit.	TR4	Yes	J1939-71
	0	0	253	189	64957	Signal Preemption	Status and configuration of the device used for intersection preemption.	TR3	No	J1939-71
	0	0	253	190	64958	Transit Route	The current route assigned to this transit vehicle	TR1	Yes	J1939-71
	0	0	253	191	64959	Transit Milepost	Identification of a transit route milepost	TR2	Yes	J1939-71
	0	0	253	192	64960	Passenger Counter	Used to notify the transit link devices of the passenger count.	TR7	No	J1939-71
	0	0	253	193	64961	Engine Fluid Level/Pressure 3	3rd PGN which identifies parameters that are either measuring various pressures within the engine or identifying engine fluid levels	EFL/P3	No	J1939-71
(R)	0	0	253	194	64962	Electronic Engine Controller 14		EEC14	No	J1939-71
(R)	0	0	253	195	64963	Electronic Engine Controller 15		EEC15	No	J1939-71
(R)	0	0	253	196	64964	Electronic Brake Controller 5	Used for information on brake control.	EBC5	No	J1939-71

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Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	253	197	64965	ECU Identification Information	Message for reporting identification and information about the physical ECU and its hardware.	ECUID	Yes	J1939-71	
0	0	253	198	64966	Cold Start Aids	Cold start aid information and settings.	CSA	No	J1939-71	
0	0	253	199	64967	Off-Highway Engine Control Selection States	Reports the states of off-highway engine control modes, as they apply to different modes of engine operation which may be used to aid particular working environments.	OHCSS	No	J1939-71	
0	0	253	200	64968	Operator Primary Intermediate Speed Control state	The Operator Primary Intermediate Speed Control State is used to provide the controller feedback to indicate the controls state achieved.	ISCS	No	J1939-71	
0	0	253	201	64969	Electronic Control Module Information	Information relating to electronic control modules	CMI	Yes	J1939-71	
0	0	253	202	64970	Intermediate Speed Control	This message addresses the particular needs of the Industrial Engine operational functionality concerning the Intermediate Speed Control operation	ISC	No	J1939-71	
0	0	253	203	64971	Off-Highway Engine Control Selection	Allows for the selection of off-highway engine control modes, as they apply to different modes of engine operation which may be used to aid particular working environments.	OHECS	No	J1939-71	
0	0	253	204	64972	Operators External Light Controls Message	The message containing the information about the position of the operator's external light control switch(s).	OEL	No	J1939-71	
0	0	253	205	64973	Operator Wiper and Washer Controls Message	Message for items related to the operators controls for the window wipers and washers on the front and rear cab windows	OWW	No	J1939-71	
0	0	253	206	64974	Working Set Member Message	Message sent by the Master of a Working Set to identify an individual member of a specific Working Set.	WSMM	No	J1939-81	
0	0	253	207	64975	Working Set Master Message	Message sent by the Master of a Working Set to identify how many members there are in said set.	WSM	No	J1939-81	
0	0	253	208	64976	Intake/Exhaust Conditions 2	Intake/Exhaust Conditions 2 is a second PGN conveying this type of engine information. Also see PGN 65270.	IC2	No	J1939-71	
0	0	253	209	64977	FMS-standard Interface Identity/Capabilities	Information which specifies the capabilities of the Fleet Management System (FMS) - standard interface device.	FMS	No	J1939-71	

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	0	0	253	210	64978	ECU Performance	Message used to transfer ECU performance parameters.	EP	No	J1939-71
	0	0	253	211	64979	Turbocharger Information 6	Turbocharger Compressor Outlet Discharge Temperature	TCI6	No	J1939-71
	0	0	253	212	64980	Cab Message 3	Provides information from Cab mounted operator inputs.	CM3	No	J1939-71
	0	0	253	213	64981	Electronic Engine Controller 5	Engine related parameters	EEC5	No	J1939-71
	0	0	253	214	64982	Basic Joystick Message 1	Used to transfer information about the measured status of the 1st 2 axes and up to 12 buttons of a joystick.	BJM1	No	J1939-71
	0	0	253	215	64983	Extended Joystick Message 1	Used to transfer information about the measured status of three additional axes of a joystick and switches of the joystick grip or handle.	EJM1	No	J1939-71
	0	0	253	216	64984	Basic Joystick Message 2	Used to transfer information about the measured status of the 1st 2 axes and up to 12 buttons of a joystick.	BJM2	No	J1939-71
	0	0	253	217	64985	Extended Joystick Message 2	Used to transfer information about the measured status of three additional axes of a joystick and switches of the joystick grip or handle.	EJM2	No	J1939-71
	0	0	253	218	64986	Basic Joystick Message 3	Used to transfer information about the measured status of the 1st 2 axes and up to 12 buttons of a joystick.	BJM3	No	J1939-71
	0	0	253	219	64987	Extended Joystick Message 3	Used to transfer information about the measured status of three additional axes of a joystick and switches of the joystick grip or handle.	EJM3	No	J1939-71
	0	0	253	220	64988	Marine Control Information	This messages contains marine vessel control information for the engine	MCI	No	J1939-71
	0	0	253	221	64989	ISO 11992 Military Application Tractor - Trailer Message	Tractor to trailer message for military applications using ISO 11992.	MAM11	No	ISO 11992
	0	0	253	222	64990	ISO 11992 Military Application Trailer - Tractor Feedback Message	Feedback message from trailer to tractor for military applications using ISO 11992.	MAM21	No	ISO 11992
	0	0	253	223	64991	Front Wheel Drive Status	Front wheel drive ECU information	FWD	No	J1939-71
(R)	0	0	253	224	64992	Ambient Conditions 2	This message contains measurement and configuration information about the vehicle ambient conditions.	AMB2	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	253	225	64993	Cab A/C Climate System Information	This message contains measurement and condition information from cab air conditioning components.	CACI	No	J1939-71
	0	0	253	226	64994	Supply Pressure Demand	Used for controlling the supply pressure. Often used to raise the pressure of a supply pressure circuit in situations where more pneumatic energy is needed.	SPR	No	J1939-71
	0	0	253	227	64995	Equipment Operation and Control	Parameters related to the operation and controls for equipment	EOAC	No	J1939-71
	0	0	253	228	64996	Equipment Performance Data	Parameters related to the performance characteristics of equipment	EPD	No	J1939-71
	0	0	253	229	64997	Maximum Vehicle Speed Limit Status	Reports the possible maximum vehicle speed limits, one through seven, and the applied maximum vehicle speed limit.	MVS	No	J1939-71
	0	0	253	230	64998	Hydraulic Braking System	Used for information on a hydraulic brake system	HBS	No	J1939-71
	0	0	253	231	64999	Bus #1/Utility Sync Check Status		BUSC	No	J1939-75
	0	0	253	232	65000	Bus #1/Generator Sync Check Status		BGSC	No	J1939-75
	0	0	253	233	65001	Bus #1 Phase C Basic AC Quantities		BPCAC	No	J1939-75
	0	0	253	234	65002	Bus #1 Phase B Basic AC Quantities		BPBAC	No	J1939-75
	0	0	253	235	65003	Bus #1 Phase A Basic AC Quantities		BPAAC	No	J1939-75
	0	0	253	236	65004	Bus #1 Average Basic AC Quantities		BAAC	No	J1939-75
	0	0	253	237	65005	Utility Total AC Energy		UTACE	No	J1939-75
	0	0	253	238	65006	Utility Phase C AC Reactive Power		UPCACR	No	J1939-75
	0	0	253	239	65007	Utility Phase C AC Power		UPCACP	No	J1939-75
	0	0	253	240	65008	Utility Phase C AC Basic Quantities		UPCAC	No	J1939-75
	0	0	253	241	65009	Utility Phase B AC Reactive Power		UPBACR	No	J1939-75
	0	0	253	242	65010	Utility Phase B AC Power		UPBACP	No	J1939-75
	0	0	253	243	65011	Utility Phase B AC Basic Quantities		UPBAC	No	J1939-75
	0	0	253	244	65012	Utility Phase A AC Reactive Power		UPACCR	No	J1939-75
	0	0	253	245	65013	Utility Phase A AC Power		UPAACP	No	J1939-75
	0	0	253	246	65014	Utility Phase A Basic AC Quantities		UPAAC	No	J1939-75
	0	0	253	247	65015	Utility Total AC Reactive Power		UTACR	No	J1939-75
	0	0	253	248	65016	Utility Total AC Power		UTACP	No	J1939-75
	0	0	253	249	65017	Utility Average Basic AC Quantities		UAAC	No	J1939-75
	0	0	253	250	65018	Generator Total AC Energy		GTACE	No	J1939-75
	0	0	253	251	65019	Generator Phase C AC Reactive Power		GPCACR	No	J1939-75

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	253	252	65020	Generator Phase C AC Power			GPCACP	No	J1939-75
0	0	253	253	65021	Generator Phase C Basic AC Quantities			GPCAC	No	J1939-75
0	0	253	254	65022	Generator Phase B AC Reactive Power			GPBACRP	No	J1939-75
0	0	253	255	65023	Generator Phase B AC Power			GPBACP	No	J1939-75
0	0	254	0	65024	Generator Phase B Basic AC Quantities			GPBAC	No	J1939-75
0	0	254	1	65025	Generator Phase A AC Reactive Power			GPAACR	No	J1939-75
0	0	254	2	65026	Generator Phase A AC Power			GPAACP	No	J1939-75
0	0	254	3	65027	Generator Phase A Basic AC Quantities			GPAAC	No	J1939-75
0	0	254	4	65028	Generator Total AC Reactive Power			GTACR	No	J1939-75
0	0	254	5	65029	Generator Total AC Power			GTACP	No	J1939-75
0	0	254	6	65030	Generator Average Basic AC Quantities			GAAC	No	J1939-75
0	0	254	7	65031	Exhaust Temperature			ET	No	J1939-71
0	0	254	8	65032	Required Tractor Facilities message	Implement response to task controller or Tractor ECU desired tractor classification and facilities		RTF	No	ISO 11783-7
0	0	254	9	65033	Tractor Facilities response message	Tractor response to an implement ECU or task controller tractor classification and facilities request		TFR	No	ISO 11783-7
0	0	254	10	65034	Implement Remote Control Command Tractor Response	This command is a task controller or an implement ECU to tractor ECU message.		IRCR	No	ISO 11783-7
0	0	254	11	65035	Implement Remote Control Command	This command is a task controller or an implement ECU to tractor ECU message.		IRC	No	ISO 11783-7
0	0	254	12	65036	Working Set Member	This message is sent by the Master of a Working Set to identify an individual member of a specific Working Set (Master's Source Address identifies the particular Working Set).		WSMEM	No	J1939-81
0	0	254	13	65037	Working Set Master	This message is sent by the Master of a Working Set to identify how many members there are in said set.		WSMSTR	No	J1939-81
0	0	254	14	65038	Response for Repetition Rate	This global message is the response of the request of a specific user to change the repetition rate.		RESRR	No	ISO 11783-7
0	0	254	15	65039	Language Command	The language message has been defined as a global message to inform all ECUs on the 11783 bus the language that the operator wants to use, the date and time format and the units of measure with which the connected system should work.		LC	No	ISO 11783-7

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(R)	0	0	254	16	65040	Auxiliary Valve Number 0 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV00EF	No	ISO 11783-7
(R)	0	0	254	17	65041	Auxiliary Valve Number 1 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV01EF	No	ISO 11783-7
(R)	0	0	254	18	65042	Auxiliary Valve Number 2 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV02EF	No	ISO 11783-7
(R)	0	0	254	19	65043	Auxiliary Valve Number 3 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV03EF	No	ISO 11783-7
(R)	0	0	254	20	65044	Auxiliary Valve Number 4 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV04EF	No	ISO 11783-7
(R)	0	0	254	21	65045	Auxiliary Valve Number 5 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV05EF	No	ISO 11783-7
(R)	0	0	254	22	65046	Auxiliary Valve Number 6 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV06EF	No	ISO 11783-7
(R)	0	0	254	23	65047	Auxiliary Valve Number 7 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV07EF	No	ISO 11783-7
(R)	0	0	254	24	65048	Auxiliary Valve Number 8 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV08EF	No	ISO 11783-7
(R)	0	0	254	25	65049	Auxiliary Valve Number 9 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV09EF	No	ISO 11783-7
(R)	0	0	254	26	65050	Auxiliary Valve Number 10 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV10EF	No	ISO 11783-7
(R)	0	0	254	27	65051	Auxiliary Valve Number 11 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV11EF	No	ISO 11783-7
(R)	0	0	254	28	65052	Auxiliary Valve Number 12 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV12EF	No	ISO 11783-7
(R)	0	0	254	29	65053	Auxiliary Valve Number 13 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV13EF	No	ISO 11783-7
(R)	0	0	254	30	65054	Auxiliary Valve Number 14 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV14EF	No	ISO 11783-7
(R)	0	0	254	31	65055	Auxiliary Valve Number 15 Estimated Flow	This message provides the estimated flow of specified auxiliary valve.	AV15EF	No	ISO 11783-7
	0	0	254	32	65056	Auxiliary Valve Number 0 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV00MF	No	ISO 11783-7
	0	0	254	33	65057	Auxiliary Valve Number 1 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV01MF	No	ISO 11783-7
	0	0	254	34	65058	Auxiliary Valve Number 2 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV02MF	No	ISO 11783-7

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0	0	254	35	65059	Auxiliary Valve Number 3 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV03MF	No	ISO 11783-7	
0	0	254	36	65060	Auxiliary Valve Number 4 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV04MF	No	ISO 11783-7	
0	0	254	37	65061	Auxiliary Valve Number 5 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV05MF	No	ISO 11783-7	
0	0	254	38	65062	Auxiliary Valve Number 6 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV06MF	No	ISO 11783-7	
0	0	254	39	65063	Auxiliary Valve Number 7 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV07MF	No	ISO 11783-7	
0	0	254	40	65064	Auxiliary Valve Number 8 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV08MF	No	ISO 11783-7	
0	0	254	41	65065	Auxiliary Valve Number 9 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV09MF	No	ISO 11783-7	
0	0	254	42	65066	Auxiliary Valve Number 10 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV10MF	No	ISO 11783-7	
0	0	254	43	65067	Auxiliary Valve Number 11 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV11MF	No	ISO 11783-7	
0	0	254	44	65068	Auxiliary Valve Number 12 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV12MF	No	ISO 11783-7	
0	0	254	45	65069	Auxiliary Valve Number 13 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV13MF	No	ISO 11783-7	
0	0	254	46	65070	Auxiliary Valve Number 14 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV14MF	No	ISO 11783-7	
0	0	254	47	65071	Auxiliary Valve Number 15 Measured Flow	This message provides the measurement of specified auxiliary valve.	AV15MF	No	ISO 11783-7	
0	0	254	48	65072	Auxiliary Valve Number 0 Command	This message provides control of the flow through the auxiliary valves.	AV00C	No	ISO 11783-7	
0	0	254	49	65073	Auxiliary Valve Number 1 Command	This message provides control of the flow through the auxiliary valves.	AV01C	No	ISO 11783-7	
0	0	254	50	65074	Auxiliary Valve Number 2 Command	This message provides control of the flow through the auxiliary valves.	AV02C	No	ISO 11783-7	
0	0	254	51	65075	Auxiliary Valve Number 3 Command	This message provides control of the flow through the auxiliary valves.	AV03C	No	ISO 11783-7	
0	0	254	52	65076	Auxiliary Valve Number 4 Command	This message provides control of the flow through the auxiliary valves.	AV04C	No	ISO 11783-7	
0	0	254	53	65077	Auxiliary Valve Number 5 Command	This message provides control of the flow through the auxiliary valves.	AV05C	No	ISO 11783-7	

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	254	54	65078	Auxiliary Valve Number 6 Command	This message provides control of the flow through the auxiliary valves.	AV06C	No	ISO 11783-7
	0	0	254	55	65079	Auxiliary Valve Number 7 Command	This message provides control of the flow through the auxiliary valves.	AV07C	No	ISO 11783-7
	0	0	254	56	65080	Auxiliary Valve Number 8 Command	This message provides control of the flow through the auxiliary valves.	AV08C	No	ISO 11783-7
	0	0	254	57	65081	Auxiliary Valve Number 9 Command	This message provides control of the flow through the auxiliary valves.	AV09C	No	ISO 11783-7
	0	0	254	58	65082	Auxiliary Valve Number 10 Command	This message provides control of the flow through the auxiliary valves.	AV10C	No	ISO 11783-7
	0	0	254	59	65083	Auxiliary Valve Number 11 Command	This message provides control of the flow through the auxiliary valves.	AV11C	No	ISO 11783-7
	0	0	254	60	65084	Auxiliary Valve Number 12 Command	This message provides control of the flow through the auxiliary valves.	AV12C	No	ISO 11783-7
	0	0	254	61	65085	Auxiliary Valve Number 13 Command	This message provides control of the flow through the auxiliary valves.	AV13C	No	ISO 11783-7
	0	0	254	62	65086	Auxiliary Valve Number 14 Command	This message provides control of the flow through the auxiliary valves.	AV14C	No	ISO 11783-7
	0	0	254	63	65087	Auxiliary Valve Number 15 Command	This message provides control of the flow through the auxiliary valves.	AV15C	No	ISO 11783-7
	0	0	254	64	65088	Lighting Data	This lighting message is a response to the request for lighting data in the lighting command message. lighting controllers on the tractor and attached implements.	LD	No	J1939-71
	0	0	254	65	65089	Lighting Command	The lighting command message has been defined as a global message from the tractor to all lighting controllers on the tractor and attached implements.	LCMD	No	J1939-71
	0	0	254	66	65090	Hitch and PTO Commands	This message provides control of the hitch position, PTO shaft set point speed and PTO engagement.	HPTOC	No	ISO 11783-7
(R)	0	0	254	67	65091	Primary or Rear Power Take off Output Shaft	This message provides the measurement of the current primary or rear PTO output shaft parameters.	RPTO	No	ISO 11783-7
(R)	0	0	254	68	65092	Secondary or Front Power Take off Output Shaft	This message provides the measurement of the current secondary or front PTO output shaft parameters.	FPTO	No	ISO 11783-7
(R)	0	0	254	69	65093	Primary or Rear Hitch Status	This message provides the measurement of the current rear hitch parameters.	RHS	No	ISO 11783-7

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	0	0	254	70	65094	Secondary or Front Hitch Status	This message provides the measurement of the current front hitch parameters.	FHS	No	ISO 11783-7
	0	0	254	71	65095	Maintain Power	This message is sent by any ECU connected to the implement bus requesting that the Tractor ECU not switch off the power for the next 2 seconds.	MP	No	ISO 11783-7
	0	0	254	72	65096	Wheel-based Speed and Distance	This message is sent by the Tractor ECU on the implement bus on construction and agricultural implements and provides to connected systems, the current measured wheel-based speed.	WBSD	No	ISO 11783-7
	0	0	254	73	65097	Ground-based Speed and Distance	This message is normally sent by the Tractor ECU on the implement bus on construction and agricultural implements and provides to connected systems, the current measured ground speed.	GBSD	No	ISO 11783-7
	0	0	254	74	65098	Electronic Transmission Controller 7	Transmission State Information	ETC7	No	J1939-71
	0	0	254	75	65099	Transmission Configuration 2	Contains transmission configuration information.	TCFG2	Yes	J1939-71
	0	0	254	76	65100	Military Lighting Command	The message contains parameters that control military specific lights.	ML	No	J1939-71
	0	0	254	77	65101	Total Averaged Information	Averages of information accumulated over the life of the engine	TAVG	No	J1939-71
	0	0	254	78	65102	Door Control 1	Used for door information.	DC1	No	J1939-71
	0	0	254	79	65103	Vehicle Dynamic Stability Control 1	Contains information which relates to the VDC system status.	VDC1	No	J1939-71
	0	0	254	80	65104	Battery Temperature	Contains battery temperature information.	BT1	No	J1939-71
	0	0	254	81	65105	Adaptive Cruise Control, Operator Input	The operator requested characteristics for the ACC systems operation.	ACC2	No	J1939-71
	0	0	254	82	65106	Vehicle Electrical Power #3	Vehicle Electrical Power 3	VEP3	No	J1939-71
	0	0	254	83	65107	Retarder Continuous Torque & Speed Limit		RTC1	No	J1939-71
	0	0	254	84	65108	Engine Continuous Torque & Speed Limit		ECT1	No	J1939-71
(R)	0	0	254	85	65109	Gaseous Fuel Properties	Properties of the gaseous fuel	GFD	No	J1939-71
	0	0	254	86	65110	Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Information	Contains information on various tank levels	AT1T1I	No	J1939-71
	0	0	254	87	65111	Air Suspension Control 5	Used for damper stiffness information	ASC5	No	J1939-71
	0	0	254	88	65112	Air Suspension Control 4	Used for bellow pressure information	ASC4	No	J1939-71
	0	0	254	89	65113	Air Suspension Control 3	Used for height information	ASC3	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	254	90	65114	Air Suspension Control 1		Used for suspension control information	ASC1	No	J1939-71
0	0	254	91	65115	Forward Lane Image			FLI2	No	J1939-71
0	0	254	92	65116	ISO 11992 (even) - Running Gear Equipment #2/2		Used for suspension information, direction from towed vehicle to towing vehicle.	RGE22	No	ISO 11992
0	0	254	93	65117	ISO 11992 (odd) - General Purpose Message #1/2		Used for powertrain information, direction from towing vehicle to towed vehicle	GPM12	No	ISO 11992
0	0	254	94	65118	ISO 11992 (even) - Running Gear Equipment #2/3		Used for tire monitoring, direction from towed vehicle to towing vehicle.	RGE23	No	ISO 11992
0	0	254	95	65119	ISO 11992 (odd) - General Purpose Message #1/3		Used for powertrain information, direction from towing vehicle to towed vehicle	GPM13	No	ISO 11992
0	0	254	96	65120	ISO 11992 (even) - General Purpose Message #2/3		Used for powertrain control,direction from towed vehicle to towing vehicle	GPM23	No	ISO 11992
0	0	254	97	65121	ISO 11992 (odd) - General Purpose Message #1/4		Used for powertrain information, direction from towing vehicle to towed vehicle	GPM14	No	ISO 11992
0	0	254	98	65122	ISO 11992 (even) - General Purpose Message #2/4		Used for powertrain control, direction from towed vehicle to towing vehicle	GPM24	No	ISO 11992
0	0	254	99	65123	ISO 11992 (odd) - General Purpose Message #1/5		Used for powertrain information, direction from towing vehicle to towed vehicle	GPM15	No	ISO 11992
0	0	254	100	65124	ISO 11992 (even) - General Purpose Message #2/5		Used for lights information, direction from towed vehicle to towing vehicle	GPM25	No	ISO 11992
0	0	254	101	65125	ISO 11992 (odd) - General Purpose Message #1/6		Used for general information direction from towing vehicle to towed vehicle	GPM16	No	ISO 11992
0	0	254	102	65126	Battery Main Switch Information			BM	No	J1939-71
0	0	254	103	65127	Climate Control Configuration			CCC	No	J1939-71
0	0	254	104	65128	Vehicle Fluids		This parameter group transfers vehicle fluid information.	VF	No	J1939-71
0	0	254	105	65129	Engine Temperature 3		This parameter group is used to transmit high resolution engine temperatures for control purposes.	ET3	No	J1939-71
0	0	254	106	65130	Engine Fuel/lube systems			EFS	No	J1939-71
0	0	254	107	65131	Driver's Identification			DI	Yes	J1939-71
0	0	254	108	65132	Tachograph			TCO1	No	J1939-71
0	0	254	109	65133	Heater Information			HTR	No	J1939-71
0	0	254	110	65134	High Resolution Wheel Speed			HRW	No	J1939-71
0	0	254	111	65135	Adaptive Cruise Control 1		The ACC1 message is intended primarily for engines and driver display units	ACC1	No	J1939-71
0	0	254	112	65136	Combination Vehicle Weight			CVW	Yes	J1939-71
0	0	254	113	65137	Laser Tracer Position			LTP	No	J1939-71

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0	0	254	114	65138	Laser Leveling System Blade Control			LBC	No	J1939-71
0	0	254	115	65139	Laser Receiver Mast Position			LMP	No	J1939-71
0	0	254	116	65140	Modify Leveling System Control Set Point			LSP	No	J1939-71
0	0	254	117	65141	Laser Leveling System Vertical Deviation			LVD	No	J1939-71
0	0	254	118	65142	Laser Leveling System Vertical Position Display Data			LVDD	No	J1939-71
0	0	254	119	65143	Auxiliary Pressures			AP	No	J1939-71
0	0	254	120	65144	Tire Pressure Control Unit Mode and Status			TP1	No	J1939-71
0	0	254	121	65145	Tire Pressure Control Unit Target Pressures			TP2	No	J1939-71
0	0	254	122	65146	Tire Pressure Control Unit Current Pressures			TP3	No	J1939-71
0	0	254	123	65147	Combustion Time 1			CT1	No	J1939-71
0	0	254	124	65148	Combustion Time 2			CT2	No	J1939-71
0	0	254	125	65149	Combustion Time 3			CT3	No	J1939-71
0	0	254	126	65150	Combustion Time 4			CT4	No	J1939-71
0	0	254	127	65151	Combustion Time 5			CT5	No	J1939-71
0	0	254	128	65152	Combustion Time 6			CT6	No	J1939-71
0	0	254	129	65153	Fuel Information 2 (Gaseous)	Gaseous fuel information 2		GFI2	No	J1939-71
0	0	254	130	65154	Ignition Timing 1			IT1	No	J1939-71
0	0	254	131	65155	Ignition Timing 2			IT2	No	J1939-71
0	0	254	132	65156	Ignition Timing 3			IT3	No	J1939-71
0	0	254	133	65157	Ignition Timing 4			IT4	No	J1939-71
0	0	254	134	65158	Ignition Timing 5			IT5	No	J1939-71
0	0	254	135	65159	Ignition Timing 6			IT6	No	J1939-71
0	0	254	136	65160	Ignition Transformer Secondary Output 1			ISO1	No	J1939-71
0	0	254	137	65161	Ignition Transformer Secondary Output 2			ISO2	No	J1939-71
0	0	254	138	65162	Ignition Transformer Secondary Output 3			ISO3	No	J1939-71
0	0	254	139	65163	Gaseous Fuel Pressure			GFP	No	J1939-71
0	0	254	140	65164	Auxiliary Analog Information	Auxiliary Analog Information		AAI	No	J1939-71
0	0	254	141	65165	Vehicle Electrical Power #2	Voltage data for the main vehicle Power Distribution system.		VEP2	No	J1939-71
0	0	254	142	65166	Service 2			S2	Yes	J1939-71
0	0	254	143	65167	Supply Pressure 2			SP2	No	J1939-71
0	0	254	144	65168	Engine Torque History			ETH	Yes	J1939-71

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	0	0	254	145	65169	Fuel Leakage		FL	No	J1939-71
	0	0	254	146	65170	Engine Information		EI	No	J1939-71
	0	0	254	147	65171	Engine Electrical System/Module Information		EES	No	J1939-71
(R)	0	0	254	148	65172	Engine Auxiliary Coolant		EAC	No	J1939-71
	0	0	254	149	65173	Rebuild Information		RBI	No	J1939-71
	0	0	254	150	65174	Turbocharger Wastegate		TCW	No	J1939-71
	0	0	254	151	65175	Turbocharger Information 5		TCI5	No	J1939-71
	0	0	254	152	65176	Turbocharger Information 4		TCI4	No	J1939-71
	0	0	254	153	65177	Turbocharger Information 3		TCI3	No	J1939-71
	0	0	254	154	65178	Turbocharger Information 2		TCI2	No	J1939-71
	0	0	254	155	65179	Turbocharger Information 1		TCI1	No	J1939-71
	0	0	254	156	65180	Main Bearing Temperature 3		MBT3	No	J1939-71
	0	0	254	157	65181	Main Bearing Temperature 2		MBT2	No	J1939-71
	0	0	254	158	65182	Main Bearing Temperature 1		MBT1	No	J1939-71
	0	0	254	159	65183	Exhaust Port Temperature 5		EPT5	No	J1939-71
	0	0	254	160	65184	Exhaust Port Temperature 4		EPT4	No	J1939-71
	0	0	254	161	65185	Exhaust Port Temperature 3		EPT3	No	J1939-71
	0	0	254	162	65186	Exhaust Port Temperature 2		EPT2	No	J1939-71
	0	0	254	163	65187	Exhaust Port Temperature 1		EPT1	No	J1939-71
	0	0	254	164	65188	Engine Temperature 2		ET2	No	J1939-71
	0	0	254	165	65189	Intake Manifold Information 2		IMT2	No	J1939-71
	0	0	254	166	65190	Intake Manifold Information 1		IMT1	No	J1939-71
	0	0	254	167	65191	Alternator Temperature		AT	No	J1939-71
	0	0	254	168	65192	Articulation Control		ACTL	No	J1939-71
	0	0	254	169	65193	Exhaust Oxygen 1		EO1	No	J1939-71
	0	0	254	170	65194	Alternate Fuel 2		AF2	No	J1939-71
	0	0	254	171	65195	Electronic Transmission Controller 6		ETC6	No	J1939-71
	0	0	254	172	65196	Wheel Brake Lining Remaining Information		EBC4	No	J1939-71
	0	0	254	173	65197	Wheel Application Pressure High Range Information		EBC3	No	J1939-71
	0	0	254	174	65198	Air Supply Pressure	Air Supply Pressure	AIR1	No	J1939-71
	0	0	254	175	65199	Fuel Consumption (Gaseous)		GFC	No	J1939-71
	0	0	254	176	65200	Trip Time Information 2		TTI2	No	J1939-71
	0	0	254	177	65201	ECU History		EH	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	254	178	65202	Fuel Information 1 (Gaseous)			GFI1	No	J1939-71
0	0	254	179	65203	Fuel Information (Liquid)			LFI	No	J1939-71
0	0	254	180	65204	Trip Time Information 1			TTI1	No	J1939-71
0	0	254	181	65205	Trip Shutdown Information			TSI	No	J1939-71
0	0	254	182	65206	Trip Vehicle Speed/Cruise Distance Information			TVI	No	J1939-71
0	0	254	183	65207	Engine Speed/Load Factor Information			LF	No	J1939-71
0	0	254	184	65208	Trip Fuel Information (Gaseous)			GTFI	No	J1939-71
0	0	254	185	65209	Trip Fuel Information (Liquid)			LTFI	No	J1939-71
0	0	254	186	65210	Trip Distance Information			TDI	No	J1939-71
0	0	254	187	65211	Trip Fan Information			TFI	No	J1939-71
0	0	254	188	65212	Compression/Service Brake Information			CBI	No	J1939-71
0	0	254	189	65213	Fan Drive #1	This parameter group transfers status and measured information on the engine coolant fan.		FD1	No	J1939-71
0	0	254	190	65214	Electronic Engine Controller 4			EEC4	No	J1939-71
0	0	254	191	65215	Wheel Speed Information			EBC2	No	J1939-71
0	0	254	192	65216	Service Information			SERV	Yes	J1939-71
0	0	254	193	65217	High Resolution Vehicle Distance			VDHR	No	J1939-71
0	0	254	194	65218	Electronic Retarder Controller 2			ERC2	No	J1939-71
0	0	254	195	65219	Electronic Transmission Controller 5			ETC5	No	J1939-71
0	0	254	196	65220	Reserved for ISO 11992			EBS22	No	ISO 11992
0	0	254	197	65221	Electronic Transmission Controller 4			ETC4	No	J1939-71
0	0	254	198	65222	Reserved for ISO 11992			EBS23	No	ISO 11992
0	0	254	199	65223	Electronic Transmission Controller 3			ETC3	No	J1939-71
0	0	254	200	65224	Reserved for ISO 11992			GPM22	No	ISO 11992
0	0	254	201	65225	Reserved for ISO 11992			EBS12	No	ISO 11992
0	0	254	202	65226	Active Diagnostic Trouble Codes	Active Diagnostic Trouble Codes	DM01	Yes	J1939-73	
0	0	254	203	65227	Previously Active Diagnostic Trouble Codes	The information communicated is DM service to communicate the previously active trouble codes.	DM02	Yes	J1939-73	
0	0	254	204	65228	Diagnostics Data Clear/Reset for Previously Active DTCs			DM03	No	J1939-73
0	0	254	205	65229	Freeze Frame Parameters	A freeze frame is defined as the list of recorded parameters at the time a diagnostic trouble code was captured	DM04	Yes	J1939-73	

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	0	0	254	206	65230	Diagnostic Readiness 1	Reports the diagnostics information that relates to diagnostic readiness.	DM05	No	J1939-73
	0	0	254	207	65231	Pending DTCs	The purpose of this DM is to enable the external test equipment to obtain "pending" diagnostic trouble codes detected during current or last completed driving cycle for emission-related components/systems.	DM06	Yes	J1939-73
	0	0	254	208	65232	Test Results for Non-continuously Monitored Systems	The purpose of this response PG is to report the test results for one of the non-continuously monitored tests invoked using DM7	DM08	Yes	J1939-73
	0	0	254	209	65233	Oxygen Sensor Test Results	SAE J1939 will not specify an implementation for this DM. Oxygen sensor test and results should be communicated using DM7 and DM8	DM09	No	J1939-73
	0	0	254	210	65234	Non-continuously Monitored System Test Identifiers Support	The purpose of this PG is to report the list of non-continuously monitored systems tests supported by the controller.	DM10	No	J1939-73
	0	0	254	211	65235	Diagnostic Data Clear/Reset for Active DTCs	All of the diagnostic information pertaining to the active diagnostic trouble codes should be erased. Sent as a request whenever the service tool wishes to clear/reset diagnostic data for active DTCs.	DM11	No	J1939-73
	0	0	254	212	65236	Emissions Related Active DTCs	The information communicated is limited to the currently active emission-related diagnostic trouble codes preceded by the diagnostic lamp status.	DM12	Yes	J1939-73
	0	0	254	213	65237	Alternator Information		AS	No	J1939-71
	0	0	254	214	65238	Reserved for Network Management		RESV1	No	J1939-81
	0	0	254	215	65239	Reserved		RESV2	No	J1939-81
	0	0	254	216	65240	Commanded Address	Message that is used to assign a source address to a specific Controller Application Name.	CA	Yes	J1939-81
	0	0	254	217	65241	Auxiliary Input/Output Status 1	AUXIO PGNs are intended for use in which fixed mapping to functions is not possible.	AUXIO1	No	J1939-71
	0	0	254	218	65242	Software Identification		SOFT	Yes	J1939-71
	0	0	254	219	65243	Engine Fluid Level/Pressure 2	2nd PGN which identifies parameters that are either measuring various pressures within the engine or identifying engine fluid levels	EFL/P2	No	J1939-71
	0	0	254	220	65244	Idle Operation		IO	Yes	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	0	254	221	65245	Turbocharger			TC	No	J1939-71
0	0	254	222	65246	Air Start Pressure			AIR2	No	J1939-71
0	0	254	223	65247	Electronic Engine Controller 3			EEC3	No	J1939-71
0	0	254	224	65248	Vehicle Distance			VD	No	J1939-71
0	0	254	225	65249	Retarder Configuration			RC	Yes	J1939-71
0	0	254	226	65250	Transmission Configuration	Total message length depends on total number of forward and reverse gear ratios.		TCFG	Yes	J1939-71
0	0	254	227	65251	Engine Configuration 1	Engine configuration information		EC1	Yes	J1939-71
0	0	254	228	65252	Shutdown			SHUTDN	No	J1939-71
0	0	254	229	65253	Engine Hours, Revolutions			HOURS	No	J1939-71
0	0	254	230	65254	Time/Date			TD	No	J1939-71
0	0	254	231	65255	Vehicle Hours			VH	No	J1939-71
0	0	254	232	65256	Vehicle Direction/Speed			VDS	No	J1939-71
0	0	254	233	65257	Fuel Consumption (Liquid)	Engine fuel consumption accumulators.		LFC	No	J1939-71
0	0	254	234	65258	Vehicle Weight			VW	No	J1939-71
0	0	254	235	65259	Component Identification			CI	Yes	J1939-71
0	0	254	236	65260	Vehicle Identification			VI	Yes	J1939-71
0	0	254	237	65261	Cruise Control/Vehicle Speed Setup			CCSS	No	J1939-71
0	0	254	238	65262	Engine Temperature 1			ET1	No	J1939-71
0	0	254	239	65263	Engine Fluid Level/Pressure 1	PGN which identifies parameters that are either measuring various pressures within the engine or identifying engine fluid levels		EFL/P1	No	J1939-71
0	0	254	240	65264	Power Takeoff Information			PTO	No	J1939-71
0	0	254	241	65265	Cruise Control/Vehicle Speed 1	Cruise Control/Vehicle Speed 1		CCVS1	No	J1939-71
0	0	254	242	65266	Fuel Economy (Liquid)			LFE1	No	J1939-71
0	0	254	243	65267	Vehicle Position			VP	No	J1939-71
0	0	254	244	65268	Tire Condition	Tire Condition Message		TIRE	No	J1939-71
0	0	254	245	65269	Ambient Conditions			AMB	No	J1939-71
0	0	254	246	65270	Intake/Exhaust Conditions 1			IC1	No	J1939-71
0	0	254	247	65271	Vehicle Electrical Power 1			VEP1	No	J1939-71
0	0	254	248	65272	Transmission Fluids 1			TRF1	No	J1939-71
0	0	254	249	65273	Axle Information	Axle information message		AI	No	J1939-71
0	0	254	250	65274	Brakes			B	No	J1939-71
0	0	254	251	65275	Retarder fluids			RF	No	J1939-71
0	0	254	252	65276	Dash Display			DD	No	J1939-71
0	0	254	253	65277	Alternate Fuel 1			A1	No	J1939-71

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
	0	0	254	254	65278	Auxiliary Water Pump Pressure		AWPP	No	J1939-71
(R)	0	0	254	255	65279	Operator indicators		OI	No	J1939-71
	0	0	255	0	65280	Proprietary B (first entry)		PropB_00	Yes	J1939-21
	0	0	255	255	65535	Proprietary B (last entry)		PropB_FF	Yes	J1939-21
	0	1	237	DA	126208	NMEA - Request/Command/Acknowledge group function	The Request / Command / Acknowledge Group type of function is defined by first field.		No	NMEA 2000
	0	1	238	DA	126464	PGN List - Transmit/Receive PGN's group function	The Transmit / Receive PGN List Group type of function is defined by first field.		No	NMEA 2000
	0	1	239	DA	126720	Proprietary A2	This proprietary PG uses the Destination Specific PDU Format allowing manufacturers to direct their proprietary communications to a specific destination node.	PropA2	Yes	J1939-21
	0	1	240	16	126992	System Time	The purpose of this PGN is to provide a regular transmission of UTC time and date.		No	NMEA 2000
	0	1	240	20	126996	Product Information	Provides product information onto the network that could be important for determining quality of data coming from this product.		No	NMEA 2000
	0	1	240	22	126998	Configuration Information	Free-form alphanumeric fields describing the installation (e.g., starboard engine room location) of the device.		No	NMEA 2000
	0	1	241	5	127237	Heading/Track Control	Sends Commands to, and receives data from, heading control systems.		No	NMEA 2000
	0	1	241	13	127245	Rudder	Rudder order command in direction or angle with current rudder angle reading.		No	NMEA 2000
	0	1	241	18	127250	Vessel Heading	Heading sensor value with a flag for True or Magnetic.		No	NMEA 2000
	0	1	241	19	127251	Rate of Turn	Rate of Turn PGN added in version 1.004 of this standard.		No	NMEA 2000
	0	1	241	25	127257	Attitude	This PGN provides a single transmission that describes the position of a vessel relative to both horizontal and vertical planes.		No	NMEA 2000
	0	1	242	0	127488	Engine Parameters, Rapid Update	Provides data with a high update rate for a specific engine in a single frame message.		No	NMEA 2000
	0	1	242	1	127489	Engine Parameters, Dynamic	Used to provide real-time operational data and status relevant to a specific engine, indicated by the engine instance field.		No	NMEA 2000

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	1	242	5	127493	Transmission Parameters, Dynamic	Used to provide the operational state and internal operating parameters of a specific transmission.		No	NMEA 2000	
0	1	242	9	127497	Trip Parameters, Small Craft	Trip engine hours and fuel consumption.		No	NMEA 2000	
0	1	242	10	127498	Engine Parameters, Static	Provides identification information and rated engine speed for the engine indicated by the engine instance field.		No	NMEA 2000	
0	1	242	13	127501	Binary Switch Bank Status	Universal status report for multiple banks of two-state indicators.		No	NMEA 2000	
0	1	242	14	127502	Switch Bank Control	Universal commands to multiple banks of two-state devices.		No	NMEA 2000	
0	1	242	17	127505	Fluid Level	Fluid Level contains an instance number, level of fluid, and type of fluid.		No	NMEA 2000	
0	1	242	20	127508	Battery Status	Provides parametric data for a specific battery, indicated by the battery instance field.		No	NMEA 2000	
0	1	245	3	128259	Speed	The purpose of this PGN is to provide a single transmission that describes the motion of a vessel.		No	NMEA 2000	
0	1	245	11	128267	Water Depth	Water depth relative to the transducer and offset of the measuring transducer.		No	NMEA 2000	
0	1	245	19	128275	Distance Log	This PGN provides the cumulative voyage distance traveled since the last reset.		No	NMEA 2000	
0	1	246	8	128520	Tracked Target Data	Message for reporting status and target data from tracking radar external devices.		No	NMEA 2000	
0	1	248	1	129025	Position, Rapid Update	This PGN provides latitude and longitude referenced to WGS84.		No	NMEA 2000	
0	1	248	2	129026	COG & SOG, Rapid Update	This PGN is a single frame PGN that provides Course Over Ground (COG) and Speed Over Ground (SOG).		No	NMEA 2000	
0	1	248	5	129029	GNSS Position Data	This PGN conveys a comprehensive set of Global Navigation Satellite System (GNSS) parameters, including position information.		No	NMEA 2000	
0	1	248	9	129033	Time & Date	This PGN has a single transmission that provides: UTC Time, UTC Date, and Local offset.		No	NMEA 2000	
0	1	248	20	129044	Datum	Local geodetic datum and datum offsets from a reference datum.		No	NMEA 2000	

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	1	248	21	129045	User Datum Settings	Transformation parameters for converting from WGS-84 to other Datums.		No	NMEA 2000	
0	1	249	3	129283	Cross Track Error	This PGN provides the magnitude of position error perpendicular to the desired course.		No	NMEA 2000	
0	1	249	4	129284	Navigation Data	This PGN provides essential navigation data for a route following.		No	NMEA 2000	
0	1	249	11	129291	Set & Drift, Rapid Update	The Set and Drift effect on the Vessel is the direction and the speed of a current.		No	NMEA 2000	
0	1	249	21	129301	Time to/from Mark	Time to go to or elapsed from a generic mark, that may be non-fixed.		No	NMEA 2000	
0	1	249	22	129302	Bearing and Distance between two Marks	Bearing and distance from the origin mark to the destination mark, calculated at the origin mark, for any two arbitrary generic marks.		No	NMEA 2000	
0	1	250	2	129538	GNSS Control Status	GNSS common satellite receiver parameter status		No	NMEA 2000	
0	1	250	3	129539	GNSS DOPs	This PGN provides a single transmission containing GNSS status and dilution of precision components (DOP).		No	NMEA 2000	
0	1	250	4	129540	GNSS Sats in View	GNSS information on current satellites in view tagged by sequence ID. Information includes PRN, elevation, azimuth, and SNR.		No	NMEA 2000	
0	1	250	5	129541	GPS Almanac Data	This PGN provides a single transmission that contains relevant almanac data for GPS products.		No	NMEA 2000	
0	1	250	6	129542	GNSS Pseudorange Noise Statistics	GNSS pseudorange measurement noise statistics can be translated in the position domain.		No	NMEA 2000	
0	1	250	9	129545	GNSS RAIM Output	This PGN is used to provide the output from a GNSS Receiver's Receiver Autonomous Integrity Monitoring (RAIM) process.		No	NMEA 2000	
0	1	250	10	129546	GNSS RAIM Settings	This PGN is used to report the control parameters for a GNSS Receiver Autonomous Integrity Monitoring (RAIM) process.		No	NMEA 2000	
0	1	250	11	129547	GNSS Pseudorange Error Statistics	This PGN is used to support Receiver Autonomous Integrity Monitoring (RAIM).		No	NMEA 2000	
0	1	250	13	129549	DGNSS Corrections	This PGN provides a means to pass differential GNSS corrections between NMEA 2000 devices.		No	NMEA 2000	

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	1	250	14	129550	GNSS Differential Correction Receiver Interface	GNSS common differential correction receiver parameter status.		No	NMEA 2000	
0	1	250	15	129551	GNSS Differential Correction Receiver Signal	GNSS differential correction receiver status tagged by sequence ID.		No	NMEA 2000	
0	1	250	20	129556	GLONASS Almanac Data	This PGN provides a single transmission that contains relevant almanac data for Glonass products.		No	NMEA 2000	
0	1	251	7	129799	Radio Frequency/Mode/Power	This PGN provides status and control for a Radiotelephone, connected to a NMEA 2000 network.		No	NMEA 2000	
0	1	251	16	129808	DSC Call Information	This PGN provides Digital Selective Calling (DSC) data according to ITU M.493-9 with optional expansion according to ITU M.821-		No	NMEA 2000	
0	1	252	4	130052	Loran-C TD Data	This provides Time Difference (TD) lines of position of Loran-C signals relative to a single Group Repetition Interval.		No	NMEA 2000	
0	1	252	5	130053	Loran-C Range Data	This provides Propagation times (Ranges) of Loran-C signals relative to a single Group Repetition Interval.		No	NMEA 2000	
0	1	253	6	130054	Loran-C Signal Data	SNR, ECD, and ASF values of Loran-C signals.		No	NMEA 2000	
0	1	253	2	130306	Wind Data	Direction and speed of Wind.		No	NMEA 2000	
0	1	253	6	130310	Environmental Parameters	Local atmospheric environmental conditions		No	NMEA 2000	
0	1	253	16	130320	Tide Station Data	Tide station measurement data including station location, numeric identifier, and name.		No	NMEA 2000	
0	1	253	17	130321	Salinity Station Data	Salinity station measurement data including station location, numeric identifier, and name.		No	NMEA 2000	
0	1	253	18	130322	Current Station Data	Current station measurement data including station location, numeric identifier, and name.		No	NMEA 2000	
0	1	253	19	130323	Meteorological Station Data	Meteorological station measurement data including station location, numeric identifier, and name.		No	NMEA 2000	

Rev	EDP	DP	PF	PS	PGN	Parameter Group Label	Description	Acronym	MP	PGN Doc
0	1	253	20	130324	Moored Buoy Station Data	Moored Buoy Station Data	Moored buoy measurement data including station location and numeric identifier.		No	NMEA 2000
0	1	254	16	130576	Small Craft Status	Small Craft Status	Provides data on various small craft control surfaces and speed through the water.		No	NMEA 2000
0	1	254	17	130577	Direction Data	Direction Data	The purpose of this PGN is to group three fundamental vectors related to vessel motion.		No	NMEA 2000
0	1	254	18	130578	Vessel Speed Components	Vessel Speed Components	This PGN provides a single transmission that accurately describes the speed of a vessel by component vectors.		No	NMEA 2000

Note 1: Refer to Table 1, page 16, regarding 29-bit CAN Identifiers with EDP = 1.

## APPENDIX B - ADDRESS AND IDENTITY ASSIGNMENTS

TABLE B1 - INDUSTRY GROUPS

Rev	Industry Group	Industry	Description
	0	Global, applies to all	
	1	On-Highway Equipment	
	2	Agricultural and Forestry Equipment	
	3	Construction Equipment	
	4	Marine	
	5	Industrial-Process Control-Stationary (Gen-Sets)	
	6	Reserved for future assignment by SAE	
	7	Reserved for future assignment by SAE	

**TABLE B2 - PREFERRED ADDRESSES -  
INDUSTRY GROUP 0 - GLOBAL**

Note: Preferred Addresses 128 thru 247 are Industry Group specific. See Tables B3 thru B9. The J1939 Committee is discontinuing most assignments of Preferred Addresses. The J1939 Committee may assign new Global Preferred Addresses for system functions that warrant the assignment. Applications should be developed to be Arbitrary Address Capable and use Address Claim to claim addresses in the 128 to 247 range.

<b>Rev</b>	<b>SA</b>	<b>Controller Application</b>	<b>Definition</b>	<b>Associated NAME Function</b>
	0	Engine #1	The #1 on the Engine CA is to identify that this is the first PA being used for the particular function, Engine. It may only be used for the NAME Function of 0, Function Instance 0, and an ecu instance of 0, which is commonly known as the "first engine".	0
	1	Engine #2	The #2 on the Engine CA is to identify that this is the second PA available for use for the function, Engine. It may be used by the "second" engine (Function 0, Function Instance 1, ECU Instance 0), but it may also be used by the second ecu on the first engine (Function 0, Function Instance 0, ECU Instance 1), if there is no second engine.	0
	2	Turbocharger	Turbocharger used on the engine. May only be used for the NAME Function of 133, Industry Group 0, Vehicle System 0.	
	3	Transmission #1	The first transmission - may only be used for the NAME Function of 3, Function Instance 0, and an ecu instance of 0.	3
	4	Transmission #2	The second PA available for use for the function, Transmission. It may be used by the "second" transmission (Function 3, Function Instance 1, ECU Instance 0), but it may also be used by the second ecu on the first transmission (Function 3, Function Instance 0, ECU Instance 1), if there is no second transmission.	3
	5	Shift Console - Primary	The shift console mounted in the normal drivers position	5
	6	Shift Console - Secondary	A shift console mounted remotely from the normal drivers position (May not be used for any ecu instances of the primary shift console)	5
	7	Power TakeOff - (Main or Rear)		6
	8	Axle - Steering		7
	9	Axle - Drive #1	The first drive axle - may only be used for the NAME Function of 8, Function Instance 0, and an ecu instance of 0.	8

Rev	SA	Controller Application	Definition	Associated NAME Function
	10	Axle - Drive #2	The second PA available for use for the function, Axle, Drive. It may be used by the "second" drive axle (Function 8, Function Instance 1, ECU Instance 0), but it may also be used by the second ecu on the first drive axle (Function 8, Function Instance 0, ECU Instance 1), if there is no second drive axle.	8
	11	Brakes - System Controller		9
	12	Brakes - Steer Axle		10
	13	Brakes - Drive axle #1	The brakes on the first drive axle - may only be used for the NAME Function of 11, Function Instance 0, and an ecu instance of 0.	11
	14	Brakes - Drive Axle #2	The second PA available for use for the function, Brakes on a Drive Axle. It may be used by the "second" drive axle brakes (Function 11, Function Instance 1, ECU Instance 0), but it may also be used by the second ecu on the first drive axle brakes (Function 11, Function Instance 0, ECU Instance 1), if there is no second drive axle brakes.	11
	15	Retarder - Engine	Engine Compression Braking	12
	16	Retarder - Driveline		13
	17	Cruise Control	Speed-based control	14
	18	Fuel System		15
	19	Steering Controller		16
	20	Suspension - Steer Axle		17
	21	Suspension - Drive Axle #1	The suspension on the first drive axle - may only be used for the NAME Function of 18, Function Instance 0, and an ecu instance of 0.	18
	22	Suspension - Drive Axle #2	The second PA available for use for the function, suspension on drive axle. It may be used by the "second" drive axle's suspension system (Function 18, Function Instance 1, ECU Instance 0), but when there is no second drive axle it may be used by the second ecu on the first drive axle's suspension (Function 18, Function Instance 0, ECU Instance 1).	18
	23	Instrument Cluster #1	The first instrument cluster - may only be used for the NAME Function of 19, Function Instance 0, and an ecu instance of 0.	19
	24	Trip Recorder		20

Rev	SA	Controller Application	Definition	Associated NAME Function
	25	Passenger-Operator Climate Control #1	The first climate control - may only be used for the NAME Function of 21, Function Instance 0, and an ecu instance of 0, and must be associated with the driver (operator) climate control, when there are multiple climate control systems.	21
	26	Alternator/Electrical Charging System	Vehicle's primary charging controller	53
	27	Aerodynamic Control		22
	28	Vehicle Navigation		23
	29	Vehicle Security		24
	30	Electrical System	This may include Load Centers, Fuseboxes, & Power Distribution boards	67
	31	Starter System		59
	32	Tractor-Trailer Bridge #1	The first Tractor mounted bridge leading to trailer(s) - may only be used for the NAME Function of , Function Instance 0, and an ecu instance of 0.	
	33	Body Controller		26
(R)	34	Auxiliary Valve Control or Engine Air System Valve Control	This should be used for auxiliary valve control or engine air system valve control. May be used with NAME Function 142, 143, 147, or 148 in Industry group 0, Vehicle system group 0.	
	35	Hitch Control	Straight truck hitch (NOT Ag hitch – it is in IG 2)	
	36	Power TakeOff (Front or Secondary)		27
	37	Off Vehicle Gateway		28
	38	Virtual Terminal (in cab)		29
	39	Management Computer #1	The first Management Computer - may only be used for the NAME Function of 30, Function Instance 0, and an ecu instance of 0.	30
	40	Cab Display #1	The first Cab Display - may only be used for the NAME Function of 60, Function Instance 0, and an ecu instance of 0.	60
	41	Retarder, Exhaust, Engine #1	The first engine exhaust retarder - may only be used for the NAME Function of 12, Function Instance 0, and an ecu instance of 0.	12
	42	Headway Controller	Forward-looking collision warning, collision avoidance, speed controller, or speed matching	32
	43	On-Board Diagnostic Unit		62

Rev	SA	Controller Application	Definition	Associated NAME Function
	44	Retarder, Exhaust, Engine #2	The second PA available for use for the function, engine exhaust retarder. It may be used by the "second" engine's exhaust retarder (Function 12, Function Instance 1, ECU Instance 0), but in cases without a second engine it may also be used by the second exhaust retarder on the first engine or by the second ecu on the first exhaust retarder on the first engine (Function 12, Function Instance 0, ECU Instance 1).	12
	45	Endurance Braking System		64
	46	Hydraulic Pump Controller		34
	47	Suspension - System Controller #1	The first Suspension - System Controller - may only be used for the NAME Function of 35, Function Instance 0, and an ecu instance of 0.	35
	48	Pneumatic - System Controller		36
	49	Cab Controller - Primary		37
	50	Cab Controller - Secondary		37
	51	Tire Pressure Controller		38
	52	Ignition Control Module #1	The first Ignition Control Module - may only be used for the NAME Function of 39, Function Instance 0, and an ecu instance of 0.	39
	53	Ignition Control Module #2	The second PA available for use for the function, Ignition Control Module. It may be used by the "second" engine's Ignition Control Module (Function 39, Function Instance 1, ECU Instance 0), but in cases without a second engine it may also be used by the second Ignition Control Module on the first engine or even by the second ecu on the first Ignition Control Module on the first engine (Function 39, Function Instance 0, ECU Instance 1) when there is only one Ignition Control Module Instance.	39
	54	Seat Control #1	The first seat control module - may only be used for the NAME Function of 40, Function Instance 0, and an ecu instance of 0, and must be associated with the driver seat, when there are multiple seats with separate controls.	40
	55	Lighting - Operator Controls		41
	56	Rear Axle Steering Controller #1		
	57	Water Pump Controller		42

Rev	SA	Controller Application	Definition	Associated NAME Function
	58	Passenger-Operator Climate Control #2	The second PA available for climate control - must be associated with the passenger climate control (NAME Function of 21, function instance 1, and an ecu instance of 0), when there are multiple climate control systems. If only one climate control system then may be used for the second ecu of the climate control (Function 21, Function Instance 0, ECU Instance of 1).	21
	59	Transmission Display - Primary	Display to operate specifically in conjunction with the transmission control mounted in the normal drivers position	43
	60	Transmission Display - Secondary	Secondary display to operate specifically in conjunction with the transmission control mounted remotely from the normal drivers position (May not be used for any ecu instances of the primary transmission display)	43
	61	Exhaust Emission Controller		44
	62	Vehicle Dynamic Stability Controller		45
	63	Oil Sensor		46
	64	Suspension - System Controller #2		35
	65	Information System Controller #1	The first Information System Controller - may only be used for the NAME Function of 47, Function Instance 0, and an ecu instance of 0.	47
	66	Ramp Control	Control of ramps, lifts, or tailgates	48
	67	Clutch/Converter Unit	Control of either the clutch and/or converter	49
	68	Auxiliary Heater #1	The first Auxiliary Heater - may only be used for the NAME Function of 50, Function Instance 0, and an ecu instance of 0.	50
	69	Auxiliary Heater #2	The second PA available for auxiliary heater - must be associated with the second auxiliary heater control (NAME Function of 50, Function Instance 1, and an ecu instance of 0), when there are multiple auxiliary heaters. If only one auxiliary heater control on the vehicle then may be used for the second ecu of the first auxiliary heater (Function 50, Function Instance 0, ECU Instance of 1).	50
	70	Engine Valve Controller	Electronic control used to control actuation of engine intake and/or exhaust valves	63
	71	Chassis Controller #1	The first Chassis Controller - may only be used for the NAME Function of 52, Function Instance 0, and an ecu instance of 0.	52

Rev	SA	Controller Application	Definition	Associated NAME Function
	72	Chassis Controller #2	The second PA available for chassis control - must be associated with the second chassis (NAME Function of 52, Function Instance 1, and an ecu instance of 0), when there are multiple chassis. If only one chassis on the vehicle then may be used for the second ecu of the first chassis (Function 52, Function Instance 0, ECU Instance of 1).	52
	73	Propulsion Battery Charger	A device used to charge propulsion batteries in an electric vehicle from an off-board source of electrical energy.	31
	74	Communications Unit, Cellular	Cellular communications device	54
	75	Communications Unit, Satellite	Satellite communications device	55
	76	Communications Unit, Radio	Radio communications device, either receiver only, transmitter only or transceiver	56
	77	Steering Column Unit	Device that gathers the operator inputs from switches/levers/etc located in and/or around the steering wheel/column	57
	78	Fan Drive Controller	Controls the main cooling fan operation	58
	79	Seat Control #2	The second PA available for seat controls - must be associated with the passenger seat (NAME Function of 40, Function Instance 1, and an ecu instance of 0), when there are multiple seats with separate controls. If only one seat then may be used for the second ecu of the seat control (Function 40, Function Instance 0, ECU Instance of 1).	40
	80	Parking brake controller	Module controlling the parking brake	9
	81	Aftertreatment #1 system gas intake	Used for exhaust gas measurement such NOx or oxygen, etc.	68
	82	Aftertreatment #1 system gas outlet	Used for exhaust gas measurement such NOx or oxygen, etc.	68
	83	Safety Restraint System	The safety restraint system can be for controlling activation of airbags, belt tensioners, roll over protection systems, etc.	
	84	Cab Display #2	The second Cab Display, this can be used for supplemental displays such as retarder display, driver information display, etc.	
	85	Diesel Particulate Filter Controller	Used for Diesel Particulate Filter operation and monitoring such as pressure drop, intake temperature, outlet temperature, soot loading, HC injection, etc.	69
	86	Aftertreatment #2 system gas intake	Used for exhaust gas measurement such as NOx or oxygen, etc. for exhaust bank #2.	68
	87	Aftertreatment #2 system gas outlet	Used for exhaust gas measurement such NOx or oxygen, etc. for exhaust bank #2.	68

Rev	SA	Controller Application	Definition	Associated NAME Function
	88	Safety Restraint System #2	The second safety restraint system that can be for controlling activation of airbags, belt tensioners, roll over protection systems, etc.	
	89	Atmospheric Sensor	Used for sensors which measure conditions such as air temperature, pressure and/or humidity	
	90	thru 127 are reserved for future assignment by SAE		
	248	File Server / Printer	On-board file and/or print server	61
	249	Off Board Diagnostic-Service Tool #1	The address for the first off board diagnostic service tool - may only be used for the NAME Function of 129, Industry Group 0, Function Instance 0, and an ECU instance of 0.	
	250	Off Board Diagnostic-Service Tool #2	The second preferred address available for use for the function "Off Board Diagnostic-Service Tool". It should only be used by the "second" Off Board Diagnostic-Service Tool (Function 129, Industry Group 0, Function Instance 1, ECU Instance 0).	
	251	On-Board Data Logger		
	252	Reserved for Experimental Use		
	253	Reserved for OEM		
	254	Null Address		
	255	GLOBAL (All-Any Node)		

**TABLE B3 - PREFERRED ADDRESSES -  
INDUSTRY GROUP 1 - ON-HIGHWAY EQUIPMENT**

The J1939 Committee is discontinuing the assignment of Industry Group Preferred Addresses. Applications should be developed to be Arbitrary Address Capable and use Address Claim to claim addresses in the 128 to 247 range.

<b>Rev</b>	<b>SA</b>	<b>Controller Application</b>	<b>Definition</b>
(R)	128	thru 159 are reserved for future assignment by SAE but available for use by self configurable ECUs	Used for dynamic address assignment
(R)	160	Advanced emergency braking system	A system which can detect a potential forward collision and automatically activate the vehicle braking system to decelerate the vehicle with the purpose of avoiding or mitigating a collision.
	161	Fifth Wheel Smart Systems	Any systems relative to the operation & status/safety monitoring of the fifth wheel coupler system (including mounting bracket).
	162	Slope Sensor	A device that measures the slope along an axis.
	163	Catalyst Fluid Sensor	The Catalyst Fluid Sensor can measure the catalyst fluid temperature, the catalyst fluid level and the catalyst fluid quality.
	164	On Board Diagnostic Unit #2	Controller used to report On Board Diagnostics
	165	Rear Steering Axle Controller #2	Rear steering controller 2 for axle group
	166	Rear Steering Axle Controller #3	Rear steering controller 3 for axle group
	167	Instrument Cluster #2	A second optional, or auxiliary, gauge display for a vehicle
	168	Trailer #5 Bridge	Bridge for fifth towed Vehicle System (e.g. trailer or dolly)
	169	Trailer #5 Lighting-electrical	
	170	Trailer #5 Brakes (ABS-EBS)	
	171	Trailer #5 Reefer	
	172	Trailer #5 Cargo	
	173	Trailer #5 Chassis-Suspension	
	174	Other Trailer #5 Devices	Recommended address space for subnetwork devices
	175	Other Trailer #5 Devices	Recommended address space for subnetwork devices
	176	Trailer #4 Bridge	Bridge for fourth towed Vehicle System (e.g. trailer or dolly)
	177	Trailer #4 Lighting-electrical	
	178	Trailer #4 Brakes (ABS-EBS)	
	179	Trailer #4 Reefer	
	180	Trailer #4 Cargo	
	181	Trailer #4 Chassis-Suspension	
	182	Other Trailer #4 Devices	Recommended address space for subnetwork devices
	183	Other Trailer #4 Devices	Recommended address space for subnetwork devices

Rev	SA	Controller Application	Definition
	184	Trailer #3 Bridge	Bridge for third towed Vehicle System (e.g. trailer or dolly)
	185	Trailer #3 Lighting-electrical	
	186	Trailer #3 Brakes (ABS-EBS)	
	187	Trailer #3 Reefer	
	188	Trailer #3 Cargo	
	189	Trailer #3 Chassis-Suspension	
	190	Other Trailer #3 Devices	Recommended address space for subnetwork devices
	191	Other Trailer #3 Devices	Recommended address space for subnetwork devices
	192	Trailer #2 Bridge	Bridge for second towed Vehicle System (e.g. trailer or dolly)
	193	Trailer #2 Lighting-electrical	
	194	Trailer #2 Brakes (ABS-EBS)	
	195	Trailer #2 Reefer	
	196	Trailer #2 Cargo	
	197	Trailer #2 Chassis-Suspension	
	198	Other Trailer #2 Devices	Recommended address space for subnetwork devices
	199	Other Trailer #2 Devices	Recommended address space for subnetwork devices
	200	Trailer #1 Bridge	Bridge for first towed Vehicle System (e.g. trailer or dolly)
	201	Trailer #1 Lighting-electrical	
	202	Trailer #1 Brakes (ABS-EBS)	
	203	Trailer #1 Reefer	
	204	Trailer #1 Cargo	
	205	Trailer #1 Chassis-Suspension	
	206	Other Trailer #1 Devices	Recommended address space for subnetwork devices
	207	Other Trailer #1 Devices	Recommended address space for subnetwork devices
	208	thru 227 are reserved for future assignment by SAE	To be used for individual preassigned addresses
	228	Steering Input Unit	May be used for measuring steering angle, steering torsion, steering force feedback, etc.
	229	Body Controller #2	This is for the second instance of a body controller on a chassis.
	230	Body-to-Vehicle Interface Control	Interface controller managing interaction of vehicle functions and body functions. May be a combination of body signals and gateway functionalities.
	231	Articulation Turntable Control	Controller managing the articulation turntable for joined body buses.

Rev	SA	Controller Application	Definition
	232	Forward Road Image Processor	Views the road ahead for electronic recognition of several items
	233	Door Controller #3	
	234	Door Controller #4	
	235	Tractor/Trailer Bridge #2	Second tractor mounted bridge leading to trailer(s)
	236	Door Controller #1	cab drivers side or first door
	237	Door Controller #2	cab codrivers side or second door
	238	Tachograph	
	239	Electric Propulsion Control Unit #1	First or only on-board device converting torque commands to current commands in an electric vehicle system
	240	Electric Propulsion Control Unit #2	Second on-board device converting torque commands to current commands in an electric vehicle system
	241	Electric Propulsion Control Unit #3	Third on-board device converting torque commands to current commands in an electric vehicle system
	242	Electric Propulsion Control Unit #4	Fourth on-board device converting torque commands to current commands in an electric vehicle system
	243	Battery Pack Monitor #1	Device to monitor battery pack #1
	244	Battery Pack Monitor #2 / APU #4	SA for either the device to monitor battery pack #2 or APU #4
	245	Battery Pack Monitor #3 / APU #3	SA for either the device to monitor battery pack #3 or APU #3
	246	Battery Pack Monitor #4 / APU #2	SA for either the device to monitor battery pack #4 or APU #2
	247	Auxiliary Power Unit (APU) #1	Device used to provide auxiliary power, such as electrical, hydraulic, pneumatic, or rotary

**TABLE B4 - PREFERRED ADDRESSES -  
INDUSTRY GROUP 2 - AGRICULTURAL AND FORESTRY EQUIPMENT**

The J1939 Committee is discontinuing the assignment of Industry Group Preferred Addresses. Applications should be developed to be Arbitrary Address Capable and use Address Claim to claim addresses in the 128 to 247 range.

<b>Rev</b>	<b>SA</b>	<b>DC</b>	<b>DC Instance</b>	<b>Function</b>	<b>Description</b>	<b>Function Instance</b>	<b>ECU Instance</b>
					All devices in IG2 using preferred addresses shall be self-configurable. IG2 devices shall include the value of the first full 32 bits of NAME field.		
128				thru 207 are reserved for dynamic address assignment	Used for dynamic address assignment (self-configurable)		
208				thru 238 are reserved for future assignment by SAE	Used for individual preassigned addresses		
239	0	0		Depth Control		0	0
240	0	0		Tractor ECU	Gateway between the power train and the implement bus	0	0
241	7	0		Tailings Monitoring		0	0
242	7	0		Header Control		0	0
243	7	0		Product Loss Monitoring		0	0
244	7	0		Product Moisture Sensing		0	0
245	0	0		Non Virtual Terminal Display (Implement Bus)	A non Virtual Terminal cab display connected to the implement bus	0	0
246	0	0		Operator Controls - Machine Specific		0	0
247	0	0		Task Control (Mapping Computer)		0	0

**TABLE B5 - PREFERRED ADDRESSES -  
INDUSTRY GROUP 3 - CONSTRUCTION EQUIPMENT**

The J1939 Committee is discontinuing the assignment of Industry Group Preferred Addresses. Applications should be developed to be Arbitrary Address Capable and use Address Claim to claim addresses in the 128 to 247 range.

<b>Rev</b>	<b>SA</b>	<b>Controller Application</b>	<b>Definition</b>
	128	thru 207 are reserved for future assignment by SAE	Used for dynamic address assignment (self-configurable)
	208	thru 223 are reserved for future assignment	Used for individual preassigned addresses
	224	Rotation Sensor	A device that measures the rotational angle around an axis.
	225	Lift Arm Controller	Controls the lift arms and tilt functions on a construction loader, skid steer loader, or similar machine. Refers to the main elevation and tilt functions of the machine's lift arms but may not include the control of the attachment itself.
	226	Slope Sensor	A device that measures the slope along an axis.
	227	Main Controller - Skid Steer Loader	Primary system controller for skid steer loader
	228	Loader Control	Controls the hydraulic system of the loader attachment of a loader/backhoe, wheel loader, skid steer, or similar vehicle
	229	Laser Tracer	A device that receives a laser strike and reports the vertical and horizontal position.
	230	Land Leveling System Display	This device displays position information at a remote location.
	231	Single Land Leveling System Supervisor	This device is the Land Leveling System Supervisor for a single control loop.
	232	Land Leveling Electric Mast	A device that moves a Sensor to maintain a specific position.
	233	Single Land Leveling System Operator Interface	A component that allows the user to control the Land Leveling System and display information about the operation of the system.
	234	Laser Receiver	A device that receives a laser strike, and reports the specific position.
	235	Supplemental Sensor Processing Unit #1	
	236	Supplemental Sensor Processing Unit #2	
	237	Supplemental Sensor Processing Unit #3	
	238	Supplemental Sensor Processing Unit #4	
	239	Supplemental Sensor Processing Unit #5	
	240	Supplemental Sensor Processing Unit #6	
	241	Engine Monitor #1	
	242	Engine Monitor #2	
	243	Engine Monitor #3	
	244	Engine Monitor #4	
	245	Engine Monitor #5	

Rev	SA	Controller Application	Definition
	246	Engine Monitor #6	
	247	Engine Monitor #7	

**TABLE B6 - PREFERRED ADDRESSES -  
INDUSTRY GROUP 4 - MARINE EQUIPMENT**

The J1939 Committee is discontinuing the assignment of Industry Group Preferred Addresses. Applications should be developed to be Arbitrary Address Capable and use Address Claim to claim addresses in the 128 to 247 range.

Rev	SA	Controller Application	Definition
	128	thru 207 are reserved for future assignment by SAE	Used for dynamic address assignment (self-configurable)
	208	thru 235 are reserved for future assignment	Used for individual preassigned addresses
	236	Display #1 for Protection System for Marine Engines	The first ecu that provides the display of information and/or indicators associated specifically with the protection system on the first engine of a Marine System.
	237	Protection System for Marine Engines	The first ecu that controls the Protection functions on the first engine of a Marine System.
	238	Alarm System Control #1 for Marine Engines	The first ecu that controls the Alarm functions on the first engine of a Marine System.
	239	Engine #3	The Engine ECU for the third engine within a system.
	240	Engine #4	The Engine ECU for the fourth engine within a system.
	241	Engine #5	The Engine ECU for the fifth engine within a system.
	242	Marine Display #1	The first Marine Display for an engine.
	243	Marine Display #2	The second Marine Display for an engine.
	244	Marine Display #3	The third Marine Display for an engine.
	245	Marine Display #4	The fourth Marine Display for an engine.
	246	Marine Display #5	The fifth Marine Display for an engine.
	247	Marine Display #6	The sixth Marine Display for an engine.

**TABLE B7 - PREFERRED ADDRESSES -  
INDUSTRY GROUP 5 - INDUSTRIAL, PROCESS CONTROL, STATIONARY EQUIPMENT**

The J1939 Committee is discontinuing the assignment of Industry Group Preferred Addresses. Applications should be developed to be Arbitrary Address Capable and use Address Claim to claim addresses in the 128 to 247 range.

<b>Rev</b>	<b>SA</b>	<b>Controller Application</b>	<b>Definition</b>
	128	thru 207 are reserved for future assignment by SAE	Used for dynamic address assignment (self-configurable)
	208	thru 229 are reserved for future assignment	Used for individual preassigned addresses
	230	Generator Voltage Regulator	The voltage regulator controls the generator output voltage
	231	Engine #3	The Engine ECU for the third engine within a system.
	232	Engine #4	The Engine ECU for the fourth engine within a system.
	233	Engine #5	The Engine ECU for the fifth engine within a system.
	234	Generator Set Controller	Used for data collection and control of a generator system
	235	Supplemental Sensor Processing Unit #1	
	236	Supplemental Sensor Processing Unit #2	
	237	Supplemental Sensor Processing Unit #3	
	238	Supplemental Sensor Processing Unit #4	
	239	Supplemental Sensor Processing Unit #5	
	240	Supplemental Sensor Processing Unit #6	
	241	Engine Monitor #1	
	242	Engine Monitor #2	
	243	Engine Monitor #3	
	244	Engine Monitor #4	
	245	Engine Monitor #5	
	246	Engine Monitor #6	
	247	Engine Monitor #7	

**TABLE B8 - PREFERRED ADDRESSES -  
INDUSTRY GROUP 6 - RESERVED FOR FUTURE ASSIGNMENT**

**TABLE B9 - PREFERRED ADDRESSES -  
INDUSTRY GROUP 7 - RESERVED FOR FUTURE ASSIGNMENT**

TABLE B10 - MANUFACTURER CODES

Rev	Code	Manufacturer	Location
	0	Reserved	
	1	Allied Signal Inc.	Elyria, OH USA
	2	Allison Transmission, GMC	Indianapolis, IN USA
	3	Ametek, US Gauge Division	Sellersville, PA USA
	4	Ametek-Dixson	Grand Junction, CO USA
	5	AMP Inc.	Harrisburg, PA USA
	6	Berifors Electronics AB	Stockholm, Sweden
	7	Case Corp.	Burr Ridge, IL USA
	8	Caterpillar Inc.	Peoria, IL USA
	9	Chrysler Corp.	Auburn Hills, MI USA
	10	Cummins Inc (formerly Cummins Engine Co)	Columbus, IN USA
	11	Dearborn Group Inc.	Indianapolis, IN & Farmington Hills, MI USA
	12	Deere & Company, Precision Farming	East Moline, IL USA
	13	Delco Electronics	Kokomo, IN USA
	14	Detroit Diesel Corporation	Detroit, MI USA
	15	Dickey-john Corp.	Auburn, IL USA
	16	Eaton Corp	Southfield, MI USA
	17	Eaton Corp, Corp Res & Dev	Milwaukee, WI USA
	18	Eaton Corp, Transmission Div.	Kalamazoo, MI USA
	19	Eaton Corp. Trucking Info Services	Clemmons, NC USA
	20	Eaton Ltd	Worsley, England
	21	Echlin Inc., Midland Brake Inc.	Kansas City, MO USA
	22	Ford Motor Co., Electronic Concepts & Systems	Dearborn, MI USA
	23	Ford Motor Co., Heavy Truck	Dearborn, MI USA
	24	Ford Motor Co., Vehicle Controls	Dearborn, MI USA
	25	Daimler Trucks North America LLC (formerly Freightliner LLC)	Portland, OR USA
	26	General Motors Corp, Service Technology Grp	Romulus, MI USA
	27	GMC	Troy, MI USA
	28	Grote Ind. Inc.	Madison, IN USA
	29	Hino Motors Ltd.	Tokyo, Japan
	30	Isuzu Motors Ltd	Kawasaki, Japan
	31	J Pollak Corp	Boston, MA USA
	32	Jacobs Vehicle Systems	Bloomfield, CT USA
	33	John Deere	Waterloo, IA USA
	34	Kelsey Hayes Co.	Livonia, MI USA
	35	Kenworth Truck Co.	Kirkland, WA USA
	36	Lucas Ind.	Solihull WMidInd, England

Rev	Code	Manufacturer	Location
	37	Mack Trucks Inc.	Hagerstown, MD USA
	38	Micro Processor Systems Inc.	Sterling Hts, MI USA
	39	Microfirm Inc.	Stillwater, OK USA
	40	Motorola AIEG Inc.	Northbrook, IL USA
	41	Motorola Inc.	Schaumburg, IL USA
	42	International Truck and Engine Corporation - Engine Electronics (formerly Navistar Intl Trans Co., Engine Electronics)	Warrenville, IL USA
	43	International Truck and Engine Corporation - Vehicle Electronics (formerly Navistar Intl Trans Corp.)	Warrenville, IL USA
	44	Nippondenso Co. Ltd.	Kariya Aichi, Japan
	45	PACCAR	Mount Vernon, WA USA
(R)	46	Noregon Systems, Inc (formerly Parasoft Computing Solutions)	Winston Salem, NC USA
	47	Phillips Semiconductor	Sunnyvale, CA USA
	48	Pollak Alphabet	EI Paso, TX USA
	49	RE America Inc.	Cleveland, OH USA
	50	Robert Bosch Corp	Broadview, IL USA
	51	Robert Bosch GmbH	Stuttgart, Germany
	52	Meritor Automotive, Inc. (formerly Rockwell Automotive)	Troy, MI USA
	53	Continental Automotive Systems US, Inc. (formerly Rockwell Land Transportation)	Cedar Rapids, IA USA
	54	Meritor Wabco	Troy, MI USA
	55	Ryder System Inc.	Miami, FL USA
	56	SAIC	San Diego, CA USA
	57	Sauer-Danfoss Co (formerly Sauer Sundstrand Co.)	Minneapolis, MN USA
	58	SPX Corporation, OTC Div	Owatonna, MN USA
	59	VES Inc.	Rock Hill, SC USA
	60	Volvo Trucks North America Inc.	Greensboro, NC USA
	61	Volvo Truck Corp.	Gothenburg, Sweden
	62	Wabco	Hanover, Germany
	63	ZF Industries Inc.	Vernon Hills, IL USA
	64	unused (formerly SpectraPrecision Laserplane, then SpectraPhysics)	
	65	MAN Nutzfahrzeuge AG	Munich, Germany
	66	John Deere Construction Equipment Division	Dubuque, IA USA
	67	John Deere Coffeyville Works (formerly Funk Manufacturing Company)	Coffeyville, KS USA
	68	Scania	Södertälje, Sweden
	69	Trimble Navigation	
	70	Flex-coil Limited	Saskatoon, SK Canada

Rev	Code	Manufacturer	Location
	71	Vansco Electronics Ltd.	Winnipeg, MAN Canada
	72	Sisu Corporation	ESPOO, Finland
	73	LeTourneau, Inc.	Longview, TX USA
	74	Eaton Axle-Brake Division	Kalamazoo, MI USA
	75	Deere & Co, Agricultural Division	
	76	unused (formerly Deere & Co, Construction Division)	
	77	Deere Power Systems Group	
	78	Frank W. Murphy Manufacturing, Inc	Tulsa, OK USA
	79	Daimler Benz AG - Engine Division (PBM)	Stuttgart, Germany
	80	Twin Disc, Inc.	Racine, WI USA
	81	Fire Research Corp.	Nesconset, NY USA
	82	Bobcat/Ingersoll-Rand (formerly Melroe/Ingersoll-Rand)	Fargo, ND USA
	83	Eaton VORAD Technologies	San Diego, CA USA
	84	New Holland UK Limited	Basildon, Essex, UK
	85	Kohler Co	Kohler, WI USA
	86	C. E. Niehoff & Company	Evanston, IL USA
	87	J.C. Bamford Excavators Ltd (JCB)	Rocester, Staffordshire, UK
	88	Satloc Precision GPS	Scottsdale, AZ USA
	89	Kverneland Group, Electronics Division	Nieuw-Vennep, Netherlands
	90	Knorr-Bremse SfN GmbH	Munich, Germany
	91	BSG Bodensee Steuergeraete GmbH	Immenstaad, Germany
	92	Ag-Chem Equipment Co., Inc.	Minnetonka, MN USA
	93	Perkins Engines Company Ltd.	Peterborough, UK
	94	CNH Global N.V.	Racine, WI USA
	95	Pacific Insight Electronics Corp.	Nelson, BC Canada
	96	Mech@tronic IT GmbH	Hetzenhausen, Germany
	97	Ag Leader Technology, Inc.	Ames, IA USA
	98	Mueller-Elektronik GmbH & Co	Salzkotten, Germany
	99	International Transmissions Ltd (ITL)	Wrexham, North Wales, UK
	100	VDO Technik AG	Rüthi, Switzerland
	101	Sensoria	San Diego, CA USA
	102	AGCO GmbH & Co.	Marktoberdorf, Germany
	103	Agrocom GmbH & Co. Agrarsystem KG	Bielefeld, Germany
	104	Claas Selbstfahrende Erntemaschinen GmbH	Harsewinkel, Germany
	105	Kiepe Elektrik GmbH & Co. KG	Duesseldorf, Germany
	106	BAE Systems Controls, Inc.	Johnson City, NY USA
	107	Grimme Landmaschinen GmbH & Co. KG	Damme, Germany
	108	WTK-Elecktronik GmbH	Neustadt, Germany

Rev	Code	Manufacturer	Location
	109	TeeJet Technologies Denmark (formerly LH Technologies ApS)	Aabybro, Denmark
	110	EPIQ Sensor-Nite	Fenton, MI USA
	111	Maschinenfabrik Bernhard Krone GmbH	Spelle, Germany
	112	MECALAC	Annecy le Vieux, France
	113	Stress-Tek, Inc.	Kent, WA USA
	114	EControls, Inc.	San Antonio, TX USA
	115	NACCO Materials Handling Group, Inc.	Portland, OR USA
	116	BEELINE Technologies	Brisbane, QLD Australia
	117	HUSCO International	Waukesha, WI USA
	118	Intron GmbH	Schwaebisch Hall, Germany
	119	IntegriNautics	Menlo Park, CA USA
	120	RDS Technology Ltd	Minchinhampton, Stroud, UK
	121	HED (Hydro Electronic Devices, Inc.)	Hartford, WI USA
	122	FG Wilson (Engineering) Limited	Larne, County Antrim, UK
	123	Basler Electric	Highland, IL USA
	124	Hydac Electronic	Saarbruecken, Germany
	125	Nevada Automotive Test Center	Carson City, NV USA
	126	Driver Tech	Salt Lake City, UT USA
	127	Holland USA	Holland, MI USA
	128	Gerhard Duecker GmbH & Co. KG	Stadtlohn, Germany
	129	OMNEX Control Systems Inc.	Port Coquitlam, BC, Canada
	130	Nido - Universal Machines B.V.	Holten, Netherlands
	131	ITT Industries	Eden Prairie, MN USA
	132	Mulag-Fahrzeugwerk	Oppenau, Germany
	133	Bucher Schoerling GmbH	Hannover, Germany
	134	Iris Technology Ltd	Lancaster, Lancs, UK
	135	Airmar Technology Corporation	Milford, NH USA
	136	Komatsu Ltd	Hiratsuka, Kanagawa, Japan
	137	Maretron	Phoenix AZ USA
	138	Georg Fritzmeier GmbH & Co. KG	Grosshelfendorf, Germany
	139	Caterpillar Trimble Control Technologies (CTCT), LLC	Dayton, OH USA
	140	Lowrance Electronics, Inc.	Tulsa, OK USA
	141	Thales Navigation Ltd.	Surrey, UK
	142	TRW Automotive (Commercial Steering Systems)	Lafayette, IN USA
	143	W. Gmeiner GmbH & Co.	Kummersbruck, Germany
	144	Mercury Marine	Fond du Lac, WI USA
	145	MurCal Controls	Palmdale, CA USA
	146	Maxima Technologies	Lancaster, PA USA

Rev	Code	Manufacturer	Location
	147	Nautibus electronic GmbH	Quern, Germany
	148	Blue Water Data, Inc.	Salem, NJ USA
	149	Holset	Charleston, SC USA
	150	Fleetguard	Nashville, TN USA
	151	Raven Industries Inc. - Flow Controls Division	Sioux Falls, SD USA
	152	elobau GmbH & Co. KG	Leutkirch, Germany
	153	Woodward, Industrial Controls Division	Fort Collins, CO USA
	154	Westerbeke Corporation	Taunton, MA USA
	155	Vetronix Corporation	Santa Barbara, CA
	156	ITT Industries - Cannon	Shakopee, MN USA
	157	ISSPRO Inc.	Portland, OR USA
	158	Firestone Industrial Products Company	Carmel, IN USA
	159	NTech Industries Inc	Ukiah, CA USA
	160	Nido	Holten, Netherlands
	161	Offshore Systems (UK) Ltd	New Milton, Hampshire, UK
	162	Axiomatic Technologies	Mississauga, ON Canada
	163	BRP Inc.	Waukegan, IL USA
	164	MTU Friedrichshafen GmbH (formerly DaimlerChrysler Off-Highway)	Friedrichshafen, Germany
	165	CPAC Systems AB	Vastral Frolunda, Sweden
	166	Phoenix International	Fargo, ND USA
	167	JLG Industries Inc	McConnellsburg, PA USA
	168	Xantrex	Burnaby, BC Canada
	169	Marlin Technologies Inc.	Horicon, WI USA
	170	Computronics Corporation Ltd.	Bentley, WA Australia
	171	Wachendorff Elektronik GmbH & Co. KG	Geisenheim, Germany
	172	Yanmar Marine USA	Adairsville, GA USA
	173	Ryeso, Inc.	Palmdale, CA USA
	174	AB Volvo Penta	Goteburg, Sweden
	175	Veris Technologies, Inc.	Salina, KS USA
	176	Moritz Aerospace	Dublin, PA USA
	177	Diagnostic Systems Associates	Kalamazoo, MI USA
	178	Siemens VDO Automotive AG	Regensburg, Germany
	179	TeeJet Technologies Springfield (formerly Midwest Technologies Illinois, LLC)	Springfield, IL USA
	180	Smart Power Systems	Reed City, MI USA
	181	Coretronics, Inc.	Eagle, ID USA
	182	Vehicle Systems Engineering B.V.	Veenendaal, Netherlands
	183	KDS Controls, Inc	Troy, MI USA
	184	EIA Electronics	Aartselaar, Belgium

Rev	Code	Manufacturer	Location
	185	Beede Electrical Instrument Company	Penacook, NH USA
	186	Altronic, Inc	Girard, OH USA
	187	Air-Weigh	Eugene, OR USA
	188	EMP Corp	Escanaba, MI USA
	189	QUALCOMM	San Diego, CA USA
	190	Hella KGaA Hueck & Co	Lippstadt, Germany
(R)	191	XATA Corporation	Eden Prairie, MN USA
	192	Floscan	Seattle, WA USA
	193	Jeppesen Marine	Portland, OR USA
	194	TriMark Corporation	New Hampton, IA USA
	195	General Engine Products	Livonia, MI USA
	196	LEMKEN GmbH & Co KG	Alpen, Germany
	197	Mechron Power Systems	Ottawa, ON Canada
	198	Mystic Valley Communications	Mystic, CT USA
	199	Actia Corp	Elkhart, IN USA
	200	MGM Brakes	Charlotte, NC USA
	201	Disenos y Tecnologia S.A.	Barcelona, Spain
	202	Curtis Instruments, Inc	Mount Kisco, NY USA
	203	MILtronik GmbH	Hilden, Germany
	204	The Morey Corporation	Woodridge, IL USA
	205	SmarTire Systems Inc	Richmond, BC Canada
	206	port GmbH	Halle, Germany
	207	Otto Engineering	Carpentersville, IL USA
	208	Drew Technologies, Inc	Whitmore Lake, MI USA
	209	Bell Equip. Co. SA (PTY) LTD	Richards Bay, South Africa
	210	Iteris, Inc.	Anaheim, CA USA
	211	DNA Group	Raleigh, NC USA
	212	Sure Power Industries, Inc	Tualatin, OR USA
	213	CNH Belgium N.V.	Zedelgem, Belgium
	214	MC elettronica Srl	Fiesso Umbertiano, Rovigo, Italy
	215	Aetna Engineering/Fireboy-Xintex	Grand Rapids, MI USA
	216	Paneltronics Inc.	Hialeah Gardens, FL USA
	217	RM Michaelides Software & Elektronik GmbH	Fulda, Germany
	218	Gits Manufacturing Company	Creston, IA USA
	219	Cat OEM Solutions	Mossville, IL USA
	220	Beede Electrical Instrument Company, Inc	Penacook, NH USA
	221	SiE	Kempten/Allgäu, Germany
	222	Generac Power Systems, Inc.	Waukesha, WI, USA
	223	Vaeo Retarder Co., Ltd.	Shajin, Baoan, Shen Zhen, China
	224	EMMI Network, S.L.	Gandia, Spain

Rev	Code	Manufacturer	Location
	225	SKF	Gothenburg, Sweden
	226	Monaco Coach Corporation	Bend, OR USA
	227	Lykketronic A/S	Loegstoer, Denmark
	228	ZF Marine Electronics	Mukilteo, WA USA
	229	Garmin International Inc.	Olathe, KS USA
	230	Saucon Technologies	Bethlehem, PA USA
	231	Topcon Positioning Systems, Inc.	Livermore, CA USA
	232	TSD Integrated Controls	Minneapolis, MN USA
	233	Yacht Monitoring Solutions Inc.	Corpus Christi, TX USA
	234	Mondial electronic GmbH	Eggelsberg, Austria
	235	SailorMade Marine Telemetry - Tetra Technology Ltd.	Florianopolis, Brazil
	236	Norac Systems International Inc	Saskatoon, SK, Canada
	237	Agtron Enterprises Inc	Saskatoon, SK, Canada
	238	ZF Friedrichshafen AG	Friedrichshafen, Germany
	239	May & Scofield Ltd	Basingstoke, Hants, UK
	240	Vanair Mfg	New Buffalo, MI USA
	241	Schneider Automation SAS	Sophia Antipolis, France
	242	Kokusandenki Co. Ltd	Numazu, Shizuoka, Japan
	243	eRide, Inc.	San Francisco, CA USA
	244	Techno-Matic	Aars, Denmark
	245	Capstan Ag Systems, Inc.	Topeka, KS USA
	246	Class 1, Inc	Ocala, FL USA
	247	ePULSE	Troy, MI USA
	248	Cooper Standard Automotive Active Systems Group	Mitchell, ON Canada
	249	Schaltbau GmbH	Munich, Germany
	250	Kuhn Group	Saverne, France
	251	German Agricultural Society, Test Center (DLG)	Gross-Ultstadt, Germany
	252	Sensor-Technik Wiedemann GmbH	Kaufbeuren, Germany
	253	Mobile Control Systems	Brussels, Belgium
	254	GE Sensing	St. Marys, PA USA
	255	MEAS France	Toulouse, France
	256	Tyco Electronics AMP	Osan-Si, Kyunggi-Do, Korea
	257	Honda Motor Co., Ltd	Wako-city, Saitama, Japan
	258	ARAG	Rubiera, Italy
	259	Jetter AG	Ludwigsburg, Germany
	260	Reichhardt GmbH Steuerungstechnik	Hungen, Germany
	261	Red Dot Corporation	Seattle, WA USA
	262	HydraForce, Inc	Lincolnshire, IL USA
	263	IMMI	Westfield, IN USA

Rev	Code	Manufacturer	Location
	264	Autolync	Clayton, Victoria, Australia
	265	MTS Sensor Technologie GmbH	Luedenscheid, Germany
	266	International Thermal Research Ltd	Richmond, BC Canada
	267	Red Lion Controls, Inc	York, PA USA
	268	Accurate Technologies	Wixom, MI USA
	269	Saft America Inc., Space & Defense Division	Cockeysville, MD USA
	270	Tennant	Minneapolis, MN USA
	271	Cole Hersee	South Boston, MA USA
	272	Gross Mechanical Laboratories, Inc	Hanover, MD USA
	273	Active Research Limited	Poole, Dorset, UK
	274	LTW Technology Co., LTD	Shinjuang City, Taipei Hsien, Taiwan, R.O.C.
	275	Navico Egersund AS	Egersund, Norway
	276	Aqua-Hot Heating Systems	Fort Lupton, CO USA
	277	LHP Telematics	Columbus, IN USA
	278	Takata Electronics	Farmington Hills, MI USA
	279	Geometris LP	Houston, TX USA
	280	Leica Geosystems Pty Ltd	Brisbane, Queensland Australia
	281	Precision Governors LLC	Rockford, IL USA
	282	Medallion Instrumentation Systems	Spring Lake, MI USA
	283	CWF Hamilton & Co Ltd	Christchurch, New Zealand
	284	Mobile Tech Chile	Concepcion, Bio Bio, Chile
	285	Sea Recovery Corp	Rancho Dominguez, CA USA
	286	Coelmo srl	Acerra, Italy
	287	NTech Industries, Inc	Ukiah, CA USA
	288	Mitsubishi FUSO Truck & Bus Corp.	Kawasaki, Kanagawa, Japan
	289	Watlow	St. Louis, MO USA
	290	Kuebler GmbH	VS-Schwenningen, Germany
	291	Groeneveld Transport Efficiency BV	Gorinchem, Netherlands
	292	IKUSI - Angel Iglesias S.A.	San Sebastian, Guipuzcoa, Spain
	293	Spyder Controls Corp.	Lacombe, AB Canada
	294	Grayhill Inc.	LaGrange, IL USA
	295	BEP Marine	Albany, North Shore City, New Zealand
	296	micro dynamics GmbH	Cologne, Germany
	297	Zonar Systems Inc	Seattle, WA USA
	298	Holley Performance	Bowling Green, KY USA
	299	Rauch	Sinzheim, Germany
	300	Systron Donner Automotive	Concord, CA USA
	301	Parker Hannifin (UK) Ltd FDE group	Thetford, Norfolk, UK
	302	Nissin Kogyo Co., LTD	Ueda-city, Nagano prefecture, Japan
	303	CTS Corporation	Elkhart, IN USA

Rev	Code	Manufacturer	Location
	304	EmpirBus AB	Uddevalla, Sweden
	305	NovAtel Inc	Calgary, AB Canada
	306	Sleipner Motor AB	Fredrikstad, Norway
	307	MAS Technologies	Harleysville, PA USA
	308	Cyntrix	De Pere, WI USA
	309	Krauss-Maffei Wegmann GmbH & Co. KG	Munich, Germany
	310	TECNORD srl	Modena, Italy
	311	Patrick Power Products	Elkridge, MD USA
	312	Lectronix, Inc.	Lansing, MI USA
	313	Ilmor Engineering, Inc.	Plymouth, MI USA
	314	CSM GmbH	Filderstadt, Germany
	315	Icom Incorporated	Osaka, Japan
	316	ITT Flow Control	Santa Ana, CA USA
	317	Navtronics Bvba	Geel, Belgium
	318	SAT Plan	Beauvais Tillé, Oise, France
	319	Cadec Global	Manchester, NH USA
	320	Miedema Landbouwwerktuigenfabriek B.V.	Winsum, Netherlands
	321	Ultra Electronics, Electrics	Cheltenham, UK
	322	MICHENKA s.r.o.	Koprivnice, Czech Republic
	323	Mobileye Vision Technologies Ltd.	Jerusalem, Israel
	324	Snap-on Diagnostics	Lincolnshire, IL USA
	325	ASM Automation Sensorik Messtechnik GmbH	Moosinning, Germany
	326	Akron Brass Company	Wooster, OH USA
	327	Sonceboz SA	Sonceboz, Switzerland
	328	Qwerty Electronik AB	Bagarmossen, Sweden
	329	Deif A/S	Skive, Denmark
	330	Kidde Aerospace and Defense	Wilson, NC USA
	331	Horton, Inc.	Roseville, MN USA
	332	HWH Corporation	Moscow, IA USA
	333	Hadley Products Corporation	Grandville, MI USA
	334	Takata-Petri AG	Aschaffenburg, Germany
	335	Evo Electric Ltd	Woking, Surrey, UK
	336	APE s.r.o.	Bradlec, Czech Republic
	337	Carraro S.p.A.	Campodarsego, Italy
	338	GRAF-SYTECO	Tuning, Germany
	339	Competence Center ISOBUS e.V.	Wallenhorst, Germany
	340	Continental AG	Hannover, Germany
	341	Boning GmbH & Co	Ganderkesee, Germany
	342	THOMAS MAGNETE GmbH	Herdorf, Germany
	343	Baumer Group	Villingen-Schwenningen, Germany

Rev	Code	Manufacturer	Location
	344	Parvus Corporation	Salt Lake City, UT USA
	345	Korean Maritime University	Busan, Korea
	346	Control Solutions	Aurora, IL USA
	347	Honeywell	Morristown, NJ USA
	348	Amazonen Werke H. Dreyer	Hasbergen, Germany
	349	Suonentieto	Kuopio, Finland
	350	Noris Marine Systems GmbH & Co KG	Nuremberg, Germany
	351	Thrane & Thrane	Gentofte, Denmark
	352	SAME DEUTZ-FAHR	Treviglio, Italy
	353	Hegemon Electronics, Inc.	Sterling Heights, MI USA
	354	Junkkari OY	Yliharma, Finland
	355	Mastervolt International B.V.	Amsterdam, Netherlands
	356	Fischer Panda Generators, Inc	Oakland Park, FL USA
	357	Hardi International A/S	Taastrup, Denmark
	358	Victron Energy BV	Almere-Haven, Netherlands
	359	Ludwig Bergmann GmbH	Goldenstedt, Germany
(R)	360	HJS Emission Technology GmbH & Co KG (formerly HJS Fahrzeugtechnik GmbH & Co KG)	Menden, Germany
	361	InMach	Ulm, Germany
	362	Alois Poettinger Maschinenfabrik GmbH	Grieskirchen, Austria
	363	BEI Duncan	Goleta, CA USA
	364	OEM Controls Inc.	Shelton, CT USA
	365	Digi-Star, LLC	Fort Atkinson, WI USA
	366	Viewnyx Corp.	Kanata, ON Canada
	367	Fliegl Agrartechnik	Toeging, Germany
	368	HANSENHOF_electronic	Reifland, Germany
	369	Power Torque Engineering Ltd	Coventry, UK
	370	Rolls-Royce Marine AS	Aalesund, Norway
	371	Heinzmann GmbH & Co. KG	Schoenau, Germany
	372	Delphi	Auburn Hills, MI USA
	373	Electronic Design Inc.	Sheboygan, WI USA
	374	Northern Lights, Inc.	Seattle, WA USA
	375	Williams Controls Inc.	Portland, OR USA
(R)	376	Quake Global	San Diego, CA USA
(R)	377	ifm electronic gmbh	Essen, Germany
(R)	378	Glendinning Marine Products	Conway, SC USA
(R)	379	Yamabiko Corporation	Iwate, Japan
(R)	380	Suntech International Ltd.	Seoul, Korea
(R)	381	B & G	Romsey, UK
(R)	382	National Agricultural Research Organization	Niigata, Japan

Rev	Code	Manufacturer	Location
(R)	383	MCL Industries	Pulaski, WI USA
(R)	384	Camano Light	Camano Island, WA USA
(R)	385	Johnson Outdoor Marine Electronics	Alpharetta, GA USA
(R)	386	JLG Automation BVBA	Gent, Belgium
(R)	387	Orscheln Products, LLC	Moberly, MO USA
(R)	388	Innomatix, LLC	Iowa City, IA USA
(R)	389	Benchmark Electronics, Minnesota Division	Rochester, MN USA
(R)	390	Partech Inc.	Lake Orion, MI USA
(R)	391	Electronic Design for Industry, Inc	Belpre, OH USA
(R)	392	Tianyuan Technology Co Ltd.	Shijiazhuang, China
(R)	393	Harvest Tec, Inc	Hudson, WI USA
(R)	394	Capi 2 Nederland BV	Nuenen, Netherlands
(R)	395	GENTEC S.R.L.	Villa Constitucion, Argentina
(R)	396	Beyond Measure	Appleton, WI USA
(R)	397	Sanyo-kiki Co Ltd.	Okayama, Japan
(R)	398	Hilite International	Marktheidenfeld, Germany
(R)	399	ISEKI & Co., Ltd.	Ehime, Japan
(R)	400	Livorsi Marine	Grayslake, IL USA
(R)	401	Torqeedo GmbH	Stamberg, Germany
(R)	402	Simma Software, Inc.	Terre Haute, IN USA
(R)	403	Trackwell ADS, Inc.	Houston, TX USA
(R)	404	Com Nav Marine Ltd	Richmond, BC Canada
(R)	405	Wema System AS	Bergen, Norway
(R)	406	Vecima Networks Inc.	Saskatoon, SK Canada
(R)	407	Comtech Mobile Datacom	Germantown, MD USA
(R)	408	Corvus Energy Ltd.	Richmond, BC Canada
(R)	409	Transfluid S.r.l.	Gallarate, Italy
(R)	410	COBO S.p.A. Divisione 3B6	Castelletto sopra Ticino, Italy
(R)	411	Hy-Drive Technologies Ltd.	Mississauga, ON Canada
(R)	412	WebTech Wireless Inc.	Burnaby, BC Canada
(R)	413	Datapross Nijbroek bv	Nijbroek, Netherlands
(R)	414	Cattron Group International	Sharpsville, PA USA
(R)	415	Valid Manufacturing Ltd.	Salmon Arm, BC Canada
(R)	416	Kubota Corporation	Sakai, Japan
(R)	417	KZValve	Greenwood, NE USA
(R)	418	Intellistick Inc	Santa Ana, CA USA
(R)	419	Fusion Electronics Ltd	Auckland, New Zealand
(R)	420	Vermeer Corporation, ACS Group	Pella, IA USA
(R)	421	Vertex Standard Co, Ltd	Tokyo, Japan
(R)	422	True Heading AB	Danderyd, Sweden

Rev	Code	Manufacturer	Location
(R)	423	BSM Wireless, Inc.	Toronto, ON Canada
(R)	424	Odyne LLC	Waukesha, WI USA
(R)	425	Methode Electronics Inc, MDI	Chicago, IL USA
(R)	429	Rota Engineering Ltd.	Bury, Manchester, UK
(R)	430	Auteq Telematica S.A.	Sao Paulo, Brazil
(R)	431	Tohatsu Corporation	Tokyo, Japan
(R)	432	S&A Systems, Inc.	Rockwall, TX USA
(R)	433	Rowe Electronics	Norwalk, IA USA
(R)	434	Stored Energy Systems	Longmont, CO USA
(R)	435	Zunhammer GmbH	Traunreut, Germany
(R)	436	Kinze Manufacturing	Williamsburg, IA
(R)	437	Digital Yacht Limited	Bristol, UK
(R)	438	Comar Systems Ltd	Cowes, Isle of Wight, UK
(R)	439	Hyundai Heavy Industries	Ulsan, South Korea
(R)	440	Cummins Power Generation	Fridley, MN USA
	1850	Teleflex	Limerick, PA USA
	1851	RayMarine	Portsmouth, Hampshire, UK
	1852	Navionics	Wareham, MA USA
	1853	Japan Radio Co	Seattle, WA USA
	1854	Northstar Technologies	Acton, MA USA
	1855	Furuno USA	Camas, WA USA
	1856	Trimble	Sunnyvale, CA USA
	1857	Simrad	Egersund, Norway
	1858	Litton	Charlottesville, VA USA
	1859	Kvasar AB	Kinnahult, Sweden
	1860	MMP	Fircrest, WA USA
	1861	Vector Cantech	Novi, MI USA
	1862	Sanshin	Shizuoka, Japan
	1863	Thomas G. Faria Co.	Uncasville, CT USA

TABLE B11 - ALL INDUSTRY INCLUSIVE NAME FUNCTIONS

The NAME fields are described in Section 4.1.3 and in SAE J1939-81, Section 4.1. This table defines the Lower 128 Functions which are independent of the Vehicle System or Industry Group. These functions are used with all 8 Industry Groups, which is a distinction from Industry Group 0 which is an Industry Group itself but applicable to all industries.

Rev	Value	NAME Function	Description
	0	Engine	While the function identifies what is typically the mechanical power source of the machine, the reference tends to be to the management system that controls the torque vs speed vs command (typically throttle) of said power source.
	1	Auxiliary Power Unit (APU)	Power source for operating systems without the use of the prime 'drive' engine.
	2	Electric Propulsion Control	Control system which operates the drive mechanism when it is electrically powered, such as battery-motor, or engine-generator-motor hybrids
	3	Transmission	A mechanical system for alter the speed vs torque output of the engine to a level usable by another system on the machine. Although again the network reference is actually to the system which controls the operation of said transmission.
	4	Battery Pack Monitor	Monitors the condition - charge, temperature, power remaining, etc. for an internal battery pack - typically used with electric propulsion
	5	Shift Control/Console	The device which determines and transmit onto the network the gear, the range, the operating mode or any or all of these that the operator desires for the transmission. (Not to be confused with transmission control which is Transmission)
	6	Power TakeOff - (Main or Rear)	The system which controls the mechanical power derived from a prime engine and used to operate auxiliary items such as compressors in on highway vehicles and such as implements in ag applications. This being the main or rear unit.
	7	Axle - Steering	Adjust attack angle as function of steering
	8	Axle - Drive	
	9	Brakes - System Controller	Controls service braking system electronically – might be any of a number of schemes – may also control (at least partly) the endurance braking system in the sense of an integrated control (application phased in with the service braking system).
	10	Brakes - Steer Axle	Control for actuating the service brakes on a steered axle
	11	Brakes - Drive axle	Control for actuating the service brakes on a drive axle
	12	Retarder - Engine	The control for the retarder capabilities of the engine. There are several types of retarders possible and these are defined within the parameter - Retarder Type, (SPN 901).
	13	Retarder - Driveline	The control for the retarder capabilities of the driveline. There are several types of retarders possible and these are defined within the parameter - Retarder Type, (SPN 901).

Rev	Value	NAME Function	Description
	14	Cruise Control	Control system for maintaining the vehicle's speed at a fixed operator selectable value with various over-rides linked to other systems
	15	Fuel System	Controls fuel flow from the tank to the filter to the water-removal/sePARATOR to the engine and then back to the tank.
	16	Steering Controller	Controls steering in steer-by-wire
	17	Suspension - Steer Axle	Control system for the suspension of a steered axle
	18	Suspension - Drive Axle	Control system for the suspension of a driven axle
	19	Instrument Cluster	A gauge display for a vehicle. Typically mounted in the cab within the driver's field of view and generally a somewhat limited display such as: dedicated dials or a small digit 7 segment display. See Cab Display for larger more elaborate display.
	20	Trip Recorder	A system for accumulating data versus travel of the vehicle (machine), since a specific starting point sometimes expressed in terms of distance or time traveled.
	21	Cab Climate Control	A system for controlling the climate within the cab of the vehicle (machine). Note: The operator controls (message) for this system should be designed to allow any source to transmit them.
	22	Aerodynamic Control	Modify drag by altering Body panels – lower air ferrings when dead heading, extend side panels when on interstate
	23	Vehicle Navigation	System associated with the vehicles physical location – may be as simple as display of current location, driving instructions from current to desired location, (do we need a separate guidance?).
	24	Vehicle Security	System for comparing operator provided data sequences against reference to verify that operation or certain operations should be allowed for the particular operator. Also may include functions to prevent unauthorized operations. Examples: unlocking doors, starting engine, ...
	25	Network Interconnect ECU	ECU for connecting different network segments together – may be bridge or gateway - see J1939 –31 for details For any vehicle system (tractor or trailer)
	26	Body Controller	May handle suspension control for the body sections independent from the axle sections - Controls the body (not chassis or cab) components
	27	Power TakeOff (Secondary or Front)	The system which controls the mechanical power derived from a prime engine and used to operate auxiliary items such as compressors in on highway vehicles and such as implements in ag applications. This being the secondary or front unit.
	28	Off Vehicle Gateway	ECU for connecting between vehicle network(s) and an off-vehicle system or network, such as fleet management. Connection may be wireless. Performs Gateway functions, i.e., filters messages, translates between protocols...

Rev	Value	NAME Function	Description
	29	Virtual Terminal (in cab)	A general purpose 'intelligent' display with a specific message set (J1939-72 or ISO 11783 –6) specifically mounted in cab for the operators use, which may be connected to the drive train segment of the network or to the implement bus segment which exists in an ag application
	30	Management Computer	Manages vehicle systems, i.e. powertrain.
	31	Propulsion Battery Charger	A device used to charge propulsion batteries in an electric vehicle from an off-board source of electrical energy.
	32	Headway Controller	Forward-looking collision avoidance, collision warning, speed controller, or speed matching
	33	System Monitor	
	34	Hydraulic Pump Controller	Pump which provides hydraulic power to operate installed equipment, such as: Man buckets, cranes, augers, shredders Example vehicles: Digger Derrick – plants telephone poles, Bucket Truck - - thus this is the controller for said pump
	35	Suspension - System Controller	A controller responsible for co-ordinating the over-all suspension of a vehicle. It may cause inter action between the axle suspension controls and the body controller
	36	Pneumatic - System Controller	
	37	Cab Controller	A controller located in/near vehicle cab to perform functions that are grouped together for convenience and proximity. May handle any number of vehicle specific items but not other specifically NAMEd functions, such as: Instrument Cluster. A prime use would be to read cab mounted operator controls (not handled by any other specific device) and to then transmit the associated messages onto the network.
	38	Tire Pressure Control	The device providing centralised tire inflation
	39	Ignition Control Module	A device for altering the ignition of an engine and with which an engine controller may communicate.
	40	Seat Control	A system for controlling the seats (operator and passenger) within the cab of the vehicle (machine). May include position and suspension of seat. Note: The operator controls (message) for the seat system should be designed to allow any source to transmit them.
	41	Lighting - Operator Controls	The controller for sending the operator lighting controls messages when they are coming from a device dedicated to transmitting these specific messages on the network.
	42	Water Pump Control	Controller for a water pump mounted on the vehicle/machine. For Instance – Emergency equipment with pump for pumping water onto fire. A Utilities delivery truck for delivery fluids, such as water to remote areas.
	43	Transmission Display	Display designed specifically to display transmission information, such as the transmission gear.
	44	Exhaust Emission Control	
	45	Vehicle Dynamic Stability Control	
	46	Oil Sensor Unit	

Rev	Value	NAME Function	Description
	47	Information System Controller	Information management for the vehicle's application, such as transit passenger/fare monitoring, truck cargo management, etc. Handles grouping and processing data into information displays to be presented to driver. It also enforces the DI rules for interfacing with driver.
	48	Ramp Control	Loading unloading – chairlift, ramps, lifts, or tailgates
	49	Clutch/Converter Control	When transmission is distributed this handles torque converter lock-up or engine - transmission connection
	50	Auxiliary Heater	Primary heat is typically taken from the engine coolant. This is the heater for use without the prime 'drive' engine operating or when it is unable to supply sufficient heat. Can be fuel fired, electrical or other type of heating source and may use air, water, or other transfer media.
	51	Forward-Looking Collision Warning System	A system which detects and warns of impending collision with object in path of present forward travel - Not to be confused with #32, Headway Controller
	52	Chassis Controller	Controls the chassis (not body or cab) components - See web site for RLs definitions of Body, chassis, drivetrain to add – but still do not know what this is ???
	53	Alternator/Charging System	Vehicle's primary on-board charging controller - Alternator used to generate electrical power for vehicle electrical system and storage battery.
	54	Communications Unit, Cellular	Radio communications device designed specifically to communicate via the 'Cellular telephone system'. May be either receiver only, transmitter only or transceiver.
	55	Communications Unit, Satellite	Radio communications device designed specifically to communicate via some satellite system. May be either receiver only, transmitter only or transceiver.
	56	Communications Unit, Radio	Radio communications device designed specifically to communicate via a terrestrial point to point system. May be either receiver only, transmitter only or transceiver.
	57	Steering Column Unit	Device that gathers the operator inputs from switches/levers/etc located in and/or around the steering wheel/column and transmits the associated messages on the network., when a separate NAME is needed for this device (i.e. other devices might be sending the messages and this device not exist on the network).
	58	Fan Drive Control	Primary control system affecting the operation of the main cooling fan on the engine coolant. Other systems may send commands or requests to this device.
	59	Starter	A mechanical system for initiating rotation in an engine that is stopped. Although here the reference is more to the system that controls the starter than the starter itself.
	60	Cab Display	Cab Display is for a fairly elaborate in cab display, typically capable of greater than 30 'ascii' characters and differentiated from the Instrument Cluster and Virtual Terminal.
	61	File Server / Printer	A printing or file storage unit on the network - A permanent connection may exist and the unit is expected to be able to print (paper type output) or store data (as in magnetic or eeprom devices).

Rev	Value	NAME Function	Description
	62	On-Board Diagnostic Unit	A tool which may be permanently mounted on the vehicle and that may not support all of the J1939-73 messages (services).
	63	Engine Valve Controller	Control system used to manipulate the actuation of engine intake and/or exhaust valves in response to other factors
	64	Endurance Braking	Sum of all devices in a vehicle which enable the driver with virtually no friction brake wear / tear to reduce the speed or to maintain the speed on a long descent. May contain energy supplying device(s), control device(s), transmission(s), retarder(s) and energy dissipation device(s). The control may be independent of the service brake system or may be integrated with the service brake control such that both are applied simultaneously or in a phased fashion. An integrated system may also have a control to prevent linking of operation.
	65	Gas Flow Measurement	Provides measurement of gas flow rates and associated parameters.
	66	I/O Controller	Reporting and/or control device for external input and output channels
	67	Electrical System Controller	This may include Load Centers, Fuseboxes, & Power Distribution boards
	68	Aftertreatment system gas measurement	Sensor for measuring gas properties before and after an aftertreatment system. For example measurement of NOx or Oxygen level.
	69	Engine Emission Aftertreatment System	Engine Emission Aftertreatment System
	70	Auxiliary Regeneration Device	Auxiliary Regeneration Device used as part of an after treatment system
	71	Transfer Case Control	The device which controls the selection of the number of drive wheels (for example 2 or 4 wheel drive).
	72	Coolant Valve Controller	Device used to control the flow of coolant (water, oil, air, etc...) for any thermal management system.
	73	Rollover Detection Control	Device designed for detection of vehicle rollover.
	74	Lubrication System	The Lubrication System pumps quantities of lubricant to each machine/vehicle joint that need to be lubricated.
	75	Supplemental Fan	This is an auxillary fan used for additional cooling. It is in addition to the primary cooling fan.
(R)	76	Temperature Sensor	Device which measures temperature.
(R)	77	Fuel Properties Sensor	Device which measures fuel properties
(R)	78		thru 127 are reserved

TABLE B12 - INDUSTRY GROUP AND VEHICLE SYSTEM DEPENDENT NAME FUNCTIONS

The NAME fields are described in Section 4.1.3 and in SAE J1939-81, Section 4.1. This table defines the Upper 128 Functions which are dependent on the Industry Group and Vehicle System. Due to the dependencies of Vehicle System on Industry Group, and of Function on Vehicle System, the following table is used to define both Vehicle System and Function.

Rev	IG	Veh Sys	Vehicle System Description	NAME Function	Function Description	Notes
	0	0	Non-specific System	128	Reserved	
	0	0	Non-specific System	129	Off-board diagnostic-service tool	
	0	0	Non-specific System	130	On-board data logger	
	0	0	Non-specific System	131	PC Keyboard	A user interface similar to a PC keyboard.
	0	0	Non-specific System	132	Safety Restraint System	The safety restraint system can be for controlling activation of airbags, belt tensioners, roll over protection systems, etc.
	0	0	Non-specific System	133	Turbocharger	Turbocharger used on the engine.
	0	0	Non-specific System	134	Ground based speed sensor	Measures actual ground speed of a vehicle with a device such as radar or other such devices.
	0	0	Non-specific System	135	Keypad	An operator input device used to control machine functions or provide data.
	0	0	Non-specific System	136	Humidity sensor	Device which measures air humidity
	0	0	Non-specific System	137	Thermal Management System Controller	This device controls all devices that may be used in a thermal management system including Jacket Water Cooling, Charged Air Cooling, Transmission Cooling, Electronics Cooling, Aux Oil Cooling, etc.
	0	0	Non-specific System	138	Brake Stroke Alert	The device that evaluates air brake stroke for normal stroke, over stroke, dragging brake, or a non-functioning brake actuator and is permanently mounted on the vehicle.
	0	0	Non-specific System	139	On-board scale	The device that determines axle group weights and is permanently mounted on the vehicle.

Rev	IG	Veh Sys	Vehicle System Description	NAME Function	Function Description	Notes
	0	0	Non-specific System	140	On-board scale display	The device that displays axle group weights and may be permanently mounted on the vehicle. Additionally it provides for entry of calibration and other data related to the operation of an on-board scale.
	0	0	Non-specific System	141	Battery Charger	A device used to charge batteries in a vehicle from an off-board source of electrical energy.
	0	0	Non-specific System	142	Turbocharger Compressor Bypass	Device used to control the flow across the Compressor Bypass
	0	0	Non-specific System	143	Turbocharger Wastegate	Device used to control the position of the Wastegate to adjust the exhaust flow.
	0	0	Non-specific System	144	Throttle	Device used to control the air/fuel mixture into the cylinders for combustion.
	0	0	Non-specific System	145	Inertial Sensor	Detects a change in geographic position, a change in velocity, and/or a change in orientation. This may include but is not limited to an accelerometer, gyroscopes, and other motion sensing devices.
	0	0	Non-specific System	146	Fuel Actuator	Device used to Control the flow of fuel (or fuel rack) on a engine.
	0	0	Non-specific System	147	Engine Exhaust Gas Recirculation	Device that controls the engine exhaust gas recirculation system.
	0	0	Non-specific System	148	Engine Exhaust Backpressure	Device that controls the engine exhaust backpressure.
	0	0	Non-specific System	255	Not Available	This assignment can be used until an explicit function has been assigned.
	0	127	Not Available	255	Not Available	This assignment can be used until an explicit function has been assigned.
	1	0	Non-specific System	128	Tachograph	
	1	0	Non-specific System	129	Door Controller	
	1	0	Non-specific System	130	Articulation Turntable Control	Control of the articulation turntable for joined body buses.
	1	0	Non-specific System	131	Body-to-Vehicle Interface Control	Interface controller managing interaction of vehicle functions and body functions. May be combination of body signals and gateway functionalities.
	1	0	Non-specific System	132	Slope Sensor	Sensor for measuring a slope along an axis.

Rev	IG	Veh Sys	Vehicle System Description	NAME Function	Function Description	Notes
	1	0	Non-specific System	134	Retarder Display	Display module that shows information pertaining to the retarder (driveline or exhaust or engine).
	1	0	Non-specific System	135	Differential Lock Controller	
	1	0	Non-specific System	136	Low-Voltage Disconnect	The device that monitors the voltage of the starting battery bank and disconnects predetermined auxiliary loads to assure enough power is left in the batteries for starting the vehicle, and is permanently mounted on the vehicle.
	1	0	Non-specific System	255	Not Available	This assignment can be used until an explicit function has been assigned.
	1	1	Tractor	128	Forward Road Image Processing	Determine vehicle position from lane markings. Performance, Advisory & Warning only
	1	1	Tractor	129	Fifth Wheel Smart System	Any systems relative to the operation & status/safety monitoring of the fifth wheel coupler system (including mounting bracket).
	1	1	Tractor	130	Catalyst Fluid Sensor	The Catalyst Fluid Sensor can measure the catalyst fluid temperature, the catalyst fluid level and the catalyst fluid quality
	1	1	Tractor	131	Adaptive Front Lighting System	System used to adjust the vehicle front lighting for the current operating conditions (city, highway, country,etc.)
	1	1	Tractor	132	Idle Control System	The device automatically starts and stops the engine when the vehicle is stationary for the purpose of reducing excess idle time.
	1	1	Tractor	133	User Interface System	The User Interface System is a two way interface system. Uses of this may include, but are not limited to, setting climate conditions, setting system parameters, and/or logging operating conditions of the system.
	1	1	Tractor	255	Not Available	This assignment can be used until an explicit function has been assigned.
	1	2	Trailer	255	Not Available	This assignment can be used until an explicit function has been assigned.

Rev	IG	Veh Sys	Vehicle System Description	NAME Function	Function Description	Notes
	1	127	Not Available	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	0	Non-specific System	128	Non Virtual Terminal Display	Implement Bus
	2	0	Non-specific System	129	Operator Controls - Machine Specific	
	2	0	Non-specific System	130	Task Controller (Mapping Computer)	
	2	0	Non-specific System	131	Position Control	
	2	0	Non-specific System	132	Machine Control	
	2	0	Non-specific System	133	Foreign Object Detection	Detection of undesirable objects in the product flow
	2	0	Non-specific System	134	Tractor ECU	
	2	0	Non-specific System	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	1	Tractor	129	Auxiliary Valve Control	The unit knows the parsing and security for the tractor mounted auxiliary valves
	2	1	Tractor	130	Rear Hitch Control	The control of the rear hitch of an agricultural tractor
	2	1	Tractor	131	Front Hitch Control	The control of the front hitch of an agricultural tractor
	2	1	Tractor	132	Tractor Machine Control	
	2	1	Tractor	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	2	Tillage	132	Tillage Machine Control	
	2	2	Tillage	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	3	Secondary Tillage	132	Secondary Tillage Machine Control	
	2	3	Secondary Tillage	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	4	Planters/ Seeders	128	Seed Rate Control	
	2	4	Planters/ Seeders	129	Section On/ Off Control	
	2	4	Planters/ Seeders	132	Planters/ Seeders Machine Control	
	2	4	Planters/ Seeders	133	Product Flow	Controlling and or monitoring the flow of product.
	2	4	Planters/Seeders	134	Product Level	Controlling and or monitoring the product level.

Rev	IG	Veh Sys	Vehicle System Description	NAME Function	Function Description	Notes
	2	4	Planters/ Seeders	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	5	Fertilizers	128	Fertilize Rate Control	
	2	5	Fertilizers	129	Section On/ Off Control	
	2	5	Fertilizers	132	Fertilizers Machine Control	
	2	5	Fertilizers	133	Product Flow	Controlling and or monitoring the flow of product.
	2	5	Fertilizers	134	Product Level	Controlling and or monitoring the product level.
	2	5	Fertilizers	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	6	Sprayers	128	Spray Rate Control	
	2	6	Sprayers	129	Section On/ Off Control	
	2	6	Sprayers	130	Product Pressure	Control and or monitoring of product pressure.
	2	6	Sprayers	132	Sprayers Machine Control	
	2	6	Sprayers	133	Product Flow	Controlling and or monitoring the flow of product.
	2	6	Sprayers	134	Product Level	Controlling and or monitoring the product level.
	2	6	Sprayers	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	7	Harvesters	128	Tailing Monitor	
	2	7	Harvesters	129	Header Control	
	2	7	Harvesters	130	Product Loss Monitor	
	2	7	Harvesters	131	Product Moisture Sensor	
	2	7	Harvesters	132	Harvester Machine Control	
	2	7	Harvesters	133	Product Flow	Controlling and or monitoring the flow of product.
	2	7	Harvesters	134	Product Level	Controlling and or monitoring the product level.
	2	7	Harvesters	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	8	Root Harvesters	132	Root Harvesters Machine Control	
	2	8	Root Harvesters	133	Product Flow	Controlling and or monitoring the flow of product.
	2	8	Root Harvesters	134	Product Level	Controlling and or monitoring the product level.

Rev	IG	Veh Sys	Vehicle System Description	NAME Function	Function Description	Notes
	2	8	Root Harvesters	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	9	Forage	128	Twine Wrapper Control	Controls such items on a baler such as the twine wrap controls and actuators
	2	9	Forage	132	Forage Machine Control	
	2	9	Forage	133	Product Flow	Controlling and or monitoring the flow of product.
	2	9	Forage	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	10	Irrigation	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	11	Transport/Trailer	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	12	Farm Yard Operations	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	13	Powered Auxiliary Devices	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	14	Special Crops	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	15	Earth Work	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	16	Skidder	255	Not Available	This assignment can be used until an explicit function has been assigned.
	2	127	Not Available	255	Not Available	This assignment can be used until an explicit function has been assigned.
	3	0	Non-specific system	128	Supplemental Engine Control Sensing	
	3	0	Non-specific system	129	Laser Receiver	
	3	0	Non-specific system	130	Land Leveling System Operator Interface	A component that allows the user to control the Land Leveling System and display information about the operation of the system.
	3	0	Non-specific system	131	Land Leveling Electric Mast	
	3	0	Non-specific system	132	Single Land Leveling System Supervisor	
	3	0	Non-specific system	133	Land Leveling System Display	

Rev	IG	Veh Sys	Vehicle System Description	NAME Function	Function Description	Notes
	3	0	Non-specific system	134	Laser Tracer	
	3	0	Non-specific system	135	Loader Control	
	3	0	Non-specific system	136	Slope Sensor	Measures the slope along a axis.
	3	0	Non-specific system	137	Liftarm Control	Controller whose primary purpose is to control the lift arms and tilt functions on a construction loader, skid steer loader, or similar machine. Not a loader attachment.
	3	0	Non-specific system	138	Supplemental Sensor Processing Units	An ECU functioning as an I/O module connected to the bus with the designed purpose of data collection (input or output) and not necessarily containing any control algorithms or processing intelligence.
	3	0	Non-specific system	139	Hydraulic System Planner	Coordinates the functions of a number of valve controllers.
	3	0	Non-specific system	140	Hydraulic Valve Controller	The valve controller will typically control the flow of oil to a specific cylinder.
	3	0	Non-specific system	141	Joystick Control	Joystick Control
	3	0	Non-specific system	142	Rotation Sensor	A device that measures the rotational angle around an axis.
	3	0	Non-specific system	143	Sonic Sensor	A device that measures distance via ultrasonic pulse/echo range techniques.
	3	0	Non-specific System	144	Survey Total Station Target	A survey total station target shall be located on a construction machine and shall be connected to the CAN network. It is targeted by the total station device.
	3	0	Non-specific System	145	Heading Sensor	A device that measures vehicle azimuth.
	3	0	Non-specific system	255	Not Available	This assignment can be used until an explicit function has been assigned.
	3	1	Skid Steer Loader	128	Main Controller	
	3	1	Skid Steer Loader	255	Not Available	This assignment can be used until an explicit function has been assigned.
	3	2	Articulated Dump Truck	255	Not Available	This assignment can be used until an explicit function has been assigned.
	3	3	Backhoe	255	Not Available	This assignment can be used until an explicit function has been assigned.
	3	4	Crawler	128	Blade Controller	Controller for blade height.

Rev	IG	Veh Sys	Vehicle System Description	NAME Function	Function Description	Notes
	3	4	Crawler	255	Not Available	This assignment can be used until an explicit function has been assigned.
	3	5	Excavator	128	Slope Sensor	Measures the slope along a axis.
	3	5	Excavator	255	Not Available	This assignment can be used until an explicit function has been assigned.
	3	6	Forklift	255	Not Available	This assignment can be used until an explicit function has been assigned.
	3	7	Four Wheel Drive Loader	255	Not Available	This assignment can be used until an explicit function has been assigned.
	3	8	Grader	128	HFWD Controller	Hydraulic front wheel drive controller
	3	8	Grader	255	Not Available	This assignment can be used until an explicit function has been assigned.
	3	127	Not Available	255	Not Available	This assignment can be used until an explicit function has been assigned.
	4	0	Non-specific System	128	Alarm System Control for Marine Engines	The ECU that controls the Alarm functions on an engine of a Marine System.
	4	0	Non-specific System	129	Protection System for Marine Engines	The first ECU that controls the Protection functions on the first engine of a Marine System.
	4	0	Non-specific System	130	Display for Protection System for Marine Engines	The ECU that provides the display of information and/or indicators associated specifically with the protection system on an engine of a Marine System.
	4	0	Non-specific System	255	Not Available	This assignment can be used until an explicit function has been assigned.
	4	10	System tools	255	Not Available	
	4	20	Safety systems	255	Not Available	
	4	25	Gateway	10		
	4	30	Power management and lighting systems	130	Switch	
	4	30	Power management and lighting systems	140	Load	
	4	40	Steering systems	130	Follow-up Controller	
	4	40	Steering systems	140	Mode Controller	
	4	40	Steering systems	150	Automatic Steering Controller	
	4	40	Steering systems	160	Heading Sensors	
	4	50	Propulsion systems	130	Engineroom monitoring	

Rev	IG	Veh Sys	Vehicle System Description	NAME Function	Function Description	Notes
	4	50	Propulsion systems	140	Engine Interface	
	4	50	Propulsion systems	150	Engine Controller	
	4	50	Propulsion systems	160	Engine Gateway	
	4	50	Propulsion systems	170	Control Head	
	4	50	Propulsion systems	180	Actuator	
	4	50	Propulsion systems	190	Gauge Interface	
	4	50	Propulsion systems	200	Gauge Large	
	4	50	Propulsion systems	210	Gauge Small	
	4	60	Navigation systems	130	Sounder, depth	
	4	60	Navigation systems	140		
	4	60	Navigation systems	145	Global Navigation Satellite System (GNSS)	
	4	60	Navigation systems	150	Loran C	
	4	60	Navigation systems	155	Speed Sensors	
	4	60	Navigation systems	160	Turn Rate Indicator	
	4	60	Navigation systems	170	Integrated Navigation	
	4	60	Navigation systems	200	Radar and/or Radar Plotting	
	4	60	Navigation systems	205	Electronic Chart Display & Information System (ECDIS)	
	4	60	Navigation systems	210	Electronic Chart System (ECS)	
	4	60	Navigation systems	220	Direction Finder	
	4	70	Communications systems	130	Emergency Position Indicating Beacon (EPIRB)	
	4	70	Communications systems	140	Automatic Identification System	
	4	70	Communications systems	150	Digital Selective Calling (DSC)	
	4	70	Communications systems	160	Data Receiver	
	4	70	Communications systems	170	Satellite	
	4	70	Communications systems	180	Radio-Telephone (MF/HF)	
	4	70	Communications systems	190	Radio-Telephone (VHF)	
	4	80	Instrumentation/general systems	130	Time/Date systems	
	4	80	Instrumentation/general systems	140	Voyage Data Recorder	
	4	80	Instrumentation/general systems	150	Integrated Instrumentation	
	4	80	Instrumentation/general systems	160	General Purpose Displays	

Rev	IG	Veh Sys	Vehicle System Description	NAME Function	Function Description	Notes
	4	80	Instrumentation/general systems	170	General Sensor Box	
	4	80	Instrumentation/general systems	180	Weather Instruments	
	4	80	Instrumentation/general systems	190	Transducer/general	
	4	80	Instrumentation/general systems	200	NMEA 0183 Converter	
	4	90	Environmental (HVAC) systems	255	Not Available	
	4	100	Deck, cargo, and fishing equipment systems	255	Not Available	
	4	127	Not Available	255	Not Available	This assignment can be used until an explicit function has been assigned.
	5	0	Industrial-Process Control-Stationary (Gen-Sets)	128	Supplemental Engine Control Sensing	
	5	0	Industrial-Process Control-Stationary (Gen-Sets)	129	Generator Set Controller	Generator set controller used to collect data and control.
	5	0	Industrial-Process Control-Stationary (Gen-Sets)	130	Generator Voltage Regulator	
	5	0	Industrial-Process Control-Stationary (Gen-Sets)	131	Choke Actuator	Device used to Control the flow of air on a Gas Engine.
	5	0	Industrial-Process Control-Stationary (Gen-Sets)	255	Not Available	This assignment can be used until an explicit function has been assigned.
	5	127	Not Available	255	Not Available	This assignment can be used until an explicit function has been assigned.

## APPENDIX C- FAULT REPORTING PARAMETERS

TABLE C1 - SUSPECT PARAMETER NUMBERS (SPN)

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	16	Engine Fuel Filter (Suction Side) Differential Pressure (see also SPN 1382)	J1939-71			8	Differential pressure measured across the fuel filter located between the fuel tank and the supply pump.	16		
	18	Engine Extended Range Fuel Pressure	J1939					18		
	19	Engine Extended Range Engine Oil Pressure	J1939					19		
(R)	20	Engine Extended Range Coolant Pressure	J1939-71	65172	4	8	Gage pressure of liquid found in engine cooling system.	20		
	21	Engine ECU Temperature (use SPN 1136)	J1939-71			16	Temperature of the engine electronic control unit.	21		
	22	Engine Extended Crankcase Blow-by Pressure	J1939-71	65263	2	8	Differential crankcase blow-by pressure as measured through a tube with a venturi.	22		
	23	Generator Oil Pressure	J1939					23		
	24	Generator Coolant Temperature	J1939					24		
	27	Engine Exhaust Gas Recirculation 1 Valve Position	J1939-71	64916	1-2	16	The position of the exhaust gas recirculation valve expressed as a percentage of full travel.	27		
	28	Accelerator Pedal Position 3	J1939			8	The ratio of actual position of the third analog engine speed/torque request input device (such as an accelerator pedal or throttle lever) to the maximum position of the input device.	28		
	29	Accelerator Pedal Position 2	J1939-71	61443	5	8	The ratio of actual position of the second analog engine speed/torque request input device (such as an accelerator pedal or throttle lever) to the maximum position of the input device.	29		
	30	Engine Crankcase Blowby Pressure	J1939					30		

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
31	Transmission Range Position	J1939						31		
32	Transmission Splitter Position	J1939					The current position of the splitter cylinder.	32		
33	Clutch Cylinder Position	J1939						33		
36	Clutch Plates	J1939						36		
37	Transmission Air Tank Pressure	J1939					The pressure of the air in the tank supplying the automatically shifting transmission.	37		
38	Fuel Level 2	J1939-71	65276	7		8	Ratio of volume of fuel to the total volume of fuel in the second or right-side storage container.	38		
39	Tire Pressure Check Interval	J1939-71	65144	1		8	The interval at which the system will check the tire pressures (e.g., 5, 10, 15 min.).	39		
46	Pneumatic Supply Pressure	J1939-71	65198	1		8	The pneumatic pressure in the main reservoir, sometimes referred to as the wet tank.	46		
48	Extended Range Barometric Pressure	J1939						48		
51	Engine Throttle Valve 1 Position	J1939-71	65266	7		8	The position of the valve used to regulate the supply of a fluid, usually air or fuel/air mixture, to an engine.	51		
52	Engine Intercooler Temperature	J1939-71	65262	7		8	Temperature of liquid found in the intercooler located after the turbocharger.	52		
53	Transmission Synchronizer Clutch Value	J1939-71	65221	1		8	The current modulated value for the air supply to the synchronizer clutch.	53		
54	Transmission Synchronizer Brake Value	J1939-71	65221	2		8	The current modulated value for the air supply to the synchronizer brake.	54		
59	Transmission Shift Finger Gear Position	J1939-71	65223	1		8	The current position of the shift finger in the gear direction.	59		
60	Transmission Shift Finger Rail Position	J1939-71	65223	2		8	The current position of the shift finger in the rail direction.	60		
64	Transmission #2 Oil Temperature	J1939					Temperature of transmission #2 lubricant.	64		
69	Two Speed Axle Switch	J1939-71	65265	1.1		2	Switch signal which indicates the current axle range.	69		

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	70	Parking Brake Switch	J1939-71	65265	1.3	2	Switch signal which indicates when the parking brake is set. In general the switch actuated by the operator's park brake control, whether a pedal, lever or other control mechanism.	70		
	72	Engine Blower Bypass Valve Position	J1939-71	65277	1	8	Relative position of the blower bypass valve.	72		
	73	Auxiliary Pump Pressure	J1939-71	65278	1	8	Gage pressure of auxiliary water pump driven as a PTO device.	73		
	74	Maximum Vehicle Speed Limit	J1939-71	65261	1	8	Maximum vehicle velocity allowed.	74		
	75	Steering Axle Temperature	J1939-71	65273	1	8	Temperature of lubricant in steering axle.	75		
	76	Axle Lift Air Pressure	J1939					76		
	77	Forward Rear Drive Axle Temperature	J1939					77		
	78	Rear Rear Drive Axle Temperature	J1939					78		
	79	Road Surface Temperature	J1939-71	65269	7-8	16	Indicated temperature of road surface over which vehicle is operating.	79		
	80	Washer Fluid Level	J1939-71	65276	1	8	Ratio of volume of liquid to total container volume of fluid reservoir in windshield wash system.	80		
	81	Engine Diesel Particulate Filter Intake Pressure	J1939-71	65270	1	8	Exhaust back pressure as a result of particle accumulation on filter media placed in the exhaust stream.	81		
	82	Engine Air Start Pressure	J1939-71	65246	1	8	Gage pressure of air in an engine starting system that utilizes compressed air to provide the force required to rotate the crankshaft.	82		
	84	Wheel-Based Vehicle Speed	J1939-71	65265	2-3	16	Speed of the vehicle as calculated from wheel or tailshaft speed.	84		
	86	Cruise Control Set Speed	J1939-71	65265	6	8	Value of set (chosen) velocity of velocity control system.	86		
	87	Cruise Control High Set Limit Speed	J1939-71	65261	2	8	Maximum vehicle velocity at which cruise can be set.	87		

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	88	Cruise Control Low Set Limit Speed	J1939-71	65261	3	8	Minimum vehicle velocity at which cruise can be set or minimum vehicle velocity for cruise operation before it will exit cruise control operation.	88		
	90	Power Takeoff Oil Temperature	J1939-71	65264	1	8	Temperature of lubricant in device used to transmit engine power to auxiliary equipment.	90		
	91	Accelerator Pedal Position 1	J1939-71	61443	2	8	The ratio of actual position of the analog engine speed/torque request input device (such as an accelerator pedal or throttle lever) to the maximum position of the input device.	91		
	92	Engine Percent Load At Current Speed	J1939-71	61443	3	8	The ratio of actual engine percent torque (indicated) to maximum indicated torque available at the current engine speed, clipped to zero torque during engine braking.	92		
	93	Engine Net Brake Torque	J1939					93		
	94	Engine Fuel Delivery Pressure	J1939-71	65263	1	8	Gage pressure of fuel in system as delivered from supply pump to the injection pump.	94		
	95	Engine Fuel Filter Differential Pressure	J1939-71	65276	3	8	Change in fuel delivery pressure, measured across the filter, due to accumulation of solid or semisolid matter on the filter element.	95		
	96	Fuel Level 1	J1939-71	65276	2	8	Ratio of volume of fuel to the total volume of fuel storage container.	96		
	97	Water In Fuel Indicator	J1939-71	65279	1.1	2	Signal which indicates the presence of water in the fuel.	97		
	98	Engine Oil Level	J1939-71	65263	3	8	Ratio of current volume of engine sump oil to maximum required volume	98		
	99	Engine Oil Filter Differential Pressure	J1939-71	65276	4	8	Change in engine oil pressure, measured across the filter, due to the filter and any accumulation of solid or semisolid material on or in the filter.	99		
	100	Engine Oil Pressure	J1939-71	65263	4	8	Gage pressure of oil in engine lubrication system as provided by oil pump.	100		

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	101	Engine Crankcase Pressure	J1939-71	65263	5-6	16	Gage pressure inside engine crankcase.	101		
	102	Engine Intake Manifold #1 Pressure	J1939-71	65270	2	8	The gage pressure measurement of the air intake manifold.	102		
	103	Engine Turbocharger 1 Speed	J1939-71	65245	2-3	16	Rotational velocity of rotor in the turbocharger.	103		
	104	Engine Turbocharger Lube Oil Pressure 1	J1939-71	65245	1	8	Gage pressure of oil in turbocharger lubrication system.	104		
	105	Engine Intake Manifold 1 Temperature	J1939-71	65270	3	8	Temperature of pre-combustion air found in intake manifold number 1 of engine air supply system.	105		
	106	Engine Air Intake Pressure	J1939-71	65270	4	8	Absolute air pressure at input port to intake manifold or air box.	106		
	107	Engine Air Filter 1 Differential Pressure	J1939-71	65270	5	8	Change in engine air system pressure, measured across the filter, due to the filter and any accumulation of solid foreign matter on or in the filter.	107		
	108	Barometric Pressure	J1939-71	65269	1	8	Absolute air pressure of the atmosphere.	108		
(R)	109	Engine Coolant Pressure	J1939-71	65263	7	8	Gage pressure of liquid found in engine cooling system.	109		
	110	Engine Coolant Temperature	J1939-71	65262	1	8	Temperature of liquid found in engine cooling system.	110		
	111	Engine Coolant Level	J1939-71	65263	8	8	Ratio of volume of liquid found in engine cooling system to total cooling system volume	111		
	112	Engine Coolant Filter Differential Pressure	J1939-71	65270	8	8	Change in coolant pressure, measured across the filter, due to the filter and any accumulation of solid or semisolid matter on or in the filter.	112		
	113	Engine Governor Droop	J1939					113		
	114	Net Battery Current	J1939-71	65271	1	8	Net flow of electrical current into/out of the battery or batteries.	114		
	115	Alternator Current	J1939-71	65271	2	8	Measured output current from Alternator	115		

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	116	Brake Application Pressure	J1939-71	65274	1	8	Gage Pressure of compressed air or fluid in vehicle braking system.	116		
	117	Brake Primary Pressure	J1939-71	65274	2	8	Gage pressure of air in the primary, or supply side, of the air brake system	117		
	118	Brake Secondary Pressure	J1939-71	65274	3	8	Gage pressure of air in the secondary, or service side, of the air brake system.	118		
	119	Hydraulic Retarder Pressure	J1939-71	65275	1	8	Gage pressure of oil in hydraulic retarder system.	119		
	120	Hydraulic Retarder Oil Temperature	J1939-71	65275	2	8	Temperature of oil found in a hydraulic retarder.	120		
	122	Engine Retarder Percent	J1939					122		
	123	Clutch Pressure	J1939-71	65272	1	8	Gage pressure of oil within a wet clutch.	123		
(R)	124	Transmission Oil Level 1	J1939-71	65272	2	8	First instance of a transmission oil level indicator. Conveys the ratio of volume of transmission sump oil to recommended volume.	124		
	126	Transmission Filter Differential Pressure	J1939-71	65272	3	8	Change in transmission fluid pressure, measured after the filter, due to accumulation of solid or semisolid material on or in the filter.	126		
	127	Transmission Oil Pressure	J1939-71	65272	4	8	Gage pressure of lubrication fluid in transmission, measured after pump.	127		
	129	Engine Injector Metering Rail 2 Pressure (duplicate, use SPN 1349)	J1939-71			16	The gage pressure of fuel in the metering rail #2 as delivered from the supply pump to the injector metering intake.	129		
	130	Engine Power Specific Fuel Economy	J1939					130		
	131	Engine Exhaust Back Pressure	J1939					131		
	132	Engine Intake Air Mass Flow Rate	J1939-71	61450	3-4	16	Mass flow rate of fresh air entering the engine air intake, before any EGR mixer, if used.	132		
	133	Engine Average Fuel Rate	J1939					133		
	135	Engine Fuel Delivery Pressure (Absolute)	J1939					135		

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	136	Auxiliary Vacuum Pressure Reading	J1939-71	65143	1-2	16	Identifies the current vacuum pressure (relative to atmosphere) that is configured uniquely per application. Not to be used in place of defined parameters.	136		
	137	Auxiliary Gage Pressure Reading 1	J1939-71	65143	3-4	16	Identifies the current gage pressure (relative to atmosphere) that is configured uniquely per application.	137		
	138	Auxiliary Absolute Pressure Reading	J1939-71	65143	5-6	16	Identifies the current absolute pressure (relative to 0 pressure) that is configured uniquely per application.	138		
	141	Trailer, Tag Or Push Channel Tire Pressure Target	J1939-71	65145	1-2	16	The tire pressure control system's target gage pressure for the trailer, tag, or push group of tires.	141		
	142	Drive Channel Tire Pressure Target	J1939-71	65145	3-4	16	The tire pressure control system's target gage pressure for the drive group of tires.	142		
	143	Steer Channel Tire Pressure Target	J1939-71	65145	5-6	16	The tire pressure control system's target gage pressure for the steer group of tires.	143		
	144	Trailer, Tag Or Push Channel Tire Pressure	J1939-71	65146	1-2	16	The latest gage pressure reading of the trailer, tag, or push group of tires, as opposed to the pressure in each tire.	144		
	145	Drive Channel Tire Pressure	J1939-71	65146	3-4	16	The latest gage pressure reading of the drive group of tires, as opposed to the pressure in each tire.	145		
	146	Steer Channel Tire Pressure	J1939-71	65146	5-6	16	The latest gage pressure reading of the steer group of tires, as opposed to the pressure in each tire.	146		
	147	Engine Average Fuel Economy (Gaseous)	J1939					147		
	148	Engine Instantaneous Fuel Economy (Gaseous)	J1939					148		
	149	Engine Mass Flow Rate (Gaseous)	J1939					149		
	152	Number Of ECU Resets	J1939					152		

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	153	Engine High Resolution Crankcase Pressure	J1939					153		
	156	Engine Injector Timing Rail 1 Pressure	J1939-71	65243	5-6	16	The gage pressure of fuel in the timing rail delivered from the supply pump to the injector timing intake.	156		
	157	Engine Injector Metering Rail 1 Pressure	J1939-71	65243	3-4	16	The gage pressure of fuel in the primary, or first, metering rail as delivered from the supply pump to the injector metering intake.	157		
	158	Keyswitch Battery Potential	J1939-71	65271	7-8	16	Battery potential measured at the input of the electronic control unit supplied through a keyswitch or similar switching device.	158		
	159	Engine Gas Supply Pressure	J1939-71	65277	2-3	16	Gage pressure of gas supply to fuel metering device.	159		
	160	Main Shaft Speed	J1939-71			16	Rotational velocity of the first intermediate shaft of the transmission.	160		
	161	Transmission Input Shaft Speed	J1939-71	61442	6-7	16	Rotational velocity of the primary shaft transferring power into the transmission. When a torque converter is present, it is the output of the torque converter.	161		
	162	Transmission Requested Range	J1939-71	61445	5-6	16	Range selected by the operator.	162		
	163	Transmission Current Range	J1939-71	61445	7-8	16	Range currently being commanded by the transmission control system.	163		
	164	Engine Injection Control Pressure	J1939-71	65243	1-2	16	The gage pressure of the engine oil in the hydraulic accumulator that powers an intensifier used for fuel injection.	164		
	165	Compass Bearing	J1939-71	65256	1-2	16	Present compass bearing of vehicle.	165		
	166	Engine Rated Power	J1939-71	65214	1-2	16	Net brake power that the engine will deliver continuously, specified for a given application at a rated speed.	166		

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	167	Charging System Potential (Voltage)	J1939-71	65271	3-4	16	Electrical potential measured at the charging system output. The charging system may be any device charging the batteries. This includes alternators, generators, solid state charger and other charging devices.	167		
	168	Battery Potential / Power Input 1	J1939-71	65271	5-6	16	This parameter measures the first source of battery potential as measured at the input of the ECM/actuator etc. coming from one or more batteries, irrespective of the distance between the component and the battery.	168		
	169	Cargo Ambient Temperature	J1939-71	65276	5-6	16	Temperature of air inside vehicle container used to accommodate cargo.	169		
	170	Cab Interior Temperature	J1939-71	65269	2-3	16	Temperature of air inside the part of the vehicle that encloses the driver and vehicle operating controls.	170		
	171	Ambient Air Temperature	J1939-71	65269	4-5	16	Temperature of air surrounding vehicle.	171		
	172	Engine Air Intake Temperature	J1939-71	65269	6	8	Temperature of air entering vehicle air induction system.	172		
	173	Engine Exhaust Gas Temperature	J1939-71	65270	6-7	16	Temperature of combustion byproducts leaving the engine.	173		
	174	Engine Fuel Temperature 1	J1939-71	65262	2	8	Temperature of fuel (or gas) passing through the first fuel control system.	174		
	175	Engine Oil Temperature 1	J1939-71	65262	3-4	16	Temperature of the engine lubricant.	175		
	176	Engine Turbocharger Oil Temperature	J1939-71	65262	5-6	16	Temperature of the turbocharger lubricant.	176		
(R)	177	Transmission Oil Temperature 1	J1939-71	65272	5-6	16	First instance of transmission lubricant temperature.	177		
	178	Front Axle Weight	J1939					178		
	179	Rear Axle Weight	J1939					179		
	180	Trailer Weight	J1939-71	65258	4-5	16	Total mass of freight-carrying vehicle designed to be pulled by truck, including the weight of the contents.	180		
	181	Cargo Weight	J1939-71	65258	6-7	16	The mass of freight carried.	181		

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	182	Engine Trip Fuel	J1939-71	65257	1-4	32	Fuel consumed during all or part of a journey.	182		
	183	Engine Fuel Rate	J1939-71	65266	1-2	16	Amount of fuel consumed by engine per unit of time.	183		
(R)	184	Engine Instantaneous Fuel Economy	J1939-71	65266	3-4	16	Current fuel economy at current vehicle velocity	184		
	185	Engine Average Fuel Economy	J1939-71	65266	5-6	16	Average of instantaneous fuel economy for that segment of vehicle operation of interest.	185		
	186	Power Takeoff Speed	J1939-71	65264	2-3	16	Rotational velocity of device used to transmit engine power to auxiliary equipment.	186		
	187	Power Takeoff Set Speed	J1939-71	65264	4-5	16	Rotational velocity selected by operator for device used to transmit engine power to auxiliary equipment.	187		
	188	Engine Speed At Idle, Point 1 (Engine Configuration)	J1939-71	65251	01-02	16	Stationary low idle speed of engine which includes influences due to engine temperature (after power up) and other stationary changes (calibration offsets, sensor failures, etc).	188		
	189	Engine Rated Speed	J1939-71	65214	3-4	16	The maximum governed rotational velocity of the engine crankshaft under full load conditions.	189		
	190	Engine Speed	J1939-71	61444	4-5	16	Actual engine speed which is calculated over a minimum crankshaft angle of 720 degrees divided by the number of cylinders.	190		
	191	Transmission Output Shaft Speed	J1939-71	61442	2-3	16	Calculated speed of the transmission output shaft.	191		
	228	Speed Sensor Calibration	J1939					228		
	229	Total Fuel Used (Gaseous) (duplicate, use SPN 1040)	J1939					229		
	230	Total Idle Fuel Used (Gaseous) (duplicate, use SPN 1010)	J1939					230		
	231	Trip Fuel (Gaseous) (duplicate, use SPN 1039)	J1939					231		

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	232	DGPS Differential Correction	J1939					232		
	233	Unit Number (Power Unit)	J1939-71	65259	d	1600	Owner assigned unit number for the power unit of the vehicle	233		
	234	Software Identification	J1939-71	65242	2-N	1600	Software identification of an electronic module. As an example, this parameter may be represented with ASCII characters MMDDYYaa where MM is the month, DD is the day, YY is the year, and aa is the revision number.	234		
	235	Engine Total Idle Hours	J1939-71	65244	5-8	32	Accumulated time of operation of the engine while under idle conditions.	235		
	236	Engine Total Idle Fuel Used	J1939-71	65244	1-4	32	Accumulated amount of fuel used during vehicle operation while under idle conditions.	236		
	237	Vehicle Identification Number	J1939-71	65260	1	1600	Vehicle Identification Number (VIN) as assigned by the vehicle manufacturer.	237		
	238	Velocity Vector	J1939					238		
	241	Tire Pressure	J1939-71	65268	2	8	Pressure at which air is contained in cavity formed by tire and rim.	241		
	242	Tire Temperature	J1939-71	65268	3-4	16	Temperature at the surface of the tire sidewall.	242		
	244	Trip Distance	J1939-71	65248	1-4	32	Distance traveled during all or part of a journey.	244		
	245	Total Vehicle Distance	J1939-71	65248	5-8	32	Accumulated distance traveled by vehicle during its operation.	245		
	246	Total Vehicle Hours	J1939-71	65255	1-4	32	Accumulated time of operation of vehicle.	246		
	247	Engine Total Hours of Operation	J1939-71	65253	1-4	32	Accumulated time of operation of engine.	247		
	248	Total Power Takeoff Hours	J1939-71	65255	5-8	32	Accumulated time of operation of power takeoff device.	248		
	249	Engine Total Revolutions	J1939-71	65253	5-8	32	Accumulated number of revolutions of engine crankshaft during its operation.	249		
	250	Engine Total Fuel Used	J1939-71	65257	5-8	32	Accumulated amount of fuel used during vehicle operation.	250		

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	251	Time	J1939					251		
	252	Date	J1939					252		
	257	Cold Restart Of Specific Component	J1939					257		
	258	Warm Restart Of Specific Component	J1939					258		
	259	Acknowledgement Of Warm Or Cold Restart	J1939					259		
	354	Relative Humidity	J1939-71	65164	7	8	Measures humidity of combustion air prior to entry into turbocharger	354		
	355	Engine Oil Life	J1939				Measures the condition of the engine lubricating oil	355		
	378	Fare Collection Unit Status	J1939					378		
	380	Articulation Angle	J1939					380		
	383	Vehicle Acceleration	J1939					383		
	407	Axle Group Full Weight Calibration	J1939-71	64873	4-5	16	The full weight calibration measurement of an axle group			
	408	Axle Group Empty Weight Calibration	J1939-71	64873	2-3	16	The empty weight calibration measurement of an axle group	408		
	409	Axle Group Weight	J1939-71	64874	2-3	16	Total mass imposed on the road surface by all the tires in the axle group	409		
	411	Engine Exhaust Gas Recirculation 1 Differential Pressure	J1939-71	65188	5-6	16	Differential pressure across the Exhaust Gas Recirculation (EGR) system	411		
	412	Engine Exhaust Gas Recirculation 1 Temperature	J1939-71	65188	7-8	16	Temperature of Recirculated Exhaust Gas	412		
	413	Net Vehicle Weight Change	J1939-71	64872	4-6	24	Identifies the net vehicle weight change from the time of last vehicle net weight zeroing.	413		
	417	Gross Combination Weight	J1939-71	64872	1-3	24	Total weight of the truck and all the trailers with on-board scales.	417		
	430	Engine Starter Solenoid Voltage	J1939				This is the voltage at the battery terminal of the starter solenoid.	430		

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	441	Auxiliary Temperature 1	J1939-71	65164	1	8	Temperature measured by auxiliary temperature sensor #1.	441		
	442	Auxiliary Temperature 2	J1939-71	65164	2	8	Temperature measured by auxiliary temperature sensor #2.	442		
	443	Auxiliary Gage Pressure Reading 2	J1939					443		
	444	Battery Potential / Power Input 2	J1939-71	65165	1-2	16	This parameter measures the second source of battery potential as measured at the input of the ECM/actuator etc. coming from one or more batteries, irrespective of the distance between the component and the battery.	444		
	445	Engine Cylinder Head Temperature Bank B (right bank)	J1939					445		
	446	Engine Cylinder Head Temperature Bank A (left bank)	J1939					446		
	447	Passenger Counter	J1939					447		
	501	Signage Message	J1939					501		
	502	Fare Collection Unit - Point Of Sale	J1939					502		
	503	Fare Collection Unit - Service Detail	J1939					503		
	504	Annunciator Voice Message	J1939					504		
	505	Vehicle Control Head Keyboard Message	J1939					505		
	506	Vehicle Control Head Display Message	J1939					506		
	507	Driver Identification	J1939					507		
	508	Transit Route Identification	J1939					508		
	509	Milepost Identification	J1939-71	64959	2 to n	800	Used to identify the milepost as detected by a milepost sensor	509		
	512	Driver's Demand Engine - Percent Torque	J1939-71	61444	2	8	The requested torque output of the engine by the driver.			
	513	Actual Engine - Percent Torque	J1939-71	61444	3	8	The calculated output torque of the engine.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	514	Nominal Friction - Percent Torque	J1939-71	65247	1	8	The calculated torque that indicates the amount of torque required by the basic engine itself added by the loss torque of accessories.			
	515	Engine's Desired Operating Speed	J1939-71	65247	2-3	16	An indication by the engine of the optimal operating speed of the engine for the current existing conditions.			
	516	Ground-Based Vehicle Speed	J1939				Actual ground speed of the vehicle, measured by a device such as RADAR. (1 km/h = 0.621 mph)			
	517	Navigation-Based Vehicle Speed	J1939-71	65256	3-4	16	Speed of the vehicle as calculated from a device such as a Global Positioning System (GPS).			
	518	Engine Requested Torque/Torque Limit	J1939-71	0	4	8	Parameter provided to the engine or retarder in the torque/speed control message for controlling or limiting the output torque.			
	519	Engine's Desired Operating Speed Asymmetry Adjustment	J1939-71	65247	4	8	This byte is utilized in transmission gear selection routines and indicates the engine's preference of lower versus higher engine speeds should its desired speed not be achievable.			
(R)	520	Actual Retarder - Percent Torque	J1939-71	61440	2	8	Actual braking torque of the retarder as a percent of retarder configuration reference torque SPN 556.			
	521	Brake Pedal Position	J1939-71	61441	2	8	Ratio of brake pedal position to maximum pedal position. Used for electric brake applications.			
	522	Percent Clutch Slip	J1939-71	61442	4	8	Parameter which represents the ratio of input shaft speed to current engine speed (in percent).			
	523	Transmission Current Gear	J1939-71	61445	4	8	The gear currently engaged in the transmission or the last gear engaged while the transmission is in the process of shifting to the new or selected gear.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	524	Transmission Selected Gear	J1939-71	61445	1	8	The gear that the transmission will attempt to achieve during the current shift if a shift is in progress, or the next shift if one is pending (i.e., waiting for torque reduction to initiate the shift).				
	525	Transmission Requested Gear	J1939-71	256	3	8	Gear requested by the operator, ABS, or engine.				
	526	Transmission Actual Gear Ratio	J1939-71	61445	2-3	16	Actual ratio of input shaft speed to output shaft speed.				
	527	Cruise Control States	J1939-71	65265	7.6	3	This parameter is used to indicate the current state, or mode, of operation by the cruise control device.				
	528	Engine Speed At Point 2 (Engine Configuration)	J1939-71	65251	04-05	16	Engine speed of point 2 of the engine torque map (see PGN 65251 and supporting document).				
	529	Engine Speed At Point 3 (Engine Configuration)	J1939-71	65251	07-08	16	Engine speed at point 3 of the engine torque map				
	530	Engine Speed At Point 4 (Engine Configuration)	J1939-71	65251	10-11	16	Engine speed at point 4 of the engine torque map				
	531	Engine Speed At Point 5 (Engine Configuration)	J1939-71	65251	13-14	16	Engine speed at point 5 of the engine torque map				
	532	Engine Speed At High Idle, Point 6 (Engine Configuration)	J1939-71	65251	16-17	16	Engine speed of high idle (point 6) of the engine torque map.				
	533	Engine Maximum Momentary Override Speed, Point 7 (Engine Configuration)	J1939-71	65251	22-23	16	The maximum engine speed above high idle allowed by the engine control during a momentary high idle override.				
	534	Engine Maximum Momentary Override Time Limit (Engine Configuration)	J1939-71	65251	24	8	The maximum time limit allowed to override the engine's high idle speed.				
	535	Engine Requested Speed Control Range Lower Limit (Engine Configuration)	J1939-71	65251	25	8	The minimum engine speed that the engine will allow when operating in a speed control/limit mode.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	536	Engine Requested Speed Control Range Upper Limit (Engine Configuration)	J1939-71	65251	26	8	The maximum engine speed regardless of load that the engine will allow when operating in a speed control/limit mode, excluding any maximum momentary engine override speed, if supported.			
	537	Engine Requested Torque Control Range Lower Limit (Engine Configuration)	J1939-71	65251	27	8	The minimum engine torque that the engine will allow when operating in a torque control/limit mode.			
	538	Engine Requested Torque Control Range Upper Limit (Engine Configuration)	J1939-71	65251	28	8	The maximum engine torque that the engine will allow when operating in a torque control/limit mode.			
	539	Engine Percent Torque At Idle, Point 1 (Engine Configuration)	J1939-71	65251	03	8	The torque limit that indicates the available engine torque which can be provided by the engine at idle speed.			
	540	Engine Percent Torque At Point 2 (Engine Configuration)	J1939-71	65251	06	8	The torque limit that indicates the available engine torque which can be provided by the engine at point 2 of the engine map			
	541	Engine Percent Torque At Point 3 (Engine Configuration)	J1939-71	65251	09	8	The torque limit that indicates the available engine torque which can be provided by the engine at point 3 of the engine map			
	542	Engine Percent Torque At Point 4 (Engine Configuration)	J1939-71	65251	12	8	The torque limit that indicates the available engine torque which can be provided by the engine at point 4 of the engine map			
	543	Engine Percent Torque At Point 5 (Engine Configuration)	J1939-71	65251	15	8	The torque limit that indicates the available engine torque which can be provided by the engine at point 5 of the engine map.			
	544	Engine Reference Torque (Engine Configuration)	J1939-71	65251	20-21	16	This parameter is the 100% reference value for all defined indicated engine torque parameters.			
	545	Engine Gain (Kp) Of The Endspeed Governor (Engine Configuration)	J1939-71	65251	18-19	16	The endspeed governor is defined as a linear line			
	546	Retarder Speed At Idle, Point 1 (Retarder Configuration)	J1939-71	65249	03-04	16				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	547	Retarder Speed At Peak Torque, Point 5 (Retarder Configuration)	J1939-71	65249	15-16	16				
	548	Maximum Retarder Speed, Point 2 (Retarder Configuration)	J1939-71	65249	06-07	16	Maximum speed of retarder			
	549	Retarder Speed At Point 3 (Retarder Configuration)	J1939-71	65249	09-10	16	Retarder speed of point 3 of the engine retarder torque map (see 5.2.4.3).			
	550	Retarder Speed At Point 4 (Retarder Configuration)	J1939-71	65249	12-13	16	Retarder speed of point 4 of the engine retarder torque map (see 5.2.4.3).			
	551	Percent Torque At Idle, Point 1 (Retarder Configuration)	J1939-71	65249	05	8	The torque limit that indicates the available retarder torque which can be provided by the retarder at idle speed.			
	552	Percent Torque At Maximum Speed, Point 2 (Retarder Configuration)	J1939-71	65249	08	8	The torque limit that indicates the available retarder torque which can be provided by the retarder at its maximum speed			
	553	Percent Torque At Point 3 (Retarder Configuration)	J1939-71	65249	11	8	The torque limit that indicates the available retarder torque which can be provided by the retarder at point 3 of the retarder torque map			
	554	Percent Torque At Point 4 (Retarder Configuration)	J1939-71	65249	14	8	The torque limit that indicates the available retarder torque which can be provided by the retarder at point 4 of the retarder torque map			
	555	Percent Torque At Peak Torque, Point 5 (Retarder Configuration)	J1939-71	65249	19	8	The torque limit that indicates the available retarder torque which can be provided by the retarder at point 5 of the retarder torque map			
	556	Reference Retarder Torque (Retarder Configuration)	J1939-71	65249	17-18	16	This parameter is the 100% reference value for all defined indicated retarder torque parameters.			
	557	Retarder Control Method (Retarder Configuration)	J1939-71	65249	02	8	This parameter identifies the number of steps used by the retarder.			
	558	Accelerator Pedal 1 Low Idle Switch	J1939-71	61443	1.1	2	Switch signal which indicates the state of the accelerator pedal 1 low idle switch.			
	559	Accelerator Pedal Kickdown Switch	J1939-71	61443	1.3	2	Switch signal which indicates whether the accelerator pedal kickdown switch is opened or closed.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	560	Transmission Driveline Engaged	J1939-71	61442	1.1	2	Driveline engaged indicates the transmission controlled portion of the driveline is engaged sufficiently to allow a transfer of torque through the transmission.			
	561	ASR Engine Control Active	J1939-71	61441	1.1	2	State signal which indicates that ASR engine control has been commanded to be active.			
	562	ASR Brake Control Active	J1939-71	61441	1.3	2	State signal which indicates that ASR brake control is active.			
	563	Anti-Lock Braking (ABS) Active	J1939-71	61441	1.5	2	State signal which indicates that the ABS is active.			
	564	Differential Lock State - Central	J1939-71	61446	3.1	2	State used which indicates the condition of the central differential lock			
	565	Differential Lock State - Central Front	J1939-71	61446	3.3	2	State used which indicates the condition of the central front differential lock.			
	566	Differential Lock State - Central Rear	J1939-71	61446	3.5	2	State used which indicates the condition of the central rear differential lock.			
	567	Differential Lock State - Front Axle 1	J1939-71	61446	2.1	2	State used which indicates the condition of the front axle 1 differential lock.			
	568	Differential Lock State - Front Axle 2	J1939-71	61446	2.3	2	State used which indicates the condition of the front axle 2 differential lock.			
	569	Differential Lock State - Rear Axle 1	J1939-71	61446	2.5	2	State used which indicates the condition of the rear axle 1 differential lock.			
	570	Differential Lock State - Rear Axle 2	J1939-71	61446	2.7	2	State used which indicates the condition of the rear axle 2 differential lock.			
	571	Retarder Enable - Brake Assist Switch	J1939-71	61440	1.5	2	Switch signal which indicates whether the operator wishes the retarder to be enabled for vehicle braking assist.			
	572	Retarder Enable - Shift Assist Switch	J1939-71	61440	1.7	2	Switch signal which indicates whether the operator wishes the retarder to be enabled for transmission shift assist.			
	573	Transmission Torque Converter Lockup Engaged	J1939-71	61442	1.3	2	State signal which indicates whether the torque converter lockup is engaged.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	574	Transmission Shift In Process	J1939-71	61442	1.5	2	Indicates that the transmission is in process of shifting from the current gear to the selected gear.			
	575	ABS Off-road Switch	J1939-71	61441	3.1	2	Switch signal which indicates the position of the ABS off-road switch.			
	576	ASR Off-road Switch	J1939-71	61441	3.3	2	Switch signal which indicates the position of the ASR off-road switch.			
	577	ASR "Hill Holder" Switch	J1939-71	61441	3.5	2	Switch signal which indicates the position of the ASR "hill holder" switch.			
	578	Drive Axle Temperature	J1939-71	65273	4	8	Temperature of axle lubricant in drive axle.			
	579	Drive Axle Lift Air Pressure	J1939-71	65273	3	8	Gage pressure of air in system that utilizes compressed air to provide force between axle and frame.			
	580	Altitude	J1939-71	65256	7-8	16	Altitude of the vehicle referenced to sea level at standard atmospheric pressure and temperature.			
	581	Transmission Gear Ratio	J1939-71	65250	3-4	16	The transmission configuration describes the number of forward gears, the number of reverse gears, and the ratio of each gear with the following resolution.			
	582	Axle Weight	J1939-71	65258	2-3	16	Total mass imposed by the tires on the road surface at the specified axle.			
	583	Pitch	J1939-71	65256	5-6	16	Pitch (rotation about the y-axis) of the vehicle as calculated by the navigation device(s).			
	584	Latitude	J1939-71	65267	1-4	32	Latitude position of the vehicle.			
	585	Longitude	J1939-71	65267	5-8	32	Longitude position of the vehicle			
	586	Make	J1939-71	65259	a	40	Make of the component.			
	587	Model	J1939-71	65259	b	1600	Model of the component			
	588	Serial Number	J1939-71	65259	c	1600	Serial number of the component			
	589	Alternator Speed	J1939-71	65237	1-2	16	Actual rotation speed of the alternator.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	590	Engine Idle Shutdown Timer State	J1939-71	65252	1.7	2	Status signal which indicates the current mode of operation of the idle shutdown timer system.			
	591	Engine Idle Shutdown Timer Function	J1939-71	65252	2.7	2	Parameter which indicates the configuration of the idle shutdown timer system.			
	592	Engine Idle Shutdown Timer Override	J1939-71	65252	1.5	2	Status signal which indicates the status of the override feature of the idle shutdown timer system.			
	593	Engine Idle Shutdown has Shutdown Engine	J1939-71	65252	1.1	2	Status signal which identifies whether or not the engine has been shutdown by the idle shutdown timer system.			
	594	Engine Idle Shutdown Driver Alert Mode	J1939-71	65252	1.3	2	Status signal which indicates the status of the driver alert mode of the idle shutdown timer system.			
	595	Cruise Control Active	J1939-71	65265	4.1	2	Cruise control is switched on.			
	596	Cruise Control Enable Switch	J1939-71	65265	4.3	2	Switch signal which indicates that it is possible to manage the cruise control function.			
	597	Brake Switch	J1939-71	65265	4.5	2	Switch signal which indicates that the driver operated brake foot pedal is being pressed.		0	246
	598	Clutch Switch	J1939-71	65265	4.7	2	Switch signal which indicates that the clutch pedal is being pressed.		0	245
	599	Cruise Control Set Switch	J1939-71	65265	5.1	2	Switch signal of the cruise control activator which indicates that the activator is in the position "set."			
	600	Cruise Control Coast (Decelerate) Switch	J1939-71	65265	5.3	2	Switch signal of the cruise control activator which indicates that the activator is in the position "coast (decelerate)."			
	601	Cruise Control Resume Switch	J1939-71	65265	5.5	2	Switch signal of the cruise control activator which indicates that the activator is in the position "resume."			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	602	Cruise Control Accelerate Switch	J1939-71	65265	5.7	2	Switch signal of the cruise control activator which indicates that the activator is in the position "accelerate."			
	603	Brake Pedal Switch #2	J1939	64964	4.5				0	247
	604	Transmission Neutral Switch	J1939-71	65219	2.3	2	Identifies the status of the switch that indicates neutral.		0	226
	605	Refrigerant High Pressure Switch	J1939-71	65252	3.5	2	Switch signal which indicates the position of the high pressure switch in the coolant circuit of an air conditioning system.		0	228
	606	Engine Momentary Overspeed Enable	J1939-71	61442	5.1	2	Command signal used to indicate that the engine speed may be boosted up to the maximum engine overspeed value to accommodate transmission downshifts.			
	607	Progressive Shift Disable	J1939-71	61442	5.3	2	Command signal used to indicate that progressive shifting by the engine should be disallowed.			
	608	J1587 (previously SAE J1708 (J1587) Data Link)	J1939-73	57088	1.5	2	Identifies the action to be performed on the J1587 communications port.		0	250
	609	Controller #2	J1939						0	233
	610	Power Connect Device	J1939						0	236
	611	System Diagnostic Code #1	J1939						0	151
	612	System Diagnostic Code #2	J1939						0	152
	613	System Diagnostic Code #3	J1939						0	153
	614	System Diagnostic Code #4	J1939						0	154
	615	System Diagnostic Code #5	J1939						0	155
	616	Auxiliary Analog Input #1	J1939						0	227
	617	Parking Brake On Actuator	J1939						0	234
	618	Parking Brake Off Actuator	J1939						0	235
	619	Parking Brake Actuator	J1939-71	65274	4.1	2	Signal which indicates the current state of the actuator(s) that control the parking brake			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	620	5 Volts DC Supply (obsolete)	J1939				This SPN is obsolete. SPNs 3509-3514 should be used instead.		0	232
	621	Antenna Electronics	J1939						219	2
	622	J1922 (previously SAE J1922 Data Link)	J1939-73	57088	1.3	2	Identifies the action to be performed on the J1922 communications port.		0	249
	623	Red Stop Lamp <sup>†</sup>	J1939-73	40704	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64852	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64853	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64854	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64855	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64856	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64857	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64858	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64859	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64860	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64861	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64862	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64863	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64896	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64898	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	64949	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	65226	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	65227	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	65231	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238
	623	Red Stop Lamp <sup>†</sup>	J1939-73	65236	1.5	2	This lamp is used to relay trouble code information that is of a severe enough condition that it warrants stopping the vehicle.		0	238

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	40704	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64852	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64853	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64854	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64855	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64856	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64857	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64858	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64859	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64860	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64861	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64862	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64863	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64896	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64898	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	64949	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	65226	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	65227	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	65231	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	624	Amber Warning Lamp <sup>†</sup>	J1939-73	65236	1.3	2	This lamp is used to relay trouble code information that is reporting a problem with the vehicle system but the vehicle need not be immediately stopped.		0	239
	625	Proprietary Network #1	J1939-73	57088	3.5	2	Identifies the action to be performed on the Proprietary Network #1 communications port.			
	626	Engine Start Enable Device 1	J1939-71	64966	1.1	2	Devices that assist an Engine in starting, e.g. intake heaters and ether. Primary starting aid.		0	237
	627	Power Supply (obsolete)	J1939				This SPN is obsolete. SPNs 3597 should be used instead.		0	251
	628	Program Memory	J1939						0	240
	629	Controller #1	J1939						0	254
	630	Calibration Memory	J1939						0	253
	631	Calibration Module	J1939						0	252
	632	Engine Fuel Shutoff 1 Control	J1939-71	64914	4.3	2	Control setting for fuel shutoff 1. Second instance is SPN 2807		128	17
	633	Engine Fuel Actuator 1 Control Command	J1939-71	61466	5-6	16	The control command to fuel actuator 1		128	18
	634	Engine Throttle Bypass Valve	J1939						128	19
	635	Engine Timing Actuator #1	J1939						128	20

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	636	Engine Position Sensor	J1939						128	21
	637	Engine Timing Sensor	J1939						128	22
	638	Engine Fuel Rack Actuator	J1939				Actuator that positions the fuel rack on a diesel fuel injection pump.		128	23
	639	J1939 Network #1, Primary Vehicle Network ( previously SAE J1939 Data Link)	J1939-73	57088	1.1	2	Identifies the action to be performed on the J1939 Network #1, Primary Vehicle Network" communications port.		0	231
	640	Engine External Protection Input	J1939						128	25
	641	Engine Variable Geometry Turbocharger Actuator #1	J1939-71	64931	3	8	Actuator that controls the variable geometry turbocharger geometry.		128	27
	642	Engine Turbocharger Variable Geometry Actuator #2	J1939						128	28
	643	Engine External Fuel Command Input	J1939						128	29
	644	Engine External Speed Command Input	J1939						128	30
	645	Engine Tachometer Signal Output	J1939						128	31
	646	Engine Turbocharger 1 Wastegate Drive	J1939				Do not use - Use SPN 1188 for Turbocharger 1 Wastegate Drive data.		128	32
	647	Engine Fan Clutch 1 Output Device Driver	J1939				Status of the Engine Fan Clutch 1 Output Device		128	33
	648	Engine Exhaust Back Pressure Sensor	J1939						128	34
	649	Engine Exhaust Back Pressure Regulator Control Command	J1939-71	61486	5-6	16	The control command to the Engine Exhaust Back Pressure Regulator, normalized to percent.			
	650	Electronic Drive Unit Power Relay	J1939						128	37
	651	Engine Injector Cylinder #01	J1939						128	1
	652	Engine Injector Cylinder #02	J1939						128	2
	653	Engine Injector Cylinder #03	J1939						128	3
	654	Engine Injector Cylinder #04	J1939						128	4
	655	Engine Injector Cylinder #05	J1939						128	5

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	656	Engine Injector Cylinder #06	J1939						128	6
	657	Engine Injector Cylinder #07	J1939						128	7
	658	Engine Injector Cylinder #08	J1939						128	8
	659	Engine Injector Cylinder #09	J1939						128	9
	660	Engine Injector Cylinder #10	J1939						128	10
	661	Engine Injector Cylinder #11	J1939						128	11
	662	Engine Injector Cylinder #12	J1939						128	12
	663	Engine Injector Cylinder #13	J1939						128	13
	664	Engine Injector Cylinder #14	J1939						128	14
	665	Engine Injector Cylinder #15	J1939						128	15
	666	Engine Injector Cylinder #16	J1939						128	16
	667	Engine Injector Cylinder #17	J1939						128	47
	668	Engine Injector Cylinder #18	J1939						128	48
	669	Engine Injector Cylinder #19	J1939						128	49
	670	Engine Injector Cylinder #20	J1939						128	50
	671	Engine Injector Cylinder #21	J1939						128	72
	672	Engine Injector Cylinder #22	J1939						128	73
	673	Engine Injector Cylinder #23	J1939						128	74
	674	Engine Injector Cylinder #24	J1939						128	75
	675	Engine Glow Plug Lamp	J1939						128	36
	676	Engine Glow Plug Relay	J1939						128	38
	677	Engine Starter Motor Relay	J1939				Activates the starter		128	39
	678	ECU 8 Volts DC Supply	J1939						128	41
	679	Engine Injection Control Pressure Regulator	J1939						128	42
	680	Engine Valve Variable Swirl System	J1939						128	61
	681	Transmission Gear Shift Inhibit Request	J1939-71	256	1.1	2	Command signal to inhibit gear shifts.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	682	Transmission Torque Converter Lockup Disable Request	J1939-71	256	1.3	2	Command signal to prevent torque converter lockup, which may cause problems in certain circumstances for ASR.			
	683	Disengage Driveline Request	J1939-71	256	1.5	2	Command signal used to simply disengage the driveline, e.g., to prevent engine drag torque from causing high wheel slip on slippery surfaces.			
	684	Requested Percent Clutch Slip	J1939-71	256	2	8	Parameter which represents the percent clutch slip requested by a device.			
	685	Disengage Differential Lock Request - Front Axle 1	J1939-71	256	4.1	2	Command signal used to disengage the various differential locks, e.g., to allow an undistributed individual wheel control by ABS.			
	686	Disengage Differential Lock Request - Front Axle 2	J1939-71	256	4.3	2	Command signal used to disengage the various differential locks, e.g., to allow an undistributed individual wheel control by ABS.			
	687	Disengage Differential Lock Request - Rear Axle 1	J1939-71	256	4.5	2	Command signal used to disengage the various differential locks, e.g., to allow an undistributed individual wheel control by ABS.			
	688	Disengage Differential Lock Request - Rear Axle 2	J1939-71	256	4.7	2	Command signal used to disengage the various differential locks, e.g., to allow an undistributed individual wheel control by ABS.			
	689	Disengage Differential Lock Request - Central	J1939-71	256	5.1	2	Command signal used to disengage the various differential locks, e.g., to allow an undistributed individual wheel control by ABS.			
	690	Disengage Differential Lock Request - Central Front	J1939-71	256	5.3	2	Command signal used to disengage the various differential locks, e.g., to allow an undistributed individual wheel control by ABS.			
	691	Disengage Differential Lock Request - Central Rear	J1939-71	256	5.5	2	Command signal used to disengage the various differential locks, e.g., to allow an undistributed individual wheel control by ABS.			
	692	ABS Offroad Switch Request	J1939			2	Command signal used by the driver via a dashboard switch to choose the ABS offroad function.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	693	ASR Offroad Switch Request	J1939			2	Command signal used by the driver via a dashboard switch to choose the ASR offroad function.			
	694	ASR "Hill Holder" Switch Request	J1939			2	Command signal used by the driver via a dashboard switch to choose a special ASR function.			
	695	Engine Override Control Mode	J1939-71	0	1.1	2	The override control mode defines which sort of command is used:			
	696	Engine Requested Speed Control Conditions	J1939-71	0	1.3	2	This mode tells the engine control system the governor characteristics that are desired during speed control.			
	697	Auxiliary PWM Driver #1	J1939					128	57	
	698	Auxiliary PWM Driver #2	J1939					128	58	
	699	Auxiliary PWM Driver #3	J1939					128	59	
	700	Auxiliary PWM Driver #4	J1939					128	60	
	701	Auxiliary I/O #01	J1939-71	65241	1.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.	128	26	
	702	Auxiliary I/O #02	J1939-71	65241	1.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.	128	40	
	703	Auxiliary I/O #03	J1939-71	65241	1.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.	128	51	
	704	Auxiliary I/O #04	J1939-71	65241	1.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.	128	52	
	705	Auxiliary I/O #05	J1939-71	65241	2.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.	128	53	

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	706	Auxiliary I/O #06	J1939-71	65241	2.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.		128	54
	707	Auxiliary I/O #07	J1939-71	65241	2.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.		128	55
	708	Auxiliary I/O #08	J1939-71	65241	2.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	709	Auxiliary I/O #09	J1939-71	65241	3.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	710	Auxiliary I/O #10	J1939-71	65241	3.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	711	Auxiliary I/O #11	J1939-71	65241	3.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	712	Auxiliary I/O #12	J1939-71	65241	3.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	713	Auxiliary I/O #13	J1939-71	65241	4.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	714	Auxiliary I/O #14	J1939-71	65241	4.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	715	Auxiliary I/O #15	J1939-71	65241	4.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	716	Auxiliary I/O #16	J1939-71	65241	4.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	717	Autoshift High Gear Actuator	J1939						128	43
	718	Autoshift Low Gear Actuator	J1939						128	44
	719	Autoshift Neutral Actuator	J1939						128	45
	720	Autoshift Common Low Side (Return)	J1939						128	46
	721	Prestroke Sensor	J1939						128	62
	722	Prestroke Actuator	J1939						128	63
	723	Engine Speed 2	J1939-71	61473	3-4	16	The engine speed as measured by speed sensor 2		128	64
	724	Engine Oxygen Sensor Heated	J1939						128	65
	725	Engine Ignition Control Mode Signal	J1939						128	66
	726	Engine Ignition Control Timing Signal	J1939						128	67
	727	Engine Turbocharger Secondary Intake Pressure	J1939						128	68
	728	Engine After Cooler-Oil Cooler Coolant Temperature	J1939						128	69
	729	Engine Intake Air Heater Driver #1	J1939						128	70
	730	Engine Intake Air Heater Driver #2	J1939						128	71
	731	Engine Knock Sensor	J1939						128	76
	732	Engine Gas Metering Valve	J1939						128	77
	733	Engine Rack Position Sensor	J1939				Obsolete - Use SPN 1210		128	24
	734	Transmission Range Clutch C1 Solenoid	J1939						130	1
	735	Transmission Range Clutch C2 Solenoid	J1939						130	2
	736	Transmission Range Clutch C3 Solenoid	J1939						130	3
	737	Transmission Range Clutch C4 Solenoid	J1939						130	4
	738	Transmission Range Clutch C5 Solenoid	J1939						130	5
	739	Transmission Range Clutch C6 Solenoid	J1939						130	6
	740	Transmission Lockup Clutch Actuator	J1939-71	65223	6.3	2	Identifies the status of the actuator that controls the lockup clutch.		130	7

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	741	Transmission Forward Solenoid Valve	J1939						130	8
	742	Transmission Low Signal Solenoid Valve	J1939						130	9
	743	Retarder Enable Solenoid Valve	J1939						130	10
	744	Retarder Modulation Solenoid Valve	J1939						130	11
	745	Retarder Response Solenoid Valve	J1939						130	12
	746	Differential Lock Solenoid Valve #1	J1939				Operates the first differential lock.		130	13
	747	Engine/Transmission Match	J1939						130	14
	748	Transmission Output Retarder	J1939-71	65218	1.1	2	Identifies the status of the transmission output retarder.		130	15
	749	Transmission Neutral Start Output	J1939						130	16
	750	Transmission Turbine Speed Sensor	J1939						130	17
	751	Transmission Primary Shift Selector	J1939						130	18
	752	Transmission Secondary Shift Selector	J1939						130	19
	753	Transmission Special Function Inputs	J1939						130	20
	754	Transmission Range C1 Clutch Pressure Indicator	J1939						130	21
	755	Transmission Range C2 Clutch Pressure Indicator	J1939						130	22
	756	Transmission Range C3 Clutch Pressure Indicator	J1939						130	23
	757	Transmission Range C4 Clutch Pressure Indicator	J1939						130	24
	758	Transmission Range C5 Clutch Pressure Indicator	J1939						130	25
	759	Transmission Range C6 Clutch Pressure Indicator	J1939						130	26
	760	Transmission Lockup Clutch Pressure Indicator (Obsolete - use 740)	J1939						130	27

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	761	Transmission Forward Range Pressure Indicator	J1939						130	28
	762	Transmission Neutral Range Pressure Indicator	J1939						130	29
	763	Transmission Reverse Range Pressure Indicator	J1939						130	30
	764	Retarder Response System Pressure Indicator	J1939						130	31
	765	Differential Lock Clutch Pressure Indicator	J1939						130	32
	766	Transmission Multiple Pressure Indicators	J1939						130	33
	767	Transmission Reverse Direction Switch	J1939-71	65219	2.1	2	Identifies the status of the switch that indicates reverse direction.		130	34
	768	Transmission Range High Actuator	J1939-71	65223	5.1	2	Identifies the status of the range high actuator in the auxiliary unit.		130	35
	769	Transmission Range Low Actuator	J1939-71	65223	5.3	2	Identifies the status of the range low actuator in the auxiliary unit.		130	36
	770	Transmission Splitter Direct Actuator	J1939-71	65223	5.5	2	Identifies the status of the splitter direct actuator in the auxiliary unit.		130	37
	771	Transmission Splitter Indirect Actuator	J1939-71	65223	5.7	2	Identifies the status of the splitter indirect actuator in the auxiliary unit.		130	38
	772	Transmission Shift Finger Rail Actuator 1	J1939-71	65223	4.1	2	Identifies the status of the actuator that moves the shift finger identified as rail actuator #1.		130	39
	773	Transmission Shift Finger Gear Actuator 1	J1939-71	65223	4.3	2	Identifies the status of the actuator that moves the shift finger identified as gear actuator #1.		130	40
	774	Transmission Upshift Request Switch	J1939						130	41
	775	Transmission Downshift Request Switch	J1939						130	42
	776	Torque Converter Interrupt Actuator	J1939						130	43
	777	Torque Converter Lockup Actuator	J1939						130	44

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	778	Transmission High Range Sense Switch	J1939-71	65219	1.1	2	Identifies the status of the switch that represents high range.		130	45
	779	Transmission Low Range Sense Switch	J1939-71	65219	1.3	2	Identifies the status of the switch that represents low range.		130	46
	780	Transmission Shift Finger Neutral Indicator	J1939-71	65223	3.1	2	Indicates the status of the shift finger in the neutral position.		130	47
	781	Transmission Shift Finger Engagement Indicator	J1939-71	65223	3.3	2	Identifies the status of the shift finger in the engagement position.		130	48
	782	Transmission Shift Finger Center Rail Indicator	J1939-71	65223	3.5	2	Identifies the status of the shift finger in the center rail position.		130	49
	783	Transmission Shift Finger Rail Actuator 2	J1939-71	65223	4.5	2	Identifies the status of the actuator that moves the shift finger identified as rail actuator #2.		130	50
	784	Transmission Shift Finger Gear Actuator 2	J1939-71	65223	4.7	2	Identifies the status of the actuator that moves the shift finger identified as gear actuator #2.		130	51
	785	Transmission Hydraulic System	J1939						130	52
	786	Transmission Defuel Actuator	J1939-71	65223	6.5	2	Identifies the status of the actuator that controls the engine defuel mechanism.		130	53
	787	Transmission Inertia Brake Actuator	J1939-71	65223	6.7	2	Identifies the status of the actuator that controls the inertia brake.		130	54
	788	Transmission Clutch Actuator	J1939-71	65223	6.1	2	Identifies the status of the actuator that controls the clutch.		130	55
	789	Wheel Sensor ABS Axle 1 Left	J1939						136	1
	790	Wheel Sensor ABS Axle 1 Right	J1939						136	2
	791	Wheel Sensor ABS Axle 2 Left	J1939						136	3
	792	Wheel Sensor ABS Axle 2 Right	J1939						136	4
	793	Wheel Sensor ABS Axle 3 Left	J1939						136	5
	794	Wheel Sensor ABS Axle 3 Right	J1939						136	6
	795	Pressure Modulation Valve ABS Axle 1 Left	J1939						136	7

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	796	Pressure Modulation Valve ABS Axle 1 Right	J1939						136	8
	797	Pressure Modulation Valve ABS Axle 2 Left	J1939						136	9
	798	Pressure Modulation Valve ABS Axle 2 Right	J1939						136	10
	799	Pressure Modulation Valve ABS Axle 3 Left	J1939						136	11
	800	Pressure Modulation Valve ABS Axle 3 Right	J1939						136	12
	801	Retarder Control Relay	J1939						136	13
	802	Relay Diagonal 1	J1939						136	14
	803	Relay Diagonal 2	J1939						136	15
	804	Mode Switch ABS	J1939						136	16
	805	Mode Switch ASR	J1939						136	17
	806	Dif 1 - ASR Valve	J1939						136	18
	807	Dif 2 - ASR Valve	J1939						136	19
	808	Pneumatic Engine Control	J1939						136	20
	809	Electronic Engine Control (Servomotor)	J1939						136	21
	810	Speed Signal Input	J1939						136	22
	811	Warning Light Bulb	J1939						136	23
	812	ASR Light Bulb	J1939						136	24
	813	Wheel Sensor ABS Axle 1 Average	J1939						136	25
	814	Wheel Sensor ABS Axle 2 Average	J1939						136	26
	815	Wheel Sensor ABS Axle 3 Average	J1939						136	27
	816	Pressure Modulator, Drive Axle Relay Valve	J1939						136	28
	817	Pressure Transducer, Drive Axle Relay Valve	J1939						136	29

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	818	Master Control Relay	J1939						136	30
	819	Trailer Brake Slack Out Of Adjustment Forward Axle Left	J1939						136	31
	820	Trailer Brake Slack Out Of Adjustment Forward Axle Right	J1939						136	32
	821	Trailer Brake Slack Out Of Adjustment Rear Axle Left	J1939						136	33
	822	Trailer Brake Slack Out Of Adjustment Rear Axle Right	J1939						136	34
	823	Tractor Brake Slack Out Of Adjustment Axle 1 Left	J1939						136	35
	824	Tractor Brake Slack Out Of Adjustment Axle 1 Right	J1939						136	36
	825	Tractor Brake Slack Out Of Adjustment Axle 2 Left	J1939						136	37
	826	Tractor Brake Slack Out Of Adjustment Axle 2 Right	J1939						136	38
	827	Tractor Brake Slack Out Of Adjustment Axle 3 Left	J1939						136	39
	828	Tractor Brake Slack Out Of Adjustment Axle 3 Right	J1939						136	40
	829	Left Fuel Level Sensor	J1939						140	1
	830	Right Fuel Level Sensor	J1939						140	2
	831	Engine Fuel Feed Rate Sensor	J1939						140	3
	832	Engine Fuel Return Rate Sensor	J1939						140	4
	833	Fuel Rack Position Sensor	J1939				Obsolete - Use SPN 1210		142	3
	834	Fuel Rack Actuator	J1939				Obsolete - Use SPN 638		142	4
	835	Oil Level Indicator Output	J1939						142	5
	836	Tachometer Drive Output	J1939						142	6
	837	Speedometer Drive Output	J1939						142	7

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	838	PWM Input (ABS/ASR)	J1939						142	8
	839	Dead Reckoning Unit	J1939						162	1
	840	Loran Receiver	J1939						162	2
	841	Global Positioning System (GPS)	J1939						162	3
	842	Integrated Navigation Unit	J1939						162	4
	843	Operator Control Panel (OCP)	J1939						166	1
	844	Pneumatic Control Unit (PCU)	J1939						166	2
	845	PCU Steer Solenoid	J1939						166	3
	846	PCU Drive Solenoid	J1939						166	4
	847	PCU Trailer, Tag, Or Push Solenoid	J1939						166	5
	848	PCU Supply Solenoid	J1939						166	6
	849	PCU Control Solenoid	J1939						166	7
	850	PCU Deflate Solenoid	J1939						166	8
	851	Pneumatic - Steer Channel	J1939						166	9
	852	Pneumatic - Drive Channel	J1939						166	10
	853	Pneumatic - Trailer, Tag Or Push Channel	J1939						166	11
	854	Heater Circuit #01	J1939						177	1
	855	Heater Circuit #02	J1939						177	2
	856	Heater Circuit #03	J1939						177	3
	857	Heater Circuit #04	J1939						177	4
	858	Heater Circuit #05	J1939						177	5
	859	Heater Circuit #06	J1939						177	6
	860	Heater Circuit #07	J1939						177	7
	861	Heater Circuit #08	J1939						177	8
	862	Heater Circuit #09	J1939						177	9
	863	Heater Circuit #10	J1939						177	10
	864	Heater Circuit #11	J1939						177	11

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	865	Heater Circuit #12	J1939						177	12
	866	Heater Circuit #13	J1939						177	13
	867	Heater Circuit #14	J1939						177	14
	868	Heater Circuit #15	J1939						177	15
	869	Heater Circuit #16	J1939						177	16
	870	Heater Regeneration System	J1939						177	17
	871	Refrigerant Charge	J1939						190	1
	872	Refrigerant Moisture Level	J1939						190	2
	873	Non-Condensable Gas In Refrigerant	J1939						190	3
	874	Refrigerant Flow Control Solenoid	J1939						190	4
	875	Refrigerant Low Pressure Switch	J1939-71	65252	3.3	2	Switch signal which indicates the position of the low pressure switch in the coolant circuit of an air conditioning system.		190	5
	876	Compressor Clutch Circuit	J1939						190	6
	877	Evaporator Thermostat Circuit	J1939						190	7
	878	Clearance, Side Marker, Identification Lamp Circuit (Black)	J1939						217	9
	879	Left Turn Lamp Circuit (Yellow)	J1939						217	10
	880	Stop Lamp Circuit (Red)	J1939						217	11
	881	Right Turn Lamp Circuit (Green)	J1939						217	12
	882	Tail Lamp/License Plate Lamp Circuit (Brown)	J1939						217	13
	883	Auxiliary Lamp Circuit (Blue)	J1939						217	14
	884	Tractor Mounted Rear Axle Slider Control Unit	J1939						217	15
	885	Trailer Mounted Rear Axle Slider Control Unit	J1939						217	16
	886	Headway Controller Forward Antenna	J1939						219	1
	887	Headway Controller Brake Input Monitor	J1939						219	3

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	888	Headway Controller Speaker Monitor	J1939						219	4
	889	Headway Controller Steering Sensor Monitor	J1939						219	5
	890	Headway Controller Speedometer Monitor	J1939						219	6
	891	Headway Controller Right Turn Signal Monitor	J1939						219	7
	892	Headway Controller Left Turn Signal Monitor	J1939						219	8
	893	Headway Controller Control Display Unit	J1939						219	9
	894	Headway Controller Right Side Sensor	J1939						219	10
	895	Headway Controller Left Side Sensor	J1939						219	11
	896	Headway Controller Rear Sensor	J1939						219	12
	897	Override Control Mode Priority	J1939-71	0	1.5	2	This field is used as an input to the engine or retarder to determine the priority of the Override Control Mode received in the Torque/Speed Control message (see PGN 0).			
	898	Engine Requested Speed/Speed Limit	J1939-71	0	2-3	16	This is the engine speed which the engine is expected to operate at if the speed control mode is active or the engine speed which the engine is not expected to exceed if the speed limit mode is active.			
	899	Engine Torque Mode	J1939-71	61444	1.1	4	State signal which indicates which engine torque mode is currently generating, limiting, or controlling the torque.			
	900	Retarder Torque Mode	J1939-71	61440	1.1	4	State signal which indicates which retarder torque mode is currently generating, limiting, or controlling the torque.			
	901	Retarder Type	J1939-71	65249	01.1	4	This parameter provides some indication of the retarder dynamics.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	902	Retarder Location	J1939-71	65249	01.5	4	This parameter defines whether the "torque/speed curve" defined by the retarder configuration message.			
	903	Transmission Forward Direction Switch	J1939-71	65219	2.5	2	Identifies the status of the switch that indicates forward direction.			
	904	Front Axle Speed	J1939-71	65215	1-2	16	The average speed of the two front wheels.			
	905	Relative Speed; Front Axle, Left Wheel	J1939-71	65215	3	8	The speed of the front axle, left wheel relative to the front axle speed, SPN 904.			
	906	Relative Speed; Front Axle, Right Wheel	J1939-71	65215	4	8	The speed of the front axle, right wheel relative to the front axle speed, SPN 904.			
	907	Relative Speed; Rear Axle #1, Left Wheel	J1939-71	65215	5	8	The speed of the rear axle #1, left wheel relative to the front axle speed, SPN 904.			
	908	Relative Speed; Rear Axle #1, Right Wheel	J1939-71	65215	6	8	The speed of the rear axle #1, right wheel relative to the front axle			
	909	Relative Speed; Rear Axle #2, Left Wheel	J1939-71	65215	7	8	The speed of the rear axle #2, left wheel relative to the front axle.			
	910	Relative Speed; Rear Axle #2, Right Wheel	J1939-71	65215	8	8	The speed of the rear axle #2, right wheel relative to the front axle			
	911	Service Component Identification	J1939-71	65216	1	8	Identification of component needing service.			
	912	Service Component Identification	J1939-71	65216	4	8	Identification of component needing service.			
	913	Service Component Identification	J1939-71	65216	6	8	Identification of component needing service.			
	914	Service Distance	J1939-71	65216	2-3	16	The distance which can be traveled by the vehicle before the next service inspection is required.			
	915	Service Delay/Calendar Time Based	J1939-71	65216	5	8	The time in weeks until the next vehicle service inspection is required.			
	916	Service Delay/Operational Time Based	J1939-71	65216	7-8	16	The time in vehicle operational time until the next vehicle service inspection is required.			
	917	High Resolution Total Vehicle Distance	J1939-71	65217	1-4	32	Accumulated distance traveled by the vehicle during its operation.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	918	High Resolution Trip Distance	J1939-71	65217	5-8	32	Distance traveled during all or part of a journey.			
	919	Ambient Light Sensor	J1939						0	223
	920	Audible Alarm	J1939						0	224
	921	Green Lamp	J1939						0	225
	922	Ride Height Relay	J1939						136	41
	923	PWM Output	J1939						142	9
	924	Auxiliary Output #1	J1939						142	10
	925	Auxiliary Output #2	J1939						142	11
	926	Auxiliary Output #3	J1939						142	12
	927	Location	J1939-71	61446	1	8	To identify to which of several similar devices (such as tires or fuel tanks) the information applies.			
	928	Axle Location	J1939-71	65258	1	8	To identify to which of several similar devices (such as tires or fuel tanks) the information applies.			
	929	Tire Location	J1939-71	65268	1	8	Identifies which tire is associated with the parametric data in this PGN.			
	930	Drive Axle Location	J1939-71	65273	2	8	To identify to which of several similar devices (such as tires or fuel tanks) the information applies.			
	931	Engine Fuel Supply Pump Actuator	J1939						128	78
	932	Brake System Hold Modulator Valve Solenoid Axle 1 Left	J1939						136	42
	933	Brake System Hold Modulator Valve Solenoid Axle 1 Right	J1939						136	43
	934	Brake System Hold Modulator Valve Solenoid Axle 2 Left	J1939						136	44
	935	Brake System Hold Modulator Valve Solenoid Axle 2 Right	J1939						136	45

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	936	Brake System Hold Modulator Valve Solenoid Axle 3 Left	J1939						136	46
	937	Brake System Hold Modulator Valve Solenoid Axle 3 Right	J1939						136	47
	938	Brake System Dump Modulator Valve Solenoid Axle 1 Left	J1939						136	48
	939	Brake System Dump Modulator Valve Solenoid Axle 1 Right	J1939						136	49
	940	Brake System Dump Modulator Valve Solenoid Axle 2 Left	J1939						136	50
	941	Brake System Dump Modulator Valve Solenoid Axle 2 Right	J1939						136	51
	942	Brake System Dump Modulator Valve Solenoid Axle 3 Left	J1939						136	52
	943	Brake System Dump Modulator Valve Solenoid Axle 3 Right	J1939						136	53
	944	Driver Air Bag Ignitor Loop	J1939						232	1
	945	Passenger Air Bag Ignitor Loop	J1939						232	2
	946	Left Belt Tensioner Ignitor Loop	J1939						232	3
	947	Right Belt Tensioner Ignitor Loop	J1939						232	4
	948	Safety Restraint System Lamp	J1939						232	5
	949	Automotive Seat Occupancy Sensor - passenger side	J1939						232	6
	950	Side Collision Detector - Left	J1939						232	7
	951	Side Bag Ignitor Loop 1 - Left	J1939						232	8
	952	Side Bag Ignitor Loop 2 - Left	J1939						232	9
	953	Side Collision Detector - Right	J1939						232	10
	954	Side Bag Ignitor Loop 1 - Right	J1939						232	11
	955	Side Bag Ignitor Loop 2 - Right	J1939						232	12

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	956	Rollover Sensor	J1939						232	13
	957	Number of Forward Gear Ratios	J1939-71	65250	2	8	Number of forward gear ratios in the transmission, provided as part of the configuration.			
	958	Number of Reverse Gear Ratios	J1939-71	65250	1	8	Number of reverse gear ratios in the transmission, provided as part of the transmission configuration.			
	959	Seconds	J1939-71	65254	1	8	The seconds component of the current time of day.			
	960	Minutes	J1939-71	65254	2	8	The minutes component of the current time of day.			
	961	Hours	J1939-71	65254	3	8	The hour component of the current time of day.			
	962	Day	J1939-71	65254	5	8	The day component of the current calendar date.			
	963	Month	J1939-71	65254	4	8	The month component of the current calendar date.			
	964	Year	J1939-71	65254	6	8	The year component of the current calendar date.			
	965	Number of Software Identification Fields	J1939-71	65242	1	8	Number of software identification designators represented in the software identification parameter group.			
	966	Engine Test Mode Switch	J1939-71	65265	8.5	2	Switch signal which indicates the position of the engine test mode switch.			
	967	Engine Idle Decrement Switch	J1939-71	65265	8.3	2	Switch signal which indicates the position of the idle decrement switch.			
	968	Engine Idle Increment Switch	J1939-71	65265	8.1	2	Switch signal which indicates the position of the idle increment switch.			
	969	Remote Accelerator Enable Switch	J1939-71	61441	4.7	2	Switch signal which indicates that the remote accelerator has been enabled and controls the engine.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	970	Engine Auxiliary Shutdown Switch	J1939-71	61441	4.5	2	Switch signal which requests that all engine fueling stop.			
	971	Engine Derate Switch	J1939-71	61441	4.3	2	Switch signal used to activate the torque limiting feature of the engine.			
	972	Accelerator Interlock Switch	J1939-71	61441	4.1	2	Switch signal used to disable the accelerator and remote accelerator inputs, causing the engine to return to idle.			
	973	Engine Retarder Selection	J1939-71	61441	5	8	The position of the operator controlled selector, expressed as a percentage and determined by the ratio of the current position of the selector to its maximum possible position.			
	974	Remote Accelerator Pedal Position	J1939-71	61443	4	8	The ratio of actual position of the remote analog engine speed/torque request input device (such as an accelerator pedal or throttle lever) to the maximum position of the input device.			
	975	Estimated Percent Fan Speed	J1939-71	65213	1	8	Estimated fan speed as a ratio of the fan drive (current speed) to the fully engaged fan drive (maximum fan speed).	26		
	976	PTO Governor State	J1939-71	65265	7.1	5	This parameter is used to indicate the current state or mode of operation by the power takeoff (PTO) governor.			
	977	Fan Drive State	J1939-71	65213	2.1	4	This parameter is used to indicate the current state or mode of operation by the fan drive.			
	978	Engine Remote PTO Governor Variable Speed Control Switch	J1939-71	65264	6.5	2	Switch signal which indicates that the remote PTO governor toggle switch is in the enabled (ON) position.			
	979	Engine Remote PTO Governor Preprogrammed Speed Control Switch	J1939-71	65264	6.3	2	Switch signal which indicates that the remote PTO governor toggle switch is in the enabled (ON) position.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	980	Engine PTO Governor Enable Switch	J1939-71	65264	6.1	2	Switch signal which indicates that the PTO governor toggle switch is in the enabled (ON) position and therefore it is possible to manage the PTO control function.			
	981	Engine PTO Governor Accelerate Switch	J1939-71	65264	7.7	2	Switch signal of the PTO control activator which indicates that the activator is in the position to "accelerate" the PTO governor set speed.			
	982	Engine PTO Governor Resume Switch	J1939-71	65264	7.5	2	Switch signal of the PTO control activator which indicates that the activator is in the position to "resume" a previously established PTO governor set speed.			
	983	Engine PTO Governor Coast/Decelerate Switch	J1939-71	65264	7.3	2	Switch signal of the PTO control activator which indicates that the activator is in the position to "coast/decelerate" the PTO governor set speed.			
	984	Engine PTO Governor Set Switch	J1939-71	65264	7.1	2	Switch signal of the PTO control activator which indicates that the activator is in the position to "set" the engine PTO governor set speed.			
	985	A/C High Pressure Fan Switch	J1939-71	65252	3.1	2	Switch signal which indicates that the pressure in the coolant circuit of an air conditioning system is high and the fan may be engaged.			
	986	Requested Percent Fan Speed	J1939-71	57344	1	8	Fan speed as a ratio of the actual fan drive (current speed) to the fully engaged fan drive (maximum fan speed).			
	987	Protect Lamp <sup>†</sup>	J1939-73	40704	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.	0	222	

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	987	Protect Lamp <sup>†</sup>	J1939-73	64852	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	64853	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	64854	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	64855	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	64856	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	64857	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	987	Protect Lamp <sup>†</sup>	J1939-73	64858	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	64859	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	64860	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	64861	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	64862	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	64863	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	987	Protect Lamp <sup>†</sup>	J1939-73	64896	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	64898	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	64949	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	65226	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	65227	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222
	987	Protect Lamp <sup>†</sup>	J1939-73	65231	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	987	Protect Lamp <sup>†</sup>	J1939-73	65236	1.1	2	This lamp is used to relay trouble code information that is reporting a problem with a vehicle system that is most probably not electronic subsystem related. For instance, engine coolant temperature is exceeding its prescribed temperature range.		0	222	
	988	Trip Group 1	J1939-71	56832	1.1	2	Command signal used to reset the PGNs and parameters as defined in Table SPN988_A.				
	989	Trip Group 2 - Proprietary	J1939-71	56832	1.3	2	Command signal used to reset proprietary parameters associated with a trip but not defined within this document.				
	990	Total Compression Brake Distance	J1939-71	65212	01-04	32	Total distance over which the compression brakes have been active for the life of the engine.				
	991	Trip Compression Brake Distance	J1939-71	65212	05-08	32	Total distance over which the compression brakes have been active since the last trip reset.				
	992	Trip Service Brake Distance	J1939-71	65212	09-12	32	Total distance over which the service brakes have been active since the last trip reset.				
	993	Trip Service Brake Applications	J1939-71	65212	13-16	32	Total number of times the service brakes have been activated since the last trip reset.				
	994	Trip Fan On Time	J1939-71	65211	01-04	32	Total time the fan has been on (due to an automatic trigger or manual trigger) since the last trip reset.				
	995	Trip Fan On Time Due to the Engine System	J1939-71	65211	05-08	32	Total time the fan has been on due to engine triggers (i.e., excluding time on due to an operator manual switch or A/C system) since the last trip reset.				
	996	Trip Fan On Time Due to a Manual Switch	J1939-71	65211	09-12	32	Total time the fan has been on due to manual activation by the operator				
	997	Trip Fan On Time Due to the A/C System	J1939-71	65211	13-16	32	Total time the fan has been on due to the A/C system since the last trip reset.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	998	Trip Distance on VSL	J1939-71	65210	1-4	32	Total distance accumulated while the engine torque mode is road speed governing since the last trip reset.			
	999	Trip Gear Down Distance	J1939-71	65210	5-8	32	Total distance accumulated while the vehicle has operated in the gear which is one gear down from top gear			
	1000	Trip Distance in Top Gear	J1939-71	65210	9-12	32	Total distance accumulated while the vehicle has operated in top gear for a calibrated minimum time since the last trip reset.			
	1001	Trip Drive Fuel Used	J1939-71	65209	01-04	32	Total fuel consumed while the engine speed is greater than zero, vehicle speed is greater than or equal to 2 km/h, and neither the PTO or the remote PTO is controlling the engine power output, since the last trip reset.			
	1002	Trip PTO Governor Moving Fuel Used	J1939-71	65209	05-08	32	Total fuel consumed while either the PTO or remote PTO governors are in the hold state, the engine speed is greater than zero, and vehicle speed is greater than or equal to 2 km/h, since the last trip reset.			
	1003	Trip PTO Governor Non-moving Fuel Used	J1939-71	65209	09-12	32	Total fuel consumed while either the PTO or remote PTO governors are in the hold state, the engine speed is greater than zero, and vehicle speed is less than 2 km/h, since the last trip reset.			
	1004	Trip Vehicle Idle Fuel Used	J1939-71	65209	13-16	32	Total fuel consumed while neither the PTO or remote PTO governor is in the hold state, the engine speed is greater than zero, and vehicle speed is less than 2 km/h, since the last trip reset.			
	1005	Trip Cruise Fuel Used	J1939-71	65209	17-20	32	Total fuel consumed while the engine is in the cruise hold state since the last trip reset.			
	1006	Trip Drive Fuel Economy	J1939-71	65209	21-22	16	Trip drive fuel economy is equal to the distance traveled by vehicle in the drive state			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1007	Trip Drive Fuel Used (Gaseous)	J1939-71	65208	01-04	32	Total fuel consumed while the engine speed is greater than zero			
	1008	Trip PTO Governor Moving Fuel Used (Gaseous)	J1939-71	65208	05-08	32	Total fuel consumed while the PTO or remote PTO governors are in the hold state, the engine speed is greater than zero, and vehicle speed is greater than or equal to 2 km/h, since the last trip reset.			
	1009	Trip PTO Governor Non-moving Fuel Used (Gaseous)	J1939-71	65208	09-12	32	Total fuel consumed while the PTO or remote PTO governors are in the hold state, the engine speed is greater than zero, and vehicle speed is less than to 2 km/h, since the last trip reset.			
	1010	Trip Vehicle Idle Fuel Used (Gaseous)	J1939-71	65208	13-16	32	Total fuel consumed while neither the PTO or remote PTO governors are active, the engine speed is greater than zero, and vehicle speed is less than to 2 km/h, since the last trip reset.			
	1011	Trip Cruise Fuel Used (Gaseous)	J1939-71	65208	17-20	32	Total fuel consumed while the engine is in the cruise hold state since the last trip reset.			
	1012	Trip Drive Fuel Economy (Gaseous)	J1939-71	65208	21-22	16	Trip drive fuel economy is equal to the distance traveled by vehicle in the drive state			
	1013	Trip Maximum Engine Speed	J1939-71	65207	1-2	16	Maximum engine speed achieved since the last trip reset.			
	1014	Trip Average Engine Speed	J1939-71	65207	3-4	16	Average speed of the engine since the last trip reset.			
	1015	Trip Drive Average Load Factor	J1939-71	65207	5	8	Average engine load factor while engine speed is greater than zero,			
	1016	Total Drive Average Load Factor	J1939-71	65207	6	8	Average engine load factor while engine speed is greater than zero.			
	1017	Total Engine Cruise Time	J1939-71	65207	7-10	32	Total time that the engine has operated in the cruise hold state, excluding time in accelerator override, over the life of the engine.			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	1018	Trip Maximum Vehicle Speed	J1939-71	65206	1-2	16	Maximum vehicle speed achieved while the engine speed is greater than zero and the accelerator pedal position (APS) is at a value greater than 0%, since the last trip reset.				
	1019	Trip Cruise Distance	J1939-71	65206	3-6	32	Total distance that the engine has operated in the cruise hold state, excluding time in accelerator override, since the last trip reset.				
	1020	Trip Number of Hot Shutdowns	J1939-71	65205	1-2	16	Total number of hot shutdowns since the last trip reset. A hot shutdown is based on operation at high load or high engine speed or for long operating periods without allowing the engine to cool sufficiently.				
	1021	Trip Number of Idle Shutdowns	J1939-71	65205	3-4	16	Total number of times the engine has been shutdown due to idling too long (at normal idle or fast idle) since the last trip reset.				
	1022	Trip Number of Idle Shutdown Overrides	J1939-71	65205	5-6	16	Total number of times an operator disables idle shutdown to prevent an engine shutdown, since the last trip reset.				
	1023	Trip Sudden Decelerations	J1939-71	65205	7-8	16	Total number of decelerations whenever the vehicle deceleration is more than XYZ km/h/sec (where XYZ is a calibratable threshold), since the last trip reset.				
	1024	Trip Time in VSL	J1939-71	65204	01-04	32	Total time accumulated when the engine has operated on the vehicle speed limiter (VSL) while not in the cruise hold state, since the last trip reset.				
	1025	Trip Time in Top Gear	J1939-71	65204	05-08	32	Total time accumulated when the vehicle has operated in top gear for a calibrated minimum time, since the last trip reset.				
	1026	Trip Time in Gear Down	J1939-71	65204	09-12	32	Total time accumulated when the vehicle has operated in one gear down from the top gear for a calibrated minimum time, since the last trip reset.				

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	1027	Trip Time in Derate by Engine	J1939-71	65204	13-16	32	Total time accumulated when the engine final fueling has been derated due to an engine protection algorithm, since the last reset.				
	1028	Total Engine PTO Governor Fuel Used	J1939-71	65203	1-4	32	Total fuel used while the PTO or remote PTO governors are in the hold state and engine speed is above zero, over the life of the engine.				
	1029	Trip Average Fuel Rate	J1939-71	65203	5-6	16	Average fuel rate, equal to trip fuel divided by trip time while the engine speed is above zero, since the last trip reset.				
	1030	Total Engine PTO Governor Fuel Used (Gaseous)	J1939-71	65202	1-4	32	Total fuel used while the PTO or remote PTO governors are in the hold state and engine speed is above zero, over the life of the engine.				
	1031	Trip Average Fuel Rate (Gaseous)	J1939-71	65202	5-6	16	Average fuel rate, equal to trip fuel divided by trip time while the engine speed is above zero, since the last trip reset.				
	1032	Total ECU Distance	J1939-71	65201	1-4	32	Total distance accumulated over the life of the ECU. When the ECU is replaced this value shall be reset.				
	1033	Total ECU Run Time	J1939-71	65201	5-8	32	Total time accumulated over the life of the ECU, from ignition switch ON to ignition switch OFF. When the ECU is replaced this value shall be reset.				
	1034	Trip Cruise Time	J1939-71	65200	01-04	32	Total time accumulated while the engine is in the cruise hold state, excluding time in accelerator override, since the last trip reset.				
	1035	Trip PTO Governor Time	J1939-71	65200	05-08	32	Total time accumulated while the engine is in the PTO or remote PTO governor hold state since the last trip reset.				
	1036	Trip Engine Running Time	J1939-71	65200	09-12	32	Total time accumulated while the engine speed is greater than zero since the last trip reset.				

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1037	Trip Idle Time	J1939-71	65200	13-16	32	Total time accumulated while the engine speed is greater than zero, both the PTO and remote PTO governors are inactive, and the vehicle speed is less than 2 km/h, since the last trip reset.			
	1038	Trip Air Compressor On Time	J1939-71	65200	17-20	32	Total time that the air compressor is on and compressing air since the last trip reset.			
	1039	Trip Fuel (Gaseous)	J1939-71	65199	1-4	32	Total fuel consumed (trip drive fuel + trip PTO governor moving fuel + trip PTO governor non-moving fuel + trip idle fuel) since the last trip reset.			
	1040	Total Fuel Used (Gaseous)	J1939-71	65199	5-8	32	Total fuel consumed (trip drive fuel + trip PTO governor moving fuel + trip PTO governor non-moving fuel + trip idle fuel) over the life of the engine.			
	1041	Start Signal Indicator	J1939					0	219	
	1042	Electronic Tractor/Trailer Interface (ISO 11992)	J1939					0	220	
	1043	Internal Sensor Voltage Supply	J1939					0	221	
	1044	Hydraulic Pump Motor	J1939					136	54	
	1045	Brake Light Switch 1	J1939					136	55	
	1046	Brake Light Switch 2	J1939					136	56	
	1047	Electronic Pressure Control Axle 1	J1939					136	57	
	1048	Pneumatic Back-up Pressure Control Axle 1	J1939					136	58	
	1049	Brake Pressure Sensing Axle 1	J1939					136	59	
	1050	Electronic Pressure Control Axle 2	J1939					136	60	
	1051	Pneumatic Back-up Pressure Control Axle 2	J1939					136	61	
	1052	Brake Pressure Sensing Axle 2	J1939					136	62	
	1053	Electronic Pressure Control Axle 3	J1939					136	63	

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1054	Pneumatic Back-up Pressure Control Axle 3	J1939						136	64
	1055	Brake Pressure Sensing Axle 3	J1939						136	65
	1056	Electronic Pressure Control, Trailer Control	J1939						136	66
	1057	Pneumatic Back-up Pressure Control, Trailer Control	J1939						136	67
	1058	Brake Pressure Sensing, Trailer Control	J1939						136	68
	1059	Axle Load Sensor	J1939						136	69
	1060	Lining Wear Sensor Axle 1 Left	J1939						136	70
	1061	Lining Wear Sensor Axle 1 Right	J1939						136	71
	1062	Lining Wear Sensor Axle 2 Left	J1939						136	72
	1063	Lining Wear Sensor Axle 2 Right	J1939						136	73
	1064	Lining Wear Sensor Axle 3 Left	J1939						136	74
	1065	Lining Wear Sensor Axle 3 Right	J1939						136	75
	1066	Brake Signal Transmitter	J1939						136	76
	1067	Brake Signal Sensor 1	J1939						136	77
	1068	Brake Signal Sensor 2	J1939						136	78
	1069	Tire Dimension Supervision	J1939						136	79
	1070	Vehicle Deceleration Control	J1939						136	80
	1071	Cooling Fan Drive Output	J1939						143	27
	1072	Engine (Compression) Brake Output #1	J1939				Engine Compression Brake driver circuit (includes the ECM driver and solenoid coil).		143	28
	1073	Engine (Compression) Brake Output #2	J1939				Engine Compression Brake driver circuit (includes the ECM driver and solenoid coil).		143	29
	1074	Engine (Exhaust) Brake Output	J1939						143	30
	1075	Engine Electric Lift Pump for Engine Fuel Supply	J1939							

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1076	Engine Fuel Injection Pump Fuel Control Valve	J1939							
	1077	Engine Fuel Injection Pump Controller	J1939							
	1078	Engine Fuel Injection Pump Speed/Position Sensor	J1939							
	1079	Sensor Supply Voltage 1 (+5V DC) (obsolete)	J1939				This SPN is obsolete. SPNs 3509-3514 should be used instead.			
	1080	Sensor Supply Voltage 2 (+5V DC) (obsolete)	J1939				This SPN is obsolete, SPNs 3509-3514 should be used instead.			
	1081	Engine Wait to Start Lamp	J1939-71	65252	4.1	2	Lamp signal which indicates that the engine is too cold to start and the operator should wait until the signal becomes inactive (turns off).			
	1082	Engine Coolant Load Increase	J1939-71	61440	4.1	2	Status of an event, external to the engine, that may increase the nominal temperature of the engine coolant liquid.			
	1083	Auxiliary I/O Channel #1	J1939-71	65241	5-6	16	Auxiliary channel of data (16 bit) read by the ECU. This data is in A/D counts and is manufacturer specific.			
	1084	Auxiliary I/O Channel #2	J1939-71	65241	7-8	16	Auxiliary channel of data (16 bit) read by the ECU. This data is in A/D counts and is manufacturer specific.			
	1085	Intended Retarder Percent Torque	J1939-71	61440	3	8	Braking torque of retarder that the retarder is currently trying to achieve.			
	1086	Parking and/or Trailer Air Pressure	J1939-71	65198	2	8	The pneumatic pressure in the circuit or reservoir for the parking brake and/or the trailer supply.			
	1087	Service Brake Circuit 1 Air Pressure	J1939-71	65198	3	8	The pneumatic pressure in the primary service brake circuit or reservoir, supplying the rear axle.			
	1088	Service Brake Circuit 2 Air Pressure	J1939-71	65198	4	8	The pneumatic pressure in the secondary service brake circuit or reservoir, supplying the front axle.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1089	Auxiliary Equipment Supply Pressure	J1939-71	65198	5	8	The pneumatic pressure in the auxiliary circuit.			
	1090	Air Suspension Supply Pressure	J1939-71	65198	6	8	The pneumatic pressure in the circuit for the electronically controlled air suspension system.			
	1091	Brake Application Pressure High Range, Front Axle, Left Wheel	J1939-71	65197	1	8	The brake application pressure for the left wheel on the front axle.			
	1092	Brake Application Pressure High Range, Front Axle, Right Wheel	J1939-71	65197	2	8	The brake application pressure for the right wheel on the front axle.			
	1093	Brake Application Pressure High Range, Rear Axle #1, Left Wheel	J1939-71	65197	3	8	The brake application pressure for the left wheel on the rear axle #1.			
	1094	Brake Application Pressure High Range, Rear Axle #1, Right Wheel	J1939-71	65197	4	8	The brake application pressure for the right wheel on the rear axle #1.			
	1095	Brake Application Pressure High Range, Rear Axle #2, Left Wheel	J1939-71	65197	5	8	The brake application pressure for the left wheel on the rear axle #2.			
	1096	Brake Application Pressure High Range, Rear Axle #2, Right Wheel	J1939-71	65197	6	8	The brake application pressure for the right wheel on the rear axle #2.			
	1097	Brake Application Pressure High Range, Rear Axle #3, Left Wheel	J1939-71	65197	7	8	The brake application pressure for the left wheel on the rear axle #3.			
	1098	Brake Application Pressure High Range, Rear Axle #3, Right Wheel	J1939-71	65197	8	8	The brake application pressure for the right wheel on the rear axle #3.			
	1099	Brake Lining Remaining, Front Axle, Left Wheel	J1939-71	65196	1	8	The percentage of brake lining which can still be measured for the left wheel on the front axle.			
	1100	Brake Lining Remaining, Front Axle, Right Wheel	J1939-71	65196	2	8	The percentage of brake lining which can still be measured for the right wheel on the front axle.			
	1101	Brake Lining Remaining, Rear Axle #1, Left Wheel	J1939-71	65196	3	8	The percentage of brake lining which can still be measured for the left wheel on the rear axle #1.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1102	Brake Lining Remaining, Rear Axle #1, Right Wheel	J1939-71	65196	4	8	The percentage of brake lining which can still be measured for the right wheel on the rear axle #1.			
	1103	Brake Lining Remaining, Rear Axle #2, Left Wheel	J1939-71	65196	5	8	The percentage of brake lining which can still be measured for the left wheel on the rear axle #2.			
	1104	Brake Lining Remaining, Rear Axle #2, Right Wheel	J1939-71	65196	6	8	The percentage of brake lining which can still be measured for the right wheel on the rear axle #2.			
	1105	Brake Lining Remaining, Rear Axle #3, Left Wheel	J1939-71	65196	7	8	The percentage of brake lining which can still be measured for the left wheel on the rear axle #3.			
	1106	Brake Lining Remaining, Rear Axle #3, Right Wheel	J1939-71	65196	8	8	The percentage of brake lining which can still be measured for the right wheel on the rear axle #3.			
	1107	Engine Protection System Timer State	J1939-71	65252	5.7	2	Status signal which indicates the current mode of the engine protection system timer system. See Figure SPN1107_A.			
	1108	Engine Protection System Timer Override	J1939-71	65252	5.5	2	Status signal which indicates the status of the override feature of the engine protection system timer.			
	1109	Engine Protection System Approaching Shutdown	J1939-71	65252	5.3	2	Status signal which indicates that engine shutdown is imminent.			
	1110	Engine Protection System has Shutdown Engine	J1939-71	65252	5.1	2	Status signal which indicates whether or not the engine protection system has shutdown the engine.			
	1111	Engine Protection System Configuration	J1939-71	65252	6.7	2	Parameter which indicates the configuration of the engine shutdown system.			
	1112	Engine (Compression) Brake Output #3	J1939				Engine Compression Brake driver circuit (includes the ECM driver and solenoid coil).	128	82	
	1113	Recommended Gear	J1939-71	65195	1	8	The transmission calculates this gear continuously.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1114	Lowest Possible Gear	J1939-71	65195	3	8	The transmission calculates this gear continuously. Together with the highest possible gear (see SPN 1115), it enables a management computer to know the exact range of available gears.			
	1115	Highest Possible Gear	J1939-71	65195	2	8	The transmission calculates this gear continuously. Together with the lowest possible gear (see SPN 1114), it enables a management computer to know the exact range of available gears.			
	1116	Engine Gaseous Fuel Correction Factor	J1939-71	65194	1	8	A correction to a predefined gaseous fuel energy (expressed in energy per unit volume) represented as a percentage.			
	1117	Engine Desired Rated Exhaust Oxygen	J1939-71	65193	1-2	16	The desired amount of oxygen in the exhaust at rated conditions represented as a percentage by volume with respect to the total volume of exhaust gases leaving the engine.			
	1118	Engine Desired Exhaust Oxygen	J1939-71	65193	3-4	16	The desired amount of oxygen in the exhaust represented as a percentage by volume with respect to the total volume of exhaust gases leaving the engine.			
	1119	Engine Actual Exhaust Oxygen	J1939-71	65193	5-6	16	The actual amount of oxygen in the exhaust represented as a percentage by volume with respect to the total volume of exhaust gases leaving the engine.			
	1120	Articulation Angle	J1939-71	65192	1	8	Angle of deflection of an articulated transit vehicle (rotation angle about the vehicles z-axis).			
	1121	EBS Brake Switch	J1939-71	61441	1.7	2	Switch signal which indicates that the brake pedal is being pressed. The EBS brake switch is independent of the brake light switch and has no provisions for external connections.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1122	Engine Alternator Bearing 1 Temperature	J1939-71	65191	1	8	Temperature of the bearing inside the alternator. Bearing 1 is the left or rear bearing.			
	1123	Engine Alternator Bearing 2 Temperature	J1939-71	65191	2	8	Temperature of the bearing inside the alternator. Bearing 2 is the right or front bearing.			
	1124	Engine Alternator Winding 1 Temperature	J1939-71	65191	3	8	Temperature of the windings inside the alternator.			
	1125	Engine Alternator Winding 2 Temperature	J1939-71	65191	4	8	Temperature of the windings inside the alternator.			
	1126	Engine Alternator Winding 3 Temperature	J1939-71	65191	5	8	Temperature of the windings inside the alternator.			
	1127	Engine Turbocharger 1 Boost Pressure	J1939-71	65190	1-2	16	Gage pressure of air measured downstream of the compressor discharge side of the turbocharger.			
	1128	Engine Turbocharger 2 Boost Pressure	J1939-71	65190	3-4	16	Gage pressure of air measured downstream of the compressor discharge side of the turbocharger.			
	1129	Engine Turbocharger 3 Boost Pressure	J1939-71	65190	5-6	16	Gage pressure of air measured downstream of the compressor discharge side of the turbocharger.			
	1130	Engine Turbocharger 4 Boost Pressure	J1939-71	65190	7-8	16	Gage pressure of air measured downstream of the compressor discharge side of the turbocharger.			
	1131	Engine Intake Manifold 2 Temperature	J1939-71	65189	1	8	Temperature of pre-combustion air found in intake manifold number 2 of engine air supply system.			
	1132	Engine Intake Manifold 3 Temperature	J1939-71	65189	2	8	Temperature of pre-combustion air found in intake manifold number 3 of engine air supply system.			
	1133	Engine Intake Manifold 4 Temperature	J1939-71	65189	3	8	Temperature of pre-combustion air found in intake manifold number 4 of engine air supply system.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1134	Engine Intercooler Thermostat Opening	J1939-71	65262	8	8	The current position of the thermostat used to regulate the temperature of the engine intercooler.				
	1135	Engine Oil Temperature 2	J1939-71	65188	1-2	16	Temperature of the engine lubricant.				
	1136	Engine ECU Temperature	J1939-71	65188	3-4	16	Temperature of the engine electronic control unit.				
	1137	Engine Exhaust Gas Port 1 Temperature	J1939-71	65187	1-2	16	Temperature at the cylinder exhaust port of the engine.				
	1138	Engine Exhaust Gas Port 2 Temperature	J1939-71	65187	3-4	16	Temperature at the cylinder exhaust port of the engine.				
	1139	Engine Exhaust Gas Port 3 Temperature	J1939-71	65187	5-6	16	Temperature at the cylinder exhaust port of the engine.				
	1140	Engine Exhaust Gas Port 4 Temperature	J1939-71	65187	7-8	16	Temperature at the cylinder exhaust port of the engine.				
	1141	Engine Exhaust Gas Port 5 Temperature	J1939-71	65186	1-2	16	Temperature at the cylinder exhaust port of the engine.				
	1142	Engine Exhaust Gas Port 6 Temperature	J1939-71	65186	3-4	16	Temperature at the cylinder exhaust port of the engine.				
	1143	Engine Exhaust Gas Port 7 Temperature	J1939-71	65186	5-6	16	Temperature at the cylinder exhaust port of the engine.				
	1144	Engine Exhaust Gas Port 8 Temperature	J1939-71	65186	7-8	16	Temperature at the cylinder exhaust port of the engine.				
	1145	Engine Exhaust Gas Port 9 Temperature	J1939-71	65185	1-2	16	Temperature at the cylinder exhaust port of the engine.				
	1146	Engine Exhaust Gas Port 10 Temperature	J1939-71	65185	3-4	16	Temperature at the cylinder exhaust port of the engine.				
	1147	Engine Exhaust Gas Port 11 Temperature	J1939-71	65185	5-6	16	Temperature at the cylinder exhaust port of the engine.				
	1148	Engine Exhaust Gas Port 12 Temperature	J1939-71	65185	7-8	16	Temperature at the cylinder exhaust port of the engine.				
	1149	Engine Exhaust Gas Port 13 Temperature	J1939-71	65184	1-2	16	Temperature at the cylinder exhaust port of the engine.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1150	Engine Exhaust Gas Port 14 Temperature	J1939-71	65184	3-4	16	Temperature at the cylinder exhaust port of the engine.			
	1151	Engine Exhaust Gas Port 15 Temperature	J1939-71	65184	5-6	16	Temperature at the cylinder exhaust port of the engine.			
	1152	Engine Exhaust Gas Port 16 Temperature	J1939-71	65184	7-8	16	Temperature at the cylinder exhaust port of the engine.			
	1153	Engine Exhaust Gas Port 17 Temperature	J1939-71	65183	1-2	16	Temperature at the cylinder exhaust port of the engine.			
	1154	Engine Exhaust Gas Port 18 Temperature	J1939-71	65183	3-4	16	Temperature at the cylinder exhaust port of the engine.			
	1155	Engine Exhaust Gas Port 19 Temperature	J1939-71	65183	5-6	16	Temperature at the cylinder exhaust port of the engine.			
	1156	Engine Exhaust Gas Port 20 Temperature	J1939-71	65183	7-8	16	Temperature at the cylinder exhaust port of the engine.			
	1157	Engine Main Bearing 1 Temperature	J1939-71	65182	1-2	16	Temperature of the main bearing which supports the crankshaft of the engine.			
	1158	Engine Main Bearing 2 Temperature	J1939-71	65182	3-4	16	Temperature of the main bearing which supports the crankshaft of the engine.			
	1159	Engine Main Bearing 3 Temperature	J1939-71	65182	5-6	16	Temperature of the main bearing which supports the crankshaft of the engine.			
	1160	Engine Main Bearing 4 Temperature	J1939-71	65182	7-8	16	Temperature of the main bearing which supports the crankshaft of the engine.			
	1161	Engine Main Bearing 5 Temperature	J1939-71	65181	1-2	16	Temperature of the main bearing which supports the crankshaft of the engine.			
	1162	Engine Main Bearing 6 Temperature	J1939-71	65181	3-4	16	Temperature of the main bearing which supports the crankshaft of the engine.			
	1163	Engine Main Bearing 7 Temperature	J1939-71	65181	5-6	16	Temperature of the main bearing which supports the crankshaft of the engine.			
	1164	Engine Main Bearing 8 Temperature	J1939-71	65181	7-8	16	Temperature of the main bearing which supports the crankshaft of the engine.			
	1165	Engine Main Bearing 9 Temperature	J1939-71	65180	1-2	16	Temperature of the main bearing which supports the crankshaft of the engine.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1166	Engine Main Bearing 10 Temperature	J1939-71	65180	3-4	16	Temperature of the main bearing which supports the crankshaft of the engine.				
	1167	Engine Main Bearing 11 Temperature	J1939-71	65180	5-6	16	Temperature of the main bearing which supports the crankshaft of the engine.				
	1168	Engine Turbocharger Lube Oil Pressure 2	J1939-71	65179	1	8	Gage pressure of oil in turbocharger lubrication system.				
	1169	Engine Turbocharger 2 Speed	J1939-71	65179	2-3	16	Rotational velocity of rotor in the turbocharger.				
	1170	Engine Turbocharger 3 Speed	J1939-71	65179	4-5	16	Rotational velocity of rotor in the turbocharger.				
	1171	Engine Turbocharger 4 Speed	J1939-71	65179	6-7	16	Rotational velocity of rotor in the turbocharger.				
	1172	Engine Turbocharger 1 Compressor Intake Temperature	J1939-71	65178	1-2	16	Temperature of the air entering the compressor side of the turbocharger.				
	1173	Engine Turbocharger 2 Compressor Intake Temperature	J1939-71	65178	3-4	16	Temperature of the air entering the compressor side of the turbocharger.				
	1174	Engine Turbocharger 3 Compressor Intake Temperature	J1939-71	65178	5-6	16	Temperature of the air entering the compressor side of the turbocharger.				
	1175	Engine Turbocharger 4 Compressor Intake Temperature	J1939-71	65178	7-8	16	Temperature of the air entering the compressor side of the turbocharger.				
	1176	Engine Turbocharger 1 Compressor Intake Pressure	J1939-71	65177	1-2	16	Gage pressure of the air entering the compressor side of the turbocharger.				
	1177	Engine Turbocharger 2 Compressor Intake Pressure	J1939-71	65177	3-4	16	Gage pressure of the air entering the compressor side of the turbocharger.				
	1178	Engine Turbocharger 3 Compressor Intake Pressure	J1939-71	65177	5-6	16	Gage pressure of the air entering the compressor side of the turbocharger.				
	1179	Engine Turbocharger 4 Compressor Intake Pressure	J1939-71	65177	7-8	16	Gage pressure of the air entering the compressor side of the turbocharger.				
	1180	Engine Turbocharger 1 Turbine Intake Temperature	J1939-71	65176	1-2	16	Temperature of the combustion by-products entering the turbine side of the turbocharger.				
	1181	Engine Turbocharger 2 Turbine Intake Temperature	J1939-71	65176	3-4	16	Temperature of the combustion by-products entering the turbine side of the turbocharger.				

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1182	Engine Turbocharger 3 Turbine Intake Temperature	J1939-71	65176	5-6	16	Temperature of the combustion by-products entering the turbine side of the turbocharger.				
	1183	Engine Turbocharger 4 Turbine Intake Temperature	J1939-71	65176	7-8	16	Temperature of the combustion by-products entering the turbine side of the turbocharger.				
	1184	Engine Turbocharger 1 Turbine Outlet Temperature	J1939-71	65175	1-2	16	Temperature of the combustion by-products exiting the turbine side of the turbocharger.				
	1185	Engine Turbocharger 2 Turbine Outlet Temperature	J1939-71	65175	3-4	16	Temperature of the combustion by-products exiting the turbine side of the turbocharger.				
	1186	Engine Turbocharger 3 Turbine Outlet Temperature	J1939-71	65175	5-6	16	Temperature of the combustion by-products exiting the turbine side of the turbocharger.				
	1187	Engine Turbocharger 4 Turbine Outlet Temperature	J1939-71	65175	7-8	16	Temperature of the combustion by-products exiting the turbine side of the turbocharger.				
	1188	Engine Turbocharger Wastegate Actuator 1 Position	J1939-71	65174	1	8	Position of the wastegate drive.		128	32	
	1189	Engine Turbocharger Wastegate Actuator 2 Position	J1939-71	65174	2	8	Position of the wastegate drive.		128	88	
	1190	Engine Turbocharger Wastegate Actuator 3 Position	J1939-71	65174	3	8	Position of the wastegate drive.				
	1191	Engine Turbocharger Wastegate Actuator 4 Position	J1939-71	65174	4	8	Position of the wastegate drive.				
	1192	Engine Turbocharger Wastegate Actuator Control Air Pressure	J1939-71	65174	5	8	Gage pressure of the air used to control the actuator which opens and closes the wastegate valve.				
	1193	Engine Operation Time Since Rebuild	J1939-71	65173	1-4	32	The time in engine operation since the last engine rebuild.				
	1194	Anti-theft Encryption Seed Present Indicator	J1939-71	56320	1.1	2	Indicates the presence of the encryption seed random number.				
	1195	Anti-theft Password Valid Indicator	J1939-71	56320	1.3	2	Indicates the presence of a validated password.				217
	1196	Anti-theft Component Status States	J1939-71	56320	1.5	2	Indicates whether or not the component can be started.				

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1197	Anti-theft Modify Password States	J1939-71	56320	1.7	2	This parameter is used to indicate whether a password request was successfully performed, or if the request could not be perform due to system constraints or if the request was not a valid request.				
	1198	Anti-theft Random Number	J1939-71	56320	2-8	56	A seven byte random numeric code provided by the component in response to an anti-theft request.				
	1199	Anti-theft Encryption Indicator States	J1939-71	56576	1.2	2	This parameter is used to indicate if a random number seed is being requested, or if an encrypted password is being provided to the component.				
	1200	Anti-theft Desired Exit Mode States	J1939-71	56576	1.4	2	This parameter is used to specify the desired triggers that are to be used by the component in deciding when to transition to the Locked state.				
	1201	Anti-theft Command States	J1939-71	56576	1.6	3	This parameter is used to identify the specific requests being sent to the component.				
	1202	Anti-theft Password Representation	J1939-71	56576	2-8	56	This parameter is the seven byte numeric code (i.e., 'encrypted password' or 'key') that is generated based on the encryption algorithm, the password supplied by the end user, and the random number seed given by the component.				
	1203	Engine Auxiliary Coolant Pressure	J1939-71	65172	1	8	Gage pressure of coolant found in the intercooler which is located after the turbocharger.				
	1204	Electrical Load	J1939-71	65171	1-2	16	Electrical power delivered by the engine to the electrical system connected to the generator.				
	1205	Safety Wire Status	J1939-71	65171	3.1	2	Status signal which indicates that the safety wire has been activated. When the safety wire is activated, the engine will not operate. This is used for maintenance purposes.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1206	Engine Turning Gear Engaged	J1939-71			2	Status signal which indicates that the turning gear is engaged. The turning gear is used to turn the flywheel/crankshaft, for maintenance purposes, while the engine is not running.			
	1207	Engine ECU Temperature (OBSOLETE use SPN 1136)	J1939-71			16	Temperature of the engine electronic control unit.			
	1208	Engine Pre-filter Oil Pressure	J1939-71	65170	1	8	Gage pressure of the engine oil before the oil reaches the oil filter.			
(R)	1209	Engine Exhaust Gas Pressure 1	J1939-71	65170	2-3	16	Gage pressure of the exhaust gases as measured at the turbine intake of the turbocharger.			
	1210	Engine Fuel Rack Position	J1939-71	65170	4	8	Measured position of the engine fuel rack.			
	1211	Engine Build Hours Reset	J1939-71	56832	3.1	2	Command signal used to reset the engine rebuild hours.			
	1212	Engine Auxiliary Coolant Temperature	J1939-71	65172	2	8	Temperature of coolant found in the intercooler which is located after the turbocharger.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	40704	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64852	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64853	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64854	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64855	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64856	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64857	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64858	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64859	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64860	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64861	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64862	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64863	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64896	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64898	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	64949	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	65226	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	65227	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	65231	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1213	Malfunction Indicator Lamp <sup>†</sup>	J1939-73	65236	1.7	2	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	40704	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64852	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64853	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64854	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64855	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64856	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64857	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64858	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64859	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64860	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64861	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64862	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64863	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64896	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64898	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64949	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	64951	2-3, 4.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	65226	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	65227	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	65229	02-3, 4.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	65231	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1214	Suspect Parameter Number <sup>†</sup>	J1939-73	65236	3-4, 5.6	19	This 19-bit number is used to identify the item for which diagnostics are being reported.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	40704	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64852	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64853	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64854	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64855	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64856	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64857	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64858	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64859	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64860	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64861	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64862	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64863	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64896	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64898	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64949	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	64951	4.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	65226	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	65227	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	65229	04.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	65231	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1215	Failure Mode Identifier <sup>†</sup>	J1939-73	65236	5.1	5	The FMI defines the type of failure detected in the subsystem identified by an SPN.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	40704	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64852	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1216	Occurrence Count <sup>†</sup>	J1939-73	64853	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64854	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64855	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64856	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64857	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64858	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64859	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1216	Occurrence Count <sup>†</sup>	J1939-73	64860	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64861	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64862	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64863	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64896	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64898	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	64949	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1216	Occurrence Count <sup>†</sup>	J1939-73	64951	5.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	65226	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	65227	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	65229	05.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	65231	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1216	Occurrence Count <sup>†</sup>	J1939-73	65236	6.1	7	The occurrence count field contains the number of times a fault has been independently detected. The occurrence count is reported as 1 the first time the DTC is detected.			
	1217	Freeze Frame Length	J1939-73	65229	01	8	The Freeze Frame Length shall be equal to the number of bytes in the required parameters plus the number of bytes in the manufacturer specific parameters.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1218	Active Trouble Codes	J1939-73	65230	1	8	Identifies the number of active trouble codes that are present in a specific controller. If no DTCs are active, this field should be set to zero.			
	1219	Previously Active Trouble Codes	J1939-73	65230	2	8	Identifies the number of previously active trouble codes that are present in a specific controller. If no DTCs have been previously active, this field should be set to zero.			
	1220	OBD Compliance	J1939-73	65230	3	8	Identifies the OBD compliance capability of the responding controller. Identifies the requirements level to which the controller was built.			
	1221	Continuously Monitored Systems Support/Status	J1939-73	65230	4	8	Identifies the continuously monitored system support and status.			
	1222	Non-continuously Monitored Systems Support	J1939-73	65230	5-6	16	Identifies the non-continuously monitored systems support.			
	1223	Non-continuously Monitored Systems Status	J1939-73	65230	7-8	16	Identifies the non-continuously monitored systems status. Each bit identifies whether a particular test is complete for a given controller.			
	1224	Test Identifier <sup>†</sup>	J1939-73	58112	1	8	The TID designates the test to be run.			
	1224	Test Identifier <sup>†</sup>	J1939-73	65232	1	8	The TID designates the test to be run.			
	1225	Test Type/Component Identifier	J1939-73	65232	2	8	This parameter identifies the non-continuously monitored component identifier that was tested.			
	1226	Test Value	J1939-73	65232	3-4	16	The test value collected during the test.			
	1227	Test Limit Maximum	J1939-73	65232	5-6	16	The test value must be less than or equal to Test Limit Maximum in order for the test to pass.			
	1228	Test Limit Minimum	J1939-73	65232	7-8	16	The test value must be greater than or equal to Test Limit Minimum in order for the test to pass.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1229	Test Identifiers Supported	J1939-73	65234	1-8	64	Indicates the test identifiers that the controller supports.			
	1230	Current Data Link	J1939-73	57088	1.7	2	Identifies the action to be performed on the communications port that this parameter was received on.			
	1231	J1939 Network #2	J1939-73	57088	2.7	2	Identifies the action to be performed on the J1939 Network #2 communications port.			
	1232	ISO 9141	J1939-73	57088	2.5	2	Identifies the action to be performed on the ISO 9141 communications port.			
	1233	J1850	J1939-73	57088	2.3	2	Identifies the action to be performed on the J1850 communications port.			
	1234	Other, Manufacturer Specified Port	J1939-73	57088	2.1	2	Identifies the action to be performed on the "Other, Manufacture Specified Port" communications port.			
	1235	J1939 Network #3	J1939-73	57088	3.7	2	Identifies the action to be performed on the J1939 Network #3 communications port.			
	1236	Hold Signal	J1939-73	57088	4.5	4	Indicator to all nodes that the communication ports that have been acted upon by the Stop Start Broadcast PGN are remaining in the modified state.			
	1237	Engine Shutdown Override Switch	J1939-71	65265	8.7	2	Switch signal which indicates the position of the engine shutdown override switch. This switch function allows the operator to override an impending engine shutdown.			
	1238	Traction Control Override Switch	J1939-71	61441	3.7	2	Switch signal which indicates the position of the traction control override switch.			
	1239	Engine Fuel Leakage 1	J1939-71	65169	1.1	2	Status signal which indicates fuel leakage in the fuel rail of the engine. Location can be either before or after the fuel pump.			
	1240	Engine Fuel Leakage 2	J1939-71	65169	1.3	2	Status signal which indicates fuel leakage in the fuel rail of the engine. Location can be either before or after the fuel pump.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1241	Engine Gas Mass Flow Rate 1	J1939-71	65170	5-6	16	Gas mass flow rate delivered to an engine through its first fuel control system.			
	1242	Instantaneous Estimated Brake Power	J1939-71	65170	7-8	16	Estimate of the power developed by the engine.			
	1243	ABS Fully Operational	J1939-71	61441	6.1	2	Signal which indicates whether an ABS system is fully operational or whether its functionality is reduced by a defect or by an intended action			
	1244	Engine Fuel Actuator 2 Control Command	J1939-71	61466	7-8	16	The control command to fuel actuator 2	128	18	
	1245	Engine Timing Actuator #2	J1939				Timing actuator for rear time actuator.			84
	1246	Number of Engine Torque History Records	J1939-71	65168	01	8	Number of torque history records contained in the engine torque history PGN.			
	1247	Engine Power	J1939-71	65168	02-03	16	Advertised engine power capability. Advertised power is what a customer will find on a sales sheet for an engine with a certain calibration.			
	1248	Engine Peak Torque 1	J1939-71	65168	04-05	16	Maximum torque output of the current ECU calibration when the engine operates on torque curve 1.			
	1249	Engine Peak Torque 2	J1939-71	65168	06-07	16	Maximum torque output of the current ECU calibration when the engine operates on torque curve 2.			
	1250	Calibration Record Start Month	J1939-71	65168	08	8	Calendar month timestamp when an ECU record was established.			
	1251	Calibration Record Start Day	J1939-71	65168	09	8	Calendar day timestamp when an ECU record was established.			
	1252	Calibration Record Start Year	J1939-71	65168	10	8	Calendar year timestamp when an ECU record was established.			
	1253	Calibration Record Duration Time	J1939-71	65168	11-14	32	Duration in hours for which the engine operated in the conditions captured in the current record.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1254	Torque Limiting Feature Status	J1939-71	65168	15.1	2	Status of an ECU feature which limits the torque output of the engine.			
	1255	Transmission Gear Ratio 1	J1939-71	65168	16-17	16	Gear ratio value stored in the ECU that is used to define a range of transmission gears for which a limit is applied to the engine output torque.			
	1256	Engine Torque Limit 1, Transmission	J1939-71	65168	18-19	16	Limit applied to the engine output torque during vehicle operation in transmission gear ratios numerically greater than transmission gear ratio 1			
	1257	Transmission Gear Ratio 2	J1939-71	65168	20-21	16	Gear ratio value stored in the ECU that is used to define a range of transmission gears for which a limit is applied to the engine output torque.			
	1258	Engine Torque Limit 2, Transmission	J1939-71	65168	22-23	16	Limit applied to the engine output torque during vehicle operation in transmission gear ratios numerically less than or equal to transmission gear ratio 1 and numerically greater than transmission gear ratio 2.			
	1259	Transmission Gear Ratio 3	J1939-71	65168	24-25	16	Gear ratio value stored in the ECU that is used to define a range of transmission gears for which a limit is applied to the engine output torque.			
	1260	Engine Torque Limit 3, Transmission	J1939-71	65168	26-27	16	Limit applied to the engine output torque during vehicle operation in transmission gear ratios numerically less than or equal to transmission gear ratio 2 and numerically greater than transmission gear ratio 3			
	1261	Engine Torque Limit 4, Transmission	J1939-71	65168	28-29	16	Limit applied to the engine output torque during vehicle operation in transmission gear ratios numerically less than or equal to transmission gear ratio 3			
	1262	Engine Torque Limit 5, Switch	J1939-71	65168	30-31	16	Limit applied to the engine output torque based on activation of an ECU switch input.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1263	Engine Torque Limit 6, Axle Input	J1939-71	65168	32-33	16	Limit applied to the engine output torque based on the maximum allowable axle input torque.			
	1264	Engine Extended Crankcase Blow-by Pressure - duplicate (see SPN 22)	J1939-71			8	Differential crankcase blow-by pressure as measured through a tube with a venturi.	22		
	1265	Engine Oil Burn Valve	J1939				Valve to control the flow of oil to be burned off in the engine.			85
	1266	Engine Oil Replacement Valve	J1939				Valve to control the replacement oil to the engine.			86
	1267	Idle Shutdown Vehicle Accessories Relay Driver Circuit	J1939				When Idle Shutdown System is activated, the relay will shutdown off accessories.			87
	1268	Engine Ignition Coil #1	J1939				Coil for high voltage spark plug in gas engines.			
	1269	Engine Ignition Coil #2	J1939				Coil for high voltage spark plug in gas engines.			
	1270	Engine Ignition Coil #3	J1939				Coil for high voltage spark plug in gas engines.			
	1271	Engine Ignition Coil #4	J1939				Coil for high voltage spark plug in gas engines.			
	1272	Engine Ignition Coil #5	J1939				Coil for high voltage spark plug in gas engines.			
	1273	Engine Ignition Coil #6	J1939				Coil for high voltage spark plug in gas engines.			
	1274	Engine Ignition Coil #7	J1939				Coil for high voltage spark plug in gas engines.			
	1275	Engine Ignition Coil #8	J1939				Coil for high voltage spark plug in gas engines.			
	1276	Engine Ignition Coil #9	J1939				Coil for high voltage spark plug in gas engines.			
	1277	Engine Ignition Coil #10	J1939				Coil for high voltage spark plug in gas engines.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1278	Engine Ignition Coil #11	J1939				Coil for high voltage spark plug in gas engines.			
	1279	Engine Ignition Coil #12	J1939				Coil for high voltage spark plug in gas engines.			
	1280	Engine Ignition Coil #13	J1939				Coil for high voltage spark plug in gas engines.			
	1281	Engine Ignition Coil #14	J1939				Coil for high voltage spark plug in gas engines.			
	1282	Engine Ignition Coil #15	J1939				Coil for high voltage spark plug in gas engines.			
	1283	Engine Ignition Coil #16	J1939				Coil for high voltage spark plug in gas engines.			
	1284	Engine Ignition Coil #17	J1939				Coil for high voltage spark plug in gas engines.			
	1285	Engine Ignition Coil #18	J1939				Coil for high voltage spark plug in gas engines.			
	1286	Engine Ignition Coil #19	J1939				Coil for high voltage spark plug in gas engines.			
	1287	Engine Ignition Coil #20	J1939				Coil for high voltage spark plug in gas engines.			
	1288	Engine Ignition Coil #21	J1939				Coil for high voltage spark plug in gas engines.			
	1289	Engine Ignition Coil #22	J1939				Coil for high voltage spark plug in gas engines.			
	1290	Engine Ignition Coil #23	J1939				Coil for high voltage spark plug in gas engines.			
	1291	Engine Ignition Coil #24	J1939				Coil for high voltage spark plug in gas engines.			
	1292	Engine Ignition Control Module #1	J1939				Electronic control unit for an ignition system.			
	1293	Engine Ignition Control Module #2	J1939				Electronic control unit for an ignition system.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1294	Engine Spark Plug 1	J1939-71	64887	1-2	16	The measured voltage of the spark event on Cylinder #1			
	1295	Engine Spark Plug 2	J1939-71	64887	3-4	16	The measured voltage of the spark event on Cylinder #2			
	1296	Engine Spark Plug 3	J1939-71	64887	5-6	16	The measured voltage of the spark event on Cylinder #3			
	1297	Engine Spark Plug 4	J1939-71	64887	7-8	16	The measured voltage of the spark event on Cylinder #4			
	1298	Engine Spark Plug 5	J1939-71	64886	1-2	16	The measured voltage of the spark event on Cylinder #5			
	1299	Engine Spark Plug 6	J1939-71	64886	3-4	16	The measured voltage of the spark event on Cylinder #6			
	1300	Engine Spark Plug 7	J1939-71	64886	5-6	16	The measured voltage of the spark event on Cylinder #7			
	1301	Engine Spark Plug 8	J1939-71	64886	7-8	16	The measured voltage of the spark event on Cylinder #8			
	1302	Engine Spark Plug 9	J1939-71	64885	1-2	16	The measured voltage of the spark event on Cylinder #9			
	1303	Engine Spark Plug 10	J1939-71	64885	3-4	16	The measured voltage of the spark event on Cylinder #10			
	1304	Engine Spark Plug 11	J1939-71	64885	5-6	16	The measured voltage of the spark event on Cylinder #11			
	1305	Engine Spark Plug 12	J1939-71	64885	7-8	16	The measured voltage of the spark event on Cylinder #12			
	1306	Engine Spark Plug 13	J1939-71	64884	1-2	16	The measured voltage of the spark event on Cylinder #13			
	1307	Engine Spark Plug 14	J1939-71	64884	3-4	16	The measured voltage of the spark event on Cylinder #14			
	1308	Engine Spark Plug 15	J1939-71	64884	5-6	16	The measured voltage of the spark event on Cylinder #15			
	1309	Engine Spark Plug 16	J1939-71	64884	7-8	16	The measured voltage of the spark event on Cylinder #16			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1310	Engine Spark Plug 17	J1939-71	64883	1-2	16	The measured voltage of the spark event on Cylinder #17			
	1311	Engine Spark Plug 18	J1939-71	64883	3-4	16	The measured voltage of the spark event on Cylinder #18			
	1312	Engine Spark Plug 19	J1939-71	64883	5-6	16	The measured voltage of the spark event on Cylinder #19			
	1313	Engine Spark Plug 20	J1939-71	64883	7-8	16	The measured voltage of the spark event on Cylinder #20			
	1314	Engine Spark Plug 21	J1939-71	64882	1-2	16	The measured voltage of the spark event on Cylinder #21			
	1315	Engine Spark Plug 22	J1939-71	64882	3-4	16	The measured voltage of the spark event on Cylinder #22			
	1316	Engine Spark Plug 23	J1939-71	64882	5-6	16	The measured voltage of the spark event on Cylinder #23			
	1317	Engine Spark Plug 24	J1939-71	64882	7-8	16	The measured voltage of the spark event on Cylinder #24			
	1318	Engine Exhaust Temperature Bank Imbalance	J1939				The imbalance between two banks of exhaust port temperatures.			
	1319	Engine Intake Manifold Pressure Bank Imbalance	J1939				Imbalance between two banks of intake pressure manifolds			
	1320	Engine External Shutdown Air Supply Pressure	J1939-71	65167	1-2	16	Pressure of the air used to shut off the fuel supply to the engine.			
	1321	Engine Starter Solenoid Lockout Relay Driver Circuit	J1939				This relay is in series with the engine starter moto relay and controled by engine ECM to prevent starter engagement			
	1322	Engine Misfire for Multiple Cylinders	J1939				When a misfire occurs in any one of the cylinders			
	1323	Engine Misfire Cylinder #1	J1939				Engine misfire detected in cylinder			
	1324	Engine Misfire Cylinder #2	J1939				Engine misfire detected in cylinder			
	1325	Engine Misfire Cylinder #3	J1939				Engine misfire detected in cylinder			
	1326	Engine Misfire Cylinder #4	J1939				Engine misfire detected in cylinder			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1327	Engine Misfire Cylinder #5	J1939				Engine misfire detected in cylinder			
	1328	Engine Misfire Cylinder #6	J1939				Engine misfire detected in cylinder			
	1329	Engine Misfire Cylinder #7	J1939				Engine misfire detected in cylinder			
	1330	Engine Misfire Cylinder #8	J1939				Engine misfire detected in cylinder			
	1331	Engine Misfire Cylinder #9	J1939				Engine misfire detected in cylinder			
	1332	Engine Misfire Cylinder #10	J1939				Engine misfire detected in cylinder			
	1333	Engine Misfire Cylinder #11	J1939				Engine misfire detected in cylinder			
	1334	Engine Misfire Cylinder #12	J1939				Engine misfire detected in cylinder			
	1335	Engine Misfire Cylinder #13	J1939				Engine misfire detected in cylinder			
	1336	Engine Misfire Cylinder #14	J1939				Engine misfire detected in cylinder			
	1337	Engine Misfire Cylinder #15	J1939				Engine misfire detected in cylinder			
	1338	Engine Misfire Cylinder #16	J1939				Engine misfire detected in cylinder			
	1339	Engine Misfire Cylinder #17	J1939				Engine misfire detected in cylinder			
	1340	Engine Misfire Cylinder #18	J1939				Engine misfire detected in cylinder			
	1341	Engine Misfire Cylinder #19	J1939				Engine misfire detected in cylinder			
	1342	Engine Misfire Cylinder #20	J1939				Engine misfire detected in cylinder			
	1343	Engine Misfire Cylinder #21	J1939				Engine misfire detected in cylinder			
	1344	Engine Misfire Cylinder #22	J1939				Engine misfire detected in cylinder			
	1345	Engine Misfire Cylinder #23	J1939				Engine misfire detected in cylinder			
	1346	Engine Misfire Cylinder #24	J1939				Engine misfire detected in cylinder			
	1347	Engine Fuel Pump Pressurizing Assembly #1	J1939				The pumping assembly of the fuel system			
	1348	Engine Fuel Pump Pressurizing Assembly #2	J1939				The pumping assembly of the fuel system			
	1349	Engine Injector Metering Rail 2 Pressure	J1939-71	65243	7-8	16	The gage pressure of fuel in the metering rail #2 as delivered from the supply pump to the injector metering intake.	129		

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1350	Time Since Last Service	J1939-71	65166	2-3	16	The vehicle operation time since the last service was performed.			
	1351	Air Compressor Status	J1939-71	65198	7.1	2	Indicates whether the air compressor is actively compressing air.			
	1352	Engine Cylinder 1 Knock Level	J1939-71	61463	1	8	Used to indicate the level of knock for engine cylinder 1 (replaces 1352)			
	1353	Engine Cylinder 2 Knock Level	J1939-71	61463	2	8	Used to indicate the level of knock for engine cylinder 2			
	1354	Engine Cylinder 3 Knock Level	J1939-71	61463	3	8	Used to indicate the level of knock for engine cylinder 3			
	1355	Engine Cylinder 4 Knock Level	J1939-71	61463	4	8	Used to indicate the level of knock for engine cylinder 4			
	1356	Engine Cylinder 5 Knock Level	J1939-71	61463	5	8	Used to indicate the level of knock for engine cylinder 5			
	1357	Engine Cylinder 6 Knock Level	J1939-71	61463	6	8	Used to indicate the level of knock for engine cylinder 6			
	1358	Engine Cylinder 7 Knock Level	J1939-71	61463	7	8	Used to indicate the level of knock for engine cylinder 7			
	1359	Engine Cylinder 8 Knock Level	J1939-71	61463	8	8	Used to indicate the level of knock for engine cylinder 8			
	1360	Engine Cylinder 9 Knock Level	J1939-71	61464	1	8	Used to indicate the level of knock for engine cylinder 9			
	1361	Engine Cylinder 10 Knock Level	J1939-71	61464	2	8	Used to indicate the level of knock for engine cylinder 10			
	1362	Engine Cylinder 11 Knock Level	J1939-71	61464	3	8	Used to indicate the level of knock for engine cylinder 11			
	1363	Engine Cylinder 12 Knock Level	J1939-71	61464	4	8	Used to indicate the level of knock for engine cylinder 12			
	1364	Engine Cylinder 13 Knock Level	J1939-71	61464	5	8	Used to indicate the level of knock for engine cylinder 13			
	1365	Engine Cylinder 14 Knock Level	J1939-71	61464	6	8	Used to indicate the level of knock for engine cylinder 14			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1366	Engine Cylinder 15 Knock Level	J1939-71	61464	7	8	Used to indicate the level of knock for engine cylinder 15			
	1367	Engine Cylinder 16 Knock Level	J1939-71	61464	8	8	Used to indicate the level of knock for engine cylinder 16			
	1368	Engine Cylinder 17 Knock Level	J1939-71	61465	1	8	Used to indicate the level of knock for engine cylinder 17			
	1369	Engine Cylinder 18 Knock Level	J1939-71	61465	2	8	Used to indicate the level of knock for engine cylinder 18			
	1370	Engine Cylinder 19 Knock Level	J1939-71	61465	3	8	Used to indicate the level of knock for engine cylinder 19			
	1371	Engine Cylinder 20 Knock Level	J1939-71	61465	4	8	Used to indicate the level of knock for engine cylinder 20			
	1372	Engine Cylinder 21 Knock Level	J1939-71	61465	5	8	Used to indicate the level of knock for engine cylinder 21			
	1373	Engine Cylinder 22 Knock Level	J1939-71	61465	6	8	Used to indicate the level of knock for engine cylinder 22			
	1374	Engine Cylinder 23 Knock Level	J1939-71	61465	7	8	Used to indicate the level of knock for engine cylinder 23			
	1375	Engine Cylinder 24 Knock Level	J1939-71	61465	8	8	Used to indicate the level of knock for engine cylinder 24			
	1376	Battery 2 Potential (Voltage) (duplicate - see also SPN 444)	J1939			16	The voltage for isolated battery #2. Duplicate SPN, recommend use of SPN 444.			
	1377	Engine Synchronization Switch	J1939-71	64971	1.3	2	This is the On/Off operation of the Multiple Unit Synchronization functionality. When it is enabled (i.e. On) the master engine will synchronize one or more slave engines to operate at the same speed.			
	1378	Engine Oil Change Interval	J1939				The engine oil change interval time has expired	128	115	
	1379	Service Component Identification	J1939-71	65166	1	8	Identification of component needing service.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1380	Engine Oil Level Remote Reservoir	J1939-71	65130	1	8	Ratio of current volume of engine oil in a remote reservoir to the maximum required volume.	17		
	1381	Engine Fuel Supply Pump Intake Pressure	J1939-71	65130	2	8	Absolute pressure of fuel at the fuel supply pump intake.			
	1382	Engine Fuel Filter (suction side) Differential Pressure	J1939-71	65130	3	8	Differential pressure measured across the fuel filter located between the fuel tank and the supply pump.	16		
	1383	Engine was Shut Down Hot	J1939				Abrupt engine shutdown when hot		128	116
	1384	Engine has Been Shut Down from Data Link Information	J1939				Engine commanded to shutdown via the datalink		128	117
	1385	Auxiliary Temperature #1 (duplicate see also SPN 441)	J1939-71			8	Temperature measured by auxiliary temperature sensor #1 or #2. Not to be used in place of existing SPNs.			
	1386	Auxiliary Temperature #2 (duplicate see also SPN 442)	J1939-71			8	Temperature measured by auxiliary temperature sensor #1 or #2. Not to be used in place of existing SPNs.			
	1387	Auxiliary Pressure #1	J1939-71	65164	3	8	Pressure measured by auxiliary pressure sensor #1. Not to be used in place of existing SPNs.			
	1388	Auxiliary Pressure #2	J1939-71	65164	4	8	Pressure measured by auxiliary pressure sensor #2. Not to be used in place of existing SPNs.			
	1389	Engine Fuel Specific Gravity	J1939-71	65202	7-8	16	This parameter conveys the specific gravity of the gaseous fuel being used by the engine.			
	1390	Engine Fuel Valve 1 Intake Absolute Pressure	J1939-71	65163	1-2	16	The absolute pressure of gas on the intake side of the first system control valve.			
	1391	Engine Fuel Valve Differential Pressure	J1939-71	65163	3-4	16	The differential pressure between the intake and the outlet of a gaseous fuel valve.			
	1392	Engine Air to Fuel Differential Pressure	J1939-71	65163	5-6	16	The differential pressure between the gaseous fuel and the air intake manifold.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1393	Engine Cylinder #1 Ignition Transformer Secondary Output	J1939-71	65160	1	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1394	Engine Cylinder #2 Ignition Transformer Secondary Output	J1939-71	65160	2	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1395	Engine Cylinder #3 Ignition Transformer Secondary Output	J1939-71	65160	3	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1396	Engine Cylinder #4 Ignition Transformer Secondary Output	J1939-71	65160	4	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1397	Engine Cylinder #5 Ignition Transformer Secondary Output	J1939-71	65160	5	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1398	Engine Cylinder #6 Ignition Transformer Secondary Output	J1939-71	65160	6	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1399	Engine Cylinder #7 Ignition Transformer Secondary Output	J1939-71	65160	7	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1400	Engine Cylinder #8 Ignition Transformer Secondary Output	J1939-71	65160	8	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1401	Engine Cylinder #9 Ignition Transformer Secondary Output	J1939-71	65161	1	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1402	Engine Cylinder #10 Ignition Transformer Secondary Output	J1939-71	65161	2	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1403	Engine Cylinder #11 Ignition Transformer Secondary Output	J1939-71	65161	3	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1404	Engine Cylinder #12 Ignition Transformer Secondary Output	J1939-71	65161	4	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1405	Engine Cylinder #13 Ignition Transformer Secondary Output	J1939-71	65161	5	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1406	Engine Cylinder #14 Ignition Transformer Secondary Output	J1939-71	65161	6	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1407	Engine Cylinder #15 Ignition Transformer Secondary Output	J1939-71	65161	7	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1408	Engine Cylinder #16 Ignition Transformer Secondary Output	J1939-71	65161	8	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1409	Engine Cylinder #17 Ignition Transformer Secondary Output	J1939-71	65162	1	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1410	Engine Cylinder #18 Ignition Transformer Secondary Output	J1939-71	65162	2	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1411	Engine Cylinder #19 Ignition Transformer Secondary Output	J1939-71	65162	3	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
	1412	Engine Cylinder #20 Ignition Transformer Secondary Output	J1939-71	65162	4	8	This parameter indicates the relative intensity of the secondary output voltage of the ignition transformer.			
(R)	1413	Engine Cylinder #1 Ignition Timing	J1939-71	65154	1-2	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1414	Engine Cylinder #2 Ignition Timing	J1939-71	65154	3-4	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1415	Engine Cylinder #3 Ignition Timing	J1939-71	65154	5-6	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	1416	Engine Cylinder #4 Ignition Timing	J1939-71	65154	7-8	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1417	Engine Cylinder #5 Ignition Timing	J1939-71	65155	1-2	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1418	Engine Cylinder #6 Ignition Timing	J1939-71	65155	3-4	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1419	Engine Cylinder #7 Ignition Timing	J1939-71	65155	5-6	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1420	Engine Cylinder #8 Ignition Timing	J1939-71	65155	7-8	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1421	Engine Cylinder #9 Ignition Timing	J1939-71	65156	1-2	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1422	Engine Cylinder #10 Ignition Timing	J1939-71	65156	3-4	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1423	Engine Cylinder #11 Ignition Timing	J1939-71	65156	5-6	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1424	Engine Cylinder #12 Ignition Timing	J1939-71	65156	7-8	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1425	Engine Cylinder #13 Ignition Timing	J1939-71	65157	1-2	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1426	Engine Cylinder #14 Ignition Timing	J1939-71	65157	3-4	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1427	Engine Cylinder #15 Ignition Timing	J1939-71	65157	5-6	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1428	Engine Cylinder #16 Ignition Timing	J1939-71	65157	7-8	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1429	Engine Cylinder #17 Ignition Timing	J1939-71	65158	1-2	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1430	Engine Cylinder #18 Ignition Timing	J1939-71	65158	3-4	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
(R)	1431	Engine Cylinder #19 Ignition Timing	J1939-71	65158	5-6	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	1432	Engine Cylinder #20 Ignition Timing	J1939-71	65158	7-8	16	The ignition timing (SI engines) or main fuel injection timing (CI engines) of the cylinder.			
	1433	Engine Desired Ignition Timing #1	J1939-71	65159	1-2	16	A programmable timing value specific to the engine's application. Factors affecting this value include both fuel type and the nature of the load being driven.			
	1434	Engine Desired Ignition Timing #2	J1939-71	65159	3-4	16	A programmable timing value specific to the engine's application. Factors affecting this value include both fuel type and the nature of the load being driven.			
	1435	Engine Desired Ignition Timing #3	J1939-71	65159	5-6	16	A programmable timing value specific to the engine's application. Factors affecting this value include both fuel type and the nature of the load being driven.			
	1436	Engine Actual Ignition Timing	J1939-71	65159	7-8	16	The actual ignition timing at the current engine conditions. This parameter may or may not be equal to one of the desired timing parameters (see SPNs 1433-1435), depending on the status of the engine.			
	1437	Road Speed Limit Status	J1939-71	61443	1.5	2	Status (active or not active) of the system used to limit maximum vehicle velocity.			
	1438	ABS/EBS Amber Warning Signal (Powered Vehicle)	J1939-71	61441	6.5	2	This parameter commands the ABS/EBS amber/yellow optical warning signal			
	1439	EBS Red Warning Signal	J1939-71	61441	6.3	2	This parameter commands the EBS red optical warning signal			
	1440	Engine Fuel Flow Rate 1	J1939-71	65153	1-2	16	The rate at which the fuel is flowing through a fuel valve.			
	1441	Engine Fuel Flow Rate 2	J1939-71	65153	3-4	16	The rate at which the fuel is flowing through a fuel valve.			
	1442	Engine Fuel Valve 1 Position	J1939-71	65153	5	8	The position of a gaseous fuel valve that is metering the fuel flow to the engine.			
	1443	Engine Fuel Valve 2 Position	J1939-71	65153	6	8	The position of a gaseous fuel valve that is metering the fuel flow to the engine.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1444	Engine Cylinder #1 Combustion Time	J1939-71	65147	1-2	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.			
	1445	Engine Cylinder #2 Combustion Time	J1939-71	65147	3-4	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.			
	1446	Engine Cylinder #3 Combustion Time	J1939-71	65147	5-6	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.			
	1447	Engine Cylinder #4 Combustion Time	J1939-71	65147	7-8	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.			
	1448	Engine Cylinder #5 Combustion Time	J1939-71	65148	1-2	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.			
	1449	Engine Cylinder #6 Combustion Time	J1939-71	65148	3-4	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.			
	1450	Engine Cylinder #7 Combustion Time	J1939-71	65148	5-6	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.			
	1451	Engine Cylinder #8 Combustion Time	J1939-71	65148	7-8	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.			
	1452	Engine Cylinder #9 Combustion Time	J1939-71	65149	1-2	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.			
	1453	Engine Cylinder #10 Combustion Time	J1939-71	65149	3-4	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.			
	1454	Engine Cylinder #11 Combustion Time	J1939-71	65149	5-6	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1455	Engine Cylinder #12 Combustion Time	J1939-71	65149	7-8	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.				
	1456	Engine Cylinder #13 Combustion Time	J1939-71	65150	1-2	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.				
	1457	Engine Cylinder #14 Combustion Time	J1939-71	65150	3-4	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.				
	1458	Engine Cylinder #15 Combustion Time	J1939-71	65150	5-6	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.				
	1459	Engine Cylinder #16 Combustion Time	J1939-71	65150	7-8	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.				
	1460	Engine Cylinder #17 Combustion Time	J1939-71	65151	1-2	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.				
	1461	Engine Cylinder #18 Combustion Time	J1939-71	65151	3-4	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.				
	1462	Engine Cylinder #19 Combustion Time	J1939-71	65151	5-6	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.				
	1463	Engine Cylinder #20 Combustion Time	J1939-71	65151	7-8	16	The amount of time from when the ignition of the fuel is initiated to when the fuel is completely ignited.				
	1464	Engine Desired Combustion Time	J1939-71	65152	1-2	16	The desired combustion time based upon engine load and speed lookup maps.				
	1465	Engine Average Combustion Time	J1939-71	65152	3-4	16	The average combustion time of all cylinders of an engine.				
	1466	Steer Channel Mode	J1939-71	65144	2.1	4	Indicates the functional mode of steer channel of the tire pressure control system.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1467	Trailer/tag Channel Mode	J1939-71	65144	3.1	4	Indicates the functional mode of trailer/tag channel of the tire pressure control system.			
	1468	Drive Channel Mode	J1939-71	65144	3.5	4	Indicates the functional mode of trailer/tag channel of the tire pressure control system.			
	1469	PCU Drive Solenoid Status	J1939-71	65144	4.1	2	Current state of the drive solenoid used to implement a tire pressure control system in its pneumatic control unit (PCU).			
	1470	PCU Steer Solenoid Status	J1939-71	65144	4.3	2	Current state of the steer solenoid used to implement a tire pressure control system in its pneumatic control unit (PCU).			
	1471	Tire Pressure Supply Switch Status	J1939-71	65144	4.5	2	Current state of an open/closed type switch used to determine if adequate pressure exists for system implementation.			
	1472	PCU Deflate Solenoid Status	J1939-71	65144	5.1	2	Current state of the deflate solenoid used to implement a tire pressure control system in its pneumatic control unit (PCU).			
	1473	PCU Control Solenoid Status	J1939-71	65144	5.3	2	Current state of the control solenoid used to implement a tire pressure control system in its pneumatic control unit (PCU).			
	1474	PCU Supply Solenoid Status	J1939-71	65144	5.5	2	Current state of the supply solenoid used to implement a tire pressure control system in its pneumatic control unit (PCU).			
	1475	PCU Trailer, Tag or Push Solenoid Status	J1939-71	65144	5.7	2	Current state of the trailer, tag, or push solenoid used to implement a tire pressure control system in its pneumatic control unit (PCU).			
	1476	Engine Oil Specific Resistance	J1939-71			8	Engine oil specific resistance used to describe the engine oil quality.			
	1477	Engine Oil Kinematic Viscosity	J1939-71			8	Engine oil kinematic viscosity used to describe the engine oil quality.			
	1478	Engine Oil Relative Dielectricity	J1939-71			8	Engine oil relative dielectricity used to describe the engine oil quality.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1479	Security Entity Type	J1939-73	54272	2.1	4	This 4-bit parameter that indicates whether the data in the following Security Entity parameter is to be used as a Long Seed, Long Key, Session Key, or Certificate.				
	1480	Source Address of Controlling Device for Retarder Control	J1939-71	61440	5	8	The source address of the SAE J1939 device currently controlling the retarder.				
	1481	Source Address of Controlling Device for Brake Control	J1939-71	61441	7	8	The source address of the SAE J1939 device currently controlling the brake system.				
	1482	Source Address of Controlling Device for Transmission Control	J1939-71	61442	8	8	The source address of the SAE J1939 device currently controlling the transmission.				
	1483	Source Address of Controlling Device for Engine Control	J1939-71	61444	6	8	The source address of the SAE J1939 device currently controlling the engine.				
	1484	Other ECUs Have Reported Fault Codes Affecting Operation	J1939				Indication of fault codes for other devices		0	216	
	1485	ECM Main Relay	J1939						0	218	
	1486	Concave Position	J1939				Combine Concave Clearance Measurement				
	1487	Illumination Brightness Percent	J1939-71	53248	1	8	Commanded Backlight Brightness Level				
	1488	Thresher Speed	J1939-74			16	Speed of the thresher such as found in a combine				
	1489	Cleaning Fan Speed	J1939-74			8	The speed of the cleaning fan				
	1490	Header Backshaft Speed	J1939-74			16	The speed of the feederhouse. The feederhouse is the entry point of crop into the combine				
	1491	Instrument Panel #1 Backlighting Driver	J1939				First Tailings Sensor circuit				
	1492	Instrument Panel #2 Backlighting Driver	J1939				Second Tailings Sensor circuit				
	1493	Tailings System	J1939				Tailings Elevator Paddles (e.g., missing)				
	1494	Tailings Sensor #1	J1939				Drive circuit which engages the unloading auger system				
	1495	Tailings Sensor #2	J1939				Drive circuit which engages the unloading header system				

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1496	Tailings Elevator Paddles	J1939				Drive circuit which engages the unloading separator system				
	1497	Unloading Auger Drive	J1939-74			2	The mode of the unloading Auger driver				
	1498	Header Drive	J1939-74			2	The mode of the Header driver				
	1499	Separator Drive	J1939-74			2	The mode of the Separator driver				
	1500	Tachometer Module Switch Matrix	J1939				Switch input matrix that controls monitoring functions of the tachometer module				
	1501	Grain Loss Module Switch Matrix	J1939				Switch input matrix that controls monitoring functions of the grain loss module				
	1502	Automatic Header Control Switch Matrix	J1939				Switch input matrix that controls monitoring functions of the automatic header module				
	1503	Armrest 1 Switch 1	J1939-71	64745	1.1	2	Status of the first switch located in armrest 1.				
	1504	Operator Seat Switch	J1939			2	This switch senses the presence of the operator in the seat				
	1505	Automatic Header Sensitivity Adjustment	J1939-74			8	A control system parameter. This is the sensitivity adjustment to the automatic header control loop.				
	1506	Automatic Header Rate Adjustment Input	J1939-74			8	An adjustment to the response rate of the automatic header control loop.				
	1507	Discharge Beater Speed Disable Adjustment	J1939				Input to adjust the discharge beater speed				
	1508	Hydraulic Reservoir Temperature	J1939-74			8	The temperature of the hydraulic fluid, measured in the hydraulic reservoir.				
	1509	Thresher Separator Hydraulic Drive 1 Temperature	J1939-74			8	The temperature of the hydraulic fluid in the Thresher Separator Hydraulic Drive #1 gear case				
	1510	Chopper Vane Angle Adjustment	J1939-74			8	The control adjustment of the chopper vane angle				
	1511	Right side Cleaning Shoe Relative Grain Loss	J1939-74			8	A scalar that represents an amount of grain loss exiting the right side of the cleaning shoe				

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1512	Left side Cleaning Shoe Relative Grain Loss	J1939-74			8	A scalar that represents an amount of grain loss exiting the left side of the cleaning shoe			
	1513	Right side Separator Relative Grain Loss	J1939-74			8	The amount of grain loss at the right side of the separator			
	1514	Left side Separator Relative Grain Loss	J1939-74			8	The amount of grain loss at the left side of the separator			
	1515	Header Height System	J1939				General fault in the system that controls the header			
	1516	Header	J1939				Mechanical problem with the header system			
	1517	Header Lift Cylinder Pressure	J1939-74			8	The pressure in the header lift cylinder			
	1518	Header Sensor Identification	J1939-74			8	The system identification of the header sensor configuration.			
	1519	Header Raise Valve Drive	J1939-74			2	The mode of the Header raise valve driver			
	1520	Header Lower Valve Drive	J1939-74			2	The mode of the Header lower valve driver			
	1521	Header Tilt Left Valve Drive	J1939-74			2	The mode of the Header tilt left valve driver			
	1522	Header Tilt Right Valve Drive	J1939-74			2	The mode of the Header tilt right valve driver			
	1523	Header Lift Cylinder Pressure Diverted Valve Drive	J1939-74			2	The mode of the diverted valve driver, related to the Header lift cylinder pressure			
	1524	Reel Position Forward Actuator	J1939-74			2	The mode of the Reel position forward actuator			
	1525	Reel Position Aft Actuator	J1939-74			2	The mode of the Reel position aft actuator			
	1526	Reel Position Raise Actuator	J1939-74			2	The mode of the Reel position raise actuator			
	1527	Reel Position Lower Actuator	J1939-74			2	The mode of the Reel position lower actuator			
	1528	Header Drop Rate Control Valve Drive	J1939-74			2	The mode of the driver for the valve which controls the drop rate of the header			
	1529	Header Lift Cylinder Accumulator Shutoff Valve Drive	J1939-74			2	The mode of the driver for the Header Lift Cylinder Accumulator Shutoff Valve			
	1530	Unloading auger flow bypass valve drive	J1939-74			2	The mode of the driver for the unloading auger flow bypass valve			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1531	Reel Drive Motor Speed Increase Valve Drive	J1939-74			2	The mode of the driver for the reel drive motor speed increase valve.			
	1532	Reel Drive Motor Speed Decrease Valve Drive	J1939-74			2	The mode of the driver for the reel drive motor speed decrease valve.			
	1533	Feederhouse Angle	J1939				Circuit and sensor for measuring the feederhouse angle parameter			
	1534	Header Leftmost Height	J1939-74			16	Height of: Left (or left side of) header, measured relative to the ground			
	1535	Header Rightmost Height	J1939-74			16	Height of: right (or right side of) header, measured relative to the ground			
	1536	Header Center Height	J1939-74			16	Height of: center (or center of the) header, measured relative to the ground			
	1537	Reel Fore-Aft Position	J1939-74			8	A mechanical range of adjustment to position the reel along this axis. 0% to be toward the rear of the machine, 100% toward the front end.			
	1538	Reel Up-Down Position	J1939-74			8	A mechanical range of adjustment to position the reel along this axis. 0% to be toward the ground & 100% will be in the vertical upward direction			
	1539	Header Lateral Tilt Angle	J1939-74			8	The lateral tilt angle of the header (feederhouse) relative to the combine chassis. Negative angle is a CCW rotation from straight ahead. A Positive angle is CW from straight ahead			
	1540	Reel Speed Actuator Position	J1939-74			8	The position of the Reel speed actuator.			
	1541	Reel Speed	J1939-74			16	The rotational velocity of the Reel. The Reel is a device on the platform that pushes the crop onto the header.			
	1542	ECU Power Supply Voltage #2 (obsolete)	J1939				This SPN is obsolete. SPNs 3598 should be used instead.			
	1543	ECU Power Supply Voltage #3 (obsolete)	J1939				This SPN is obsolete. SPNs 3599 should be used instead.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1544	Hydro Handle Matrix Switch	J1939				Multi-function handle circuit			
	1545	SPN Data	J1939-73	64951	6-n	8	The SPN data field represents the data pertaining to one or more SPNs that were reported in DM24. The order and number of bytes per SPN is determined from the DM24 response.			
	1546	HVAC Coolant Valve Position Sensor	J1939				Circuit and sensor associated with providing the HVAC coolant valve position parameter			
	1547	A/C Evaporator Temperature	J1939				Circuit and sensor associated with providing the HVAC coolant valve position parameter			
	1548	HVAC Duct Temperature	J1939				Circuit and sensor associated with providing the HVAC duct temperature parameter			
	1549	HVAC Water Valve Drive	J1939				Output circuit that drives this valve			
	1550	Estimated Percent Fan 2 Speed	J1939-71	64817	1	8	Estimated fan speed as a ratio of the fan drive (current speed) to the fully engaged fan drive (maximum fan speed).	26		
	1551	A/C Pressurizer Drive Circuit	J1939				Output circuit that drives this valve			
	1552	Operator Input device for Cab Climate Control	J1939				Circuit and sensor for measuring the HVAC temperature setpoint parameter			
	1553	HVAC Blower Motor Speed Adjustment	J1939				Circuit and sensor for measuring the HVAC blower motor speed adjustment parameter			
	1554	Clean Grain Elevator Speed	J1939-74			16	The speed of the clean grain elevator			
	1555	Moisture Sensor Cell Frequency	J1939				Critical parameter of moisture sensor			
	1556	Datalog Memory Card	J1939				Removable memory pack			
	1557	Fan 2 Drive State	J1939-71	64817	2.1	4	This parameter is used to indicate the current state or mode of operation by the second fan drive.			
	1558	Programming Error, Device Refused to Enter Programming Mode	J1939				Device to be programmed is reporting that it cannot be programmed			
	1559	Programming Error, Device Timed Out While Entering the Programming Mode	J1939				Tool timed out waiting for device to enter program mode			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1560	Programming Error, Device Timed Out While Erasing	J1939				Tool timed out waiting for device to erase			
	1561	Programming Error, Device Timed Out While Programming	J1939				Tool timed out waiting for device to program			
	1562	Programming Error, Device did not Accept Program Line	J1939				Device to be programmed reporting that it cannot accept program block			
	1563	Incompatible Monitor/Controller	J1939				An incompatible device has been detected on the network			
	1564	CCD Data Link	J1939							
	1565	Armrest Status	J1939				Parameter associated with the armrest module status			
	1566	Armrest Rotary Inputs	J1939				Parameter associated with the armrest module rotary inputs			
	1567	Header Height Control Mode Selector Switches	J1939				Parameter associated with the header height control mode selector switches			
	1568	Engine Torque Curve Selection	J1939				The mechanism used to select different torque curves. This SPN would be used to indicate a problem has been encountered with the device that indicates the desired torque curve			
	1569	Engine Protection Torque Derate	J1939				Torque has been derated for protection of the engine			
	1570	Implement Disconnected	J1939				A previously connected implement is no longer connected			
	1571	Display Conflict	J1939				Multiple controllers contending for a display resource (region)			
	1572	Display Overload	J1939				Display not able to keep up with display commands			
	1573	LED Display Data #1	J1939-71	65142	1	8	Informs display devices how to display the current vertical position.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1574	Laser Strike Vertical Deviation	J1939-71	65141	1-2	16	The calculated distance from the laser strike position to the current land leveling system reference point.			
	1575	Modify Leveling System Set Point	J1939-71	65140	1-2	16	Used to control and coordinate the set point for the leveling system.			
	1576	Mast Position	J1939-71	65139	1-2	16	Used to monitor the position of the sensor attached to the land leveling mast.			
	1577	Blade Duration and Direction	J1939-71	65138	1-2	16	Used to indicate the duration and direction that the land leveling system blade moves.			
	1578	Blade Control Mode	J1939-71	65138	3	8	Allows the user to select the type of blade control for the land leveling system.			
	1579	Laser Tracer Target Deviation	J1939-71	65137	1-2	16	The calculated distance for the laser target to the current laser tracer reference point.			
	1580	Laser Tracer Vertical Distance	J1939-71	65137	3-4	16	The elevation of the laser tracer sensor in a laser leveling system.			
	1581	Laser Tracer Horizontal Deviation	J1939-71	65137	5	8	The calculated percent deviation between the target distance and the center of the laser tracer.			
	1582	LED Display Data #2	J1939-71	65137	6	8	Informs display devices how to display the current position of the laser tracer.			
	1583	Laser Tracer Information	J1939-71	65137	7	8	Provides the status of the laser tracer to the operator.			
	1584	Service Component Identification	J1939-71	56832	2	8	Identification of component needing service.			
	1585	Powered Vehicle Weight	J1939-71	65136	1-2	16	Total mass imposed by the tires of the powered vehicle on the road surface. Does not include the trailer.			
	1586	Speed of forward vehicle	J1939-71	65135	1	8	Absolute velocity of the preceding vehicle situated within 250 m in the same lane and moving in the same direction.			
	1587	Distance to forward vehicle	J1939-71	65135	2	8	Distance to the preceding vehicle situated within 250 m in the same lane and moving in the same direction.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1588	Adaptive Cruise Control Set Speed	J1939-71	65135	3	8	Value of the desired (chosen) velocity of the adaptive cruise control system.			
	1589	Adaptive cruise control set distance mode	J1939-71	65135	4.4	3	Selected distance mode for adaptive cruise control.			
	1590	Adaptive Cruise Control Mode	J1939-71	65135	4.1	3	This parameter is used to indicate the current state, or mode, of operation by the Adaptive Cruise Control (ACC) device.			
	1591	Road curvature	J1939-71	65135	5-6	16	Estimated value of the current road curvature for use by the adaptive cruise control system. Positive values are used for left curves. Curvature is the inverse of the radius and is zero for straight roads.			
	1592	Front Axle, Left Wheel Speed	J1939-71	65134	1-2	16	High resolution measurement of the speed of the left wheel on the front axle.			
	1593	Front axle, right wheel speed	J1939-71	65134	3-4	16	High resolution measurement of the speed of the right wheel on the front axle.			
	1594	Rear axle, left wheel speed	J1939-71	65134	5-6	16	High resolution measurement of the speed of the left wheel on the rear axle.			
	1595	Rear axle, right wheel speed	J1939-71	65134	7-8	16	High resolution measurement of the speed of the right wheel on the rear axle.			
	1596	Security Entity Length	J1939-73	54272	1, 2.5	12	This 12-bit parameter contains the length, in bytes, of the Data Security Parameter.			
	1597	Data Security Parameter	J1939-73	54272	3-n	8	This Parameter is used to send the data for the Data Security message. There are presently four different items defined. The Data Security Parameter shall be sent least significant byte first.			
	1598	Fan 2 Speed	J1939-71	64817	3-4	16	The speed of the second fan associated with engine coolant system.			
	1599	Seed	J1939-73	55296	7-8	16	This is a 16-bit parameter which is used by the Device primarily to send a Seed to a Tool, when using a Seed/Key type security system			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1600	High Resolution Engine Fuel Rate	J1939-71	64737	1-4	32	Amount of fuel consumed by engine per unit of time.			
	1601	Local minute offset	J1939-71	65254	7	8	The minute component of the offset between the UTC time and date and a local time zone time and date.			
	1602	Local hour offset	J1939-71	65254	8	8	The hour component of the offset between the UTC (Universal Time Coordinate) time and date and a local time zone time and date.			
	1603	Adjust seconds	J1939-71	54528	1	8	The seconds component for setting the current time of day.			
	1604	Adjust minutes	J1939-71	54528	2	8	The minutes component for setting the current time of day.			
	1605	Adjust hours	J1939-71	54528	3	8	The hours component for setting the current time of day.			
	1606	Adjust month	J1939-71	54528	4	8	The month component for setting the current calendar date.			
	1607	Adjust day	J1939-71	54528	5	8	The day component for setting the current calendar date.			
	1608	Adjust year	J1939-71	54528	6	8	The year component for setting the current calendar date.			
	1609	Adjust local minute offset	J1939-71	54528	7	8	The minute component for setting the offset between the UTC (Universal Time Coordinate) time and date and a the local time zone time and date.			
	1610	Adjust local hour offset	J1939-71	54528	8	8	The hour component for setting the offset between the UTC (Universal Time Coordinate) time and date and a the local time zone time and date.			
	1611	Vehicle motion	J1939-71	65132	1.7	2	Indicates whether motion of the vehicle is detected or not.			
	1612	Driver 1 working state	J1939-71	65132	1.1	3	State of work of the driver.			
	1613	Driver 2 working state	J1939-71	65132	1.4	3	State of work of the driver.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1614	Vehicle Overspeed	J1939-71	65132	2.7	2	Indicates whether the vehicle is exceeding the legal speed limit set in the tachograph.			
	1615	Driver card, driver 1	J1939-71	65132	2.5	2	Indicates the presence of a driver card			
	1616	Driver card, driver 2	J1939-71	65132	3.5	2	Indicates the presence of a driver card			
	1617	Driver 1 Time Related States	J1939-71	65132	2.1	4	Indicates if the driver approaches or exceeds working time limits (or other limits).			
	1618	Driver 2 Time Related States	J1939-71	65132	3.1	4	Indicates if the driver approaches or exceeds working time limits (or other limits).			
	1619	Direction indicator	J1939-71	65132	4.7	2	Indicates the direction of the vehicle.			
	1620	Tachograph performance	J1939-71	65132	4.5	2	Indicates the tachograph performance; including electronic or mechanical analysis, instrument analysis, speed sensor analysis, mass storage analysis, and printer analysis.			
	1621	Handling information	J1939-71	65132	4.3	2	Indicates that handling information is present.			
	1622	System event	J1939-71	65132	4.1	2	Indicates that a tachograph event has occurred.			
	1623	Tachograph output shaft speed	J1939-71	65132	5-6	16	Calculated speed of the transmission output shaft.			
	1624	Tachograph vehicle speed	J1939-71	65132	7-8	16	Speed of the vehicle registered by the tachograph.			
	1625	Driver 1 identification	J1939-71	65131	a	13824	Used to obtain the driver identity.			
	1626	Driver 2 identification	J1939-71	65131	b	13824	Used to obtain the driver identity.			
	1627	Reserved for Certification agency ID	J1939-73							
	1628	Reserved for Certification seed/key length	J1939-73							
	1629	Reserved for Certification signature	J1939-73							
	1630	Reserved for Certification public key	J1939-73							
	1631	Reserved for Certification vehicle identification number	J1939-73							
	1632	Engine Torque Limit Feature	J1939-71	65168	15.3	3	Torque limit rating described in the current record			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1633	Cruise Control Pause Switch	J1939-71	65265	1.5	2	Switch signal which indicates the position of the Cruise Control Pause Switch used on Remote Cruise Control applications				
	1634	Calibration Verification Number	J1939-73	54016	1-4	32	Checksum of entire calibration, including code and data. Excludes RAM parameters, nonvolatile parameters that change during the life cycle of the module (hours of operation, freeze frame data, etc), or non emissions related parameters that may be changed				
	1635	Calibration Identification	J1939-73	54016	5-20	128	Sixteen-byte calibration identification number. Uniquely identifies the software installed in the control module. The calibration ID must be unique, but does not need to be 16 bytes long.				
	1636	Engine Intake Manifold 1 Air Temperature (High Resolution)	J1939-71	65129	1-2	16	Temperature of pre-combustion air found in intake manifold of engine air supply system. The higher resolution is required for control purposes.				
	1637	Engine Coolant Temperature (High Resolution)	J1939-71	65129	3-4	16	Temperature of liquid found in engine cooling system. The higher resolution is required for control purposes.				
	1638	Hydraulic Temperature	J1939-71	65128	1	8	Temperature of the hydraulic fluid.				
	1639	Fan Speed	J1939-71	65213	3-4	16	The speed of the fan associated with engine coolant system.				
	1640	Length/Number Requested	J1939-73	55552	1, 2.6	11	Identifies the amount of memory over which the tool desires an operation to be carried out.				
	1641	Pointer Type	J1939-73	55552	2.5	1	Indicates whether the Pointer and Pointer Extension are direct memory addresses or direct spatial addresses.				
	1642	Command	J1939-73	55552	2.2	3	This is a 3-bit parameter which allows the Tool to send Commands to the Device.				

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1643	Pointer Extension	J1939-73	55552	6	8	This parameter is either the high order 8 bits of a complete direct memory address or the identifier of a particular spacial address.				
	1644	Pointer	J1939-73	55552	3-5	24	Address based on Pointer type 0 or type 1.				
	1645	Key/User_Level	J1939-73	55552	7-8	16	Used by the tool to primarily send a key to the device, but which can also be used by the tool to provide a password or a User_Level to the device if desired.				
	1646	Status (for DM 15)	J1939-73	55296	2.2	3	This is a 3-bit parameter which allows the Device to return its Status.				
	1647	EDCP Extension	J1939-73	55296	6	8	This is an 8-bit parameter used to identify how to handle the data in the Error Indicator/EDC Parameter.				
	1648	Error Indicator/EDC Parameter	J1939-73	55296	3-5	24	Used to transfer a checksum, CRC or other type of EDC parameter (or any segment thereof) or to send an Error Indicator any time the Device is not able to complete or act upon a Tool's request.				
	1649	Length/Number Allowed	J1939-73	55296	1, 2.6	11	When the Status of the Memory Access Response message is a Proceed, an 11-bit parameter identifies the amount of memory (i.e. the range of memory) over which the Device is willing to allow a particular operation to be carried out.				
	1650	Number of Occurrences of Raw Binary Data	J1939-73	55040	1	8	This is an 8-bit (1-byte) parameter to be sent within the Binary Data Transfer PGN to provide information on the number of Raw Binary Data parameters which will follow when the message is single packet.				
	1651	Raw Binary Data <sup>†</sup>	J1939-73	55040	9-n	8	This is a 1-byte parameter representing the value for 1 byte of memory. It can have any value between 0 and 255 (0 and 0xFF) with no reserved values.				

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1651	Raw Binary Data <sup>†</sup>	J1939-73	55040	2-8	8	This is a 1-byte parameter representing the value for 1 byte of memory. It can have any value between 0 and 255 (0 and 0xFF) with no reserved values.				
	1652	Boot Load Data	J1939-73	54784	1-8	8	This is a 1-byte parameter using the same SLOT as the Raw Binary Data.				
	1653	Vehicle Limiting Speed Governor Enable Switch	J1939-71	57344	5.7	2	Switch signal which enables the Vehicle Limiting Speed Governor (VLSG) such that the vehicle speed may be either increased or decreased when the engine is off idle.				
	1654	Vehicle Limiting Speed Governor Increment Switch	J1939-71	57344	5.5	2	Switch signal which increases the Vehicle Limiting Speed Governor (VLSG).				
	1655	Vehicle Limiting Speed Governor Decrement Switch	J1939-71	57344	5.3	2	Switch signal which decreases the Vehicle Limiting Speed Governor (VLSG).				
	1656	Engine Automatic Start Enable Switch	J1939-71	57344	6.7	2	Switch signal which enables the idle management system to be enabled. When this system is enabled with the engine in an idle mode and safe operating conditions existing, then the engine may be started or stopped automatically.				
	1657	Engine Injector Needle Lift Sensor #1	J1939				The injector needle lift sensor used to detect the initial movement of the injector component which correlates the start of fuel injection #1				
	1658	Engine Injector Needle Lift Sensor #2	J1939				The injector needle lift sensor used to detect the initial movement of the injector component which correlates the start of fuel injection #2				
	1659	Engine Coolant System Thermostat	J1939				Electronic thermostat that will divert the coolant to the radiator at the preset temperature.				
	1660	Engine Automatic Start Alarm	J1939				An audio alarm which is activated just before the Engine Automatic Start Feature is engaged				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1661	Engine Automatic Start Lamp	J1939				A visible indication to the driver/operator that the Engine Automatic Start Feature is engaged			
	1662	Cab Interior Temperature Thermostat	J1939				Thermostat for driver/operator to set the desired cab temperature			
	1663	Engine Automatic Start Safety Interlock Circuit	J1939				Multiple inputs, e.g. hood and parking brake positions and neutral transmission switch, which determines whether Engine Automatic feature may be activated or not			
	1664	Engine Automatic Start Failed (Engine)	J1939				Conditions that prevent the engine from starting.e.g. Engine Automatic Start Safety Interlock Circuit			
	1665	Engine Turbocharger Oil Level Switch	J1939-71	65245	4.7	2	Switch signal which indicates the presence of oil at the turbocharger			
	1666	Automatic Gear Shifting Enable Switch	J1939-71	57344	6.5	2	Indicates that automated gear shifting is enabled via a switch			
	1667	Retarder Requesting Brake Light	J1939-71	61440	4.3	2	Indicates that whether the retarder is requesting that the brake lights are illuminated.			
	1668	J1939 Network #4	J1939							
	1669	J1939 Network #5	J1939							
	1670	J1939 Network #6	J1939							
	1671	J1939 Network #7	J1939							
	1672	J1939 Network #8	J1939							
	1673	J1939 Network #9	J1939							
	1674	J1939 Network #10	J1939							
(R)	1675	Engine Starter Mode	J1939-71	61444	7.1	4	There are several phases in a starting action and different reasons, why a start cannot take place.			
	1676	Auxiliary Heater Water Pump Status	J1939-71	65133	5.1	2	Parameter indicating whether the auxiliary heater water pump is running			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1677	Auxiliary Heater Mode	J1939-71	65133	4.1	4	State of the auxiliary heater			
	1678	Cab Ventilation	J1939-71	65133	5.3	2	Indicates whether the cab is being ventilated or not.			
	1679	Engine Heating Zone	J1939-71	65133	5.5	2	Parameter indicating whether the engine zone is being heated			
	1680	Cab Heating Zone	J1939-71	65133	5.7	2	Parameter indicating whether the cab zone is being heated.			
	1681	Battery Main Switch Hold State	J1939-71	65126	1.1	2	Indicating whether the battery main switch is held due to an external request or not			
	1682	Battery Main Switch Hold Request	J1939-71	57344	4.3	2	Request to hold the battery main switch			
	1683	Auxiliary Heater Mode Request	J1939-71	57344	7.1	4	Request to activate the auxiliary heater.			
	1684	Auxiliary Heater Coolant Pump Request	J1939-71	57344	4.1	2	Indicates whether to activate the auxiliary heater coolant water pump.			
	1685	Request Engine Zone Heating	J1939-71	57344	7.5	2	Request to activate engine zone heating			
	1686	Request Cab Zone Heating	J1939-71	57344	7.7	2	Request to activate cab zone heating			
	1687	Auxiliary Heater Output Coolant Temperature	J1939-71	65133	1	8	Temperature of the auxiliary heater output coolant (I.e. water in a water heater system.)			
	1688	Auxiliary Heater Input Air Temperature	J1939-71	65133	2	8	Temperature of the input air in an auxiliary heater system.			
	1689	Auxiliary Heater Output Power Percent	J1939-71	65133	3	8	Current auxiliary heater output power, relative to the auxiliary heater maximum output power.			
	1690	Auxiliary Heater Maximum Output Power	J1939-71	65127	1-2	16	The maximum output power of the auxiliary heater.			
	1691	Cab Interior Temperature Command	J1939-71	57344	2-3	16	Parameter used to command a certain cab interior temperature.			
	1692	Engine Desired Absolute Intake Manifold Pressure (Turbo Boost Limit)	J1939-71	65194	2-3	16	The desired absolute intake manifold pressure of the engine.			
	1693	Engine Turbocharger Wastegate Valve Position	J1939-71	65194	4	8	The position of the turbocharger wastegate valve (not the electronic wastegate control valve).			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1694	Engine Gas Mass Flow Sensor Fueling Correction	J1939-71	65194	5	8	The amount of fuel the Gas Mass Flow Sensor is sensing should be added or subtracted compared to the maximum amount of fuel the control system allows the sensor to add or subtract.			
	1695	Engine Exhaust Gas Oxygen Sensor Fueling Correction	J1939-71	65193	7	8	The amount of fueling change required by the system based on the measured Exhaust Oxygen value			
	1696	Engine Exhaust Gas Oxygen Sensor Closed Loop Operation	J1939-71	65193	8.7	2	Indicates whether the engine is using the Exhaust Gas Oxygen sensor to control the air/fuel ratio.			
	1697	CTI Wheel End Electrical Fault	J1939-71	65268	5.5	2	Indicates the status of electrical fault on CTI wheel interface			
	1698	CTI Tire Status	J1939-71	65268	5.3	2	Indicates the status of the tire			
	1699	CTI Wheel Sensor Status	J1939-71	65268	5.1	2	Indicates whether the wheel is being monitored by the CTI controller.			
	1700	Lane Departure Imminent, Left Side	J1939-71	61447	1.7	2	Indicates departure imminent on left side of lane.			
	1701	Lane Departure Imminent, Right Side	J1939-71	61447	1.5	2	Indicates departure imminent on right side of lane			
	1702	Lane Departure Indication Enable Status	J1939-71	65115	1.7	2	Indicates whether Lane departure indication is active			
	1703	Lane Tracking Speaker - Right Side	J1939				Lane tracking right side output diagnostic object			
	1704	Lane Tracking Speaker - Left Side	J1939				Lane tracking left side output diagnostic object			
	1705	Forward View Imager System	J1939				Forward Imager system condition			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	40704	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64852	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64853	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64854	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64855	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64856	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64857	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64858	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64859	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64860	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64861	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64862	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64863	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64896	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64898	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64949	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	64951	5.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	65226	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	65227	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	65229	05.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	65231	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			
	1706	SPN Conversion Method <sup>†</sup>	J1939-73	65236	6.8	1	To clarify the ordering of bits and bytes within the SPN parameter (which is 19 bits long) and to keep that ordering consistent with other parameters in J1939-71 and J1939-73, the bit order has been respecified.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1707	Hydraulic Fan 2 Motor Pressure	J1939-71	64817	5-6	16	The hydraulic pressure used to drive the second fan system, sensed before the hydraulic fan motor.			
	1708	Fan 2 Drive Bypass Command Status	J1939-71	64817	7	8	Status of the Fan Drive Bypass Command for the second fan as being commanded by the ECU. The fan drive bypass diverts pump pressure away from the hydraulic motor to maintain the fan drive pressure.			
	1709	Transmission Controller Power Relay	J1939							
	1710	Lane Tracking Status Left Side	J1939-71	65115	1.5	2	Indicates whether left side is tracking lane			
	1711	Lane Tracking Status Right Side	J1939-71	65115	1.3	2	Indicates whether right side is tracking lane.			
	1712	Engine Extended Range Requested Speed Control Range Upper Limit (Engine configuration)	J1939-71	65251	29-30	16	The maximum engine speed regardless of load that the engine will allow when operating in a speed control/limit mode, excluding any maximum momentary engine override speed, if supported.			
	1713	Hydraulic Oil Filter Restriction Switch	J1939-71	65128	2.1	2	This switch indicates whether hydraulic oil filter is clogged. This is not the transmission oil filter restriction switch, which is SPN 3359.			
	1714	Operator Seat Direction Switch	J1939-71	57344	4.5	2	Senses whether the operator seat is in the forward driving position.			
	1715	Drivers Demand Retarder - Percent Torque	J1939-71	61440	6	8	The Drivers demand retarder – percent torque is the maximum torque selected by the driver when one or more modes are selected by the driver			
	1716	Retarder Selection, non-engine	J1939-71	61440	7	8	The “Retarder Selection, non-engine” is the position of the driver’s selector for retarders that are not part of the engine system, expressed as percent and determined by the ratio of current position to the maximum possible position.			
	1717	Actual Maximum Available Retarder - Percent Torque	J1939-71	61440	8	8	This is the maximum amount of torque that the retarder can immediately deliver.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1718	Damper Stiffness Request Front Axle	J1939-71	53760	4	8	Demand value for the shock absorber control at the front axle.			
	1719	Damper Stiffness Request Rear Axle	J1939-71	53760	5	8	Demand value for the shock absorber control at the rear axle.			
	1720	Damper Stiffness Request Lift / Tag Axle	J1939-71	53760	6	8	Demand value for the shock absorber control at the lift or tag axle			
	1721	Relative Level Front Axle Left	J1939-71	65113	1-2	16	Information of the height at the left side of the front axle referred to normal level 1			
	1722	Relative Level Front Axle Right	J1939-71	65113	3-4	16	Information of the height at the right side of the front axle referred to normal level 1			
	1723	Relative Level Rear Axle Right	J1939-71	65113	7-8	16	Information of the height at the left side of the rear axle referred to normal level 1			
	1724	Relative Level Rear Axle Left	J1939-71	65113	5-6	16	Information of the height at the left side of the rear axle referred to normal level 1			
	1725	Bellow Pressure Front Axle Left	J1939-71	65112	1-2	16	Information of the pressure of the air suspension bellow at the left side of the front axle			
	1726	Bellow Pressure Front Axle Right	J1939-71	65112	3-4	16	Information of the pressure of the air suspension bellow at the right side of the front axle			
	1727	Bellow Pressure Rear Axle Left	J1939-71	65112	5-6	16	Information of the pressure of the air suspension bellow at the left side of the rear axle			
	1728	Bellow Pressure Rear Axle Right	J1939-71	65112	7-8	16	Information of the pressure of the air suspension bellow at the right side of the rear axle			
	1729	Damper Stiffness Front Axle	J1939-71	65111	1	8	Damper stiffness information of the shock absorber control at the front axle			
	1730	Damper Stiffness Rear Axle	J1939-71	65111	2	8	Damper stiffness information of the shock absorber control at the rear axle			
	1731	Damper Stiffness Lift / Tag Axle	J1939-71	65111	3	8	Damper stiffness information of the shock absorber control at the lift of tag axle			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1732	Level Preset Front Axle Left	J1939-71	53504	1-2	16	Set value for nominal level 'preset level' at the left side of the front axle. This value is referred to 'Normal level 1'.			
(R)	1733	Nominal Level Rear Axle	J1939-71	65114	1.5	4	Signal which indicates the nominal (desired) height of the rear axle to be controlled by the suspension system.			
(R)	1734	Nominal Level Front Axle	J1939-71	65114	1.1	4	Signal which indicates the nominal (desired) height of the front axle to be controlled by the suspension system.			
	1735	Level Preset Rear Axle Right	J1939-71	53504	7-8	16	Set value for nominal level 'preset level' at the right side of the rear axle. This value is referred to 'Normal level 1'.			
	1736	Above Nominal Level Rear Axle	J1939-71	65114	2.7	2	Signal which indicates whether the actual height of the rear axle is above the nominal (desired) level of the rear axle.			
	1737	Above Nominal Level Front Axle	J1939-71	65114	2.5	2	Signal which indicates whether the actual height of the front axle is above the nominal (desired) level of the front axle.			
	1738	Below Nominal Level Front Axle	J1939-71	65114	2.1	2	Signal which indicates whether the actual height of the front axle is below the nominal (desired) level for the front axle.			
	1739	Lifting Control Mode Front Axle	J1939-71	65114	3.5	2	Signal which indicates the actual lifting level change at the front axle			
	1740	Lowering Control Mode Front Axle	J1939-71	65114	3.1	2	Signal which indicates the actual lowering level change at the front axle			
(R)	1741	Level Control Mode	J1939-71	65114	4.5	4	Signal which indicates the actual control mode of the air suspension system			
	1742	Kneeling Information	J1939-71	65114	4.1	4	Signal which indicates the actual level change in case of kneeling function			
	1743	Lift Axle 1 Position	J1939-71	65114	5.7	2	Signal which indicates the position / load condition of lift axle / tag axle #1.			
	1744	Door Release	J1939-71	65114	5.5	2	Signal which indicates that the doors may be opened.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1745	Vehicle Motion Inhibit	J1939-71	65114	5.3	2	Signal which indicates whether vehicle motion is inhibited.			
	1746	Security Device	J1939-71	65114	5.1	2	The signal which indicates the status of the security device. An example of a security device is a curbstone feeler installed beneath the doors of a bus.			
	1747	Kneeling Control Mode Request	J1939-71	53760	1.7	2	Command signal to select the kneeling functionality			
	1748	Kneeling Request Right Side	J1939-71	53760	1.5	2	Command signal to activate the kneeling functionality on the right side of the vehicle			
	1749	Kneeling Request Left Side	J1939-71	53760	1.3	2	Command signal to activate the kneeling functionality on the left side of the vehicle			
	1750	Nominal Level Request Rear Axle	J1939-71	53760	2.5	4	Command signal to activate a level of the rear axle programmed and/or memorized in the ECU			
	1751	Nominal Level Request Front Axle	J1939-71	53760	2.1	4	Command signal to activate a level of the front axle programmed and/or memorized in the ECU			
	1752	Lift Axle 1 Position Command	J1939-71	53760	3.5	2	Signal to command the position/load condition of lift/tag axle #1.			
(R)	1753	Level Control Mode Request	J1939-71	53760	3.1	4	Command signal to activate a level control mode			
	1754	Below Nominal Level Rear Axle	J1939-71	65114	2.3	2	Signal which indicates whether the actual height of the rear axle is below the nominal (desired) level for the rear axle.			
	1755	Lowering Control Mode Rear Axle	J1939-71	65114	3.3	2	Signal which indicates the actual lowering level change at the rear axle			
	1756	Lifting Control Mode Rear Axle	J1939-71	65114	3.7	2	Signal which indicates the actual lifting level change at the rear axle			
	1757	Level Preset Front Axle Right	J1939-71	53504	3-4	16	Set value for nominal level 'preset level' at the right side of the front axle. This value is referred to 'Normal level 1'.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1758	Level Preset Rear Axle Left	J1939-71	53504	5-6	16	Set value for nominal level 'preset level' at the left side of the rear axle. This value is referred to 'Normal level 1'.			
	1759	Blade Height Set Point - High Resolution	J1939-71	65140	3-6	32	High resolution for the laser guided blade set point. The high resolution required for more accurate control and 'accurate' unit conversions.			
	1760	Gross Combination Vehicle Weight	J1939-71	65136	3-4	16	The total weight of the truck and all attached trailers.			
	1761	Aftertreatment 1 Diesel Exhaust Fluid Tank Level	J1939-71	65110	1	8	Ratio of volume of diesel exhaust fluid to the total volume of diesel exhaust fluid storage container.			
	1762	Hydraulic Pressure	J1939-71	61448	1-2	16	Hydraulic pressure measured at the output of the hydraulic pump.			
	1763	Engine Hydraulic Pressure Governor Mode Indicator	J1939-71	61448	3.1	2	Mode for governor operation is hydraulic pressure control			
	1764	Engine Hydraulic Pressure Governor Switch	J1939-71	61448	3.3	2	Switch that sets the mode of hydraulic governor			
	1765	Engine Requested Fuel Valve 1 Position	J1939-71	65153	7	8	The requested position of the fuel valve 1 that is metering the gaseous fuel flow.			
	1766	Engine Requested Fuel Valve 2 Position	J1939-71	65153	8	8	The requested position of the fuel valve 2 that is metering the gaseous fuel flow as requested by the Engine Control Unit.			
	1767	Specific Heat Ratio	J1939-71	65109	1-2	16	The specific heat ratio of the fuel.			
	1768	Engine Low Limit Threshold for Maximum RPM from Engine	J1939-71	65108	1	8	Minimum allowable value for maximum continuous RPM from engine			
	1769	Engine High Limit Threshold for Minimum Continuous Engine RPM	J1939-71	65108	2	8	Maximum allowable value for minimum continuous RPM from engine			
	1770	Engine Low Limit Threshold for Maximum Torque from Engine	J1939-71	65108	3	8	Minimum allowable value for maximum continuous torque from engine			
	1771	Engine High Limit Threshold for Minimum Continuous Torque from Engine	J1939-71	65108	4	8	Maximum allowable value for minimum continuous torque from engine			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1772	Engine Maximum Continuous RPM	J1939-71	65108	5	8	Applied limit for maximum continuous engine RPM			
	1773	Engine Minimum Continuous RPM	J1939-71	65108	6	8	Applied limit for minimum continuous engine RPM			
	1774	Engine Maximum Continuous Torque	J1939-71	65108	7	8	Applied limit for maximum continuous engine torque.			
	1775	Engine Minimum Continuous Torque	J1939-71	65108	8	8	Applied limit for minimum continuous engine torque			
	1776	Low Limit Threshold for Maximum RPM from Retarder	J1939-71	65107	1	8	Minimum allowable value for maximum continuous retarder speed			
	1777	High Limit Threshold for Minimum Continuous RPM from Retarder	J1939-71	65107	2	8	Maximum allowable value for minimum continuous retarder speed			
	1778	Low Limit Threshold for Maximum Torque from Retarder	J1939-71	65107	3	8	Minimum allowable value for maximum continuous retarder torque.			
	1779	High Limit Threshold for Minimum Continuous Torque from Retarder	J1939-71	65107	4	8	Maximum allowable value for minimum continuous retarder torque.			
	1780	Maximum Continuous Retarder Speed	J1939-71	65107	5	8	Applied limit for maximum continuous retarder RPM			
	1781	Minimum Continuous Retarder Speed	J1939-71	65107	6	8	Applied limit for minimum continuous retarder RPM			
	1782	Maximum Continuous Retarder Torque	J1939-71	65107	7	8	Applied limit for maximum continuous retarder torque.			
	1783	Minimum Continuous Retarder Torque	J1939-71	65107	8	8	Applied limit for minimum continuous retarder torque			
	1784	Engine Speed Limit Request - Minimum Continuous	J1939-71	52992	1	8	Requested minimum continuous engine speed			
	1785	Engine Speed Limit Request - Maximum Continuous	J1939-71	52992	2	8	Requested maximum continuous engine speed			
	1786	Engine Torque Limit Request - Minimum Continuous	J1939-71	52992	3	8	Requested minimum continuous engine torque (operating range: 0 to 125%)			
	1787	Engine Torque Limit Request - Maximum Continuous	J1939-71	52992	4	8	Requested maximum continuous engine torque (operating range: 0 to 125%)			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1788	Minimum Continuous Retarder Speed Limit Request	J1939-71	52992	5	8	Requested minimum continuous retarder speed			
	1789	Maximum Continuous Retarder Speed Limit Request	J1939-71	52992	6	8	Requested maximum continuous retarder speed			
	1790	Minimum Continuous Retarder Torque Limit Request	J1939-71	52992	7	8	Requested minimum continuous retarder torque (operating range: -125 to 0%)			
	1791	Maximum Continuous Retarder Torque Limit Request	J1939-71	52992	8	8	Requested maximum continuous retarder torque (operating range: -125 to 0%)			
	1792	Tractor-Mounted Trailer ABS Warning Signal	J1939-71	61441	8.7	2	This parameter commands the tractor-mounted trailer ABS optical warning signal.	137-139	23	
	1793	ATC/ASR Information Signal	J1939-71	61441	6.7	2	This parameter commands the ATC/ASR driver information signal, for example a dash lamp.			
	1794	Engine Moment of Inertia	J1939-71	65251	31-32	16	Moment of inertia for the engine, including items driven full-time by the engine such as fuel, oil and cooling pumps.			
	1795	Alternator Current (High Range/Resolution)	J1939-71	65106	1-2	16	This parameter indicates the amount of electrical current output from the alternator of the main vehicle.			
	1796	ACC Distance Alert Signal	J1939-71	65135	7.5	2	Signal to indicate to the operator that the ACC system is not able to maintain the distance to the target.			
	1797	ACC System Shutoff Warning	J1939-71	65135	7.3	2	Signal to warn the driver of system deactivation due to non-driver actions. Example: Attempting to control vehicle speed below or above limits of ACC. This signal may be used to activate warning sounds or indicators.			
	1798	ACC Target Detected	J1939-71	65135	7.1	2	Signal to indicate to the driver that the ACC system has detected a target.			
	1799	Requested ACC Distance Mode	J1939-71	65105	1.6	3	The Requested Distance Control Mode to the ACC system from the operators interface.			
	1800	Battery 1 Temperature	J1939-71	65104	1	8	Temperature of the battery 1.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1801	Battery 2 Temperature	J1939-71	65104	2	8	Temperature of the battery 2.			
	1802	Engine Intake Manifold 5 Temperature	J1939-71	65189	4	8	Temperature of pre-combustion air found in intake manifold number 5 of engine air supply system.			
	1803	Engine Intake Manifold 6 Temperature	J1939-71	65189	5	8	Temperature of pre-combustion air found in intake manifold number 6 of engine air supply system.			
	1804	Engine Start Enable Device 2	J1939-71	64966	1.3	2	Devices that assist an engine in starting, e.g. intake heaters, ether, or an alternate/secondary starting aid.			
	1805	LED Display Mode Control	J1939-71	65142	2.1	4	This parameter informs the system what the selected Display mode will be.			
	1806	LED Display Deadband Control	J1939-71	65142	2.5	4	This parameter informs the system what the selected Display deadband will be.			
	1807	Steering Wheel Angle	J1939-71	61449	1-2	16	The main operator's steering wheel angle (on the steering column, not the actual wheel angle).			
	1808	Yaw Rate	J1939-71	61449	4-5	16	Indicates the rate of rotation about the vertical axis (i.e. the z-axis).			
	1809	Lateral Acceleration	J1939-71	61449	6-7	16	Indicates a lateral acceleration of the vehicle (the component of vehicle acceleration vector along the Y-axis).			
	1810	Longitudinal Acceleration	J1939-71	61449	8	8	Indicates the longitudinal acceleration of the vehicle.			
	1811	Steering Wheel Turn Counter	J1939-71	61449	3.1	6	Indicates number of steering wheel turns, absolute position or relative position at ignition on. Positive values indicate left turns.			
	1812	Steering Wheel Angle Sensor Type	J1939-71	61449	3.7	2	Indicates whether the steering wheel angle sensor is capable of absolute measuring of the number of steering wheel turns or not (relative measuring to position at ignition on).			
	1813	VDC Information Signal	J1939-71	65103	1.1	2	This parameter commands the VDC information signal, for example a dash lamp.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1814	VDC Fully Operational	J1939-71	65103	1.3	2	Signal that indicates whether VDC is fully operational or whether its functionality is reduced by a permanent or temporary (e.g. low voltage) defect			
	1815	VDC brake light request	J1939-71	65103	1.5	2	Indicates whether VDC requests to turn the vehicle brake lights on			
	1816	ROP Engine Control active	J1939-71	65103	2.1	2	State Signal which indicates that the Roll Over Prevention (ROP) has commanded engine control to be active.			
	1817	YC Engine Control active	J1939-71	65103	2.5	2	State Signal which indicates that the Yaw Control (YC) has commanded engine control to be active.			
	1818	ROP Brake Control active	J1939-71	65103	2.3	2	State signal which indicates that Roll over Prevention (ROP) has activated brake control.			
	1819	YC Brake Control active	J1939-71	65103	2.7	2	State signal which indicates that Yaw Control (YC) has activated brake control.			
	1820	Ramp / Wheel Chair Lift Position	J1939-71	65102	1.5	2	Signal which indicates the actual position of the ramp / wheel chair lift			
	1821	Position of doors	J1939-71	65102	1.1	4	Signal which indicates the actual position of the doors			
	1822	Lift Axle 2 Position	J1939-71	65114	6.7	2	Signal which indicates the position / load condition of lift axle / tag axle #2.			
	1823	Rear Axle in Bumper Range	J1939-71	65114	6.3	2	Signal which indicates that the vehicle height at the rear axle is within the bumper range			
	1824	Front Axle in Bumper Range	J1939-71	65114	6.1	2	Signal which indicates that the vehicle height at the front axle is within the bumper range.			
	1825	Suspension Remote control 2	J1939-71	65114	7.3	2	Signal which indicates that the suspension system is controlled by remote control #2. Remote control is an external unit to operate the suspension system.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1826	Suspension Remote Control 1	J1939-71	65114	7.1	2	Signal which indicates that the suspension system is controlled by remote control #1. Remote control is an external unit to operate the suspension system.			
	1827	Suspension Control Refusal Information	J1939-71	65114	8.1	4	Signal which indicates that the air suspension control cannot perform a request due to the operating conditions. It also provides a reason for the refusal.			
	1828	Lift Axle 2 Position Command	J1939-71	53760	3.7	2	Signal to command the position / load condition of lift / tag axle #2.			
	1829	Kneeling Command - Rear Axle	J1939-71	53760	7.3	2	Command signal to activate the kneeling functionality at the rear axle of the vehicle			
	1830	Kneeling Command - Front Axle	J1939-71	53760	7.1	2	Command signal to activate the kneeling functionality at the front axle of the vehicle			
	1831	Electronic Shock Absorber Control Mode - Lift/Tag Axle	J1939-71	65111	4.5	2	Signal which indicates the current mode of operation of the electronic shock absorber control at the lift/tag axle			
	1832	Electronic Shock Absorber Control Mode - Rear Axle	J1939-71	65111	4.3	2	Signal which indicates the current mode of operation of the electronic shock absorber control at the rear axle			
	1833	Electronic Shock Absorber Control Mode - Front Axle	J1939-71	65111	4.1	2	Signal which indicates the current mode of operation of the electronic shock absorber control at the front axle			
	1834	Engine Total Average Fuel Rate	J1939-71	65101	1-2	16	Average fuel rate, equal to total fuel used divided by total engine hours, over the life of the engine			
	1835	Engine Total Average Fuel Economy	J1939-71	65101	3-4	16	Average fuel economy, equal to total vehicle distance divided by total fuel used, over the life of the engine			
	1836	Trailer ABS Status	J1939-71	61441	8.5	2	State signal which indicates that ABS in the trailer is actively controlling the brakes.	209		
	1837	Convoy Driving Lamp Select	J1939-71	65100	1.7	2	Black Out Convoy Driving Lamp Selection			
	1838	Convoy Lamp Select	J1939-71	65100	1.5	2	Black Out Convoy Lamp Selection			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1839	Front Black Out Marker Lamp Select	J1939-71	65100	1.3	2	Front Black Out Marker Lamp Selection			
	1840	Rear Black Out Marker Select	J1939-71	65100	1.1	2	Rear Black Out Marker Selection			
	1841	Black Out Brake/Stop Lamp Select	J1939-71	65100	3.7	2	Black Out Brake/Stop Lamp Selection			
	1842	Black Out Work Lamp Select	J1939-71	65100	4.7	2	Black Out Work Lamp Selection			
	1843	Night Vision Illuminator Select	J1939-71	65100	4.1	2	Night Vision Illuminator Selection			
	1844	Operators Black Out Intensity Selection	J1939-71	65100	8	8	Operators Selection of lamp intensity in black out mode			
	1845	Transmission Torque Limit	J1939-71	65099	1-2	16	Parameter provided to the engine from the transmission as a torque limit to be invoked by the engine in the event that J1939 communication with the transmission is lost.			
	1846	Engine Default Torque Limit	J1939-71	65251	33-34	16	This parameter is broadcast by the engine to verify reception of the Transmission Torque Limit parameter (SPN 1845).			
	1849	Transmission Requested Range Display Flash State	J1939-71	65098	1.7	2	State signal indicating a transmission request for the display of the Transmission Requested Range parameter (SPN 162) to flash or not to flash.			
	1850	Transmission Requested Range Display Blank State	J1939-71	65098	1.5	2	State signal indicating a transmission request for the display of the Transmission Requested Range parameter (SPN162) to be blanked or not blanked.			
	1851	Transmission Shift Inhibit Indicator	J1939-71	65098	2.7	2	State signal indicating a transmission request for the Shift Inhibit Indicator to be active or inactive.			
	1852	Transmission Mode 1	J1939-71	256	6.1	2	Indicates whether transmission mode 1 is enabled.			
	1853	Transmission Mode 2	J1939-71	256	6.3	2	Indicates whether transmission mode 2 is enabled.			
	1854	Transmission Mode 3	J1939-71	256	6.5	2	Indicates whether transmission mode 3 is enabled.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1855	Transmission Mode 4	J1939-71	256	6.7	2	Indicates whether transmission mode 4 is enabled.				
	1856	Seat Belt Switch	J1939-71	57344	4.7	2	State of switch used to determine if Seat Belt is buckled				
	1857	Winch Oil Pressure Switch	J1939-71	65128	2.3	2	State of switch used to determine if Winch Oil Pressure is above desired minimum				
	1858	Intermittent Wiper Control	J1939				Output driver for an intermittent windshield wiper motor				
	1859	Ground Based Implement Speed	ISO 11783-7	65097	1-2	16	Actual ground speed of a machine, measured by a sensor such as RADAR.				
	1860	Ground Based Implement Distance	ISO 11783-7	65097	3-6	32	Actual distance travelled by a machine based on measurements from a sensor such as RADAR				
	1861	Ground Based Direction	ISO 11783-7	65097	8.1	2	A measured signal indicating either forward or reverse as the direction of travel. When speed is zero, indicate the last travel direction until a different direction is detected.				
	1862	Wheel Based Speed	ISO 11783-7	65096	1-2	16	A value of the speed of a machine as calculated from the measured wheel or tail shaft speed.				
	1863	Wheel Based Distance	ISO 11783-7	65096	3-6	32	The distance travelled by a machine as calculated from wheel or tail shaft speed.				
	1864	Wheel Based Direction	ISO 11783-7	65096	8.1	2	A measured signal indicating either forward or reverse as the direction of travel.				
	1865	Key Switch NOT OFF	ISO 11783-7	65096	8.3	2	Indicates the Key Switch of the tractor or power unit is NOT in the Off position.				
	1866	Maximum Time of Tractor Power	ISO 11783-7	65096	7	8	The maximum time of remaining tractor or power unit supplied electrical power at the current load.				
	1867	Maintain ECU Power	ISO 11783-7	65095	1.7	2	Request to the Tractor ECU to maintain ECU_PWR power for the next 2 seconds.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1868	Maintain Acuator Power	ISO 11783-7	65095	1.5	2	Request to the Tractor ECU to maintain PWR power for the next 2 seconds.			
	1869	Implement Transport State	ISO 11783-7	65095	2.7	2	Indicates the transport state of an implement connected to a tractor or power unit.			
	1870	Implement Park State	ISO 11783-7	65095	2.5	2	Indicates the state of an implement where it may be disconnected from a tractor or power unit.			
	1871	Implement Work State	ISO 11783-7	65095	2.3	2	Indicates that an implement is connected to a tractor or power unit and is ready for work			
	1872	Front Hitch Position	ISO 11783-7	65094	1	8	The measured position of the front three-point-hitch.			
	1873	Rear Hitch Position	ISO 11783-7	65093	1	8	The measured position of the rear three-point-hitch.			
	1874	Front Hitch Position Command	ISO 11783-7	65090	1	8	Command to allow the position of the front three-point-hitch to be set.			
	1875	Rear Hitch Position Command	ISO 11783-7	65090	2	8	Command to allow the position of the rear three-point-hitch to be set.			
	1876	Front Hitch In-work Indication	ISO 11783-7	65094	2.7	2	A measured signal indicating that the front hitch is positioned below (in-work) or above (out-of-work) an adjustable switching threshold.			
	1877	Rear Hitch In-work Indication	ISO 11783-7	65093	2.7	2	A measured signal indicating that the rear hitch is positioned below (in-work) or above (out-of-work) an adjustable switching threshold.			
	1878	Front Draft	ISO 11783-7	65094	4-5	16	The apparent horizontal force applied to the front hitch by an implement.			
	1879	Rear Draft	ISO 11783-7	65093	4-5	16	The apparent horizontal force applied to the rear hitch by an implement.			
	1880	Front Nominal Lower Link Force	ISO 11783-7	65094	3	8	This measurement provides an indication of draft at the lower links of the front three point hitch.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1881	Rear Nominal Lower Link Force	ISO 11783-7	65093	3	8	This measurement provides an indication of draft at the lower links of the front three point hitch.			
	1882	Front PTO output shaft speed	ISO 11783-7	65092	1-2	16	The measured rotational speed of the front power take off (PTO) output shaft.			
	1883	Rear PTO output shaft speed	ISO 11783-7	65091	1-2	16	The measured rotational speed of the rear power take off (PTO) output shaft.			
	1884	Front PTO Output Shaft Speed Set Point	ISO 11783-7	65092	3-4	16	The measured value of the set point of the rotational speed of the front power take off (PTO) output shaft.			
	1885	Rear PTO Output Shaft Speed Set Point	ISO 11783-7	65091	3-4	16	The measured value of the set point of the rotational speed of the rear power take off (PTO) output shaft.			
	1886	Front PTO Output Shaft Speed Set Point Command	ISO 11783-7	65090	3-4	16	The command to set the rotational speed of the front power take off (PTO) output shaft.			
	1887	Rear PTO Output Shaft Speed Set Point Command	ISO 11783-7	65090	5-6	16	The command to set the rotational speed of the rear power take off (PTO) output shaft.			
	1888	Front Power Take Off Engagement	ISO 11783-7	65092	5.7	2	A measured signal indicating that the front power take off is engaged or disengage.			
	1889	Front Power Take Off Mode	ISO 11783-7	65092	5.5	2	A measured signal indicating that the front power take off mode is either 540 or 1000 rpm.			
	1890	Rear Power Take Off Mode	ISO 11783-7	65091	5.5	2	A measured signal indicating that the rear power take off mode is either 540 or 1000 rpm.			
	1891	Front Power Take Off Economy Mode	ISO 11783-7	65092	5.3	2	A measured signal indicating that the front power take off economy mode is engaged or disengaged.			
	1892	Rear Power Take Off Economy Mode	ISO 11783-7	65091	5.3	2	A measured signal indicating that the rear power take off economy mode is engaged or disengaged.			
	1893	Front Power Take Off Engagement Command	ISO 11783-7	65090	7.7	2	The command to engage or disengage the front power take off .			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1894	Rear Power Take Off Engagement Command	ISO 11783-7	65090	7.5	2	The command to engage or disengage the rear power take off .			
	1895	Front Power Take Off Mode Command	ISO 11783-7	65090	8.7	2	The command to select the mode of the front power take off .			
	1896	Rear Power Take Off Mode Command	ISO 11783-7	65090	8.5	2	The command to select the mode of the rear power take off .			
	1897	Front Power Take Off Economy Mode Command	ISO 11783-7	65090	8.3	2	The command to engage or disengage the front power take off's economy mode.			
	1898	Rear Power Take Off Economy Mode Command	ISO 11783-7	65090	8.1	2	The command to engage or disengage the rear power take off's economy mode.			
	1899	Aux Valve 0 Extend Port Measured Flow	ISO 11783-7	65056	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	1900	Aux Valve 0 Retract Port Measured Flow	ISO 11783-7	65056	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	1901	Aux Valve 0 Extend Port Estimated Flow	ISO 11783-7	65040	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	1902	Aux Valve 0 Retract Port Estimated Flow	ISO 11783-7	65040	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	1903	Aux Valve 0 State	ISO 11783-7	65040	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.			
	1904	Aux Valve 0 Extend Port Pressure	ISO 11783-7	65056	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.			
	1905	Aux Valve 0 Retract Port Pressure	ISO 11783-7	65056	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1906	Aux Valve 0 Return Port Pressure	ISO 11783-7	65056	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.			
	1907	Aux Valve 0 Port Flow Command	ISO 11783-7	65072	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	1908	Aux Valve 0 State command	ISO 11783-7	65072	3.1	4	Command for setting the auxiliary valve state.			
	1909	Aux Valve 0 Fail Safe Mode Command	ISO 11783-7	65072	3.7	2	Command for setting the fail safe mode of an auxiliary valve.			
	1910	Aux Valve 0 Fail Safe Mode	ISO 11783-7	65040	3.7	2	The measured state the fail safe mode of an auxiliary valve.			
	1911	Aux Valve 1 Extend Port Measured Flow	ISO 11783-7	65057	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	1912	Aux Valve 1 Retract Port Measured Flow	ISO 11783-7	65057	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	1913	Aux Valve 1 Extend Port Estimated Flow	ISO 11783-7	65041	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	1914	Aux Valve 1 Retract Port Estimated Flow	ISO 11783-7	65041	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	1915	Aux Valve 1 State	ISO 11783-7	65041	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.			
	1916	Aux Valve 1 Extend Port Pressure	ISO 11783-7	65057	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1917	Aux Valve 1 Retract Port Pressure	ISO 11783-7	65057	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.				
	1918	Aux Valve 1 Return Port Pressure	ISO 11783-7	65057	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.				
	1919	Aux Valve 1 Port Flow Command	ISO 11783-7	65073	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1920	Aux Valve 1 State Command	ISO 11783-7	65073	3.1	4	Command for setting the auxiliary valve state.				
	1921	Aux Valve 1 Fail Safe Mode Command	ISO 11783-7	65073	3.7	2	Command for setting the fail safe mode of an auxiliary valve.				
	1922	Aux Valve 1 Fail Safe Mode	ISO 11783-7	65041	3.7	2	The measured state the fail safe mode of an auxiliary valve.				
	1923	Aux Valve 2 Extend Port Measured Flow	ISO 11783-7	65058	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1924	Aux Valve 2 Retract Port Measured Flow	ISO 11783-7	65058	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1925	Aux Valve 2 Extend Port Estimated Flow	ISO 11783-7	65042	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	1926	Aux Valve 2 Retract Port Estimated Flow	ISO 11783-7	65042	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	1927	Aux Valve 2 State	ISO 11783-7	65042	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1928	Aux Valve 2 Extend Port Pressure	ISO 11783-7	65058	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.			
	1929	Aux Valve 2 Retract Port Pressure	ISO 11783-7	65058	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.			
	1930	Aux Valve 2 Return Port Pressure	ISO 11783-7	65058	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.			
	1931	Aux Valve 2 Port Flow Command	ISO 11783-7	65074	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	1932	Aux Valve 2 State Command	ISO 11783-7	65074	3.1	4	Command for setting the auxiliary valve state.			
	1933	Aux Valve 2 Fail Safe Mode Command	ISO 11783-7	65074	3.7	2	Command for setting the fail safe mode of an auxiliary valve.			
	1934	Aux Valve 2 Fail Safe Mode	ISO 11783-7	65042	3.7	2	The measured state the fail safe mode of an auxiliary valve.			
	1935	Aux Valve 3 Extend Port Measured Flow	ISO 11783-7	65059	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	1936	Aux Valve 3 Retract Port Measured Flow	ISO 11783-7	65059	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	1937	Aux Valve 3 Extend Port Estimated Flow	ISO 11783-7	65043	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	1938	Aux Valve 3 Retract Port Estimated Flow	ISO 11783-7	65043	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			

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		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	1939	Aux Valve 3 State	ISO 11783-7	65043	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.				
	1940	Aux Valve 3 Extend Port Pressure	ISO 11783-7	65059	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.				
	1941	Aux Valve 3 Retract Port Pressure	ISO 11783-7	65059	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.				
	1942	Aux Valve 3 Return Port Pressure	ISO 11783-7	65059	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.				
	1943	Aux Valve 3 Port Flow Command	ISO 11783-7	65075	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1944	Aux Valve 3 State Command	ISO 11783-7	65075	3.1	4	Command for setting the auxiliary valve state.				
	1945	Aux Valve 3 Fail Safe Mode Command	ISO 11783-7	65075	3.7	2	Command for setting the fail safe mode of an auxiliary valve.				
	1946	Aux Valve 3 Fail Safe Mode	ISO 11783-7	65043	3.7	2	The measured state the fail safe mode of an auxiliary valve.				
	1947	Aux Valve 4 Extend Port Measured Flow	ISO 11783-7	65060	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1948	Aux Valve 4 Retract Port Measured Flow	ISO 11783-7	65060	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1949	Aux Valve 4 Extend Port Estimated Flow	ISO 11783-7	65044	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	1950	Aux Valve 4 Retract Port Estimated Flow	ISO 11783-7	65044	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	1951	Aux Valve 4 State	ISO 11783-7	65044	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.				
	1952	Aux Valve 4 Extend Port Pressure	ISO 11783-7	65060	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.				
	1953	Aux Valve 4 Retract Port Pressure	ISO 11783-7	65060	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.				
	1954	Aux Valve 4 Return Port Pressure	ISO 11783-7	65060	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.				
	1955	Aux Valve 4 Port Flow Command	ISO 11783-7	65076	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1956	Aux Valve 4 State Command	ISO 11783-7	65076	3.1	4	Command for setting the auxiliary valve state.				
	1957	Aux Valve 4 Fail Safe Mode Command	ISO 11783-7	65076	3.7	2	Command for setting the fail safe mode of an auxiliary valve.				
	1958	Aux Valve 4 Fail Safe Mode	ISO 11783-7	65044	3.7	2	The measured state the fail safe mode of an auxiliary valve.				
	1959	Aux Valve 5 Extend Port Measured Flow	ISO 11783-7	65061	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1960	Aux Valve 5 Retract Port Measured Flow	ISO 11783-7	65061	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	1961	Aux Valve 5 Extend Port Estimated Flow	ISO 11783-7	65045	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	1962	Aux Valve 5 Retract Port Estimated Flow	ISO 11783-7	65045	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	1963	Aux Valve 5 State	ISO 11783-7	65045	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.				
	1964	Aux Valve 5 Extend Port Pressure	ISO 11783-7	65061	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.				
	1965	Aux Valve 5 Retract Port Pressure	ISO 11783-7	65061	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.				
	1966	Aux Valve 5 Return Port Pressure	ISO 11783-7	65061	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.				
	1967	Aux Valve 5 Port Flow Command	ISO 11783-7	65077	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1968	Aux Valve 5 State Command	ISO 11783-7	65077	3.1	4	Command for setting the auxiliary valve state.				
	1969	Aux Valve 5 Fail Safe Mode Command	ISO 11783-7	65077	3.7	2	Command for setting the fail safe mode of an auxiliary valve.				
	1970	Aux Valve 5 Fail Safe Mode	ISO 11783-7	65045	3.7	2	The measured state the fail safe mode of an auxiliary valve.				
	1971	Aux Valve 6 Extend Port Measured Flow	ISO 11783-7	65062	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				

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Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	1972	Aux Valve 6 Retract Port Measured Flow	ISO 11783-7	65062	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	1973	Aux Valve 6 Extend Port Estimated Flow	ISO 11783-7	65046	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	1974	Aux Valve 6 Retract Port Estimated Flow	ISO 11783-7	65046	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	1975	Aux Valve 6 State	ISO 11783-7	65046	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.			
	1976	Aux Valve 6 Extend Port Pressure	ISO 11783-7	65062	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.			
	1977	Aux Valve 6 Retract Port Pressure	ISO 11783-7	65062	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.			
	1978	Aux Valve 6 Return Port Pressure	ISO 11783-7	65062	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.			
	1979	Aux Valve 6 Port Flow Command	ISO 11783-7	65078	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	1980	Aux Valve 6 State Command	ISO 11783-7	65078	3.1	4	Command for setting the auxiliary valve state.			
	1981	Aux Valve 6 Fail Safe Mode Command	ISO 11783-7	65078	3.7	2	Command for setting the fail safe mode of an auxiliary valve.			
	1982	Aux Valve 6 Fail Safe Mode	ISO 11783-7	65046	3.7	2	The measured state the fail safe mode of an auxiliary valve.			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	1983	Aux Valve 7 Extend Port Measured Flow	ISO 11783-7	65063	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1984	Aux Valve 7 Retract Port Measured Flow	ISO 11783-7	65063	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1985	Aux Valve 7 Extend Port Estimated Flow	ISO 11783-7	65047	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	1986	Aux Valve 7 Retract Port Estimated Flow	ISO 11783-7	65047	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	1987	Aux Valve 7 State	ISO 11783-7	65047	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.				
	1988	Aux Valve 7 Extend Port Pressure	ISO 11783-7	65063	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.				
	1989	Aux Valve 7 Retract Port Pressure	ISO 11783-7	65063	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.				
	1990	Aux Valve 7 Return Port Pressure	ISO 11783-7	65063	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.				
	1991	Aux Valve 7 Port Flow Command	ISO 11783-7	65079	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1992	Aux Valve 7 State command	ISO 11783-7	65079	3.1	4	Command for setting the auxiliary valve state.				
	1993	Aux Valve 7 Fail Safe Mode Command	ISO 11783-7	65079	3.7	2	Command for setting the fail safe mode of an auxiliary valve.				

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	1994	Aux Valve 7 Fail Safe Mode	ISO 11783-7	65047	3.7	2	The measured state the fail safe mode of an auxiliary valve.				
	1995	Aux Valve 8 Extend Port Measured Flow	ISO 11783-7	65064	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1996	Aux Valve 8 Retract Port Measured Flow	ISO 11783-7	65064	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	1997	Aux Valve 8 Extend Port Estimated Flow	ISO 11783-7	65048	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	1998	Aux Valve 8 Retract Port Estimated Flow	ISO 11783-7	65048	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	1999	Aux Valve 8 State	ISO 11783-7	65048	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.				
	2000	Source Address 0	J1939-21			8					
	2001	Source Address 1	J1939-21			8					
	2002	Source Address 2	J1939-21			8					
	2003	Source Address 3	J1939-21			8					
	2004	Source Address 4	J1939-21			8					
	2005	Source Address 5	J1939-21			8					
	2006	Source Address 6	J1939-21			8					
	2007	Source Address 7	J1939-21			8					
	2008	Source Address 8	J1939-21			8					
	2009	Source Address 9	J1939-21			8					
	2010	Source Address 10	J1939-21			8					

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2011	Source Address 11	J1939-21			8				
	2012	Source Address 12	J1939-21			8				
	2013	Source Address 13	J1939-21			8				
	2014	Source Address 14	J1939-21			8				
	2015	Source Address 15	J1939-21			8				
	2016	Source Address 16	J1939-21			8				
	2017	Source Address 17	J1939-21			8				
	2018	Source Address 18	J1939-21			8				
	2019	Source Address 19	J1939-21			8				
	2020	Source Address 20	J1939-21			8				
	2021	Source Address 21	J1939-21			8				
	2022	Source Address 22	J1939-21			8				
	2023	Source Address 23	J1939-21			8				
	2024	Source Address 24	J1939-21			8				
	2025	Source Address 25	J1939-21			8				
	2026	Source Address 26	J1939-21			8				
	2027	Source Address 27	J1939-21			8				
	2028	Source Address 28	J1939-21			8				
	2029	Source Address 29	J1939-21			8				
	2030	Source Address 30	J1939-21			8				
	2031	Source Address 31	J1939-21			8				
	2032	Source Address 32	J1939-21			8				
	2033	Source Address 33	J1939-21			8				
	2034	Source Address 34	J1939-21			8				
	2035	Source Address 35	J1939-21			8				
	2036	Source Address 36	J1939-21			8				
	2037	Source Address 37	J1939-21			8				

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2038	Source Address 38	J1939-21			8				
	2039	Source Address 39	J1939-21			8				
	2040	Source Address 40	J1939-21			8				
	2041	Source Address 41	J1939-21			8				
	2042	Source Address 42	J1939-21			8				
	2043	Source Address 43	J1939-21			8				
	2044	Source Address 44	J1939-21			8				
	2045	Source Address 45	J1939-21			8				
	2046	Source Address 46	J1939-21			8				
	2047	Source Address 47	J1939-21			8				
	2048	Source Address 48	J1939-21			8				
	2049	Source Address 49	J1939-21			8				
	2050	Source Address 50	J1939-21			8				
	2051	Source Address 51	J1939-21			8				
	2052	Source Address 52	J1939-21			8				
	2053	Source Address 53	J1939-21			8				
	2054	Source Address 54	J1939-21			8				
	2055	Source Address 55	J1939-21			8				
	2056	Source Address 56	J1939-21			8				
	2057	Source Address 57	J1939-21			8				
	2058	Source Address 58	J1939-21			8				
	2059	Source Address 59	J1939-21			8				
	2060	Source Address 60	J1939-21			8				
	2061	Source Address 61	J1939-21			8				
	2062	Source Address 62	J1939-21			8				
	2063	Source Address 63	J1939-21			8				
	2064	Source Address 64	J1939-21			8				

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2065	Source Address 65	J1939-21			8				
	2066	Source Address 66	J1939-21			8				
	2067	Source Address 67	J1939-21			8				
	2068	Source Address 68	J1939-21			8				
	2069	Source Address 69	J1939-21			8				
	2070	Source Address 70	J1939-21			8				
	2071	Source Address 71	J1939-21			8				
	2072	Source Address 72	J1939-21			8				
	2073	Source Address 73	J1939-21			8				
	2074	Source Address 74	J1939-21			8				
	2075	Source Address 75	J1939-21			8				
	2076	Source Address 76	J1939-21			8				
	2077	Source Address 77	J1939-21			8				
	2078	Source Address 78	J1939-21			8				
	2079	Source Address 79	J1939-21			8				
	2080	Source Address 80	J1939-21			8				
	2081	Source Address 81	J1939-21			8				
	2082	Source Address 82	J1939-21			8				
	2083	Source Address 83	J1939-21			8				
	2084	Source Address 84	J1939-21			8				
	2085	Source Address 85	J1939-21			8				
	2086	Source Address 86	J1939-21			8				
	2087	Source Address 87	J1939-21			8				
	2088	Source Address 88	J1939-21			8				
	2089	Source Address 89	J1939-21			8				
	2090	Source Address 90	J1939-21			8				
	2091	Source Address 91	J1939-21			8				

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2092	Source Address 92	J1939-21			8				
	2093	Source Address 93	J1939-21			8				
	2094	Source Address 94	J1939-21			8				
	2095	Source Address 95	J1939-21			8				
	2096	Source Address 96	J1939-21			8				
	2097	Source Address 97	J1939-21			8				
	2098	Source Address 98	J1939-21			8				
	2099	Source Address 99	J1939-21			8				
	2100	Source Address 100	J1939-21			8				
	2101	Source Address 101	J1939-21			8				
	2102	Source Address 102	J1939-21			8				
	2103	Source Address 103	J1939-21			8				
	2104	Source Address 104	J1939-21			8				
	2105	Source Address 105	J1939-21			8				
	2106	Source Address 106	J1939-21			8				
	2107	Source Address 107	J1939-21			8				
	2108	Source Address 108	J1939-21			8				
	2109	Source Address 109	J1939-21			8				
	2110	Source Address 110	J1939-21			8				
	2111	Source Address 111	J1939-21			8				
	2112	Source Address 112	J1939-21			8				
	2113	Source Address 113	J1939-21			8				
	2114	Source Address 114	J1939-21			8				
	2115	Source Address 115	J1939-21			8				
	2116	Source Address 116	J1939-21			8				
	2117	Source Address 117	J1939-21			8				
	2118	Source Address 118	J1939-21			8				

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			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2119	Source Address 119	J1939-21			8				
	2120	Source Address 120	J1939-21			8				
	2121	Source Address 121	J1939-21			8				
	2122	Source Address 122	J1939-21			8				
	2123	Source Address 123	J1939-21			8				
	2124	Source Address 124	J1939-21			8				
	2125	Source Address 125	J1939-21			8				
	2126	Source Address 126	J1939-21			8				
	2127	Source Address 127	J1939-21			8				
	2128	Source Address 128	J1939-21			8				
	2129	Source Address 129	J1939-21			8				
	2130	Source Address 130	J1939-21			8				
	2131	Source Address 131	J1939-21			8				
	2132	Source Address 132	J1939-21			8				
	2133	Source Address 133	J1939-21			8				
	2134	Source Address 134	J1939-21			8				
	2135	Source Address 135	J1939-21			8				
	2136	Source Address 136	J1939-21			8				
	2137	Source Address 137	J1939-21			8				
	2138	Source Address 138	J1939-21			8				
	2139	Source Address 139	J1939-21			8				
	2140	Source Address 140	J1939-21			8				
	2141	Source Address 141	J1939-21			8				
	2142	Source Address 142	J1939-21			8				
	2143	Source Address 143	J1939-21			8				
	2144	Source Address 144	J1939-21			8				
	2145	Source Address 145	J1939-21			8				

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2146	Source Address 146	J1939-21			8				
	2147	Source Address 147	J1939-21			8				
	2148	Source Address 148	J1939-21			8				
	2149	Source Address 149	J1939-21			8				
	2150	Source Address 150	J1939-21			8				
	2151	Source Address 151	J1939-21			8				
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	2153	Source Address 153	J1939-21			8				
	2154	Source Address 154	J1939-21			8				
	2155	Source Address 155	J1939-21			8				
	2156	Source Address 156	J1939-21			8				
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	2160	Source Address 160	J1939-21			8				
	2161	Source Address 161	J1939-21			8				
	2162	Source Address 162	J1939-21			8				
	2163	Source Address 163	J1939-21			8				
	2164	Source Address 164	J1939-21			8				
	2165	Source Address 165	J1939-21			8				
	2166	Source Address 166	J1939-21			8				
	2167	Source Address 167	J1939-21			8				
	2168	Source Address 168	J1939-21			8				
	2169	Source Address 169	J1939-21			8				
	2170	Source Address 170	J1939-21			8				
	2171	Source Address 171	J1939-21			8				
	2172	Source Address 172	J1939-21			8				

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			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2173	Source Address 173	J1939-21			8				
	2174	Source Address 174	J1939-21			8				
	2175	Source Address 175	J1939-21			8				
	2176	Source Address 176	J1939-21			8				
	2177	Source Address 177	J1939-21			8				
	2178	Source Address 178	J1939-21			8				
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	2180	Source Address 180	J1939-21			8				
	2181	Source Address 181	J1939-21			8				
	2182	Source Address 182	J1939-21			8				
	2183	Source Address 183	J1939-21			8				
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	2185	Source Address 185	J1939-21			8				
	2186	Source Address 186	J1939-21			8				
	2187	Source Address 187	J1939-21			8				
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	2193	Source Address 193	J1939-21			8				
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	2195	Source Address 195	J1939-21			8				
	2196	Source Address 196	J1939-21			8				
	2197	Source Address 197	J1939-21			8				
	2198	Source Address 198	J1939-21			8				
	2199	Source Address 199	J1939-21			8				

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			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2200	Source Address 200	J1939-21			8				
	2201	Source Address 201	J1939-21			8				
	2202	Source Address 202	J1939-21			8				
	2203	Source Address 203	J1939-21			8				
	2204	Source Address 204	J1939-21			8				
	2205	Source Address 205	J1939-21			8				
	2206	Source Address 206	J1939-21			8				
	2207	Source Address 207	J1939-21			8				
	2208	Source Address 208	J1939-21			8				
	2209	Source Address 209	J1939-21			8				
	2210	Source Address 210	J1939-21			8				
	2211	Source Address 211	J1939-21			8				
	2212	Source Address 212	J1939-21			8				
	2213	Source Address 213	J1939-21			8				
	2214	Source Address 214	J1939-21			8				
	2215	Source Address 215	J1939-21			8				
	2216	Source Address 216	J1939-21			8				
	2217	Source Address 217	J1939-21			8				
	2218	Source Address 218	J1939-21			8				
	2219	Source Address 219	J1939-21			8				
	2220	Source Address 220	J1939-21			8				
	2221	Source Address 221	J1939-21			8				
	2222	Source Address 222	J1939-21			8				
	2223	Source Address 223	J1939-21			8				
	2224	Source Address 224	J1939-21			8				
	2225	Source Address 225	J1939-21			8				
	2226	Source Address 226	J1939-21			8				

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2227	Source Address 227	J1939-21			8				
	2228	Source Address 228	J1939-21			8				
	2229	Source Address 229	J1939-21			8				
	2230	Source Address 230	J1939-21			8				
	2231	Source Address 231	J1939-21			8				
	2232	Source Address 232	J1939-21			8				
	2233	Source Address 233	J1939-21			8				
	2234	Source Address 234	J1939-21			8				
	2235	Source Address 235	J1939-21			8				
	2236	Source Address 236	J1939-21			8				
	2237	Source Address 237	J1939-21			8				
	2238	Source Address 238	J1939-21			8				
	2239	Source Address 239	J1939-21			8				
	2240	Source Address 240	J1939-21			8				
	2241	Source Address 241	J1939-21			8				
	2242	Source Address 242	J1939-21			8				
	2243	Source Address 243	J1939-21			8				
	2244	Source Address 244	J1939-21			8				
	2245	Source Address 245	J1939-21			8				
	2246	Source Address 246	J1939-21			8				
	2247	Source Address 247	J1939-21			8				
	2248	Source Address 248	J1939-21			8				
	2249	Source Address 249	J1939-21			8				
	2250	Source Address 250	J1939-21			8				
	2251	Source Address 251	J1939-21			8				
	2252	Source Address 252	J1939-21			8				
	2253	Source Address 253	J1939-21			8				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2254	Source Address 254	J1939-21			8				
	2255	Source Address 255	J1939-21			8				
	2256	Aux Valve 8 Extend Port Pressure	ISO 11783-7	65064	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.			
	2257	Aux Valve 8 Retract Port Pressure	ISO 11783-7	65064	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.			
	2258	Aux Valve 8 Return Port Pressure	ISO 11783-7	65064	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.			
	2259	Aux Valve 8 Port Flow Command	ISO 11783-7	65080	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	2260	Aux Valve 8 State Command	ISO 11783-7	65080	3.1	4	Command for setting the auxiliary valve state.			
	2261	Aux Valve 8 Fail Safe Mode Command	ISO 11783-7	65080	3.7	2	Command for setting the fail safe mode of an auxiliary valve.			
	2262	Aux Valve 8 Fail Safe Mode	ISO 11783-7	65048	3.7	2	The measured state the fail safe mode of an auxiliary valve.			
	2263	Aux Valve 9 Extend Port Measured Flow	ISO 11783-7	65065	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	2264	Aux Valve 9 Retract Port Measured Flow	ISO 11783-7	65065	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	2265	Aux Valve 9 Extend Port Estimated Flow	ISO 11783-7	65049	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	2266	Aux Valve 9 Retract Port Estimated Flow	ISO 11783-7	65049	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	2267	Aux Valve 9 State	ISO 11783-7	65049	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.				
	2268	Aux Valve 9 Extend Port Pressure	ISO 11783-7	65065	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.				
	2269	Aux Valve 9 Retract Port Pressure	ISO 11783-7	65065	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.				
	2270	Aux Valve 9 Return Port Pressure	ISO 11783-7	65065	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.				
	2271	Aux Valve 9 Port Flow Command	ISO 11783-7	65081	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	2272	Aux Valve 9 State Command	ISO 11783-7	65081	3.1	4	Command for setting the auxiliary valve state.				
	2273	Aux Valve 9 Fail Safe Mode Command	ISO 11783-7	65081	3.7	2	Command for setting the fail safe mode of an auxiliary valve.				
	2274	Aux Valve 9 Fail Safe Mode	ISO 11783-7	65049	3.7	2	The measured state the fail safe mode of an auxiliary valve.				
	2275	Aux Valve 10 Extend Port Measured Flow	ISO 11783-7	65066	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	2276	Aux Valve 10 Retract Port Measured Flow	ISO 11783-7	65066	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	2277	Aux Valve 10 Extend Port Estimated Flow	ISO 11783-7	65050	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2278	Aux Valve 10 Retract Port Estimated Flow	ISO 11783-7	65050	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	2279	Aux Valve 10 State	ISO 11783-7	65050	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.			
	2280	Aux Valve 10 Extend Port Pressure	ISO 11783-7	65066	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.			
	2281	Aux Valve 10 Retract Port Pressure	ISO 11783-7	65066	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.			
	2282	Aux Valve 10 Return Port Pressure	ISO 11783-7	65066	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.			
	2283	Aux Valve 10 Port Flow Command	ISO 11783-7	65082	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	2284	Aux Valve 10 State Command	ISO 11783-7	65082	3.1	4	Command for setting the auxiliary valve state.			
	2285	Aux Valve 10 Fail Safe Mode Command	ISO 11783-7	65082	3.7	2	Command for setting the fail safe mode of an auxiliary valve.			
	2286	Aux Valve 10 Fail Safe Mode	ISO 11783-7	65050	3.7	2	The measured state the fail safe mode of an auxiliary valve.			
	2287	Aux Valve 11 Extend Port Measured Flow	ISO 11783-7	65067	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	2288	Aux Valve 11 Retract Port Measured Flow	ISO 11783-7	65067	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	2289	Aux Valve 11 Extend Port Estimated Flow	ISO 11783-7	65051	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	2290	Aux Valve 11 Retract Port Estimated Flow	ISO 11783-7	65051	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	2291	Aux Valve 11 State	ISO 11783-7	65051	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.				
	2292	Aux Valve 11 Extend Port Pressure	ISO 11783-7	65067	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.				
	2293	Aux Valve 11 Retract Port Pressure	ISO 11783-7	65067	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.				
	2294	Aux Valve 11 Return Port Pressure	ISO 11783-7	65067	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.				
	2295	Aux Valve 11 Port Flow Command	ISO 11783-7	65083	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	2296	Aux Valve 11 State Command	ISO 11783-7	65083	3.1	4	Command for setting the auxiliary valve state.				
	2297	Aux Valve 11 Fail Safe Mode Command	ISO 11783-7	65083	3.7	2	Command for setting the fail safe mode of an auxiliary valve.				
	2298	Aux Valve 11 Fail Safe Mode	ISO 11783-7	65051	3.7	2	The measured state the fail safe mode of an auxiliary valve.				
	2299	Aux Valve 12 Extend Port Measured Flow	ISO 11783-7	65068	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2300	Aux Valve 12 Retract Port Measured Flow	ISO 11783-7	65068	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	2301	Aux Valve 12 Extend Port Estimated Flow	ISO 11783-7	65052	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	2302	Aux Valve 12 Retract Port Estimated Flow	ISO 11783-7	65052	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	2303	Aux Valve 12 State	ISO 11783-7	65052	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.			
	2304	Aux Valve 12 Extend Port Pressure	ISO 11783-7	65068	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.			
	2305	Aux Valve 12 Retract Port Pressure	ISO 11783-7	65068	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.			
	2306	Aux Valve 12 Return Port Pressure	ISO 11783-7	65068	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.			
	2307	Aux Valve 12 Port Flow Command	ISO 11783-7	65084	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	2308	Aux Valve 12 State Command	ISO 11783-7	65084	3.1	4	Command for setting the auxiliary valve state.			
	2309	Aux Valve 12 Fail Safe Mode Command	ISO 11783-7	65084	3.7	2	Command for setting the fail safe mode of an auxiliary valve.			
	2310	Aux Valve 12 Fail Safe Mode	ISO 11783-7	65052	3.7	2	The measured state the fail safe mode of an auxiliary valve.			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	2311	Aux Valve 13 Extend Port Measured Flow	ISO 11783-7	65069	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	2312	Aux Valve 13 Retract Port Measured Flow	ISO 11783-7	65069	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	2313	Aux Valve 13 Extend Port Estimated Flow	ISO 11783-7	65053	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	2314	Aux Valve 13 Retract Port Estimated Flow	ISO 11783-7	65053	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.				
	2315	Aux Valve 13 State	ISO 11783-7	65053	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.				
	2316	Aux Valve 13 Extend Port Pressure	ISO 11783-7	65069	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.				
	2317	Aux Valve 13 Retract Port Pressure	ISO 11783-7	65069	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.				
	2318	Aux Valve 13 Return Port Pressure	ISO 11783-7	65069	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.				
	2319	Aux Valve 13 Port Flow Command	ISO 11783-7	65085	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.				
	2320	Aux Valve 13 State Command	ISO 11783-7	65085	3.1	4	Command for setting the auxiliary valve state.				
	2321	Aux Valve 13 Fail Safe Mode Command	ISO 11783-7	65085	3.7	2	Command for setting the fail safe mode of an auxiliary valve.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2322	Aux Valve 13 Fail Safe Mode	ISO 11783-7	65053	3.7	2	The measured state the fail safe mode of an auxiliary valve.			
	2323	Aux Valve 14 Extend Port Measured Flow	ISO 11783-7	65070	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	2324	Aux Valve 14 Retract Port Measured Flow	ISO 11783-7	65070	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	2325	Aux Valve 14 Extend Port Estimated Flow	ISO 11783-7	65054	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	2326	Aux Valve 14 Retract Port Estimated Flow	ISO 11783-7	65054	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	2327	Aux Valve 14 State	ISO 11783-7	65054	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.			
	2328	Aux Valve 14 Extend Port Pressure	ISO 11783-7	65070	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.			
	2329	Aux Valve 14 Retract Port Pressure	ISO 11783-7	65070	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.			
	2330	Aux Valve 14 Return Port Pressure	ISO 11783-7	65070	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.			
	2331	Aux Valve 14 Port Flow Command	ISO 11783-7	65086	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	2332	Aux Valve 14 State Command	ISO 11783-7	65086	3.1	4	Command for setting the auxiliary valve state.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2333	Aux Valve 14 Fail Safe Mode Command	ISO 11783-7	65086	3.7	2	Command for setting the fail safe mode of an auxiliary valve.			
	2334	Aux Valve 14 Fail Safe Mode	ISO 11783-7	65054	3.7	2	The measured state the fail safe mode of an auxiliary valve.			
	2335	Aux Valve 15 Extend Port Measured Flow	ISO 11783-7	65071	1	8	The measured flow through the extend port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	2336	Aux Valve 15 Retract Port Measured Flow	ISO 11783-7	65071	2	8	The measured flow through the retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			
	2337	Aux Valve 15 Extend Port Estimated Flow	ISO 11783-7	65055	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	2338	Aux Valve 15 Retract Port Estimated Flow	ISO 11783-7	65055	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor which could be based on the commanded position of the valve.			
	2339	Aux Valve 15 State	ISO 11783-7	65055	3.1	4	The measured state of the auxiliary valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.			
	2340	Aux Valve 15 Extend Port Pressure	ISO 11783-7	65071	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor.			
	2341	Aux Valve 15 Retract Port Pressure	ISO 11783-7	65071	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor.			
	2342	Aux Valve 15 Return Port Pressure	ISO 11783-7	65071	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor.			
	2343	Aux Valve 15 Port Flow Command	ISO 11783-7	65087	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor, expressed as a percentage of full flow.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2344	Aux Valve 15 State Command	ISO 11783-7	65087	3.1	4	Command for setting the auxiliary valve state.			
	2345	Aux Valve 15 Fail Safe Mode Command	ISO 11783-7	65087	3.7	2	Command for setting the fail safe mode of an auxiliary valve.			
	2346	Aux Valve 15 Fail Safe Mode	ISO 11783-7	65055	3.7	2	The measured state the fail safe mode of an auxiliary valve.			
	2347	High Beam Head Light Command	J1939-71	65089	1.7	2	Command to activate or de-activate the tractor high beam head light lamps.			
	2348	High Beam Head Light Data	J1939-71	65088	1.7	2	This parameter provides measured data from the tractor high beam head light lamps.			
	2349	Low Beam Head Light Command	J1939-71	65089	1.5	2	Command to activate or de-activate the tractor low beam head light lamps.			
	2350	Low Beam Head Light Data	J1939-71	65088	1.5	2	This parameter provides measured data from the tractor low beam head light lamps.			
	2351	Alternate Beam Head Light Command	J1939-71	65089	1.3	2	Command to activate or de-activate the tractor alternate head lights (only low beam is available on alternate head lights).			
	2352	Alternate Beam Head Light Data	J1939-71	65088	1.3	2	This parameter provides measured data from the tractor alternate beam head light lamps.			
	2353	Tractor Front Low Mounted Work Lights Command	J1939-71	65089	6.5	2	Command to activate or de-activate the tractor front low mounted work lights.			
	2354	Tractor Front Low Mounted Work Lights	J1939-71	65088	6.5	2	This parameter provides measured data from the tractor front low mounted work lights.			
	2355	Tractor Front High Mounted Work Lights Command	J1939-71	65089	6.7	2	Command to activate or de-activate the tractor front high mounted work lights.			
	2356	Tractor Front High Mounted Work Lights	J1939-71	65088	6.7	2	This parameter provides measured data from the tractor front high mounted work lights.			
	2357	Tractor Underside Mounted Work Lights Command	J1939-71	65089	5.3	2	Command to activate or de-activate the tractor underside mounted work lights.			
	2358	Tractor Underside Mounted Work Lights	J1939-71	65088	5.3	2	This parameter provides measured data from the tractor underside mounted work lights.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2359	Tractor Rear Low Mounted Work Lights Command	J1939-71	65089	5.5	2	Command to activate or de-activate the tractor rear low mounted work lights.			
	2360	Tractor Rear Low Mounted Work Lights	J1939-71	65088	5.5	2	This parameter provides measured data from the tractor rear low mounted work lights.			
	2361	Tractor Rear High Mounted Work Lights Command	J1939-71	65089	5.7	2	Command to activate or de-activate the tractor rear high mounted work lights.			
	2362	Tractor Rear High Mounted Work Lights	J1939-71	65088	5.7	2	This parameter provides measured data from the tractor rear high mounted work lights.			
	2363	Tractor Side Low Mounted Work Lights Command	J1939-71	65089	6.1	2	Command to activate or de-activate the tractor side low mounted work lights.			
	2364	Tractor Side Low Mounted Work Lights	J1939-71	65088	6.1	2	This parameter provides measured data from the tractor side low mounted work lights.			
	2365	Tractor Side High Mounted Work Lights Command	J1939-71	65089	6.3	2	Command to activate or de-activate the tractor side high mounted work lights.			
	2366	Tractor Side High Mounted Work Lights	J1939-71	65088	6.3	2	This parameter provides measured data from the tractor side high mounted work lights.			
	2367	Left Turn Signal Lights Command	J1939-71	65089	2.7	2	Command to activate or de-activate left turn signal lights on the tractor and all connected implements			
	2368	Left Turn Signal Lights	J1939-71	65088	2.7	2	This parameter provides measured data from the tractor and attached implement left turn signal lights.			
	2369	Right Turn Signal Lights Command	J1939-71	65089	2.5	2	Command to activate or de-activate right turn signal lights on the tractor and all connected implements			
	2370	Right Turn Signal Lights	J1939-71	65088	2.5	2	This parameter provides measured data from the tractor and attached implement right turn signal lights.			
	2371	Left Stop Light Command	J1939-71	65089	3.7	2	Command to activate or de-activate the tractor and implement left stop lights			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2372	Left Stop Light	J1939-71	65088	3.7	2	This parameter provides measured data from the tractor and attached implement left stop lights.			
	2373	Right Stop Light Command	J1939-71	65089	3.5	2	Command to activate or de-activate the tractor and implement right stop light			
	2374	Right Stop Light	J1939-71	65088	3.5	2	This parameter provides measured data from the tractor and attached implement right stop lights.			
	2375	Center Stop Light Command	J1939-71	65089	3.3	2	Command to activate or de-activate the tractor and implement center stop light			
	2376	Center Stop Light	J1939-71	65088	3.3	2	This parameter provides measured data from the tractor and attached implement center stop lights.			
	2377	Tractor Marker Light Command	J1939-71	65089	4.7	2	Command to activate or de-activate tractor and implement front position lights, rear red tail lights, side amber running lights, license plate lights and instrument and switch back lights.			
	2378	Tractor Marker Light	J1939-71	65088	4.7	2	This parameter provides measured data from the tractor and attached implement marker lights, including front position lights, rear tail lights, side running lights, license plate lights and instruments and switch back lights.			
	2379	Implement Marker Light Command	J1939-71	65089	4.5	2	Command to activate or de-activate implement front position lights, rear red tail lights, side amber running lights, license plate lights and instrument and switch back lights.			
	2380	Implement Marker Light	J1939-71	65088	4.5	2	This parameter provides measured data from an attached implement marker lights, including front position lights, rear tail lights, side running lights, license plate lights and instruments and switch back lights.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	2381	Tractor Clearance Light Command	J1939-71	65089	4.3	2	Command to activate or de-activate the tractor high mounted clearance and center ID lights				
	2382	Tractor Clearance Light	J1939-71	65088	4.3	2	This parameter provides measured data from the tractor high mounted clearance and center ID lights.				
	2383	Implement Clearance Light Command	J1939-71	65089	4.1	2	Command to activate or de-activate the implement high mounted clearance and lights.				
	2384	Implement Clearance Light	J1939-71	65088	4.1	2	This parameter provides measured data from an attached implement high mounted clearance lights.				
	2385	Rotating Beacon Light Command	J1939-71	65089	2.3	2	Command to activate or de-activate slow moving vehicle indicator lights on tractor and/or implements.				
	2386	Rotating Beacon Light	J1939-71	65088	2.3	2	This parameter provides measured data from the beacon light on tractor or attached implements.				
	2387	Tractor Front Fog Lights Command	J1939-71	65089	2.1	2	Command to activate or de-activate tractor front fog lights				
	2388	Tractor Front Fog Lights	J1939-71	65088	2.1	2	This parameter provides measured data from the tractor front fog lights.				
	2389	Rear Fog Light Command	J1939-71	65089	5.1	2	Command to activate or de-activate tractor or implement rear fog lights.				
	2390	Rear Fog Lights	J1939-71	65088	5.1	2	This parameter provides measured data from the tractor and/or implement rear fog lights.				
	2391	Back Up Light and Alarm Horn Command	J1939-71	65089	3.1	2	Command to activate or de-activate the back up lights and/ or associated alarm if required.				
	2392	Back Up Light and Alarm Horn	J1939-71	65088	3.1	2	This parameter provides measured data from the back up lights and/ or associated alarm.				
	2393	Lighting Data Request Command	J1939-71	65089	8.1	2	Command to provide a response of the light state				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2394	Implement Rear Work Light	J1939-71	65088	8.7	2	This parameter provides measured data from the implement rear work lamps.			
	2395	Implement OEM Option 1 Light Command	J1939-71	65089	7.3	2	Command to activate or de-activate an implement OEM option 1 light. This is provided to meet special needs on implements, such as tank inspection or filling lights.			
	2396	Implement OEM Option 1 Light	J1939-71	65088	7.3	2	This parameter provides measured data from the implement OEM option 1 light.			
	2397	Implement OEM Option 2 Light Command	J1939-71	65089	7.1	2	Command to activate or de-activate an implement OEM option 2 light. This is provided to meet special needs on implements, such as tank inspection or filling lights.			
	2398	Implement OEM Option 2 Light	J1939-71	65088	7.1	2	This parameter provides measured data from the implement OEM option 2 light.			
	2399	Implement Left Facing Work Light Command	J1939-71	65089	8.5	2	Command to activate or de-activate the left facing work lights toward the left end of the implement.			
	2400	Implement Left Facing Work Light	J1939-71	65088	8.5	2	This parameter provides measured data from the left facing work lights toward the left end of the implement.			
	2401	Implement Right Forward Work Light Command	J1939-71	65089	8.3	2	Command to activate or de-activate the forward facing work lights toward the right end of the implement.			
	2402	Implement Right Forward Work Light	J1939-71	65088	8.3	2	This parameter provides measured data from the forward facing work lights toward the right end of the implement.			
	2403	Running Light Command	J1939-71	65089	1.1	2	Command to activate or de-activate the tractor or powered vehicle running lights. Usually only used for on road vehicles.			
	2404	Running Light	J1939-71	65088	1.1	2	This parameter provides measured data from the vehicle's running lights.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2405	Implement Rear Work Light Command	J1939-71	65089	8.7	2	Command to activate or de-activate implement rear work lights. (This is also the same as Reversing Lights for truck applications.)			
	2406	Implement Right Facing Work Light Command	J1939-71	65089	7.5	2	Command to activate or de-activate work lights mounted on an implement to illuminate beyond right end of the implement.			
	2407	Implement Right Facing Work Light	J1939-71	65088	7.5	2	This parameter provides measured data from the work lights mounted on an implement to illuminate beyond right end of the implement.			
	2408	Rear Power Take Off Engagement	ISO 11783-7	65091	5.7	2	A measured signal indicating that the rear power take off is engaged or disengage.			
	2409	Number of Members in Working Set <sup>†</sup>	J1939-81	64975	1	8	The number of members in a particular Working Set.			
	2409	Number of Members in Working Set <sup>†</sup>	J1939-81	65037	1	8	The number of members in a particular Working Set.			
	2410	Language Code Command	ISO 11783-7	65039	1-2	16	Command sent to all ECUs which specifies the operator's desired language of information. ISO 11783 shall use the 2-character string country codes in ISO 639.			
	2411	Decimal Symbol Command	ISO 11783-7	65039	3.7	2	Command sent to all ECUs which specifies that a decimal point or Comma should be displayed.			
	2412	Date Command	ISO 11783-7	65039	4	8	Command sent to all ECUs which specifies the displayed order of the date.			
	2413	Time Command	ISO 11783-7	65039	3.5	2	Command sent to all ECUs which specifies the displayed format of the time			
	2414	Distance Unit Command	ISO 11783-7	65039	5.7	2	Command to specify the distance units			
	2415	Area Unit Command	ISO 11783-7	65039	5.5	2	Command to specify the area units			
	2416	Volume Unit Command	ISO 11783-7	65039	5.3	2	Command to specify the volume units			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2417	Mass Unit Command	ISO 11783-7	65039	5.1	2	Command to specify the mass units			
	2418	Repetition Rate Parameter <sup>†</sup>	ISO 11783-7	52224	4-5	16	This parameter defines the repetition rate of the specified PGN.			
	2418	Repetition Rate Parameter <sup>†</sup>	ISO 11783-7	65038	4-5	16	This parameter defines the repetition rate of the specified PGN.			
	2419	Data Format/Error Condition <sup>†</sup>	ISO 11783-7	51968	1.6	2	This 2 bit parameter that indicates the format or availability of the data in the following Process Data Parameter.			
	2419	Data Format/Error Condition <sup>†</sup>	ISO 11783-7	52224	6.6	2	This 2 bit parameter that indicates the format or availability of the data in the following Process Data Parameter.			
	2419	Data Format/Error Condition <sup>†</sup>	ISO 11783-7	65038	6.6	2	This 2 bit parameter that indicates the format or availability of the data in the following Process Data Parameter.			
	2420	Process Data Type <sup>†</sup>	ISO 11783-7	51968	1.4	2	This 2 bit parameter indicates what the data in the following Process Data Parameters is to be used for.			
	2420	Process Data Type <sup>†</sup>	ISO 11783-7	52224	6.4	2	This 2 bit parameter indicates what the data in the following Process Data Parameters is to be used for.			
	2420	Process Data Type <sup>†</sup>	ISO 11783-7	65038	6.4	2	This 2 bit parameter indicates what the data in the following Process Data Parameters is to be used for.			
	2421	Process Data Modifier <sup>†</sup>	ISO 11783-7	51968	1.1	3	This 3 bit parameter that indicates how the data in the following Process Data Parameters is to be used when combined with the Process Data Type parameter.			
	2421	Process Data Modifier <sup>†</sup>	ISO 11783-7	52224	6.1	3	This 3 bit parameter that indicates how the data in the following Process Data Parameters is to be used when combined with the Process Data Type parameter.			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	2421	Process Data Modifier <sup>†</sup>	ISO 11783-7	65038	6.1	3	This 3 bit parameter that indicates how the data in the following Process Data Parameters is to be used when combined with the Process Data Type parameter.				
	2422	Count Number	ISO 11783-7	51968	2	8	This parameter indicates which member of the set of possible entities is being referenced. The means of generating this Count Number is explained in the following clause.				
	2423	Group Number	ISO 11783-7			8	This parameter is used by software within the Management Computer, in combination with Element Number, to produce a unique Count Number for each member of a particular set of entities that are on an Implement. Refer to ISO 11783-10.				
	2424	Element Number	ISO 11783-7			8	This parameter is used by software within the Management Computer, in combination with Group Number, to produce a unique Count Number for each member of a particular set of entities that are on an Implement. Refer to ISO 11783-10.				
	2425	Implement Type <sup>†</sup>	ISO 11783-7	51968	3.5	4	This 4 bit parameter indicates which data dictionary page is to be used to locate the identity of the following data.				
	2425	Implement Type <sup>†</sup>	ISO 11783-7	52224	7.5	4	This 4 bit parameter indicates which data dictionary page is to be used to locate the identity of the following data.				
	2425	Implement Type <sup>†</sup>	ISO 11783-7	65038	7.5	4	This 4 bit parameter indicates which data dictionary page is to be used to locate the identity of the following data.				
	2426	Implement Position <sup>†</sup>	ISO 11783-7	51968	3.1	4	This 4 bit parameter of this message will indicate which Implement is referenced within a set of identical Implements.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2426	Implement Position <sup>†</sup>	ISO 11783-7	52224	7.1	4	This 4 bit parameter of this message will indicate which Implement is referenced within a set of identical Implements.			
	2426	Implement Position <sup>†</sup>	ISO 11783-7	65038	7.1	4	This 4 bit parameter of this message will indicate which Implement is referenced within a set of identical Implements.			
	2427	Data Dictionary Row <sup>†</sup>	ISO 11783-7	51968	4.5	4	This 4 bit parameter indicates the Row that is to be used within the specific Data Dictionary Table identified by the Implement Type. This is the Group (GRUP) in LBS documents.			
	2427	Data Dictionary Row <sup>†</sup>	ISO 11783-7	52224	8.5	4	This 4 bit parameter indicates the Row that is to be used within the specific Data Dictionary Table identified by the Implement Type. This is the Group (GRUP) in LBS documents.			
	2427	Data Dictionary Row <sup>†</sup>	ISO 11783-7	65038	8.5	4	This 4 bit parameter indicates the Row that is to be used within the specific Data Dictionary Table identified by the Implement Type. This is the Group (GRUP) in LBS documents.			
	2428	Data Dictionary Column <sup>†</sup>	ISO 11783-7	51968	4.1	4	This 4 bit parameter indicates the Column that is to be used within the specific Data Dictionary Table identified by the Implement Type. This is the Instance (INST) in LBS documents.			
	2428	Data Dictionary Column <sup>†</sup>	ISO 11783-7	52224	8.1	4	This 4 bit parameter indicates the Column that is to be used within the specific Data Dictionary Table identified by the Implement Type. This is the Instance (INST) in LBS documents.			
	2428	Data Dictionary Column <sup>†</sup>	ISO 11783-7	65038	8.1	4	This 4 bit parameter indicates the Column that is to be used within the specific Data Dictionary Table identified by the Implement Type. This is the Instance (INST) in LBS documents.			
	2429	Process Variable Value	ISO 11783-7	51968	5-8	32	This 4 byte parameter contains the actual data for the Process Data Message.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2430	Engine Coolant Level - Main Radiator	J1939				Indicator of coolant level in main radiator or engine.			
	2431	Engine Oil Rail High Pressure Leakage	J1939				Indicates oil leakage in the high pressure oil rail of the engine.			
	2432	Engine Demand – Percent Torque	J1939-71	61444	8	8	The requested torque output of the engine by all dynamic internal inputs, including smoke control, noise control and low and high speed governing.			
	2433	Engine Exhaust Gas Temperature - Right Manifold	J1939-71	65031	1-2	16	Temperature of combustion byproducts within the right engine exhaust manifold.			
	2434	Engine Exhaust Gas Temperature - Left Manifold	J1939-71	65031	3-4	16	Temperature of combustion byproducts within the left engine exhaust manifold.			
	2435	Sea Water Pump Outlet Pressure	J1939-71	65172	3	8	Gauge pressure of liquid found at outlet of sea water pump in sea water cooling system.			
	2436	Generator Average AC Frequency	J1939-75	65030	5-6	16	Average AC frequency measured at the generator output.			
	2437	Generator Phase A AC Frequency	J1939-75	65027	5-6	16	AC frequency measured at the generator phase A output.			
	2438	Generator Phase B AC Frequency	J1939-75	65024	5-6	16	AC frequency measured at the generator phase B output.			
	2439	Generator Phase C AC Frequency	J1939-75	65021	5-6	16	AC frequency measured at the generator phase C output.			
	2440	Generator Average Line-Line AC RMS Voltage	J1939-75	65030	1-2	16	Average Line to Line RMS voltage measured at the generator output.			
	2441	Generator Phase AB Line-Line AC RMS Voltage	J1939-75	65027	1-2	16	Line to Line RMS voltage measured at the generator phase AB output.			
	2442	Generator Phase BC Line-Line AC RMS Voltage	J1939-75	65024	1-2	16	Line to Line RMS voltage measured at the generator phase BC output.			
	2443	Generator Phase CA Line-Line AC RMS Voltage	J1939-75	65021	1-2	16	Line to Line RMS voltage measured at the generator phase CA output.			
	2444	Generator Average Line-Neutral AC RMS Voltage	J1939-75	65030	3-4	16	The average Line to Neutral AC RMS voltage measured at the Generator output.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2445	Generator Phase A Line-Neutral AC RMS Voltage	J1939-75	65027	3-4	16	Line to Neutral RMS voltage measured at the generator phase A output.			
	2446	Generator Phase B Line-Neutral AC RMS Voltage	J1939-75	65024	3-4	16	Line to Neutral RMS voltage measured at the generator phase B output.			
	2447	Generator Phase C Line-Neutral AC RMS Voltage	J1939-75	65021	3-4	16	Line to Neutral RMS voltage measured at the generator phase C output.			
	2448	Generator Average AC RMS Current	J1939-75	65030	7-8	16	Average RMS current measured at the generator output.			
	2449	Generator Phase A AC RMS Current	J1939-75	65027	7-8	16	RMS current measured at the generator phase A output.			
	2450	Generator Phase B AC RMS Current	J1939-75	65024	7-8	16	RMS current measured at the generator phase B output.			
	2451	Generator Phase C AC RMS Current	J1939-75	65021	7-8	16	RMS current measured at the generator phase C output.			
	2452	Generator Total Real Power	J1939-75	65029	1-4	32	Total real power delivered by the generator.			
	2453	Generator Phase A Real Power	J1939-75	65026	1-4	32	The real power delivered by phase A of the generator.			
	2454	Generator Phase B Real Power	J1939-75	65023	1-4	32	The real power delivered by phase B of the generator.			
	2455	Generator Phase C Real Power	J1939-75	65020	1-4	32	The real power delivered by phase C of the generator.			
	2456	Generator Total Reactive Power	J1939-75	65028	1-4	32	The total reactive power delivered by the generator			
	2457	Generator Phase A Reactive Power	J1939-75	65025	1-4	32	The reactive power delivered by phase A of the generator			
	2458	Generator Phase B Reactive Power	J1939-75	65022	1-4	32	The reactive power delivered by phase B of the generator			
	2459	Generator Phase C Reactive Power	J1939-75	65019	1-4	32	The reactive power delivered by phase C of the generator			
	2460	Generator Total Apparent Power	J1939-75	65029	5-8	32	The total apparent power delivered by the generator.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2461	Generator Phase A Apparent Power	J1939-75	65026	5-8	32	The apparent power delivered by phase A of the generator.			
	2462	Generator Phase B Apparent Power	J1939-75	65023	5-8	32	The apparent power delivered by phase B of the generator.			
	2463	Generator Phase C Apparent Power	J1939-75	65020	5-8	32	The apparent power delivered by phase C of the generator.			
	2464	Generator Overall Power Factor	J1939-75	65028	5-6	16	The average power factor of the generator.			
	2465	Generator Phase A Power Factor	J1939-75	65025	5-6	16	The power factor of phase A of the generator.			
	2466	Generator Phase B Power Factor	J1939-75	65022	5-6	16	The power factor of phases B of the generator.			
	2467	Generator Phase C Power Factor	J1939-75	65019	5-6	16	The power factor of phases C of the generator.			
	2468	Generator Total kW Hours Export	J1939-75	65018	1-4	32	The total kilowatt-hours that have been exported by the generator.			
	2469	Generator Total kW Hours Import	J1939-75	65018	5-8	32	The total kilowatt-hours that have been imported by the generator.			
	2470	Utility Average AC Frequency	J1939-75	65017	5-6	16	Average AC frequency measured at the utility incomer.			
	2471	Utility Phase A AC Frequency	J1939-75	65014	5-6	16	AC frequency measured at the utility incomer phase A.			
	2472	Utility Phase B AC Frequency	J1939-75	65011	5-6	16	AC frequency measured at the utility incomer phase B.			
	2473	Utility Phase C AC Frequency	J1939-75	65008	5-6	16	AC frequency measured at the utility incomer phase C.			
	2474	Utility Average Line-Line AC RMS Voltage	J1939-75	65017	1-2	16	Average Line to Line RMS voltage measured at the utility incomer .			
	2475	Utility Phase AB Line-Line AC RMS Voltage	J1939-75	65014	1-2	16	Line to Line RMS voltage measured at the utility incomer phase AB.			
	2476	Utility Phase BC Line-Line AC RMS Voltage	J1939-75	65011	1-2	16	Line to Line RMS voltage measured at the utility incomer phase BC.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	2477	Utility Phase CA Line-Line AC RMS Voltage	J1939-75	65008	1-2	16	Line to Line RMS voltage measured at the utility incomer phase CA.				
	2478	Utility Average Line-Neutral AC RMS Voltage	J1939-75	65017	3-4	16	The average Line to Neutral AC RMS voltage measured at the utility incomer .				
	2479	Utility Phase A Line-Neutral AC RMS Voltage	J1939-75	65014	3-4	16	Line to Neutral RMS voltage measured at the utility incomer phase A.				
	2480	Utility Phase B Line-Neutral AC RMS Voltage	J1939-75	65011	3-4	16	Line to Neutral RMS voltage measured at the utility incomer phase B.				
	2481	Utility Phase C Line-Neutral AC RMS Voltage	J1939-75	65008	3-4	16	Line to Neutral RMS voltage measured at the utility incomer phase C.				
	2482	Utility Average AC RMS Current	J1939-75	65017	7-8	16	Average RMS current measured at the utility incomer.				
	2483	Utility Phase A AC RMS Current	J1939-75	65014	7-8	16	RMS current measured at the utility incomer phase A.				
	2484	Utility Phase B AC RMS Current	J1939-75	65011	7-8	16	RMS current measured at the utility incomer phase B.				
	2485	Utility Phase C AC RMS Current	J1939-75	65008	7-8	16	RMS current measured at the utility incomer phase C.				
	2486	Utility Total Real Power	J1939-75	65016	1-4	32	Total real power delivered by the utility incomer.				
	2487	Utility Phase A Real Power	J1939-75	65013	1-4	32	The real power delivered by phase A of the utility incomer.				
	2488	Utility Phase B Real Power	J1939-75	65010	1-4	32	The real power delivered by phase B of the utility incomer.				
	2489	Utility Phase C Real Power	J1939-75	65007	1-4	32	The real power delivered by phase C of the utility incomer.				
	2490	Utility Total Reactive Power	J1939-75	65015	1-4	32	The total reactive power delivered by the utility incomer				
	2491	Utility Phase A Reactive Power	J1939-75	65012	1-4	32	The reactive power delivered by phase A of the utility incomer				
	2492	Utility Phase B Reactive Power	J1939-75	65009	1-4	32	The reactive power delivered by phase B of the utility incomer				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2493	Utility Phase C Reactive Power	J1939-75	65006	1-4	32	The reactive power delivered by phase C of the utility incomer			
	2494	Utility Total Apparent Power	J1939-75	65016	5-8	32	The total apparent power delivered by the utility incomer.			
	2495	Utility Phase A Apparent Power	J1939-75	65013	5-8	32	The apparent power delivered by phase A of the utility incomer.			
	2496	Utility Phase B Apparent Power	J1939-75	65010	5-8	32	The apparent power delivered by phase B of the utility incomer.			
	2497	Utility Phase C Apparent Power	J1939-75	65007	5-8	32	The apparent power delivered by phase C of the utility incomer.			
	2498	Utility Overall Power Factor	J1939-75	65015	5-6	16	The average power factor of the utility incomer.			
	2499	Utility Phase A Power Factor	J1939-75	65012	5-6	16	The power factor of phase A of the utility incomer.			
	2500	Utility Phase B Power Factor	J1939-75	65009	5-6	16	The power factor of phases B of the utility incomer.			
	2501	Utility Phase C Power Factor	J1939-75	65006	5-6	16	The power factor of phases C of the utility incomer.			
	2502	Utility Total kW Hours Export	J1939-75	65005	1-4	32	The total kilowatt-hours that have been exported by the utility incomer.			
	2503	Utility Total kW Hours Import	J1939-75	65005	5-8	32	The total kilowatt-hours that have been imported by the utility incomer.			
	2504	Bus #1 Average AC Frequency	J1939-75	65004	5-6	16	Average AC frequency measured at bus #1.			
	2505	Bus #1 Phase A AC Frequency	J1939-75	65003	5-6	16	AC frequency measured at bus #1 phase A.			
	2506	Bus #1 Phase B AC Frequency	J1939-75	65002	5-6	16	AC frequency measured at bus #1 phase B.			
	2507	Bus #1 Phase C AC Frequency	J1939-75	65001	5-6	16	AC frequency measured at bus #1 phase C.			
	2508	Bus #1 Average Line-Line AC RMS Voltage	J1939-75	65004	1-2	16	Average Line to Line RMS voltage measured at bus #1 .			
	2509	Bus #1 Phase AB Line-Line AC RMS Voltage	J1939-75	65003	1-2	16	Line to Line RMS voltage measured at bus #1 phase AB.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2510	Bus #1 Phase BC Line-Line AC RMS Voltage	J1939-75	65002	1-2	16	Line to Line RMS voltage measured at bus #1 phase BC.			
	2511	Bus #1 Phase CA Line-Line AC RMS Voltage	J1939-75	65001	1-2	16	Line to Line RMS voltage measured at bus #1 phase CA.			
	2512	Bus #1 Average Line-Neutral AC RMS Voltage	J1939-75	65004	3-4	16	The average Line to Neutral AC RMS voltage measured at bus #1 .			
	2513	Bus #1 Phase A Line-Neutral AC RMS Voltage	J1939-75	65003	3-4	16	Line to Neutral RMS voltage measured at bus #1 phase A.			
	2514	Bus #1 Phase B Line-Neutral AC RMS Voltage	J1939-75	65002	3-4	16	Line to Neutral RMS voltage measured at bus #1 phase B.			
	2515	Bus #1 Phase C Line-Neutral AC RMS Voltage	J1939-75	65001	3-4	16	Line to Neutral RMS voltage measured at bus #1 phase C.			
	2516	Bus #1/Generator AC Phase Difference	J1939-75	65000	3-4	16	The phase difference between the Bus #1 voltage and Generator voltage.			
	2517	Bus #1/Utility AC Phase Difference	J1939-75	64999	3-4	16	The phase difference between the Bus #1 voltage and Utility voltage.			
	2518	Generator Overall Power Factor Lagging	J1939-75	65028	7.1	2	Lead/lag status for generator average power factor.			
	2519	Generator Phase A Power Factor Lagging	J1939-75	65025	7.1	2	Lead/lag status for generator phase A power factor.			
	2520	Generator Phase B Power Factor Lagging	J1939-75	65022	7.1	2	Lead/lag status for generator phase B power factor.			
	2521	Generator Phase C Power Factor Lagging	J1939-75	65019	7.1	2	Lead/lag status for generator phase C power factor.			
	2522	Utility Overall Power Factor Lagging	J1939-75	65015	7.1	2	Lead/lag status for utility incomer average power factor.			
	2523	Utility Phase A Power Factor Lagging	J1939-75	65012	7.1	2	Lead/lag status for utility incomer phase A power factor.			
	2524	Utility Phase B Power Factor Lagging	J1939-75	65009	7.1	2	Lead/lag status for utility incomer phase B power factor.			
	2525	Utility Phase C Power Factor Lagging	J1939-75	65006	7.1	2	Lead/lag status for utility incomer phase C power factor.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2526	Bus #1/Generator Phase Match	J1939-75	65000	1.3	2	Indicator of whether phase difference between Bus #1 and Generator is adequate for paralleling. This indicator will be based on the measured AC phase difference qualified using parameters such as Phase Tolerance and Dwell Time.			
	2527	Bus #1/Generator Voltage Match	J1939-75	65000	1.7	2	Indicator of whether voltage difference between Bus #1 and Generator is adequate for paralleling. This indicator will be based on the measured AC voltages qualified using parameters such as Voltage Tolerance.			
	2528	Bus #1/Generator Frequency Match	J1939-75	65000	1.5	2	Indicator of whether frequency difference between Bus #1 and Generator is adequate for paralleling. This indicator will be based on the measured AC frequencies qualified using parameters such as Frequency Tolerance, Phase Tolerance, and Dwell Time.			
	2529	Bus #1/Generator In Sync	J1939-75	65000	2.1	2	Indicator of whether Bus #1 and Generator are properly synchronized for paralleling. This indicator will be based on parameters such as Voltage Match, Frequency Match, and Phase Match.			
	2530	Bus #1/Generator Dead Bus	J1939-75	65000	1.1	2	Indicator of whether Bus #1 is considered dead for closing to the generator. This indicator will be based on parameters such as Bus #1 Voltage and dead bus threshold values.			
	2531	Bus #1/Utility Phase Match	J1939-75	64999	1.3	2	Indicator of whether phase difference between Bus #1 and Utility is adequate for paralleling. This indicator will be based on the measured AC phase difference qualified using parameters such as Phase Tolerance and Dwell Time.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	2532	Bus #1/Utility Voltage Match	J1939-75	64999	1.7	2	Indicator of whether voltage difference between Bus #1 and Utility is adequate for paralleling. This indicator will be based on the measured AC voltages qualified using parameters such as Voltage Tolerance.				
	2533	Bus #1/Utility Frequency Match	J1939-75	64999	1.5	2	Indicator of whether frequency difference between Bus #1 and Utility is adequate for paralleling. This indicator will be based on the measured AC frequencies qualified using parameters such as Frequency Tolerance, Phase Tolerance, and Dwell Time.				
	2534	Bus #1/Utility In Sync	J1939-75	64999	2.1	2	Indicator of whether Bus #1 and Utility are properly synchronized for paralleling. This indicator will be based on parameters such as Voltage Match, Frequency Match, and Phase Match.				
	2535	Bus #1/Utility Dead Bus	J1939-75	64999	1.1	2	Indicator of whether Bus #1 is considered dead for closing to the utility. This indicator will be based on parameters such as Bus #1 Voltage and dead bus threshold values.				
	2536	Transmission Mode 1 Indicator	J1939-71	65098	3.7	2	This state signal is the transmission's indication that it is operating under transmission mode 1				
	2537	Transmission Mode 2 Indicator	J1939-71	65098	3.5	2	This state signal is the transmission's indication that it is operating under transmission mode 2				
	2538	Transmission Mode 3 Indicator	J1939-71	65098	3.3	2	This state signal is the transmission's indication that it is operating under transmission mode 3				
	2539	Transmission Mode 4 Indicator	J1939-71	65098	3.1	2	This state signal is the transmission's indication that it is operating under transmission mode 4				

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	2540	Parameter Group Number (RQST)	J1939-21	59904	1-3	24	Whenever it is necessary to identify a Parameter Group Number in the data field of a CAN data frame, it will be expressed in 24 bits.				
	2541	Control Byte (ACKM)	J1939-21	59392	1	8	Indicates the acknowledgement response.				
	2542	Group Function Value (ACK)	J1939-21	59392	0x00;2	8	Positive Acknowledgement Group Function value				
	2543	Parameter Group Number (ACK)	J1939-21	59392	0x00;6 -8	24	Parameter Group Number associated with positive acknowledgement.				
	2544	Group Function Value (NACK)	J1939-21	59392	0x01;2	8	Negative Acknowledgement Group Function value				
	2545	Parameter Group Number (NACK)	J1939-21	59392	0x01;6 -8	24	Parameter Group Number associated with negative acknowledgement.				
	2546	Group Function Value (NACK_AD)	J1939-21	59392	0x02;2	8	Indicates the acknowledgement response.				
	2547	Parameter Group Number (NACK_AD)	J1939-21	59392	0x02;6 -8	24	Parameter Group Number associated with PGN supported but security is denying access.				
	2548	Group Function Value (NACK_Busy)	J1939-21	59392	0x03;2	8	Indicates the acknowledgement response.				
	2549	Parameter Group Number (NACK_Busy)	J1939-21	59392	0x03;6 -8	24	Parameter Group Number associated with PGN supported, but ECU can not currently respond to request.				
	2550	Manufacturer Specific Information (PropA_PDU1)	J1939-21	61184	1-8	14280					
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65280	1-8	14280					
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65281	1-8	14280					
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65282	1-8	14280					
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65283	1-8	14280					

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65284	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65285	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65286	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65287	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65288	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65289	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65290	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65291	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65292	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65293	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65294	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65295	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65296	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65297	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65298	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65299	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65300	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65301	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65302	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65303	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65304	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65305	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65306	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65307	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65308	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65309	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65310	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65311	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65312	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65313	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65314	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65315	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65316	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65317	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65318	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65319	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65320	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65321	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65322	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65323	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65324	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65325	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65326	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65327	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65328	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65329	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65330	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65331	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65332	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65333	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65334	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65335	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65336	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65337	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65338	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65339	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65340	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65341	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65342	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65343	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65344	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65345	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65346	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65347	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65348	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65349	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65350	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65351	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65352	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65353	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65354	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65355	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65356	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65357	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65358	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65359	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65360	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65361	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65362	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65363	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65364	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65365	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65366	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65367	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65368	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65369	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65370	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65371	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65372	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65373	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65374	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65375	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65376	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65377	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65378	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65379	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65380	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65381	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65382	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65383	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65384	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65385	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65386	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65387	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65388	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65389	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65390	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65391	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65392	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65393	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65394	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65395	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65396	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65397	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65398	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65399	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65400	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65401	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65402	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65403	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65404	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65405	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65406	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65407	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65408	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65409	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65410	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65411	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65412	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65413	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65414	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65415	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65416	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65417	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65418	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65419	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65420	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65421	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65422	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65423	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65424	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65425	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65426	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65427	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65428	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65429	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65430	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65431	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65432	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65433	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65434	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65435	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65436	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65437	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65438	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65439	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65440	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65441	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65442	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65443	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65444	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65445	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65446	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65447	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65448	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65449	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65450	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65451	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65452	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65453	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65454	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65455	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65456	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65457	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65458	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65459	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65460	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65461	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65462	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65463	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65464	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65465	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65466	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65467	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65468	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65469	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65470	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65471	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65472	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65473	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65474	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65475	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65476	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65477	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65478	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65479	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65480	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65481	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65482	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65483	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65484	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65485	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65486	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65487	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65488	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65489	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65490	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65491	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65492	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65493	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65494	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65495	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65496	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65497	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65498	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65499	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65500	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65501	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65502	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65503	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65504	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65505	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65506	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65507	1-8	14280				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65508	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65509	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65510	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65511	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65512	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65513	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65514	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65515	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65516	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65517	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65518	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65519	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65520	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65521	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65522	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65523	1-8	14280				

Rev	SPN	J1939 Reference						J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65524	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65525	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65526	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65527	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65528	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65529	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65530	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65531	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65532	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65533	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65534	1-8	14280				
	2551	Manufacturer Defined Usage (PropB_PDU2) <sup>†</sup>	J1939-21	65535	1-8	14280				
	2552	Parameter Group Number of Requested Information (XFER)	J1939-21	51712	1-3	24	PGN associated with this transfer message			
	2553	Length of data for the reported PGN (XFER)	J1939-21	51712	4	8	Length of data reported with the associated PGN via the Transfer PGN.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2554	Controller Application Identity (CAI)	J1939-81	51712	5-8	32	Subset of the 64-bit NAME (SPN 2848), consisting of the most significant 32 bits, which identifies the controller application. It excludes the manufacturer code and identity number.			
	2555	Transfer Data	J1939-21	51712	9-x	14216	Relevant data for this PGNs unique use.			
	2556	Control Byte (TP.CM)	J1939-21	60416	1	8	Control byte (I.e. Group Function) associated with the Transport Protocol - Connection Management (PGN 60,416)			
	2557	Total Message Size (TP.CM_RTS) <sup>†</sup>	J1939-21	60416	0x10;2 -3	16	Total message size (in bytes) for RTS/CTS message.			
	2557	Total Message Size (TP.CM_RTS) <sup>†</sup>	J1939-21	60416	0x13;2 -3	16	Total message size (in bytes) for RTS/CTS message.			
	2558	Total Number of Packets (TP.CM_RTS)	J1939-21	60416	0x10;4	8	Total number of packets for RTS/CTS message.			
	2559	Maximum Number of Packets (TP.CM_RTS)	J1939-21	60416	0x10;5	8	Maximum number of packets for RTS/CTS message.			
	2560	Parameter Group Number of the packeted message (TP.CM_RTS)	J1939-21	60416	0x10;6 -8	24	Requested PGN in the TP.CM_RTS message			
	2561	Number of Packets that can be sent (TP.CM_CTS)	J1939-21	60416	0x11;2	8	Number of Packets that can be sent (TP.CM_CTS)			
	2562	Next Packet Number to be sent (TP.CM_CTS)	J1939-21	60416	0x11;3	8	Next Packet Number to be sent (TP.CM_CTS)			
	2563	Parameter Group Number of the packeted message (TP.CM_CTS)	J1939-21	60416	0x11;6 -8	24	PGN of requested information in the TP.CM_CTS message			
	2564	Total Message Size (TP.CM_EndofMsgACK)	J1939-21	60416	0x13;2 -3	16	Total message size (in bytes) received for RTS/CTS message.			
	2565	Total Number of Packets (TP.CM_EndofMsgACK)	J1939-21	60416	0x13;4	8	Total number of packets received for RTS/CTS message.			
	2566	Parameter Group Number of the packeted message (TP.CM_EndofMsgACK)	J1939-21	60416	0x13;6 -8	24	Requested PGN in the TP.CM_RTS message			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	2567	Total Message Size (TP.CM_BAM)	J1939-21	60416	0x20;2 -3	16	Total message size (in bytes) for BAM message.				
	2568	Total Number of Packets (TP.CM_BAM)	J1939-21	60416	0x20;4	8	Total number of packets for BAM message.				
	2569	Parameter Group Number of the packeted message (TP.CM_BAM)	J1939-21	60416	0x20;6 -8	24	Requested PGN in the TP.CM_BAM message				
	2570	Connection Abort Reason	J1939-21	60416	0xFF;2	8	Reason for connection abort message.				
	2571	Parameter Group Number of packeted message (TP.CM_Conn_Abort)	J1939-21	60416	0xFF;6 -8	24	Requested PGN in the TP.CM_Conn_Abort message				
	2572	Sequence Number (TP.DT)	J1939-21	60160	1	8	Sequence Number (TP.DT)				
	2573	Packetized Data (TP.DT)	J1939-21	60160	2-x	14272	Relevant data for this PGNs unique use.				
	2574	Parameter Group Number (RQST2)	J1939-21	51456	1-3	24	PGN which is requested by Request2 message				
	2575	Use Transfer Mode	J1939-21	51456	4.1	2	Requester is to respond via the Transfer PGN				
	2576	Laser Receiver Type	J1939-71	65141	3	8	Identifies which type of Laser Receiver transmitted the message.				
	2577	Display Deadbands	J1939-71	65142	3.5	4	Sets Display Deadbands mode.				
	2578	LED Pattern Control	J1939-71	65142	3.1	4	Sets LED Pattern control mode on laser leveling systems.				
	2579	Net Battery Current (High Range/Resolution)	J1939-71	65106	3-4	16	Net flow of electrical current into/out-of the battery or batteries.				
	2580	Hydraulic Brake Pressure Circuit 1	J1939-71	64998	1	8	Gage hydraulic pressure in circuit 1 of the hydraulic brake system				
	2581	Hydraulic Brake Pressure Circuit 2	J1939-71	64998	2	8	Gage hydraulic pressure in circuit 2 of the hydraulic brake system				
	2582	Hydraulic Brake Pressure Supply State Circuit 1	J1939-71	64998	3.5	2	Signal which indicates whether the hydraulic brake pressure supply of circuit 1 is reliable.				
	2583	Hydraulic Brake Pressure Supply State Circuit 2	J1939-71	64998	3.7	2	Signal which indicates whether the hydraulic brake pressure supply of circuit 2 is reliable.				
	2584	Hydraulic Brake Pressure Warning State Circuit 1	J1939-71	64998	3.1	2	Signal which indicates whether the hydraulic brake pressure of circuit 1 is below the warning level				

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	2585	Hydraulic Brake Pressure Warning State Circuit 2	J1939-71	64998	3.3	2	Signal which indicates whether the hydraulic brake pressure of circuit 2 is below the warning level				
	2586	Tire Air Leakage Rate	J1939-71	65268	6-7	16	The pressure loss rate of a tire.				
	2587	Tire Pressure Threshold Detection	J1939-71	65268	8.6	3	Signal indicating the pressure level of the tire.				
	2588	Maximum Vehicle Speed Limit 1	J1939-71	64997	1	8	The lowest Maximum Vehicle Speed Limit.				
	2589	Maximum Vehicle Speed Limit 2	J1939-71	64997	2	8	The highest of the two lowest vehicle speed limits				
	2590	Maximum Vehicle Speed Limit 3	J1939-71	64997	3	8	The highest of the three lowest vehicle speed limits				
	2591	Maximum Vehicle Speed Limit 4	J1939-71	64997	4	8	The highest of the four lowest vehicle speed limits				
	2592	Maximum Vehicle Speed Limit 5	J1939-71	64997	5	8	The highest of the five lowest vehicle speed limits				
	2593	Maximum Vehicle Speed Limit 6	J1939-71	64997	6	8	The highest of the six lowest vehicle speed limits				
	2594	Maximum Vehicle Speed Limit 7	J1939-71	64997	7	8	The highest of the seven lowest vehicle speed limits				
	2595	Applied Vehicle Speed Limit	J1939-71	64997	8	8	The vehicle speed limit in effect.				
	2596	Selected Maximum Vehicle Speed Limit	J1939-71	57344	8	8	User selected maximum vehicle speed				
	2597	Implement Left Forward Work Light Command	J1939-71	65089	7.7	2	Command to activate or de-activate work lights mounted on an implement to illuminate beyond left end of the implement.				
	2598	Implement Left Forward Work Light	J1939-71	65088	7.7	2	This parameter provides measured data from the work lights mounted on an implement to illuminate the forward left end of the implement.				
	2599	Fire Apparatus Pump Engagement	J1939-71	61448	3.5	2	The measured status of the pump used to provide water in fire fighting apparatus.				
	2600	Payload Percentage	J1939-71	64996	1	8	The current payload of the equipment, reported as a percentage of the equipment's rated payload limit.				

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	2601	Travel Velocity Control Position	J1939-71	64995	1	8	The position of the travel velocity control component reported as a percentage of the control's full displacement in each direction respectively				
	2602	Hydraulic Oil Level	J1939-71	65128	3	8	This parameter indicates the level of the hydraulic fluid in tank as a ratio of current volume to total tank volume.				
	2603	Pneumatic Supply Pressure Request	J1939-71	64994	1	8	Command signal to influence the pneumatic pressure in the main reservoir.				
	2604	Parking and/or Trailer Air Pressure Request	J1939-71	64994	2	8	Command signal to influence the pneumatic pressure in the circuit or reservoir for the parking brake and/or the trailer supply.				
	2605	Service Brake Air Pressure Request, Circuit #1	J1939-71	64994	3	8	Command signal to influence the pneumatic pressure in the service brake circuit or reservoir #1.				
	2606	Service Brake Air Pressure Request, Circuit #2	J1939-71	64994	4	8	Command signal to influence the pneumatic pressure in the service brake circuit or reservoir #2.				
	2607	Auxiliary Equipment Supply Pressure Request	J1939-71	64994	5	8	Command signal to influence the pneumatic pressure in the auxiliary circuit.				
	2608	Air Suspension Supply Pressure Request	J1939-71	64994	6	8	Command signal to influence the pneumatic pressure in the circuit for the electronically controlled air suspension system.				
	2609	Cab A/C Refrigerant Compressor Outlet Pressure	J1939-71	64993	1	8	This is the gage pressure at the compressor outlet in the cab air conditioning system.				
	2610	Solar Intensity Percent	J1939-71	64992	1	8	This is the solar radiation (power density) falling on the vehicle in percent of the maximum sensor value. Currently this is in the infra-red spectrum.				
	2611	Solar Sensor Maximum	J1939-71	64992	2	8	This is the maximum value which can be reported by the sensor for the solar intensity. (This is a configuration parameter)				
	2612	Front Wheel Drive Actuator Status	J1939-71	64991	1.1	2	Feedback on the front wheel drive actuator.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2613	Drive Axle Lube Pressure	J1939-71	65273	5	8	The drive axle lubricant pressure with location determined by Drive Axle Location (SPN 930).			
	2614	Steering Axle Lube Pressure	J1939-71	65273	8	8	The steering axle lubricant pressure.			
	2615	Engine Throttle Synchronization Mode Status	J1939-71	64988	1.1	4	The status of the Throttle Synchronization Mode.			
	2616	Trolling Mode Status	J1939-71	64988	1.5	2	The status of the Trolling Mode.			
	2617	Slow Vessel Mode Status	J1939-71	64988	1.7	2	The status of the Slow Vessel Mode.			
	2618	Suspend Signal	J1939-73	57088	4.1	4	Indicator to all nodes that the current communication port broadcast messages are being suspended			
	2619	Suspend Duration	J1939-73	57088	5-6	16	Indicates the duration of a suspension of broadcast messages when that duration is known by the transmitting device.			
	2620	Brake Lining Display	J1939				Driver/operator information device for brake lining wear			
	2621	Pneumatic Brake Pressure Limitation Valve Front Axle	J1939				Pneumatic valve limiting the maximum brake pressure at the front axle			
	2622	Hillholder system	J1939				System for short time substitute of parking brake by activation of service brake.			
(R)	2623	Accelerator Pedal #1 Channel 2	J1939-71	64963	1	8	Sensor output 2 for the accelerator pedal #1 position when using a redundant-style sensor.		128	385
(R)	2624	Accelerator Pedal #1 Channel 3	J1939-71	64963	2	8	Sensor output 3 for the accelerator pedal #1 position when using a redundant-style sensor.			
(R)	2625	Accelerator Pedal #2 Channel 2	J1939-71	64963	3	8	Sensor output 2 for the accelerator pedal #2 position when using a redundant-style sensor.			
(R)	2626	Accelerator Pedal #2 Channel 3	J1939-71	64963	4	8	Sensor output 3 for the accelerator pedal #2 position when using a redundant-style sensor.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2627	Engine Gaseous Fuel Shutoff Valve - High Pressure	J1939				The gaseous fuel shutoff valve located at the tank. This valve blocks the flow of fuel away from the tank.			
	2628	Engine Gaseous Fuel Shutoff Valve - Low Pressure	J1939				The gaseous fuel shutoff valve located after the pressure regulator. This valve blocks the flow of the pressure regulated fuel.			
	2629	Engine Turbocharger 1 Compressor Outlet Temperature	J1939-71	64979	1-2	16	Temperature of the air exiting the turbocharger 1 compressor outlet			
	2630	Engine Charge Air Cooler 1 Outlet Temperature	J1939-71	65129	7-8	16	Temperature of combustion air after it exits from the Charge Air Cooler 1 but before any mixing of recirculated exhaust gas.			
	2631	Engine Charge Air Cooler Outlet Pressure	J1939-71	64938	8	8	Measures pressure of air at outlet from charge air cooler			
	2632	Engine Charge Air Cooler Bypass	J1939				Controls whether combustion air passes through the charge air cooler			
	2633	Engine Variable Geometry Turbocharger (VGT) 1 Nozzle Position	J1939				Measures the position of the nozzles or vanes in variable geometry turbocharger #1 (Note: Preferred SPN is 2795)	0	216	
	2634	Power Relay	J1939				Used to control power to other devices on the vehicle		0	216
	2635	"Neutral Only" Power Relay	J1939				Provides power to accessories ONLY when transmission is in neutral			
	2636	Windshield Wiper Motor ON/OFF	J1939				Activates the windshield wipers			
	2637	Windshield Wiper Motor Speed	J1939				Selects the windshield wiper speed			
	2638	Differential Lock Control Valve #2	J1939				Operates the second Differential Lock			
	2639	Cab Door "Lock" Control	J1939				Commands the door mechanism to Lock			
	2640	Cab Door "Unlock" Control	J1939				Commands the door mechanism to Unlock			
	2641	Horn	J1939				Activates the vehicle horn			
	2642	Mirror 1 Heater	J1939				Mirror 1 Heater defrosts the first rear view mirror, alternatively all rear view mirrors.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2643	Battery Monitor Load #1	J1939				Activates the #1 electrical load to monitor battery condition			
	2644	Battery Monitor Load #2	J1939				Activates the #2 electrical load to monitor battery condition			
	2645	ECU "Wake Up" Control	J1939				Sends a signal to cause other ECUs to begin operation			
	2646	Auxiliary Output #4	J1939				Dynamically configurable, no permanent name			
	2647	Auxiliary Output #5	J1939				Dynamically configurable, no permanent name			
	2648	Maintenance Lamp	J1939				Indicates that vehicle maintenance is due			
	2649	Low Air Pressure	J1939				Activates the Low Air Pressure warning			
	2650	Fan Override Indicator	J1939				Indicates that the driver has requested manual fan operation			
	2651	Interior Lamps	J1939				Activates the cab interior lights			
	2652	Switch Diagnostic Enable	J1939				Provides power to diagnose dashboard switch problems			
	2653	Headlamp Low Beam Left #1	J1939				Activates the left headlamp low beam filament (driver #1)			
	2654	Headlamp Low Beam Left #2	J1939				Activates the left headlamp low beam filament (driver #2)			
	2655	Headlamp Low Beam Right #1	J1939				Activates the right headlamp low beam filament (driver #1)			
	2656	Headlamp Low Beam Right #2	J1939				Activates the right headlamp low beam filament (driver #2)			
	2657	Engine Auxiliary Cooling System	J1939				Activates a secondary engine cooling system			
	2658	Engine Intake Air Precleaner	J1939				Activates a pre-cleaning system for the engine intake air			
	2659	Engine Exhaust Gas Recirculation 1 (EGR1) Mass Flow Rate	J1939-71	61450	1-2	16	Flow rate of gas through the EGR system			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2660	Joystick 1 X-Axis Position	J1939-71	64982	1.7-2	10	The position of the joystick in the relative motion of travel from the neutral position.			
	2661	Joystick 1 Y-Axis Position	J1939-71	64982	3.7-4	10	The position of the joystick in the relative motion of travel from the neutral position.			
	2662	Joystick 1 Grip X-Axis Position	J1939-71	64983	1.7-2	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	2663	Joystick 1 Grip Y-Axis Position	J1939-71	64983	3.7-4	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	2664	Joystick 1 Theta-Axis Position	J1939-71	64983	5.7-6	10	The position of the joystick in the relative motion of travel from the neutral position.			
	2665	Joystick 1 X-Axis Lever Right Positive Position Status	J1939-71	64982	1.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	2666	Joystick 1 Y-Axis Lever Forward Positive Position Status	J1939-71	64982	3.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	2667	Joystick 1 Grip X-Axis Lever Right Positive Position Status	J1939-71	64983	1.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	2668	Joystick 1 Grip Y-Axis Lever Forward Positive Position Status	J1939-71	64983	3.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	2669	Joystick 1 Theta-Axis Clockwise Positive Position Status	J1939-71	64983	5.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	2670	Joystick 1 X-Axis Lever Left Negative Position Status	J1939-71	64982	1.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	2671	Joystick 1 Y-Axis Lever Back Negative Position Status	J1939-71	64982	3.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2672	Joystick 1 Grip X-Axis Lever Left Negative Position Status	J1939-71	64983	1.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	2673	Joystick 1 Grip Y-Axis Lever Back Negative Position Status	J1939-71	64983	3.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	2674	Joystick 1 Theta-Axis Counter Clockwise Negative Position Status	J1939-71	64983	5.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	2675	Joystick 1 X-Axis Neutral Position Status	J1939-71	64982	1.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	2676	Joystick 1 Y-Axis Neutral Position Status	J1939-71	64982	3.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	2677	Joystick 1 Grip X-Axis Neutral Position Status	J1939-71	64983	1.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	2678	Joystick 1 Grip Y-Axis Neutral Position Status	J1939-71	64983	3.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	2679	Joystick 1 Theta-Axis Neutral Position Status	J1939-71	64983	5.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	2680	Joystick 1 X-Axis Detent Position Status	J1939-71	64982	5.7	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	2681	Joystick 1 Y-Axis Detent Position Status	J1939-71	64982	5.5	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	2682	Joystick 1 Grip X-Axis Detent Position Status	J1939-71	64983	7.7	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	2683	Joystick 1 Grip Y-Axis Detent Position Status	J1939-71	64983	7.5	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	2684	Joystick 1 Theta-Axis Detent Position Status	J1939-71	64983	7.3	2	Reports when the current joystick position is in the detent position for that axis of travel.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	2685	Joystick 1 Button 1 Pressed Status	J1939-71	64982	6.7	2	Reports when the joystick button has been pressed.				
	2686	Joystick 1 Button 2 Pressed Status	J1939-71	64982	6.5	2	Reports when the joystick button has been pressed.				
	2687	Joystick 1 Button 3 Pressed Status	J1939-71	64982	6.3	2	Reports when the joystick button has been pressed.				
	2688	Joystick 1 Button 4 Pressed Status	J1939-71	64982	6.1	2	Reports when the joystick button has been pressed.				
	2689	Joystick 1 Button 5 Pressed Status	J1939-71	64982	7.7	2	Reports when the joystick button has been pressed.				
	2690	Joystick 1 Button 6 Pressed Status	J1939-71	64982	7.5	2	Reports when the joystick button has been pressed.				
	2691	Joystick 1 Button 7 Pressed Status	J1939-71	64982	7.3	2	Reports when the joystick button has been pressed.				
	2692	Joystick 1 Button 8 Pressed Status	J1939-71	64982	7.1	2	Reports when the joystick button has been pressed.				
	2693	Joystick 1 Button 9 Pressed Status	J1939-71	64982	8.7	2	Reports when the joystick button has been pressed.				
	2694	Joystick 1 Button 10 Pressed Status	J1939-71	64982	8.5	2	Reports when the joystick button has been pressed.				
	2695	Joystick 1 Button 11 Pressed Status	J1939-71	64982	8.3	2	Reports when the joystick button has been pressed.				
	2696	Joystick 1 Button 12 Pressed Status	J1939-71	64982	8.1	2	Reports when the joystick button has been pressed.				
	2697	Joystick 2 X-Axis Position	J1939-71	64984	1.7-2	10	The position of the joystick in the relative motion of travel from the neutral position.				
	2698	Joystick 2 Y-Axis Position	J1939-71	64984	3.7-4	10	The position of the joystick in the relative motion of travel from the neutral position.				
	2699	Joystick 2 Grip X-Axis Position	J1939-71	64985	1.7-2	10	The position of the joystick grip in the relative motion of travel from the neutral position.				
	2700	Joystick 2 Grip Y-Axis Position	J1939-71	64985	3.7-4	10	The position of the joystick grip in the relative motion of travel from the neutral position.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2701	Joystick 2 Theta-Axis Position	J1939-71	64985	5.7-6	10	The position of the joystick in the relative motion of travel from the neutral position.			
	2702	Joystick 2 X-Axis Lever Right Positive Position Status	J1939-71	64984	1.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	2703	Joystick 2 Y-Axis Lever Forward Positive Position Status	J1939-71	64984	3.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	2704	Joystick 2 Grip X-Axis Lever Right Positive Position Status	J1939-71	64985	1.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	2705	Joystick 2 Grip Y-Axis Lever Forward Positive Position Status	J1939-71	64985	3.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	2706	Joystick 2 Theta-Axis Clockwise Positive Position Status	J1939-71	64985	5.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	2707	Joystick 2 X-Axis Lever Left Negative Position Status	J1939-71	64984	1.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	2708	Joystick 2 Y-Axis Lever Back Negative Position Status	J1939-71	64984	3.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	2709	Joystick 2 Grip X-Axis Lever Left Negative Position Status	J1939-71	64985	1.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	2710	Joystick 2 Grip Y-Axis Lever Back Negative Position Status	J1939-71	64985	3.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	2711	Joystick 2 Theta-Axis Counter Clockwise Negative Position Status	J1939-71	64985	5.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2712	Joystick 2 X-Axis Neutral Position Status	J1939-71	64984	1.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	2713	Joystick 2 Y-Axis Neutral Position Status	J1939-71	64984	3.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	2714	Joystick 2 Grip X-Axis Neutral Position Status	J1939-71	64985	1.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	2715	Joystick 2 Grip Y-Axis Neutral Position Status	J1939-71	64985	3.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	2716	Joystick 2 Theta-Axis Neutral Position Status	J1939-71	64985	5.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	2717	Joystick 2 X-Axis Detent Position Status	J1939-71	64984	5.7	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	2718	Joystick 2 Y-Axis Detent Position Status	J1939-71	64984	5.5	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	2719	Joystick 2 Grip X-Axis Detent Position Status	J1939-71	64985	7.7	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	2720	Joystick 2 Grip Y-Axis Detent Position Status	J1939-71	64985	7.5	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	2721	Joystick 2 Theta-Axis Detent Position Status	J1939-71	64985	7.3	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	2722	Joystick 2 Button 1 Pressed Status	J1939-71	64984	6.7	2	Reports when the joystick button has been pressed.			
	2723	Joystick 2 Button 2 Pressed Status	J1939-71	64984	6.5	2	Reports when the joystick button has been pressed.			
	2724	Joystick 2 Button 3 Pressed Status	J1939-71	64984	6.3	2	Reports when the joystick button has been pressed.			
	2725	Joystick 2 Button 4 Pressed Status	J1939-71	64984	6.1	2	Reports when the joystick button has been pressed.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2726	Joystick 2 Button 5 Pressed Status	J1939-71	64984	7.7	2	Reports when the joystick button has been pressed.			
	2727	Joystick 2 Button 6 Pressed Status	J1939-71	64984	7.5	2	Reports when the joystick button has been pressed.			
	2728	Joystick 2 Button 7 Pressed Status	J1939-71	64984	7.3	2	Reports when the joystick button has been pressed.			
	2729	Joystick 2 Button 8 Pressed Status	J1939-71	64984	7.1	2	Reports when the joystick button has been pressed.			
	2730	Joystick 2 Button 9 Pressed Status	J1939-71	64984	8.7	2	Reports when the joystick button has been pressed.			
	2731	Joystick 2 Button 10 Pressed Status	J1939-71	64984	8.5	2	Reports when the joystick button has been pressed.			
	2732	Joystick 2 Button 11 Pressed Status	J1939-71	64984	8.3	2	Reports when the joystick button has been pressed.			
	2733	Joystick 2 Button 12 Pressed Status	J1939-71	64984	8.1	2	Reports when the joystick button has been pressed.			
	2734	Joystick 3 X-Axis Position	J1939-71	64986	1.7-2	10	The position of the joystick in the relative motion of travel from the neutral position.			
	2735	Joystick 3 Y-Axis Position	J1939-71	64986	3.7-4	10	The position of the joystick in the relative motion of travel from the neutral position.			
	2736	Joystick 3 Grip X-Axis Position	J1939-71	64987	1.7-2	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	2737	Joystick 3 Grip Y-Axis Position	J1939-71	64987	3.7-4	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	2738	Joystick 3 Theta-Axis Position	J1939-71	64987	5.7-6	10	The position of the joystick in the relative motion of travel from the neutral position.			
	2739	Joystick 3 X-Axis Lever Right Positive Position Status	J1939-71	64986	1.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	2740	Joystick 3 Y-Axis Lever Forward Positive Position Status	J1939-71	64986	3.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	2741	Joystick 3 Grip X-Axis Lever Right Positive Position Status	J1939-71	64987	1.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)				
	2742	Joystick 3 Grip Y-Axis Lever Forward Positive Position Status	J1939-71	64987	3.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)				
	2743	Joystick 3 Theta-Axis Clockwise Positive Position Status	J1939-71	64987	5.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)				
	2744	Joystick 3 X-Axis Lever Left Negative Position Status	J1939-71	64986	1.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)				
	2745	Joystick 3 Y-Axis Lever Back Negative Position Status	J1939-71	64986	3.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)				
	2746	Joystick 3 Grip X-Axis Lever Left Negative Position Status	J1939-71	64987	1.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)				
	2747	Joystick 3 Grip Y-Axis Lever Back Negative Position Status	J1939-71	64987	3.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)				
	2748	Joystick 3 Theta-Axis Counter Clockwise Negative Position Status	J1939-71	64987	5.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)				
	2749	Joystick 3 X-Axis Neutral Position Status	J1939-71	64986	1.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.				
	2750	Joystick 3 Y-Axis Neutral Position Status	J1939-71	64986	3.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.				
	2751	Joystick 3 Grip X-Axis Neutral Position Status	J1939-71	64987	1.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2752	Joystick 3 Grip Y-Axis Neutral Position Status	J1939-71	64987	3.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	2753	Joystick 3 Theta-Axis Neutral Position Status	J1939-71	64987	5.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	2754	Joystick 3 X-Axis Detent Position Status	J1939-71	64986	5.7	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	2755	Joystick 3 Y-Axis Detent Position Status	J1939-71	64986	5.5	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	2756	Joystick 3 Grip X-Axis Detent Position Status	J1939-71	64987	7.7	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	2757	Joystick 3 Grip Y-Axis Detent Position Status	J1939-71	64987	7.5	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	2758	Joystick 3 Theta-Axis Detent Position Status	J1939-71	64987	7.3	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	2759	Joystick 3 Button 1 Pressed Status	J1939-71	64986	6.7	2	Reports when the joystick button has been pressed.			
	2760	Joystick 3 Button 2 Pressed Status	J1939-71	64986	6.5	2	Reports when the joystick button has been pressed.			
	2761	Joystick 3 Button 3 Pressed Status	J1939-71	64986	6.3	2	Reports when the joystick button has been pressed.			
	2762	Joystick 3 Button 4 Pressed Status	J1939-71	64986	6.1	2	Reports when the joystick button has been pressed.			
	2763	Joystick 3 Button 5 Pressed Status	J1939-71	64986	7.7	2	Reports when the joystick button has been pressed.			
	2764	Joystick 3 Button 6 Pressed Status	J1939-71	64986	7.5	2	Reports when the joystick button has been pressed.			
	2765	Joystick 3 Button 7 Pressed Status	J1939-71	64986	7.3	2	Reports when the joystick button has been pressed.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2766	Joystick 3 Button 8 Pressed Status	J1939-71	64986	7.1	2	Reports when the joystick button has been pressed.			
	2767	Joystick 3 Button 9 Pressed Status	J1939-71	64986	8.7	2	Reports when the joystick button has been pressed.			
	2768	Joystick 3 Button 10 Pressed Status	J1939-71	64986	8.5	2	Reports when the joystick button has been pressed.			
	2769	Joystick 3 Button 11 Pressed Status	J1939-71	64986	8.3	2	Reports when the joystick button has been pressed.			
	2770	Joystick 3 Button 12 Pressed Status	J1939-71	64986	8.1	2	Reports when the joystick button has been pressed.			
	2789	Engine Turbocharger 1 Calculated Turbine Intake Temperature	J1939-71	64981	1-2	16	Calculated value of turbine intake temperature based on engine operating conditions			
	2790	Engine Turbocharger 1 Calculated Turbine Outlet Temperature	J1939-71	64981	3-4	16	Calculated value of turbocharger compressor outlet air temperature.			
	2791	Engine Exhaust Gas Recirculation 1 (EGR1) Valve Control	J1939-71	64981	5-6	16	Desired percentage of maximum Exhaust Gas Recirculation (EGR) valve opening.			
	2792	Engine Variable Geometry Turbocharger (VGT) Air Control Shutoff Valve	J1939-71	64981	7.1	2	This valve prevents vehicle air from bleeding off through the VGT Control Valve when engine is not in use.			
	2793	Laser Strike Data Latency	J1939-71	65141	4-5	16	Time from laser strike to CAN message transmission.			
	2794	Absolute Laser Strike Position	J1939-71	65141	6-7	16	Laser Strike location on the survey type laser receiver.			
	2795	Engine Variable Geometry Turbocharger (VGT) 1 Actuator Position	J1939-71	64981	8	8	Sensor that measures the position of the variable geometry turbocharger actuator.			
	2796	Transfer Case Selector Switch	J1939-71	64980	1.1	3	Operator switch to select the condition of the transfer case.			
	2797	Engine Injector Group 1	J1939				A first collection of fuel injector circuits that are grouped together.			
	2798	Engine Injector Group 2	J1939				A second collection of fuel injector circuits that are grouped together.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	2799	Engine Turbocharger 2 Compressor Outlet Temperature	J1939-71	64979	3-4	16	Temperature of the air exiting the turbocharger 2 compressor outlet				
	2800	Engine Turbocharger 3 Compressor Outlet Temperature	J1939-71	64979	5-6	16	Temperature of the air exiting the turbocharger 3 compressor outlet				
	2801	Engine Turbocharger 4 Compressor Outlet Temperature	J1939-71	64979	7-8	16	Temperature of the air exiting the turbocharger 4 compressor outlet				
	2802	Data Memory Usage	J1939-71	64978	3	8	The used storage capacity of the data buffer memory internal to an ECU, such as a data logger.				
	2803	Keep-Alive Battery Consumption	J1939-71	64978	1-2	16	The capacity consumed from the direct battery connection since the key was last turned off.				
	2804	FMS-standard Diagnostics Supported	J1939-71	64977	1.1	2	Status signal which indicates if the FMS Vehicle Interface (FMS Gateway) supports the handling of diagnostic messages from the vehicle network onto the FMS network.				
	2805	FMS-standard Requests Supported	J1939-71	64977	1.3	2	Status signal which indicates if the FMS Vehicle Interface (FMS Gateway) will respond to requests from the FMS device for the PGNs listed in the FMS Interface Specification.				
	2806	FMS-standard SW-version supported.	J1939-71	64977	2-5	32	Information that identifies which issue level of the FMS-standard document the software included in the FMS gateway supports.				
	2807	Engine Fuel Shutoff 2 Control	J1939-71	64914	4.5	2	Control setting for fuel shutoff 2.		128	17	
	2808	Keypad	J1939				Keypad associated with controller application.				
	2809	Engine Air Filter 2 Differential Pressure	J1939-71	64976	1	8	Change in engine air system pressure, measured across the second air filter, due to the filter and any accumulation of solid foreign matter on or in the filter.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2810	Engine Air Filter 3 Differential Pressure	J1939-71	64976	2	8	Change in engine air system pressure, measured across the third air filter, due to the filter and any accumulation of solid foreign matter on or in the filter.			
	2811	Engine Air Filter 4 Differential Pressure	J1939-71	64976	3	8	Change in engine air system pressure, measured across the fourth air filter, due to the filter and any accumulation of solid foreign matter on or in the filter.			
	2812	Engine Overspeed Test	J1939-71	65252	7.7	2	The engine overspeed test signal as measured by the reporting ECM. Engine Overspeed Test is a mechanism to simulate engine overspeed situations, while operating the engine within the engine's safe operating range.			
	2813	Engine Air Shutoff Command Status	J1939-71	65252	7.5	2	State signal which indicates when the Air Shutoff driver output is being driven. Disabled means controller wants air flowing to the engine. Status of the airflow shutoff as being commanded by the ECU.	128	395	
	2814	Engine Alarm Output Command Status	J1939-71	65252	7.3	2	State signal which indicates when the Alarm driver output is being driven. Not active means the Controller has no alarm level conditions.			
	2815	Engine Alarm Acknowledge	J1939-71	65252	7.1	2	The Engine Alarm Acknowledge input signal as measured by the reporting ECM. The Engine Alarm Acknowledge is a mechanism for external acknowledgement of the SPN 2814, Engine Alarm Output Command.			
	2816	Simultaneous Upshift and Downshift	J1939				Simultaneous upshift and downshift request being indicated.			
	2817	Operator Using Clutch Pedal During Non-Recoverable Clutch Fault	J1939				The operator is still trying to use the clutch pedal even though a fault with the clutch system was already reported.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2818	Operators Rear PTO Switch On with Operator Not Present	J1939				The operators Rear PTO ON/OFF switch is on with the operator presence detection indicating the operator is NOT present.			
	2819	Park Interlock Error	J1939				A park interlock is not as expected by a controlling system.			
	2820	Operator Not Present During Reverser Command	J1939				The operators reverser control has changed with the operator presence detection indicating the operator is NOT present.			
	2821	Reverser Lever Neutral and Power Signals Conflict	J1939				There is a conflict between the Neutral and Neutral Power Interlock switches within the reverser lever.			
	2822	Reverser Lever Neither Forward or Reverse	J1939				Neither Forward or Reverse Switch indicated by Reverser Lever.			
	2823	Reverser Lever Simultaneous Forward and Reverse	J1939				Forward and Reverse Switches are indicated concurrently by the reverser lever.			
	2824	Reverser Lever Motion Interlock Conflict	J1939				Two Interlocking switches within the reverser lever are conflicting while the lever is moving.			
	2825	Reverser Lever	J1939				Reverser Lever is an operator direction control lever that is mounted separately from the shift lever/controls but still operable from the normal operators station. This may contain park and/or neutral as well as direction.			
	2826	Reverser Lever Multiple Switch Conflicts	J1939				Multiple switches within the reverser lever are conflicting.			
	2827	Power Up Without Neutral	J1939				Controller has powered-up to find shift lever/control not in either park or neutral.			
	2828	Reverser Lever In Power Zero/Direction Transition Too Long	J1939				The transition time between the Neutral Power Interlock and the Direction switches on a Reverser Lever was too long.			
	2829	Reverser Lever in Neutral/Park Transition Too Long	J1939				The transition time between Neutral and Park on a Reverser Lever was too long.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2830	Reversing Ratio Rationality Fault	J1939				The ratio between the operator entered speed set point values for forward and reverse is incorrect/not possible.			
	2831	No Carrier Speed at Start-up	J1939				The speed of the first identified carrier within a transmission was not detected following engine start.			
	2832	Operator Not in Operating Station	J1939				The Operator Presence Detection System indicates the operator is not in the correct operating station.			
	2833	Motion with Park Brake Engaged	J1939				Unexpected motion with Park Brake engaged.			
	2834	No Hydrostatic Unit Speed at Start-up	J1939				Rotation of the hydrostatic unit was not detected following engine start.			
	2835	Neutral to Gear Command Conflict	J1939				During neutral to Gear movement of the shift controls,improper switch transitions were detected.			
	2836	Battery 1 Potential 2 (Voltage), Switched (obsolete)	J1939				Electrical potential of the second circuit powered by the primary battery (battery 1) as measured at the input of the electronic control unit supplied through a switching device.This SPN is obsolete. Use SPN 158, 168 or 444.			
	2837	Identity Number	J1939-81			21	This field should be unique and non-varying with removal of power. This field is necessary to resolve any address contention. The manufacturer must provide this uniqueness among products.			
	2838	Manufacturer Code	J1939-81			11	The Manufacturer Code is an 11-bit field that indicates which company was responsible for the production of the electronic control module for which this NAME is being referenced.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2839	Function Instance	J1939-81			5	The Function Instance is a 5-bit field that identifies the particular occurrence of a Function on the same Vehicle System on a given network.			
	2840	ECU Instance	J1939-81			3	The ECU Instance is a 3-bit field that indicates which one of a group of electronic control modules associated with a given Function is being referenced.			
	2841	Function	J1939-81			8	A capability of a vehicle system having one or more ECUs that are connected to a SAE J1939 bus segment of a Vehicle System. The function value is used in the 8-bit Function field in the 64-bit NAME entity.			
	2842	Vehicle System	J1939-81			3	A subcomponent of a vehicle that includes one or more SAE J1939 segments. A Vehicle System may be made up of one or more Functions, which have ECU's that are connected to a SAE J1939 segment of the Vehicle System.			
	2843	Vehicle System Instance	J1939-81			4	Vehicle System Instance is a 4-bit field that is used to identify a particular occurrence of a particular Vehicle System within a connected network.			
	2844	Arbitrary Address Capable	J1939-81			1	Indicates whether a CA is both self-configurable and can use an arbitrary source address to resolve an address claim conflict.			
	2845	NAME of Working Set Member	J1939-81	64974	1-8	64	The identifier of the particular CA that is a member of the Working Set identified by the source address of this message.			
	2846	Industry Group	J1939-81			3	The Industry Group field identifies NAMEs associated with a particular industry that uses SAE J1939, for example: On-Highway Equipment, or Agricultural Equipment.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2847	Address Assignment (new source address)	J1939-81	65240	9	8	The source address that is to be assigned to the CA that has the NAME corresponding to the one conveyed in the first eight bytes of this Commanded Address message.			
	2848	NAME of Controller Application (for address claimed)	J1939-81	60928	1-8	64	Identifies a particular communications function within the ECU.			
	2849	NAME of Commanded Address Target	J1939-81	65240	1-8	64	NAME used to identify Controller Application in a Commanded Address Message to associate the Controller application with an address.			
	2850	Communications Antenna	J1939				A failure in the antenna system of a communications unit.			
	2851	Communications Service Personal Identification Number	J1939				The Personal Identification Number (PIN) is incorrect or has been blocked.			
	2852	Communications Service Subscriber Identification Module	J1939				The hardware key, known as a Subscriber Identification Module (SIM), is either missing or incorrect.			
	2853	Communications Connection	J1939				A communications unit has established connection but no data exchanged has occurred (no other knowledge of why).			
	2854	Communications Carrier	J1939				The communications unit has suffered carrier loss.			
	2855	Communications Bit Error Rate	J1939				The data failure rate is too high for communications to keep working at the specified error rate within the specific communications unit in use.			
	2856	Communications Data Upload	J1939				A failure has occurred while sending data using a communications unit from the mobile machine to the fixed base.			
	2857	Communications Data Download	J1939				A failure has occurred while sending data using a communications unit from the fixed base to the mobile machine.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2858	Machine Data Configuration 1	J1939				There is a problem involving the parameter list (along with the parameter locating information) for the data structure for configuring operations within the Controller Application being communicated with.			
	2859	Machine Data Configuration 2	J1939				There is a problem involving one (or more) of the PGN(s) within the parameter list for the data structure for configuring operations within the Controller Application being communicated with.			
	2860	Machine Data Configuration 3	J1939				There is a problem involving the first output control list for the data structure for configuring operations within the Controller Application being communicated with.			
	2861	Machine Data Configuration 4	J1939				There is a problem involving the second output control list for the data structure for configuring operations within the Controller Application being communicated with.			
	2862	Machine Data Configuration 5	J1939				There is a problem involving the third output control list for the data structure for configuring operations within the Controller Application being communicated with.			
	2863	Front Operator Wiper Switch	J1939-71	64973	1.5	4	State of operation selected by operator switch for the Wiper in front of the operator position.			
	2864	Front Non-operator Wiper Switch	J1939-71	64973	1.1	4	State of operation selected by operator switch for the front wiper not in front of the operator position.			
	2865	Rear Wiper Switch	J1939-71	64973	2.5	4	State of operation selected by operator switch for the rear wiper.			
	2866	Front Operator Washer Switch	J1939-71	64973	6.6	3	State of operation selected by operator switch for the washer in front of the operator position.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2867	Front Non-operator Washer Switch	J1939-71	64973	6.3	3	State of operation selected by operator switch for the front washer not in front of the operator position.			
	2868	Rear Washer Function	J1939-71	64973	7.6	3	State of operation selected by operator switch for the rear washer.			
	2869	Front Operator Wiper Delay Control	J1939-71	64973	3	8	Time between cycles of the front operator side wiper (i.e. from end of cycle 'n' to start of cycle 'n+1') as selected by the operator control (switch, etc.) in percentage of position with maximum position corresponding to maximum delay selectable.			
	2870	Front Non-operator Wiper Delay Control	J1939-71	64973	4	8	Time between cycles of the front non-operator side wiper (i.e. from end of cycle 'n' to start of cycle 'n+1') as selected by the operator control (switch, etc.) in percentage of position with maximum position corresponding to maximum delay selectable.			
	2871	Rear Wiper Delay Control	J1939-71	64973	5	8	Time between cycles of the rear wiper (i.e. from end of cycle 'n' to start of cycle 'n+1') as selected by the operator control (switch, etc.) in percentage of position with maximum position corresponding to maximum delay selectable.			
	2872	Main Light Switch	J1939-71	64972	1.5	4	A 4 bit parameter to indicate the selected position of the operator's main light switch.			
	2873	Work Light Switch	J1939-71	64972	1.1	4	A 4 bit parameter to indicate the selected position of the operator's work light switch.			
	2874	High-Low Beam Switch	J1939-71	64972	2.7	2	A 2 bit parameter to indicate the selected position of the operator's high/low beam select switch.			
	2875	Hazard Light Switch	J1939-71	64972	2.5	2	A 2 bit parameter to indicate the selected position of the operator's hazard light switch.			
	2876	Turn Signal Switch	J1939-71	64972	2.1	4	A 4 bit parameter to indicate the selected position of the operator's turn signal switch.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	2877	Operators Desired - Delayed Lamp Off Time	J1939-71	64972	4-5	16	This parameter indicates the time the operator wishes to have elapse following the Main Light switch being placed in Delayed Off position before the defined lights turn back off.				
	2878	Operators Desired Back-light	J1939-71	64972	3	8	A 8 bit parameter to indicate the level of back lighting the operator has selected for displays.				
	2879	Engine Alternate Droop Accelerator 2 Select	J1939-71	64971	3.5	4	In many applications, it is desirable that more than one droop setting be available across the range of operation. This parameter allows the selection of one to 13 droop selections.				
	2880	Engine Operator Primary Intermediate Speed Select	J1939-71	64970	1.1	4	Allows the operator to select one of 13 preprogrammed Intermediate Speed Control settings. If no speed setting is requested, the engine operates normally.				
	2881	Engine Alternate Droop Accelerator 1 Select	J1939-71	64971	3.1	4	In some applications, it may be desirable to have multiple droop settings across the range of engine operation. This parameter allows the selection of one to 13 droop selections.				
	2882	Engine Alternate Rating Select	J1939-71	64971	2	8	In some off-highway applications it may be desirable to have multiple engine ratings available for selection by the operator.				
	2883	Engine Alternate Low Idle Switch	J1939-71	64971	1.5	2	Operator switch which selects between two low idle speeds, default and alternate.				
	2884	Engine Auxiliary Governor Switch	J1939-71	64971	1.1	2	This is the On/Off operation of the Auxiliary Governor feature switch. This feature is used to allow engine speed to be controlled by an auxiliary input such as pressure or tailshaft speed.				
	2885	Engine Alternate Droop Auxiliary Input Select	J1939-71	64971	4.5	4	In some applications, it may be desirable to have multiple droop settings across the range of engine operation. This parameter allows the selection of one to 13 droop selections.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2886	Engine Alternate Droop Remote Accelerator Select	J1939-71	64971	4.1	4	In some applications, it may be desirable to have multiple droop settings across the range of engine operation. This parameter allows the selection of one to 13 droop selections.			
	2887	Total Count of Configuration Changes Made	J1939-71	64969	1-2	16	Total number of times changes have been made to any of the configurable parameters.			
	2888	Engine Alternate Rating Select State	J1939-71	64967	2	8	This parameter reflects the control state that has been achieved based on the input from the SPN xxx. In some off-highway applications it may be desirable to have multiple engine ratings available for selection by the operator.			
	2889	Engine Alternate Droop Accelerator 1 Select State	J1939-71	64967	3.1	4	This parameter indicates which state has been selected by the controlling ECM, one to 13 droop selection states. In some off-highway applications it may be desirable to have multiple droop settings available across the range of engine operation.			
	2890	Engine Multi-Unit Sync State	J1939-71	64967	1.3	2	A master engine will "synchronize" one or more slave engines to operate at the same speed. This feature is requested by an operator switch, this parameter indicates the state of the feature as determined by the controlling ECM.			
	2891	Engine Alternate Low Idle Select State	J1939-71	64967	1.5	2	Feedback from controller on the alternate low idle select state, default and alternate.			
	2892	Engine Operator Primary Intermediate Speed Select State	J1939-71	64968	1.1	4	Allows the operator to select one of 13 preprogrammed Intermediate Speed Control settings. This parameter indicates which state has been selected by the controlling ECM, one to 13 ISC setting states.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	2893	Engine Alternate Droop Accelerator 2 Select State	J1939-71	64967	3.5	4	This parameter indicates which state has been selected by the controlling ECM, one to 13 droop selection states. In some off-highway applications it may be desirable to have multiple droop settings available across the range of engine operation.				
	2894	Engine Alternate Droop Remote Accelerator Select State	J1939-71	64967	4.1	4	This parameter indicates which state has been selected by the controlling ECM, one to 13 droop selection states. In some off-highway applications it may be desirable to have multiple droop settings available across the range of engine operation.				
	2895	Engine Alternate Droop Auxiliary Input Select State	J1939-71	64967	4.5	4	This parameter indicates which state has been selected by the controlling ECM, one to 13 droop selection states. In some off-highway applications it may be desirable to have multiple droop settings available across the range of engine operation.				
	2896	Engine Auxiliary Governor State	J1939-71	64967	1.1	2	This is the Engine Auxiliary Governor feature. This feature is requested by an operator switch, this parameter indicates the state of the feature as determined by the controlling ECM.				
	2897	Operator Engine PTO Governor Memory Select Switch	J1939-71	65264	8.1	2	Measured state of the operator's engine PTO governor memory select switch.				
	2898	Engine Start Enable Device 2 Configuration	J1939-71	64966	2.5	4	This parameter indicates the start enable device type installed for start enable device 2.				
	2899	Engine Start Enable Device 1 Configuration	J1939-71	64966	2.1	4	This parameter indicates the start enable device type installed for start enable device 1.				
	2900	Transmission Engine Crank Enable	J1939-71	65098	2.5	2	State signal from the transmission indicating if the transmission's status is such that engine cranking is allowed.				
	2901	ECU Part Number	J1939-71	64965	a	1600	The part number of the physical ECU.				
	2902	ECU Serial Number	J1939-71	64965	b	1600	The serial number of the physical ECU.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2903	ECU Location	J1939-71	64965	c	1600	The location of the ECU within a network.			
	2904	ECU Type	J1939-71	64965	d	1600	The type of ECU. One example of a use of the ECU type could be for classifying ECU capabilities, such as I/O.			
	2905	Transmission Range Clutch C7 Solenoid	J1939				Transmission range clutch #C7 solenoid			
	2906	Transmission Range Clutch C8 Solenoid	J1939				Transmission range clutch #C8 solenoid			
	2907	Transmission Axle Disconnect Clutch Valve Actuator	J1939				The axle disconnect clutch disconnects the front axle from the transmission. It is located within the transmission housing.			
	2908	Transmission Boost Pressure Valve Actuator	J1939				Transmission boost pressure valve actuator.			
	2909	Torque Converter Modulating Clutch Valve Actuator	J1939				The torque converter modulating clutch limits torque to converter circuit and transmission. It is located between the engine and transmission.			
	2910	Transmission PTO Clutch Valve Actuator	J1939				Transmission PTO clutch valve actuator controls the on/off condition of PTO Clutch Valve.			
	2911	Halt brake switch	J1939-71	61441	8.3	2	Switch signal which indicates the position of the halt brake switch.			
	2912	Hill holder mode	J1939-71	64964	1.6	3	Signal which indicates the current mode of the hill holder function.			
	2913	Halt brake mode	J1939-71	64964	1.3	3	Signal which indicates the current mode of the halt brake function.			
	2914	XBR EBI Mode	J1939-71	1024	3.1	2	The XBR EBI (Endurance Brake Integration) Mode is used as an input for the brake system to prescribe the use of endurance brakes like retarders or engine brakes.			
	2915	XBR Priority	J1939-71	1024	3.3	2	The XBR Priority is used as an input to the brake system to manage the priority of overlapping external and internal requests.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2916	XBR Control Mode	J1939-71	1024	3.5	2	The XBR Control Mode is used as an input to the brake system and defines how the external acceleration demand has to be realized.			
	2917	XBR System State	J1939-71	64964	2.3	2	This parameter indicates which external brake control is allowed.			
	2918	XBR Active Control Mode	J1939-71	64964	2.5	4	This parameter indicates which XBR Control Mode is executed by the brake system.			
	2919	Foundation Brake Use	J1939-71	64964	2.1	2	This parameter indicates if the brake system presently uses the foundation brakes.			
	2920	External Acceleration Demand	J1939-71	1024	1-2	16	The acceleration which the brake system is expected to realize. It is specified as an absolute acceleration in reference to the road.			
	2921	XBR Acceleration Limit	J1939-71	64964	3	8	The brake system may temporarily or generally limit the maximum brake performance available for external systems.			
	2922	Steerable Lift Axle Lowering Inhibit	J1939-71	61451	4.5	2	A signal which indicates if lowering of lifted axle is allowed or inhibited.			
	2923	Status of Steering Axle	J1939-71	61451	4.1	4	A signal which indicates different states of the steering axle			
	2924	Steering Type	J1939-71	61451	5.1	4	Indicates the different types of steering systems (ref. ECE Regulation 79 paragraph 2.5)			
	2925	Type of Steering Forces	J1939-71	61451	5.5	4	Type of Steering Forces (Ref. ECE Regulation 79 paragraph 2.5)			
	2926	Type of Steering Transmission	J1939-71	61451	6.1	4	Type of Steering Transmission (Ref. ECE Regulation 79 paragraph 2.6)			
	2927	Actual Inner wheel steering angle	J1939-71	61451	1-2	16	Signal which indicates the actual inner wheel steering angle.			
	2928	Axle Location	J1939-71	61451	3	8	To identify to which of several similar devices (such as tires or fuel tanks) the information applies.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	2930	Hydraulic Brake System Audible Warning Command	J1939-71	64998	4.1	2	Signal which commands an audible warning by the hydraulic braking system.				
	2931	Hydraulic Brake Fluid Level Switch	J1939-71	64998	4.3	2	Signal which indicates whether the hydraulic fluid level in the reservoir(s) is sufficient.				
	2932	Valve State	ISO 11783-7	50688	3.1	4	The measured state of the general purpose valve. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.				
	2933	Valve State Command	ISO 11783-7			4	Command for setting the general purpose valve state. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.				
	2934	Valve Fail Safe Mode	ISO 11783-7	50688	3.7	2	Command for setting the fail safe mode of a general purpose valve.				
	2935	Valve Fail Safe Mode Command	ISO 11783-7			2	The measured state the fail safe mode of a general purpose valve.				
	2936	General Purpose Valve Number	ISO 11783-7			4	A numeric identification of general hydraulic valve instance within a Device identified by a NAME				
	2937	Extend Port Measured Flow	ISO 11783-7	50432	1	8	The measured flow through the extend port of an auxiliary valve of a tractor				
	2938	Retract Port Measured Flow	ISO 11783-7	50432	2	8	The measured flow through the retract port of an auxiliary valve of a tractor				
	2939	Extend Port Estimated Flow	ISO 11783-7	50688	1	8	The value reported by the controller of flow through the extend port of an auxiliary valve of a tractor				
	2940	Retract Port Estimated Flow	ISO 11783-7	50688	2	8	The value reported by the controller of flow through the retract port of an auxiliary valve of a tractor				
	2941	Extend Port Pressure	ISO 11783-7	50432	3-4	16	The measured nominal pressure at the extend port of an auxiliary valve of a tractor				
	2942	Retract Port Pressure	ISO 11783-7	50432	5-6	16	The measured nominal pressure at the retract port of an auxiliary valve of a tractor				

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2943	Return Port Pressure	ISO 11783-7	50432	7	8	The measured nominal pressure at the return port of an auxiliary valve of a tractor			
	2944	Port Flow Command	ISO 11783-7	50176	1	8	The command to set the flow through the extend or retract port of an auxiliary valve of a tractor			
	2945	Active Shift Console Indicator	J1939-71	65098	2.3	2	Signal from transmission control unit indicating which shift console (primary or secondary) it currently considers as the active shift selector input.			
	2946	Engine Mixer Intake Relative Humidity	J1939				Measurement of the relative humidity of air after the aftercooler and before the mixer.	128	307	
	2947	Engine Fuel Rack Position #2	J1939				Position of the fuel rack #2.	128	308	
	2948	Engine Intake Valve Actuation System Oil Pressure	J1939-71	64961	1-2	16	The gage pressure of the oil in the hydraulic system that powers the engine intake valve actuation system			
	2949	Engine Intake Valve Actuation System Oil Pressure Control Valve	J1939				The valve that controls the pressure of the oil being supplied to the engine intake valve actuation system.			
	2950	Engine Intake Valve Actuator #1	J1939				The first instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2951	Engine Intake Valve Actuator #2	J1939				The second instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2952	Engine Intake Valve Actuator #3	J1939				The third instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2953	Engine Intake Valve Actuator #4	J1939				The fourth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2954	Engine Intake Valve Actuator #5	J1939				The fifth instance of an actuator that controls or alters the control of the engine intake valve(s).			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2955	Engine Intake Valve Actuator #6	J1939				The sixth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2956	Engine Intake Valve Actuator #7	J1939				The seventh instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2957	Engine Intake Valve Actuator #8	J1939				The eighth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2958	Engine Intake Valve Actuator #9	J1939				The ninth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2959	Engine Intake Valve Actuator #10	J1939				The tenth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2960	Engine Intake Valve Actuator #11	J1939				The eleventh instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2961	Engine Intake Valve Actuator #12	J1939				The twelfth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2962	Engine Intake Valve Actuator #13	J1939				The thirteenth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2963	Engine Intake Valve Actuator #14	J1939				The fourteenth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2964	Engine Intake Valve Actuator #15	J1939				The fifteenth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2965	Engine Intake Valve Actuator #16	J1939				The sixteenth instance of an actuator that controls or alters the control of the engine intake valve(s).			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2966	Engine Intake Valve Actuator #17	J1939				The seventeenth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2967	Engine Intake Valve Actuator #18	J1939				The eighteenth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2968	Engine Intake Valve Actuator #19	J1939				The nineteenth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2969	Engine Intake Valve Actuator #20	J1939				The twentieth instance of an actuator that controls or alters the control of the engine intake valve(s).			
	2970	Accelerator Pedal 2 Low Idle Switch	J1939-71	61443	1.7	2	Switch signal which indicates the state of the accelerator pedal 2 low idle switch.			
	2971	Accelerator Pedal 3 Low Idle Switch	J1939			2	Switch signal which indicates the state of the accelerator pedal 3 low idle switch.			
	2972	Accelerator Pedal Position 1 Output 2	J1939				Second output for accelerator pedal position 1			
	2973	Accelerator Pedal Position 1 Output 3	J1939				Third output for accelerator pedal position 1			
	2974	Accelerator Pedal Position 2 Output 2	J1939				Second output for accelerator pedal position 2			
	2975	Accelerator Pedal Position 2 Output 3	J1939				Third output for accelerator pedal position 2			
	2976	Accelerator Pedal Position 3 Output 2	J1939				Second output for accelerator pedal position 3			
	2977	Accelerator Pedal Position 3 Output 3	J1939				Third output for accelerator pedal position 3			
(R)	2978	Estimated Engine Parasitic Losses - Percent Torque	J1939-71	65247	5	8	The calculated torque that indicates the estimated amount of torque loss due to engine parasitics, such as cooling fan, air compressor, air conditioning, etc.			
	2979	Vehicle Acceleration Rate Limit Status	J1939-71	61443	6.1	2	Status (active or not active) of the system used to limit maximum forward vehicle acceleration.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	2980	Engine Fuel Valve 1 Outlet Absolute Pressure	J1939-71	65163	7-8	16	Absolute Pressure of gas on outlet side of the first or only fuel system control valve.			
	2981	Engine Coolant Loop 2 Pressure	J1939				This is the pressure of the low temp (secondary circuit) coolant loop.			
	2982	Engine Coolant Loop 2 Temperature	J1939				This is the temperature of the low temp (secondary circuit) coolant loop.			
	2983	Clutch Life Remaining	J1939-71	65195	4	8	Signal which indicates the actual clutch life remaining in percent. One hundred percent means the clutch is brand new and zero percent means the clutch is at the end of its life.			
	2984	Automatic traction help (load transfer)	J1939-71	53760	1.1	2	This signal enables the traction help (load transfer) in case of an active ASR function			
	2985	Transmission Shift Selector Display Mode Switch	J1939-71	256	7.7	2	Status of the operator's switch used to 'toggle' through multiple display modes of a shift selector display.			
	2986	Engine Intake Valve Actuation System Oil Temperature	J1939-71	65129	5-6	16	The temperature of the oil in the hydraulic system that powers the intake valve actuation system.			
	2987	Engine will not start, pre-lube system issue	J1939				The engine is not allowed to start due to pre-lube system issues.			
	2988	Engine Coolant Diverter Valve	J1939				A valve other than the engine coolant thermostat that changes the flow of coolant in an engine.			
	2989	Combine separator speed	J1939-74			16	Speed of the Combine separator.			
	2991	Tailings volume	J1939-74			8	Tailings Elevator Volume measurement (as a percent of full).			
	2992	Move reel forward	J1939-74			2	Move the platform reel toward the forward part of the machine.			
	2993	Move reel aft	J1939-74			2	Move the platform reel toward the back part of the machine			
	2994	Reel raise	J1939-74			2	Raise the platform reel.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
2995	Reel lower	J1939-74				2	Lower the platform reel.			
2996	Header raise slow	J1939-74				2	Raise the header (slow speed mode).			
2997	Header lower slow	J1939-74				2	Lower the header (slow speed mode).			
2998	Header raise fast	J1939-74				2	Raise the header (fast speed mode).			
2999	Header lower fast	J1939-74				2	Lower the header (fast speed mode).			
3000	Tilt header left	J1939-74				2	Tilt the header down to the left.			
3001	Tilt header right	J1939-74				2	Tilt the header down to the right.			
3002	Header fold	J1939-74				2	Fold the header in.			
3003	Header unfold	J1939-74				2	Unfold the header			
3004	Draper speed increment	J1939-74				2	Increase speed of the draper.			
3005	Draper speed decrement	J1939-74				2	Decrease speed of the draper.			
3006	Reel speed increment	J1939-74				2	Increase the platform reel speed.			
3007	Reel speed decrement	J1939-74				2	Decrease the platform reel speed.			
3008	Threshing clearance increment	J1939-74				2	Increase threshing clearance.			
3009	Threshing clearance decrement	J1939-74				2	Decrease threshing clearance.			
3010	Threshing speed increment	J1939-74				2	Increase threshing speed.			
3011	Threshing speed decrement	J1939-74				2	Decrease threshing speed.			
3012	Product fan speed increment	J1939-74				2	Increase Product fan speed. The Product may be either the harvested crop material or the material being applied or handled.			
3013	Product fan speed decrement	J1939-74				2	Decrease Product fan speed. The Product may be either the harvested crop material or the material being applied or handled.			
3015	Implement fold down	J1939-74				2	Move the implement down from travel to work position			
3016	Implement fold up	J1939-74				2	Move the implement up from work to travel position.			
3017	RH header raise	J1939-74				2	Raise the right hand header of the system.			
3018	LH header raise	J1939-74				2	Raise the left hand header of the system.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3019	Product fan engage mode	J1939-74			2	Engage/disengage the (harvested or applied) Product fan. The Product may be either the harvested crop material or the material being applied or handled.			
	3020	Augers engage mode	J1939-74			2	Engage/disengage all the augers.			
	3021	Product basket fill state	J1939-74			2	The state of the capacity of the Product storage basket.			
	3022	Augers enable mode	J1939-74			2	Enable/disable all the augers.			
	3023	Header height control mode	J1939-74			2	Header height controller engaged/disengaged.			
	3024	Header remote tether control mode	J1939-74			2	Tether control mode of the Product Handling system. Used for remote operator control of the headers.			
	3025	Lubrication control mode	J1939-74			2	Lubrication control of the Product Handling system.			
(R)	3026	Transmission Oil Level 1 Measurement Status	J1939-71	65272	8.5	4	Measurement status for the first instance of a transmission oil level indicator.			
(R)	3027	Transmission Oil Level 1 High / Low	J1939-71	65272	7	8	First instance of a transmission oil level indicator. Conveys the amount of current volume of transmission sump oil compared to recommended volume.			
(R)	3028	Transmission Oil Level 1 Countdown Timer	J1939-71	65272	8.1	4	Countdown timer for the first instance of a transmission oil level indicator.			
	3029	Engine Start Inhibited, Pre-lube System Issue	J1939				The engine oil pre-lube system will not allow the engine to start.			
	3030	Transmission Torque Converter Ratio	J1939-71	61452	1-2	16	Ratio of the transmission torque converter output torque to torque converter input torque at current speed.			
	3031	Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature	J1939-71	65110	2	8	Temperature of the diesel exhaust fluid in the storage tank.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3032	Right Brake Pedal Position	J1939-74			8	Ratio of the right brake pedal position to maximum right brake pedal position. For applications with only one brake pedal use SPN 521.			
	3033	Left Brake Pedal Position	J1939-74			8	Ratio of the left brake pedal position to maximum left brake pedal position. For applications with only one brake pedal use SPN 521.			
	3034	DM22 Control Byte - Individual DTC Clear/Reset Control Byte	J1939-73	49920	1	8	DM22 Control byte is used to identify the function being performed by this message.			
	3035	DM22 - Control Byte Specific Indicator For Individual DTC Clear	J1939-73	49920	2	8	DM22 parameter which is the Negative Acknowledge Indicator For Individual DTC Clear.			
	3036	DM22 - SPN	J1939-73	49920	6-8.6	19	DM22 the SPN of the DTC to Clear.			
	3037	DM22 - FMI	J1939-73	49920	8.1	5	DM22 the FMI of the DTC to Clear.			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	40704	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64852	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64853	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64854	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64855	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64856	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64857	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64858	2.7	2	This parameter provides the capability to flash the MIL			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64859	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64860	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64861	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64862	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64863	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64896	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64898	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	64949	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	65226	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	65227	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	65231	2.7	2	This parameter provides the capability to flash the MIL			
	3038	Flash Malfunction Indicator Lamp (MIL) <sup>†</sup>	J1939-73	65236	2.7	2	This parameter provides the capability to flash the MIL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	40704	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64852	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64853	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64854	2.5	2	This parameter provides the capability to flash the RSL			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64855	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64856	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64857	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64858	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64859	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64860	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64861	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64862	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64863	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64896	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64898	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	64949	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	65226	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	65227	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	65231	2.5	2	This parameter provides the capability to flash the RSL			
	3039	Flash Red Stop Lamp (RSL) <sup>†</sup>	J1939-73	65236	2.5	2	This parameter provides the capability to flash the RSL			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	40704	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64852	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64853	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64854	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64855	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64856	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64857	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64858	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64859	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64860	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64861	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64862	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64863	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64896	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64898	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	64949	2.3	2	This parameter provides the capability to flash the AWL			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	65226	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	65227	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	65231	2.3	2	This parameter provides the capability to flash the AWL			
	3040	Flash Amber Warning Lamp (AWL) <sup>†</sup>	J1939-73	65236	2.3	2	This parameter provides the capability to flash the AWL			
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	40704	2.1	2	This parameter provides the capability to flash the engine protect lamp			
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64852	2.1	2	This parameter provides the capability to flash the engine protect lamp			
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64853	2.1	2	This parameter provides the capability to flash the engine protect lamp			
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64854	2.1	2	This parameter provides the capability to flash the engine protect lamp			
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64855	2.1	2	This parameter provides the capability to flash the engine protect lamp			
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64856	2.1	2	This parameter provides the capability to flash the engine protect lamp			
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64857	2.1	2	This parameter provides the capability to flash the engine protect lamp			
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64858	2.1	2	This parameter provides the capability to flash the engine protect lamp			
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64859	2.1	2	This parameter provides the capability to flash the engine protect lamp			
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64860	2.1	2	This parameter provides the capability to flash the engine protect lamp			
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64861	2.1	2	This parameter provides the capability to flash the engine protect lamp			
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64862	2.1	2	This parameter provides the capability to flash the engine protect lamp			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64863	2.1	2	This parameter provides the capability to flash the engine protect lamp				
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64896	2.1	2	This parameter provides the capability to flash the engine protect lamp				
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64898	2.1	2	This parameter provides the capability to flash the engine protect lamp				
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	64949	2.1	2	This parameter provides the capability to flash the engine protect lamp				
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	65226	2.1	2	This parameter provides the capability to flash the engine protect lamp				
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	65227	2.1	2	This parameter provides the capability to flash the engine protect lamp				
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	65231	2.1	2	This parameter provides the capability to flash the engine protect lamp				
	3041	Flash Protect Lamp <sup>†</sup>	J1939-73	65236	2.1	2	This parameter provides the capability to flash the engine protect lamp				
	3042	Requested Wheel Speed	J1939-74			16	When at rated engine speed, this is the wheel speed that the transmission will attempt to attain.				
	3043	Type of Passenger Count	J1939-71	64960	1	8	Used to notify transit link devices of the type of passenger counting system used in the vehicle.				
	3044	Silent Alarm Status	J1939-71	64960	3.1	2	Used to report silent alarm push button status.				
	3045	Vehicle Use Status	J1939-71	64960	3.3	2	Used to indicate the proper or unauthorized use of the vehicle.				
	3046	Transit Run Status	J1939-71	64960	3.5	2	Status of the run switch for the vehicle				
	3047	Patron Count	J1939-71	64960	2	8	Count of the number of passengers on a transit vehicle.				
	3048	Ignition Cycle Counter	J1939-73	49664	01-02	16	Count of the number of ignition cycles.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3049	OBD Monitoring Conditions Encountered	J1939-73	49664	03-04	16	Count the number of times that the vehicle has been operated in the specified OBD monitoring conditions.			
	3050	Catalyst Bank 1 System Monitor	J1939-73				Monitors Catalyst Bank 1 System. May be used to represent readiness, in-use ratio, test results, data stream and DTC.			
	3051	Catalyst 2 System Monitor	J1939-73				Monitors Catalyst Bank 2 System. May be used to represent readiness, in-use ratio, test results, data stream and DTC.			
	3052	Engine Misfire Monitor	J1939-73				Monitors for engine misfire. May be used to represent readiness, Test Result, Data Stream and DTC.			
	3053	Engine Evaporative System Monitor	J1939-73				Monitors Engine Evaporation System. may be used to represent readiness, in-use ratio, test results, data stream and DTC.			
	3054	Engine Secondary Air System Monitor	J1939-73				Monitors engine secondary air system. May be used to represent readiness, in-use ratio, test results, data stream and DTC.			
	3055	Engine Fuel System Monitor	J1939-73				Monitors the Fuel System. May be used to represent readiness, Test Result, Data Stream and DTC.			
	3056	Oxygen (or Exhaust Gas) Sensor Bank 1 Monitor	J1939-73				Monitors Engine Oxygen Sensor 1			
	3057	Oxygen (or Exhaust Gas) Sensor Bank 2 Monitor	J1939-73				Monitors Engine Oxygen Sensor 2			
	3058	EGR System Monitor	J1939-73				Monitors EGR System. May be used to represent readiness, in-use ratio, test results, data stream and DTC.			
	3059	Engine Positive Crankcase Ventilation System Monitor	J1939-73				Monitors Engine Positive Crankcase Ventilation System. May be used to represent readiness, in-use ratio, test results, data stream and DTC.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3060	Engine Cooling System Monitor	J1939-73				Monitors Engine Cooling System. May be used to represent readiness, in-use ratio, test results, data stream and DTC.			
	3061	Engine Cold Start Emission Reduction Strategy System Monitor	J1939-73				Monitors Engine Cold Start Emission Reduction Strategy.			
	3062	Air Conditioning System Component Monitor	J1939-73				Monitors Air Conditioning Component. May be used to represent readiness, in-use ratio, test results, data stream and DTC.			
	3063	Direct Ozone Reduction Monitor	J1939-73				Monitors Direct Ozone Reduction. May be used to represent readiness, in-use ratio, test results, data stream and DTC.			
	3064	Aftertreatment Diesel Particulate Filter System Monitor	J1939-73				Monitors Aftertreatment Diesel Particulate Filter System. May be used to represent readiness, in-use ratio, test results, data stream and DTC.			
	3065	Comprehensive Component Monitor	J1939-73				Monitors Comprehensive Component Monitor			
	3066	SPN of Applicable System Monitor	J1939-73	49664	05-06, 7.6	19	Identifies the SPN of the system monitor for which Monitor ratio is being reported.			
	3067	Applicable System Monitor Numerator	J1939-73	49664	08-09	16	Identifies the number of times the vehicle has been operated such that all conditions necessary for the Applicable System Monitor to detect a malfunction have been encountered.			
	3068	Applicable System Monitor Denominator	J1939-73	49664	10-11	16	Identifies the number of times a vehicle has been operated that constitutes a driving cycle where the Applicable System Monitor could be operated per regulatory requirements.			
	3069	Distance Travelled While MIL is Activated	J1939-73	49408	1-2	16	The kilometers accumulated while the MIL is activated.			
	3070	Number of bytes in the Milepost Identification	J1939-71	64959	1	8	Number of bytes in the Milepost Identification.			
	3071	Number of bytes in the Transit Assigned Route Identity	J1939-71	64958	2	8	Number of bytes in the Transit Assigned Route Identity.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	3072	Number of bytes in the Transit Assigned Run Identity	J1939-71	64958	3	8	Number of bytes in the Transit Assigned Run Identity.				
	3073	Number of bytes in the Transit Assigned Block Identity	J1939-71	64958	4	8	Number of bytes in the Transit Assigned Block Identity				
	3074	Transit Assigned Route Identity	J1939-71	64958	5 to A	800	Identifies the transit route assigned to a specific vehicle				
	3075	Transit Assigned Run Identity	J1939-71	64958	A+1 to B	800	Identifies the transit run assigned to a specific vehicle				
	3076	Transit Assigned Block Identity	J1939-71	64958	B+1 to C	800	Identifies the transit block assigned to a specific vehicle				
	3078	Agency	J1939-71	64958	1	8	The identity of the agency involved in this transaction				
	3079	Intersection Preemption Request/Response	J1939-71	64957	1.7	2	Status of the intersection signal preemption				
	3080	Transit Route ID Usage	J1939-71	64957	1.5	2	Transit route ID usage				
	3081	Range Code Enable	J1939-71	64957	1.3	2	Range code enable				
	3082	Strobe Activation Control Status	J1939-71	64957	2.7	2	Strobe activation control status				
	3083	Transit Door Enable	J1939-71	64957	2.5	2	Transit door enable				
	3084	Priority of Response Sent by Emitter	J1939-71	64957	2.1	4	Priority of response sent by emitter				
	3085	Vehicle ID	J1939-71	64957	3,4	16	Numerical designation of the vehicle				
	3086	Transmission Ready for Brake Release	J1939-71	65098	2.1	2	This parameter indicates that enough torque / motive force is available at the transmission output shaft to release all the brakes without a risk of unintentional movement in the opposite direction.				
	3087	Auxiliary Level	J1939-71	65164	5-6	16	Level measured by a sensor.				
	3088	Header height vertical rate control	J1939-74			8	Setting for the header height raise/lower control speed rate				
	3089	Header height sensitivity control	J1939-74			8	Control setting for the header height system's sensitivity to ground contour changes				

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3090	Header height setpoint change	J1939-74			8	Number of clicks of the encoder used for header height setting since last transmitted CAN message			
	3091	Header height setpoint change sequence number	J1939-74			8	Sequence number of the Header Height Setpoint Change			
	3092	Header platform height	J1939-74			16	Height of the cutting platform			
	3093	Header platform height maximum	J1939-74			16	Maximum height of the cutting platform.			
	3096	Header float pressure	J1939-74			8	Pressure of the header height system lift cylinders.			
	3097	Header float pressure maximum	J1939-74			8	Maximum pressure of the header height system lift cylinders			
	3098	Header position percent	J1939-74			8	Header height position, as a percent of maximum			
	3099	Header position percent maximum	J1939-74			8	Maximum mechanically allowable header height as a percentage of the allowed display height.			
	3102	Unloading Auger swing out	J1939-74			2	Swing the unloading auger out, away from vehicle			
	3103	Unloading auger swing in	J1939-74			2	Swing the unloading auger in, toward the vehicle			
	3104	Unloading auger swing out-auto	J1939-74			2	Swing the unloading auger out, away from the vehicle, auto mode			
	3105	Unloading auger swing in-auto	J1939-74			2	Swing the unloading auger in, toward the vehicle, auto mode			
	3106	Side hill left tilt	J1939-74			2	Tilt the machine chassis down to the left			
	3107	Side hill right tilt	J1939-74			2	Tilt the machine chassis down to the right			
	3108	Spreader speed increment	J1939-74			2	Increase the speed of the spreader			
	3109	Spreader speed decrement	J1939-74			2	Decrease the speed of the spreader			
	3110	Precleaner open	J1939-74			2	Open the precleaner			
	3111	Precleaner close	J1939-74			2	Close the precleaner			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3112	Open chaffer	J1939-74			2	Open the chaffer			
	3113	Close chaffer	J1939-74			2	Close the chaffer			
	3114	Open sieve	J1939-74			2	Open the sieve			
	3115	Close sieve	J1939-74			2	Close the sieve			
	3116	Move chopper vane left	J1939-74			2	Move the chopper vane towards the left side of the machine			
	3117	Move chopper vane right	J1939-74			2	Move the chopper vane towards the right side of the vehicle			
	3118	Quick stop switch	J1939-74			2	Master quick stop switch for stopping the product related systems on the vehicle.			
	3119	Unloading auger engage/disengage	J1939-74			2	Engage or disengage the (single) unloading auger			
	3120	Unloading auger fold	J1939-74			2	Fold the unloading auger			
	3121	Unloading auger unfold	J1939-74			2	Unfold the unloading auger			
	3122	Max allowable cleaning shoe travel	J1939-74			8	Max cleaning shoe travel allowed			
	3123	Right hand header height setpoint	J1939-74			8	Setpoint for the machine to control to.			
	3124	Left hand header height setpoint	J1939-74			8	Setpoint for the machine to control to.			
	3125	Left hand header height	J1939-74			8	Height of the Left hand header.			
	3126	Right hand header height	J1939-74			8	Height of the Right hand header.			
	3127	Header control response rate setpoint	J1939-74			8	Setpoint for the machine to control to. Rate of response to header control command changes			
	3128	Header control response rate maximum setpoint	J1939-74			8	Header control response rate maximum setpoint. Limits are usually determined by calibration process.			
	3129	Header control response rate minimum setpoint	J1939-74			8	Header control response rate minimum setpoint. Limits are usually determined by calibration process.			
	3130	Product system tank water level	J1939-74			16	Product system tank water level			
	3131	Product fan speed	J1939-74			16	Product fan speed			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3132	Product system manifold pressure	J1939-74			8	Pressure of the liquid in the product system as measured at the manifold or main distribution point.			
	3133	Product system pump discharge pressure	J1939-74			16	Pressure of the liquid in the product system as measured at the pump discharge			
	3134	Product fan hours	J1939-74			16	Total Product fan running hours			
	3135	Right hand header height max setpoint	J1939-74			8	Maximum setpoint measured during calibration. Used to set max limit of control range.			
	3136	Right hand header height min setpoint	J1939-74			8	Minimum setpoint measured during calibration. Used to set min limit of control range.			
	3137	Left hand header height min setpoint	J1939-74			8	Minimum setpoint measured during calibration. Used to set min limit of control range.			
	3138	Left hand header height max setpoint	J1939-74			8	Maximum setpoint measured during calibration. Used to set max limit of control range.			
	3139	Right hand header unit speed	J1939-74			16	Right hand header unit speed			
	3140	Left hand header unit speed	J1939-74			16	Left hand header unit speed			
	3141	GPS differential corrections license	NMEA 2000				The license bought for use by a differential correction GPS device (from the signal supplier).			
	3142	Method, GNSS	NMEA 2000				The "Method" or "Quality" of the GPS signal.			
	3143	Differential source	NMEA 2000				The source of a differential correction signal used by the GPS system used to calculate ECU position			
	3144	Differential source, Secondary	NMEA 2000				The secondary source of a differential correction signal used by the GPS system used to calculate ECU position			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3145	DGNSS fix	NMEA 2000				This represents the point in the GPS signal flow process at which the GPS signal is determined after differential correction has been applied			
	3146	PGN of message being configured	J1939-74				The PGN of the Proprietary Configurable Message (PCM) whose configuration is being identified by this Configuration Identification Message.			
	3147	Parameter being included	J1939-74				The SPN of the parameter whose location is presently being identified for grouping into the message whose PGN is in this Configuration Identification Message.			
	3148	Position of configured parameter	J1939-74				The number identifying a particular parameter's position within a configured message			
	3149	Message will be used proprietarily	J1939-74				Flag used to indicate that the message being configured is a member of the set of destination specific proprietarily configurable messages			
	3150	Message will use transport protocol	J1939-74				Flag used to indicate whether the message being configured is one that will use transport protocol.			
	3151	First parameter only being identified	J1939-74				Flag which is used to identify whether only the first parameter that will be sent within one of the Configurable Messages is being identified with a Configuration Identification Message			
	3152	Number of parameters included	J1939-74				The number of parameters, which will be grouped into the message whose PGN is in this Configuration Identification Message.			
	3153	Starting bit for this parameter	J1939-74				The bit position that the LSB of the data for the parameter is to occupy within the configurable message being identified by the PGN.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3154	Parameter to be located	J1939-74				The parameter, identified by SPN, that it is desired to locate or to initiate the transmission			
	3155	Parameter locate command	J1939-74				Used to identify the particular command that the Parameter Locate message is presently being used for.			
	3156	Blade Control Mode Switch	J1939-71	61453	1.1	4	Indicates the blade control mode switch state the user has set for the land leveling system.			
	3157	Desired Grade Offset Switch	J1939-71	61453	1.5	4	Indicates the grade offset switch state the user has set for the land leveling system			
	3158	Blade Auto Mode Command	J1939-71	61453	2.1	4	Allows other controllers to command to the primary control system what they think is the appropriate auto control mode to be engaged in, based on the information they have available to them.			
	3159	Trip Number	J1939-71	64956	04-05	16	The identity number assigned to this trip.			
	3160	Assigned Route	J1939-71	64956	08-09	16	The identity number assigned to this route.			
	3161	Pattern Number	J1939-71	64956	06-07	16	The agency defined pattern number for this trip			
	3162	Assigned Run	J1939-71	64956	10-11	16	The agency defined run number for this trip			
	3163	Assigned Block	J1939-71	64956	12-13	16	The agency defined block number for this trip			
	3164	Driver's farebox security code	J1939-71	64956	14-15	16	Security code for the farebox, numerical only.			
	3165	Fare Validity	J1939-71	64955	3.1	4	Agency defined value indicating validity of this fare			
	3166	Pass Category	J1939-71	64955	3.5	4	Agency defined value indicating the category of the passenger associated with this fare			
	3167	Initial Fare Agency	J1939-71	64955	4.1	5	Identifies where the initial fare is paid			
	3168	Transfer Sold	J1939-71	64955	8	8	Indicates that a transfer was sold or issued on this transaction including its type and/or restrictions.			
	3169	Route Number	J1939-71	64955	6, 7.1	12	The route number issuing the transfer			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3170	Transaction Type	J1939-71	64955	1.1	4	Enumerated value representing the type of transaction completed			
	3171	Passenger Type	J1939-71	64955	1.5	4	Enumerated value representing the type/class of passenger			
	3172	Type of Service	J1939-71	64955	5.1	3	The type of service provided			
	3173	Transfer Type	J1939-71	64955	5.4	5	The kind of transfer used			
	3174	Trip Direction	J1939-71	64956	02.1	4	The general direction of travel for this trip.			
	3175	Fare Presets	J1939-71	64956	03	8	Fare Presets			
	3176	Type of Fare	J1939-71	64955	2.1	4	Type of Fare			
	3177	Payment Details	J1939-71	64955	2.5	4	Payment details.			
	3178	Farebox Service Status	J1939-71	64956	01.1	2	Indicates if the farebox is in or out of service.			
	3179	Farebox Emergency Status	J1939-71	64954	1.1	2	Indicates if a farebox emergency condition exists.			
	3180	Trip Status	J1939-71	64956	01.3	3	Trip Status			
	3181	Farebox Alarm Identifier	J1939-71	64954	2.1	7	Indicates the nature of the farebox alarm condition.			
	3182	Transmission Retarder Enable Solenoid Valve	J1939				Valve that makes hydraulic fluid available for retarder use.			
	3183	Transmission Retarder Modulation Solenoid Valve	J1939				Valve used to control hydraulic retarder application.			
	3184	Transmission Lockup Clutch Pressure Indicator	J1939				Pressure being applied to the torque converter lockup clutch.			
	3185	Transmission Differential Lock Solenoid Valve	J1939				Valve used to apply pressure to differential lock.			
	3186	Transmission Differential Lock Clutch Pressure Indicator	J1939				Indicates pressure applied to differential lock clutch.			
	3187	Transmission Shift Console Data Link	J1939				Communication link between transmission and shift selector.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3188	XBR Message Checksum	J1939-71	1024	8.5	4	The XBR message checksum is used to verify the signal path from the demanding device to the brake controller on electronic brake systems.			
	3189	XBR Message Counter	J1939-71	1024	8.1	4	The XBR message counter is to verify the signal path from the demanding device to the brake controller on electronic brake systems.			
	3190	Tire Location	J1939-71	64953	1	8	Identifies which tire is associated with the parametric data in this PGN.			
	3191	Reference Tire Pressure	J1939-71	64953	2	8	Reference value of the tire pressure as basis for the tire pressure monitoring			
	3192	Tire Location	J1939-71	44544	1	8	Identifies which tire is associated with the parametric data in this PGN.			
	3193	Reference Tire Pressure Setting	J1939-71	44544	2	8	Reference value of the tire pressure setting as basis for the tire pressure monitoring			
	3194	Control Byte	J1939-31				Control byte used to identify the type of request or response for the Network message.			
	3195	Number of Ports	J1939-31				Number of ports in this NIECU			
	3196	Uptime since last power-on reset	J1939-31				Uptime (in seconds) since last power on reset.			
	3197	Average Messages Filtered per Second	J1939-31				Average number of messages filtered per second			
	3198	Average Messages Forwarded per Second	J1939-31				Average number of messages forwarded per second			
	3199	Average Messages Received per Second	J1939-31				Average number of messages received per second			
	3200	Number of Messages with Excessive Transit Delay Time	J1939-31				Number of messages with an excessive transit delay time			
	3201	Number of Messages lost due to Buffer Overflow	J1939-31				Number of message lost due to buffer overflow			
	3202	Average Transit Delay Time	J1939-31				Average transit delay time (in milliseconds).			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3203	Maximum Transit Delay Time	J1939-31				Maximum transit delay time (in milliseconds).			
	3204	Maximum Messages Filtered per Second	J1939-31				Maximum number of messages filtered per second			
	3205	Maximum Messages Forwarded per Second	J1939-31				Maximum number of messages forwarded per second			
	3206	Maximum Messages Received per Second	J1939-31				Maximum number of messages received per second			
	3207	Number of Filter Database Entries	J1939-31				Number of filter database entries			
	3208	Maximum Filter Database Size	J1939-31				Maximum filter database size (in bytes)			
	3209	Buffer Size	J1939-31				Buffer size (in bytes)			
	3210	Parameter Number	J1939-31				The ordinal number of a filter database parameter			
	3211	SA_List	J1939-31				A list of source addresses of ECUs that an NI_ECU "sees" in the segment beyond a port			
	3212	PGN_List	J1939-31				A list of parameter group numbers for filtering			
	3213	Filter_Mode	J1939-31				The method of filtering for a particular Port_pair: Pass (list) or Block (list)			
	3214	Port_Pair	J1939-31				An ordered pair of ports.			
	3215	Prohibit air suspension control	J1939-71	53760	7.5	2	This parameter is an external request to the air suspension control system to prohibit all air suspension control.			
	3216	Aftertreatment 1 Intake NOx	J1939-71	61454	1-2	16	The amount of combined NO and NO2 in the exhaust entering the aftertreatment system measured by a NOx sensor at the aftertreatment intake, represented in NOx molecule parts per million non-NOx molecules in exhaust bank 1.			
	3217	Aftertreatment 1 Intake O2	J1939-71	61454	3-4	16	The actual oxidation factor (%O2) of the gas within the exhaust stream. This value is measured by a sensor at the aftertreatment intake in exhaust bank 1.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	3218	Aftertreatment 1 Intake Gas Sensor Power Status	J1939-71	61454	5.1	2	Indicates that the power supplied to the aftertreatment intake gas sensor, either NOx or O2, is within the manufacturer's specification in exhaust bank 1.			
	3219	Aftertreatment 1 Intake Gas Sensor at Temperature	J1939-71	61454	5.3	2	Indicates that the heater element of the aftertreatment intake gas sensor, either NOx or O2, is within the manufacturer's specified range for accurate measurements in exhaust bank 1.			
	3220	Aftertreatment 1 Intake NOx Reading Stable	J1939-71	61454	5.5	2	Indicates that the NOx reading of the aftertreatment intake NOx sensor is stable as determined by the manufacturer's control software in exhaust bank 1.			
	3221	Aftertreatment 1 Intake Wide-Range % O2 Reading Stable	J1939-71	61454	5.7	2	Indicates that the %O2 reading of the aftertreatment intake gas sensor, either NOx or O2, is stable as determined by the manufacturer's control software in exhaust bank 1.			
	3222	Aftertreatment 1 Intake Gas Sensor Heater Preliminary FMI	J1939-71	61454	6.1	5	Used to identify the applicable J1939-73 FMI detected in the heater of the intake exhaust gas sensor, either NOx or O2, by the manufacturer's sensor control software in exhaust bank 1.			
	3223	Aftertreatment 1 Intake Gas Sensor Heater Control	J1939-71	61454	6.6	2	Indicates the heater status in the warm-up process. Upon receiving a power-up command, the gas sensor ramps up according to a manufacturer defined profile.			
	3224	Aftertreatment 1 Intake NOx Sensor Preliminary FMI	J1939-71	61454	7.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment intake NOx sensor by the manufacturer's sensor control software in exhaust bank 1.			
	3225	Aftertreatment 1 Intake Oxygen Sensor Preliminary FMI	J1939-71	61454	8.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment intake oxygen sensor by the manufacturer's sensor control software in exhaust bank 1.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3226	Aftertreatment 1 Outlet NOx	J1939-71	61455	1-2	16	The amount of combined NO and NO <sub>2</sub> in the exhaust exiting the aftertreatment system measured by a NOx sensor at the aftertreatment outlet, represented in NOx molecule parts per million non-NOx molecules in exhaust bank 1.			
	3227	Aftertreatment 1 Outlet O <sub>2</sub>	J1939-71	61455	3-4	16	The actual oxidation factor (%O <sub>2</sub> ) of the gas within the exhaust stream. This value is measured by a sensor at the aftertreatment outlet in exhaust bank 1.			
(R)	3228	Aftertreatment 1 Outlet Gas Sensor Power Status	J1939-71	61455	5.1	2	Indicates that the power supplied to the aftertreatment outlet gas sensor, either NOx or O <sub>2</sub> , is within the manufacturer's specification in exhaust bank 1.			
	3229	Aftertreatment 1 Outlet Gas Sensor at Temperature	J1939-71	61455	5.3	2	Indicates that the heater element of the aftertreatment outlet gas sensor, either NOx or O <sub>2</sub> , is within the manufacturer's specified range for accurate measurements in exhaust bank 1.			
	3230	Aftertreatment 1 Outlet NOx Reading Stable	J1939-71	61455	5.5	2	Indicates that the NOx reading of the aftertreatment outlet NOx sensor is stable as determined by the manufacturer's control software in exhaust bank 1.			
	3231	Aftertreatment 1 Outlet Wide-Range %O <sub>2</sub> Reading Stable	J1939-71	61455	5.7	2	Indicates that the %O <sub>2</sub> reading of the aftertreatment outlet gas sensor, either NOx or O <sub>2</sub> , is stable as determined by the manufacturer's control software in exhaust bank 1.			
	3232	Aftertreatment 1 Outlet Gas Sensor Heater Preliminary FMI	J1939-71	61455	6.1	5	Used to identify the applicable J1939-73 FMI detected in the heater of the outlet exhaust gas sensor, either NOx or O <sub>2</sub> , by the manufacturer's sensor control software in exhaust bank 1.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3233	Aftertreatment 1 Outlet Gas Sensor Heater Control	J1939-71	61455	6.6	2	Indicates the heater status in the warm-up process. Upon receiving a power-up command, the gas sensor ramps up according to a manufacturer defined profile.			
	3234	Aftertreatment 1 Outlet NOx Sensor Preliminary FMI	J1939-71	61455	7.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment outlet NOx sensor by the manufacturer's sensor control software in exhaust bank 1.			
	3235	Aftertreatment 1 Outlet Oxygen Sensor Preliminary FMI	J1939-71	61455	8.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment outlet oxygen sensor by the manufacturer's sensor control software in exhaust bank 1.			
	3236	Aftertreatment 1 Exhaust Gas Mass Flow	J1939-71	65247	6-7	16	Measured/calculated exhaust gas mass upstream of the aftertreatment system in exhaust bank 1 and 2.			
	3237	Aftertreatment 1 Intake Dew Point	J1939-71	65247	8.1	2	Indicates that the temperature on the intake side of the aftertreatment system has exceeded the dew point, as estimated by the ECM in exhaust bank 1.			
	3238	Aftertreatment 1 Exhaust Dew Point	J1939-71	65247	8.3	2	Indicates that the temperature on the exhaust side of the aftertreatment has exceeded the dew point, as estimated by the ECM in exhaust bank 1.			
	3239	Aftertreatment 2 Intake Dew Point	J1939-71	65247	8.5	2	Indicates that the temperature on the intake side of the aftertreatment system has exceeded the dew point, as estimated by the ECM in exhaust bank 2.			
	3240	Aftertreatment 2 Exhaust Dew Point	J1939-71	65247	8.7	2	Indicates that the temperature on the exhaust side of the aftertreatment has exceeded the dew point, as estimated by the ECM in exhaust bank 2.			
	3241	Aftertreatment 1 Exhaust Gas Temperature 1	J1939-71	64948	1-2	16	The reading from the exhaust gas temperature sensor located farthest upstream in the aftertreatment system in exhaust bank 1.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3242	Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature	J1939-71	64948	3-4	16	Temperature of engine combustion byproducts entering the diesel particulate filter in exhaust bank 1.			
	3243	Aftertreatment 1 Exhaust Gas Temperature 1 Preliminary FMI	J1939-71	64948	5.1	5	Used to identify the applicable J1939-73 FMI detected in the exhaust gas temperature 1 sensor by the manufacturer's sensor control software in exhaust bank 1.			
	3244	Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature Preliminary FMI	J1939-71	64948	6.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel particulate filter intake gas temperature sensor by the manufacturer's sensor control software in exhaust bank 1.			
	3245	Aftertreatment 1 Exhaust Gas Temperature 3	J1939-71	64947	1-2	16	The reading from the exhaust gas temperature sensor located farthest downstream in the aftertreatment system in exhaust bank 1.			
	3246	Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature	J1939-71	64947	3-4	16	Temperature of engine combustion byproducts leaving the diesel particulate filter exhaust in exhaust bank 1.			
	3247	Aftertreatment 1 Exhaust Gas Temperature 3 Preliminary FMI	J1939-71	64947	5.1	5	Used to identify the applicable J1939-73 FMI detected in the exhaust gas temperature 3 sensor by the manufacturer's sensor control software in exhaust bank 1.			
	3248	Aftertreatment 1 Diesel Particulate Filter Outlet Exhaust Gas Temperature Preliminary FMI	J1939-71	64947	6.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel particulate filter outlet gas temperature sensor by the manufacturer's sensor control software in exhaust bank 1.			
	3249	Aftertreatment 1 Exhaust Gas Temperature 2	J1939-71	64946	1-2	16	The reading from the exhaust gas temperature sensor located midstream of the other two temperature sensors in the aftertreatment system in exhaust bank 1.			
	3250	Aftertreatment 1 Diesel Particulate Filter Intermediate Gas Temperature	J1939-71	64946	3-4	16	Temperature of engine combustion byproducts at a mid-point in the diesel particulate filter in exhaust bank 1.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3251	Aftertreatment 1 Diesel Particulate Filter Differential Pressure	J1939-71	64946	5-6	16	Exhaust differential pressure measured between the intake and exhaust of a diesel particulate filter in exhaust bank 1.			
	3252	Aftertreatment 1 Exhaust Gas Temperature 2 Preliminary FMI	J1939-71	64946	7.1	5	Used to identify the applicable J1939-73 FMI detected in the exhaust gas temperature 2 sensor by the manufacturer's sensor control software in exhaust bank 1.			
	3253	Aftertreatment 1 Diesel Particulate Filter Delta Pressure Preliminary FMI	J1939-71	64946	7.6-8.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel particulate filter differential pressure sensor by the manufacturer's sensor control software in exhaust bank 1.			
	3254	Aftertreatment 1 Diesel Particulate Filter Intermediate Gas Temperature Preliminary FMI	J1939-71	64946	8.3	5	Used to identify the applicable J1939-73 FMI detected in the diesel particulate filter intermediate gas temperature sensor by the manufacturer's sensor control software in exhaust bank 1.			
	3255	Aftertreatment 2 Intake NOx	J1939-71	61456	1-2	16	The amount of combined NO and NO <sub>2</sub> in the exhaust entering the aftertreatment system measured by a NOx sensor at the aftertreatment intake, represented in NOx molecule parts per million non-NOx molecules in exhaust bank 2			
	3256	Aftertreatment 2 Intake O <sub>2</sub>	J1939-71	61456	3-4	16	The actual oxidation factor (%O <sub>2</sub> ) of the gas within the exhaust stream. This value is measured by a sensor at the aftertreatment intake in exhaust bank 2.			
(R)	3257	Aftertreatment 2 Intake Gas Sensor Power Status	J1939-71	61456	5.1	2	Indicates that the power supplied to the aftertreatment intake gas sensor, either NOx or O <sub>2</sub> , is within the manufacturer's specification in exhaust bank 2.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	3258	Aftertreatment 2 Intake Gas Sensor at Temperature	J1939-71	61456	5.3	2	Indicates that the heater element of the aftertreatment intake gas sensor, either NOx or O2, is within the manufacturer's specified range for accurate measurements in exhaust bank 2.			
	3259	Aftertreatment 2 Intake NOx Reading Stable	J1939-71	61456	5.5	2	Indicates that the NOx reading of the aftertreatment intake NOx sensor is stable as determined by the manufacturer's control software in exhaust bank 2.			
	3260	Aftertreatment 2 Intake Wide-Range % O2 Reading Stable	J1939-71	61456	5.7	2	Indicates that the %O2 reading of the aftertreatment intake gas sensor, either NOx or O2, is stable as determined by the manufacturer's control software in exhaust bank 2.			
	3261	Aftertreatment 2 Intake Gas Sensor Heater Preliminary FMI	J1939-71	61456	6.1	5	Used to identify the applicable J1939-73 FMI detected in the heater of the intake exhaust gas sensor, either NOx or O2, by the manufacturer's sensor control software in exhaust bank 2.			
	3262	Aftertreatment 2 Intake Gas Sensor Heater Control	J1939-71	61456	6.6	2	Indicates the heater status in the warm-up process. Upon receiving a power-up command, the gas sensor ramps up according to a manufacturer defined profile in exhaust bank 2.			
	3263	Aftertreatment 2 Intake NOx Sensor Preliminary FMI	J1939-71	61456	7.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment intake NOx sensor by the manufacturer's sensor control software in exhaust bank 2.			
	3264	Aftertreatment 2 Intake Oxygen Sensor Preliminary FMI	J1939-71	61456	8.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment intake oxygen sensor by the manufacturer's sensor control software in exhaust bank 2.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3265	Aftertreatment 2 Outlet NOx	J1939-71	61457	1-2	16	The amount of combined NO and NO <sub>2</sub> in the exhaust entering the aftertreatment system measured by a NOx sensor at the aftertreatment outlet, represented in NOx molecule parts per million non-NOx molecules in exhaust bank 2.			
	3266	Aftertreatment 2 Outlet O <sub>2</sub>	J1939-71	61457	3-4	16	The actual oxidation factor (%O <sub>2</sub> ) of the gas within the exhaust stream. This value is measured by a sensor at the aftertreatment outlet in exhaust bank 2.			
(R)	3267	Aftertreatment 2 Outlet Gas Sensor Power Status	J1939-71	61457	5.1	2	Indicates that the power supplied to the aftertreatment outlet gas sensor, either NOx or O <sub>2</sub> , is within the manufacturer's specification in exhaust bank 2.			
	3268	Aftertreatment 2 Outlet Gas Sensor at Temperature	J1939-71	61457	5.3	2	Indicates that the heater element of the aftertreatment outlet gas sensor, either NOx or O <sub>2</sub> , is within the manufacturer's specified range for accurate measurements in exhaust bank 2.			
	3269	Aftertreatment 2 Outlet NOx Reading Stable	J1939-71	61457	5.5	2	Indicates that the NOx reading of the aftertreatment outlet NOx sensor is stable as determined by the manufacturer's control software in exhaust bank 2.			
	3270	Aftertreatment 2 Outlet Wide-Range % O <sub>2</sub> Reading Stable	J1939-71	61457	5.7	2	Indicates that the %O <sub>2</sub> reading of the aftertreatment outlet gas sensor, either NOx or O <sub>2</sub> , is stable as determined by the manufacturer's control software in exhaust bank 2.			
	3271	Aftertreatment 2 Outlet Gas Sensor Heater Preliminary FMI	J1939-71	61457	6.1	5	Used to identify the applicable J1939-73 FMI detected in the heater of the outlet exhaust gas sensor, either NOx or O <sub>2</sub> , by the manufacturer's sensor control software in exhaust bank 2.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	3272	Aftertreatment 2 Outlet Gas Sensor Heater Control	J1939-71	61457	6.6	2	Indicates the heater status in the warm-up process. Upon receiving a power-up command, the gas sensor ramps up according to a manufacturer defined profile in exhaust bank 2.				
	3273	Aftertreatment 2 Outlet NOx Sensor Preliminary FMI	J1939-71	61457	7.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment outlet NOx sensor by the manufacturer's sensor control software in exhaust bank 2.				
	3274	Aftertreatment 2 Outlet Oxygen Sensor Preliminary FMI	J1939-71	61457	8.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment outlet oxygen sensor by the manufacturer's sensor control software in exhaust bank 2.				
	3275	Aftertreatment 2 Exhaust Gas Temperature 1	J1939-71	64945	1-2	16	The reading from the exhaust gas temperature sensor located farthest upstream in the aftertreatment system in exhaust bank 2. (For a single exhaust bank system, refer to parameters in PGNs ATI1, ATO1, EEC3, ATI2, ATO2 and ATM1.)				
	3276	Aftertreatment 2 Diesel Particulate Filter Intake Gas Temperature	J1939-71	64945	3-4	16	Temperature of engine combustion byproducts entering the diesel particulate filter in exhaust bank 2.				
	3277	Aftertreatment 2 Exhaust Gas Temperature 1 Preliminary FMI	J1939-71	64945	5.1	5	Used to identify the applicable J1939-73 FMI detected in the exhaust gas temperature 1 sensor by the manufacturer's sensor control software in exhaust bank 2				
	3278	Aftertreatment 2 Diesel Particulate Filter Intake Gas Temperature Preliminary FMI	J1939-71	64945	6.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel particulate filter intake gas temperature sensor by the manufacturer's sensor control software in exhaust bank 2.				

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	3279	Aftertreatment 2 Exhaust Gas Temperature 3	J1939-71	64944	1-2	16	The reading from the exhaust gas temperature sensor located farthest downstream in the aftertreatment system in exhaust bank 2. (For a single exhaust bank system, refer to parameters in PGNs ATI1, ATO1, EEC3, ATI2, ATO2 and ATM1.)				
	3280	Aftertreatment 2 Diesel Particulate Filter Outlet Gas Temperature	J1939-71	64944	3-4	16	Temperature of engine combustion byproducts leaving the diesel particulate filter exhaust in exhaust bank 2. (For a single exhaust bank system, refer to parameters in PGNs ATI1, ATO1, EEC3, ATI2, ATO2 and ATM1.)				
	3281	Aftertreatment 2 Exhaust Gas Temperature 3 Preliminary FMI	J1939-71	64944	5.1	5	Used to identify the applicable J1939-73 FMI detected in the exhaust gas temperature 3 sensor by the manufacturer's sensor control software in exhaust bank 2.				
	3282	Aftertreatment 2 Diesel Particulate Filter Exhaust Gas Temperature Preliminary FMI	J1939-71	64944	6.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel particulate filter outlet gas temperature sensor by the manufacturer's sensor control software in exhaust bank 2.				
	3283	Aftertreatment 2 Exhaust Gas Temperature 2	J1939-71	64943	1-2	16	The reading from the exhaust gas temperature sensor located midstream of the other two temperature sensors in the aftertreatment system in exhaust bank 2.				
	3284	Aftertreatment 2 Diesel Particulate Filter Intermediate Gas Temperature	J1939-71	64943	3-4	16	Temperature of engine combustion byproducts at a mid-point in the diesel particulate filter in exhaust bank 2.				
	3285	Aftertreatment 2 Diesel Particulate Filter Differential Pressure	J1939-71	64943	5-6	16	Exhaust differential pressure measured between the intake and exhaust of a diesel particulate filter in exhaust bank 2.				
	3286	Aftertreatment 2 Exhaust Gas Temperature 2 Preliminary FMI	J1939-71	64943	7.1	5	Used to identify the applicable J1939-73 FMI detected in the exhaust gas temperature 2 sensor by the manufacturer's sensor control software in exhaust bank 2				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3287	Aftertreatment 2 Diesel Particulate Filter Delta Pressure Preliminary FMI	J1939-71	64943	7.6-8.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel particulate filter differential pressure sensor by the manufacturer's sensor control software in exhaust bank 2.			
	3288	Aftertreatment 2 Diesel Particulate Filter Intermediate Gas Temperature Preliminary FMI	J1939-71	64943	8.3	5	Used to identify the applicable J1939-73 FMI detected in the diesel particulate filter intermediate gas temperature sensor by the manufacturer's sensor control software in exhaust bank 2.			
	3289	Transmission Requested Gear Feedback	J1939-71	65098	4	8	Feedback of the SPN 525 Transmission Requested Gear input as received from the shift selector, ABS or engine via PGN 256, Transmission Control 1 (TC1) or other transmission selector input.			
	3290	Address Acknowledged	J1939-21				Address of the device being acknowledged			
	3291	Address Negative Acknowledgement	J1939-21				Address of the device being negatively acknowledged			
	3292	Address Access Denied	J1939-21				Address of the device being told access is denied			
	3293	Address Busy	J1939-21				Address of the device being told the responder is busy			
	3294	Distance Since Diagnostic Trouble Codes Cleared	J1939-73	49408	3-4	16	Distance accumulated since DTCs were cleared (via an external test equipment or possibly, a battery disconnect).			
(R)	3295	Minutes Accumulated While MIL Activated	J1939-73	49408	5-6	16	Accumulated count (in minutes) while the MIL is activated (on).			
	3296	Time Since Diagnostic Trouble Codes Cleared	J1939-73	49408	7-8	16	Time accumulated since DTCs were cleared (via an external test equipment or possibly, a battery disconnect).			
	3297	SPN Supported	J1939-73	64950	1-2, 3.6	19	This parameter defines the SPN(s) that is/are supported for the freeze frame and/or data stream information.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3298	SPN Support Type	J1939-73			2	This parameter defines whether the applicable parameter (that is the SPN) is supported in the freeze frame, the data stream or both the freeze frame and data stream.			
	3299	SPN Data Length	J1939-73			8	The number of data bytes associated with the SPN in the Freeze Frame.			
	3300	Expanded Freeze Frame Length	J1939-73	64951	1	8	The Freeze Frame Length is the length plus the number of bytes to convey the data of all parameters (SPNs) in Freeze Frame.			
	3301	Time Since Engine Start	J1939-73	64952	1-2	16	RUNTM shall increment while the engine is running. It shall freeze if the engine stalls. RUNTM shall be reset to zero during every control module power-up and when entering the key-on, engine off position.			
(R)	3302	Number of Warm-Ups Since DTCs Cleared	J1939-73	64952	3	8	Number of warm-up cycles since all DTCs were cleared (via an external test equipment or possibly, a battery disconnect).			
	3303	Continuously Monitored Systems Enabled/Completed Status	J1939-73	64952	4	8	This parameter identifies the continuously monitored system enable/completed support and status.			
	3304	Non-Continuously Monitored Systems Enabled Status	J1939-73	64952	5-6	16	Enable status of non-continuous monitors this monitoring cycle.			
	3305	Non-Continuously Monitored Systems Complete Status	J1939-73	64952	7-8	16	Completion status of non-continuous monitors this monitoring cycle. Each bit identifies whether a particular test is complete for a given controller.			
	3306	Variable Valve Timing and/or Control (VVT)	J1939-73				A system used to influence the intake and outlet of gases to and from a cylinder.			
	3307	Fifth Wheel Error Status	J1939-71	64942	1.1	4	Fifth wheel error state.			
	3308	Fifth Wheel Vertical Force	J1939-71	61458	1-2	16	The amount of load being applied to the fifth wheel by the trailer.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3309	Fifth Wheel Drawbar Force	J1939-71	61458	3-4	16	Fifth wheel drawbar force, with the trailer held stationary a positive force is generated by the vehicle pulling forward.			
	3310	Fifth Wheel Roll Moment	J1939-71	61458	5-6	16	Fifth Wheel Roll Moment bipolar force.			
	3311	Fifth Wheel Slider Position	J1939-71	64942	2	8	Slider position measurement. Zero equals fully back position.			
	3312	Fifth Wheel Lock Ready to Couple Indicator	J1939-71	64942	1.5	2	Indicator - lock open and ready to couple			
	3313	Fifth Wheel Lock Couple Status Indicator	J1939-71	64942	1.7	2	Indicator - Safe couple or Unsafe/Unknown			
	3314	Fifth Wheel Release Control	J1939-71	64980	2.1	2	Forward Release Control, solenoid open or closed.			
	3315	Fifth Wheel Release Control Security Lockout	J1939-71	64980	2.3	2	Security Lockout enabled.			
	3316	Fifth Wheel Slider Lock Indicator	J1939-71	64942	3.1	2	Slider Lock Indicator showing locked.			
	3317	Fifth Wheel Roll Warning Indicator	J1939-71	61458	7.1	2	Binary indicator triggered by Roll greater than preset limit			
	3318	Pitch Angle	J1939-71	61459	1-2	16	The angle between the vehicle x-axis and the ground plane (i.e. rotation about the vehicle Y-axis).			
	3319	Roll Angle	J1939-71	61459	3-4	16	The angle between the vehicle y-axis and the ground plane (i.e. rotation about the X-axis).			
	3322	Pitch Rate	J1939-71	61459	5-6	16	Pitch rate is the rate-of-change of the pitch angle over time, where the pitch angle vector is in the direction of travel of the vehicle.			
	3323	Pitch Angle Figure of Merit	J1939-71	61459	7.1	2	Figure of merit for pitch angle measurement.			
	3324	Roll Angle Figure of Merit	J1939-71	61459	7.3	2	Figure of merit for roll angle measurement.			
	3325	Pitch Rate Figure of Merit	J1939-71	61459	7.5	2	Figure of merit for the pitch rate measurement.			
	3326	Pitch and Roll Compensated	J1939-71	61459	7.7	2	Compensated mode for the pitch and roll measurements. Compensation is the use of multiple sensors together to enhance the output of pitch and roll measurements.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	3327	Roll and Pitch Measurement Latency	J1939-71	61459	8	8	The estimated measurement latency of the measurement.				
	3328	Manufacturer Specific Information (PropA2_PDU1)	J1939-21	126720	1-8	14280					
	3329	Message Selection Control	J1939-74	64941	1	8	Used to identify all configurable messages.				
	3330	PGN of Configurable Message Desired	J1939-74	64941	2-4	24	To identify the configurable message whose configuration is being requested.				
	3331	Blade Rotation Angle	J1939-71	61460	3-4	16	The blade rotation angle measurement around the yaw (z-axis).				
	3332	Blade Rotation Angle Figure of Merit	J1939-71	61460	6.3	2	Figure of merit for blade rotation measurement.				
	3333	Feederhouse Height	J1939-74			16	The height of the Feederhouse as measured from the ground to the bottom of the Feederhouse				
	3334	Left Blade Control Mode Operator Control	J1939-71	61453	2.5	4	This parameter indicates the left blade control mode operator control state the user has set for the land leveling system				
	3335	Right Blade Control Mode Operator Control	J1939-71	61453	3.1	4	This parameter indicates the right blade control mode operator control state the user has set for the land leveling system				
	3336	Left Desired Blade Offset Operator Control	J1939-71	61453	3.5	4	This parameter indicates the left blade offset operator control state the user has set for the land leveling system.				
	3337	Right Desired Blade Offset Operator Control	J1939-71	61453	4.1	4	This parameter indicates the right blade offset operator control state the user has set for the land leveling system.				
	3338	Side-shift Blade Control Mode Operator Control	J1939-71	61453	4.5	4	This parameter indicates the side-shift blade control mode operator control state the user has set for the land leveling system.				
	3339	Side-shift Desired Blade Offset Operator Control	J1939-71	61453	5.1	4	This parameter indicates the side-shift blade control mode operator control state the user has set for the land leveling system.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3340	Engine Charge Air Cooler 1 Intake Pressure	J1939-71	64938	1	8	Pressure of air at intake to 1st or only charge air cooler, from multiple first stage turbochargers being cooled and feeding multiple second stage turbochargers.			
	3341	Engine Charge Air Cooler 2 Intake Pressure	J1939-71	64938	2	8	Pressure of air at intake to 2nd charge air cooler, from multiple first stage turbochargers being cooled and feeding multiple second stage turbochargers.			
	3342	Engine Coolant Pump Differential Pressure	J1939-71	64938	3	8	The differential pressure measured across the input and output of the engine coolant pump.			
	3343	Engine Centrifugal Oil Filter speed	J1939-71	64938	4-5	16	The speed of a rotating (centrifugal) engine oil filter.			
	3344	Support Variable Rate TSC1 Message	J1939-71	65251	35	8	This parameter indicates which TSC1 transmission rates are supported by the engine ECU in addition to the required 10ms transmission rate for temporary powertrain control purposes.			
	3345	Support TSC1 Control Purpose Group 1	J1939-71	65251	36	8	This parameter indicates which TSC1 control purposes are supported in Group 1 of 4.			
	3346	Support TSC1 Control Purpose Group 2	J1939-71	65251	37	8	This parameter indicates which TSC1 control purposes are supported in Group 2 of 4.			
	3347	Support TSC1 Control Purpose Group 3	J1939-71	65251	38	8	This parameter indicates which TSC1 control purposes are supported in Group 3 of 4.			
	3348	Support TSC1 Control Purpose Group 4	J1939-71	65251	39	8	This parameter indicates which TSC1 control purposes are supported in Group 4 of 4.			
	3349	TSC1 Transmission Rate	J1939-71	0	5.1	3	Indicates the transmission rate at which the sending device will transmit the TSC1 message			
	3350	TSC1 Control Purpose	J1939-71	0	5.4	5	State signal which indicates which control mode the sending device is using to generate the TSC1 command.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3351	Engine Exhaust Pressure Regulator Vent Valve Control	J1939				Exhaust Pressure Regulator Vent Valve Control is the output that is used to control the valve position .			
	3352	Engine Exhaust Pressure Regulator Vent Valve Position	J1939				Provides feedback to the Regulator Vent Valve Exhaust Pressure Position.			
	3353	Alternator 1 Status	J1939-71	65237	3.1	2	Alternator 1 operational status.			
	3354	Alternator 2 Status	J1939-71	65237	3.3	2	Alternator 2 operational status.			
	3355	Alternator 3 Status	J1939-71	65237	3.5	2	Alternator 3 operational status.			
	3356	Alternator 4 Status	J1939-71	65237	3.7	2	Alternator 4 operational status.			
	3357	Actual Maximum Available Engine - Percent Torque	J1939-71	61443	7	8	This is the maximum amount of torque that the engine can immediately deliver as a percentage of the reference engine torque (SPN 544).			
	3358	Engine Exhaust Gas Recirculation 1 Intake Pressure	J1939-71	64961	3	8	EGR intake gage pressure is measured after the EGR cooler and before the EGR valve.			
	3359	Transmission Oil Filter Restriction Switch	J1939-71	64917	1.1	2	This switch indicates whether the transmission oil filter is clogged.			
	3360	Aftertreatment 1 Diesel Exhaust Fluid Controller	J1939				The Diesel Exhaust Fluid Controller has the ability to read attributes of the SCR system, including but not limited to, diesel exhaust fluid level, diesel exhaust fluid temperature, diesel exhaust fluid quality, and diesel exhaust fluid dosing rate.			
	3361	Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit	J1939				The DEF dosing unit is a device that mixes the DEF and air, and delivers a metered quantity of this mixture to the exhaust stream. This can also refer to a device that delivers DEF to an AFT DEF dosing valve without air assistance.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3362	Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Input Lines	J1939				The diesel exhaust fluid dosing unit is a device that mixes the diesel exhaust fluid and air, such that it contains an input line from the air tank and an input line from the diesel exhaust fluid tank.			
	3363	Aftertreatment 1 Diesel Exhaust Fluid Tank Heater	J1939-71	65110	7	8	Percentage of heating applied to the aftertreatment 1 diesel exhaust fluid tank heater.			
	3364	Aftertreatment 1 Diesel Exhaust Fluid Tank Quality	J1939				Measures the quality of the diesel exhaust fluid in the diesel exhaust fluid tank			
	3365	Relative Blade Height	J1939-71	61460	1-2	16	The measured vertical distance from a fixed location on the machine blade to a ground-based reference			
	3366	Relative Blade Height and Blade Rotation Angle Measurement Latency	J1939-71	61460	5	8	The estimated measurement latency of the measurement.			
	3367	Relative Blade Height Figure of Merit	J1939-71	61460	6.1	2	Figure of merit for blade height measurement.			
	3368	Network Transceiver Status 1	J1939-71	64937	1	8	Indicates the status of the transceiver for the wireless communications network type			
	3369	Network Service Status 1	J1939-71	64937	2	8	Indicates the status of the Service for the wireless communications network type			
	3370	Network Antenna Status 1	J1939-71	64937	3	8	Indicates the status of the antenna for the wireless communications network type			
	3371	Network Signal Strength 1	J1939-71	64937	4	8	Indicates the signal strength for the wireless communications network type.			
	3372	Wireless Communication Network Type 1	J1939-71	64937	5	8	Type of Wireless Communication Network			
	3374	Generator Excitation Ripple Current	J1939				Reports excessive generator excitation ripple current			
	3375	Voltage Regulator Load Compensation Mode	J1939-75	64935	1.1	3	State signal indicating the voltage regulator load compensation mode.			
	3376	Voltage Regulator VAr/Power Factor operating mode	J1939-75	64935	1.4	3	State signal indicating the operating mode for the Voltage regulator VAr/Power Factor			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3377	Voltage Regulator Underfrequency Compensation enabled	J1939-75	64935	1.7	2	State signal indicating the operating mode for underfrequency compensation.			
	3378	Voltage Regulator Soft Start State	J1939-75	64935	2.1	2	State signal indicating the mode of the Voltage regulator soft start function			
	3379	Voltage Regulator Enabled	J1939-75	64935	2.3	2	State signal indicating the Voltage Regulator is enabled			
	3380	Generator Excitation Field Voltage	J1939-75	64934	1-2	16	Measured signal that represents the generator excitation field voltage.			
	3381	Generator Excitation Field Current	J1939-75	64934	3-4	16	Measured signal that represents the generator excitation field current.			
	3382	Generator Output Voltage Bias Percentage	J1939-75	64934	5-6	16	Measured signal that represents the voltage bias percentage of the generator output voltage being requested by external to the voltage regulator			
	3383	Requested Generator Total AC Reactive Power	J1939-75	61461	1-4	32	The total reactive power requested to be delivered by the generator			
	3384	Requested Generator Overall Power Factor	J1939-75	61461	5-6	16	The requested average power factor of the generator.			
	3385	Requested Generator Overall Power Factor Lagging	J1939-75	61461	7.1	2	The requested lead/lag status for the generator average AC power factor			
	3386	Requested Generator Average Line-Line AC RMS Voltage	J1939-75	61468	1-4	32	The requested average AC RMS voltage to be delivered by the generator			
	3387	Engine Cylinder 1 Combustion Status	J1939-71	61462	1.1	2	This parameter is used to indicate state of combustion in engine cylinder #1			
	3388	Engine Cylinder 2 Combustion Status	J1939-71	61462	1.3	2	This parameter is used to indicate state of combustion in engine cylinder #2			
	3389	Engine Cylinder 3 Combustion Status	J1939-71	61462	1.5	2	This parameter is used to indicate state of combustion in engine cylinder #3			
	3390	Engine Cylinder 4 Combustion Status	J1939-71	61462	1.7	2	This parameter is used to indicate state of combustion in engine cylinder #4			
	3391	Engine Cylinder 5 Combustion Status	J1939-71	61462	2.1	2	This parameter is used to indicate state of combustion in engine cylinder #5			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3392	Engine Cylinder 6 Combustion Status	J1939-71	61462	2.3	2	This parameter is used to indicate state of combustion in engine cylinder #6			
	3393	Engine Cylinder 7 Combustion Status	J1939-71	61462	2.5	2	This parameter is used to indicate state of combustion in engine cylinder #7			
	3394	Engine Cylinder 8 Combustion Status	J1939-71	61462	2.7	2	This parameter is used to indicate state of combustion in engine cylinder #8			
	3395	Engine Cylinder 9 Combustion Status	J1939-71	61462	3.1	2	This parameter is used to indicate state of combustion in engine cylinder #9			
	3396	Engine Cylinder 10 Combustion Status	J1939-71	61462	3.3	2	This parameter is used to indicate state of combustion in engine cylinder #10			
	3397	Engine Cylinder 11 Combustion Status	J1939-71	61462	3.5	2	This parameter is used to indicate state of combustion in engine cylinder #11			
	3398	Engine Cylinder 12 Combustion Status	J1939-71	61462	3.7	2	This parameter is used to indicate state of combustion in engine cylinder #12			
	3399	Engine Cylinder 13 Combustion Status	J1939-71	61462	4.1	2	This parameter is used to indicate state of combustion in engine cylinder #13			
	3400	Engine Cylinder 14 Combustion Status	J1939-71	61462	4.3	2	This parameter is used to indicate state of combustion in engine cylinder #14			
	3401	Engine Cylinder 15 Combustion Status	J1939-71	61462	4.5	2	This parameter is used to indicate state of combustion in engine cylinder #15			
	3402	Engine Cylinder 16 Combustion Status	J1939-71	61462	4.7	2	This parameter is used to indicate state of combustion in engine cylinder #16			
	3403	Engine Cylinder 17 Combustion Status	J1939-71	61462	5.1	2	This parameter is used to indicate state of combustion in engine cylinder #17			
	3404	Engine Cylinder 18 Combustion Status	J1939-71	61462	5.3	2	This parameter is used to indicate state of combustion in engine cylinder #18			
	3405	Engine Cylinder 19 Combustion Status	J1939-71	61462	5.5	2	This parameter is used to indicate state of combustion in engine cylinder #19			
	3406	Engine Cylinder 20 Combustion Status	J1939-71	61462	5.7	2	This parameter is used to indicate state of combustion in engine cylinder #20			
	3407	Engine Cylinder 21 Combustion Status	J1939-71	61462	6.1	2	This parameter is used to indicate state of combustion in engine cylinder #21			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3408	Engine Cylinder 22 Combustion Status	J1939-71	61462	6.3	2	This parameter is used to indicate state of combustion in engine cylinder #22			
	3409	Engine Cylinder 23 Combustion Status	J1939-71	61462	6.5	2	This parameter is used to indicate state of combustion in engine cylinder #23			
	3410	Engine Cylinder 24 Combustion Status	J1939-71	61462	6.7	2	This parameter is used to indicate state of combustion in engine cylinder #24			
	3411	Status 2 of doors	J1939-71	65102	1.7	2	Composite indication of all bus door statuses. Enabled means the bus doors are able to be automatically opened or closed.			
	3412	Lock Status of Door 1	J1939-71	64933	1.1	2	Lock status of bus door 1			
	3413	Open Status of Door 1	J1939-71	64933	1.3	2	Open status of bus door 1			
	3414	Enable Status of Door 1	J1939-71	64933	1.5	2	Enable status of bus door 1			
	3415	Lock Status of Door 2	J1939-71	64933	1.7	2	Lock status of bus door 2			
	3416	Open Status of Door 2	J1939-71	64933	2.1	2	Open status of bus door 2			
	3417	Enable Status of Door 2	J1939-71	64933	2.3	2	Enable status of bus door 2			
	3418	Lock Status of Door 3	J1939-71	64933	2.5	2	Lock status of bus door 3			
	3419	Open Status of Door 3	J1939-71	64933	2.7	2	Open status of bus door 3			
	3420	Enable Status of Door 3	J1939-71	64933	3.1	2	Enable status of bus door 3			
	3421	Lock Status of Door 4	J1939-71	64933	3.3	2	Lock status of bus door 4			
	3422	Open Status of Door 4	J1939-71	64933	3.5	2	Open status of bus door 4			
	3423	Enable Status of Door 4	J1939-71	64933	3.7	2	Enable status of bus door 4			
	3424	Lock Status of Door 5	J1939-71	64933	4.1	2	Lock status of bus door 5			
	3425	Open Status of Door 5	J1939-71	64933	4.3	2	Open status of bus door 5			
	3426	Enable Status of Door 5	J1939-71	64933	4.5	2	Enable status of bus door 5			
	3427	Lock Status of Door 6	J1939-71	64933	4.7	2	Lock status of bus door 6			
	3428	Open Status of Door 6	J1939-71	64933	5.1	2	Open status of bus door 6			
	3429	Enable Status of Door 6	J1939-71	64933	5.3	2	Enable status of bus door 6			
	3430	Lock Status of Door 7	J1939-71	64933	5.5	2	Lock status of bus door 7			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3431	Open Status of Door 7	J1939-71	64933	5.7	2	Open status of bus door 7			
	3432	Enable Status of Door 7	J1939-71	64933	6.1	2	Enable status of bus door 7			
	3433	Lock Status of Door 8	J1939-71	64933	6.3	2	Lock status of bus door 8			
	3434	Open Status of Door 8	J1939-71	64933	6.5	2	Open status of bus door 8			
	3435	Enable Status of Door 8	J1939-71	64933	6.7	2	Enable status of bus door 8			
	3436	Lock Status of Door 9	J1939-71	64933	7.1	2	Lock status of bus door 9			
	3437	Open Status of Door 9	J1939-71	64933	7.3	2	Open status of bus door 9			
	3438	Enable Status of Door 9	J1939-71	64933	7.5	2	Enable status of bus door 9			
	3439	Lock Status of Door 10	J1939-71	64933	7.7	2	Lock status of bus door 10			
	3440	Open Status of Door 10	J1939-71	64933	8.1	2	Open status of bus door 10			
	3441	Enable Status of Door 10	J1939-71	64933	8.3	2	Enable status of bus door 10			
	3442	Network Transceiver Status 2	J1939-71	64936	1	8	Indicates the status of the transceiver for the wireless communications network type			
	3443	Network Service Status 2	J1939-71	64936	2	8	Indicates the status of the Service for the wireless communications network type			
	3444	Network Antenna Status 2	J1939-71	64936	3	8	Indicates the status of the antenna for the wireless communications network type			
	3445	Network Signal Strength 2	J1939-71	64936	4	8	Indicates the signal strength for the wireless communications network type.			
	3446	Wireless Communication Network Type 2	J1939-71	64936	5	8	Type of Wireless Communication Network			
	3447	Remote PTO Governor Preprogrammed Speed Control Switch #2	J1939-71	65264	8.3	2	Switch signal which indicates that the remote PTO governor toggle switch #2 is in the enabled (ON) position.			
	3448	Auxiliary Input Ignore Switch	J1939-71	65264	8.5	2	Switch signal which overrides other switch input's ability to disable an engine's operating condition.			
	3451	Engine Multiple Cylinder Spark Voltage	J1939				The spark voltage of a spark event measured on multiple cylinders.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	3452	Enable Switch – Transmission input shaft PTO 1	J1939-71	64932	1.7	2	Status of the operator's switch or other input which indicates the desire for engaging the first PTO drive mounted on the transmission case.			
(R)	3453	Enable Switch – Transmission input shaft PTO 2	J1939-71	64932	1.5	2	Status of the operator's switch or other input which indicates the desire for engaging the second PTO drive mounted on the transmission case.			
(R)	3454	Enable Switch – Transmission output shaft PTO	J1939-71	64932	1.3	2	Status of the operator's switch or other input which indicates the desire for engaging the PTO drive mounted on the transmission output shaft.			
(R)	3455	Enable Switch – Transfer case output shaft PTO	J1939-71	64932	1.1	2	Status of the operator's switch or other input which indicates the desire for engaging the PTO drive mounted on the output shaft of the transfer case.			
	3456	Engagement Consent – Transmission input shaft PTO 1	J1939-71	64932	3.7	2	Status of the transmission controller's consent to engage the first or sole PTO drive mounted on the transmission case.			
	3457	Engagement Consent – Transmission input shaft PTO 2	J1939-71	64932	3.5	2	Status of the transmission controller's consent to engage the second PTO drive mounted on the transmission case.			
	3458	Engagement Consent – Transmission output shaft PTO	J1939-71	64932	3.3	2	Status of the transmission controller's consent to engage the PTO drive connected to the transmission output shaft.			
	3459	Engagement Consent – Transfer case output shaft PTO	J1939-71	64932	3.1	2	Status of the transmission controller's consent to engage the PTO drive connected to the transfer case output shaft.			
	3460	Engagement Status – Transmission input shaft PTO 1	J1939-71	64932	5.7	2	Reports if this specific PTO drive is engaged.			
	3461	Engagement Status – Transmission input shaft PTO 2	J1939-71	64932	5.5	2	Reports if this specific PTO drive is engaged.			
	3462	Engagement Status – Transmission output shaft PTO	J1939-71	64932	5.3	2	Reports if this specific PTO drive is engaged.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3463	Engagement Status – Transfer case output shaft PTO	J1939-71	64932	5.1	2	Reports if this specific PTO drive is engaged.			
	3464	Engine Throttle Actuator 1 Control Command	J1939-71	61466	1-2	16	The control command to throttle actuator 1			
	3465	Engine Throttle Actuator 2 Control Command	J1939-71	61466	3-4	16	The control command to throttle actuator 2			
	3466	Engine Fuel Valve 2 Intake Absolute Pressure	J1939-71	64930	1-2	16	Absolute pressure of gas on intake side of the second fuel system control valve.			
	3467	Engine Gas 2 Mass Flow Rate	J1939-71	64930	3-4	16	Gas mass flow rate delivered to an engine through its second fuel control system			
	3468	Engine Fuel Temperature 2	J1939-71	64930	5	8	Temperature 2 of fuel (or gas).			
	3469	Engine Fuel Valve 2 Outlet Absolute Pressure	J1939-71	64930	7-8	16	Absolute pressure of gas on outlet side of the second fuel system control valve.			
	3470	Engine Turbocharger Compressor Bypass Actuator 1 Command	J1939-71	64931	1-2	16	The command to a compressor bypass actuator.			
	3471	Aftertreatment 1 Fuel Pressure Control Actuator	J1939				Diagnostic SPN for the actuator controlling aftertreatment 1 fuel pressure			
	3472	Aftertreatment 1 Air Pressure Control Actuator	J1939				Diagnostic SPN for the actuator controlling aftertreatment 1 air pressure			
	3473	Aftertreatment 1 Failed to Ignite	J1939				Indicates that aftertreatment 1 has failed to ignite enough times to warrant triggering a diagnostic event.			
	3474	Aftertreatment 1 Loss of Combustion	J1939				Indicates that aftertreatment 1 has lost combustion enough times to warrant triggering a diagnostic.			
	3475	Aftertreatment 2 Fuel Pressure Control Actuator	J1939				Diagnostic SPN for the actuator controlling aftertreatment 2 fuel pressure			
	3476	Aftertreatment 2 Air Pressure Control Actuator	J1939				Diagnostic SPN for the actuator controlling aftertreatment 2 air pressure			
	3477	Aftertreatment 2 Failed to Ignite	J1939				Indicates that aftertreatment 2 has failed to ignite enough times to warrant triggering a diagnostic event.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	3478	Aftertreatment 2 Loss of Combustion	J1939				Indicates that aftertreatment 2 has lost combustion enough times to warrant triggering a diagnostic.				
	3479	Aftertreatment 1 Fuel Pressure 1 Control	J1939-71	64929	5-6	16	Position that the controller is commanding the aftertreatment 1 fuel pressure control to maintain.				
	3480	Aftertreatment 1 Fuel Pressure 1	J1939-71	64929	1-2	16	First fuel pressure measurement for the aftertreatment 1 system				
	3481	Aftertreatment 1 Fuel Rate	J1939-71	64929	3-4	16	Rate of fuel being delivered to aftertreatment 1 for regeneration		128	389	
	3482	Aftertreatment 1 Fuel Enable Actuator	J1939-71	64929	7.7	2	Indicates whether aftertreatment 1 fuel enable actuator is on or off				
	3483	Aftertreatment 1 Regeneration Status	J1939-71	64929	7.5	2	Indicates whether regeneration is active or inactive in aftertreatment 1				
	3484	Aftertreatment 1 Ignition	J1939-71	64929	7.3	2	Indicates whether aftertreatment 1 ignition circuit is energized by the ECM.				
	3485	Aftertreatment 1 Supply Air Pressure	J1939-71	64927	1-2	16	Pressure of the supply air for aftertreatment 1				
	3486	Aftertreatment 1 Purge Air Pressure	J1939-71	64927	3-4	16	Pressure of the purge air supply for aftertreatment 1		128	386	
	3487	Aftertreatment 1 Air Pressure Control	J1939-71	64927	5-6	16	Position that the controller is commanding the aftertreatment 1 air pressure control to maintain.				
	3488	Aftertreatment 1 Air Pressure Actuator Position	J1939-71	64927	7.1	8	Position of the aftertreatment 1 air pressure actuator as measured by a position feedback sensor.				
	3489	Aftertreatment 1 Air Enable Actuator	J1939-71	64927	8.7	2	Indicates whether aftertreatment 1 air enable actuator is on or off				
	3490	Aftertreatment 1 Purge Air Actuator	J1939-71	64927	8.5	2	Indicates whether aftertreatment 1 purge air actuator is on or off				
	3491	Aftertreatment 1 Atomization Air Actuator	J1939-71	64927	8.3	2	Indicates whether aftertreatment 1 atomization air actuator is on or off				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3492	Aftertreatment 1 Air System Relay	J1939-71	64927	8.1	2	Indicates whether aftertreatment 1 air system relay is on or off			
	3493	Aftertreatment 2 Fuel Pressure 1 Control	J1939-71	64928	5-6	16	Position that the controller is commanding the aftertreatment 2 fuel pressure control to maintain.			
	3494	Aftertreatment 2 Fuel Pressure 1	J1939-71	64928	1-2	16	Pressure of the fuel for Aftertreatment 2.			
	3495	Aftertreatment 2 Fuel Rate	J1939-71	64928	3-4	16	Rate of fuel being delivered to aftertreatment 2 for regeneration			
	3496	Aftertreatment 2 Fuel Enable Actuator	J1939-71	64928	7.7	2	Indicates whether aftertreatment 2 fuel enable actuator is on or off			
	3497	Aftertreatment 2 Regeneration Status	J1939-71	64928	7.5	2	Indicates whether regeneration is active or inactive in aftertreatment 2			
	3498	Aftertreatment 2 Ignition	J1939-71	64928	7.3	2	Indicates whether aftertreatment 2 ignition circuit is energized by the ECM.			
	3499	Aftertreatment 2 Supply Air Pressure	J1939-71	64926	1-2	16	Pressure of the supply air for aftertreatment 2			
	3500	Aftertreatment 2 Purge Air Pressure	J1939-71	64926	3-4	16	Pressure of the purge air supply for aftertreatment 2			
	3501	Aftertreatment 2 Air Pressure Control	J1939-71	64926	5-6	16	Position that the controller is commanding the aftertreatment 2 air pressure control to maintain.			
	3502	Aftertreatment 2 Air Pressure Actuator Position	J1939-71	64926	7.1	8	Position of the aftertreatment 2 air pressure actuator as measured by a position feedback sensor.			
	3503	Aftertreatment 2 Air Enable Actuator	J1939-71	64926	8.7	2	Indicates whether aftertreatment 2 air enable actuator is on or off			
	3504	Aftertreatment 2 Purge Air Actuator	J1939-71	64926	8.5	2	Indicates whether aftertreatment 2 purge air actuator is on or off			
	3505	Aftertreatment 2 Atomization Air Actuator	J1939-71	64926	8.3	2	Indicates whether aftertreatment 2 atomization air actuator is on or off			
	3506	Aftertreatment 2 Air System Relay	J1939-71	64926	8.1	2	Indicates whether aftertreatment 2 air system relay is on or off			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3507	TECU ECU_PWR relay	J1939				The high current ECU PWR relay for the ECU PWR distribution on the Implement bus as controlled by the Tractor ECU (TECU).			
	3508	TECU PWR Relay	J1939				The high current PWR relay for the PWR distribution on the Implement bus as controlled by the Tractor ECU (TECU).			
	3509	Sensor supply voltage 1	J1939-71	64925	1-2	16	Sensor ECU supply voltage 1			
	3510	Sensor supply voltage 2	J1939-71	64925	3-4	16	Sensor ECU supply voltage 2			
	3511	Sensor supply voltage 3	J1939-71	64925	5-6	16	Sensor ECU supply voltage 3			
	3512	Sensor supply voltage 4	J1939-71	64925	7-8	16	Sensor ECU supply voltage 4			
	3513	Sensor supply voltage 5	J1939-71	64924	1-2	16	Sensor ECU supply voltage 5			
	3514	Sensor supply voltage 6	J1939-71	64924	3-4	16	Sensor ECU supply voltage 6			
	3515	Aftertreatment 1 Diesel Exhaust Fluid Temperature 2	J1939-71	64923	1	8	Temperature of the diesel exhaust fluid at the device measuring diesel exhaust fluid quality			
	3516	Aftertreatment 1 Diesel Exhaust Fluid Concentration	J1939-71	64923	2	8	A measure of the concentration of urea in water.			
	3517	Aftertreatment 1 Diesel Exhaust Fluid Tank Level 2	J1939-71	65110	3-4	16	The measure of the diesel exhaust fluid level in the diesel exhaust fluid tank.			
	3518	Aftertreatment 1 Diesel Exhaust Fluid Conductivity	J1939-71	64923	3	8	A measure of the conductivity of the diesel exhaust fluid at the sensor.			
(R)	3519	Aftertreatment 1 Diesel Exhaust Fluid Temperature 2 Preliminary FMI	J1939-71	64923	4.1	5	Used to identify the applicable J1939-73 FMI that applies to the most significant failure of the diesel exhaust fluid temperature sensor.			
(R)	3520	Aftertreatment 1 Diesel Exhaust Fluid Properties Preliminary FMI	J1939-71	64923	5.1	5	Used to identify the applicable J1939-73 FMI that applies to the most significant failure of the diesel exhaust fluid properties sensor.			
	3521	Aftertreatment 1 Diesel Exhaust Fluid Property	J1939-71	64923	6.1	4	This parameter indicates the property of the fluid compound in the tank.			
	3522	Aftertreatment 1 Total Fuel Used	J1939-71	64920	01-04	32	Total amount of fuel used by aftertreatment device 1 over the lifetime of the device.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3523	Aftertreatment 1 Total Regeneration Time	J1939-71	64920	05-08	32	Total amount of time that aftertreatment device 1 has been regenerating over the lifetime of the device.			
	3524	Aftertreatment 1 Total Disabled Time	J1939-71	64920	09-12	32	Total amount of time that aftertreatment 1 regeneration has been manually disabled.			
(R)	3525	Aftertreatment 1 Total Number of Active Regenerations	J1939-71	64920	13-16	32	Total number of active regenerations by aftertreatment device 1 over the lifetime of the device.			
	3526	Aftertreatment 2 Total Fuel Used	J1939-71	64921	01-04	32	Total amount of fuel used by aftertreatment device 2 over the lifetime of the device.			
	3527	Aftertreatment 2 Total Regeneration Time	J1939-71	64921	05-08	32	Total amount of time that aftertreatment device 2 has been regenerating over the lifetime of the device.			
	3528	Aftertreatment 2 Total Disabled Time	J1939-71	64921	09-12	32	Total amount of time that aftertreatment 2 regeneration has been manually disabled.			
(R)	3529	Aftertreatment 2 Total Number of Active Regenerations	J1939-71	64921	13-16	32	Total number of active regenerations by aftertreatment device 2 over the lifetime of the device.			
	3530	Aftertreatment 1 Regeneration Manually Disabled	J1939				Indicates that aftertreatment device 1 has been manually disabled by a service technician.			
	3531	Aftertreatment 2 Regeneration Manually Disabled	J1939				Indicates that aftertreatment device 2 has been manually disabled by a service technician.			
(R)	3532	Aftertreatment 1 Diesel Exhaust Fluid Tank Level Preliminary FMI	J1939-71	65110	5.1	5	Used to identify the applicable J1939-73 FMI that applies to the most significant failure of the diesel exhaust fluid tank level sensor.			
	3533	Transmission Oil Level Switch	J1939-71	64917	1.3	2	This switch indicates whether transmission oil level is full or empty.			
	3534	Brake Torque Output Axle 1 Left	J1939				Brake torque output on wheel brake axle 1 left			
	3535	Brake Torque Output Axle 1 Right	J1939				Brake torque output on wheel brake axle 1 right			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3536	Brake Torque Output Axle 2 Left	J1939				Brake torque output on wheel brake axle 2 left			
	3537	Brake Torque Output Axle 2 Right	J1939				Brake torque output on wheel brake axle 2 right			
	3538	Brake Torque Output Axle 3 Left	J1939				Brake torque output on wheel brake axle 3 left			
	3539	Brake Torque Output Axle 3 Right	J1939				Brake torque output on wheel brake axle 3 right			
	3540	Reference Ground Connection	J1939				The reference ground is an additional ground connection in order to supervise the main ground connection			
	3541	Brake Light Relay	J1939				Relay to control the brake lights.			
	3542	Requested Engine Control Mode	J1939-75	64915	1.1	4	This parameter is used to request a change to the engine control mode. This is a status parameter.			
	3543	Engine Operating State	J1939-71	64914	1.1	4	This parameter is used to indicate the current state, or mode, of operation by the engine. Such as, engine stopped, pre-start, starting, etc.			
	3544	Time Remaining in Engine Operating State	J1939-71	64914	2-3	16	This parameter is used to indicate the time remaining in the current engine operating state, based on the state defined in the SPN "Engine Operating State". For the states in which time remaining is not applicable, use 65535 (\$FFFF).			
	3545	Generator Circuit Breaker Status	J1939-75	64913	1.1	3	This parameter indicates the measured state of the generator circuit breaker.			
	3546	Utility Circuit Breaker Status	J1939-75	64913	1.4	3	This parameter indicates the measured state of the utility circuit breaker.			
	3547	Automatic Transfer Switch Status	J1939-75	64913	2.1	3	This parameter indicates the measured state of the automatic transfer switch.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	3548	Engine Waste Oil Reservoir Level	J1939-71	65130	4	8	Level of crankcase blowby emulsion collected by a container. Normalized to percent, 0% represents completely empty and 100% represents completely full.		128	310	
	3549	Engine Oil-Filter Outlet Pressure	J1939-71	65130	5	8	Oil pressure (gauge) measured just downstream of oil filter. Used in conjunction with SPN1208 (pre-filter oil pressure) to determine oil filter health.				
	3550	Engine Oil Priming Pump Switch	J1939-71	65130	6.1	2	Switch input for activating the engine oil priming pump.				
	3551	Engine Oil Priming State	J1939-71	65130	6.3	2	Determination of whether or not the engine is (or has recently been) sufficiently lubricated for starting purposes.				
	3552	Engine Oil Pre-Heated State	J1939-71	65130	6.5	2	Indicates whether the engine oil pre-heated sufficiently for starting purposes.				
	3553	Engine Coolant Pre-heated State	J1939-71	65130	6.7	2	Indicates whether the engine coolant is pre-heated sufficiently for starting purposes.				
	3554	Engine Ventilation Status	J1939-71	65130	7.1	3	Engine ventilation control states.				
	3555	Ambient Air Density	J1939				The density of the ambient air				
	3556	Aftertreatment 1 Hydrocarbon Doser	J1939				The doser used to inject fuel into the aftertreatment system				
	3557	Parking Brake Red Warning Signal	J1939-71	65274	4.3	2	This parameter commands the Parking Brake red optical warning signal.				
	3558	AETC Data Collection Standard	J1939-71	64912	1.1	4	Indicates the standardized method by which torque data was obtained for the Advertised Engine Torque Curve (AETC).				
	3559	Number of AETC data points	J1939-71	64912	1.5	4	Indicates the number of speed / torque data points contained in the Advertised Engine Torque Curve broadcast (AETC).				
	3560	AETC Speed Value	J1939-71	64912	a	16	Engine speed value of the data points in PGN 64912 – Advertised Engine Torque Curve (AETC).				

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3561	AETC Torque value	J1939-71	64912	b	16	Engine torque value of the data points in PGN 64912 – Advertised Engine Torque Curve (AETC).			
	3562	Engine Intake Manifold #2 Pressure	J1939-71	64976	4	8	The gage pressure measurement of the air intake manifold for bank #2 or the second air intake manifold.			
	3563	Engine Intake Manifold #1 Absolute Pressure	J1939-71	64976	5	8	The absolute pressure measurement of the air intake manifold.			
	3564	Lane Departure Warning Enable Command	J1939-71	43264	1.1	2	Command to enable/disable Lane Departure Indication			
	3565	Lane Departure Left	J1939-71	61447	1.1	2	Indicates that the middle of vehicle departs the lane on the left side. The parameter indicates that the vehicle is changing the lane to the left.			
	3566	Lane Departure Right	J1939-71	61447	1.3	2	Indicates that the middle of vehicle departs the lane on the right side. The parameter indicates that the vehicle is changing the lane to the right.			
	3567	Generator Control Not In Automatic Start State	J1939-75	64915	1.5	2	This parameter indicates whether or not the generator set is in a condition to automatically start up and provide power. If not, this status parameter is in the ACTIVE state.			
	3568	Generator Not Ready to Automatically Parallel State	J1939-75	64915	1.7	2	This parameter indicates whether or not all systems required to start the engine and close to the bus are prepared to operate automatically. If not, the generator is not ready to automatically parallel, and the status parameter is in the ACTIVE state.			
	3569	Generator Neutral Earth Fault	J1939				Some means identifies that an imbalance between the current in the live phase(s) and neutral from the generator exceeds a threshold.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3570	Generator Load Neutral Earth Leakage	J1939				Some means identifies that an imbalance between the current in the live phase(s) and neutral from the load has exceeded a threshold.			
	3571	Generator Circuit Breaker Opening Time	J1939				As determined by the genset control, it will attempt to close or open a circuit breaker depending on the operational mode and system status.			
	3572	Generator Circuit Breaker Closing Time	J1939				As determined by the genset control, it will attempt to close or open a circuit breaker depending on the operational mode and system status.			
	3573	Utility Circuit Breaker Opening Time	J1939				As determined by the genset control, it will attempt to close or open a circuit breaker depending on the operational mode and system status.			
	3574	Utility Circuit Breaker Closing Time	J1939				As determined by the genset control, it will attempt to close or open a circuit breaker depending on the operational mode and system status.			
	3575	Utility to Generator Transfer Time	J1939				When the genset control commands the generator(s) to pick up load, it transfers the load from the utility to the generator(s).			
	3576	Generator to Utility Transfer Time	J1939				When the genset control commands the generator(s) to drop load, it transfers the load to the utility, and then it disconnects.			
	3577	Loss of Electric Utility Grid	J1939				When the voltage drops below a predetermined level for a specified amount of time, this condition becomes active.			
	3578	Generator to Bus Synchronization Time	J1939				This parameter indicates the time between the command to synchronize to the bus being issued and successful synchronization.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3579	Generator to Bus Phase Sequence Mismatch	J1939				This parameter indicates a phase sequence mismatch between the generator and the bus.			
	3580	Generator Soft Unload Time	J1939				This parameter indicates the time between the command to soft unload and the completion of the ramp down to an unloaded condition.			
	3581	Modbus Data Link	J1939				Identifies the action to be performed on the Modbus communications port.			
	3582	Utility Power Supply	J1939				110/120V (60Hz) or 220/240V (50Hz) alternating current power supply for engine AC auxiliary devices.			
	3583	Common AC Auxiliaries Breaker	J1939				This parameter covers designs where several independent AC auxiliary control devices each have their own breakers, but the controlling ECM only receives a single breaker tripped feedback indication if any one of these breakers is tripped.			
	3584	Fire Detected	J1939				A sensor has detected the presence of a fire at or near the engine.			
	3585	Engine Emergency Shutdown Switch	J1939				An emergency shutdown switch that is activated by the operator for immediate engine shutdown.			
	3587	Ether Hold Control	J1939				This control circuit is used to hold the ether valve in the open position, causing ether injection to continue.			
	3588	Ether Start Control	J1939				This control circuit is used to initially open the ether valve and begin ether flow.			
	3589	Engine Oil Priming Pump Control	J1939-71	64914	5.1	2	This control is used to activate a pump that lubricates the engine, particularly prior to initial engine startup.			
	3590	Generator Total Percent kW	J1939-75	64911	1-2	16	This parameter reports the generator total AC power, as a percentage of rated power.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	3591	Generator Total Percent kVA	J1939-75	64911	3-4	16	This parameter reports the generator total AC apparent power, as a percentage of rated power.				
	3592	Generator Total Percent kVAr	J1939-75	64911	5-6	16	This parameter reports the generator total AC reactive power, as a percentage of rated power.				
	3593	Generator Total kVAr Hours Export	J1939-75	64910	1-4	32	This parameter reports the cumulative total AC reactive energy exported from the generator.				
	3594	Generator Total kVAr Hours Import	J1939-75	64910	5-8	32	This parameter reports the cumulative total AC reactive energy imported to the generator.				
	3595	Utility Total kVAr Hours Export	J1939-75	64909	1-4	32	This parameter reports the cumulative total AC reactive energy exported from the utility.				
	3596	Utility Total kVAr Hours Import	J1939-75	64909	5-8	32	This parameter reports the cumulative total AC reactive energy imported to the utility.				
	3597	ECU Power Output Supply Voltage #1	J1939-71	65165	3-4	16	The first power output from an ECM				
	3598	ECU Power Output Supply Voltage #2	J1939-71	65165	5-6	16	The second power output from an ECM.				
	3599	ECU Power Output Supply Voltage #3	J1939-71	65165	7-8	16	The third power output from an ECM.				
	3600	Steering Straight Ahead Position Reset	J1939-71	56832	3.3	2	Used to reset the straight ahead position for a steering sensor in the steering column or a steering controller's straight ahead position on any steerable axle.				
	3601	Engine Fuel Shutoff Valve Leak Test Control	J1939-71	64914	4.7	2	Control setting for fuel shutoff valve proving system test.				
	3602	Engine Oil Pre-heater Control	J1939-71	64914	5.3	2	Control setting for an electrically actuated oil pre-heating device.				
	3603	Engine Electrical System Power Conservation Control	J1939-71	64914	5.5	2	Control setting for cutting power to various devices when the engine is not in use.				
	3604	Engine Block / Coolant Pre-heater Control	J1939-71	64914	5.7	2	Control setting for an electrically actuated engine block or coolant pre-heating device.				
	3605	Engine Coolant Circulating Pump Control	J1939-71	64914	6.1	2	Control setting for an electrically actuated engine coolant circulating pump.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3606	Engine Controlled Shutdown Request	J1939-71	64914	6.3	2	A signal issued by the engine control system to a user or external system requesting for a controlled shutdown.			
	3607	Engine Emergency (Immediate) Shutdown Indication	J1939-71	64914	6.5	2	A signal issued by the engine control system to a user or external system indicating that it is immediately shutting the engine down.			
	3608	Engine Fuel Shutoff Vent Control	J1939-71	64914	4.1	2	Control setting for a fuel shutoff vent.			
	3609	Diesel Particulate Filter Intake Pressure 1	J1939-71	64908	1-2	16	This parameter indicates the diesel particulate filter intake gage pressure 1 (bank 1).			
	3610	Diesel Particulate Filter Outlet Pressure 1	J1939-71	64908	3-4	16	This parameter indicates the diesel particulate filter outlet gage pressure 1 (bank 1).			
	3611	Diesel Particulate Filter Intake Pressure 2	J1939-71	64907	1-2	16	This parameter indicates the diesel particulate filter intake gage pressure 2 (bank 2).			
	3612	Diesel Particulate Filter Outlet Pressure 2	J1939-71	64907	3-4	16	This parameter indicates the diesel particulate filter outlet gage pressure 2 (bank 2).			
	3613	Text Display Instructions	J1939-71	43008	1.1	4	This parameter describes the status for the display how to show the information.			
	3614	Text Display Index	J1939-71	43008	3	8	Used for overwriting consecutive bytes of a displayed string when byte 1 "Text Display Instructions" state is set for "overwrite substring" mode.			
	3615	Text Display Character	J1939-71	43008	4 to n	1600	From 1 up to 200 characters to be presented on a display			
	3618	SAE J2012 DTC Presence	J1939				A J1939 controller has one or more SAE J2012 format DTCs. FMI 31 shall be used with this SPN.			
	3619	Number of J2012 DTCs	J1939-71	64906	1	8	The number J2012 DTCs being conveyed in PGN 64906.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3620	J2012 DTC	J1939-71	64906	2-6	40	Five character ASCII SAE J2012 DTC, sent most significant byte first.			
	3621	J2012 DTC Status	J1939-71	64906	7.1	1	Indicates if the respective SAE J2012 DTC is active or previously active.			
	3622	J2012 DTC Occurrence Count	J1939-71	64906	7.2	7	Number of occurrences of the respective SAE J2012 DTC being conveyed.			
	3623	Vehicle Roll	J1939-71	64905	1-2	16	This parameter indicates the roll in degrees from level.			
	3624	Engine Intake Valve Actuation Oil Pressure for Cylinder #1	J1939-71	64904	1-2	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #1.			
	3625	Engine Intake Valve Actuation Oil Pressure for Cylinder #2	J1939-71	64904	3-4	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #2.			
	3626	Engine Intake Valve Actuation Oil Pressure for Cylinder #3	J1939-71	64904	5-6	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #3.			
	3627	Engine Intake Valve Actuation Oil Pressure for Cylinder #4	J1939-71	64904	7-8	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #4.			
	3628	Engine Intake Valve Actuation Oil Pressure for Cylinder #5	J1939-71	64903	1-2	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #5.			
	3629	Engine Intake Valve Actuation Oil Pressure for Cylinder #6	J1939-71	64903	3-4	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #6.			
	3630	Engine Intake Valve Actuation Oil Pressure for Cylinder #7	J1939-71	64903	5-6	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #7.			
	3631	Engine Intake Valve Actuation Oil Pressure for Cylinder #8	J1939-71	64903	7-8	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #8.			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description			PID	MID	SID
	3632	Engine Intake Valve Actuation Oil Pressure for Cylinder #9	J1939-71	64902	1-2	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #9.				
	3633	Engine Intake Valve Actuation Oil Pressure for Cylinder #10	J1939-71	64902	3-4	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #10.				
	3634	Engine Intake Valve Actuation Oil Pressure for Cylinder #11	J1939-71	64902	5-6	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #11.				
	3635	Engine Intake Valve Actuation Oil Pressure for Cylinder #12	J1939-71	64902	7-8	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #12.				
	3636	Engine Intake Valve Actuation Oil Pressure for Cylinder #13	J1939-71	64901	1-2	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #13.				
	3637	Engine Intake Valve Actuation Oil Pressure for Cylinder #14	J1939-71	64901	3-4	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #14.				
	3638	Engine Intake Valve Actuation Oil Pressure for Cylinder #15	J1939-71	64901	5-6	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #15.				
	3639	Engine Intake Valve Actuation Oil Pressure for Cylinder #16	J1939-71	64901	7-8	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #16.				
	3640	Engine Intake Valve Actuation Oil Pressure for Cylinder #17	J1939-71	64900	1-2	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #17.				
	3641	Engine Intake Valve Actuation Oil Pressure for Cylinder #18	J1939-71	64900	3-4	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #18.				
	3642	Engine Intake Valve Actuation Oil Pressure for Cylinder #19	J1939-71	64900	5-6	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #19.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3643	Engine Intake Valve Actuation Oil Pressure for Cylinder #20	J1939-71	64900	7-8	16	The gage pressure of the oil in the hydraulic accumulator that powers the engine intake valve for cylinder #20.			
	3644	Engine Derate Request	J1939-71	64914	8	8	This parameter is a derate request made from the engine control system to an external system, where the engine is requesting an external device to reduce the load being applied.			
	3645	Transfer case status	J1939-71	64899	1.1	3	This parameter describes the feedback from the transfer case controller.			
	3646	Transmission Park Selector	J1939				The Transmission Park Selector is a device (switch, button, lever position) that indicates the vehicle should be in or change to the Park transmission mode.			
	3647	Transmission Reverse Selector	J1939				The Transmission Reverse Selector is a device (switch, button, lever position) that indicates the vehicle/transmission should be in or change to the Reverse transmission mode.			
	3648	Transmission Neutral Selector	J1939				The Transmission Neutral Selector is a device (switch, button, lever position) that indicates the vehicle/transmission should be in or change to the Neutral transmission mode.			
	3649	Transmission Drive Selector	J1939				The Transmission Drive Selector is a device (switch, button, lever position) that indicates the vehicle/transmission should be in or change to the Drive transmission mode.			
	3650	Transmission Low Selector	J1939				The Transmission Low Selector is a device (switch, button, lever position) that indicates the vehicle/transmission should be in or change to the Low transmission mode.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	3651	Transmission Primary Manual Selector	J1939				The Transmission Primary Manual Selector is a device (switch, button, lever position) that indicates the vehicle/transmission should be in or change to the Manual transmission mode.				
	3652	Transmission Primary Shift Up Selector	J1939				The Transmission Primary Shift Up Selector is a device (switch, button, lever position) that indicates the vehicle/transmission should be in or change to the Shift Up transmission mode.				
	3653	Transmission Primary Shift Down Selector	J1939				The Transmission Primary Shift Down Selector is a device (switch, button, lever position) that indicates the vehicle/transmission should be in or change to the Shift Down transmission mode.				
	3654	Transmission Secondary Manual Selector	J1939				The Transmission Secondary Manual Selector is a device (switch, button, lever position) that indicates the vehicle/transmission should be in or change to the Manual transmission mode.				
	3655	Transmission Secondary Shift Up Selector	J1939				The Transmission Secondary Shift Up Selector is a device (switch, button, lever position) that indicates the vehicle/transmission should be in or change to the Shift Up transmission mode.ould be in or change to the Shift Up transmission mode.				
	3656	Transmission Secondary Shift Down Selector	J1939				The Transmission Secondary Shift Down Selector is a device (switch, button, lever position) that indicates the vehicle/transmission should be in or change to the Shift Down transmission mode.				
	3657	Steering Wheel Mounted Shift Controls Decoder	J1939				The Steering Wheel Mounted Shift Controls Decoder of the hardware circuitry that reads and monitors the Steering Wheel Mounted Shift Controls.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3658	Steering Wheel Mounted Shift Controls Input	J1939				The Steering Wheel Mounted Shift Controls Input is the input to the device that reads and monitors the Steering Wheel Mounted Shift Controls.			
	3659	Engine Injector Cylinder #1 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #1			
	3660	Engine Injector Cylinder #2 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #2			
	3661	Engine Injector Cylinder #3 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #3			
	3662	Engine Injector Cylinder #4 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #4			
	3663	Engine Injector Cylinder #5 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #5			
	3664	Engine Injector Cylinder #6 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #6			
	3665	Engine Injector Cylinder #7 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #7			
	3666	Engine Injector Cylinder #8 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #8			
	3667	Engine Air Shutoff Status	J1939-71	65252	8.1	2	State signal which indicates the actual measured position of the Air Shutoff.			
	3668	Engine Intercooler Coolant Level	J1939-71	64938	6	8	Ratio of volume of liquid found in an engine intercooler cooling system to total engine intercooler cooling system volume.			
	3669	Engine Rotation Direction	J1939-71	65214	5.1	2	Direction of engine rotation, as reported by the engine.			
	3670	Maximum Crank Attempts per Start Attempt	J1939-71	64895	1	8	The number of cranking cycles that will be performed before ending the start attempt.			
	3671	Crank Attempt Count on Present Start Attempt	J1939-71	65214	6	8	Reports the number of cranking cycles undergone during the present start attempt.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3672	EGR1 Cooler Bypass Actuator Postion	J1939-71	64897	1	8	The parameter gives the % open of the EGR Cooler Bypass Actuator.			
	3673	Engine Throttle Valve 2 Position	J1939-71	65266	8	8	The sensed position feedback of the valve, coming from a second electrical actuator for a second throttle plate, used to regulate the supply of a fluid, usually air or fuel//air mixture.			
	3675	Engine Turbocharger Compressor Bypass Actuator 1 Position	J1939-71	64931	4	8	Measures the position of the turbocharger compressor bypass actuator, where 0% represents bypass fully closed and 100% represents bypass fully open.			
	3676	Engine Aftercooler Coolant Level	J1939-71	64938	7	8	Ratio of aftercooler coolant system volume of liquid to total cooling system volume.			
	3677	Generator Unavailable to Start / Run	J1939				Indicates that the generator is not available to start up and run. This may indicate that a shutdown condition is present, or simply that the system has been manually placed into a STOP state.			
	3678	EPS Unavailable to Accept Load	J1939				Indicates that the Emergency Power System (EPS) is not prepared to accept load. This implies that the EPS is not in a state that will allow for a quick synchronization and connection to the load bus.			
	3680	Transmission Master Valve	J1939				The transmission master valve is in series with a common supply for other transmission valves that control individual functions.			
	3681	Power Conversion Enable Signal	J1939				The power conversion function needs a power conversion enable signal from the microcontroller so that it may power down the power conversion independent of the vehicle's power down.			
	3682	Transmission Air Pressure Regulator Valve	J1939				The valve used to regulate the air supply pressure for the transmission.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3683	Steering Wheel Angle	J1939-71	61469	1-2	16	The main operator's steering wheel angle (on the steering column, not the actual wheel angle).			
	3684	Steering Wheel Angle Range Counter	J1939-71	61469	3.1	6	The signal indicates the number of steering wheel angle range overflows if the operating range of steering wheel is greater than the measuring range of sensor element.			
	3685	Steering Wheel Angle Range Counter Type	J1939-71	61469	3.7	2	The signal indicates whether the steering wheel angle sensor is capable of absolute measuring of the number of steering wheel angle ranges or not.			
	3686	Steering Wheel Angle Range	J1939-71	61469	5-6	16	The signal indicates the range of the steering wheel angle the sensor element is capable to measure.			
	3687	Steering Angle Sensor Active Mode	J1939-71	61469	7.1	2	This signal indicates the operational mode of the steering angle sensor.			
	3688	Steering Angle Sensor Calibrated	J1939-71	61469	7.3	2	This signal indicates the calibration status of the steering angle sensor.			
	3689	Message Counter	J1939-71	61469	8.1	4	The message counter is to verify the signal path from the demanding device to the steering controller.			
	3690	Message Checksum	J1939-71	61469	8.5	4	The message checksum is used to verify the signal path from the demanding device to the steering controller.			
	3691	Left Headlamp Dynamic Bending Light	J1939-71	64894	1.1	3	This parameter indicates whether the dynamic bending light of the left headlamp is working properly.			
	3692	Right Headlamp Dynamic Bending Light	J1939-71	64894	1.4	3	This parameter indicates whether the dynamic bending light of the right headlamp is working properly.			
	3693	Left Headlamp Light Distribution	J1939-71	64894	2.1	4	This parameter indicates what kind of light distribution is set by the AFS system for the left headlamp.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3694	Right Headlamp Light Distribution	J1939-71	64894	2.5	4	This parameter indicates what kind of light distribution is set by the AFS system for the right headlamp.			
	3695	Diesel Particulate Filter Regeneration Inhibit Switch	J1939-71	57344	6.1	2	Indicates the state of a switch available to the operator that inhibits diesel particulate filter regeneration.			
	3696	Diesel Particulate Filter Regeneration Force Switch	J1939-71	57344	6.3	2	Indicates the state of a switch available to the operator that forces diesel particulate filter regeneration.			
	3697	Diesel Particulate Filter Lamp Command	J1939-71	64892	1.1	3	Command to control the diesel particulate filter lamp.			
	3698	Exhaust System High Temperature Lamp Command	J1939-71	64892	7.3	3	Command to control the exhaust system high temperature lamp.			
	3699	Diesel Particulate Filter Passive Regeneration Status	J1939-71	64892	2.1	2	Indicates the state of diesel particulate filter passive regeneration.			
	3700	Diesel Particulate Filter Active Regeneration Status	J1939-71	64892	2.3	2	Indicates the state of diesel particulate filter active regeneration.			
	3701	Diesel Particulate Filter Status	J1939-71	64892	2.5	3	Indicates the state of the diesel particulate filter regeneration need and urgency.			
	3702	Diesel Particulate Filter Active Regeneration Inhibited Status	J1939-71	64892	3.1	2	Indicates the state of diesel particulate filter active regeneration inhibition.			
	3703	Diesel Particulate Filter Active Regeneration Inhibited Due to Inhibit Switch	J1939-71	64892	3.3	2	Indicates the state of diesel particulate filter active regeneration inhibition due to the Diesel Particulate Filter Regeneration Inhibit Switch.			
	3704	Diesel Particulate Filter Active Regeneration Inhibited Due to Clutch Disengaged	J1939-71	64892	3.5	2	Indicates the state of diesel particulate filter active regeneration inhibition due to the clutch being disengaged.			
	3705	Diesel Particulate Filter Active Regeneration Inhibited Due to Service Brake Active	J1939-71	64892	3.7	2	Indicates the state of diesel particulate filter active regeneration inhibition due to the service brake being active.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3706	Diesel Particulate Filter Active Regeneration Inhibited Due to PTO Active	J1939-71	64892	4.1	2	Indicates the state of diesel particulate filter active regeneration inhibition due to the PTO being active.			
	3707	Diesel Particulate Filter Active Regeneration Inhibited Due to Accelerator Pedal Off Idle	J1939-71	64892	4.3	2	Indicates the state of diesel particulate filter active regeneration inhibition due to the accelerator pedal being off idle.			
	3708	Diesel Particulate Filter Active Regeneration Inhibited Due to Out of Neutral	J1939-71	64892	4.5	2	Indicates the state of diesel particulate filter active regeneration inhibition due to the transmission being out of neutral.			
	3709	Diesel Particulate Filter Active Regeneration Inhibited Due to Vehicle Speed Above Allowed Speed	J1939-71	64892	4.7	2	Indicates the state of diesel particulate filter active regeneration inhibition due to the vehicle speed being above an allowed limit.			
	3710	Diesel Particulate Filter Active Regeneration Inhibited Due to Parking Brake Not Set	J1939-71	64892	5.1	2	Indicates the state of diesel particulate filter active regeneration inhibition due to the parking brake being not set.			
	3711	Diesel Particulate Filter Active Regeneration Inhibited Due to Low Exhaust Gas Temperature	J1939-71	64892	5.3	2	Indicates the state of diesel particulate filter active regeneration inhibition due to the exhaust gas temperature being too low.			
	3712	Diesel Particulate Filter Active Regeneration Inhibited Due to System Fault Active	J1939-71	64892	5.5	2	Indicates the state of diesel particulate filter active regeneration inhibition due to a system fault being active.			
	3713	Diesel Particulate Filter Active Regeneration Inhibited Due to System Timeout	J1939-71	64892	5.7	2	Indicates the state of diesel particulate filter active regeneration inhibition due to a system timeout.			
	3714	Diesel Particulate Filter Active Regeneration Inhibited Due to Temporary System Lockout	J1939-71	64892	6.1	2	Indicates the state of diesel particulate filter active regeneration inhibition due to a temporary system lockout.			
	3715	Diesel Particulate Filter Active Regeneration Inhibited Due to Permanent System Lockout	J1939-71	64892	6.3	2	Indicates the state of diesel particulate filter active regeneration inhibition due to a permanent system lockout.			
	3716	Diesel Particulate Filter Active Regeneration Inhibited Due to Engine Not Warmed Up	J1939-71	64892	6.5	2	Indicates the state of diesel particulate filter active regeneration inhibition due to the engine not being warmed up.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3717	Diesel Particulate Filter Active Regeneration Inhibited Due to Vehicle Speed Below Allowed Speed	J1939-71	64892	6.7	2	Indicates the state of diesel particulate filter active regeneration inhibition due to vehicle speed being less than the allowed vehicle speed.			
	3718	Diesel Particulate Filter Automatic Active Regeneration Initiation Configuration	J1939-71	64892	7.1	2	Indicates the configuration of diesel particulate filter active regeneration automatic initiation.			
	3719	Diesel Particulate Filter 1 Soot Load Percent	J1939-71	64891	1	8	Indicates the soot load percent of diesel particulate filter 1.			
	3720	Diesel Particulate Filter 1 Ash Load Percent	J1939-71	64891	2	8	Indicates the ash load percent of diesel particulate filter 1.			
	3721	Diesel Particulate Filter 1 Time Since Last Active Regeneration	J1939-71	64891	3-6	32	Indicates the time since the last active regeneration event of diesel particulate filter 1.			
	3722	Diesel Particulate Filter 2 Soot Load Percent	J1939-71	64890	1	8	Indicates the soot load percent of diesel particulate filter 2.			
	3723	Diesel Particulate Filter 2 Ash Load Percent	J1939-71	64890	2	8	Indicates the ash load percent of diesel particulate filter 2.			
	3724	Diesel Particulate Filter 2 Time Since Last Active Regeneration	J1939-71	64890	3-6	32	Indicates the time since the last active regeneration event of diesel particulate filter 2.			
(R)	3725	Aftertreatment 1 Diesel Particulate Filter Total Passive Regeneration Time	J1939-71	64920	17-20	32	Total amount of time that aftertreatment 1 diesel particulate filter has been in passive regeneration over the lifetime of the device.	11		
(R)	3726	Aftertreatment 1 Diesel Particulate Filter Total Number of Passive Regenerations	J1939-71	64920	21-24	32	Total number of passive regenerations by aftertreatment 1 diesel particulate filter over the lifetime of the device.			
(R)	3727	Aftertreatment 1 Diesel Particulate Filter Total Number of Active Regeneration Inhibit Requests	J1939-71	64920	25-28	32	Total number of aftertreatment 1 diesel particulate filter active regeneration inhibit requests by the operator over the lifetime of the device.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	3728	Aftertreatment 1 Diesel Particulate Filter Total Number of Active Regeneration Manual Requests	J1939-71	64920	29-32	32	Total number of aftertreatment 1 diesel particulate filter active regeneration manual requests by the operator over the lifetime of the device.			
(R)	3729	Aftertreatment 2 Diesel Particulate Filter Total Passive Regeneration Time	J1939-71	64921	17-20	32	Total amount of time that aftertreatment 2 diesel particulate filter has been in passive regeneration over the lifetime of the device.			
(R)	3730	Aftertreatment 2 Diesel Particulate Filter Total Number of Passive Regenerations	J1939-71	64921	21-24	32	Total number of passive regenerations by aftertreatment 2 diesel particulate filter over the lifetime of the device.			
(R)	3731	Aftertreatment 2 Diesel Particulate Filter Total Number of Active Regeneration Inhibit Requests	J1939-71	64921	25-28	32	Total number of aftertreatment 2 diesel particulate filter active regeneration inhibit requests by the operator over the lifetime of the device.			
(R)	3732	Aftertreatment 2 Diesel Particulate Filter Total Number of Active Regeneration Manual Requests	J1939-71	64921	29-32	32	Total number of aftertreatment 2 diesel particulate filter active regeneration manual requests by the operator over the lifetime of the device.			
(R)	3733	Aftertreatment 1 Diesel Particulate Filter Trip Fuel Used	J1939-71	64889	01-04	32	Total amount of fuel used by the aftertreatment 1 diesel particulate filter during the current trip period.			
(R)	3734	Aftertreatment 1 Diesel Particulate Filter Trip Active Regeneration Time	J1939-71	64889	05-08	32	Total amount of time that the aftertreatment 1 diesel particulate filter has been in active regeneration during the current trip period.			
(R)	3735	Aftertreatment 1 Diesel Particulate Filter Trip Disabled Time	J1939-71	64889	09-12	32	Total amount of time that aftertreatment 1 diesel particulate filter regeneration has been manually disabled during the current trip period.			
(R)	3736	Aftertreatment 1 Diesel Particulate Filter Trip Number of Active Regenerations	J1939-71	64889	13-16	32	Total number of active regenerations of the aftertreatment 1 diesel particulate filter during the current trip period.			
(R)	3737	Aftertreatment 1 Diesel Particulate Filter Trip Passive Regeneration Time	J1939-71	64889	17-20	32	Total amount of time that the aftertreatment 1 diesel particulate filter has been in passive regeneration during the current trip period.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	3738	Aftertreatment 1 Diesel Particulate Filter Trip Number of Passive Regenerations	J1939-71	64889	21-24	32	Total number of passive regenerations of the aftertreatment 1 diesel particulate filter during the current trip period.			
(R)	3739	Aftertreatment 1 Diesel Particulate Filter Trip Number of Active Regeneration Inhibit Requests	J1939-71	64889	25-28	32	Total number of aftertreatment 1 diesel particulate filter active regeneration inhibit requests by the operator during the current trip period.			
(R)	3740	Aftertreatment 1 Diesel Particulate Filter Trip Number of Active Regeneration Manual Requests	J1939-71	64889	29-32	32	Total number of aftertreatment 1 diesel particulate filter active regeneration manual requests by the operator during the current trip period.			
(R)	3741	Aftertreatment 2 Diesel Particulate Filter Trip Fuel Used	J1939-71	64888	01-04	32	Total amount of fuel used by the aftertreatment 2 diesel particulate filter during the current trip period.			
(R)	3742	Aftertreatment 2 Diesel Particulate Filter Trip Active Regeneration Time	J1939-71	64888	05-08	32	Total amount of time that the aftertreatment 2 diesel particulate filter has been in active regeneration during the current trip period.			
(R)	3743	Aftertreatment 2 Diesel Particulate Filter Trip Disabled Time	J1939-71	64888	09-12	32	Total amount of time that aftertreatment 2 diesel particulate filter regeneration has been manually disabled during the current trip period.			
(R)	3744	Aftertreatment 2 Diesel Particulate Filter Trip Number of Active Regenerations	J1939-71	64888	13-16	32	Total number of active regenerations of the aftertreatment 2 diesel particulate filter during the current trip period.			
(R)	3745	Aftertreatment 2 Diesel Particulate Filter Trip Passive Regeneration Time	J1939-71	64888	17-20	32	Total amount of time that the aftertreatment 2 diesel particulate filter has been in passive regeneration during the current trip period.			
(R)	3746	Aftertreatment 2 Diesel Particulate Filter Trip Number of Passive Regenerations	J1939-71	64888	21-24	32	Total number of passive regenerations of the aftertreatment 2 diesel particulate filter during the current trip period.			
(R)	3747	Aftertreatment 2 Diesel Particulate Filter Trip Number of Active Regeneration Inhibit Requests	J1939-71	64888	25-28	32	Total number of aftertreatment 2 diesel particulate filter active regeneration inhibit requests by the operator during the current trip period.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	3748	Aftertreatment 2 Diesel Particulate Filter Trip Number of Active Regeneration Manual Requests	J1939-71	64888	29-32	32	Total number of aftertreatment 2 diesel particulate filter active regeneration manual requests by the operator during the current trip period.			
	3749	Engine Overcooled	J1939				Indicates that the engine has been overcooled enough to warrant triggering a diagnostic event.			
	3750	Diesel Particulate Filter 1 Conditions Not Met for Active Regeneration	J1939-71	64892	8.5	2	Indicates that diesel particulate filter 1 is not able to begin or continue an active regenerate event at the current operating conditions.			
	3751	Diesel Particulate Filter 2 Conditions Not Met for Active Regeneration	J1939				Indicates that diesel particulate filter 2 is not able to begin or continue an active regenerate event at the current engine operating conditions.			
	3752	Wrapping Arm Fast Speed Rotation Actuator	J1939				The actuator for the wrapping arm fast speed rotation function. The wrapper is used to apply the wrapping material around the bale.			
	3753	Wrapping Arm Reverse Rotation Actuator	J1939				The actuator for the wrapping arm reverse rotation function. The wrapper is used to apply the wrapping material around the bale.			
	3754	Wrapping Arm Regular Speed Rotation Actuator	J1939				The actuator for the wrapping arm regular speed rotation. The wrapper is used to apply the wrapping material around the bale.			
	3755	Bale Rotational Speed	J1939				The measured rotational speed of the bale inside the chamber.			
	3756	Wrapper Knife Close Actuator	J1939				The close actuator for the knives used on the wrapper. The knives are used to cut the end of the wrapping material after it is on the bale.			
	3757	Wrapper Knife Open Actuator	J1939				The open actuator for the knives used on the wrapper. The knives are used to cut the end of the wrapping material after it is on the bale.			
	3758	Baler Gate Actuator	J1939				The actuator used to operate the gate on the back of the baler.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3759	Transfer Table Backward Actuator	J1939				The backward actuator for the baler transfer table control which delivers the bale to the wrapper. This backs up the table to move the bale away from the wrapper if needed.			
	3760	Transfer Table Forward Actuator	J1939				The forward actuator for the baler transfer table control which delivers the bale to the wrapper.			
	3761	Precutter Reverser Actuator	J1939				The actuator for the part of the baler precutter system that can reverse the flow of the crop to remove a plug.			
	3762	Precutter Knives Actuator	J1939				The crop precutting knives that process the crop before loading into the machine.			
	3763	Baler Pickup Actuator	J1939				The actuator for the pickup system mechanism that gathers the crop from the field.			
	3764	Baler Net Actuator Mode	J1939				The baler net actuator mechanism response to commands.			
	3765	Baler Net Actuator	J1939				The actuator mechanism that ties the net or wrapping material around the bale.			
	3783	Intake Manifold Charge Combustion	J1939				This parameter provides diagnostics on a charge combustion event within the engine intake manifold, which is commonly called spit-back or intake manifold backfire			
	3785	Tractor Brake Stroke Axle 1 Left	J1939-71	64881	1.1	3	Brake stroke status for left brake actuator on tractor axle 1.	253	1	
	3786	Tractor Brake Stroke Axle 1 Right	J1939-71	64881	1.4	3	Brake stroke status for right brake actuator on tractor axle 1.	253	2	
	3787	Tractor Brake Stroke Axle 2 Left	J1939-71	64881	1.7-2.1	3	Brake stroke status for left brake actuator on tractor axle 2.	253	3	
	3788	Tractor Brake Stroke Axle 2 Right	J1939-71	64881	2.2	3	Brake stroke status for right brake actuator on tractor axle 2.	253	4	
	3789	Tractor Brake Stroke Axle 3 Left	J1939-71	64881	2.5	3	Brake stroke status for left brake actuator on tractor axle 3.	253	5	

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3790	Tractor Brake Stroke Axle 3 Right	J1939-71	64881	2.8-3.1	3	Brake stroke status for right brake actuator on tractor axle 3.		253	6
	3791	Tractor Brake Stroke Axle 4 Left	J1939-71	64881	3.3	3	Brake stroke status for left brake actuator on tractor axle 4.		253	7
	3792	Tractor Brake Stroke Axle 4 Right	J1939-71	64881	3.6	3	Brake stroke status for right brake actuator on tractor axle 4.		253	8
	3793	Tractor Brake Stroke Axle 5 Left	J1939-71	64881	4.1	3	Brake stroke status for left brake actuator on tractor axle 5.			
	3794	Tractor Brake Stroke Axle 5 Right	J1939-71	64881	4.4	3	Brake stroke status for right brake actuator on tractor axle 5.			
	3795	Trailer Brake Stroke Axle 1 Left	J1939-71	64881	4.7-5.1	3	Brake stroke status for left brake actuator on trailer axle 1.		253	37
	3796	Trailer Brake Stroke Axle 1 Right	J1939-71	64881	5.2	3	Brake stroke status for right brake actuator on trailer axle 1.		253	38
	3797	Trailer Brake Stroke Axle 2 Left	J1939-71	64881	5.5	3	Brake stroke status for left brake actuator on trailer axle 2.		253	39
	3798	Trailer Brake Stroke Axle 2 Right	J1939-71	64881	5.8-6.1	3	Brake stroke status for right brake actuator on trailer axle 2.		253	40
	3799	Trailer Brake Stroke Axle 3 Left	J1939-71	64881	6.3	3	Brake stroke status for left brake actuator on trailer axle 3.		253	41
	3800	Trailer Brake Stroke Axle 3 Right	J1939-71	64881	6.6	3	Brake stroke status for right brake actuator on trailer axle 3.		253	42
	3801	Trailer Brake Stroke Axle 4 Left	J1939-71	64881	7.1	3	Brake stroke status for left brake actuator on trailer axle 4.		253	43
	3802	Trailer Brake Stroke Axle 4 Right	J1939-71	64881	7.4	3	Brake stroke status for right brake actuator on trailer axle 4.		253	44
	3803	Trailer Brake Stroke Axle 5 Left	J1939-71	64881	7.7-8.1	3	Brake stroke status for left brake actuator on trailer axle 5.			
	3804	Trailer Brake Stroke Axle 5 Right	J1939-71	64881	8.2	3	Brake stroke status for right brake actuator on trailer axle 5.			
	3805	Tractor Brake Stroke Alert Monitor	J1939				Tractor Brake Stroke Alert System Status		253	9

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	3806	Trailer Brake Stroke Alert Monitor	J1939					Trailer Brake Stroke Alert System Status		253	45
	3807	Park Brake Release Inhibit Request	J1939-71	65265	1.7	2	Park Brake Release Inhibit Request signals the desire that an applied park brake remain applied and limit the ability of the vehicle to be moved.				
	3808	Park Brake Release Inhibit Status	J1939-71	65274	4.5	2	This parameter provides reports on the status of the Park Brake Release Inhibit function.				
	3809	Transmission Oil Level Request	J1939-71	64980	3.1	2	Conveys operator or vehicle system desire for a transmission oil level reading to be taken.				
	3810	Retract Status of ramp 1	J1939-71	64880	1.1	2	Retract status of ramp at doorway 1, counting from front to back on the vehicle.				
	3811	Enable status of ramp 1	J1939-71	64880	1.3	2	Enable status of ramp at doorway 1, counting from front to back on the vehicle.				
	3812	Movement status of ramp 1	J1939-71	64880	1.5	2	Movement status of ramp at doorway 1, counting from front to back on the vehicle.				
	3813	Retract Status of ramp 2	J1939-71	64880	2.1	2	Retract status of ramp at doorway 2, counting from front to back on the vehicle.				
	3814	Enable status of ramp 2	J1939-71	64880	2.3	2	Enable status of ramp at doorway 2, counting from front to back on the vehicle.				
	3815	Movement status of ramp 2	J1939-71	64880	2.5	2	Movement status of ramp at doorway 2, counting from front to back on the vehicle.				
	3816	Retract Status of ramp 3	J1939-71	64880	3.1	2	Retract status of ramp at doorway 3, counting from front to back on the vehicle.				
	3817	Enable status of ramp 3	J1939-71	64880	3.3	2	Enable status of ramp at doorway 3, counting from front to back on the vehicle.				
	3818	Movement status of ramp 3	J1939-71	64880	3.5	2	Movement status of ramp at doorway 3, counting from front to back on the vehicle.				
	3819	Front axle group engagement status	J1939-71	61446	4.1	2	Front axle group engagement status				
	3820	Rear axle group engagement status	J1939-71	61446	4.3	2	Rear axle group engagement status				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3821	Engine Exhaust Gas Recirculation 1 (EGR1) Valve 2 Control	J1939-71	64879	1-2	16	Desired percentage of maximum Exhaust Gas Recirculation (EGR) valve opening for valve 2.			
	3822	Engine Exhaust Gas Recirculation 1 Valve 2 Position	J1939-71	64916	3-4	16	The position of the second exhaust gas recirculation valve expressed as a percentage of full travel.			
	3823	Transmission Torque Converter Oil Outlet Temperature	J1939-71	64917	2-3	16	Temperature of transmission torque converter outlet oil.			
	3824	Transmission Gear Latch Actuator	J1939				The actuator allows the transmission to hold a gear (i.e. gear latch) until the vehicle slows down when power is lost to the engine and/or transmission ECUs.			
	3825	Transmission Output Speed 2	J1939				Second sensor to measure transmission output speed.			
	3826	Aftertreatment 1 Diesel Exhaust Fluid Average Consumption	J1939-71	64878	1-2	16	Measured use of diesel exhaust fluid by a Selective Catalytic Reduction system for exhaust emission control, averaged over the previous 15 hours of engine operation.			
	3828	Aftertreatment 1 Commanded Diesel Exhaust Fluid Consumption	J1939-71	64878	3-4	16	This parameter transmits the amount of diesel exhaust fluid that the emissions control system has requested to be used, averaged over the past 15 hours of engine operation.			
	3829	EPS Supplying Load	J1939				The generator set controller indicates that the Emergency Power System (generator set) can supply load when the genset is actually supplying load and enabled to supply load.			
	3830	Aftertreatment 1 Secondary Air Differential Pressure	J1939-71	64877	1-2	16	Indicates the secondary air differential pressure for aftertreatment 1.		128	373
	3831	Aftertreatment 1 Secondary Air Temperature	J1939-71	64877	3-4	16	Indicates the secondary air temperature for aftertreatment 1.		128	375
	3832	Aftertreatment 1 Secondary Air Mass Flow	J1939-71	64877	5-6	16	Indicates the secondary air mass flow for aftertreatment 1.		128	387

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3833	Aftertreatment 2 Secondary Air Differential Pressure	J1939-71	64876	1-2	16	Indicates the secondary air differential pressure for aftertreatment 2.		128	374
	3834	Aftertreatment 2 Secondary Air Temperature	J1939-71	64876	3-4	16	Indicates the secondary air temperature for aftertreatment 2.		128	376
	3835	Aftertreatment 2 Secondary Air Mass Flow	J1939-71	64876	5-6	16	Indicates the secondary air mass flow for aftertreatment 2.			
	3837	Aftertreatment 1 Secondary Air Pressure	J1939-71	64877	7-8	16	Pressure of the secondary air for aftertreatment 1		128	377
	3838	Aftertreatment 2 Secondary Air Pressure	J1939-71	64876	7-8	16	Pressure of the secondary air for aftertreatment 2		128	378
	3839	Brake Temperature Warning	J1939-71	64964	1.1	2	This parameter indicates if the temperature in the service brakes exceeds a certain value. It can be used for a warning information for the driver.			
	3840	Auxiliary I/O #17	J1939-71	42752	1.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3841	Auxiliary I/O #18	J1939-71	42752	1.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3842	Auxiliary I/O #19	J1939-71	42752	1.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3843	Auxiliary I/O #20	J1939-71	42752	1.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3844	Auxiliary I/O #21	J1939-71	42752	2.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3845	Auxiliary I/O #22	J1939-71	42752	2.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3846	Auxiliary I/O #23	J1939-71	42752	2.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3847	Auxiliary I/O #24	J1939-71	42752	2.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3848	Auxiliary I/O #25	J1939-71	42752	3.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3849	Auxiliary I/O #26	J1939-71	42752	3.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3850	Auxiliary I/O #27	J1939-71	42752	3.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3851	Auxiliary I/O #28	J1939-71	42752	3.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3852	Auxiliary I/O #29	J1939-71	42752	4.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3853	Auxiliary I/O #30	J1939-71	42752	4.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3854	Auxiliary I/O #31	J1939-71	42752	4.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3855	Auxiliary I/O #32	J1939-71	42752	4.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3856	Auxiliary I/O #33	J1939-71	42752	5.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3857	Auxiliary I/O #34	J1939-71	42752	5.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3858	Auxiliary I/O #35	J1939-71	42752	5.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3859	Auxiliary I/O #36	J1939-71	42752	5.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3860	Auxiliary I/O #37	J1939-71	42752	6.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3861	Auxiliary I/O #38	J1939-71	42752	6.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3862	Auxiliary I/O #39	J1939-71	42752	6.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3863	Auxiliary I/O #40	J1939-71	42752	6.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3864	Auxiliary I/O #41	J1939-71	42752	7.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3865	Auxiliary I/O #42	J1939-71	42752	7.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3866	Auxiliary I/O #43	J1939-71	42752	7.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3867	Auxiliary I/O #44	J1939-71	42752	7.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3868	Auxiliary I/O #45	J1939-71	42752	8.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3869	Auxiliary I/O #46	J1939-71	42752	8.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3870	Auxiliary I/O #47	J1939-71	42752	8.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3871	Auxiliary I/O #48	J1939-71	42752	8.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3872	Auxiliary I/O #49	J1939-71	42496	1.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3873	Auxiliary I/O #50	J1939-71	42496	1.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3874	Auxiliary I/O #51	J1939-71	42496	1.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3875	Auxiliary I/O #52	J1939-71	42496	1.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3876	Auxiliary I/O #53	J1939-71	42496	2.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3877	Auxiliary I/O #54	J1939-71	42496	2.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3878	Auxiliary I/O #55	J1939-71	42496	2.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3879	Auxiliary I/O #56	J1939-71	42496	2.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3880	Auxiliary I/O #57	J1939-71	42496	3.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3881	Auxiliary I/O #58	J1939-71	42496	3.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3882	Auxiliary I/O #59	J1939-71	42496	3.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3883	Auxiliary I/O #60	J1939-71	42496	3.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3884	Auxiliary I/O #61	J1939-71	42496	4.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3885	Auxiliary I/O #62	J1939-71	42496	4.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3886	Auxiliary I/O #63	J1939-71	42496	4.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3887	Auxiliary I/O #64	J1939-71	42496	4.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3888	Auxiliary I/O #65	J1939-71	42496	5.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3889	Auxiliary I/O #66	J1939-71	42496	5.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3890	Auxiliary I/O #67	J1939-71	42496	5.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3891	Auxiliary I/O #68	J1939-71	42496	5.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3892	Auxiliary I/O #69	J1939-71	42496	6.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3893	Auxiliary I/O #70	J1939-71	42496	6.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3894	Auxiliary I/O #71	J1939-71	42496	6.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3895	Auxiliary I/O #72	J1939-71	42496	6.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3896	Auxiliary I/O #73	J1939-71	42496	7.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3897	Auxiliary I/O #74	J1939-71	42496	7.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3898	Auxiliary I/O #75	J1939-71	42496	7.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3899	Auxiliary I/O #76	J1939-71	42496	7.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3900	Auxiliary I/O #77	J1939-71	42496	8.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3901	Auxiliary I/O #78	J1939-71	42496	8.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3902	Auxiliary I/O #79	J1939-71	42496	8.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3903	Auxiliary I/O #80	J1939-71	42496	8.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3904	Auxiliary I/O #81	J1939-71	42240	1.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3905	Auxiliary I/O #82	J1939-71	42240	1.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3906	Auxiliary I/O #83	J1939-71	42240	1.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3907	Auxiliary I/O #84	J1939-71	42240	1.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3908	Auxiliary I/O #85	J1939-71	42240	2.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3909	Auxiliary I/O #86	J1939-71	42240	2.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3910	Auxiliary I/O #87	J1939-71	42240	2.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3911	Auxiliary I/O #88	J1939-71	42240	2.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3912	Auxiliary I/O #89	J1939-71	42240	3.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3913	Auxiliary I/O #90	J1939-71	42240	3.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3914	Auxiliary I/O #91	J1939-71	42240	3.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3915	Auxiliary I/O #92	J1939-71	42240	3.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3916	Auxiliary I/O #93	J1939-71	42240	4.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3917	Auxiliary I/O #94	J1939-71	42240	4.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3918	Auxiliary I/O #95	J1939-71	42240	4.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3919	Auxiliary I/O #96	J1939-71	42240	4.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3920	Auxiliary I/O #97	J1939-71	42240	5.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3921	Auxiliary I/O #98	J1939-71	42240	5.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3922	Auxiliary I/O #99	J1939-71	42240	5.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3923	Auxiliary I/O #100	J1939-71	42240	5.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3924	Auxiliary I/O #101	J1939-71	42240	6.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3925	Auxiliary I/O #102	J1939-71	42240	6.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3926	Auxiliary I/O #103	J1939-71	42240	6.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3927	Auxiliary I/O #104	J1939-71	42240	6.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3928	Auxiliary I/O #105	J1939-71	42240	7.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3929	Auxiliary I/O #106	J1939-71	42240	7.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3930	Auxiliary I/O #107	J1939-71	42240	7.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3931	Auxiliary I/O #108	J1939-71	42240	7.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3932	Auxiliary I/O #109	J1939-71	42240	8.7	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3933	Auxiliary I/O #110	J1939-71	42240	8.5	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3934	Auxiliary I/O #111	J1939-71	42240	8.3	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3935	Auxiliary I/O #112	J1939-71	42240	8.1	2	Identifies the current status of auxiliary input/output functions that are configured uniquely per application.			
	3936	Aftertreatment Diesel Particulate Filter System	J1939				Indicates non-specific failures of the aftertreatment diesel particulate filter system.			
	3938	Generator Governing Bias	J1939-75	61470	1-2	16	Control signal used to govern the genset's speed or load (depending on isochronous or utility parallel operation, respectively)			
	3939	Enable Switch - PTO Engine Flywheel	J1939-71	64932	2.1	2	Status of the PTO Engine Flywheel enable switch			
	3940	Engagement Consent - PTO Engine Flywheel	J1939-71	64932	4.1	2	Engagement Consent status for the PTO Engine Flywheel			
	3941	Engagement Status - PTO Engine Flywheel	J1939-71	64932	6.1	2	Engagement status of the PTO Engine Flywheel			
	3942	Enable Switch - PTO Engine Accessory Drive 1	J1939-71	64932	2.3	2	Status of the PTO engine accessory drive 1 enable switch			
	3943	Engagement Consent - PTO Engine Accessory Drive 1	J1939-71	64932	4.3	2	Engagement consent status for the PTO engine accessory drive 1			
	3944	Engagement Status - PTO Engine Accessory Drive 1	J1939-71	64932	6.3	2	Engagement status of the PTO engine accessory drive 1			
	3945	Enable Switch - PTO Engine Accessory Drive 2	J1939-71	64932	2.5	2	Status of the PTO engine accessory drive 2 enable switch			
	3946	Engagement Consent - PTO Engine Accessory Drive 2	J1939-71	64932	4.5	2	Engagement Consent status for the PTO engine accessory drive 2			
	3947	Engagement Status - PTO Engine Accessory Drive 2	J1939-71	64932	6.5	2	Engagement status of the PTO engine accessory drive 2			
	3948	At least one PTO engaged	J1939-71	64932	7.1	2	Indicates that at least one PTO is engaged			
	3949	AC Power Voltage, 120V, 60 Hz	J1939				The electrical potential of an alternating current power supply at 120 Volts, 60 Hz.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3950	Air Horn	J1939				The air horn is the operator's externally mounted, pneumatically operated, signal device.			
	3951	Air Horn Switch	J1939				The air horn switch conveys the operator's demand to sound the air horn.			
	3952	Air Shield Light	J1939				The air shield light is the backlight for a lighted sign in the air fairing over the cab			
	3953	Auxiliary Gauge Package	J1939				The auxiliary gauge package incorporates non-standard gauges into a single physical package.			
	3954	Auxiliary Gauge Package Gauge 1	J1939				The first gauge of an auxiliary gauge package, numbered left to right, top to bottom.			
	3955	Auxiliary Gauge Package Gauge 2	J1939				The second gauge of an auxiliary gauge package, numbered left to right, top to bottom.			
	3956	Auxiliary Gauge Package Gauge 3	J1939				The third gauge of an auxiliary gauge package, numbered left to right, top to bottom.			
	3957	Auxiliary Transmission Constant Supply Actuator	J1939				The auxiliary transmission constant supply actuator energizes the supply port of an auxiliary transmission			
	3958	Auxiliary Transmission High Range Actuator	J1939				The auxiliary transmission high range actuator energizes the high range port of an auxiliary transmission, demanding the high range of the auxiliary transmission.			
	3959	Auxiliary Transmission Neutral Actuator	J1939				The auxiliary transmission neutral actuator energizes the neutral port of an auxiliary transmission demanding a shift to neutral.			
	3960	Auxiliary Transmission Range Switch	J1939				The auxiliary transmission range switch indicates the desired range of an auxiliary transmission.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3961	Body Equipment Hydraulic Power Auxiliary Pump Inhibit Switch	J1939				The body equipment hydraulic power auxiliary pump Inhibit signal prevents the operation of an auxiliary pump that supplies hydraulic power when the vehicle's PTO driven pump is not operating.			
	3962	Bus Amber Signal Light 1	J1939				Bus amber signal light 1 illuminates the left front bus amber signal lamp. When mounted on a school bus, bus amber signal lights will comply with SAE J887, except that the lens will be amber.			
	3963	Bus Amber Signal Light 2	J1939				The bus amber signal light 2 illuminates the right front bus amber signal lamp.			
	3964	Bus Amber Signal Light 3	J1939				The bus amber signal light 3 illuminates the left rear bus amber signal lamp			
	3965	Bus Amber Signal Light 4	J1939				The bus amber signal light 4 illuminates the right rear bus amber signal lamp			
	3966	Bus Crossing Gate	J1939				The bus crossing gate extends a rod that encourages passengers to stay within the driver's forward view when crossing in front of a bus.			
	3967	Bus Passenger Door Close Relay	J1939				The bus passenger d/oar close relay energizes the closing actuator of a bus passenger entrance door.			
	3968	Bus Passenger Door Control Switch 1	J1939				The bus door control switch 1 requests that the passenger entrance door be opened or closed.			
	3969	Bus Passenger Door Control Switch 2	J1939				The bus door control switch 2 provides an alternate switch signal for requesting the passenger entrance door to open or close.			
	3970	Bus Passenger Door Open Relay	J1939				The bus passenger door open relay energizes the device that opens the passenger entrance door			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3971	Bus Red Signal Light 1	J1939				The bus red signal light 1 is the left front bus red signal lamp. When mounted on a school bus, these lamps comply with SAE J887.			
	3972	Bus Red Signal Light 2	J1939				The bus red signal light 2 is the right front school bus red signal lamp.			
	3973	Bus Red Signal Light 3	J1939				The bus red signal light 3 is the left rear school bus red signal lamp.			
	3974	Bus Red Signal Light 4	J1939				The bus red signal light 4 is the right rear school bus red signal lamp.			
	3975	Bus Stop Arm	J1939				The bus stop arm signals oncoming traffic to stop to permit passengers to cross the road.			
	3976	Cab Dome Light 1	J1939				The cab dome light 1 is the forwardmost interior light mounted on the ceiling of the cab behind the driver's shoulders. Typically, the cab dome light 1 will illuminate when the driver's or passenger's door is open.			
	3977	Cab Dome Light 2	J1939				The cab dome light 2 is the second forwardmost interior light mounted on the ceiling of the cab behind the driver's shoulders. Typically, the cab dome light 2 will illuminate when a rear passenger door is open.			
	3978	Cab Dome Light 2 Switch	J1939				The cab dome light 2 switch controls the operation of the second dome light in the cab or sleeping berth.			
	3979	Cab Floor Light	J1939				The cab floor light illuminates the cab's floor			
	3980	Cab Floor Light Switch	J1939				The cab floor light switch initiates cab floor illumination.			
	3981	Cab HVAC Mode Control Actuator	J1939				The cab HVAC mode control actuator selects which ducts convey conditioned air into the cabin of the vehicle. The actuator directs the air through the ducts [e.g. floor, defrost, dash, or a combination], based on the position of the operator's control.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3982	Cab HVAC Rear Blower Speed Control Switch	J1939				The cab HVAC rear blower speed control switch controls the blower speed of the second (rear) or sleeper HVAC system in the cab.			
	3983	Cab HVAC Rear Temperature Control Switch	J1939				The cab HVAC rear temperature control switch controls the temperature of the second (rear) or sleeper HVAC system			
	3984	Cab HVAC Recirculation Door Control Actuator	J1939				The cab HVAC recirculation door control actuator positions the door in the HVAC module that controls the amount of outside air drawn into the HVAC system.			
	3985	Cab HVAC System Controller	J1939				The cab HVAC system controller provides the operator controls and logic for operating the cabin's heating ventilation and cooling (HVAC) system.			
	3986	CAB HVAC Temperature Control Actuator	J1939				The cab HVAC temperature control actuator controls the door in the HVAC system to bypass the heater core, producing a balance between heating and cooling.			
	3987	Compression Brake Enable Switch Indicator Lamp Command	J1939-71	64775	2.3	2	Command signal directly controlling Compression Brake Enable Switch Indicator Lamp.			
	3988	Door 1 Control Module	J1939				The status of the first door control module. Doors are numbered left to right, front to back.			
	3989	Door 1 Window Motor	J1939				The window motor in door 1. Doors are numbered left to right, front to back.			
	3990	Door 2 Control Module	J1939				The status of the second door control module. Doors are numbered left to right, front to back.			
	3991	Door 2 Window Motor	J1939				The window motor in door 2. Doors are numbered left to right, front to back.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	3992	Door 3 Control Module	J1939				The status of the third door control module. Doors are numbered left to right, front to back.			
	3993	Door 3 Window Motor	J1939				The window motor in door 3. Doors are numbered left to right, front to back.			
	3994	Door 4 Control Module	J1939				The status of the fourth door control module. Doors are numbered left to right, front to back.			
	3995	Door 4 Window Motor	J1939				The window motor in door 4. Doors are numbered left to right, front to back.			
	3996	Electrical Accessory Power	J1939				Electrical accessory power identifies that the ignition keyswitch is in the accessory state.			
	3997	Electrical Accessory Power Relay	J1939				The electrical accessory power relay energizes the vehicle's accessory bus (or portion thereof)			
	3998	Electrical Load Shed OFF	J1939				The electrical load shed OFF deactivates the system that saves power by selectively disabling the power supplied to individual devices or circuits of the vehicle during low battery charge.			
	3999	Electrical Load Shed ON	J1939				Electrical load shed ON activates the system that saves power by selectively disabling the power supplied to individual devices or circuits of the vehicle during low battery charge			
	4000	Engine Exhaust Brake Enable Switch	J1939				The exhaust brake enable switch permits or inhibits the engine exhaust brake function.			
	4001	Engine Exhaust Brake Enable Switch Indicator	J1939				The engine exhaust brake enable switch indicator signals the status of the engine exhaust brake enable switch			
	4002	Engine Remote Start	J1939				Engine remote start initiates an engine start from an alternate operator's station or sleeping berth.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4003	Engine Remote Stop	J1939				Engine remote stop stops the engine from an alternate operator's location or sleeping berth			
	4004	Exterior Lamp Check Switch	J1939				The exterior lamp check switch requests activation or deactivation of the exterior lamp check function.			
	4005	Fifth Wheel Lock Actuator	J1939				The fifth wheel lock actuator operates the fifth wheel lock that secures the king pin in the fifth wheel.			
	4006	Fifth Wheel Slider Lock Actuator	J1939				The fifth wheel slide latch solenoid clock actuator operates the latch that permits the fifth wheel to slide forward or aft of its current location.			
	4007	Fifth Wheel Slider Lock Switch	J1939				Fifth wheel slider lock switch provides operator input to the fifth wheel slider lock actuator.			
	4008	Fog Light 2	J1939				Fog light 2 is second (or right) fog lamp mounted facing forward on the vehicle.			
	4009	Fuel Filter Fuel Heater Relay	J1939				The fuel filter fuel heater relay energizes the heating element in the fuel filter, which typically is self regulating when energized.			
	4010	Fuel Tank Transfer Pump	J1939				The fuel tank transfer pump transfers fuel from the secondary fuel tank to the primary fuel tank			
	4011	Headlamp 1 High Beam	J1939				The headlamp 1 high beam provides the high beam function of the left headlamp.			
	4012	Headlamp 2 High Beam	J1939				The headlamp 2 high beam provides the high beam function of the right headlamp.			
	4013	Headlight Interrupt Switch	J1939				The headlight interrupt switch signals that the head lights are to be turned off for a limited interval of time. This switch allows drivers to extinguish DRL or other headlight features, such as when in line at a weigh station.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4014	High Current Auxiliary Load Switch 1	J1939				The high current auxiliary load switch 1 requests the operation of the first auxiliary high current load relay to power a high current auxiliary bus.			
	4015	High Current Auxiliary Load Switch 2	J1939				The high current auxiliary load switch 2 requests the operation of the second auxiliary high current load relay to power a high current auxiliary bus.			
	4016	High Current Auxiliary Power Relay 1	J1939				The high current auxiliary relay 1 switches power to the first high current auxiliary bus.			
	4017	High Current Auxiliary Power Relay 2	J1939				The high current auxiliary relay 2 switches power to the second high current auxiliary bus.			
	4018	Lift Axle Lower Actuator	J1939				The lift axle lower actuator unstows a lift axle and lowers it to the roadway.			
	4019	Lift Axle Lower Switch	J1939				The lift axle lower switch requests that a lift axle be unstowed and lowered to the roadway.			
	4020	Lift Axle Raise Actuator	J1939				The lift axle raise actuator raises and stows a lift axle from the roadway.			
	4021	Lift Axle Raise Switch	J1939				The lift axle raise switch requests that a lift axle be raised from the roadway and stowed.			
	4022	Lift Gate Power Control Enable	J1939				The lift gate power control enable permits operation of the lift gate through the lift gate power control switch.			
	4023	Lift Gate Power Control Switch	J1939				The lift gate power control switch requests that power is supplied to an electric lift gate motor attached to the vehicle's body.			
	4024	Marker Light Interrupt Switch	J1939				The marker light interrupt switch requests that the marker lights be toggled (turned off if on or turned on if off)			
	4026	Mirror 2 Heater	J1939				Mirror 2 heater defrosts the second rear view mirror			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4027	Power Inverter Enable Switch	J1939				Switch used to enable or disable the vehicle AC bus			
	4028	Service Brake Circuit 1 Air Tank Drain Valve	J1939				The service brake circuit 1 air tank drain valve purges condensed moisture from the primary air tank when opened.			
	4029	Service Brake Circuit 1 Air Tank Drain Valve Switch	J1939				The service brake circuit 1 air tank drain valve switch allows the primary air tank drain valve to cycle and purge condensed moisture from the secondary air tank.			
	4030	Service Brake Circuit 2 Air Tank Drain Valve	J1939				The service brake circuit 2 air tank drain valve switch allows the secondary air tank drain valve to cycle and purge condensed moisture from the secondary air tank.			
	4031	Service Brake Supply Air Tank Drain Valve	J1939				The service brake supply air tank drain valve actuator opens the valve that purges the supply air tank of collected condensation.			
	4032	Service Brake Supply Air Tank Drain Valve Switch	J1939				The service brake supply air tank drain valve switch operates the supply air tank drain valve to purge the air tank of collected condensation.			
	4033	Engine Remote Start/Stop Enable	J1939				Engine remote start/stop enable activates the engine's remote start/stop function from alternate equipment operating stations or sleeping berth of the vehicle.			
	4034	Snow Plow High Beam Light 1	J1939				The snow plow high beam light 1 activates or de-activates the left headlamp high beam light mounted above a snow plow			
	4035	Snow Plow High Beam Light 2	J1939				The snow plow high beam light 2 activates or de-activates the right headlamp high beam light mounted above a snow plow			
	4036	Snow Plow Low Beam Light 1	J1939				The snow plow low beam light 1 provides the left headlamp mounted above a snow plow blade.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4037	Snow Plow Low Beam Light 2	J1939				The snow plow low beam light 2 provides the right headlamp mounted above a snow plow blade.			
	4038	Snow Plow Forward Lighting Relay 2	J1939				The snow plow forward lighting relay 2 switches the forward lights from the normal headlamps to the lamps mounted above the snow plow blade. The snow plow forward lighting relay 2 controls the right headlamp if lighting control is divided left from right.			
	4039	Snow Plow Forward Lighting Relay 1	J1939				The snow plow forward lighting relay 1 switches the forward lights from the normal headlamps to the lamps mounted above the snow plow blade. The snow plow forward lighting relay 1 controls the left headlamp if lighting control is divided left from right.			
	4040	Snow Plow Lighting Mode Switch	J1939				The snow plow lighting mode switch directs that the forward illumination switch to snow plow mode from normal mode.			
	4041	Software Loop Time Exceeded	J1939				Software loop time exceeded is reported should a device detect that the maximum loop execution time has been exceeded.			
	4042	Trailer Auxiliary Power Switch	J1939				The trailer auxiliary power switch controls the supply of power to the trailer's auxiliary power circuit.			
	4043	Transfer Case Front Driveline Actuator	J1939				The transfer case front driveline actuator engages the driveline output of a transfer case to provide power to the vehicle's front axle.			
	4044	Transfer Case High Range Actuator	J1939				The transfer case high range actuator engages the high range of the transfer case.			
	4045	Transfer Case Low Range Actuator	J1939				The transfer case low range actuator engages the low range of the transfer case.			
	4046	Transfer Case Neutral Actuator	J1939				The transfer case neutral actuator commands the transfer case to neutral.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4047	Transfer Case Output Shaft PTO Actuator	J1939				Actuator that engages the output shaft PTO drive of the transfer case.			
	4048	Transfer Case Range Switch	J1939				The transfer case range switch signals the operator's desire to operate in high range, low range or neutral (if available).			
	4049	Transfer Case Rear Driveline Actuator	J1939				Commands the driveline output of a transfer case to be engaged to provide power to the vehicle's rear axle(s).			
	4050	Transmission Secondary Mode Switch	J1939				The transmission secondary mode switch signals the transmission to operate in a secondary mode (e.g, the most fuel efficient manner possible)			
	4051	Transmission Input Shaft PTO 1 Actuator	J1939				Actuator which engages the PTO of the first transmission input shaft PTO drive mounted on the transmission.			
	4052	Transmission Input Shaft PTO 1 Retention Actuator	J1939				Actuator which locks the PTO of the first transmission input shaft PTO drive retention device in place.			
	4053	Transmission Input Shaft PTO 2 Actuator	J1939				Actuator which engages the PTO of the second transmission input shaft PTO drive mounted on the transmission.			
	4054	Transmission Input Shaft PTO 2 Retention Actuator	J1939				Actuator which locks the PTO of the second transmission input shaft PTO drive retention device in place.			
	4055	Transmission Retarder Enable Switch	J1939				The transmission retarder enable switch indicates whether the operator allows the transmission to engage its integral retarder when indicated by vehicle operating conditions.			
	4056	Two Speed Axle Actuator	J1939				Identifies the status of the actuator for the two-speed axle			
	4057	Wiper Motor	J1939				Motor which operates the windshield wiper system			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4058	Cab Dome Light 1 Switch	J1939				The cab dome light 1 switch controls the operation of the dome lights in the vehicle.			
	4059	Steer Axle Group Weight Available	J1939-71	64875	1.1	2	Indicates the availability of the steer axle group for purposes of weight measurement			
	4060	Lift Axle Group Weight Available	J1939-71	64875	1.3	2	Indicates the availability of the lift axle group for purposes of weight measurement			
	4061	Drive Axle Group Weight Available	J1939-71	64875	1.5	2	Indicates the availability of the drive axle group for purposes of weight measurement			
	4062	Tag Axle Group Weight Available	J1939-71	64875	1.7	2	Indicates the availability of the tag axle group for purposes of weight measurement			
	4063	Additional Tractor Axle Group Weight Available	J1939-71	64875	2.1	2	Indicates the availability of the additional tractor axle group for purposes of weight measurement			
	4064	Trailer A Axle Group Weight Available	J1939-71	64875	2.3	2	Indicates the availability of the trailer A axle group for purposes of weight measurement			
	4065	Trailer B Axle Group Weight Available	J1939-71	64875	2.5	2	Indicates the availability of the trailer B axle group for purposes of weight measurement			
	4066	Trailer C Axle Group Weight Available	J1939-71	64875	2.7	2	Indicates the availability of the trailer C axle group for purposes of weight measurement			
	4067	Trailer D Axle Group Weight Available	J1939-71	64875	3.1	2	Indicates the availability of the trailer D axle group for purposes of weight measurement			
	4068	Trailer E Axle Group Weight Available	J1939-71	64875	3.3	2	Indicates the availability of the trailer E axle group for purposes of weight measurement			
	4069	Trailer F Axle Group Weight Available	J1939-71	64875	3.5	2	Indicates the availability of the trailer F axle group for purposes of weight measurement			
	4070	Trailer G Axle Group Weight Available	J1939-71	64875	3.7	2	Indicates the availability of the trailer G axle group for purposes of weight measurement			
	4071	Trailer H Axle Group Weight Available	J1939-71	64875	4.1	2	Indicates the availability of the trailer H axle group for purposes of weight measurement			
	4072	Additional Trailer Axle Group Weight Available	J1939-71	64875	4.3	2	Indicates the availability of the additional trailer axle group for purposes of weight measurement			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4073	Axle Group Location	J1939-71	64874	1.1	4	Specific axle group used in conjunction with and when communicating the axle group weight			
	4074	Axle Group Location	J1939-71	64873	1.1	4	Specific axle group used in conjunction with and when communicating the axle group calibration			
	4075	Zero Net Vehicle Weight Change	J1939-71	64871	1.1	2	Zero Net Vehicle Weight Change command			
	4076	Engine Coolant Temperature 2	J1939-71	64870	1	8	Second temperature of liquid found in the engine cooling system.			
	4077	Aftertreatment 1 Fuel Pressure 2	J1939-71	64869	1-2	16	Second fuel pressure measurement for the aftertreatment 1 system			
	4078	Generator Alternator Efficiency	J1939-75	64915	2-3	16	Measured, calculated, and/or estimated operating efficiency of the generator alternator.			
	4079	Generator Governing Speed Command	J1939-75	64915	4.1	2	Command from user and/or generator control system for the genset (engine) to govern to low idle or rated base speed setpoints.			
	4080	Generator Frequency Selection	J1939-75	64915	4.3	4	Command from user and/or generator control system for the genset (engine) to target operations for 50 Hz, 60 Hz, or 400 Hz.			
	4081	Engine Oil Recovery Pump	J1939				The engine oil recovery pump pumps filtered crankcase vapor condensate (oil) back into the engine oil reservoir.			
	4082	Fuel Pump Primer Control	J1939-71	64914	1.5	2	Parameter used to activate or deactivate a priming system on the fuel transfer system. The fuel priming system is a system that purges air in the fuel lines and may assist fuel delivery to a second pump at lower speeds.			
	4083	Fuel Pump Primer Status	J1939-71	65130	7.4	2	Parameter used to transmit the actual status of the fuel priming system. The fuel priming system is a system that purges air in the fuel lines and may assist fuel delivery to a second pump at lower speeds.			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	4084	General Purpose Valve Spool	J1939				The internal hydraulic spool associated with a general purpose valve. Flow from a general purpose valve is determined by the movement of an internal spool.				
	4085	General Purpose Valve	J1939				A hydraulic valve, such as used on an implement control system, that offers flows of extend, retract, neutral, and float.				
	4086	Valve Load Sense Pressure	J1939-71	1792	1-2	16	The maximum of the currently measured pressures of a valve's work port A and work port B.				
	4087	Valve Pilot Pressure	J1939-71	1792	3	8	Pressure of a valve's pilot supply port.				
	4088	Valve Assembly Load sense Pressure	J1939-71	1792	4-5	16	The maximum pressure of a valve assembly's current collective load sense pressures where a valve assembly can consist of two or more valves.				
	4089	Valve Assembly Supply Pressure	J1939-71	1792	6-7	16	Pressure of the hydraulic supply port to a valve assembly.				
	4090	NOx limits exceeded, root cause unknown	J1939				Indicates that On-Board Diagnostics has determined that the limits for NOx in the exhaust stream have been exceeded, but the root cause cannot be determined by the OBD system.				
	4091	NOx limits exceeded due to Deactivation of EGR	J1939				Indicates that On-Board Diagnostics has determined that the limits for NOx in the exhaust stream have been exceeded due to deactivation of EGR.				
	4092	NOx limits exceeded due to Incorrect EGR flow	J1939				Indicates that On-Board Diagnostics has determined that the limits for NOx in the exhaust stream have been exceeded due to incorrect EGR flow.				
	4093	NOx limits exceeded due to Low Diesel Exhaust Fluid Consumption	J1939				Indicates that On-Board Diagnostics has determined that the limits for NOx in the exhaust stream have been exceeded due to low diesel exhaust fluid consumption.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4094	NOx limits exceeded due to Insufficient Diesel Exhaust Fluid Quality	J1939				Indicates that On-Board Diagnostics has determined that the limits for NOx in the exhaust stream have been exceeded due to an insufficient diesel exhaust fluid quality.			
	4095	NOx limits exceeded due to Interrupted Diesel Exhaust Fluid Dosing	J1939				Indicates that On-Board Diagnostics has determined that the limits for NOx in the exhaust stream have been exceeded due to an interruption in diesel exhaust fluid dosing activity.			
	4096	NOx limits exceeded due to Empty Diesel Exhaust Fluid Tank	J1939				Indicates that On-Board Diagnostics has determined that the limits for NOx in the exhaust stream have been exceeded due to the diesel exhaust fluid tank being empty.			
	4097	Aftertreatment 1 Fuel Drain Actuator	J1939-71	64929	7.1	2	Indicates whether aftertreatment 1 fuel drain actuator is on or off		128	381
	4098	Aftertreatment 2 Fuel Drain Actuator	J1939-71	64928	7.1	2	Indicates whether aftertreatment 2 fuel drain actuator is on or off			
	4099	XBR urgency	J1939-71	1024	4	8	The idea of the urgency value is to adjust the endurance brake integration behavior in the EBS system according to the traffic situation.			
	4100	Supported in Expanded Freeze Frame (e.g., DM25)	J1939-73	64950	3.1	1	This parameter defines whether the applicable parameter (that is the SPN) is supported in the expanded freeze frame message, DM25.			
	4101	Supported in Data Stream	J1939-73	64950	3.2	1	This parameter defines whether the applicable parameter (that is the SPN) is supported in the Data Stream messages.			
	4102	Supported in Scaled Test Results (e.g., DM30)	J1939-73	64950	3.3	1	This parameter defines whether the applicable parameter (that is the SPN) is supported in the Scaled Test Results message, DM30.			
	4103	SPN Data Length	J1939-73	64950	4	8	The number of data bytes associated with the SPN in the Freeze Frame.			
	4104	Pending DTCs	J1939-73	40448	1					

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4105	All Pending DTCs	J1939-73	40448	2					
	4106	MIL-On DTCs	J1939-73	40448	3					
	4107	Previously MIL-On DTCs	J1939-73	40448	4					
	4108	Permanent DTCs	J1939-73	40448	5					
	4109	SLOT Identifier	J1939-73							
	4110	Test Value	J1939-73							
	4111	Test Limit Maximum	J1939-73							
	4112	Test Limit Minimum	J1939-73							
	4113	DTCx Malfunction Indicator Lamp Support & Status	J1939-73							
	4114	DTCx Red Stop Lamp Support & Status	J1939-73							
	4115	DTCx Amber Warning Lamp Support & Status	J1939-73							
	4116	DTCx Protect Lamp Support & Status	J1939-73							
	4117	DTCx Flash Malfunction Indicator Lamp Support & Status	J1939-73							
	4118	DTCx Flash Red Stop Lamp Support & Status	J1939-73							
	4119	DTCx Flash Amber Warning Lamp Support & Status	J1939-73							
	4120	DTCx Flash Protect Lamp Support & Status	J1939-73							
	4121	DTCx Total ActiveTime	J1939-73				This timer provides the total number of hours the DTCx has been confirmed and active.			
	4122	DTCx Total Previously Active Time	J1939-73				This timer provides the number of hours the NOx malfunction has been confirmed and previously active.			
	4123	DTCx Time Until Derate	J1939-73				This timer provides the number of hours the NOx malfunction has until the OBD required derate will occur.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4124	EI-AECD Number	J1939-73				The manufacturer specific number for the specific EI-AECD.			
	4125	EI-AECD Engine Hours Timer 1	J1939-73				The total engine running hours for the first timer for the EI-AECD.			
	4126	AECD Engine Hours Timer 2	J1939-73				The total engine running hours for the second timer for the EI-AECD.			
	4127	NOx NTE Control Area Status	J1939-73	40960	1.7		Status of engine operation within the bounded region of the engine's torque and speed map where emissions must not exceed a specific emission cap for NOx under the NTE requirement.			
	4128	Manufacturer-specific NOx NTE Limited Testing Region Status	J1939-73	40960	1.5		Status of engine operation within the manufacturer specific NOx NTE limited testing region.			
	4129	NOx NTE Deficiency Area Status	J1939-73	40960	1.3		Status of engine operation within the NOx NTE Deficiency Area.			
	4130	PM NTE Control Area Status	J1939-73	40960	2.7		Status of engine operation within the bounded region of the engine's torque and speed map where emissions must not exceed a specific emission cap for PM under the NTE requirement.			
	4131	Manufacturer-specific PM NTE Limited Testing Region Status	J1939-73	40960	2.5		Status of engine operation within the manufacturer specific PM NTE limited testing region.			
	4132	PM NTE Deficiency Area Status	J1939-73	40960	2.3		Status of engine operation within the PM NTE Deficiency Area.			
	4133	Vehicle Non-Roadworthy Component Count	J1939-73				Vehicle Non-Roadworthy Component Count provides the sum of the (sub-) system or component non-roadworthiness counts.			
	4134	Vehicle Continuous Malfunction Indicator	J1939-73				Vehicle Continuous Malfunction Indicator indicates that one or more (sub-) systems or components requires that the Malfunction Indicator (MI) to be steady burning.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4135	Vehicle Malfunction Indicator Display Strategy	J1939-73				Vehicle Malfunction Indicator Display Strategy indicates if any system is configured to employ a discriminatory MI display.			
	4136	Vehicle Malfunction Indicator Activation Mode	J1939-73				The Vehicle Malfunction Indicator Status provides the most severe form of MI display required by the failure status of any sub-system or component.			
	4137	Vehicle Incomplete Monitor Count	J1939-73				System Incomplete Monitor Count provides the number of incomplete diagnostic monitors for a given sub-system or component.			
(R)	4138	Vehicle Current MI Accumulated Time	J1939-73	64868	5-6	16	Vehicle Current MI Accumulated Time reports the accumulated count (in minutes) that the MIL is activated (on) for the current MI activation (or the last MI activation).			
	4139	System Non-Roadworthy Component Count	J1939-73				System Non-Roadworthy Component Count provides the number of components (or sub-sub-systems) that a (sub-) system has determined are not roadworthy.			
	4140	System Continuous Malfunction Indicator	J1939-73				System Continuous Malfunction Indicator indicates that the system requires its (or the emissions malfunction indicator) to be steady burning.			
	4141	System Malfunction Indicator Display Strategy	J1939-73				System Malfunction Indicator Display Strategy indicates whether the system uses a non-discriminatory MI display or a discriminatory MI display as permitted by local regulations.			
	4142	System Malfunction Indicator Activation Mode	J1939-73				The System Malfunction Indicator Status provides the form of MI display required by the failure status of the sub-system or component.			
	4143	System Incomplete Monitor Count	J1939-73				System Incomplete Monitor Count provides the number of incomplete diagnostic monitors for a given sub-system or component.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4144	Global Technical Regulation Description	J1939-73				Global Technical Regulation Description provides a textual description of the Global Technical Regulations to which the sub-system or component complies.			
	4145	System Cumulative Continuous MI Time	J1939-73				System Cumulative Continuous MI Time provides the total amount of time that the MI has been demanded to be illuminated during the life of the (sub-) system or component.			
	4146	System Greatest B1 Counter	J1939-73				System Greatest B1 Counter provides the total amount of time that one or more B1 DTCs have been active.			
	4147	Failure Specific B1 Counter	J1939-73				The Failure Specific B1 Counter provides an individual B1 counter, supported by the system.			
	4148	SPN Identifying Component / System	J1939-73	58112	2-3, 4.6	19	This parameter identifies the component / system that will be tested.			
	4149	FMI Identifying Component / System Specific Test	J1939-73	58112	4.1	5	This parameter identifies the failure mode identifier which represents the test(s) that shall be run on the component / system that will be tested.			
	4151	Engine Exhaust Gas Temperature Average	J1939-71	64851	1-2	16	The calculated average temperature based upon all of the engine exhaust port temperatures. This is the average temperature based upon the exhaust port temperature measurements at each of the engine cylinders.			
	4152	Engine Exhaust Gas Temperature Average - Bank 2	J1939-71	64851	5-6	16	The calculated average temperature based upon all of the Bank 2 (right bank) engine exhaust port temperatures.			
	4153	Engine Exhaust Gas Temperature Average - Bank 1	J1939-71	64851	3-4	16	The calculated average temperature based upon all of the Bank 1 (left bank) engine exhaust port temperatures.			
	4154	Actual Engine - Percent Torque High Resolution	J1939-71	61444	1.5	4	This parameter displays an additional torque in percent of the reference engine torque.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4155	Auxiliary I/O Channel #6	J1939-71	2048	1-2	16	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4156	Auxiliary I/O Channel #5	J1939-71	2048	3-4	16	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4157	Auxiliary I/O Channel #4	J1939-71	2048	5-6	16	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4158	Auxiliary I/O Channel #3	J1939-71	2048	7-8	16	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4159	Auxiliary I/O Channel #10	J1939-71	40192	1	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4160	Auxiliary I/O Channel #9	J1939-71	40192	2	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4161	Auxiliary I/O Channel #8	J1939-71	40192	3	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4162	Auxiliary I/O Channel #7	J1939-71	40192	4	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4163	Auxiliary I/O Channel #14	J1939-71	40192	5	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4164	Auxiliary I/O Channel #13	J1939-71	40192	6	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4165	Auxiliary I/O Channel #12	J1939-71	40192	7	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4166	Auxiliary I/O Channel #11	J1939-71	40192	8	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4167	Auxiliary I/O Channel #18	J1939-71	39936	1	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4168	Auxiliary I/O Channel #17	J1939-71	39936	2	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4169	Auxiliary I/O Channel #16	J1939-71	39936	3	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4170	Auxiliary I/O Channel #15	J1939-71	39936	4	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4171	Auxiliary I/O Channel #22	J1939-71	39936	5	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4172	Auxiliary I/O Channel #21	J1939-71	39936	6	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4173	Auxiliary I/O Channel #20	J1939-71	39936	7	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4174	Auxiliary I/O Channel #19	J1939-71	39936	8	8	Identifies the current value of auxiliary input/output channels that are configured uniquely per application.			
	4175	Diesel Particulate Filter Active Regeneration Forced Status	J1939-71	64892	7.6	3	Indicates the forced execution status of diesel particulate filter regeneration.			
	4176	Transmission Current Range Display Blank State	J1939-71	65098	1.1	2	State signal indicating a transmission request for the display of the Transmission Current Range parameter to be blanked or not blanked			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4177	Transmission Oil Life Remaining	J1939-71	64917	4	8	Signal which indicates the actual oil life remaining in percent.			
	4178	Transmission Service Indicator	J1939-71	65098	1.3	2	Signal from transmission indicating that some aspect of the gearbox requires servicing, such as the oil, filter, clutch(es) or other component.			
	4180	Data Dictionary Manufacturer Code	J1939-71	39680	1-2.1	11	The J1939 Manufacturer Code associated with the manufacturer who defined the proprietary communications method.			
	4181	Data Dictionary Method	J1939-71	39680	2.4-4	21	A manufacturer defined code to define the proprietary communications method.			
	4182	Generator Output Frequency Adjustment Circuit	J1939				The Generator Output Frequency Adjustment Circuit is a potentiometric circuit used to regulate the generator frequency.			
	4183	Generator Droop Adjustment Circuit	J1939				The Generator Droop Adjustment Circuit is a potentiometric circuit used to regulate the generator droop.			
	4184	Generator Gain Adjustment Circuit	J1939				The Generator Gain Adjustment Circuit is a potentiometric circuit used to regulate the generator gain.			
	4185	Overspeed Shutdown Relay Driver	J1939				The Overspeed Shutdown relay driver drives the overspeed shutdown lamp to indicate the engine has reached overspeed.			
	4186	Low Oil Pressure Shutdown Relay Driver	J1939				The Low Oil Pressure Shutdown relay driver indicates the engine has reached a low oil pressure condition.			
	4187	High Engine Temperature Shutdown Relay Driver	J1939				The High Engine Temperature Shutdown relay driver indicates the engine has reached a high temperature condition.			
	4188	Pre-Low Oil Pressure Indicator Relay Driver	J1939				The Pre-Low Oil Pressure indicator relay driver indicates that the engine has reached a moderately severe low oil pressure condition.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4189	Pre-High Oil Pressure Indicator Relay Driver	J1939				The Pre-High Oil Pressure indicator relay driver indicates that the engine has reached a moderately severe high oil pressure condition.			
	4191	Engine Requested Torque - High Resolution	J1939-71	0	6.1	4	This parameter displays an additional torque in percent of the reference engine torque.			
	4192	Engine Fuel Filter Water Level sensor	J1939				Device which senses the water level in a fuel filter that has a water separator			
	4193	Engine Coolant Pump Outlet Temperature	J1939-71	64870	2	8	The actual value of engine coolant temperature at the coolant pump outlet			
	4194	Engine Coolant Thermostat Opening	J1939-71	64870	3	8	The current position of the Thermostat used to regulate the temperature of the engine coolant.			
	4195	Engine Coolant Thermostat Mode	J1939-71	64850	1.1	2	Specifies if the engine coolant thermostat valve will operate in temperature control mode or position control mode.			
	4196	Desired Engine Coolant Pump Outlet Temperature	J1939-71	64850	2	8	Desired engine coolant temperature of the engine to an electronic thermostat.			
	4197	Desired Engine Coolant Thermostat Opening	J1939-71	64850	3	8	Indicates the desired position of the engine coolant control valve.			
	4198	Aftercooler Coolant Thermostat Mode	J1939-71	64849	1.1	2	Specifies if the aftercooler coolant thermostat valve will operate in temperature control mode or position control mode.			
	4199	Desired Aftercooler Coolant Intake Temperature	J1939-71	64849	2	8	Indicates the desired temperature of the fluid in the low temperature aftercooler circuit to an electronic thermostat.			
	4200	Desired Aftercooler Coolant Thermostat Opening	J1939-71	64849	3	8	Used to transmit the desired position of the low temperature aftercooler temperature control valve.			
	4201	Engine Speed 1	J1939-71	61473	1-2	16	The engine speed as measured by speed sensor 1.			
	4202	Engine Speed 3	J1939-71	61473	5-6	16	The engine speed as measured by speed sensor 3.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4203	Engine Speed Sensor 1 Timing Pattern Status	J1939-71	61473	7.7	2	This is the timing pattern status of the engine speed sensor signal for sensor 1.			
	4204	Engine Speed Sensor 2 Timing Pattern Status	J1939-71	61473	7.5	2	This is the timing pattern status of the engine speed sensor signal for sensor 2.			
	4205	Engine Speed Sensor 3 Timing Pattern Status	J1939-71	61473	7.3	2	This is the timing pattern status of the engine speed sensor signal for sensor 3.			
	4206	Message Counter	J1939-71	0	8.1	4	The message counter is used to detect situations where the transmitting ECU malfunction repeats the same frame all the time. The receiver of the information may use the counter parameter to detect this situation.			
	4207	Message Checksum	J1939-71	0	8.5	4	The message checksum is used to verify the signal path from the transmitting device to the receiving device.			
	4209	Engine Crank Without Prelube	J1939				Used to annunciate when the engine prelube has been disabled during a cranking event.			
	4210	Engine Prelube Drive	J1939				Prelube is provided with the use of the electronic prelube actuator that the ECU controls from an output driver.			
	4211	Hydraulic Fan Motor Pressure	J1939-71	65213	5-6	16	The hydraulic pressure used to drive the fan system, sensed before the hydraulic fan motor.			
	4212	Fan Drive Bypass Command Status	J1939-71	65213	7	8	Status of the Fan Drive Bypass Command as being commanded by the ECU. The fan drive bypass diverts pump pressure away from the hydraulic motor to maintain the fan drive pressure.			
	4213	Engine Crank Without Fuel Injection	J1939				Indication of engine cranking without fuel injection.			
	4214	Engine Fan Reverse Actuator	J1939				Actuator for driving the engine fan in the reverse direction.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4215	Ground-Level Shutdown Activated	J1939				Status of equipment shutdown as a result of activation of a ground-level shutdown control, such as a switch.			
	4216	Transmission Reverse Solenoid Valve	J1939				Engages transmission reverse output shaft direction			
	4217	Transmission Shift Modulation Solenoid Valve	J1939				Provides proportional control of transmission synchronizer engagement.			
	4218	Transmission Shift Rail 1 Position	J1939				Measures position of shift rail #1			
	4219	Transmission Shift Rail 2 Position	J1939				Measures position of shift rail #2			
	4220	Transmission Shift Rail 3 Position	J1939				Measures position of shift rail #3			
	4221	Transmission Directional Shift at High Speed	J1939				Indicates that transmission has executed a direction shift whereby the transmission output shaft speed was above a pre-determined level at the initiation of the shift.			
	4222	Generator Speed/Load Governing Bias Circuit	J1939				The Generator Speed/Load Governing Bias Circuit is a circuit used to regulate the generator frequency.			
	4223	Pre-High Engine Temperature Warning Relay Driver	J1939				The Pre-High Engine Temperature Warning Relay Driver drives the pre-high engine temperature warning lamp to indicate the engine has reached warning level engine temperature.			
	4225	NOx limits exceeded due to error in the NOx control system	J1939				Indicates that On-Board Diagnostics has determined that the limits for NOx in the exhaust stream have been exceeded due to an error in the NOx control system.			
	4226	Engine Turbocharger Compressor Intake Differential Pressure	J1939				The pressure differential of air across a venturi measured at the turbocharger compressor intake			
	4227	Engine Crankcase Breather Oil Separator	J1939				Device which separates the engine oil vapor from crankcase breather gases			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4228	Engine Variable Geometry Turbocharger Actuator 1 Temperature	J1939				The temperature of the controller or actuator mechanism for a variable geometry turbocharger			
	4229	Retarder Electromagnetic Coil 1	J1939				Coil 1 for electromagnetic retarder			
	4230	Retarder Electromagnetic Coil 2	J1939				Coil 2 for electromagnetic retarder			
	4231	Retarder Electromagnetic Coil 3	J1939				Coil 3 for electromagnetic retarder			
	4232	Retarder Electromagnetic Coil 4	J1939				Coil 4 for electromagnetic retarder			
	4233	Retarder Road Speed Limit Switch	J1939-71	61440	4.5	2	Retarder road speed limit switch states.			
	4234	Retarder Road Speed Exceeded Status	J1939-71	61440	4.7	2	Retarder Road Speed Exceeded Status			
	4236	Short-term Fuel Trim - Bank 1	J1939-71	64841	3-4	16	This parameter is the short-term percent change in fueling based on the O2 sensor feedback for cylinder bank 1, based on the operating point in the nominal fuel map.			
	4237	Long-term Fuel Trim - Bank 1	J1939-71	64841	1-2	16	This parameter is the long-term percent change in fueling based on the O2 sensor feedback for cylinder bank 1, based on the operating point in the nominal fuel map.			
	4238	Short-term Fuel Trim - Bank 2	J1939-71	64840	3-4	16	This parameter is the short-term percent change in fueling based on the O2 sensor feedback for cylinder bank 2, based on the operating point in the nominal fuel map.			
	4239	Long-term Fuel Trim - Bank 2	J1939-71	64840	1-2	16	This parameter is the long-term percent change in fueling based on the O2 sensor feedback for cylinder bank 2, based on the operating point in the nominal fuel map.			
	4240	Engine Exhaust Gas Oxygen Sensor Closed Loop Operation, Bank 1	J1939-71	64841	5.1	4	This parameter indicates the status of the bank 1 O2 sensor feedback closed loop operation			
	4241	Engine Exhaust Gas Oxygen Sensor Closed Loop Operation, Bank 2	J1939-71	64840	5.1	4	This parameter indicates the status of the bank 2 O2 sensor feedback closed loop operation			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4242	Transmission Reverse Gear Shift Inhibit Request	J1939-71	256	1.7	2	Allows devices external to the normal transmission shift selector system to request the transmission to inhibit shifts into any Reverse gear and force the transmission into Neutral if it is currently in Reverse or attempting to shift to Reverse.			
	4243	Engine Oil to Coolant Differential Temperature	J1939				This is a diagnostic SPN related to the temperature difference between the engine oil and engine coolant. Intended for use with FMI 0, 1, 15, 16, 17, or 18 to indicate a high or low temperature difference.			
	4244	Engine Run Relay	J1939				The Engine Run Relay is a relay used to indicate to external controls (such as switchgear) that the engine is either running or is progressing through the initialization sequence.			
(R)	4245	Fuel energy content	J1939-71	65109	5-6	16	Energy content (lower heating value) of the gaseous fuel.			
	4246	Transmission Mode 5	J1939-71	256	8.1	2	Indicates whether transmission mode 5 is enabled.			
	4247	Transmission Mode 6	J1939-71	256	8.3	2	Indicates whether transmission mode 6 is enabled.			
	4248	Transmission Mode 7	J1939-71	256	8.5	2	Indicates whether transmission mode 7 is enabled.			
	4249	Transmission Mode 8	J1939-71	256	8.7	2	Indicates whether transmission mode 8 is enabled.			
	4250	Transmission Mode 5 Indicator	J1939-71	65098	5.1	2	Indicates whether transmission mode 5 is enabled.			
	4251	Transmission Mode 6 Indicator	J1939-71	65098	5.3	2	Indicates whether transmission mode 6 is enabled.			
	4252	Transmission Mode 7 Indicator	J1939-71	65098	5.5	2	Indicates whether transmission mode 7 is enabled.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4253	Transmission Mode 8 Indicator	J1939-71	65098	5.7	2	Indicates whether transmission mode 8 is enabled.			
	4254	Transmission Mode Label	J1939-71	64839	A	200	Conveys ASCII 'labels' for each of the manufacturer-specified TC1 Transmission Mode 'x' / ETC7 Transmission Mode Indicator 'x' pairs			
	4255	Transmission Requested Launch Gear	J1939-71	256	7.3	4	Initial gear for the transmission to start out in when the vehicle is launched from a standing stop, as specified by the vehicle operator or vehicle system.			
	4256	Cranking Voltage	J1939				Used for diagnostics related to cranking voltage ("load test" on the battery).			
	4257	Engine Injector Group 3	J1939				A third collection of fuel injector circuits that are grouped together.			
	4258	Engine Injector Group 4	J1939				A fourth collection of fuel injector circuits that are grouped together.			
	4259	Engine Injector Group 5	J1939				A fifth collection of fuel injector circuits that are grouped together.			
	4260	Engine Injector Group 6	J1939				A sixth collection of fuel injector circuits that are grouped together.			
	4261	Transmission Reverse Gear Shift Inhibit Status	J1939-71	65098	6.1	2	Reflects the status of transmission reverse inhibit activity in response to requests via SPN 4242 - Transmission Reverse Gear Shift Inhibit Request.			
	4263	Manufacturer Specified Information	J1939-73	65229	14-n	8				
	4265	Aftertreatment 1 Ignition Transformer Secondary Output	J1939				This SPN should be used to broadcast Aftertreatment 1 Ignition Transformer Secondary Output faults. This diagnostic only SPN should be used with standard FMIs.	128	396	
	4266	Aftertreatment 2 Ignition Transformer Secondary Output	J1939				This SPN should be used to broadcast Aftertreatment 2 Ignition Transformer Secondary Output faults. This diagnostic only SPN should be used with standard FMIs.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4267	Engine Cylinder #01 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #1.			
	4268	Engine Cylinder #02 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #2.			
	4269	Engine Cylinder #03 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #3.			
	4270	Engine Cylinder #04 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #4.			
	4271	Engine Cylinder #05 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #5.			
	4272	Engine Cylinder #06 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #6.			
	4273	Engine Cylinder #07 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #7.			
	4274	Engine Cylinder #08 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #8.			
	4275	Engine Cylinder #09 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #9.			
	4276	Engine Cylinder #10 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #10.			
	4277	Engine Cylinder #11 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #11.			
	4278	Engine Cylinder #12 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #12.			
	4279	Engine Cylinder #13 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #13.			
	4280	Engine Cylinder #14 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #14.			
	4281	Engine Cylinder #15 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #15.			
	4282	Engine Cylinder #16 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #16.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4283	Engine Cylinder #17 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #17.			
	4284	Engine Cylinder #18 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #18.			
	4285	Engine Cylinder #19 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #19.			
	4286	Engine Cylinder #20 Exhaust Valve Actuator	J1939				The exhaust valve actuator for engine cylinder #20.			
	4287	Engine Exhaust Valve Actuation System Oil Pressure	J1939-71	64961	4-5	16	The absolute pressure of the oil in the hydraulic system that powers the engine exhaust valve actuation system			
	4288	Engine Exhaust Valve Actuation System Oil Temperature	J1939-71	64870	4-5	16	The temperature of the oil in the hydraulic system that powers the engine exhaust valve actuation system			
	4289	Aftertreatment 1 Three Way Catalytic Converter Intake Gas Temperature	J1939-71	64838	1-2	16	Temperature of engine combustion byproducts entering the Three Way Catalytic Converter in exhaust bank 1.			
	4290	Aftertreatment 1 Three Way Catalytic Converter Outlet Gas Temperature	J1939-71	64838	3-4	16	Temperature of engine combustion byproducts leaving the Three Way Catalytic Converter in exhaust bank 1.			
	4291	Aftertreatment 1 Three Way Catalytic Converter Differential Pressure	J1939-71	64838	5-6	16	Exhaust differential pressure measured between the intake and exhaust of a Three Way Catalytic Converter in exhaust bank 1.			
	4292	Aftertreatment 1 Three Way Catalytic Converter Intake Gas Temperature Preliminary FMI	J1939-71	64838	7.1	5	Used to identify the applicable J1939-73 FMI detected in the Three Way Catalytic Converter intake gas temperature sensor by the manufacturer's sensor control software in exhaust bank 1.			
	4293	Aftertreatment 1 Three Way Catalytic Converter Outlet Gas Temperature Preliminary FMI	J1939-71	64838	7.6-8.1	5	Used to identify the applicable J1939-73 FMI detected in the Three Way Catalytic Converter outlet gas temperature sensor by the manufacturer's sensor control software in exhaust bank 1.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	4294	Aftertreatment 1 Three Way Catalytic Converter Differential Pressure Preliminary FMI	J1939-71	64838	8.3	5	Used to identify the applicable J1939-73 FMI detected in the Three Way Catalytic Converter differential pressure sensor by the manufacturer's sensor control software in exhaust bank 1.				
	4295	Aftertreatment 2 Three Way Catalytic Converter Intake Gas Temperature	J1939-71	64837	1-2	16	Temperature of engine combustion byproducts entering the Three Way Catalytic Converter in exhaust bank 2.				
	4296	Aftertreatment 2 Three Way Catalytic Converter Outlet Gas Temperature	J1939-71	64837	3-4	16	Temperature of engine combustion byproducts leaving the Three Way Catalytic Converter in exhaust bank 2.				
	4297	Aftertreatment 2 Three Way Catalytic Converter Differential Pressure	J1939-71	64837	5-6	16	Exhaust differential pressure measured between the intake and exhaust of a Three Way Catalytic Converter in exhaust bank 2.				
	4298	Aftertreatment 2 Three Way Catalytic Converter Intake Gas Temperature Preliminary FMI	J1939-71	64837	7.1	5	Used to identify the applicable J1939-73 FMI detected in the Three Way Catalytic Converter intake gas temperature sensor by the manufacturer's sensor control software in exhaust bank 2.				
	4299	Aftertreatment 2 Three Way Catalytic Converter Outlet Gas Temperature Preliminary FMI	J1939-71	64837	7.6-8.1	5	Used to identify the applicable J1939-73 FMI detected in the Three Way Catalytic Converter outlet gas temperature sensor by the manufacturer's sensor control software in exhaust bank 2.				
	4300	Aftertreatment 2 Three Way Catalytic Converter Differential Pressure Preliminary FMI	J1939-71	64837	8.3	5	Used to identify the applicable J1939-73 FMI detected in the Three Way Catalytic Converter differential pressure sensor by the manufacturer's sensor control software in exhaust bank 2.				
	4301	Aftertreatment 1 Fuel Injector 1 Heater Control	J1939-71	64929	8	8	Heating level that the controller is commanding the aftertreatment 1 fuel injector 1 heater control to maintain.				
	4302	Aftertreatment 2 Fuel Injector 1 Heater Control	J1939-71	64928	8	8	Heating level that the controller is commanding the aftertreatment 2 fuel injector 1 heater control to maintain.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4303	Aftertreatment 2 Fuel Pressure 2	J1939-71	64836	1-2	16	Second fuel pressure measurement for the aftertreatment 2 system.			
	4304	ECU Manufacturer Name	J1939-71	64965	e	1600	The name of the manufacturer of the physical ECU			
	4305	Machine selected speed	ISO 11783-7	61474	1-2	16	Reports the value of one of the currently available machine speeds (wheel, ground, or navigational-based) which the machine has determined to best represent the machine's speed.			
	4306	Machine selected distance	ISO 11783-7	61474	3-6	32	Actual distance traveled by the machine based on the value of selected machine speed.			
	4307	Persistent limit status	ISO 11783-7	61474	8.6	3	Reports the tractor ECU's present limit status associated with a parameter whose commands are persistent (i.e. hitch position)			
	4308	Machine selected speed source	ISO 11783-7	61474	8.3	3	Indicates the speed source that is currently being reported in the machine speed parameter.			
	4309	Machine selected direction	ISO 11783-7	61474	8.1	2	Indicates the current direction of travel of the machine.			
	4310	Machine selected speed setpoint command	ISO 11783-7	64835	1-2	16	Commanded set point value of the machine speed as measured by the selected source.			
	4311	Machine selected speed setpoint limit	ISO 11783-7	64835	3-4	16	The machine's maximum allowed speed communicated to the tractor.			
	4312	Machine selected direction command	ISO 11783-7	64835	8.1	2	Commanded direction of travel of the machine.			
	4313	ISOBUS compliance certification year	ISO 11783-7	64834	1.1	6	Year of the compliance test protocol to which the certification test was performed.			
	4314	ISOBUS compliance certificate revision	ISO 11783-7	64834	1.7-2.1	3	Revision of the ISOBUS compliance test performed. In years where there are multiple revisions of the test protocol, an alphabetic suffix is used in addition to the certification year.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4315	ISOBUS compliance certificate laboratory type	ISO 11783-7	64834	2.2	3	Approving body for the certification laboratory.			
	4316	ISOBUS Compliance certification laboratory ID	ISO 11783-7	64834	2.6-3	11	Manufacturer code of the laboratory that performed the compliance test. In the case of a self-certified ECU, this matches the manufacturer code contained in the address claim PGN. See ISO 11783 Part 1 Annex B Table B6.			
	4317	ISOBUS Compliance certification type – Minimum ECU	ISO 11783-7	64834	4.8	1	Parameter used to indicate the type of compliance test performed.			
	4318	ISOBUS Compliance certification type – TECU Class 1	ISO 11783-7	64834	4.7	1	Parameter used to indicate the type of compliance test performed.			
	4319	ISOBUS Compliance certification type – TECU Class 2	ISO 11783-7	64834	4.6	1	Parameter used to indicate the type of compliance test performed.			
	4320	ISOBUS Compliance certification type – TECU Class 3	ISO 11783-7	64834	4.5	1	Parameter used to indicate the type of compliance test performed.			
	4321	ISOBUS Compliance certification type – Class 3 ECU	ISO 11783-7	64834	4.4	1	Parameter used to indicate the type of compliance test performed.			
	4322	ISOBUS Compliance certification type – Virtual terminal	ISO 11783-7	64834	4.3	1	Parameter used to indicate the type of compliance test performed.			
	4323	ISOBUS Compliance certification type – VT working set master	ISO 11783-7	64834	4.2	1	Parameter used to indicate the type of compliance test performed.			
	4324	ISOBUS Compliance certification type – VT working set member	ISO 11783-7	64834	4.1	1	Parameter used to indicate the type of compliance test performed.			
	4325	ISOBUS Compliance certification type – Task Controller	ISO 11783-7	64834	5.8	1	Parameter used to indicate the type of compliance test performed.			
	4326	ISOBUS Compliance certification type – TC working set master	ISO 11783-7	64834	5.7	1	Parameter used to indicate the type of compliance test performed.			
	4327	ISOBUS Compliance certification type – TC working set member	ISO 11783-7	64834	5.6	1	Parameter used to indicate the type of compliance test performed.			
	4328	ISOBUS Compliance certification type – File server	ISO 11783-7	64834	5.5	1	Parameter used to indicate the type of compliance test performed.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4329	ISOBUS Compliance certification type – GPS receiver	ISO 11783-7	64834	5.4	1	Parameter used to indicate the type of compliance test performed.			
	4330	ISOBUS Compliance certification reference number	ISO 11783-7	64834	7-8	16	Certificate reference number assigned by Certification laboratory. Uniquely identifies the test file from the Certification laboratory when use with the Certification laboratory ID and the ECU manufacturer ID.			
	4331	Aftertreatment 1 Diesel Exhaust Fluid Actual Dosing Quantity	J1939-71	61475	1-2	16	Actual reducing agent quantity of SCR-system			
	4332	Aftertreatment 1 SCR System State	J1939-71	61475	3.1	4	Actual state of SCR system			
	4333	Aftertreatment 1 Diesel Exhaust Fluid Actual Quantity of Integrator	J1939-71	61475	4-5	16	The SCR requested diesel exhaust fluid integrator total quantity for aftertreatment system 1 (exhaust bank 1).			
	4334	Aftertreatment 1 Diesel Exhaust Fluid Doser Absolute Pressure	J1939-71	61475	6	8	The SCR dosing diesel exhaust fluid absolute pressure (measured closest to dosing valve) for aftertreatment system 1 (exhaust bank 1).			
	4335	Aftertreatment 1 SCR Dosing Air Assist Absolute Pressure	J1939-71	64833	1	8	The SCR dosing system air assist absolute pressure for aftertreatment system 1 (exhaust bank 1).			
	4336	Aftertreatment 1 SCR Dosing Air Assist Valve	J1939-71	64833	2	8	The position of the valve used to regulate the air supply of an air assist SCR dosing system for an engine.			
	4337	Aftertreatment 1 Diesel Exhaust Fluid Dosing Temperature	J1939-71	64833	3	8	The diesel exhaust fluid dosing temperature (measured closest to dosing valve) for aftertreatment system 1 (exhaust bank 1).			
	4338	Aftertreatment 1 SCR Dosing Valve Exhaust Temperature Reduction Request	J1939-71	64833	4.1	3	Protection request for the dosing valve of the SCR-system to prevent overheating			
	4339	Aftertreatment 1 SCR Feedback Control Status	J1939-71	64833	4.4	3	The SCR feedback control status (open/closed loop) for aftertreatment system 1 (exhaust bank 1)			
	4340	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 State	J1939-71	64833	5.1	2	The diesel exhaust fluid line heater 1 state for aftertreatment system 1 (exhaust bank 1).			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	4341	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 Preliminary FMI	J1939-71	64833	5.3	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid line heater 1, by the manufacturer's control software in exhaust bank 1.				
	4342	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 State	J1939-71	64833	6.1	2	The diesel exhaust fluid line heater 2 state for aftertreatment system 1 (exhaust bank 1).				
	4343	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 Preliminary FMI	J1939-71	64833	6.3	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid line heater 2, by the manufacturer's control software in exhaust bank 1.				
	4344	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 3 State	J1939-71	64833	7.1	2	The diesel exhaust fluid line heater 3 state for aftertreatment system 1 (exhaust bank 1).				
	4345	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 3 Preliminary FMI	J1939-71	64833	7.3	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid line heater 3, by the manufacturer's control software in exhaust bank 1.				
	4346	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 4 State	J1939-71	64833	8.1	2	The diesel exhaust fluid line heater 4 state for aftertreatment system 1 (exhaust bank 1).				
	4347	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 4 Preliminary FMI	J1939-71	64833	8.3	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid line heater 4, by the manufacturer's control software in exhaust bank 1.				
	4348	Aftertreatment 1 Diesel Exhaust Fluid Dosing Requested Quantity	J1939-71	61476	1-2	16	Actual requested dosing quantity of diesel exhaust fluid.				
	4349	Aftertreatment 1 SCR System Requested State	J1939-71	61476	3.1	4	Requested state of SCR system for aftertreatment system 1 (exhaust bank 1).				
	4350	Aftertreatment 1 Diesel Exhaust Fluid Requested Quantity of Integrator	J1939-71	61476	4-5	16	Represents the command for the diesel exhaust fluid quantity integrator in the dosing control unit				
	4352	Aftertreatment 1 Diesel Exhaust Fluid Doser Fault Suppression Request	J1939-71	64832	1.3	2	Used if external devices can warn of conditions that require suppression of potential faults in the doser due to environmental conditions.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4353	Aftertreatment 1 Diesel Exhaust Fluid Doser Heating Mode Request	J1939-71	64832	1.5	3	Used if multiple heater modes are available in the Doser.			
	4354	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1	J1939-71	64832	2.1	2	The diesel exhaust fluid line heater 1 request for aftertreatment system 1 (exhaust bank 1).			
	4355	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2	J1939-71	64832	2.3	2	The diesel exhaust fluid line heater 2 request for aftertreatment system 1 (exhaust bank 1).			
	4356	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 3	J1939-71	64832	2.5	2	The diesel exhaust fluid line heater 3 request for aftertreatment system 1 (exhaust bank 1).			
	4357	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 4	J1939-71	64832	2.7	2	The diesel exhaust fluid line heater 4 request for aftertreatment system 1 (exhaust bank 1).			
	4358	Aftertreatment 1 SCR Exhaust Gas Differential Pressure	J1939-71	64831	1-2	16	Exhaust differential pressure measured between the intake and exhaust of an SCR component in exhaust bank 1.			
	4359	Aftertreatment 1 SCR Exhaust Gas Differential Pressure Preliminary FMI	J1939-71	64831	3.1	5	Used to identify the applicable J1939-73 FMI detected in the SCR differential pressure sensor by the manufacturer's sensor control software in exhaust bank 1.			
	4360	Aftertreatment 1 SCR Catalyst Intake Gas Temperature	J1939-71	64830	1-2	16	Temperature of engine combustion byproducts entering the SCR catalyst in exhaust bank 1.			
	4361	Aftertreatment 1 SCR Catalyst Intake Gas Temperature Preliminary FMI	J1939-71	64830	3.1	5	Used to identify the applicable J1939-73 FMI detected in the SCR catalyst intake gas temperature sensor by the manufacturer's sensor control software in exhaust bank 1.			
	4362	Aftertreatment 1 SCR Catalyst Outlet Gas Temperature Preliminary FMI	J1939-71	64830	6.1	5	Used to identify the applicable J1939-73 FMI detected in the SCR catalyst outlet gas temperature sensor by the manufacturer's sensor control software in exhaust bank 1.			
	4363	Aftertreatment 1 SCR Catalyst Outlet Gas Temperature	J1939-71	64830	4-5	16	Temperature of engine combustion byproducts leaving the SCR catalyst exhaust in exhaust bank 1.			
	4364	Aftertreatment 1 SCR Conversion Efficiency	J1939-71	64878	5	8	The SCR conversion efficiency percentage.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	4365	Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Temperature Preliminary FMI	J1939-71	65110	6.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid tank 1 temperature, by the manufacturer's control software in exhaust bank 1.			
(R)	4366	Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Heater Preliminary FMI	J1939-71	65110	8.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid tank 1 heater, by the manufacturer's control software in exhaust bank 1.			
	4367	Aftertreatment 1 Diesel Exhaust Fluid Tank 2 Level	J1939-71	64829	1	8	The diesel exhaust fluid tank 2 level percentage for aftertreatment system 1 (exhaust bank 1).			
	4368	Aftertreatment 1 Diesel Exhaust Fluid Tank 2 Temperature	J1939-71	64829	2	8	The diesel exhaust fluid tank 2 temperature for aftertreatment system 1 (exhaust bank 1).			
	4369	Aftertreatment 1 Diesel Exhaust Fluid Tank 2 Level 2	J1939-71	64829	3-4	16	The diesel exhaust fluid tank 2 level height in mm for aftertreatment system 1 (exhaust bank 1).			
	4370	Aftertreatment 1 Diesel Exhaust Fluid Tank 2 Level Preliminary FMI	J1939-71	64829	5.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid tank 2 level, by the manufacturer's control software in exhaust bank 1.			
	4371	Aftertreatment 1 Diesel Exhaust Fluid Tank 2 Temperature Preliminary FMI	J1939-71	64829	6.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid tank 2 temperature, by the manufacturer's control software in exhaust bank 1.			
	4372	Aftertreatment 1 Diesel Exhaust Fluid Tank 2 Heater	J1939-71	64829	7	8	The diesel exhaust fluid tank 2 heater percentage for aftertreatment system 1 (exhaust bank 1).			
	4373	Aftertreatment 1 Diesel Exhaust Fluid Tank 2 Heater Preliminary FMI	J1939-71	64829	8.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid tank 2 heater, by the manufacturer's control software in exhaust bank 1.			
	4374	Aftertreatment 1 Diesel Exhaust Fluid Pump Motor Speed	J1939-71	64828	1-2	16	Rotational speed of the motor driving a pump for diesel exhaust fluid used in an aftertreatment system.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	4375	Aftertreatment 1 Diesel Exhaust Fluid Pump Drive Percentage	J1939-71	64828	3	8	The percent (command) sent to the motor to control the speed of the diesel exhaust fluid pump.				
	4376	Aftertreatment 1 Diesel Exhaust Fluid Return Valve	J1939-71	64828	4	8	Command to the valve which determines whether the diesel exhaust fluid is delivered to the injector or is routed back to the diesel exhaust fluid tank.				
	4377	Aftertreatment 1 Outlet NH3	J1939-71	61477	1-2	16	The amount of NH3 in the exhaust exiting the aftertreatment system measured by a NH3 sensor at the aftertreatment outlet, represented in NH3 molecule parts per million non-NH3 molecules in exhaust bank 1.				
	4378	Aftertreatment 1 Outlet NH3 Sensor Preliminary FMI	J1939-71	61477	3.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment outlet NH3 sensor by the manufacturer's sensor control software in exhaust bank 1.				
	4379	Aftertreatment 1 Outlet NH3 Reading Stable	J1939-71	61477	4.1	2	Indicates that the NH3 reading of the aftertreatment outlet NH3 sensor is stable as determined by the manufacturer's control software in exhaust bank 1.				
	4380	Aftertreatment 1 Outlet NH3 Gas Sensor Power In Range	J1939-71	61477	4.3	2	Indicates that the power supplied to the aftertreatment outlet NH3 gas sensor is within the manufacturer's specification in exhaust bank 1.				
	4381	Aftertreatment 1 Outlet NH3 Gas Sensor at Temperature	J1939-71	61477	4.5	2	Indicates that the heater element of the aftertreatment outlet NH3 gas sensor is within the manufacturer's specified range for accurate measurements in exhaust bank 1.				
	4382	Aftertreatment 1 Outlet NH3 Gas Sensor Heater Preliminary FMI	J1939-71	61477	5.1	5	Used to identify the applicable J1939-73 FMI detected in the heater of the outlet NH3 exhaust gas sensor by the manufacturer's sensor control software in exhaust bank 1.				
	4383	Aftertreatment 1 Outlet NH3 Gas Sensor Heater Control	J1939-71	61477	6.1	2	Indicates the heater status in the warm-up process.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4384	Aftertreatment 2 Diesel Exhaust Fluid Actual Dosing Quantity	J1939-71	61478	1-2	16	Actual reducing agent quantity of SCR system.			
	4385	Aftertreatment 2 SCR System State	J1939-71	61478	3.1	4	Actual state of SCR system			
	4386	Aftertreatment 2 Diesel Exhaust Fluid Actual Quantity of Integrator	J1939-71	61478	4-5	16	The SCR requested diesel exhaust fluid integrator total quantity for aftertreatment system 2 (exhaust bank 2).			
	4387	Aftertreatment 2 Diesel Exhaust Fluid Dosing Absolute Pressure	J1939-71	61478	6	8	The SCR dosing diesel exhaust fluid absolute pressure (measured closest to dosing valve) for aftertreatment system 2 (exhaust bank 2).			
	4388	Aftertreatment 2 SCR Dosing Air Assist Absolute Pressure	J1939-71	64827	1	8	The SCR dosing system air assist absolute pressure for aftertreatment system 2 (exhaust bank 2). The air assist system is used to improve the dosed reagent atomization.			
	4389	Aftertreatment 2 SCR Dosing Air Assist Valve	J1939-71	64827	2	8	The position of the valve used to regulate the air supply of an air assist SCR dosing system for an engine.			
	4390	Aftertreatment 2 Diesel Exhaust Fluid Dosing Temperature	J1939-71	64827	3	8	The diesel exhaust fluid dosing temperature (measured closest to dosing valve) for aftertreatment system 2 (exhaust bank 2).			
	4391	Aftertreatment 2 SCR Dosing Valve Exhaust Temp. Reduction Request	J1939-71	64827	4.1	3	Protection request for the dosing valve of the SCR-system to prevent overheating			
	4392	Aftertreatment 2 SCR Feedback Control Status	J1939-71	64827	4.4	3	The SCR feedback control status (open/closed loop) for aftertreatment system 2 (exhaust bank 2).			
	4393	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 1 State	J1939-71	64827	5.1	2	The diesel exhaust fluid line heater 1 state for aftertreatment system 2 (exhaust bank 2).			
	4394	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 1 Preliminary FMI	J1939-71	64827	5.3	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid line heater 1, by the manufacturer's control software in exhaust bank 2.			
	4395	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 2 State	J1939-71	64827	6.1	2	The diesel exhaust fluid line heater 2 state for aftertreatment system 2 (exhaust bank 2).			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4396	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 2 Preliminary FMI	J1939-71	64827	6.3	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid line heater 2, by the manufacturer's control software in exhaust bank 2.			
	4397	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 3 State	J1939-71	64827	7.1	2	The diesel exhaust fluid line heater 3 state for aftertreatment system 2 (exhaust bank 2).			
	4398	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 3 Preliminary FMI	J1939-71	64827	7.3	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid line heater 3, by the manufacturer's control software in exhaust bank 2.			
	4399	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 4 State	J1939-71	64827	8.1	2	The diesel exhaust fluid line heater 4 state for aftertreatment system 2 (exhaust bank 2).			
	4400	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 4 Preliminary FMI	J1939-71	64827	8.3	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid line heater 4, by the manufacturer's control software in exhaust bank 2.			
	4401	Aftertreatment 2 Diesel Exhaust Fluid Dosing Requested Quantity	J1939-71	61479	1-2	16	Actual requested dosing quantity of diesel exhaust fluid.			
	4402	Aftertreatment 2 SCR System Requested State	J1939-71	61479	3.1	4	Requested state of SCR system for aftertreatment system 2 (exhaust bank 2).			
	4403	Aftertreatment 2 Diesel Exhaust Fluid Requested Quantity of Integrator	J1939-71	61479	4-5	16	Represents the command for the diesel exhaust fluid quantity integrator in the dosing control unit			
	4405	Aftertreatment 2 Diesel Exhaust Fluid Doser Fault Suppression Request	J1939-71	64826	1.3	2	Used if external devices can warn of conditions that require suppression of potential faults in the doser due to environmental conditions.			
	4406	Aftertreatment 2 Diesel Exhaust Fluid Doser Heating Mode Request	J1939-71	64826	1.5	3	Used if multiple heater modes are available in the Doser.			
	4407	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 1	J1939-71	64826	2.1	2	The diesel exhaust fluid line heater 1 request for aftertreatment system 2 (exhaust bank 2).			
	4408	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 2	J1939-71	64826	2.3	2	The diesel exhaust fluid line heater 2 request for aftertreatment system 2 (exhaust bank 2).			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4409	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 3	J1939-71	64826	2.5	2	The diesel exhaust fluid line heater 3 request for aftertreatment system 2 (exhaust bank 2).			
	4410	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 4	J1939-71	64826	2.7	2	The diesel exhaust fluid line heater 4 request for aftertreatment system 2 (exhaust bank 2).			
	4411	Aftertreatment 2 SCR Exhaust Gas Differential Pressure	J1939-71	64825	1-2	16	Exhaust differential pressure measured between the intake and exhaust of an SCR component in exhaust bank 2.			
	4412	Aftertreatment 2 SCR Exhaust Gas Differential Pressure Preliminary FMI	J1939-71	64825	3.1	5	Used to identify the applicable J1939-73 FMI detected in the SCR differential pressure sensor by the manufacturer's sensor control software in exhaust bank 2.			
	4413	Aftertreatment 2 SCR Catalyst Intake Gas Temperature	J1939-71	64824	1-2	16	Temperature of engine combustion byproducts entering the SCR catalyst in exhaust bank 2.			
	4414	Aftertreatment 2 SCR Catalyst Intake Gas Temperature Preliminary FMI	J1939-71	64824	3.1	5	Used to identify the applicable J1939-73 FMI detected in the SCR catalyst intake gas temperature sensor by the manufacturer's sensor control software in exhaust bank 2.			
	4415	Aftertreatment 2 SCR Catalyst Outlet Gas Temperature	J1939-71	64824	4-5	16	Temperature of engine combustion byproducts leaving the SCR catalyst exhaust in exhaust bank 2.			
	4416	Aftertreatment 2 SCR Catalyst Outlet Gas Temperature Preliminary FMI	J1939-71	64824	6.1	5	Used to identify the applicable J1939-73 FMI detected in the SCR catalyst outlet gas temperature sensor by the manufacturer's sensor control software in exhaust bank 2.			
	4417	Aftertreatment 2 Diesel Exhaust Fluid Average Consumption	J1939-71	64823	1-2	16	Measured use of diesel exhaust fluid by a Selective Catalytic Reduction system for exhaust emission control, averaged over the previous 15 hours of engine operation.			
	4418	Aftertreatment 2 SCR Commanded Catalyst Diesel Exhaust Fluid Consumption	J1939-71	64823	3-4	16	This parameter transmits the amount of diesel exhaust fluid that the emissions control system has requested to be used, averaged over the past 15 hours of engine operation.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4419	Aftertreatment 2 SCR Conversion Efficiency	J1939-71	64823	5	8	The SCR conversion efficiency percentage.			
	4420	Aftertreatment 2 Diesel Exhaust Fluid Temperature 2	J1939-71	64822	1	8	Temperature of the diesel exhaust fluid at the device measuring diesel exhaust fluid quality			
	4421	Aftertreatment 2 Diesel Exhaust Fluid Concentration	J1939-71	64822	2	8	A measure of the concentration of urea in water.			
	4422	Aftertreatment 2 Diesel Exhaust Fluid Conductivity	J1939-71	64822	3	8	A measure of the conductivity of the diesel exhaust fluid at the sensor.			
(R)	4423	Aftertreatment 2 Diesel Exhaust Fluid Temperature 2 Preliminary FMI	J1939-71	64822	4.1	5	Used to identify the applicable J1939-73 FMI that applies to the most significant failure of the diesel exhaust fluid temperature sensor.			
(R)	4424	Aftertreatment 2 Diesel Exhaust Fluid Properties Preliminary FMI	J1939-71	64822	5.1	5	Used to identify the applicable J1939-73 FMI that applies to the most significant failure of the diesel exhaust fluid properties sensor.			
	4425	Aftertreatment 2 Diesel Exhaust Fluid Type	J1939-71	64822	6.1	4	This parameter indicates what reagent is in the tank.			
	4426	Aftertreatment 2 Diesel Exhaust Fluid Tank Level	J1939-71	64821	1	8	Ratio of volume of diesel exhaust fluid to the total volume of diesel exhaust fluid storage container.			
	4427	Aftertreatment 2 Diesel Exhaust Fluid Tank Temperature	J1939-71	64821	2	8	Temperature of the diesel exhaust fluid in the storage tank.			
	4428	Aftertreatment 2 Diesel Exhaust Fluid Tank Level 2	J1939-71	64821	3-4	16	The measure of the diesel exhaust fluid level in the diesel exhaust fluid tank.			
(R)	4429	Aftertreatment 2 Diesel Exhaust Fluid Tank Level Preliminary FMI	J1939-71	64821	5.1	5	Used to identify the applicable J1939-73 FMI that applies to the most significant failure of the diesel exhaust fluid tank level sensor.			
	4430	Aftertreatment 2 Diesel Exhaust Fluid Tank 1 Temperature Preliminary FMI	J1939-71	64821	6.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid tank 1 temperature by the manufacturer's control software in exhaust bank 2.			
	4431	Aftertreatment 2 Diesel Exhaust Fluid Tank Heater	J1939-71	64821	7	8	Percentage of heating applied to the aftertreatment 2 diesel exhaust fluid tank heater.			

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			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	4432	Aftertreatment 2 Diesel Exhaust Fluid Tank 1 Heater Preliminary FMI	J1939-71	64821	8.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid tank 1 heater, by the manufacturer's control software in exhaust bank 2.				
	4433	Aftertreatment 2 Diesel Exhaust Fluid Tank 2 Level	J1939-71	64820	1	8	The diesel exhaust fluid tank 2 level percentage for aftertreatment system 2 (exhaust bank 2).				
	4434	Aftertreatment 2 Diesel Exhaust Fluid Tank 2 Temperature	J1939-71	64820	2	8	The diesel exhaust fluid tank 2 temperature for aftertreatment system 2 (exhaust bank 2).				
	4435	Aftertreatment 2 Diesel Exhaust Fluid Tank 2 Level 2	J1939-71	64820	3-4	16	The diesel exhaust fluid tank 2 level height in mm for aftertreatment system 2 (exhaust bank 2).				
	4436	Aftertreatment 2 Diesel Exhaust Fluid Tank 2 Level Preliminary FMI	J1939-71	64820	5.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid tank 2 level, by the manufacturer's control software in exhaust bank 2.				
	4437	Aftertreatment 2 Diesel Exhaust Fluid Tank 2 Temperature Preliminary FMI	J1939-71	64820	6.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid tank 2 temperature, by the manufacturer's control software in exhaust bank 2.				
	4438	Aftertreatment 2 Diesel Exhaust Fluid Tank 2 Heater	J1939-71	64820	7	4	The diesel exhaust fluid tank 2 heater percentage for aftertreatment system 1 (exhaust bank 1).				
	4439	Aftertreatment 2 Diesel Exhaust Fluid Tank 2 Heater Preliminary FMI	J1939-71	64820	8.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid tank 2 heater by the manufacturer's control software in exhaust bank 2				
	4440	Aftertreatment 2 Diesel Exhaust Fluid Pump Motor Speed	J1939-71	64819	1-2	16	Rotational speed of the motor driving a pump for diesel exhaust fluid used in an aftertreatment system.				
	4441	Aftertreatment 2 Diesel Exhaust Fluid Pump Drive Percentage	J1939-71	64819	3	8	The percent (command) sent to the motor to control the speed of the diesel exhaust fluid pump.				

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Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4442	Aftertreatment 2 Diesel Exhaust Fluid Return Valve	J1939-71	64819	4	8	Command to the valve which determines whether the diesel exhaust fluid is delivered to the injector or is routed back to the diesel exhaust fluid tank.			
	4443	Aftertreatment 2 Outlet NH3	J1939-71	61480	1-2	16	The amount of NH3 in the exhaust exiting the aftertreatment system measured by a NH3 sensor at the aftertreatment outlet, represented in NH3 molecule parts per million non-NH3 molecules in exhaust bank 2.			
	4444	Aftertreatment 2 Outlet NH3 Sensor Preliminary FMI	J1939-71	61480	3.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment outlet NH3 sensor by the manufacturer's sensor control software in exhaust bank 2.			
	4445	Aftertreatment 2 Outlet NH3 Reading Stable	J1939-71	61480	4.1	2	Indicates that the NH3 reading of the aftertreatment outlet NH3 sensor is stable as determined by the manufacturer's control software in exhaust bank 2.			
	4446	Aftertreatment 2 Outlet NH3 Gas Sensor Power In Range	J1939-71	61480	4.3	2	Indicates that the power supplied to the aftertreatment outlet NH3 gas sensor is within the manufacturer's specification in exhaust bank 2.			
	4447	Aftertreatment 2 Outlet NH3 Gas Sensor at Temperature	J1939-71	61480	4.5	2	Indicates that the heater element of the aftertreatment outlet NH3 gas sensor is within the manufacturer's specified range for accurate measurements in exhaust bank 2.			
	4448	Aftertreatment 2 Outlet NH3 Gas Sensor Heater Preliminary FMI	J1939-71	61480	5.1	5	Used to identify the applicable J1939-73 FMI detected in the heater of the outlet NH3 exhaust gas sensor by the manufacturer's sensor control software in exhaust bank 2.			
	4449	Aftertreatment 2 Outlet NH3 Gas Sensor Heater Control	J1939-71	61480	6.1	2	Indicates the heater status in the warm-up process. Upon receiving a power-up command, the NH3 gas sensor ramps up according to a manufacturer defined profile.			

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Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4450	Aftertreatment 2 Diesel Exhaust Fluid Controller	J1939				The Diesel Exhaust Fluid Controller has the ability to read attributes of the SCR system, including but not limited to, diesel exhaust fluid level, diesel exhaust fluid temperature, diesel exhaust fluid quality, and diesel exhaust fluid dosing rate.			
	4451	Aftertreatment 2 Diesel Exhaust Fluid Dosing Unit	J1939				The DEF dosing unit is a device that mixes the DEF and air, and delivers a metered quantity of this mixture to the exhaust stream. This can also refer to a device that delivers DEF to an AFT DEF dosing valve without air assistance.			
	4452	Aftertreatment 2 Diesel Exhaust Fluid Dosing Unit Input Lines	J1939				The diesel exhaust fluid dosing unit is a device that mixes the diesel exhaust fluid and air, such that it contains an input line from the air tank and an input line from the diesel exhaust fluid tank.			
	4453	Aftertreatment 2 Diesel Exhaust Fluid Tank Quality	J1939				Measures the quality of the diesel exhaust fluid in the diesel exhaust fluid tank			
	4454	Retract Status of ramp 4	J1939-71	64880	4.1	2	Retract status of ramp at doorway 4, counting from front to back on the vehicle.			
	4455	Enable status of ramp 4	J1939-71	64880	4.3	2	Enable status of ramp at doorway 4, counting from front to back on the vehicle.			
	4456	Movement status of ramp 4	J1939-71	64880	4.5	2	Movement status of ramp at doorway 4, counting from front to back on the vehicle.			
	4457	Retract Status of ramp 5	J1939-71	64880	5.1	2	Retract status of ramp at doorway 5, counting from front to back on the vehicle.			
	4458	Enable status of ramp 5	J1939-71	64880	5.3	2	Enable status of ramp at doorway 5, counting from front to back on the vehicle.			
	4459	Movement status of ramp 5	J1939-71	64880	5.5	2	Movement status of ramp at doorway 5, counting from front to back on the vehicle.			
	4460	Joystick 1 Lamp 1 Command	J1939-71	39168	1.1	2	Tells joystick 1 to switch on/off/blinking lamp 1.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4461	Joystick 1 Lamp 2 Command	J1939-71	39168	1.3	2	Tells joystick 1 to switch on/off/blinking lamp 2.			
	4462	Joystick 1 Lamp 3 Command	J1939-71	39168	1.5	2	Tells joystick 1 to switch on/off/blinking lamp 3.			
	4463	Joystick 1 Lamp 4 Command	J1939-71	39168	1.7	2	Tells joystick 1 to switch on/off/blinking lamp 4.			
	4464	Joystick 1 Lamp 5 Command	J1939-71	39168	2.1	2	Tells joystick 1 to switch on/off/blinking lamp 5.			
	4465	Joystick 1 Lamp 6 Command	J1939-71	39168	2.3	2	Tells joystick 1 to switch on/off/blinking lamp 6.			
	4466	Joystick 1 Lamp 7 Command	J1939-71	39168	2.5	2	Tells joystick 1 to switch on/off/blinking lamp 7.			
	4467	Joystick 1 Lamp 8 Command	J1939-71	39168	2.7	2	Tells joystick 1 to switch on/off/blinking lamp 8.			
	4468	Joystick 1 Lamp 9 Command	J1939-71	39168	3.1	2	Tells joystick 1 to switch on/off/blinking lamp 9.			
	4469	Joystick 1 Lamp 10 Command	J1939-71	39168	3.3	2	Tells joystick 1 to switch on/off/blinking lamp 10.			
	4470	Joystick 2 Lamp 1 Command	J1939-71	39168	3.5	2	Tells joystick 2 to switch on/off/blinking lamp 1.			
	4471	Joystick 2 Lamp 2 Command	J1939-71	39168	3.7	2	Tells joystick 2 to switch on/off/blinking lamp 2.			
	4472	Joystick 2 Lamp 3 Command	J1939-71	39168	4.1	2	Tells joystick 2 to switch on/off/blinking lamp 3.			
	4473	Joystick 2 Lamp 4 Command	J1939-71	39168	4.3	2	Tells joystick 2 to switch on/off/blinking lamp 4.			
	4474	Joystick 2 Lamp 5 Command	J1939-71	39168	4.5	2	Tells joystick 2 to switch on/off/blinking lamp 5.			
	4475	Joystick 2 Lamp 6 Command	J1939-71	39168	4.7	2	Tells joystick 2 to switch on/off/blinking lamp 6.			
	4476	Joystick 2 Lamp 7 Command	J1939-71	39168	5.1	2	Tells joystick 2 to switch on/off/blinking lamp 7.			

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			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4477	Joystick 2 Lamp 8 Command	J1939-71	39168	5.3	2	Tells joystick 2 to switch on/off/blinking lamp 8.			
	4478	Joystick 2 Lamp 9 Command	J1939-71	39168	5.5	2	Tells joystick 2 to switch on/off/blinking lamp 9.			
	4479	Joystick 2 Lamp 10 Command	J1939-71	39168	5.7	2	Tells joystick 2 to switch on/off/blinking lamp 10.			
	4480	Joystick 3 Lamp 1 Command	J1939-71	39168	6.1	2	Tells joystick 3 to switch on/off/blinking lamp 1.			
	4481	Joystick 3 Lamp 2 Command	J1939-71	39168	6.3	2	Tells joystick 3 to switch on/off/blinking lamp 2.			
	4482	Joystick 3 Lamp 3 Command	J1939-71	39168	6.5	2	Tells joystick 3 to switch on/off/blinking lamp 3.			
	4483	Joystick 3 Lamp 4 Command	J1939-71	39168	6.7	2	Tells joystick 3 to switch on/off/blinking lamp 4.			
	4484	Joystick 3 Lamp 5 Command	J1939-71	39168	7.1	2	Tells joystick 3 to switch on/off/blinking lamp 5.			
	4485	Joystick 3 Lamp 6 Command	J1939-71	39168	7.3	2	Tells joystick 3 to switch on/off/blinking lamp 6.			
	4486	Joystick 3 Lamp 7 Command	J1939-71	39168	7.5	2	Tells joystick 3 to switch on/off/blinking lamp 7.			
	4487	Joystick 3 Lamp 8 Command	J1939-71	39168	7.7	2	Tells joystick 3 to switch on/off/blinking lamp 8.			
	4488	Joystick 3 Lamp 9 Command	J1939-71	39168	8.1	2	Tells joystick 3 to switch on/off/blinking lamp 9.			
	4489	Joystick 3 Lamp 10 Command	J1939-71	39168	8.3	2	Tells joystick 3 to switch on/off/blinking lamp 10.			
	4490	Specific Humidity	J1939-71	64992	3-4	16	Specific humidity of the ambient intake air.			
	4491	Joystick 4 X-Axis Neutral Position Status	J1939-71	64816	1.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4492	Joystick 4 X-Axis Lever Left Negative Position Status	J1939-71	64816	1.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			

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Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4493	Joystick 4 X-Axis Lever Right Positive Position Status	J1939-71	64816	1.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4494	Joystick 4 X-Axis Position	J1939-71	64816	1.7-2	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4495	Joystick 4 Y-Axis Neutral Position Status	J1939-71	64816	3.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4496	Joystick 4 Y-Axis Lever Back Negative Position Status	J1939-71	64816	3.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4497	Joystick 4 Y-Axis Lever Forward Positive Position Status	J1939-71	64816	3.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4498	Joystick 4 Y-Axis Position	J1939-71	64816	3.7-4	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4499	Joystick 4 Y-Axis Detent Position Status	J1939-71	64816	5.5	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4500	Joystick 4 X-Axis Detent Position Status	J1939-71	64816	5.7	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4501	Joystick 4 Button 4 Pressed Status	J1939-71	64816	6.1	2	Reports when the joystick button has been pressed.			
	4502	Joystick 4 Button 3 Pressed Status	J1939-71	64816	6.3	2	Reports when the joystick button has been pressed.			
	4503	Joystick 4 Button 2 Pressed Status	J1939-71	64816	6.5	2	Reports when the joystick button has been pressed.			
	4504	Joystick 4 Button 1 Pressed Status	J1939-71	64816	6.7	2	Reports when the joystick button has been pressed.			
	4505	Joystick 4 Button 8 Pressed Status	J1939-71	64816	7.1	2	Reports when the joystick button has been pressed.			
	4506	Joystick 4 Button 7 Pressed Status	J1939-71	64816	7.3	2	Reports when the joystick button has been pressed.			

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Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4507	Joystick 4 Button 6 Pressed Status	J1939-71	64816	7.5	2	Reports when the joystick button has been pressed.			
	4508	Joystick 4 Button 5 Pressed Status	J1939-71	64816	7.7	2	Reports when the joystick button has been pressed.			
	4509	Joystick 4 Button 12 Pressed Status	J1939-71	64816	8.1	2	Reports when the joystick button has been pressed.			
	4510	Joystick 4 Button 11 Pressed Status	J1939-71	64816	8.3	2	Reports when the joystick button has been pressed.			
	4511	Joystick 4 Button 10 Pressed Status	J1939-71	64816	8.5	2	Reports when the joystick button has been pressed.			
	4512	Joystick 4 Button 9 Pressed Status	J1939-71	64816	8.7	2	Reports when the joystick button has been pressed.			
	4513	Joystick 4 Grip X-Axis Neutral Position Status	J1939-71	64815	1.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	4514	Joystick 4 Grip X-Axis Lever Left Negative Position Status	J1939-71	64815	1.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	4515	Joystick 4 Grip X-Axis Lever Right Positive Position Status	J1939-71	64815	1.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	4516	Joystick 4 Grip X-Axis Position	J1939-71	64815	1.7-2	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	4517	Joystick 4 Grip Y-Axis Neutral Position Status	J1939-71	64815	3.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	4518	Joystick 4 Grip Y-Axis Lever Back Negative Position Status	J1939-71	64815	3.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	4519	Joystick 4 Grip Y-Axis Lever Forward Positive Position Status	J1939-71	64815	3.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			

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			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	4520	Joystick 4 Grip Y-Axis Position	J1939-71	64815	3.7-4	10	The position of the joystick grip in the relative motion of travel from the neutral position.				
	4521	Joystick 4 Theta-Axis Neutral Position Status	J1939-71	64815	5.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.				
	4522	Joystick 4 Theta-Axis Counter Clockwise Negative Position Status	J1939-71	64815	5.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)				
	4523	Joystick 4 Theta-Axis Clockwise Positive Position Status	J1939-71	64815	5.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)				
	4524	Joystick 4 Theta-Axis Position	J1939-71	64815	5.7-6	10	The position of the joystick in the relative motion of travel from the neutral position.				
	4525	Joystick 4 Theta-Axis Detent Position Status	J1939-71	64815	7.3	2	Reports when the current joystick position is in the detent position for that axis of travel.				
	4526	Joystick 4 Grip Y-Axis Detent Position Status	J1939-71	64815	7.5	2	Reports when the current joystick grip position is in the detent position for that axis of travel.				
	4527	Joystick 4 Grip X-Axis Detent Position Status	J1939-71	64815	7.7	2	Reports when the current joystick grip position is in the detent position for that axis of travel.				
	4528	Joystick 5 X-Axis Neutral Position Status	J1939-71	64814	1.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.				
	4529	Joystick 5 X-Axis Lever Left Negative Position Status	J1939-71	64814	1.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)				
	4530	Joystick 5 X-Axis Lever Right Positive Position Status	J1939-71	64814	1.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)				
	4531	Joystick 5 X-Axis Position	J1939-71	64814	1.7-2	10	The position of the joystick in the relative motion of travel from the neutral position.				
	4532	Joystick 5 Y-Axis Neutral Position Status	J1939-71	64814	3.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.				

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Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4533	Joystick 5 Y-Axis Lever Back Negative Position Status	J1939-71	64814	3.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4534	Joystick 5 Y-Axis Lever Forward Positive Position Status	J1939-71	64814	3.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4535	Joystick 5 Y-Axis Position	J1939-71	64814	3.7-4	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4536	Joystick 5 Y-Axis Detent Position Status	J1939-71	64814	5.5	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4537	Joystick 5 X-Axis Detent Position Status	J1939-71	64814	5.7	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4538	Joystick 5 Button 4 Pressed Status	J1939-71	64814	6.1	2	Reports when the joystick button has been pressed.			
	4539	Joystick 5 Button 3 Pressed Status	J1939-71	64814	6.3	2	Reports when the joystick button has been pressed.			
	4540	Joystick 5 Button 2 Pressed Status	J1939-71	64814	6.5	2	Reports when the joystick button has been pressed.			
	4541	Joystick 5 Button 1 Pressed Status	J1939-71	64814	6.7	2	Reports when the joystick button has been pressed.			
	4542	Joystick 5 Button 8 Pressed Status	J1939-71	64814	7.1	2	Reports when the joystick button has been pressed.			
	4543	Joystick 5 Button 7 Pressed Status	J1939-71	64814	7.3	2	Reports when the joystick button has been pressed.			
	4544	Joystick 5 Button 6 Pressed Status	J1939-71	64814	7.5	2	Reports when the joystick button has been pressed.			
	4545	Joystick 5 Button 5 Pressed Status	J1939-71	64814	7.7	2	Reports when the joystick button has been pressed.			
	4546	Joystick 5 Button 12 Pressed Status	J1939-71	64814	8.1	2	Reports when the joystick button has been pressed.			
	4547	Joystick 5 Button 11 Pressed Status	J1939-71	64814	8.3	2	Reports when the joystick button has been pressed.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4548	Joystick 5 Button 10 Pressed Status	J1939-71	64814	8.5	2	Reports when the joystick button has been pressed.			
	4549	Joystick 5 Button 9 Pressed Status	J1939-71	64814	8.7	2	Reports when the joystick button has been pressed.			
	4550	Joystick 5 Grip X-Axis Neutral Position Status	J1939-71	64813	1.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	4551	Joystick 5 Grip X-Axis Lever Left Negative Position Status	J1939-71	64813	1.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	4552	Joystick 5 Grip X-Axis Lever Right Positive Position Status	J1939-71	64813	1.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	4553	Joystick 5 Grip X-Axis Position	J1939-71	64813	1.7-2	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	4554	Joystick 5 Grip Y-Axis Neutral Position Status	J1939-71	64813	3.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	4555	Joystick 5 Grip Y-Axis Lever Back Negative Position Status	J1939-71	64813	3.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	4556	Joystick 5 Grip Y-Axis Lever Forward Positive Position Status	J1939-71	64813	3.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	4557	Joystick 5 Grip Y-Axis Position	J1939-71	64813	3.7-4	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	4558	Joystick 5 Theta-Axis Neutral Position Status	J1939-71	64813	5.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4559	Joystick 5 Theta-Axis Counter Clockwise Negative Position Status	J1939-71	64813	5.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4560	Joystick 5 Theta-Axis Clockwise Positive Position Status	J1939-71	64813	5.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4561	Joystick 5 Theta-Axis Position	J1939-71	64813	5.7-6	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4562	Joystick 5 Theta-Axis Detent Position Status	J1939-71	64813	7.3	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4563	Joystick 5 Grip Y-Axis Detent Position Status	J1939-71	64813	7.5	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	4564	Joystick 5 Grip X-Axis Detent Position Status	J1939-71	64813	7.7	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	4565	Joystick 6 X-Axis Neutral Position Status	J1939-71	64812	1.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4566	Joystick 6 X-Axis Lever Left Negative Position Status	J1939-71	64812	1.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4567	Joystick 6 X-Axis Lever Right Positive Position Status	J1939-71	64812	1.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4568	Joystick 6 X-Axis Position	J1939-71	64812	1.7-2	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4569	Joystick 6 Y-Axis Neutral Position Status	J1939-71	64812	3.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4570	Joystick 6 Y-Axis Lever Back Negative Position Status	J1939-71	64812	3.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4571	Joystick 6 Y-Axis Lever Forward Positive Position Status	J1939-71	64812	3.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4572	Joystick 6 Y-Axis Position	J1939-71	64812	3.7-4	10	The position of the joystick in the relative motion of travel from the neutral position.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4573	Joystick 6 Y-Axis Detent Position Status	J1939-71	64812	5.5	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4574	Joystick 6 X-Axis Detent Position Status	J1939-71	64812	5.7	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4575	Joystick 6 Button 4 Pressed Status	J1939-71	64812	6.1	2	Reports when the joystick button has been pressed.			
	4576	Joystick 6 Button 3 Pressed Status	J1939-71	64812	6.3	2	Reports when the joystick button has been pressed.			
	4577	Joystick 6 Button 2 Pressed Status	J1939-71	64812	6.5	2	Reports when the joystick button has been pressed.			
	4578	Joystick 6 Button 1 Pressed Status	J1939-71	64812	6.7	2	Reports when the joystick button has been pressed.			
	4579	Joystick 6 Button 8 Pressed Status	J1939-71	64812	7.1	2	Reports when the joystick button has been pressed.			
	4580	Joystick 6 Button 7 Pressed Status	J1939-71	64812	7.3	2	Reports when the joystick button has been pressed.			
	4581	Joystick 6 Button 6 Pressed Status	J1939-71	64812	7.5	2	Reports when the joystick button has been pressed.			
	4582	Joystick 6 Button 5 Pressed Status	J1939-71	64812	7.7	2	Reports when the joystick button has been pressed.			
	4583	Joystick 6 Button 12 Pressed Status	J1939-71	64812	8.1	2	Reports when the joystick button has been pressed.			
	4584	Joystick 6 Button 11 Pressed Status	J1939-71	64812	8.3	2	Reports when the joystick button has been pressed.			
	4585	Joystick 6 Button 10 Pressed Status	J1939-71	64812	8.5	2	Reports when the joystick button has been pressed.			
	4586	Joystick 6 Button 9 Pressed Status	J1939-71	64812	8.7	2	Reports when the joystick button has been pressed.			
	4587	Joystick 6 Grip X-Axis Neutral Position Status	J1939-71	64811	1.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	4588	Joystick 6 Grip X-Axis Lever Left Negative Position Status	J1939-71	64811	1.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)				
	4589	Joystick 6 Grip X-Axis Lever Right Positive Position Status	J1939-71	64811	1.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)				
	4590	Joystick 6 Grip X-Axis Position	J1939-71	64811	1.7-2	10	The position of the joystick grip in the relative motion of travel from the neutral position.				
	4591	Joystick 6 Grip Y-Axis Neutral Position Status	J1939-71	64811	3.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.				
	4592	Joystick 6 Grip Y-Axis Lever Back Negative Position Status	J1939-71	64811	3.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)				
	4593	Joystick 6 Grip Y-Axis Lever Forward Positive Position Status	J1939-71	64811	3.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)				
	4594	Joystick 6 Grip Y-Axis Position	J1939-71	64811	3.7-4	10	The position of the joystick grip in the relative motion of travel from the neutral position.				
	4595	Joystick 6 Theta-Axis Neutral Position Status	J1939-71	64811	5.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.				
	4596	Joystick 6 Theta-Axis Counter Clockwise Negative Position Status	J1939-71	64811	5.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)				
	4597	Joystick 6 Theta-Axis Clockwise Positive Position Status	J1939-71	64811	5.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)				
	4598	Joystick 6 Theta-Axis Position	J1939-71	64811	5.7-6	10	The position of the joystick in the relative motion of travel from the neutral position.				
	4599	Joystick 6 Theta-Axis Detent Position Status	J1939-71	64811	7.3	2	Reports when the current joystick position is in the detent position for that axis of travel.				

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	4600	Joystick 6 Grip Y-Axis Detent Position Status	J1939-71	64811	7.5	2	Reports when the current joystick grip position is in the detent position for that axis of travel.				
	4601	Joystick 6 Grip X-Axis Detent Position Status	J1939-71	64811	7.7	2	Reports when the current joystick grip position is in the detent position for that axis of travel.				
	4602	Joystick 7 X-Axis Neutral Position Status	J1939-71	64810	1.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.				
	4603	Joystick 7 X-Axis Lever Left Negative Position Status	J1939-71	64810	1.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)				
	4604	Joystick 7 X-Axis Lever Right Positive Position Status	J1939-71	64810	1.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)				
	4605	Joystick 7 X-Axis Position	J1939-71	64810	1.7-2	10	The position of the joystick in the relative motion of travel from the neutral position.				
	4606	Joystick 7 Y-Axis Neutral Position Status	J1939-71	64810	3.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.				
	4607	Joystick 7 Y-Axis Lever Back Negative Position Status	J1939-71	64810	3.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)				
	4608	Joystick 7 Y-Axis Lever Forward Positive Position Status	J1939-71	64810	3.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)				
	4609	Joystick 7 Y-Axis Position	J1939-71	64810	3.7-4	10	The position of the joystick in the relative motion of travel from the neutral position.				
	4610	Joystick 7 Y-Axis Detent Position Status	J1939-71	64810	5.5	2	Reports when the current joystick position is in the detent position for that axis of travel.				
	4611	Joystick 7 X-Axis Detent Position Status	J1939-71	64810	5.7	2	Reports when the current joystick position is in the detent position for that axis of travel.				
	4612	Joystick 7 Button 4 Pressed Status	J1939-71	64810	6.1	2	Reports when the joystick button has been pressed.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4613	Joystick 7 Button 3 Pressed Status	J1939-71	64810	6.3	2	Reports when the joystick button has been pressed.			
	4614	Joystick 7 Button 2 Pressed Status	J1939-71	64810	6.5	2	Reports when the joystick button has been pressed.			
	4615	Joystick 7 Button 1 Pressed Status	J1939-71	64810	6.7	2	Reports when the joystick button has been pressed.			
	4616	Joystick 7 Button 8 Pressed Status	J1939-71	64810	7.1	2	Reports when the joystick button has been pressed.			
	4617	Joystick 7 Button 7 Pressed Status	J1939-71	64810	7.3	2	Reports when the joystick button has been pressed.			
	4618	Joystick 7 Button 6 Pressed Status	J1939-71	64810	7.5	2	Reports when the joystick button has been pressed.			
	4619	Joystick 7 Button 5 Pressed Status	J1939-71	64810	7.7	2	Reports when the joystick button has been pressed.			
	4620	Joystick 7 Button 12 Pressed Status	J1939-71	64810	8.1	2	Reports when the joystick button has been pressed.			
	4621	Joystick 7 Button 11 Pressed Status	J1939-71	64810	8.3	2	Reports when the joystick button has been pressed.			
	4622	Joystick 7 Button 10 Pressed Status	J1939-71	64810	8.5	2	Reports when the joystick button has been pressed.			
	4623	Joystick 7 Button 9 Pressed Status	J1939-71	64810	8.7	2	Reports when the joystick button has been pressed.			
	4624	Joystick 7 Grip X-Axis Neutral Position Status	J1939-71	64809	1.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	4625	Joystick 7 Grip X-Axis Lever Left Negative Position Status	J1939-71	64809	1.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	4626	Joystick 7 Grip X-Axis Lever Right Positive Position Status	J1939-71	64809	1.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4627	Joystick 7 Grip X-Axis Position	J1939-71	64809	1.7-2	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	4628	Joystick 7 Grip Y-Axis Neutral Position Status	J1939-71	64809	3.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	4629	Joystick 7 Grip Y-Axis Lever Back Negative Position Status	J1939-71	64809	3.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	4630	Joystick 7 Grip Y-Axis Lever Forward Positive Position Status	J1939-71	64809	3.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	4631	Joystick 7 Grip Y-Axis Position	J1939-71	64809	3.7-4	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	4632	Joystick 7 Theta-Axis Neutral Position Status	J1939-71	64809	5.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4633	Joystick 7 Theta-Axis Counter Clockwise Negative Position Status	J1939-71	64809	5.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4634	Joystick 7 Theta-Axis Clockwise Positive Position Status	J1939-71	64809	5.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4635	Joystick 7 Theta-Axis Position	J1939-71	64809	5.7-6	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4636	Joystick 7 Theta-Axis Detent Position Status	J1939-71	64809	7.3	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4637	Joystick 7 Grip Y-Axis Detent Position Status	J1939-71	64809	7.5	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	4638	Joystick 7 Grip X-Axis Detent Position Status	J1939-71	64809	7.7	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	4639	Joystick 8 X-Axis Neutral Position Status	J1939-71	64808	1.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4640	Joystick 8 X-Axis Lever Left Negative Position Status	J1939-71	64808	1.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4641	Joystick 8 X-Axis Lever Right Positive Position Status	J1939-71	64808	1.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4642	Joystick 8 X-Axis Position	J1939-71	64808	1.7-2	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4643	Joystick 8 Y-Axis Neutral Position Status	J1939-71	64808	3.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4644	Joystick 8 Y-Axis Lever Back Negative Position Status	J1939-71	64808	3.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4645	Joystick 8 Y-Axis Lever Forward Positive Position Status	J1939-71	64808	3.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4646	Joystick 8 Y-Axis Position	J1939-71	64808	3.7-4	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4647	Joystick 8 Y-Axis Detent Position Status	J1939-71	64808	5.5	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4648	Joystick 8 X-Axis Detent Position Status	J1939-71	64808	5.7	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4649	Joystick 8 Button 4 Pressed Status	J1939-71	64808	6.1	2	Reports when the joystick button has been pressed.			
	4650	Joystick 8 Button 3 Pressed Status	J1939-71	64808	6.3	2	Reports when the joystick button has been pressed.			
	4651	Joystick 8 Button 2 Pressed Status	J1939-71	64808	6.5	2	Reports when the joystick button has been pressed.			
	4652	Joystick 8 Button 1 Pressed Status	J1939-71	64808	6.7	2	Reports when the joystick button has been pressed.			
	4653	Joystick 8 Button 8 Pressed Status	J1939-71	64808	7.1	2	Reports when the joystick button has been pressed.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	4654	Joystick 8 Button 7 Pressed Status	J1939-71	64808	7.3	2	Reports when the joystick button has been pressed.				
	4655	Joystick 8 Button 6 Pressed Status	J1939-71	64808	7.5	2	Reports when the joystick button has been pressed.				
	4656	Joystick 8 Button 5 Pressed Status	J1939-71	64808	7.7	2	Reports when the joystick button has been pressed.				
	4657	Joystick 8 Button 12 Pressed Status	J1939-71	64808	8.1	2	Reports when the joystick button has been pressed.				
	4658	Joystick 8 Button 11 Pressed Status	J1939-71	64808	8.3	2	Reports when the joystick button has been pressed.				
	4659	Joystick 8 Button 10 Pressed Status	J1939-71	64808	8.5	2	Reports when the joystick button has been pressed.				
	4660	Joystick 8 Button 9 Pressed Status	J1939-71	64808	8.7	2	Reports when the joystick button has been pressed.				
	4661	Joystick 8 Grip X-Axis Neutral Position Status	J1939-71	64807	1.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.				
	4662	Joystick 8 Grip X-Axis Lever Left Negative Position Status	J1939-71	64807	1.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)				
	4663	Joystick 8 Grip X-Axis Lever Right Positive Position Status	J1939-71	64807	1.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)				
	4664	Joystick 8 Grip X-Axis Position	J1939-71	64807	1.7-2	10	The position of the joystick grip in the relative motion of travel from the neutral position.				
	4665	Joystick 8 Grip Y-Axis Neutral Position Status	J1939-71	64807	3.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.				
	4666	Joystick 8 Grip Y-Axis Lever Back Negative Position Status	J1939-71	64807	3.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4667	Joystick 8 Grip Y-Axis Lever Forward Positive Position Status	J1939-71	64807	3.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	4668	Joystick 8 Grip Y-Axis Position	J1939-71	64807	3.7-4	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	4669	Joystick 8 Theta-Axis Neutral Position Status	J1939-71	64807	5.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4670	Joystick 8 Theta-Axis Counter Clockwise Negative Position Status	J1939-71	64807	5.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4671	Joystick 8 Theta-Axis Clockwise Positive Position Status	J1939-71	64807	5.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4672	Joystick 8 Theta-Axis Position	J1939-71	64807	5.7-6	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4673	Joystick 8 Theta-Axis Detent Position Status	J1939-71	64807	7.3	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4674	Joystick 8 Grip Y-Axis Detent Position Status	J1939-71	64807	7.5	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	4675	Joystick 8 Grip X-Axis Detent Position Status	J1939-71	64807	7.7	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	4676	Joystick 9 X-Axis Neutral Position Status	J1939-71	64806	1.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4677	Joystick 9 X-Axis Lever Left Negative Position Status	J1939-71	64806	1.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4678	Joystick 9 X-Axis Lever Right Positive Position Status	J1939-71	64806	1.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4679	Joystick 9 X-Axis Position	J1939-71	64806	1.7-2	10	The position of the joystick in the relative motion of travel from the neutral position.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4680	Joystick 9 Y-Axis Neutral Position Status	J1939-71	64806	3.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4681	Joystick 9 Y-Axis Lever Back Negative Position Status	J1939-71	64806	3.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4682	Joystick 9 Y-Axis Lever Forward Positive Position Status	J1939-71	64806	3.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4683	Joystick 9 Y-Axis Position	J1939-71	64806	3.7-4	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4684	Joystick 9 Y-Axis Detent Position Status	J1939-71	64806	5.5	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4685	Joystick 9 X-Axis Detent Position Status	J1939-71	64806	5.7	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4686	Joystick 9 Button 4 Pressed Status	J1939-71	64806	6.1	2	Reports when the joystick button has been pressed.			
	4687	Joystick 9 Button 3 Pressed Status	J1939-71	64806	6.3	2	Reports when the joystick button has been pressed.			
	4688	Joystick 9 Button 2 Pressed Status	J1939-71	64806	6.5	2	Reports when the joystick button has been pressed.			
	4689	Joystick 9 Button 1 Pressed Status	J1939-71	64806	6.7	2	Reports when the joystick button has been pressed.			
	4690	Joystick 9 Button 8 Pressed Status	J1939-71	64806	7.1	2	Reports when the joystick button has been pressed.			
	4691	Joystick 9 Button 7 Pressed Status	J1939-71	64806	7.3	2	Reports when the joystick button has been pressed.			
	4692	Joystick 9 Button 6 Pressed Status	J1939-71	64806	7.5	2	Reports when the joystick button has been pressed.			
	4693	Joystick 9 Button 5 Pressed Status	J1939-71	64806	7.7	2	Reports when the joystick button has been pressed.			
	4694	Joystick 9 Button 12 Pressed Status	J1939-71	64806	8.1	2	Reports when the joystick button has been pressed.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4695	Joystick 9 Button 11 Pressed Status	J1939-71	64806	8.3	2	Reports when the joystick button has been pressed.			
	4696	Joystick 9 Button 10 Pressed Status	J1939-71	64806	8.5	2	Reports when the joystick button has been pressed.			
	4697	Joystick 9 Button 9 Pressed Status	J1939-71	64806	8.7	2	Reports when the joystick button has been pressed.			
	4698	Joystick 9 Grip X-Axis Neutral Position Status	J1939-71	64805	1.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	4699	Joystick 9 Grip X-Axis Lever Left Negative Position Status	J1939-71	64805	1.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	4700	Joystick 9 Grip X-Axis Lever Right Positive Position Status	J1939-71	64805	1.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	4701	Joystick 9 Grip X-Axis Position	J1939-71	64805	1.7-2	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	4702	Joystick 9 Grip Y-Axis Neutral Position Status	J1939-71	64805	3.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	4703	Joystick 9 Grip Y-Axis Lever Back Negative Position Status	J1939-71	64805	3.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	4704	Joystick 9 Grip Y-Axis Lever Forward Positive Position Status	J1939-71	64805	3.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	4705	Joystick 9 Grip Y-Axis Position	J1939-71	64805	3.7-4	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	4706	Joystick 9 Theta-Axis Neutral Position Status	J1939-71	64805	5.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4707	Joystick 9 Theta-Axis Counter Clockwise Negative Position Status	J1939-71	64805	5.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4708	Joystick 9 Theta-Axis Clockwise Positive Position Status	J1939-71	64805	5.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4709	Joystick 9 Theta-Axis Position	J1939-71	64805	5.7-6	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4710	Joystick 9 Theta-Axis Detent Position Status	J1939-71	64805	7.3	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4711	Joystick 9 Grip Y-Axis Detent Position Status	J1939-71	64805	7.5	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	4712	Joystick 9 Grip X-Axis Detent Position Status	J1939-71	64805	7.7	2	Reports when the current joystick grip position is in the detent position for that axis of travel.			
	4713	Joystick 10 X-Axis Neutral Position Status	J1939-71	64804	1.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4714	Joystick 10 X-Axis Lever Left Negative Position Status	J1939-71	64804	1.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4715	Joystick 10 X-Axis Lever Right Positive Position Status	J1939-71	64804	1.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4716	Joystick 10 X-Axis Position	J1939-71	64804	1.7-2	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4717	Joystick 10 Y-Axis Neutral Position Status	J1939-71	64804	3.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4718	Joystick 10 Y-Axis Lever Back Negative Position Status	J1939-71	64804	3.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4719	Joystick 10 Y-Axis Lever Forward Positive Position Status	J1939-71	64804	3.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4720	Joystick 10 Y-Axis Position	J1939-71	64804	3.7-4	10	The position of the joystick in the relative motion of travel from the neutral position.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4721	Joystick 10 Y-Axis Detent Position Status	J1939-71	64804	5.5	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4722	Joystick 10 X-Axis Detent Position Status	J1939-71	64804	5.7	2	Reports when the current joystick position is in the detent position for that axis of travel.			
	4723	Joystick 10 Button 4 Pressed Status	J1939-71	64804	6.1	2	Reports when the joystick button has been pressed.			
	4724	Joystick 10 Button 3 Pressed Status	J1939-71	64804	6.3	2	Reports when the joystick button has been pressed.			
	4725	Joystick 10 Button 2 Pressed Status	J1939-71	64804	6.5	2	Reports when the joystick button has been pressed.			
	4726	Joystick 10 Button 1 Pressed Status	J1939-71	64804	6.7	2	Reports when the joystick button has been pressed.			
	4727	Joystick 10 Button 8 Pressed Status	J1939-71	64804	7.1	2	Reports when the joystick button has been pressed.			
	4728	Joystick 10 Button 7 Pressed Status	J1939-71	64804	7.3	2	Reports when the joystick button has been pressed.			
	4729	Joystick 10 Button 6 Pressed Status	J1939-71	64804	7.5	2	Reports when the joystick button has been pressed.			
	4730	Joystick 10 Button 5 Pressed Status	J1939-71	64804	7.7	2	Reports when the joystick button has been pressed.			
	4731	Joystick 10 Button 12 Pressed Status	J1939-71	64804	8.1	2	Reports when the joystick button has been pressed.			
	4732	Joystick 10 Button 11 Pressed Status	J1939-71	64804	8.3	2	Reports when the joystick button has been pressed.			
	4733	Joystick 10 Button 10 Pressed Status	J1939-71	64804	8.5	2	Reports when the joystick button has been pressed.			
	4734	Joystick 10 Button 9 Pressed Status	J1939-71	64804	8.7	2	Reports when the joystick button has been pressed.			
	4735	Joystick 10 Grip X-Axis Neutral Position Status	J1939-71	64803	1.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4736	Joystick 10 Grip X-Axis Lever Left Negative Position Status	J1939-71	64803	1.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	4737	Joystick 10 Grip X-Axis Lever Right Positive Position Status	J1939-71	64803	1.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	4738	Joystick 10 Grip X-Axis Position	J1939-71	64803	1.7-2	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	4739	Joystick 10 Grip Y-Axis Neutral Position Status	J1939-71	64803	3.1	2	Reports when the current joystick grip position is in the neutral position for that axis of travel.			
	4740	Joystick 10 Grip Y-Axis Lever Back Negative Position Status	J1939-71	64803	3.3	2	Reports when the current joystick grip position is on the negative travel side (back, left, counterclockwise, down)			
	4741	Joystick 10 Grip Y-Axis Lever Forward Positive Position Status	J1939-71	64803	3.5	2	Reports when the current joystick grip position is on the positive travel side (forward, right, clockwise, up)			
	4742	Joystick 10 Grip Y-Axis Position	J1939-71	64803	3.7-4	10	The position of the joystick grip in the relative motion of travel from the neutral position.			
	4743	Joystick 10 Theta-Axis Neutral Position Status	J1939-71	64803	5.1	2	Reports when the current joystick position is in the neutral position for that axis of travel.			
	4744	Joystick 10 Theta-Axis Counter Clockwise Negative Position Status	J1939-71	64803	5.3	2	Reports when the current joystick position is on the negative travel side (back, left, counterclockwise, down)			
	4745	Joystick 10 Theta-Axis Clockwise Positive Position Status	J1939-71	64803	5.5	2	Reports when the current joystick position is on the positive travel side (forward, right, clockwise, up)			
	4746	Joystick 10 Theta-Axis Position	J1939-71	64803	5.7-6	10	The position of the joystick in the relative motion of travel from the neutral position.			
	4747	Joystick 10 Theta-Axis Detent Position Status	J1939-71	64803	7.3	2	Reports when the current joystick position is in the detent position for that axis of travel.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	4748	Joystick 10 Grip Y-Axis Detent Position Status	J1939-71	64803	7.5	2	Reports when the current joystick grip position is in the detent position for that axis of travel.				
	4749	Joystick 10 Grip X-Axis Detent Position Status	J1939-71	64803	7.7	2	Reports when the current joystick grip position is in the detent position for that axis of travel.				
	4750	Engine Exhaust Gas Recirculation 1 (EGR1) Cooler Intake Temperature	J1939-71	64879	3-4	16	Exhaust Gas Recirculation 1 (EGR) Temperature measured at the EGR cooler intake.				
	4751	Engine Exhaust Gas Recirculation 1 (EGR1) Cooler Intake Gas Absolute Pressure	J1939-71	64879	5-6	16	Exhaust Gas Recirculation 1gas absolute pressure is measured at the EGR cooler intake.				
	4752	Engine Exhaust Gas Recirculation 1 (EGR1) Cooler Efficiency	J1939-71	64879	7	8	Exhaust Gas Recirculation cooler efficiency is an indication of the cooler's ability to reduce the temperature of the exhaust gas that is being recirculated back to the intake.				
	4753	Aftertreatment 1 Gas Oxidation Catalyst Intake Gas Temperature	J1939-71	64802	1-2	16	Temperature of engine combustion byproducts entering the gas oxidation catalyst in exhaust bank 1.				
	4754	Aftertreatment 1 Gas Oxidation Catalyst Outlet Gas Temperature	J1939-71	64802	3-4	16	Temperature of engine combustion byproducts leaving the gas oxidation catalyst in exhaust bank 1.				
	4755	Aftertreatment 1 Gas Oxidation Catalyst Differential Pressure	J1939-71	64802	5-6	16	Exhaust differential pressure measured between the intake and exhaust of the gas oxidation catalyst in exhaust bank 1.				
	4756	Aftertreatment 1 Gas Oxidation Catalyst Intake Gas Temperature Preliminary FMI	J1939-71	64802	7.1	5	Used to identify the applicable J1939-73 FMI detected in the gas oxidation catalyst intake gas temperature sensor by the manufacturer's sensor control software in exhaust bank 1.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4757	Aftertreatment 1 Gas Oxidation Catalyst Outlet Gas Temperature Preliminary FMI	J1939-71	64802	7.6-8.1	5	Used to identify the applicable J1939-73 FMI detected in the gas oxidation catalyst outlet gas temperature sensor by the manufacturer's sensor control software in exhaust bank 1			
	4758	Aftertreatment 1 Gas Oxidation Catalyst Differential Pressure Preliminary FMI	J1939-71	64802	8.3	5	Used to identify the applicable J1939-73 FMI detected in the gas oxidation catalyst differential pressure sensor by the manufacturer's sensor control software in exhaust bank 1			
	4759	Aftertreatment 2 Gas Oxidation Catalyst Intake Gas Temperature	J1939-71	64801	1-2	16	Temperature of engine combustion byproducts entering the gas oxidation catalyst in exhaust bank 2.			
	4760	Aftertreatment 2 Gas Oxidation Catalyst Outlet Gas Temperature	J1939-71	64801	3-4	16	Temperature of engine combustion byproducts leaving the gas oxidation catalyst in exhaust bank 2.			
	4761	Aftertreatment 2 Gas Oxidation Catalyst Differential Pressure	J1939-71	64801	5-6	16	Exhaust differential pressure measured between the intake and exhaust of the gas oxidation catalyst in exhaust bank 2.			
	4762	Aftertreatment 2 Gas Oxidation Catalyst Intake Gas Temperature Preliminary FMI	J1939-71	64801	7.1	5	Used to identify the applicable J1939-73 FMI detected in the gas oxidation catalyst intake gas temperature sensor by the manufacturer's sensor control software in exhaust bank 2.			
	4763	Aftertreatment 2 Gas Oxidation Catalyst Outlet Gas Temperature Preliminary FMI	J1939-71	64801	7.6-8.1	5	Used to identify the applicable J1939-73 FMI detected in the gas oxidation catalyst outlet gas temperature sensor by the manufacturer's sensor control software in exhaust bank 2.			
	4764	Aftertreatment 2 Gas Oxidation Catalyst Differential Pressure Preliminary FMI	J1939-71	64801	8.3	5	Used to identify the applicable J1939-73 FMI detected in the gas oxidation catalyst differential pressure sensor by the manufacturer's sensor control software in exhaust bank 2.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4765	Aftertreatment 1 Diesel Oxidation Catalyst Intake Gas Temperature	J1939-71	64800	1-2	16	Temperature of engine combustion byproducts entering the diesel oxidation catalyst in exhaust bank 1.			
	4766	Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature	J1939-71	64800	3-4	16	Temperature of engine combustion byproducts leaving the diesel oxidation catalyst exhaust in exhaust bank 1.			
	4767	Aftertreatment 1 Diesel Oxidation Catalyst Differential Pressure	J1939-71	64800	5-6	16	Exhaust differential pressure measured between the intake and exhaust of a diesel oxidation catalyst in exhaust bank 1.			
	4768	Aftertreatment 1 Diesel Oxidation Catalyst Intake Gas Temperature Preliminary FMI	J1939-71	64800	7.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel oxidation catalyst intake gas temperature sensor by the manufacturer's sensor control software in exhaust bank 1.			
	4769	Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature Preliminary FMI	J1939-71	64800	7.6-8.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel oxidation catalyst outlet gas temperature sensor by the manufacturer's sensor control software in exhaust bank 1			
	4770	Aftertreatment 1 Diesel Oxidation Catalyst Differential Pressure Preliminary FMI	J1939-71	64800	8.3	5	Used to identify the applicable J1939-73 FMI detected in the diesel oxidation catalyst differential pressure sensor by the manufacturer's sensor control software in exhaust bank 1			
	4771	Aftertreatment 2 Diesel Oxidation Catalyst Intake Gas Temperature	J1939-71	64799	1-2	16	Temperature of engine combustion byproducts entering the diesel oxidation catalyst in exhaust bank 2.			
	4772	Aftertreatment 2 Diesel Oxidation Catalyst Outlet Gas Temperature	J1939-71	64799	3-4	16	Temperature of engine combustion byproducts leaving the diesel oxidation catalyst exhaust in exhaust bank 2.			
	4773	Aftertreatment 2 Diesel Oxidation Catalyst Differential Pressure	J1939-71	64799	5-6	16	Exhaust differential pressure measured between the intake and exhaust of a diesel oxidation catalyst in exhaust bank 2.			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	4774	Aftertreatment 2 Diesel Oxidation Catalyst Intake Gas Temperature Preliminary FMI	J1939-71	64799	7.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel oxidation catalyst intake gas temperature sensor by the manufacturer's sensor control software in exhaust bank 2.				
	4775	Aftertreatment 2 Diesel Oxidation Catalyst Outlet Gas Temperature Preliminary FMI	J1939-71	64799	7.6-8.1	5	Used to identify the applicable J1939-73 FMI detected in the diesel oxidation catalyst outlet gas temperature sensor by the manufacturer's sensor control software in exhaust bank 2				
	4776	Aftertreatment 2 Diesel Oxidation Catalyst Differential Pressure Preliminary FMI	J1939-71	64799	8.3	5	Used to identify the applicable J1939-73 FMI detected in the diesel oxidation catalyst differential pressure sensor by the manufacturer's sensor control software in exhaust bank 2				
	4777	Aftertreatment 1 Gas Oxidation Catalyst Differential Gas Temperature	J1939-71	64798	1-2	16	The differential engine combustion byproducts gas temperature measured between the intake and outlet of the gas oxidation catalyst for exhaust bank 1.				
	4778	Aftertreatment 2 Gas Oxidation Catalyst Differential Gas Temperature	J1939-71	64798	3-4	16	The differential engine combustion byproducts gas temperature measured between the intake and outlet of the gas oxidation catalyst for exhaust bank 2.				
	4779	Aftertreatment 1 Three Way Catalyst Differential Gas Temperature	J1939-71	64797	1-2	16	The differential engine combustion byproducts gas temperature measured between the intake and outlet of the three way catalyst for exhaust bank 1.				
	4780	Aftertreatment 2 Three Way Catalyst Differential Gas Temperature	J1939-71	64797	3-4	16	The differential engine combustion byproducts gas temperature measured between the intake and outlet of the three way catalyst for exhaust bank 2.				
	4781	Diesel Particulate Filter 1 Soot Mass	J1939-71	64796	1	8	Soot mass in diesel particulate filter 1.				
	4782	Diesel Particulate Filter 1 Soot Density	J1939-71	64796	2	8	Soot density in diesel particulate filter 1.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4783	Diesel Particulate Filter 1 Mean Soot Signal	J1939-71	64796	3-4	16	Mean output signal level from diesel particulate filter 1 soot sensor.			
	4784	Diesel Particulate Filter 1 Median Soot Signal	J1939-71	64796	5-6	16	Median output signal level from diesel particulate filter 1 soot sensor.			
	4785	Diesel Particulate Filter 1 Soot Sensor Preliminary FMI	J1939-71	64796	7.1	5	Used to identify the applicable J1939-73 FMI detected in the soot sensor signal by the manufacturer's sensor control software in diesel particulate filter 1.			
	4786	Diesel Particulate Filter 2 Soot Mass	J1939-71	64795	1	8	Soot mass in diesel particulate filter 2.			
	4787	Diesel Particulate Filter 2 Soot Density	J1939-71	64795	2	8	Soot density in diesel particulate filter 2.			
	4788	Diesel Particulate Filter 2 Mean Soot Signal	J1939-71	64795	3-4	16	Mean output signal level from diesel particulate filter 2 soot sensor.			
	4789	Diesel Particulate Filter 2 Median Soot Signal	J1939-71	64795	5-6	16	Median output signal level from diesel particulate filter 2 soot sensor.			
	4790	Diesel Particulate Filter 2 Soot Sensor Preliminary FMI	J1939-71	64795	7.1	5	Used to identify the applicable J1939-73 FMI detected in the soot sensor signal by the manufacturer's sensor control software in diesel particulate filter 2.			
	4791	Aftertreatment 1 Warm Up Diesel Oxidation Catalyst	J1939				Indicates non-specific failures of the warm up oxidation catalyst in exhaust bank 1, such as poor conversion efficiency or high temperature across the device.			
	4792	Aftertreatment 1 SCR Catalyst System	J1939				Indicates non-specific failures of the SCR catalyst in exhaust bank 1, such as high temperature across the device.			
	4793	Aftertreatment 1 Warm Up Diesel Oxidation Catalyst Missing	J1939				Indicates that the warm-up oxidation catalytic converter is missing in exhaust bank 1.			
	4794	Aftertreatment 1 SCR Catalyst System Missing	J1939				Indicates that the SCR catalyst system is missing in exhaust bank 1.			
	4795	Aftertreatment 1 Diesel Particulate Filter Missing	J1939				Indicates that the Diesel Particulate Filter is missing in exhaust bank 1.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4796	Aftertreatment 1 Diesel Oxidation Catalyst Missing	J1939				Indicates that the Diesel Oxidation Catalyst is missing in exhaust bank 1.			
	4797	Engine Injector Cylinder #9 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #9.			
	4798	Engine Injector Cylinder #10 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #10.			
	4799	Engine Injector Cylinder #11 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #11.			
	4800	Engine Injector Cylinder #12 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #12.			
	4801	Engine Injector Cylinder #13 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #13.			
	4802	Engine Injector Cylinder #14 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #14.			
	4803	Engine Injector Cylinder #15 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #15.			
	4804	Engine Injector Cylinder #16 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #16.			
	4805	Engine Injector Cylinder #17 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #17.			
	4806	Engine Injector Cylinder #18 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #18.			
	4807	Engine Injector Cylinder #19 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #19.			
	4808	Engine Injector Cylinder #20 Actuator 2	J1939				This is the second valve actuator on Engine Injector Cylinder #20.			
	4809	Aftertreatment 1 Warm Up Diesel Oxidation Catalyst Intake Temperature	J1939-71	64794	1-2	16	This is the temperature measured at the intake of the warm up oxidation catalytic converter in exhaust bank 1.			
	4810	Aftertreatment 1 Warm Up Diesel Oxidation Catalyst Outlet Temperature	J1939-71	64794	3-4	16	This is the temperature measured at the outlet of the warm up oxidation catalytic converter in exhaust bank 1.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4811	Engine Oil Pressure in Piston Cooling Gallery	J1939-71			8	Pressure of the engine lubricating oil in the gallery that feeds the piston cooling spray nozzles.			
	4812	Engine Piston Cooling Oil Supply Valve Opening	J1939-71			8	Command for the Piston Cooling Valve opening; zero is closed (no oil to cool the pistons) and 100% is open (all possible oil flowing to cool the pistons.)			
	4813	Engine Oil Thermostat Bypass Valve Opening	J1939-71			8	Command to the valve that directs engine oil around the oil thermostat.			
	4814	Engine Coolant Pump command	J1939-71			8	Command for a coolant pump that can be driven at varying output level.			
	4815	Engine Cooling Fan Thermal Switch Position	J1939-71			2	This is a feedback measurement of the position of a thermal switch that turns on an engine cooling fan.			
	4816	Transmission Torque Converter Lockup Transition in Process	J1939-71	61442	1.7	2	State signal indicating whether or not the transmission torque converter lock up clutch is transitioning between being applied and being released.			
	4817	Engine Intake Manifold #1 Absolute Pressure (High Resolution)	J1939-71	64976	6-7	16	The absolute pressure measurement of the air intake manifold.			
	4818	Driver Airbag Ignitor Loop 1st Stage - Resistance	J1939-71	64793	001-002	16	Resistance of Driver Airbag Ignitor Loop 1st Stage.			
	4819	Passenger Airbag Ignitor Loop 1st Stage - Resistance	J1939-71	64793	003-004	16	Resistance of Passenger Airbag Ignitor Loop 1st Stage.			
	4820	Driver Airbag Ignitor Loop 2nd Stage - Resistance	J1939-71	64793	005-006	16	Resistance of Driver Airbag Ignitor Loop 2nd Stage.			
	4821	Passenger Airbag Ignitor Loop 2nd Stage - Resistance	J1939-71	64793	007-008	16	Resistance of Passenger Airbag Ignitor Loop 2nd Stage.			
	4822	Driver Belt Tensioner Ignitor Loop - Resistance	J1939-71	64793	009-010	16	Resistance of Driver Belt Tensioner Ignitor Loop 1st Stage.			
	4823	Passenger Belt Tensioner Ignitor Loop - Resistance	J1939-71	64793	011-012	16	Resistance of Passenger Belt Tensioner Ignitor Loop 1st Stage.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4824	Side Bag Ignitor Loop 1 - Left - Resistance	J1939-71	64793	013-014	16	Resistance of Side Bag Ignitor Loop 1 - Left.			
	4825	Side Bag Ignitor Loop 2 - Left - Resistance	J1939-71	64793	015-016	16	Resistance of Side Bag Ignitor Loop 2 - Left.			
	4826	Side Bag Ignitor Loop 1 - Right - Resistance	J1939-71	64793	017-018	16	Resistance of Side Bag Ignitor Loop 1 - Right.			
	4827	Side Bag Ignitor Loop 2 - Right - Resistance	J1939-71	64793	019-020	16	Resistance of Side Bag Ignitor Loop 2 - Right.			
	4828	Special Ignitor Loop 1 - Resistance	J1939-71	64793	021-022	16	Resistance of Special Ignitor Loop 1.			
	4829	Special Ignitor Loop 2 - Resistance	J1939-71	64793	023-024	16	Resistance of Special Ignitor Loop 2.			
	4830	Special Ignitor Loop 3 - Resistance	J1939-71	64793	025-026	16	Resistance of Special Ignitor Loop 3.			
	4831	Special Ignitor Loop 4 - Resistance	J1939-71	64793	027-028	16	Resistance of Special Ignitor Loop 4.			
	4832	Special Ignitor Loop 5 - Resistance	J1939-71	64793	029-030	16	Resistance of Special Ignitor Loop 5.			
	4833	Special Ignitor Loop 6 - Resistance	J1939-71	64793	031-032	16	Resistance of Special Ignitor Loop 6.			
	4834	Special Ignitor Loop 7 - Resistance	J1939-71	64793	033-034	16	Resistance of Special Ignitor Loop 7.			
	4835	Special Ignitor Loop 8 - Resistance	J1939-71	64793	035-036	16	Resistance of Special Ignitor Loop 8.			
	4836	Special Ignitor Loop 9 - Resistance	J1939-71	64793	037-038	16	Resistance of Special Ignitor Loop 9.			
	4837	Special Ignitor Loop 10 - Resistance	J1939-71	64793	039-040	16	Resistance of Special Ignitor Loop 10.			
	4838	Special Ignitor Loop 11 - Resistance	J1939-71	64793	041-042	16	Resistance of Special Ignitor Loop 11.			
	4839	Special Ignitor Loop 12 - Resistance	J1939-71	64793	043-044	16	Resistance of Special Ignitor Loop 12.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4840	Special Ignitor Loop 13 - Resistance	J1939-71	64793	045-046	16	Resistance of Special Ignitor Loop 13.			
	4841	Special Ignitor Loop 14 - Resistance	J1939-71	64793	047-048	16	Resistance of Special Ignitor Loop 14.			
	4842	Special Ignitor Loop 15 - Resistance	J1939-71	64793	049-050	16	Resistance of Special Ignitor Loop 15.			
	4843	Special Ignitor Loop 16 - Resistance	J1939-71	64793	051-052	16	Resistance of Special Ignitor Loop 16.			
	4844	Special Ignitor Loop 17 - Resistance	J1939-71	64793	053-054	16	Resistance of Special Ignitor Loop 17.			
	4845	Special Ignitor Loop 18 - Resistance	J1939-71	64793	055-056	16	Resistance of Special Ignitor Loop 18.			
	4846	Special Ignitor Loop 19 - Resistance	J1939-71	64793	057-058	16	Resistance of Special Ignitor Loop 19.			
	4847	Special Ignitor Loop 20 - Resistance	J1939-71	64793	059-060	16	Resistance of Special Ignitor Loop 20.			
	4848	Special Ignitor Loop 21 - Resistance	J1939-71	64793	061-062	16	Resistance of Special Ignitor Loop 21.			
	4849	Special Ignitor Loop 22 - Resistance	J1939-71	64793	063-064	16	Resistance of Special Ignitor Loop 22.			
	4850	Special Ignitor Loop 23 - Resistance	J1939-71	64793	065-066	16	Resistance of Special Ignitor Loop 23.			
	4851	Special Ignitor Loop 24 - Resistance	J1939-71	64793	067-068	16	Resistance of Special Ignitor Loop 24.			
	4852	Special Ignitor Loop 25 - Resistance	J1939-71	64793	069-070	16	Resistance of Special Ignitor Loop 25.			
	4853	Special Ignitor Loop 26 - Resistance	J1939-71	64793	071-072	16	Resistance of Special Ignitor Loop 26.			
	4854	Special Ignitor Loop 27 - Resistance	J1939-71	64793	073-074	16	Resistance of Special Ignitor Loop 27.			
	4855	Special Ignitor Loop 28 - Resistance	J1939-71	64793	075-076	16	Resistance of Special Ignitor Loop 28.			

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			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4856	Special Ignitor Loop 29 - Resistance	J1939-71	64793	077-078	16	Resistance of Special Ignitor Loop 29.			
	4857	Special Ignitor Loop 30 - Resistance	J1939-71	64793	079-080	16	Resistance of Special Ignitor Loop 30.			
	4858	Special Ignitor Loop 31 - Resistance	J1939-71	64793	081-082	16	Resistance of Special Ignitor Loop 31.			
	4859	Special Ignitor Loop 32 - Resistance	J1939-71	64793	083-084	16	Resistance of Special Ignitor Loop 32.			
	4860	Special Ignitor Loop 33 - Resistance	J1939-71	64793	085-086	16	Resistance of Special Ignitor Loop 33.			
	4861	Special Ignitor Loop 34 - Resistance	J1939-71	64793	087-088	16	Resistance of Special Ignitor Loop 34.			
	4862	Special Ignitor Loop 35 - Resistance	J1939-71	64793	089-090	16	Resistance of Special Ignitor Loop 35.			
	4863	Special Ignitor Loop 36 - Resistance	J1939-71	64793	091-092	16	Resistance of Special Ignitor Loop 36.			
	4864	Special Ignitor Loop 37 - Resistance	J1939-71	64793	093-094	16	Resistance of Special Ignitor Loop 37.			
	4865	Special Ignitor Loop 38 - Resistance	J1939-71	64793	095-096	16	Resistance of Special Ignitor Loop 38.			
	4866	Special Ignitor Loop 39 - Resistance	J1939-71	64793	097-098	16	Resistance of Special Ignitor Loop 39.			
	4867	Special Ignitor Loop 40 - Resistance	J1939-71	64793	099-100	16	Resistance of Special Ignitor Loop 40.			
	4868	Special Ignitor Loop 41 - Resistance	J1939-71	64793	101-102	16	Resistance of Special Ignitor Loop 41.			
	4869	Special Ignitor Loop 42 - Resistance	J1939-71	64793	103-104	16	Resistance of Special Ignitor Loop 42.			
	4870	Special Ignitor Loop 43 - Resistance	J1939-71	64793	105-106	16	Resistance of Special Ignitor Loop 43.			
	4871	Special Ignitor Loop 44 - Resistance	J1939-71	64793	107-108	16	Resistance of Special Ignitor Loop 44.			

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			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4872	Special Ignitor Loop 45 - Resistance	J1939-71	64793	109-110	16	Resistance of Special Ignitor Loop 45.			
	4873	Special Ignitor Loop 46 - Resistance	J1939-71	64793	111-112	16	Resistance of Special Ignitor Loop 46.			
	4874	Special Ignitor Loop 47 - Resistance	J1939-71	64793	113-114	16	Resistance of Special Ignitor Loop 47.			
	4875	Special Ignitor Loop 48 - Resistance	J1939-71	64793	115-116	16	Resistance of Special Ignitor Loop 48.			
	4876	Special Ignitor Loop 49 - Resistance	J1939-71	64793	117-118	16	Resistance of Special Ignitor Loop 49.			
	4877	Special Ignitor Loop 50 - Resistance	J1939-71	64793	119-120	16	Resistance of Special Ignitor Loop 50.			
	4878	Special Ignitor Loop 51 - Resistance	J1939-71	64793	121-122	16	Resistance of Special Ignitor Loop 51.			
	4879	Special Ignitor Loop 52 - Resistance	J1939-71	64793	123-124	16	Resistance of Special Ignitor Loop 52.			
	4880	Special Ignitor Loop 53 - Resistance	J1939-71	64793	125-126	16	Resistance of Special Ignitor Loop 53.			
	4881	Special Ignitor Loop 54 - Resistance	J1939-71	64793	127-128	16	Resistance of Special Ignitor Loop 54.			
	4882	Special Ignitor Loop 55 - Resistance	J1939-71	64793	129-130	16	Resistance of Special Ignitor Loop 55.			
	4883	Special Ignitor Loop 56 - Resistance	J1939-71	64793	131-132	16	Resistance of Special Ignitor Loop 56.			
	4884	Special Ignitor Loop 57 - Resistance	J1939-71	64793	133-134	16	Resistance of Special Ignitor Loop 57.			
	4885	Special Ignitor Loop 58 - Resistance	J1939-71	64793	135-136	16	Resistance of Special Ignitor Loop 58.			
	4886	Special Ignitor Loop 59 - Resistance	J1939-71	64793	137-138	16	Resistance of Special Ignitor Loop 59.			
	4887	Special Ignitor Loop 60 - Resistance	J1939-71	64793	139-140	16	Resistance of Special Ignitor Loop 60.			

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			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4888	Special Ignitor Loop 61 - Resistance	J1939-71	64793	141-142	16	Resistance of Special Ignitor Loop 61.			
	4889	Special Ignitor Loop 62 - Resistance	J1939-71	64793	143-144	16	Resistance of Special Ignitor Loop 62.			
	4890	Special Ignitor Loop 63 - Resistance	J1939-71	64793	145-146	16	Resistance of Special Ignitor Loop 63.			
	4891	Special Ignitor Loop 64 - Resistance	J1939-71	64793	147-148	16	Resistance of Special Ignitor Loop 64.			
	4892	Special Ignitor Loop 65 - Resistance	J1939-71	64793	149-150	16	Resistance of Special Ignitor Loop 65.			
	4893	Special Ignitor Loop 66 - Resistance	J1939-71	64793	151-152	16	Resistance of Special Ignitor Loop 66.			
	4894	Special Ignitor Loop 67 - Resistance	J1939-71	64793	153-154	16	Resistance of Special Ignitor Loop 67.			
	4895	Special Ignitor Loop 68 - Resistance	J1939-71	64793	155-156	16	Resistance of Special Ignitor Loop 68.			
	4896	Special Ignitor Loop 69 - Resistance	J1939-71	64793	157-158	16	Resistance of Special Ignitor Loop 69.			
	4897	Special Ignitor Loop 70 - Resistance	J1939-71	64793	159-160	16	Resistance of Special Ignitor Loop 70.			
	4898	Special Ignitor Loop 71 - Resistance	J1939-71	64793	161-162	16	Resistance of Special Ignitor Loop 71			
	4899	Special Ignitor Loop 72 - Resistance	J1939-71	64793	163-164	16	Resistance of Special Ignitor Loop 72.			
	4900	Special Ignitor Loop 73 - Resistance	J1939-71	64793	165-166	16	Resistance of Special Ignitor Loop 73.			
	4901	Special Ignitor Loop 74 - Resistance	J1939-71	64793	167-168	16	Resistance of Special Ignitor Loop 74.			
	4902	Special Ignitor Loop 75 - Resistance	J1939-71	64793	169-170	16	Resistance of Special Ignitor Loop 75.			
	4903	Special Ignitor Loop 76 - Resistance	J1939-71	64793	171-172	16	Resistance of Special Ignitor Loop 76.			

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			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4904	Special Ignitor Loop 77 - Resistance	J1939-71	64793	173-174	16	Resistance of Special Ignitor Loop 77.			
	4905	Special Ignitor Loop 78 - Resistance	J1939-71	64793	175-176	16	Resistance of Special Ignitor Loop 78.			
	4906	Special Ignitor Loop 79 - Resistance	J1939-71	64793	177-178	16	Resistance of Special Ignitor Loop 79.			
	4907	Special Ignitor Loop 80 - Resistance	J1939-71	64793	179-180	16	Resistance of Special Ignitor Loop 80.			
	4908	Special Ignitor Loop 81 - Resistance	J1939-71	64793	181-182	16	Resistance of Special Ignitor Loop 81.			
	4909	Special Ignitor Loop 82 - Resistance	J1939-71	64793	183-184	16	Resistance of Special Ignitor Loop 82.			
	4910	Special Ignitor Loop 83 - Resistance	J1939-71	64793	185-186	16	Resistance of Special Ignitor Loop 83.			
	4911	Special Ignitor Loop 84 - Resistance	J1939-71	64793	187-188	16	Resistance of Special Ignitor Loop 84.			
	4912	Special Ignitor Loop 85 - Resistance	J1939-71	64793	189-190	16	Resistance of Special Ignitor Loop 85.			
	4913	Special Ignitor Loop 86 - Resistance	J1939-71	64793	191-192	16	Resistance of Special Ignitor Loop 86.			
	4914	Special Ignitor Loop 87 - Resistance	J1939-71	64793	193-194	16	Resistance of Special Ignitor Loop 87.			
	4915	Special Ignitor Loop 88 - Resistance	J1939-71	64793	195-196	16	Resistance of Special Ignitor Loop 88.			
	4916	Special Ignitor Loop 89 - Resistance	J1939-71	64793	197-198	16	Resistance of Special Ignitor Loop 89.			
	4917	Special Ignitor Loop 90 - Resistance	J1939-71	64793	199-200	16	Resistance of Special Ignitor Loop 90.			
	4918	Frontal Collision Sensor 1 - Type	J1939-71	64792	1.1	4	Type of Frontal Collision Sensor 1.			
	4919	Frontal Collision Sensor 2 - Type	J1939-71	64792	1.5	4	Type of Frontal Collision Sensor 2.			
	4920	Frontal Collision Sensor 3 - Type	J1939-71	64792	2.1	4	Type of Frontal Collision Sensor 3.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4921	Frontal Collision Sensor 4 - Type	J1939-71	64792	2.5	4	Type of Frontal Collision Sensor 4.			
	4922	Side Collision Sensor Front Left - Type	J1939-71	64792	3.1	4	Type of Side Collision Sensor Front - Left.			
	4923	Side Collision Sensor Mid Front Left - Type	J1939-71	64792	3.5	4	Type of Side Collision Sensor Mid Front - Left.			
	4924	Side Collision Sensor Mid Rear Left - Type	J1939-71	64792	4.1	4	Type of Side Collision Sensor Mid Rear - Left.			
	4925	Side Collision Sensor Rear Left - Type	J1939-71	64792	4.5	4	Type of Side Collision Sensor Rear - Left.			
	4926	Side Collision Sensor Front Right - Type	J1939-71	64792	5.1	4	Type of Side Collision Sensor Front - Right.			
	4927	Side Collision Sensor Mid Front Right - Type	J1939-71	64792	5.5	4	Type of Side Collision Sensor Mid Front - Right.			
	4928	Side Collision Sensor Mid Rear Right - Type	J1939-71	64792	6.1	4	Type of Side Collision Sensor Mid Rear - Right.			
	4929	Side Collision Sensor Rear Right - Type	J1939-71	64792	6.5	4	Type of Side Collision Sensor Rear - Right.			
	4930	Rear Collision Sensor 1 - Type	J1939-71	64792	7.1	4	Type of Rear Collision Sensor 1.			
	4931	Rear Collision Sensor 2 - Type	J1939-71	64792	7.5	4	Type of Rear Collision Sensor 2.			
	4932	Rear Collision Sensor 3 - Type	J1939-71	64792	8.1	4	Type of Rear Collision Sensor 3.			
	4933	Rear Collision Sensor 4 - Type	J1939-71	64792	8.5	4	Type of Rear Collision Sensor 4.			
	4934	Rollover Sensor - Type	J1939-71	64792	9.1	4	Type of Rollover Sensor.			
	4935	Frontal Collision Sensor 1 - Serial Number	J1939-71	64792	a (starts at byte 10)	256	Serial Number of Frontal Collision Sensor 1.			
	4936	Frontal Collision Sensor 2 - Serial Number	J1939-71	64792	b	256	Serial Number of Frontal Collision Sensor 2.			
	4937	Frontal Collision Sensor 3 - Serial Number	J1939-71	64792	c	256	Serial Number of Frontal Collision Sensor 3.			
	4938	Frontal Collision Sensor 4 - Serial Number	J1939-71	64792	d	256	Serial Number of Frontal Collision Sensor 4.			
	4939	Side Collision Sensor Front Left - Serial Number	J1939-71	64792	e	256	Serial Number of Side Collision Sensor Front - Left.			
	4940	Side Collision Sensor Mid Front Left - Serial Number	J1939-71	64792	f	256	Serial Number of Side Collision Sensor Mid Front - Left.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4941	Side Collision Sensor Mid Rear Left - Serial Number	J1939-71	64792	g	256	Serial Number of Side Collision Sensor Mid Rear - Left.			
	4942	Side Collision Sensor Rear Left - Serial Number	J1939-71	64792	h	256	Serial Number of Side Collision Sensor Rear - Left.			
	4943	Side Collision Sensor Front Right - Serial Number	J1939-71	64792	i	256	Serial Number of Side Collision Sensor Front - Right.			
	4944	Side Collision Sensor Mid Front Right - Serial Number	J1939-71	64792	j	256	Serial Number of Side Collision Sensor Mid Front - Right.			
	4945	Side Collision Sensor Mid Rear Right - Serial Number	J1939-71	64792	k	256	Serial Number of Side Collision Sensor Mid Rear - Right.			
	4946	Side Collision Sensor Rear Right - Serial Number	J1939-71	64792	l	256	Serial Number of Side Collision Sensor Rear - Right.			
	4947	Rear Collision Sensor 1 - Serial Number	J1939-71	64792	m	256	Serial Number of Rear Collision Sensor 1.			
	4948	Rear Collision Sensor 2 - Serial Number	J1939-71	64792	n	256	Serial Number of Rear Collision Sensor 2.			
	4949	Rear Collision Sensor 3 - Serial Number	J1939-71	64792	o	256	Serial Number of Rear Collision Sensor 3.			
	4950	Rear Collision Sensor 4 - Serial Number	J1939-71	64792	p	256	Serial Number of Rear Collision Sensor 4.			
	4951	Rollover Sensor - Serial Number	J1939-71	64792	q	256	Serial Number of Rollover Sensor.			
	4952	Driver Beltlock Status	J1939-71	64791	1.1	2	State of switch used to determine if Driver Beltlock is buckled.			
	4953	Passenger Beltlock Status	J1939-71	64791	1.3	2	State of switch used to determine if Passenger Beltlock is buckled.			
	4954	Beltlock 3 Status	J1939-71	64791	1.5	2	State of switch used to determine if Beltlock 3 is buckled.			
	4955	Beltlock 4 Status	J1939-71	64791	1.7	2	State of switch used to determine if Beltlock 4 is buckled.			
	4956	Beltlock 5 Status	J1939-71	64791	2.1	2	State of switch used to determine if Beltlock 5 is buckled.			
	4957	Beltlock 6 Status	J1939-71	64791	2.3	2	State of switch used to determine if Beltlock 6 is buckled.			
	4958	Beltlock 7 Status	J1939-71	64791	2.5	2	State of switch used to determine if Beltlock 7 is buckled.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4959	Beltlock 8 Status	J1939-71	64791	2.7	2	State of switch used to determine if Beltlock 8 is buckled.			
	4960	Beltlock 9 Status	J1939-71	64791	3.1	2	State of switch used to determine if Beltlock 9 is buckled.			
	4961	Beltlock 10 Status	J1939-71	64791	3.3	2	State of switch used to determine if Beltlock 10 is buckled.			
	4962	Passenger Airbag Deactivation Switch Status	J1939-71	64791	3.5	2	State of switch used to deactivate Passenger Airbag manually.			
	4963	Driver Occupant Classification System Status	J1939-71	64790	1.1	3	State of Occupant Classification System for driver.			
	4964	Passenger Occupant Classification System Status	J1939-71	64790	1.4	3	State of Occupant Classification System for passenger.			
	4965	Occupant Classification System 3 Status	J1939-71	64790	2.1	2	State of Occupant Classification System for seat position 3.			
	4966	Occupant Classification System 4 Status	J1939-71	64790	2.3	2	State of Occupant Classification System for seat position 4.			
	4967	Occupant Classification System 5 Status	J1939-71	64790	2.5	2	State of Occupant Classification System for seat position 5.			
	4968	Occupant Classification System 6 Status	J1939-71	64790	2.7	2	State of Occupant Classification System for seat position 6.			
	4969	Occupant Classification System 7 Status	J1939-71	64790	3.1	2	State of Occupant Classification System for seat position 7.			
	4970	Occupant Classification System 8 Status	J1939-71	64790	3.3	2	State of Occupant Classification System for seat position 8.			
	4971	Occupant Classification System 9 Status	J1939-71	64790	3.5	2	State of Occupant Classification System for seat position 9.			
	4972	Occupant Classification System 10 Status	J1939-71	64790	3.7	2	State of Occupant Classification System for seat position 10.			
	4973	Crash Type	J1939-71	61483	1.1	5	Type of crash event.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	4974	Crash Counter	J1939-71	61483	8.1	4	The Crash Counter prevents other ECUs from reacting to a faulty transmission of the Crash Notification PGN and serves as a safety mechanism			
	4975	Crash Checksum	J1939-71	61483	8.5	4	The Crash Checksum is used to verify the signal path from the airbag ECU to other devices in case of a crash.			
	4976	Pitch Angle Extended Range	J1939-71	61481	1-3	24	The angle between the vehicle x-axis and the ground plane (i.e. rotation about the vehicle Y-axis).			
	4977	Roll Angle Extended Range	J1939-71	61481	4-6	24	The angle between the vehicle y-axis and the ground plane (i.e. rotation about the X-axis).			
	4978	Pitch Angle Extended Range Compensation	J1939-71	61481	7.1	2	Compensated mode for the pitch measurement.			
	4979	Pitch Angle Extended Range Figure of Merit	J1939-71	61481	7.3	2	Figure of merit for pitch angle measurement.			
	4980	Roll Angle Extended Range Compensation	J1939-71	61481	7.5	2	Compensated mode for the roll angle measurement.			
	4981	Roll Angle Extended Range Figure of Merit	J1939-71	61481	7.7	2	Figure of merit for roll angle measurement.			
	4982	Roll and Pitch Extended Range Measurement Latency	J1939-71	61481	8	8	Time between start of sensor processing and CAN transmission			
	4983	Pitch Rate Extended Range	J1939-71	61482	1-2	16	Pitch rate is the rate-of-change of the pitch angle over time, where the pitch angle vector is in the direction of travel of the vehicle.			
	4984	Roll Rate Extended Range	J1939-71	61482	3-4	16	Roll rate is the rate-of-change of the roll angle over time.			
	4985	Yaw Rate Extended Range	J1939-71	61482	5-6	16	Yaw rate is the rate-of-change of the yaw angle over time.			
	4986	Pitch Rate Extended Range Figure of Merit	J1939-71	61482	7.1	2	Figure of merit for pitch rate measurement.			
	4987	Roll Rate Extended Range Figure of Merit	J1939-71	61482	7.3	2	Figure of merit for roll rate measurement.			

J1939 Reference								J1587 Reference		
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	4988	Yaw Rate Extended Range Figure of Merit	J1939-71	61482	7.5	2	Figure of merit for yaw angle measurement.			
	4989	Angular Rate Measurement Latency	J1939-71	61482	8	8	The estimated measurement latency of the measurement.			
	4990	Battery Charger 1 State	J1939-71	64789	1.1	4	A state of the battery charger connected to the main battery.			
	4991	Battery Charger 1 Power Line State	J1939-71	64789	1.5	2	A state of the battery charger connection to the power line for the charger connected to the main battery.			
	4992	Battery Charger 1 Output Voltage	J1939-71	64789	2-3	16	Output voltage measured on the battery terminals of the battery charger connected to the main battery.			
	4993	Battery Charger 1 Output Current	J1939-71	64789	4-5	16	Output current of the battery charger connected to the main battery.			
	4994	Battery Charger 2 State	J1939-71	64788	1.1	4	A state of the offline battery charger connected to the auxiliary battery.			
	4995	Battery Charger 2 Power Line State	J1939-71	64788	1.5	2	A state of the battery charger connection to the power line for the charger connected to the auxiliary battery.			
	4996	Battery Charger 2 Output Voltage	J1939-71	64788	2-3	16	Output voltage measured on the battery terminals of the offline battery charger connected to the auxiliary battery.			
	4997	Battery Charger 2 Output Current	J1939-71	64788	4-5	16	Output current of the offline battery charger connected to the auxiliary battery.			
	4998	Magnet Boost Time	J1939-71	64787	1	8	The duration of time after the activation of the magnet circuit that a relatively high current is sent to the magnet for material pick up operations			
	4999	Magnet Rated Power	J1939-71	64787	2-3	16	The rated power that the magnet can accept during material holding operations.			
	5000	Generator Overheat Status	J1939-71	64786	1.1	2	The Status of Generator being Overheated.			
	5001	Genset System Output Voltage Range Status	J1939-71	64786	1.3	2	Status of generator voltage in or out of desired operating range.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5002	Reverse Current Range Setting	J1939-71	64786	2.1	5	The operator setting for the Reverse Current. The setting defines the maximum reverse current. The actual current limits are specific to the application.			
	5003	Grapple/Magnet Selection Switch	J1939-71	64786	1.5	2	This is a switch that can be used to select either the Grapple or Magnet function of the material handler machine.			
	5004	Genset Softstart Active Status	J1939-71	64786	1.7	2	The Genset softstart active status refers to the status of the genset softstart relay.			
	5005	Genset Enable Active Status	J1939-71	64786	3.1	2	Status of the Genset Enable Relay that enables or disables the Genset.			
	5006	Voltage Monitor Active Status	J1939-71	64786	3.3	2	Status of Voltage Monitor Relay. When it is activated, the Generator Voltage Monitor is connected to the generator output line so that the generator output voltage range could be monitored.			
	5007	Generator Duty Cycle Exceeded Status	J1939-71	64786	3.5	2	The status of the duty cycle of the generator usage, indicating if the generator has been on for too much time within a defined time window.			
	5008	Magnet Forward Current	J1939-71	61484	1-2	16	The forward current being supplied by the generator to the electric magnet to create a magnet field to lift material.			
	5009	Magnet Reverse Current	J1939-71	61484	3	8	A reverse current being supplied to the electric magnet to reduce the forward current generated magnet field as quick as possible so that the magnet can release material as fast as possible.			
	5010	Material Lift Switch	J1939-71	61484	4.1	2	This is a switch that can be used to enable the lift functionality of the Material Handler machine. When it is activated, the magnet is energized to pick up material.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	5011	Material Drop Switch	J1939-71	61484	4.3	2	This is a switch that can be used to enable the drop functionality of the Material Handler machine.				
	5012	Generator Current Boost Active Status	J1939-71	61484	4.5	2	Status of generator current boost relay that can boost the generator output current for picking-up material operations.				
	5013	Material Lift Active Status	J1939-71	61484	4.7	2	The status of Material Lift Relay.				
	5014	Material Drop Active Status	J1939-71	61484	5.1	2	The status of Material Drop Relay.				
	5015	Momentary Engine Maximum Power Enable	J1939-71	61442	5.5	2	Momentarily Requesting highest torque map from the engine control				
	5016	ECU Power Output Supply Voltage #4	J1939				The fourth power output from an ECM				
	5017	ECU Power Output Supply Voltage #5	J1939				The fifth power output from an ECM				
	5018	Aftertreatment 1 Diesel Oxidation Catalyst System	J1939				Indicates non-specific failures of the diesel oxidation catalyst system in exhaust bank 1, such as poor conversion efficiency or high temperature across the device.				
	5019	Engine Exhaust Gas Recirculation 1 Outlet Pressure	J1939-71	64961	6	8	EGR outlet pressure is measured immediately after the EGR valve.				
	5020	Engine Exhaust Gas Recirculation 1 Mixer Intake Temperature	J1939-71	64870	6-7	16	The temperature of the EGR gas entering the intake mixer, measured after the intake throttle when provided.				
	5021	Momentary Engine Maximum Power Enable Feedback	J1939-71	61443	6.3	2	Momentarily requesting Engine Maximum Power Enable - feature support feedback				
	5022	Forward Collision Warning	J1939-71	65135	7.7	2	This parameter indicates if a collision is imminent and strong driver reaction either by braking hard or by an avoidance maneuver are imperative to prevent a collision.				
	5023	ACC usage demand	J1939-71	65105	1.1	2	This parameter indicates the drivers demand to activate or deactivate ACC keeping distance control.				
	5024	Aftertreatment 1 Intake Gas NOx Sensor Heater Ratio	J1939-71	64785	1-2	16	Heater ratio to determine temperature at sensor tip.				

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	5025	Aftertreatment 1 Intake Gas NOx Sensor New part deviation NOx Gain	J1939-71	64785	3-4	16	New part deviation NOx_Gain to correct (recalculate) sensor signal on the Engine ECU side.				
	5026	Aftertreatment 1 Intake Gas NOx Sensor New part deviation NOx Offset	J1939-71	64785	5	8	New part deviation NOx_Offset to correct (recalculate) sensor signal on the Engine ECU side.				
	5027	Aftertreatment 1 Intake Gas NOx Sensor Correction of Pressure Lambda	J1939-71	64784	1	8	Correction of pressure Lambda-signal to correct (recalculate) sensor signal on the Engine ECU side.				
	5028	Aftertreatment 1 Intake Gas NOx Sensor Correction of Pressure NOx	J1939-71	64784	2	8	Correction of pressure NOx-signal to correct (recalculate) sensor signal on the Engine ECU side.				
	5029	Aftertreatment 1 Intake Gas NOx Sensor NO2 Correction	J1939-71	64784	3	8	Correction of NO2 at the NOx-signal to correct (recalculate) sensor signal on the Engine ECU side.				
	5030	Aftertreatment 1 Intake Gas NOx Sensor NH3 Correction	J1939-71	64784	4	8	Correction of NH3 at the NOx-signal to correct (recalculate) sensor signal on the Engine ECU side.				
	5031	Aftertreatment 1 Outlet Gas NOx Sensor Heater Ratio	J1939-71	64783	1-2	16	Heater ratio to determine temperature at sensor tip.				
	5032	Aftertreatment 1 Outlet Gas NOx Sensor New Part Deviation NOx Gain	J1939-71	64783	3-4	16	New part deviation NOx_Gain to correct (recalculate) sensor signal on the Engine ECU side.				
	5033	Aftertreatment 1 Outlet Gas NOx Sensor New Part Deviation NOx Offset	J1939-71	64783	5	8	New part deviation NOx_Offset to correct (recalculate) sensor signal on the Engine ECU side.				
	5034	Aftertreatment 1 Outlet Gas NOx Sensor Correction of Pressure Lambda	J1939-71	64782	1	8	Correction of pressure Lambda-signal to correct (recalculate) sensor signal on the Engine ECU side.				
	5035	Aftertreatment 1 Outlet Gas NOx Sensor Correction of Pressure NOx	J1939-71	64782	2	8	Correction of pressure NOx-signal to correct (recalculate) sensor signal on the Engine ECU side.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5036	Aftertreatment 1 Outlet Gas NOx Sensor NO2 Correction	J1939-71	64782	3	8	Correction of NO2 at the NOx-signal to correct (recalculate) sensor signal on the Engine ECU side.			
	5037	Aftertreatment 1 Outlet Gas NOx Sensor NH3 Correction	J1939-71	64782	4	8	Correction of NH3 at the NOx-signal to correct (recalculate) sensor signal on the Engine ECU side.			
	5038	Aftertreatment 2 Intake Gas NOx Sensor Heater Ratio	J1939-71	64781	1-2	16	Heater ratio to determine temperature at sensor tip.			
	5039	Aftertreatment 2 Intake Gas NOx Sensor New part deviation NOx Gain	J1939-71	64781	3-4	16	New part deviation NOx_Gain to correct (recalculate) sensor signal on the Engine ECU side.			
	5040	Aftertreatment 2 Intake Gas NOx Sensor New part deviation NOx Offset	J1939-71	64781	5	8	New part deviation NOx_Offset to correct (recalculate) sensor signal on the Engine ECU side.			
	5041	Aftertreatment 2 Intake Gas NOx Sensor Correction of pressure Lambda	J1939-71	64780	1	8	Correction of pressure Lambda-signal to correct (recalculate) sensor signal on the Engine ECU side.			
	5042	Aftertreatment 2 Intake Gas NOx Sensor Correction of pressure Nox	J1939-71	64780	2	8	Correction of pressure NOx-signal to correct (recalculate) sensor signal on the Engine ECU side.			
	5043	Aftertreatment 2 Intake Gas NOx Sensor NO2 Correction	J1939-71	64780	3	8	Correction of NO2 at the NOx-signal to correct (recalculate) sensor signal on the Engine ECU side.			
	5044	Aftertreatment 2 Intake Gas NOx Sensor NH3 Correction	J1939-71	64780	4	8	Correction of NH3 at the NOx-signal to correct (recalculate) sensor signal on the Engine ECU side.			
	5045	Aftertreatment 2 Outlet Gas NOx Sensor Heater Ratio	J1939-71	64779	1-2	16	Heater ratio to determine temperature at sensor tip.			
	5046	Aftertreatment 2 Outlet Gas NOx Sensor New part deviation NOx Gain	J1939-71	64779	3-4	16	New part deviation NOx_Gain to correct (recalculate) sensor signal on the Engine ECU side.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	5047	Aftertreatment 2 Outlet Gas NOx Sensor New part deviation NOx Offset	J1939-71	64779	5	8	New part deviation NOx_Offset to correct (recalculate) sensor signal on the Engine ECU side.				
	5048	Aftertreatment 2 Outlet Gas NOx Sensor Correction of pressure Lambda	J1939-71	64778	1	8	Correction of pressure Lambda-signal to correct (recalculate) sensor signal on the Engine ECU side.				
	5049	Aftertreatment 2 Outlet Gas NOx Sensor Correction of pressure Nox	J1939-71	64778	2	8	Correction of pressure NOx-signal to correct (recalculate) sensor signal on the Engine ECU side.				
	5050	Aftertreatment 2 Outlet Gas NOx Sensor NO2 Correction	J1939-71	64778	3	8	Correction of NO2 at the NOx-signal to correct (recalculate) sensor signal on the Engine ECU side.				
	5051	Aftertreatment 2 Outlet Gas NOx Sensor NH3 Correction	J1939-71	64778	4	8	Correction of NH3 at the NOx-signal to correct (recalculate) sensor signal on the Engine ECU side.				
	5052	Transmission Clutch/Converter Input Speed	J1939-71	61452	3-4	16	Rotational velocity of the input to a transmission's master clutch or torque converter.				
	5053	High Resolution Engine Trip Fuel	J1939-71	64777	1-4	32	Fuel consumed during all or part of a journey.	182			
	5054	High Resolution Engine Total Fuel Used	J1939-71	64777	5-8	32	Accumulated amount of fuel used during vehicle operation.	250			
	5055	Engine Oil Viscosity	J1939-71	64776	1-2	16	Dynamic viscosity of the engine oil				
	5056	Engine Oil Density	J1939-71	64776	3-4	16	Density of the engine oil				
	5057	Cab Noise Control Command	J1939-71	38912	1.1	2	Command signal to change the state of the Cab Noise Control System to on-line or off-line				
	5058	Cab Noise Control Tuning Command	J1939-71	38912	1.3	3	Command values for the Tuning State of the Cab Noise Control System.				
	5059	Cab Noise Control Status	J1939-71	38656	1.1	2	This parameter returns the current status of the Cab Noise Control system.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5060	Cab Noise Control Tuning Status	J1939-71	38656	1.3	4	This parameter returns the current status of tuning function of the Cab Noise Control system.			
	5061	Noise Controller	J1939				Used to show an error condition in the Noise Controller			
	5062	Noise Control Microphone 1	J1939				Noise Control microphone 1 failure			
	5063	Noise Control Microphone 2	J1939				Noise Control microphone 2 failure			
	5064	Noise Control Microphone 3	J1939				Noise Control microphone 3 failure			
	5065	Noise Control Microphone 4	J1939				Noise Control microphone 4 failure			
	5066	Noise Control Microphone 5	J1939				Noise Control microphone 5 failure			
	5067	Noise Control Microphone 6	J1939				Noise Control microphone 6 failure			
	5068	Noise Control Output 1	J1939				Noise Control output 1 failure			
	5069	Noise Control Output 2	J1939				Noise Control output 2 failure			
	5070	Noise Control Output 3	J1939				Noise Control output 3 failure			
	5071	Noise Control Output 4	J1939				Noise Control output 4 failure			
	5072	Noise Control Output 5	J1939				Noise Control output 5 failure			
	5073	Noise Control Output 6	J1939				Noise Control output 6 failure			
	5074	Noise Control Feed Forward Sensor 1	J1939				Noise Control feed forward sensor 1 failure			
	5075	Noise Control Feed Forward Sensor 2	J1939				Noise Control feed forward sensor 2 failure			
	5077	Engine Protect Lamp Command	J1939-71	64775	1.1	2	Command signal directly controlling the Engine Protect Lamp			
	5078	Engine Amber Warning Lamp Command	J1939-71	64775	1.3	2	Command signal directly controlling the Engine Amber Warning Lamp			
	5079	Engine Red Stop Lamp Command	J1939-71	64775	1.5	2	Command signal directly controlling the Engine Red Stop Lamp			
	5080	OBD Malfunction Indicator Lamp Command	J1939-71	64775	1.7	2	Command signal directly controlling the OBD Malfunction Indicator Lamp			
	5081	Engine Brake Active Lamp Command	J1939-71	64775	2.1	2	Command signal directly controlling the Engine Brake Active Lamp			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5082	Engine Oil Pressure Low Lamp Command	J1939-71	64775	2.5	2	Command signal directly controlling the Engine Oil Pressure Low Lamp			
	5083	Engine Coolant Temperature High Lamp Command	J1939-71	64775	2.7	2	Command signal directly controlling the Engine Coolant Temperature High Lamp			
	5084	Engine Coolant Level Low Lamp Command	J1939-71	64775	3.1	2	Command signal directly controlling the Engine Coolant Level Low Lamp			
	5085	Engine Idle Management Active Lamp Command	J1939-71	64775	3.3	2	Command signal directly controlling the Engine Idle Management Active Lamp			
	5086	Engine Air Filter Restriction Lamp Command	J1939-71	64775	3.5	2	Command signal directly controlling the Engine Air Filter Restriction Lamp.			
	5087	Vehicle Battery Voltage Low Lamp Command	J1939-71	64774	1.1	2	Command signal directly controlling the Vehicle Battery Voltage Low Lamp.			
	5088	Vehicle Fuel Level Low Lamp Command	J1939-71	64774	1.3	2	Command signal directly controlling the Vehicle Fuel Level Low Lamp.			
	5089	Vehicle Air Pressure Low Lamp Command	J1939-71	64774	1.5	2	Command signal directly controlling the Vehicle Air Pressure Low Lamp.			
	5090	Vehicle HVAC Recirculation Lamp Command	J1939-71	64774	1.7	2	Command signal directly controlling the Vehicle HVAC Recirculation Lamp.			
	5091	Vehicle Battery Charging Lamp Command	J1939-71	64774	2.1	2	Command signal directly controlling the Vehicle Battery Charging Lamp.			
	5093	Engine Protect Lamp Data	J1939-71	64773	1.1	2	This parameter provides measured data from the Engine Protect Lamp.			
	5094	Engine Amber Warning Lamp Data	J1939-71	64773	1.3	2	This parameter provides measured data from the Engine Amber Warning Lamp.			
	5095	Engine Red Stop Lamp Data	J1939-71	64773	1.5	2	This parameter provides measured data from the Engine Red Stop Lamp.			
	5096	OBD Malfunction Indicator Lamp Data	J1939-71	64773	1.7	2	This parameter provides measured data from the OBD Malfunction Indicator Lamp.			
	5097	Engine Brake Active Lamp Data	J1939-71	64773	2.1	2	This parameter provides measured data from the Engine Brake Active Lamp.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5098	Compression Brake Enable Switch Indicator Lamp Data	J1939-71	64773	2.3	2	This parameter provides measured data from the Compression Brake Enable Switch Indicator Lamp.			
	5099	Engine Oil Pressure Low Lamp Data	J1939-71	64773	2.5	2	This parameter provides measured data from the Engine Oil Pressure Low Lamp.			
	5100	Engine Coolant Temperature High Lamp Data	J1939-71	64773	2.7	2	This parameter provides measured data from the Engine Coolant Temperature High Lamp.			
	5101	Engine Coolant Level Low Lamp Data	J1939-71	64773	3.1	2	This parameter provides measured data from the Engine Coolant Level Low Lamp.			
	5102	Engine Idle Management Active Lamp Data	J1939-71	64773	3.3	2	This parameter provides measured data from the Engine Idle Management Active Lamp.			
	5103	Engine Air Filter Restriction Lamp Data	J1939-71	64773	3.5	2	This parameter provides measured data from the Engine Air Filter Restriction Lamp.			
	5104	Vehicle Battery Voltage Low Lamp Data	J1939-71	64772	1.1	2	This parameter provides measured data from the Vehicle Battery Voltage Low Lamp.			
	5105	Vehicle Fuel Level Low Lamp Data	J1939-71	64772	1.3	2	This parameter provides measured data from the Vehicle Fuel Level Low Lamp.			
	5106	Vehicle Air Pressure Low Lamp Data	J1939-71	64772	1.5	2	This parameter provides measured data from the Vehicle Air Pressure Low Lamp.			
	5107	Vehicle HVAC Recirculation Lamp Data	J1939-71	64772	1.7	2	This parameter provides measured data from the Vehicle HVAC Recirculation Lamp.			
	5108	Vehicle Battery Charging Lamp Data	J1939-71	64772	2.1	2	This parameter provides measured data from the Vehicle Battery Charging Lamp.			
	5109	Controller #3	J1939				Controller #3			
	5110	Controller #4	J1939				Controller #4			
	5111	Controller #5	J1939				Controller #5			
	5112	Controller #6	J1939				Controller #6			
	5113	Controller #7	J1939				Controller #7			
	5114	Controller #8	J1939				Controller #8			
	5115	Controller #9	J1939				Controller #9			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5116	Controller #10	J1939				Controller #10			
	5117	Controller #11	J1939				Controller #11			
	5118	Controller #12	J1939				Controller #12			
	5119	Controller #13	J1939				Controller #13			
	5120	Controller #14	J1939				Controller #14			
	5121	Controller #15	J1939				Controller #15			
	5122	Controller #16	J1939				Controller #16			
	5123	Controller #17	J1939				Controller #17			
	5124	Controller #18	J1939				Controller #18			
	5125	Sensor supply voltage 7	J1939-71	64924	5-6	16	Sensor ECU supply voltage 7			
	5126	Sensor supply voltage 8	J1939-71	64924	7-8	16	Sensor ECU supply voltage 8			
	5127	Sensor supply voltage 9	J1939-71			16	Sensor ECU supply voltage 9			
	5128	Sensor supply voltage 10	J1939-71			16	Sensor ECU supply voltage 10			
	5129	Sensor supply voltage 11	J1939-71			16	Sensor ECU supply voltage 11			
	5130	Sensor supply voltage 12	J1939-71			16	Sensor ECU supply voltage 12			
	5131	Sensor supply voltage 13	J1939-71			16	Sensor ECU supply voltage 13			
	5132	Sensor supply voltage 14	J1939-71			16	Sensor ECU supply voltage 14			
	5133	Sensor supply voltage 15	J1939-71			16	Sensor ECU supply voltage 15			
	5134	Sensor supply voltage 16	J1939-71			16	Sensor ECU supply voltage 16			
	5135	Sensor supply voltage 17	J1939-71			16	Sensor ECU supply voltage 17			
	5136	Sensor supply voltage 18	J1939-71			16	Sensor ECU supply voltage 18			
	5137	Aftertreatment 1 Diesel Exhaust Fluid Tank Heater Command	J1939-71	64832	3	8	Command for the Aftertreatment 1 Diesel Exhaust Fluid Tank Heater.			
	5138	Aftertreatment 2 Diesel Exhaust Fluid Tank Heater Command	J1939-71	64826	3	8	Command for the Aftertreatment 2 Diesel Exhaust Fluid Tank Heater.			
	5139	Implement operating state – command	ISO 11783-7	64771	8.1	2	Command for setting the operating state of a connected implement system.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5140	All Implement stop operating operations switch state	ISO 11783-7	64770	8.1	2	State of a switch or other operator input for stopping the operation of a connected system.			
	5141	Low Voltage Disconnect Manual Disconnect State	J1939-71	64769	1.1	2	State of the Manual Disconnect hardwired input to the LVD.			
	5142	Low Voltage Disconnect Manual Connect State	J1939-71	64769	1.3	2	State of the Manual Connect hardwired input to the LVD.			
	5143	Low Voltage Disconnect Current Operating Mode	J1939-71	64769	1.5	4	Current operating mode of the LVD.			
	5144	Low Voltage Disconnect Output #3 State	J1939-71	64769	2.1	4	State of the Output #3 from the LVD.			
	5145	Low Voltage Disconnect Output #2 State	J1939-71	64769	2.5	4	State of the Output #2 from the LVD.			
	5146	Low Voltage Disconnect Output #1 State	J1939-71	64769	3.1	4	State of the Output #1 from the LVD.			
	5147	Low Voltage Disconnect Vout Output State	J1939-71	64769	3.5	4	State of the Vout Output from the LVD.			
	5148	Low Voltage Disconnect Temperature	J1939-71	64769	4	8	Internal temperature of the LVD.			
	5149	Low Voltage Disconnect Desired Operating Mode	J1939-71	38400	1.1	4	Desired Operating Mode of the LVD. Used to issue a J1939 request to the LVD to change modes.			
	5150	Front Hitch Position Limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present limit status associated with rear hitch position commands that are persistent.			
	5151	Rear Hitch Position Limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present limit status associated with front hitch position commands that are persistent.			
	5152	Front PTO engagement request status	ISO 11783-7			2	This parameter is used to report the tractor ECU's status associated with front PTO engagement requests that are transient/temporary/one-shot.			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	5153	Front PTO mode request status	ISO 11783-7			2	This parameter is used to report the tractor ECU's status associated with front PTO mode requests that are transient/temporary/one-shot.				
	5154	Front PTO Economy mode request status	ISO 11783-7			2	This parameter is used to report the tractor ECU's status associated with front PTO economy mode requests that are transient/temporary/one-shot.				
	5155	Front PTO shaft speed limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present limit status associated with front PTO shaft speed commands that are persistent.				
	5156	Rear PTO engagement request status	ISO 11783-7			2	This parameter is used to report the tractor ECU's status associated with rear PTO engagement requests that are transient/temporary/one-shot.				
	5157	Rear PTO mode request status	ISO 11783-7			2	This parameter is used to report the tractor ECU's status associated with rear PTO mode requests that are transient/temporary/one-shot.				
	5158	Rear PTO Economy mode request status	ISO 11783-7			2	This parameter is used to report the tractor ECU's status associated with rear PTO economy mode requests that are transient/temporary/one-shot.				
	5159	Rear PTO shaft speed limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present limit status associated with rear PTO shaft speed commands that are persistent.				
	5160	Auxiliary valve number 0 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 0 flow commands that are persistent.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5161	Auxiliary valve number 0 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 0 flow commands that are persistent.			
	5162	Auxiliary valve number 1 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 1 flow commands that are persistent.			
	5163	Auxiliary valve number 1 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 1 flow commands that are persistent.			
	5164	Auxiliary valve number 2 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 2 flow commands that are persistent.			
	5165	Auxiliary valve number 2 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 2 flow commands that are persistent.			
	5166	Auxiliary valve number 3 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 3 flow commands that are persistent.			
	5167	Auxiliary valve number 3 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 3 flow commands that are persistent.			
	5168	Auxiliary valve number 4 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 4 flow commands that are persistent.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5169	Auxiliary valve number 4 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 4 flow commands that are persistent.			
	5170	Auxiliary valve number 5 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 5 flow commands that are persistent.			
	5171	Auxiliary valve number 5 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 5 flow commands that are persistent.			
	5172	Auxiliary valve number 6 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 6 flow commands that are persistent.			
	5173	Auxiliary valve number 6 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 6 flow commands that are persistent.			
	5174	Auxiliary valve number 7 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 7 flow commands that are persistent.			
	5175	Auxiliary valve number 7 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 7 flow commands that are persistent.			
	5176	Auxiliary valve number 8 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 8 flow commands that are persistent.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5177	Auxiliary valve number 8 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 8 flow commands that are persistent.			
	5178	Auxiliary valve number 9 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 9 flow commands that are persistent.			
	5179	Auxiliary valve number 9 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 9 flow commands that are persistent.			
	5180	Auxiliary valve number 10 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 10 flow commands that are persistent.			
	5181	Auxiliary valve number 10 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 10 flow commands that are persistent.			
	5182	Auxiliary valve number 11 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 11 flow commands that are persistent.			
	5183	Auxiliary valve number 11 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 11 flow commands that are persistent.			
	5184	Auxiliary valve number 12 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 12 flow commands that are persistent.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5185	Auxiliary valve number 12 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 12 flow commands that are persistent.			
	5186	Auxiliary valve number 13 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 13 flow commands that are persistent.			
	5187	Auxiliary valve number 13 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 13 flow commands that are persistent.			
	5188	Auxiliary valve number 14 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 14 flow commands that are persistent.			
	5189	Auxiliary valve number 14 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 14 flow commands that are persistent.			
	5190	Auxiliary valve number 15 measured flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with valve number 15 flow commands that are persistent.			
	5191	Auxiliary valve number 15 estimated flow limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with valve number 15 flow commands that are persistent.			
	5192	General purpose valve measured limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present measured flow limit status associated with a general purpose valve flow commands that are persistent.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5193	General purpose valve estimated limit status	ISO 11783-7			3	This parameter is used to report the tractor ECU's present estimated flow limit status associated with a general purpose valve flow commands that are persistent.			
	5194	Temperature units	ISO 11783-7			2	Command specifying the temperature units			
	5195	Pressure units	ISO 11783-7			2	Command specifying the pressure units.			
	5196	Force units	ISO 11783-7			2	Command specifying the force units.			
	5197	Units system	ISO 11783-7			2	Command specifying the system to be used for the display of any units, or units other than those specified in A.23.5.2 to A.23.5.8.			
	5198	Repetition rate	ISO 11783-7				The actual value of the transmission rate of the message with the associated PGN: the value of 0 implies the default rate is desired, while a value of 65535 implies no change is requested.			
	5199	Process data command	ISO 11783-10			4	The command identifies the action to be performed by the controller using the data in the process variable value field that is defined in the DD identifier at the element identified in bytes 3 and 4.			
	5200	Process data element number	ISO 11783-10				The element number is indicates the specific controllable element that must act on the command.			
	5201	Process data data dictionary identifier	ISO 11783-10				This 2 byte parameter is the identifier of the specific data entity in the data dictionary that defines its attributes contained in the process variable value field. The data dictionary entities are listed in ISO 11783-11.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5202	Process data variable value	ISO 11783-10				This 4 byte parameter contains the actual data for the Process Data Message. This value is defined as signed long integer data type.			
	5203	Implement Start/Stop operations	ISO 11783-7			2	State of a switch or other operator input to start or enable implement operations.			
	5204	Tractor control mode commands	ISO 11783-7			5	Commands from a connected implement, the task controller or the operator using the tractor ECU interface on a virtual terminal (VT), used for setting the optional function control modes of a tractor ECU.			
	5205	Tractor control commanded vehicle speed	ISO 11783-7				Commanded set point value of the wheel-, ground- or navigation-based tractor speed			
	5206	Tractor control commanded PTO speed	ISO 11783-7				Commanded set point value of the front or rear PTO speed.			
	5207	Tractor control commanded hitch position	ISO 11783-7				Commanded set point value of the front or rear hitch position.			
	5208	Tractor control commanded PTO torque	ISO 11783-7				Commanded set point value of the front or rear PTO torque.			
	5209	Tractor control commanded auxiliary valve flow	ISO 11783-7				Command for the set point value within the slip control function of the flow from the tractor auxiliary valve number given in A.27.3.6.3			
	5210	Tractor control commanded auxiliary valve state	ISO 11783-7			4	Command for setting of the state of the auxiliary valve number given in A.27.3.6.3. With float enabled, hydraulic fluid may flow to or from the tractor as driven by the implement.			
	5211	Tractor control commanded auxiliary valve number	ISO 11783-7			4	The number of the auxiliary valve selected for the commanded flow set point value within the slip control function.			
	5212	Tractor control commanded draft force	ISO 11783-7				Commanded set point value of the front or rear lower link draft force.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5213	Tractor control mode command response	ISO 11783-7			5	Measured parameter from a Tractor ECU of the optional function control modes settings.			
	5214	Tractor control vehicle speed set point value response	ISO 11783-7				Parameter that reports the commanded set point value of the wheel-, ground- or navigation-based tractor speed control mode.			
	5215	Tractor control PTO speed set point value response	ISO 11783-7				Parameter that reports the commanded set point value of the front or rear PTO speed.			
	5216	Tractor control hitch position set point value response	ISO 11783-7				Parameter that reports the commanded set point value of the front or rear hitch position.			
	5217	Tractor control PTO torque set point value response	ISO 11783-7				Parameter that reports the commanded set point value of the front or rear PTO torque.			
	5218	Tractor control maximum slip set point value response	ISO 11783-7				Parameter that reports the settled maximum flow of an auxiliary valve within slip control function.			
	5219	Tractor control auxiliary valve flow set point value response	ISO 11783-7				Parameter that reports the set point value within the slip control function of the flow from the tractor auxiliary valve number given in A.27.5.7.3			
	5220	Tractor control auxiliary valve state response	ISO 11783-7			4	Parameter that reports the state of the valve selected for the control of the flow within slip control function.			
	5221	Tractor control auxiliary valve number response	ISO 11783-7			4	Parameter that reports the number of the auxiliary valve selected for the control of the flow within slip control function.			
	5222	Tractor control draft force set point value response	ISO 11783-7				Parameter that reports the commanded set point value of the front or rear lower link draft force.			
	5223	Tractor Control draft force limit set point	ISO 11783-7				Parameter that reports the value of the limit of the commanded front or rear lower link draft force.			
	5224	Tractor Control PTO torque limit set point	ISO 11783-7				Parameter that reports the value of the limit of the commanded front or rear PTO torque.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5225	Tractor Control Absolute maximum PTO torque limit set point 540 rpm	ISO 11783-7				Parameter that reports the value of the limit of the commanded absolute front or rear PTO torque at 540 rpm.			
	5226	Tractor Control auxiliary valve flow limit set point	ISO 11783-7				Parameter that reports the settled limit of flow from an auxiliary valve within slip control function.			
	5227	Tractor Control limit status	ISO 11783-7			3	Parameter used to report the tractor ECU's present limit status associated with a parameter whose commands are persistent.			
	5228	Tractor control draft force limit set point command	ISO 11783-7				Parameter that reports the value of the limit of the commanded front or rear lower link draft force.			
	5229	Tractor control PTO torque limit set point command	ISO 11783-7				Parameter that reports the value of the limit of the commanded front or rear PTO torque.			
	5230	Tractor control absolute maximum PTO torque limit set point 540 rpm command	ISO 11783-7				Parameter that reports the value of the limit of the commanded absolute front or rear PTO torque at 540 rpm.			
	5231	Tractor control auxiliary valve flow limit set point command	ISO 11783-7				Parameter that reports the settled limit of flow from an auxiliary valve within slip control function.			
	5232	Tractor ECU class request	ISO 11783-7			2	Parameter used to request the class of a tractor ECU.			
	5233	Tractor facility request	ISO 11783-7			1	Parameter used to request a facility of a tractor ECU.			
	5234	Tractor ECU class response	ISO 11783-7			2	Parameter used to respond to a request of the class of a tractor ECU.			
	5235	Tractor facility response	ISO 11783-7			1	Parameter used to respond to a request of a facility of a tractor ECU.			
	5236	Tractor facility reserved bit indicator	ISO 11783-7			1	This parameter indicates whether the reserved bits in the message are set to 0 or 1.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5237	Guidance curvature command	ISO 11783-7				Desired course curvature over ground that a machine's steering system is required to achieve.			
	5238	Guidance estimated curvature	ISO 11783-7				The machine steering system's estimate of the curvature of the current turn. Curvature is positive when the vehicle is moving forward and turning to the driver's right.			
	5239	Guidance curvature command status	ISO 11783-7			2	This parameter indicates whether the guidance system is attempting to control steering with this command.			
	5240	Guidance request reset command status	ISO 11783-7			2	The machine steering system request to the automatic guidance system to change Curvature Command Status state from "Intended to Steer" to "Not Intended to Steer".			
	5241	Guidance steering input position status	ISO 11783-7			2	The machine steering system indicates if manual steering is in correct position for guidance to function (i.e. may be neutral steering).			
	5242	Guidance steering system readiness	ISO 11783-7			2	The machine steering system indicates that it is free from faults that would preclude guidance system operation.			
	5243	Mechanical system lockout	ISO 11783-7			2	The state of a lockout switch that allows operators to disable automatic steering system functions.			
	5244	Operator direction reversed	ISO 11783-7			2	This parameter indicates whether the reported direction is reversed from the perspective of the operator (e.g. the operator station has been reversed so forward direction actually moves the operator backwards).			
(R)	5245	Aftertreatment Selective Catalytic Reduction Operator Inducement Active	J1939-71	65110	5.6	3	The desired illumination of the driver's warning indicator for diesel exhaust fluid (DEF) tank low level.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5246	Aftertreatment SCR Operator Inducement Severity	J1939-71	65110	6.6	3	Severity status of the operator inducement system for anomalies with the SCR system, such as tampering, low DEF quality, and DEF tank level.			
	5247	Command - Process Data	ISO 11783-7				Identifies the action to be performed by the controller using the data in the process variable value field			
	5248	Sub-command - Process Data	ISO 11783-7				Used to determine if the process data command is for a working set master or to manage the device description.			
	5249	Command specific parameters - Process Data	ISO 11783-7				If the value is 0 or 1, the remaining bytes of the process data message are used to further define the message. See ISO 11783-10.			
	5250	Element number	ISO 11783-7				Indicates the specific controllable element that must act on the process data command. The set of numbers is defined in the device description.			
	5251	Data Dictionary Identifier	ISO 11783-7				The identifier of the specific data entity in the data dictionary that defines its attributes contained in the process variable value field.			
	5252	Engine Exhaust Gas Recirculation 2 Differential Pressure	J1939-71	64768	1-2	16	Differential Pressure across the Exhaust Gas Recirculation 2 (EGR2) system.			
	5253	Engine Exhaust Gas Recirculation 2 Intake Pressure	J1939-71	64768	3	8	EGR2 intake gauge pressure is measured after EGR2 cooler and before EGR2 valve			
	5254	Engine Exhaust Gas Recirculation 2 Outlet Absolute Pressure	J1939-71	64768	4-5	16	Absolute Pressure immediately after the EGR2 valve			
	5255	Engine Exhaust Gas Recirculation 2 Temperature	J1939-71	64767	1-2	16	Temperature of Recirculated Exhaust Gas of EGR2			
	5256	Engine Exhaust Gas Recirculation 2 Mixer Intake Temperature	J1939-71	64767	3-4	16	The temperature of the EGR gas entering the intake of EGR2 system mixer.			
	5257	Engine Exhaust Gas Recirculation 2 (EGR2) Mass Flow Rate	J1939-71	61450	5-6	16	Flow rate of gas through the second EGR system.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5258	Engine Exhaust Gas Recirculation 2 (EGR2) Cooler Intake Temperature	J1939-71	64766	1-2	16	Exhaust Gas Recirculation 2 (EGR2) Temperature measured at EGR2 cooler intake.			
	5259	Engine Exhaust Gas Recirculation 2 (EGR2) Cooler Intake Gas Absolute Pressure	J1939-71	64766	3-4	16	Exhaust Gas Recirculation 2 gas absolute pressure is measured at EGR2 cooler intake.			
	5260	Engine Exhaust Gas Recirculation 2 (EGR2) Cooler Efficiency	J1939-71	64766	5	8	Exhaust Gas Recirculation 2 cooler efficiency is an indication of the cooler's ability to reduce the temperature of the exhaust gas that is being recirculated back to the intake.			
	5261	EGR 2 Cooler Bypass Actuator Position	J1939-71	64766	6	8	EGR2 Cooler Bypass Actuator position, where 0% = Fully Closed (no gas flowing through the bypass), and 100% = Fully Open.			
	5262	Engine Exhaust Gas Recirculation 2 Valve Position	J1939-71	64765	1-2	16	Position of EGR2 valve expressed as a percentage of full travel.			
	5263	Engine Exhaust Gas Recirculation 2 Valve 2 Position	J1939-71	64765	3-4	16	The position of the second exhaust gas recirculation valve of EGR 2 expressed as a percentage of full travel.			
	5264	Engine Exhaust Gas Recirculation 2 (EGR2) Valve Control	J1939-71	64762	1-2	16	Desired percentage of maximum Exhaust Gas Recirculation 2 (EGR2) valve opening.			
	5265	Engine Exhaust Gas Recirculation 2 (EGR2) Valve 2 Control	J1939-71	64762	3-4	16	Desired percentage of maximum Exhaust Gas Recirculation 2 (EGR2) valve 2 opening.			
	5266	Diesel Particulate Filter 1 Soot Signal Standard Deviation	J1939-71	64761	1-2	16	Standard deviation of the soot measurement from diesel particulate filter 1 soot sensor.			
	5267	Diesel Particulate Filter 1 Soot Signal Maximum	J1939-71	64761	3-4	16	Maximum output signal level of the current soot measurement from diesel particulate filter 1 soot sensor. This is a statistical value, not the maximum sensing capability of the sensor.			
	5268	Diesel Particulate Filter 1 Soot Signal Minimum	J1939-71	64761	5-6	16	Minimum output signal level of the current soot measurement from diesel particulate filter 1 soot sensor. This is a statistical value, not the minimum sensing capability of the sensor.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5269	Diesel Particulate Filter 2 Soot Signal Standard Deviation	J1939-71	64760	1-2	16	Standard deviation of the soot measurement from diesel particulate filter 2 soot sensor.			
	5270	Diesel Particulate Filter 2 Soot Signal Maximum	J1939-71	64760	3-4	16	Maximum output signal level of the current soot measurement from diesel particulate filter 2 soot sensor. This is a statistical value, not the maximum sensing capability of the sensor.			
	5271	Diesel Particulate Filter 2 Soot Signal Minimum	J1939-71	64760	5-6	16	Minimum output signal level of the current soot measurement from diesel particulate filter 2 soot sensor. This is a statistical value, not the minimum sensing capability of the sensor.			
	5272	Unexpected Engine Shutdown	J1939				To provide a warning to alert the operator that the engine has performed an unexpected shutdown			
	5273	Crank Terminate Relay	J1939				Crank Terminate Relay diagnostic			
	5274	Prohibit Automatic Air Suspension Control	J1939-71	53760	8.3	2	This parameter is an internal request to the air suspension control system to prohibit automatic air suspension control.			
	5275	Parking Brake Actuator Fully Activated	J1939-71	64964	4.1	2	Signal which indicates when the parking brake actuator is fully activated.			
	5276	Engine Exhaust Manifold Bank 1 Flow Balance Valve Actuator Control	J1939-71	64764	1-2	16	Commanded percentage of maximum Engine Exhaust Manifold Bank 1 Balance valve opening.			
	5277	Engine Exhaust Manifold Bank 1 Flow Balance Valve Actuator Position	J1939-71	64763	1-2	16	Actual percentage of maximum Engine Exhaust Manifold Bank 1 Balance valve opening.			
	5278	Engine Exhaust Manifold Bank 2 Flow Balance Valve Actuator Control	J1939-71	64764	3-4	16	Commanded percentage of maximum Engine Ehaust Manifold Bank 2 Balance valve opening.			
	5279	Engine Exhaust Manifold Bank 2 Flow Balance Valve Actuator Position	J1939-71	64763	3-4	16	Actual percentage of maximum Engine Manifold Bank 2 Balance valve opening.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	5280	Engine Charge Air Cooler 1 Precooler Intake Temperature	J1939-71	64759	1-2	16	Temperature of the combustion air measured at the charge air cooler 1 precooler intake.				
	5281	Engine Charge Air Cooler 1 Precooler Outlet Temperature	J1939-71	64759	3-4	16	Temperature of the combustion air measured at the charge air cooler 1 precooler outlet.				
	5282	Engine Charge Air Cooler 1 Precooler Efficiency	J1939-71	64759	5	8	Engine charge air cooler 1 (CAC1) precooler efficiency is an indication of the precooler's ability to reduce the temperature of the combustion air that is being routed through the precooler.				
	5283	Engine Charge Air Cooler 1 Intake Temperature	J1939-71	64758	1-2	16	Temperature of the combustion air measured at the CAC 1 Intake.				
	5284	Engine Charge Air Cooler 1 Ambient Air Temperature	J1939-71	64758	3-4	16	Temperature of the air surrounding charge air cooler 1.				
	5285	Engine Charge Air Cooler 1 Efficiency	J1939-71	64758	5	8	Engine charge air cooler 1 (CAC1) efficiency is an indication of the CAC's ability to reduce the temperature of the combustion air that is being routed through the CAC1.				
	5286	Engine Charge Air Cooler 2 Precooler Intake Temperature	J1939-71	64757	1-2	16	Temperature of the combustion air measured at the charge air cooler 2 precooler Intake.				
	5287	Engine Charge Air Cooler 2 Precooler Outlet Temperature	J1939-71	64757	3-4	16	Temperature of the combustion air measured at the charge air cooler 2 precooler outlet.				
	5288	Engine Charge Air Cooler 2 Precooler Efficiency	J1939-71	64757	5	8	Engine charge air cooler 2 (CAC2) precooler efficiency is an indication of the precooler's ability to reduce the temperature of the gas that is being routed through the precooler.				
	5289	Engine Charge Air Cooler 2 Intake Temperature	J1939-71	64756	1-2	16	Temperature of the combustion air measured at the charge air cooler 2 Intake.				
	5290	Engine Charge Air Cooler 2 Outlet Temperature	J1939-71	64756	3-4	16	Temperature of combustion air after it exits from the Charge Air Cooler 2 but before any mixing of recirculated exhaust gas.				
	5291	Engine Charge Air Cooler 2 Ambient Air Temperature	J1939-71	64756	5-6	16	Temperature of the air surrounding charge air cooler 2.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5292	Engine Charge Air Cooler 2 Efficiency	J1939-71	64756	7	8	Engine charge air cooler 2 (CAC2) is an indication of the CAC's ability to reduce the temperature of the combustion air that is being routed through the CAC.			
	5293	Allow Level Control During Braking Command	J1939-71	53760	7.7	2	This parameter overides the inhibit of level control during braking.			
	5294	Allow Level Control During Braking Status	J1939-71	65114	7.5	2	This parameter indicates if the function Allow Level Control During Braking is active.			
	5295	Speed Dependent Level Control Request	J1939-71	53760	8.1	2	This parameter activates speed dependent level control in suspension system.			
	5296	Speed Dependant Level Control Status	J1939-71	65114	7.7	2	This parameter indicates if the function Speed Dependant Level Control is active.			
	5297	Aftertreatment 2 Warm Up Diesel Oxidation Catalyst Conversion Efficiency	J1939				The aftertreatment 2 warm up catalyst conversion efficiency percentage.			
	5298	Aftertreatment 1 Diesel Oxidation Catalyst Conversion Efficiency	J1939				The aftertreatment 1 diesel oxidation catalyst conversion efficiency percentage			
	5299	Aftertreatment 2 Diesel Oxidation Catalyst Conversion Efficiency	J1939				The aftertreatment 2 diesel oxidation catalyst conversion efficiency percentage.			
	5300	Aftertreatment 1 Diesel Oxidation Catalyst Insufficient NO <sub>2</sub> Conversion	J1939				The aftertreatment 1 diesel oxidation catalyst insufficient NO <sub>2</sub> conversion efficiency percentage.			
	5301	Aftertreatment 2 Diesel Oxidation Catalyst Insufficient NO <sub>2</sub> Conversion	J1939				The aftertreatment 2 diesel oxidation catalyst insufficient NO <sub>2</sub> conversion efficiency percentage.			
	5302	Aftertreatment 1 Post SCR NH <sub>3</sub> Conversion Efficiency	J1939				The post SCR conversion efficiency percentage in exhaust bank 1.			
	5303	Aftertreatment 2 Post SCR NH <sub>3</sub> Conversion Efficiency	J1939				The post SCR conversion efficiency percentage in exhaust bank 2.			
	5304	Aftertreatment 1 NO <sub>x</sub> Adsorbing Catalyst Conversion Efficiency	J1939				The aftertreatment 1 NO <sub>x</sub> adsorbing catalyst conversion efficiency percentage.			
	5305	Aftertreatment 2 NO <sub>x</sub> Adsorbing Catalyst Conversion Efficiency	J1939				The aftertreatment 2 NO <sub>x</sub> adsorbing catalyst conversion efficiency percentage.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5306	Aftertreatment 1 NOx Adsorbing Catalyst Dosing System	J1939				Indicates non-specific failures of the NOx adsorbing dosing system in exhaust bank 1, such as insufficient dosing efficiency.			
	5307	Aftertreatment 2 NOx Adsorbing Catalyst Dosing System	J1939				Indicates non-specific failures of the NOx adsorbing dosing system in exhaust bank 2, such as insufficient dosing efficiency.			
	5308	Aftertreatment 1 NOx Adsorbing Catalyst System Monitor	J1939				Monitors Aftertreatment 1 NOx Adsorbing Catalyst System.. May be used to represent readiness, in-use ratio, test results, data stream and DTC			
	5309	Aftertreatment 2 NOx Adsorbing Catalyst System	J1939				Indicates non-specific failures of the NOx adsorbing catalyst in exhaust bank 2, such as high temperature across the device.			
	5310	Aftertreatment 1 Diesel Particulate Filter NMHC Conversion Efficiency	J1939				The aftertreatment 1 hydrocarbon conversion efficiency of the diesel particulate filter.			
	5311	Aftertreatment 2 Diesel Particulate Filter NMHC Conversion Efficiency	J1939				The aftertreatment 2 hydrocarbon conversion efficiency of the diesel particulate filter.			
	5312	Commanded Engine Intake Manifold Pressure	J1939-71	64916	7-8	16	Provides the commanded set point value for the engine intake manifold gage pressure.			
(R)	5313	Commanded Engine Fuel Rail Pressure	J1939-71	64765	5-6	16	Provides the commanded set point value for the engine fuel rail gage pressure			
(R)	5314	Commanded Engine Fuel Injection Control Pressure	J1939-71	64765	7-8	16	Provides the commanded set point value for the engine fuel injection control pressure.			
	5315	Aftertreatment 2 Warm Up Diesel Oxidation Catalyst Intake Temperature	J1939-71	64749	1-2	16	Temperature of engine combustion byproducts entering the warm up Diesel Oxidation Catalyst in exhaust bank 2.			
	5316	Aftertreatment 2 Warm Up Diesel Oxidation Catalyst Outlet Temperature	J1939-71	64749	3-4	16	Temperature of engine combustion byproducts leaving the warm up Diesel Oxidation Catalyst in exhaust bank 2.			
	5317	Aftertreatment 2 Diesel Oxidation Catalyst System	J1939				Indicates non-specific failures of the diesel oxidation catalyst system in exhaust bank 2.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5318	Aftertreatment Exhaust Gas Sensor System Monitor	J1939-73				Indicates non-specific failures of the the exhaust gas sensor system. May be used to represent readiness, in-use ratio, test results, data stream and DTC.			
	5319	Aftertreatment 1 Diesel Particulate Filter Incomplete Regeneration	J1939				Indicates that a regeneration event of the bank 1 diesel particulate filter was started but failed to complete.			
	5320	Aftertreatment 2 Diesel Particulate Filter Incomplete Regeneration	J1939				Indicates that a regeneration event of the bank 2 diesel particulate filter was started but failed to complete.			
	5321	Engine Intake Manifold Pressure System Monitor	J1939-73				Indicates non-specific failures of the intake manifold pressurizing system. May be used to represent readiness, in-use ratio, test results, data stream and DTC.			
	5322	Aftertreatment NMHC Converting Catalyst System Monitor	J1939-73				Indicates non-specific failures of the non-methane hydrocarbon conversion catalyst system.			
	5323	Engine Fuel Control Control Mode	J1939-71	64981	7.3	2	Indicates whether the Engine Fuel Control System is in open loop or closed loop.			
	5324	Engine Glow Plug 1	J1939-71			2	Status of the engine glow plug 1.			
	5325	Engine Glow Plug 2	J1939-71			2	Status of the engine glow plug 2.			
	5326	Engine Glow Plug 3	J1939-71			2	Status of the engine glow plug 3.			
	5327	Engine Glow Plug 4	J1939-71			2	Status of the engine glow plug 4.			
	5328	Engine Glow Plug 5	J1939-71			2	Status of the engine glow plug 5.			
	5329	Engine Glow Plug 6	J1939-71			2	Status of the engine glow plug 6.			
	5330	Engine Glow Plug 7	J1939-71			2	Status of the engine glow plug 7.			
	5331	Engine Glow Plug 8	J1939-71			2	Status of the engine glow plug 8.			
	5332	Engine Glow Plug 9	J1939-71			2	Status of the engine glow plug 9.			
	5333	Engine Glow Plug 10	J1939-71			2	Status of the engine glow plug 10.			
	5334	Engine Glow Plug 11	J1939-71			2	Status of the engine glow plug 11			
	5335	Engine Glow Plug 12	J1939-71			2	Status of the engine glow plug 12.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5336	Engine Glow Plug 13	J1939-71			2	Status of the engine glow plug 13.			
	5337	Engine Glow Plug 14	J1939-71			2	Status of the engine glow plug 14.			
	5338	Engine Glow Plug 15	J1939-71			2	Status of the engine glow plug 15.			
	5339	Engine Glow Plug 16	J1939-71			2	Status of the engine glow plug 16.			
	5340	Engine Glow Plug 17	J1939-71			2	Status of the engine glow plug 17.			
	5341	Engine Glow Plug 18	J1939-71			2	Status of the engine glow plug 18.			
	5342	Engine Glow Plug 19	J1939-71			2	Status of the engine glow plug 19.			
	5343	Engine Glow Plug 20	J1939-71			2	Status of the engine glow plug 20.			
	5344	Transmission Warning Indicator	J1939-71	65098	6.3	2	Signal from transmission indicating that some aspect of its operation is not functioning correctly, and as a result, transmission operation may be altered or restricted.			
	5345	Transmission Overheat Indicator	J1939-71	64917	1.5	2	Signal from transmission indicating that its fluid temperature is above normal acceptable limits, and as a result, transmission operation may be altered or restricted.			
	5346	Driveline Retarder Overheat Indicator	J1939-71	65275	3.1	2	Signal from the driveline retarder indicating that its fluid temperature is above normal acceptable limits, and as a result, retarder operation may be altered or restricted.			
	5347	Lateral Acceleration Extended Range	J1939-71	61485	1-2	16	Indicates lateral acceleration of the vehicle (the component of vehicle acceleration vector along the Y-axis).			
	5348	Longitudinal Acceleration Extended Range	J1939-71	61485	3-4	16	Indicates longitudinal acceleration of the vehicle (the component of vehicle acceleration vector along the X-axis).			
	5349	Vertical Acceleration Extended Range	J1939-71	61485	5-6	16	Indicates vertical acceleration of the vehicle and the effect of gravity (the component of vehicle acceleration vector along the Z-axis).			
	5350	Lateral Acceleration Extended Range Figure of Merit	J1939-71	61485	7.1	2	Figure of merit for lateral acceleration measurement.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5351	Longitudinal Acceleration Extended Range Figure of Merit	J1939-71	61485	7.3	2	Figure of merit for longitudinal acceleration measurement.			
	5352	Vertical Acceleration Extended Range Figure of Merit	J1939-71	61485	7.5	2	Figure of merit for vertical acceleration measurement.			
	5353	Support Variable Transmission Repetition Rate for Acceleration Sensor	J1939-71	61485	7.7	2	Indicates which acceleration transmission rate are supported by the ECU in addition to the required 10 ms transmission rate.			
	5354	Aftertreatment NMHC Converting Catalyst Monitor	J1939-73				Monitors the aftertreatment NMHC converting catalyst			
	5355	Engine Intake Manifold #1 Pressure System Monitor	J1939-73				Monitors the engine intake manifold #1 pressure system			
	5356	NOx Converting Catalyst and/or NOx Adsorber Monitor	J1939-73				Monitors the NOx converting catalyst and/or NOx Adsorber			
	5357	Engine Fuel Injection Quantity Error for Multiple Cylinders	J1939-73				This diagnostic SPN indicates a fuel injection quantity error has occurred in multiple cylinders.			
	5358	Engine Cylinder #1 Fuel Injection Quantity	J1939-73				This diagnostic SPN relates to the quantity of fuel injected into cylinder #1.			
	5359	Engine Cylinder #2 Fuel Injection Quantity	J1939-73				This diagnostic SPN relates to the quantity of fuel injected into cylinder #2.			
	5360	Engine Cylinder #3 Fuel Injection Quantity	J1939-73				This diagnostic SPN relates to the quantity of fuel injected into cylinder #3.			
	5361	Engine Cylinder #4 Fuel Injection Quantity	J1939-73				This diagnostic SPN relates to the quantity of fuel injected into cylinder #4.			
	5362	Engine Cylinder #5 Fuel Injection Quantity	J1939-73				This diagnostic SPN relates to the quantity of fuel injected into cylinder #5.			
	5363	Engine Cylinder #6 Fuel Injection Quantity	J1939-73				This diagnostic SPN relates to the quantity of fuel injected into cylinder #6.			
	5364	Engine Cylinder #7 Fuel Injection Quantity	J1939-73				This diagnostic SPN relates to the quantity of fuel injected into cylinder #7.			
	5365	Engine Cylinder #8 Fuel Injection Quantity	J1939-73				This diagnostic SPN relates to the quantity of fuel injected into cylinder #8.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5366	Engine Desired Turbocharger Compressor Bypass Actuator 1 Position	J1939-71	64931	7	8	The requested position of the Engine Turbocharger Compressor Bypass actuator by the engine ECM			
	5367	Engine Turbocharger Compressor Bypass Actuator 1 Preliminary FMI	J1939-71	64931	8.1	5	Used to identify the applicable J1939-73 FMI detected in the Engine Turbocharger Compressor Bypass Actuator 1 by the manufacturers software.			
	5368	Engine Turbocharger Compressor Bypass Actuator 1 Temperature Status	J1939-71	64931	8.6	3	Used to identify the status of the Engine Turbocharger Compressor Bypass Actuator 1 drive circuitry temperature			
	5369	Engine Turbocharger Compressor Bypass Actuator 2 command	J1939-71	64931	5-6	16	The command to a compressor bypass actuator 2, normalized to percent, where 0% nominally represents fully closed and 100% represents fully open.			
	5370	Engine Desired Turbocharger Wastegate Actuator 1 Position	J1939-71	65174	6	8	The Requested Valve position of the Turbocharger Wastegate Valve 1, commanded by the engine ECM.			
	5371	Engine Turbocharger Wastegate Actuator 1 Preliminary FMI	J1939-71	65174	7.1	5	Used to identify the applicable J1939-73 FMI detected in the Engine Turbocharger Wastegate Actuator 1 by the manufacturers software. When there is no failure FMI 31 is transmitted. When there is multiple failures, the most severe is transmitted			
	5372	Engine Turbocharger Wastegate Actuator 1 Temperature Status	J1939-71	65174	7.6	3	Used to identify the status of the Engine Turbocharger Wastegate Actuator 1 Temperature			
	5373	Engine Desired Turbocharger Wastegate Actuator 2 Position	J1939-71	65174	8	8	The Requested Valve position of the Turbocharger Wastegate Valve 2, commanded by the engine ECM.			
	5374	Engine Desired Throttle Valve 1 Position	J1939-71	64754	1	8	The desired position of the Throttle valve 1 that is regulating the fluid, usually air/fuel mixture to the engine as commanded by the Engine Control unit.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5375	Engine Throttle Valve 1 Preliminary FMI	J1939-71	64754	2.1	5	Used to identify the applicable J1939-73 FMI detected in the engine throttle valve 1 by the manufacturers software.			
(R)	5376	Engine Throttle Valve 1 Temperature Status	J1939-71	64754	2.6	3	Used to identify the status of the engine throttle valve 1 Temperature.			
(R)	5377	Engine Desired Throttle Valve 2 Position	J1939-71	64754	3	8	The desired position of the engine throttle valve 2 that is regulating the fluid, usually air/fuel mixture to the engine as commanded by the Engine Control Unit			
(R)	5378	Engine Throttle Valve 2 Preliminary FMI	J1939-71	64754	4.1	5	Used to identify the applicable J1939-73 FMI detected in the engine throttle valve 2 by the manufacturers software. When there is no failure FMI 31 is transmitted. When there is multiple failures, the most severe is transmitted.			
(R)	5379	Engine Throttle Valve 2 Temperature status	J1939-71	64754	4.6	3	Used to identify the status of the Engine throttle valve 2 temperature.			
	5380	Engine Fuel Valve 1 Preliminary FMI	J1939-71	64754	5.1	5	Used to identify the applicable J1939-73 FMI detected in the Engine Fuel Valve 1 by the manufacturers software. When there is no failure FMI 31 is transmitted. When there is multiple failures, the most severe is transmitted.			
	5381	Engine Fuel Valve 1 Temperature Status	J1939-71	64754	5.6	3	Used to identify the status of the Engine Fuel valve 1 Temperature.			
	5382	Engine Fuel Valve 2 Preliminary FMI	J1939-71	64754	6.1	5	Used to identify the applicable J1939-73 FMI detected in the Engine Fuel Valve 2 by the manufacturers software. When there is no failure FMI 31 is transmitted. When there is multiple failures, the most severe is transmitted.			
	5383	Engine Fuel Valve 2 Temperature Status	J1939-71	64754	6.6	3	Used to identify the status of the Engine Fuel valve 2 Temperature.			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	5384	Engine Turbocharger Wastegate Actuator 2 Preliminary FMI	J1939-71	64753	1.1	5	Used to identify the applicable J1939-73 FMI detected in the Engine Turbocharger Wastegate Actuator 2 by the manufacturers software. When there is no failure FMI 31 is transmitted. When there is multiple failures, the most severe is transmitted				
	5385	Engine Turbocharger Wastegate Actuator 2 Temperature Status	J1939-71	64753	1.6	3	Used to identify the status of the Engine Turbocharger Wastegate Actuator 2 Temperature				
	5386	Engine Turbocharger Wastegate Actuator 1 Command	J1939-71	61486	1-2	16	The command to a Turbocharger Wastegate actuator 1, normalized to percent, where 0% nominally represents fully closed (No Flow) and 100% represents fully open (Max Flow).				
	5387	Engine Turbocharger Wastegate Actuator 2 Command	J1939-71	61486	3-4	16	The command to a Turbocharger Wastegate actuator 2, normalized to percent, where 0% nominally represents fully closed (No Flow) and 100% represents fully open (Max Flow).				
	5388	Engine Turbocharger Compressor Bypass Actuator 2 Position	J1939-71	64755	1	8	Measures the position of the turbocharger compressor bypass actuator 2, where 0% represents bypass fully closed and 100% represents bypass fully open.				
	5389	Engine Desired Turbocharger Compressor Bypass Actuator 2 Position	J1939-71	64755	2	8	The desired position of the Engine Turbocharger Compressor Bypass Actuator 2 as commanded by the Engine control unit				
	5390	Engine Turbocharger compressor Bypass Actuator 2 Preliminary FMI	J1939-71	64755	3.1	5	Used to identify the applicable J1939-73 FMI detected in the Engine Turbocharger Compressor Bypass Actuator 1 by the manufacturers software.				
	5391	Engine Turbocharger Compressor Bypass Actuator 2 Temperature Status	J1939-71	64755	3.6	3	Used to identify the status of the Engine Turbocharger Compressor Bypass Actuator 2 Temperature.				
	5392	Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Loss of Prime	J1939				Indicates that the Aftertreatment Diesel Exhaust Fluid Dosing Unit has lost prime				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5393	EGR Cooler Bypass Actuator	J1939				Diagnostic SPN for the actuator controlling the EGR cooler bypass valve.			
	5394	Aftertreatment Diesel Exhaust Fluid Dosing Valve	J1939				Diagnostic SPN for the aftertreatment diesel exhaust fluid doser used to inject diesel exhaust fluid into the aftertreatment exhaust stream.			
	5395	Engine Idle Fuel Quantity	J1939				Indicates that the quantity of fuel required to maintain idle speed is not within the regulated boundaries.			
	5396	Engine Crankcase Ventilation Hose Disconnected	J1939				Indicates that the crankcase ventilation hose has been disconnected or removed.			
	5397	Aftertreatment 1 Diesel Particulate Filter Regeneration too Frequent	J1939				Indicates that a regeneration event of the diesel particulate filter system is occurring too frequently.			
	5398	Estimated Pumping - Percent Torque	J1939-71	61443	8	8	The calculated torque that indicates the estimated amount of torque loss due to the engine air handling system.			
	5399	DPF Thermal Management Active	J1939-71	61443	6.5	2	Indicates that the exhaust temperatures have been elevated for regeneration of the diesel particulate filter aftertreatment system or in preparation of regeneration of the diesel particulate aftertreatment system.			
	5400	SCR Thermal Management Active	J1939-71	61443	6.7	2	Indicates that the exhaust temperatures have been elevated for regeneration of the SCR aftertreatment system or in preparation of regeneration of the SCR aftertreatment system.			
	5401	Engine Turbocharger Turbine Bypass Actuator	J1939				Diagnostic SPN for the actuator controlling the engine turbocharger turbine bypass valve.			
	5402	Lift Relay Control	J1939-71	61484	5.3	2	Command signal used to Engage and Disengage the Lift Relay controlling a Steady-State Magnet.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5403	Drop Relay Control	J1939-71	61484	5.5	2	Command signal used to Engage and Disengage the Drop Relay controlling a Steady-State Magnet.			
	5404	PTO Shutdown has Shutdown Engine	J1939-71	65252	8.3	2	Status signal which identifies whether or not the engine has been shutdown by the PTO shutdown system			
	5405	Set Elevation Sensor #1 Reference Elevation	J1939-71	61453	5.5	2	Command from a display or other external device (i.e. remote switch) to the land leveling system controller instructing the controller to set the reference elvation based on data received from the corresponding land leveling sensor.			
	5406	Set Elevation Sensor #2 Reference Elevation	J1939-71	61453	5.7	2	Command from a display or other external device (i.e. remote switch) to the land leveling system controller instructing the controller to set the reference elvation based on data received from the corresponding land leveling sensor.			
	5407	Blade Control Mode - Left	J1939-71	65138	4.1	4	Indicate if the land leveling system's automatic control is active or inactive for the elevation sensor on the left side of the blade.			
	5408	Blade Control Mode - Right	J1939-71	65138	4.5	4	Indicate if the land leveling system's automatic control is active or inactive for the elevation sensor on the right side of the blade.			
	5409	Land Leveling System Enable Status	J1939-71	65138	5.1	2	Communicate the enable/disable status of the Land Leveling System.			
	5410	Blade Elevation Deviation - Left	J1939-71	64750	1-2	16	Indicate the blade's left elevation deviation with respect to the reference elevation.			
	5411	Blade Elevation Deviation - Right	J1939-71	64750	3-4	16	Indicate the blade's right elevation deviation with respect to the reference elevation.			
	5412	Blade Reference Elevation Offset - Left	J1939-71	64750	5-6	16	Indicates the blade's left elevation offset with respect to the reference elevation.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5413	Blade Reference Elevation Offset - Right	J1939-71	64750	7-8	16	Indicates the blade's right elevation offset with respect to the reference elevation.			
	5414	Aftertreatment 1 Diesel Exhaust Fluid Tank 2 Heater Command	J1939-71	64832	4	8	This is the command for the Aftertreatment 1 Diesel Exhaust Fluid Tank 2 Heater.			
	5415	Aftertreatment 2 Diesel Exhaust Fluid Tank 2 Heater Command	J1939-71	64826	4	8	This is the command for the Aftertreatment 2 Diesel Exhaust Fluid Tank 2 Heater.			
	5416	Engine Wait To Start Lamp Data	J1939-71	64773	8.7	2	This parameter provides measured data from the Engine Wait To Start Lamp.			
	5417	Engine Fuel Filter (Suction Side) Intake Absolute Pressure	J1939-71	64752	1	8	Absolute pressure of fuel at the intake of the fuel filter (suction side) located between the fuel tank and the fuel supply pump.			
	5418	Engine Fuel Actuator 1	J1939				Device used to control the flow of fuel to the engine.			
	5419	Engine Throttle Actuator 1	J1939				Device used to control the flow of air or air/fuel mix to the engine.			
	5420	Engine Turbocharger Compressor Bypass Actuator 1	J1939				Device used to control the compressor bypass.			
	5421	Engine Turbocharger Wastegate Actuator 1	J1939				Device used to control the turbocharger wastegate.			
	5422	Engine Intake Manifold 2 Absolute Pressure	J1939-71	64976	8	8	The absolute pressure measurement of the air intake manifold for bank 2 or the second air intake manifold.			
	5423	Aftertreatment 1 Fuel Pump Relay Control	J1939-71	64869	3.1	2	Indicates how the device is controlling the aftertreatment 1 fuel pump relay.			
	5424	Aftertreatment 1 Fuel Flow Diverter Valve Control	J1939-71	64869	3.3	2	Indicates how the device is controlling the aftertreatment 1 fuel flow diverter valve.			
	5425	Aftertreatment 1 Fuel Pressure 2 Actuator Control	J1939-71	64869	4-5	16	Indicates how the device is controlling the aftertreatment 1 fuel pressure 2 regulating control valve.			
	5426	Aftertreatment 2 Fuel Pump Relay Control	J1939-71	64836	3.1	2	Indicates how the device is controlling the aftertreatment 2 fuel pump relay.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5427	Aftertreatment 2 Fuel Flow Diverter Valve Control	J1939-71	64836	3.3	2	Indicates how the device is controlling the aftertreatment 2 fuel flow diverter valve.			
	5428	Aftertreatment 2 Fuel Pressure 2 Control	J1939-71	64836	4-5	16	Indicates how the device is controlling the aftertreatment 2 fuel pressure 2 regulating control valve.			
	5429	Engine Exhaust Gas Recirculation 2 Intake Absolute Pressure	J1939-71	64768	6-7	16	EGR intake absolute pressure measured before the EGR 2 valve.			
	5430	Engine Exhaust Gas Recirculation 1 Intake Absolute Pressure	J1939-71	64751	1-2	16	EGR intake absolute pressure measured before the EGR 1 valve.			
	5431	Engine Exhaust Gas Recirculation 1 Outlet Absolute Pressure (High Resolution)	J1939-71	64751	3-4	16	EGR outlet absolute pressure is measured after the EGR 1 valve. See SPN 5019 for 1 byte resolution.			
	5432	Memory level	J1939-71	65114	8.5	4	Signal which indicates that the air suspension control has memory levels selected or stored.			
	5433	Memory level request	J1939-71	53760	8.5	4	Signal which indicates that the air suspension control requests a memory level or a memory level shall be stored.			
	5434	Aftertreatment 1 Diesel Exhaust Fluid Tank Fill Valve Command	J1939-71	64828	5	8	Commanded percentage of maximum Aftertreatment 1 Diesel Exhaust Fluid Tank Fill Valve opening.			
	5435	Aftertreatment 1 Diesel Exhaust Fluid Pump State	J1939-71	64828	6.1	2	State of Aftertreatment 1 Diesel Exhaust Fluid dosing pump.			
	5436	Aftertreatment 1 Diesel Exhaust Fluid Tank Drain Valve Command	J1939-71	64828	7	8	Commanded percentage of maximum Aftertreatment 1 Diesel Exhaust Fluid Tank Drain Valve opening.			
	5437	Aftertreatment 2 Diesel Exhaust Fluid Tank Fill Valve Command	J1939-71	64819	5	8	Commanded percentage of maximum Aftertreatment 2 Diesel Exhaust Fluid Tank Fill Valve opening.			
	5438	Aftertreatment 2 Diesel Exhaust Fluid Pump State	J1939-71	64819	6.1	2	State of Aftertreatment 2 Diesel Exhaust Fluid dosing pump.			
	5439	Aftertreatment 2 Diesel Exhaust Fluid Tank Drain Valve Command	J1939-71	64819	7	8	Commanded percentage of maximum Aftertreatment 2 Diesel Exhaust Fluid Tank Drain Valve opening.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5440	Aftertreatment 2 Hydrocarbon Doser	J1939				The doser used to inject fuel into the aftertreatment system			
	5441	Engine Fuel Injection Timing Error for Multiple Cylinders	J1939				To be defined			
	5442	Engine Fuel Injection Pressure Error for Multiple Cylinders	J1939				To be defined			
	5443	Aftertreatment 1 Hydrocarbon Dosing System	J1939-73				The hydrocarbon dosing system is part of the aftertreatment system used to reduce PM emissions.			
	5444	Engine Crankcase Breather Oil Separator Speed	J1939-71	64916	5-6	16	The speed of a rotating (centrifugal) crankcase oil separator.			
(R)	5445	Engine Throttle Valve 1 Operation Status	J1939-71	64754	7.1	4	Used to identify the status of engine throttle valve 1			
(R)	5446	Engine Throttle Valve 2 Operation Status	J1939-71	64754	7.5	4	Used to identify the status of engine throttle valve 2			
	5447	Engine Fuel Valve 1 Operation Status	J1939-71	64754	8.1	4	Used to identify the status of Engine Fuel Valve 1			
	5448	Engine Fuel Valve 2 Operation Status	J1939-71	64754	8.5	4	Used to identify the status of Engine Fuel Valve 2			
	5449	Engine Turbocharger Compressor Bypass Actuator 1 Operation Status	J1939-71	64755	4.1	4	Used to identify the status of Engine Turbocharger Compressor Bypass Actuator 1			
	5450	Engine Turbocharger Compressor Bypass Actuator 2 Operation Status	J1939-71	64755	4.5	4	Used to identify the status of Engine Turbocharger Compressor Bypass Actuator 2			
	5451	Engine Turbocharger Wastegate Actuator 1 Operation Status	J1939-71	64753	2.1	4	Used to identify the status of Engine Turbocharger Wastegate Actuator 1			
	5452	Engine Turbocharger Wastegate Actuator 2 Operation Status	J1939-71	64753	2.5	4	Used to identify the status of Engine Turbocharger Wastegate Actuator 2			
	5454	Aftertreatment 1 Average Time Between Active Regenerations	J1939-71	64920	33-36	32	Indicates the average time since last reset between active regenerations, that have not been forced to occur by manual request, for Aftertreatment device 1.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5455	Aftertreatment 2 Average Time Between Active Regenerations	J1939-71	64921	33-36	32	Indicates the average time since last reset between active regenerations, that have not been forced to occur by manual request, for Aftertreatment device 2.			
	5456	Aftertreatment 1 Hydrocarbon Doser Intake Fuel Temperature	J1939-71	64869	6	8	Measured temperature of the intake fuel to the hydrocarbon dosing device			
	5457	Engine Variable Geometry Turbocharger 1 Control Mode	J1939-71	64981	7.5	2	Indicates if the variable geometry turbocharger control status is either open loop or closed loop.			
(R)	5458	Flexible Fuel Percentage	J1939-71	65203	7-8	16	Measured signal that indicates the percentage of alcohol in the fuel currently being used.			
	5459	Aftertreatment 1 NOx Adsorber deNOx Regeneration Status	J1939-71	64748	1.1	2	Indicates whether the NOx adsorber deNOx regeneration in the first aftertreatment system is active or inactive			
	5460	Aftertreatment 2 NOx Adsorber deNOx Regeneration Status	J1939-71	64747	1.1	2	Indicates whether the NOx adsorber deNOx regeneration in the second aftertreatment system is active or inactive			
	5461	Aftertreatment 1 NOx Adsorber deSOx Regeneration Status	J1939-71	64748	1.3	2	Indicates whether the NOx adsorber deSOx regeneration in the first aftertreatment system is active or inactive			
	5462	Aftertreatment 2 NOx Adsorber deSOx Regeneration Status	J1939-71	64747	1.3	2	Indicates whether the NOx adsorber deSOx regeneration in the second aftertreatment system is active or inactive			
(R)	5463	Aftertreatment 1 SCR Operator Inducement Active Traveled Distance	J1939-71	64878	6-7	16	The distance traveled while SCR inducement (SPN 5246 is equal to level 1 to 5) is active.			
	5464	Hybrid Battery Pack Remaining Charge	J1939-71	64746	1-2	16	Indicates the hybrid battery pack remaining charge.			
	5465	Engine Intake Manifold Pressure Control Mode	J1939-71	65214	5.3	2	Indicates that the Boost Pressure Closed Loop Control status either open loop or closed loop.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5466	Aftertreatment 1 Diesel Particulate Filter Soot Load Regeneration Threshold	J1939-71	64891	7	16	This parameter indicates the value that will first cause DPF regeneration in aftertreatment 1.			
(R)	5467	Aftertreatment 2 Diesel Particulate Filter Soot Load Regeneration Threshold	J1939-71	64890	7	16	This parameter indicates the value that will first cause DPF regeneration in aftertreatment 2.			
	5468	Engine Oil Relative Dielectricity (high resolution)	J1939-71	64776	5-6	16	Engine oil relative dielectricity used to describe the engine oil quality.			
	5469	Engine Fuel Filter Restricted Lamp Command	J1939-71	64775	3.7	2	Command signal directly controlling the Engine Fuel Filter Restricted Lamp			
	5470	Engine Fuel Filter Restricted Lamp Data	J1939-71	64773	3.7	2	This parameter provides measured data from the Engine Fuel Filter Restricted Lamp.			
	5471	Engine Friction Percent Torque At Idle, Point 1	J1939-71	64743	1	8	The static portion of the friction torque at speed point 1 (SPN 188) of the engine torque map in the engine configuration message.			
(R)	5472	Engine Friction Percent Torque, Point 2	J1939-71	64743	2	8	The static portion of the friction torque at speed point 2 (SPN 528) of the engine torque map in the engine configuration message.			
(R)	5473	Engine Friction Percent Torque, Point 3	J1939-71	64743	3	8	The static portion of the friction torque at speed point 3 (SPN 529) of the engine torque map in the engine configuration message.			
(R)	5474	Engine Friction Percent Torque, Point 4	J1939-71	64743	4	8	The static portion of the friction torque at speed point 4 (SPN 530) of the engine torque map in the engine configuration message.			
(R)	5475	Engine Friction Percent Torque, Point 5	J1939-71	64743	5	8	The static portion of the friction torque at speed point 5 (SPN 531) of the engine torque map in the engine configuration message.			
(R)	5476	Engine Friction Percent Torque, Point 6	J1939-71	64743	6	8	The static portion of the friction torque at speed point 6, dependent on the configuration mode.			
(R)	5477	Engine Friction Percent Torque, Point 7	J1939-71	64743	7	8	The static portion of the friction torque at speed point 7 (SPN 533) of the engine torque map in the engine configuration message.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5478	Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Loss of Prime (obsolete)	J1939				Indicates that the Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit has lost prime. Duplicate - Use SPN 5392 instead.			
	5479	Aftertreatment 1 NOx Adsorbing Catalyst Intake Temperature	J1939				The temperature measured at the intake of the NOx adsorbing catalyst in exhaust bank 1.			
	5480	Aftertreatment 1 Diesel Exhaust Fluid Controller Temperature	J1939				Temperature of the Diesel Exhaust Fluid control unit.			
	5481	Aftertreatment 1 NOx Adsorbing Catalyst Outlet Temperature	J1939				The temperature measured at the outlet of the NOx adsorbing catalyst in exhaust bank 1.			
	5482	Aftertreatment 1 NOx Adsorbing Catalyst Missing	J1939				SPN will be used with FMI 31 (Condition Exists) to indicate the aftertreatment NOx adsorbing catalyst is missing in exhaust bank 1.			
	5483	Engine Turbocharger 1 Turbine Bypass Actuator 1 Position	J1939				Measures the position of the turbocharger turbine bypass actuator, where 0% represents bypass fully closed and 100% represents bypass fully open.			
	5484	Engine Fan Clutch 2 Output Device Driver	J1939				Indicates the status of the Engine Fan Clutch 2 Output Device.			
	5485	Aftertreatment 1 Diesel Exhaust Fluid Pump Orifice Flow	J1939				The Exhaust Emission Controller aftertreatment reagent pump orifice flow. Could indicate that the flow is being restricted.			
	5486	Exhaust Emission Controller ECU Temperature	J1939				The temperature of the exhaust emission control unit.			
	5487	Aftertreatment 1 Burner Unit Combustion Chamber Temperature	J1939				The temperature inside the combustion chamber for aftertreatment 1 burner unit type diesel particulate filters			
	5488	Aftertreatment 1 Diesel Exhaust Fluid Line Heater 5 State	J1939			2	The diesel exhaust fluid line heater 5 state for aftertreatment system 1 (exhaust bank 1).			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	5489	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 5 Preliminary FMI	J1939			5	Used to identify the applicable J1939-73 FMI detected in the diesel exhaust fluid line heater 5, by the manufacturer's control software in exhaust bank 1.				
	5490	Aftertreatment 2 Diesel Exhaust Fluid Line Heater 5	J1939			2	Identifies the diesel exhaust fluid line heater 5 request for aftertreatment system 1 (exhaust bank 1).				
	5491	Aftertreatment 1 Diesel Exhaust Fluid Line Heater Relay	J1939				The Aftertreatment Diesel Exhaust Fluid Line Heater Relay is used to energize one or more DEF line heaters.				
	5492	Armrest 1 Switch 2	J1939-71	64745	1.3	2	Status of the second switch located in armrest 1.				
	5493	Armrest 2 Switch 1	J1939-71	64745	1.5	2	Status of the first switch located in armrest 2.				
	5494	Armrest 2 Switch 2	J1939-71	64745	1.7	2	Status of the second switch located in armrest 2.				
	5495	Aftertreatment 1 Diesel Particulate Filter Soot Mean Calibration Offset	J1939-71	37888	1-2	16	Calibration offset for the soot Mean for Aftertreatment 1 Diesel Particulate Filter soot sensor.				
	5496	Aftertreatment 1 Diesel Particulate Filter Soot Standard Deviation Calibration Offset	J1939-71	37888	3-4	16	Calibration offset for the soot standard deviation for Aftertreatment 1 Diesel Particulate Filter soot sensor.				
	5497	Aftertreatment 2 Diesel Particulate Filter Soot Mean Calibration Offset	J1939-71	38144	1-2	16	Calibration offset for the soot Mean for Aftertreatment 2 Diesel Particulate Filter soot sensor.				
	5498	Aftertreatment 2 Diesel Particulate Filter Soot Standard Deviation Calibration Offset	J1939-71	38144	3-4	16	Calibration offset for the soot standard deviation for Aftertreatment 2 Diesel Particulate Filter soot sensor.				
	5499	Intake Valve Actuation System Oil Pressure 1 Solenoid Control	J1939-71	64744	1.1	2	Indicates the current command to the solenoid that controls the intake valve actuation system oil pressure 1 valve.				
	5500	Intake Valve Actuation System Oil Pressure 2 Solenoid Control	J1939-71	64744	1.3	2	Indicates the current command to the solenoid that controls the intake valve actuation system oil pressure 2 valve.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5501	Aftertreatment 1 Diesel Particulate Filter Intake Temperature Set Point	J1939-71	64736	1-2	16	Set point temperature for the particulate filter (DPF) regeneration at the intake to the DPF for Exhaust bank 1.			
(R)	5502	Relative Unburned Fuel Mass from Engine	J1939-71	64736	3-4	16	The unburned amount of diesel fuel coming out of the engine.			
	5503	Aftertreatment 1 Fuel Mass Rate	J1939-71	64736	5-6	16	Mass rate of total fuel being delivered to aftertreatment 1 for DPF regeneration.			
	5504	Hydrocarbon Doser Purging Enable	J1939-71	64892	8.1	2	Purging enable of the Hydrocarbon Doser (HCD).			
	5505	Requested Fuel Mass Rate	J1939-71	37376	1-2	16	Requested fuel dosing quantity from hydrocarbon doser			
	5506	HC Doser Status	J1939-71	37376	3.1	3	Indicates whether the HC Doser/ HC Dosing system is enabled or is waiting for regeneration.			
	5507	HC Doser Injecting Status	J1939-71	37376	3.4	2	Indicates whether the Hydrocarbon Doser (HCD) is presently injecting diesel fuel into the exhaust pipe.			
	5508	Diagnostic Status of HC Doser	J1939-71	37376	3.6	3	Indicates whether an error is active in the Hydrocarbon Doser (HCD) or whether the internal cyclic system test of the HCD is presently active			
(R)	5509	Hydrocarbon Doser Purging Required	J1939-71	37376	4.1	2	Purging of the Hydrocarbon Doser (HCD) is required.			
	5510	Lubrication Cycle Mode Lock Command	J1939-71	37120	1.1	2	Command signal to lock or unlock the ability to change the lubrication cycle mode.			
	5511	Lubrication Cycle Set Command	J1939-71	37120	1.3	3	Command signal to change the lubrication cycle.			
	5512	Lubrication Operation Mode Set Command	J1939-71	37120	1.6	3	Command signal to change lubrication system operational mode			
	5513	Lubrication Pump Enable Command	J1939-71	37120	2.1	2	Command signal to reset the lubrication pump.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5514	Lubrication Timing Cycle Command	J1939-71	37120	2.3	2	Command signal to enable or pause the lubrication activation clock.			
	5515	Lubrication Cycle Mode Lock Status	J1939-71	64742	1.1	2	Reports status of the ability to change the lubrication cycle mode.			
	5516	Lubrication Cycle Mode Status	J1939-71	64742	1.3	3	Reports the current lubrication cycle mode of the lubrication system			
(R)	5517	Lubrication Operation Mode Status	J1939-71	64742	1.6	3	Reports the current operational mode status of the lubrication system.			
	5518	Lubrication Pump Enable Status	J1939-71	64742	2.1	2	Reports the operational status of the lubrication system pump.			
	5519	Lubrication Reservoir Level	J1939-71	64742	2.3	2	Reports the status of the lubrication system reservoir level.			
(R)	5520	Lubrication Timing Cycle Status	J1939-71	64742	2.5	2	Reports the status of the lubrication activation clock.			
	5521	Lubrication System	J1939				The system used to lubricate joints on a vehicle/chassis			
	5522	Lubrication Pump Outlet Line 1 Pressure	J1939				The pressure observed at the pump outlet valve 1 in a vehicle/chassis lubrication system.			
	5523	Lubrication Pump Outlet Line 2 Pressure	J1939				The pressure observed at the pump outlet valve 2 in a vehicle/chassis lubrication system.			
	5524	Unexpected Lubrication Line 1 Pressure	J1939				Shows when pressure is present in line 1 when pressure is not expected..			
	5525	Unexpected Lubrication Line 2 Pressure	J1939				Shows when pressure is present in line 2 when pressure is not expected.			
	5526	Lubrication Line Pressure	J1939				Senses the pressure in the lubrication line.			
	5527	Lubrication Pump Actuator	J1939				This is the actuator that turns the lubrication pump on and off during a lubrication cycle on a vehicle/chassis lubrication system.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5528	Lubrication Pump Outlet Valve 1 Actuator	J1939				This actuator shifts valve 1 during a lubrication cycle on a vehicle/chassis lubrication system.			
	5529	Lubrication Pump Outlet Valve 2 Actuator	J1939				This actuator shifts valve 2 during a lubrication cycle on a vehicle/chassis lubrication system.			
	5530	Lubrication Pump	J1939				The mechanical pump that is used to pump lubricant in a vehicle/chassis lubrication system.			
	5531	Controller Internal Memory Battery	J1939				Battery that is internal to an electronic controller for persistence of data in memory.			
	5532	Switch Backlight Illumination Brightness Percent	J1939-71	53248	2	8	Commanded switch backlight brightness level for all operator control switches.			
	5533	Hydraulic Oil Dynamic Viscosity	J1939-71	64741	1-2	16	Dynamic viscosity of hydraulic oil. This hydraulic fluid is for the entire hydraulics system of a piece of equipment.			
	5534	Hydraulic Oil Density	J1939-71	64741	3-4	16	Density of hydraulic oil. This hydraulic fluid is for the entire hydraulics system of a piece of equipment.			
	5535	Hydraulic Oil Relative Dielectricity (high resolution)	J1939-71	64741	5-6	16	Hydraulic oil relative dielectricity used to describe the hydraulic oil quality. This hydraulic fluid is for the entire hydraulics system of a piece of equipment.			
	5536	Hydraulic Oil Temperature (High Resolution)	J1939-71	64741	7-8	16	Hydraulic Oil Temperature. This hydraulic fluid is for the entire hydraulics system of a piece of equipment.			
	5537	Engine Fuel Dynamic Viscosity	J1939-71	64740	1-2	16	Dynamic viscosity of engine fuel			
	5538	Engine Fuel Density	J1939-71	64740	3-4	16	Density of engine fuel			
	5539	Engine Fuel Dielectricity (high resolution)	J1939-71	64740	5-6	16	Engine fuel relative dielectricity.			
	5540	Engine Fuel Temperature (High Resolution)	J1939-71	64740	7-8	16	Engine Fuel Temperature (high resolution).			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5541	Engine Turbocharger 1 Turbine Outlet Pressure	J1939-71	64739	1	8	Gage pressure of the combustion by-products exiting the turbine side of the turbocharger 1.			
	5542	Desired Engine Turbocharger 1 Turbine Outlet Pressure	J1939-71	64739	2	8	The desired gage pressure of the combustion by-products exiting the turbine side of the turbocharger 1 at the current engine operating conditions.			
	5543	Engine Exhaust Brake Actuator Command	J1939-71	64739	3	8	The control command applied to the engine exhaust brake actuator, where 0% represents no braking and 100% represents full braking.			
	5544	Engine Turbocharger 2 Turbine Outlet Pressure	J1939-71	64739	4	8	Gage pressure of the combustion by-products exiting the turbine side of the turbocharger 2.			
	5545	Desired Engine Turbocharger 2 Turbine Outlet Pressure	J1939-71	64739	5	8	The desired gage pressure of the combustion by-products exiting the turbine side of the turbocharger 5 at the current engine operating conditions.			
	5546	Engine Auxiliary Cooler Supply Valve 1 Actuator Command	J1939-71	64850	4	8	The control command applied to the engine auxiliary cooler supply valve 1 actuator, where 0% represents closed and 100% represents open.			
	5547	Engine Auxiliary Cooler Supply Valve 2 Actuator Command	J1939-71	64850	5	8	The control command applied to the engine auxiliary cooler supply valve 2 actuator, where 0% represents closed and 100% represents open.			
	5548	Engine Cold Start Fuel Igniter Command	J1939-71	64966	3	8	The engine cold start fuel igniter control command, normalized to %, where 0% represents fully off and 100% represents fully on.			
	5549	Engine Cold Start Fuel Igniter Relay	J1939-71	64966	4.1	2	The engine cold start fuel igniter relay control command. This command controls the relay, not the igniter.			

Rev	SPN	SPN Name	J1939 Reference						J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description		PID	MID	SID
	5550	Engine Cold Start Fuel Igniter Relay Feedback	J1939-71	64966	4.3	2	Feedback state of the engine cold start fuel igniter relay which indicates the status of the relay output.				
	5551	Magnet Generator Control	J1939-71	61484	5.7	2	Command signal used to Enable and Disable the Generator controlling a Magnet.				
	5552	Supplemental Fan Enable Command	J1939-71	36864	1.1	2	Enable/Disable command to Supplemental Fan.				
	5553	Supplemental Fan Direction Command	J1939-71	36864	1.3	2	Direction command to the Supplemental Fan.				
	5554	Supplemental Fan Speed Command	J1939-71	36864	2-3	16	Speed command to Supplemental Fan.				
	5555	Supplemental Fan Power Hold	J1939-71	36864	4.1	2	Command to allow the supplemental fan controller to remain alive independently of the electrical enable input to the fan.				
	5556	Supplemental Fan Enable Status	J1939-71	64738	1.1	2	Enable/Disable Status of Supplemental Fan.				
	5557	Supplemental Fan Direction Status	J1939-71	64738	1.3	2	Rotational Direction of Supplemental Fan.				
	5558	Supplemental Fan Velocity Status	J1939-71	64738	1.5	4	Status of the rotational velocity of Supplemental Fan.				
	5559	Supplemental Fan Controller Temperature Status	J1939-71	64738	2.1	3	Internal Controller Temperature Status of Supplemental Fan.				
	5560	Supplemental Fan Drive Status	J1939-71	64738	2.4	4	The drive status of the Supplemental Fan.				
	5561	Supplemental Fan Controller ECU Temperature	J1939-71	64738	3	8	Measured temperature of Supplemental Fan Controller ECU.				
	5562	Supplemental Fan Speed	J1939-71	64738	4-5	16	Measured speed of supplemental fan.				
	5563	Supplemental Fan Current	J1939-71	64738	6	8	Measured electrical current of supplemental fan drive.				
	5564	Supplemental Fan Power	J1939-71	64738	7-8	16	Estimated Power output of Supplemental Fan				
	5565	Coolant Level Engine Protection Shutdown Override Command	J1939-71	36608	1.1	2	Overrides the engine protection shutdown functionality due to low coolant level.				
	5566	Coolant Level Engine Protection Shutdown Status	J1939-71	65252	8.5	2	Parameter which indicates the configuration of the coolant level engine protection shutdown.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5567	Engine Speed Governor Gain Adjust	J1939-71	64915	5-6	16	This parameter is used to adjust multiple gains at same time to attain engine stability across a broader range of applications.			
	5568	Engine Speed Governor Droop	J1939-71	64915	7	8	This is the percent speed droop adjustment relative to rated speed setpoint.			
	5569	Diesel Particulate Filter 1 Soot Sensor ECU Internal Temperature	J1939-71	64796	8	8	Internal temperature of the diesel particulate filter 1 soot sensor ECU.			
	5570	Diesel Particulate Filter 2 Soot Sensor ECU Internal Temperature	J1939-71	64795	8	8	Internal temperature of the diesel particulate filter 2 soot sensor ECU.			
	5571	High Pressure Common Rail Fuel Pressure Relief Valve	J1939				Indicates the condition of the pressure relief valve.			
	5572	Electrical Power Inverter/Converter	J1939				The electrical power inverter/converter is used to convert between DC voltage and AC voltage.			
	5573	Auxiliary Cab Air Conditioner	J1939				The auxiliary cab air conditioner is a supplemental air conditioning system used to cool the vehicle cab interior.			
	5574	Auxiliary Cab Heater	J1939				The auxiliary cab heater is a supplemental heating system used to heat the vehicle cab interior.			
	5575	Vehicle Hood Tilt Switch	J1939				Switch used to indicate the current position of the vehicle hood.			
	5576	Aftertreatment 1 Identification	J1939				Aftertreatment 1 identification data used to ensure proper matching of engine and aftertreatment system.			
	5577	Aftertreatment 2 Identification	J1939				Aftertreatment 2 identification data used to ensure proper matching of engine and aftertreatment system.			
	5578	Engine Fuel Delivery Absolute Pressure	J1939-71	64735	1	8	Absolute pressure of fuel in system as delivered from supply pump to the injection pump.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5579	Engine Filtered Fuel Delivery Pressure	J1939-71	64735	2	8	Gage pressure of fuel in system as delivered from supply pump to the injection pump after the pressure side fuel filter.			
	5580	Engine Filtered Fuel Delivery Absolute Pressure	J1939-71	64735	3	8	Absolute pressure of fuel in system as delivered from supply pump to the injection pump after the pressure side fuel filter.			
	5581	Calculated Ambient Air Temperature	J1939-71	64992	5-6	16	Calculated temperature of air surrounding vehicle. Use SPN 171 for actual measured ambient air temperature.			
	5582	Static Roll Angle	J1939-71	2304	1	8	The measured static roll angle between the vehicle y-axis and the ground plane about the X-axis.			
	5583	Static Roll Angle Status	J1939-71	2304	2.1	3	Status of the transmitted roll angle data.			
	5584	Engine Fuel Filter Degradation	J1939-71	64735	4	8	The estimated percentage relative to the useful life of the engine fuel filter. 0% is typical of a new filter. 100% is typical of an end of life filter, the filter should be replaced. The filter can operate past 100%.			
	5585	Engine Injector Metering Rail 1 Cranking Pressure	J1939				Engine Injector Metering Rail 1 Pressure during engine cranking.			
	5586	Engine Injector Metering Rail 2 Cranking Pressure	J1939				Engine Injector Metering Rail 2 Pressure during engine cranking.			
	5587	Engine Intake Manifold Temperatures Inconsistent	J1939				Indicates that there is a significant difference between multiple intake manifold temperature sensors.			
	5588	Proprietary Network #2	J1939-73	57088	3.3	2	Identifies the action to be performed on the Proprietary Network #2 communications port.			
	5589	Aftertreatment 1 Secondary Air Absolute Pressure	J1939-71	64734	1-2	16	Absolute pressure of the secondary air for aftertreatment 1.			
	5590	Aftertreatment 2 Secondary Air Absolute Pressure	J1939-71	64733	1-2	16	Absolute pressure of the secondary air for aftertreatment 2.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5591	Aftertreatment 1 Diesel Particulate Filter Air Control Module	J1939				The control module used to control the aftertreatment 1 diesel particulate filter air system.			
	5592	Network Message Control Byte	J1939-31			8	Identifies the function or service of an instance of the Network Message.			
	5593	NIECU Port	J1939-31			4	Identifies a specific port of the NIECU without context of messaging direction.			
	5594	To Port	J1939-31			4	Identifies the destination port, or send port, of messages being moved through the NIECU.			
	5595	From Port	J1939-31			4	Identifies the origination port, or receive port, of messages being moved through the NIECU.			
	5596	Filter Mode	J1939-31			8	Identifies the mode of filtering operation applied for messages being passed from one specific port to another specific port.			
	5597	NIECU Parameter Number	J1939-31			8	Identifies a specific status or statistical parameter associated with an NIECU, a specific Port Pair of the NIECU, or both.			
	5598	NIECU Parameter Data	J1939-31			8	An instance of the parameter data for an NIECU Parameter in a Network Message.			
	5599	PGN (Network Message)	J1939-31			24	Instance of a PGN listed a Network Message data field.			
	5600	Source Address (Network Message)	J1939-31			8	Instance of a Source Address listed a Network Message data field.			
	5601	NAME (Network Message)	J1939-31			64	Instance of a J1939 NAME listed a Network Message data field.			
	5602	Number of SA/NAME Pairs	J1939-31			8	The number of instances of Source Addresses and associated NAMEs included in the associated data content.			
	5603	Cruise Control Disable Command	J1939-71	2560	1.1	2	This parameter is used to disable cruise control from a source other than the driver controlled switch if cruise control is active.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5604	Cruise Control Resume Command	J1939-71	2560	1.3	2	This parameter is used to request the cruise control to resume operation from a source other than the driver controlled switch.			
	5605	Cruise Control Pause Command	J1939-71	2560	1.5	2	This parameter is used to temporarily disable cruise control from a source other than the driver controlled switch if cruise control is active.			
	5606	Adaptive Cruise Control Readiness Status	J1939-71	64732	1.1	2	This parameter is used to indicate an application's state of readiness for responding to commands from an adaptive cruise control system controller.			
	5607	Cruise Control System Command State	J1939-71	64732	1.3	3	Indicates the current state of the cruise control system due to the Cruise Control System Commands.			
	5608	Source Address of Controlling Device for Disabling Cruise Control	J1939-71	64732	2	8	The source address of the SAE J1939 device that is currently sending the Cruise Control Disable Command (SPN 5603).			
	5609	Source Address of Controlling Device for Pausing Cruise Control	J1939-71	64732	3	8	The source address of the SAE J1939 device that is currently sending the Cruise Control Pause Command (SPN 5605).			
	5610	Transmission input clutch calculated load	J1939				Identifies the calculated load on the clutch pressure plate of the transmission input clutch.			
	5611	Transmission shift cylinder #1 position sensor	J1939				Indicates the status of transmission shift cylinder #1 position sensor			
	5612	Transmission shift cylinder #2 position sensor	J1939				Indicates the status of transmission shift cylinder #2 position sensor.			
	5613	Vehicle attitude sensor	J1939				Identifies the status of the vehicle attitude sensor used to determine the grade of the road.			
	5614	Transmission clutch coarse engagement actuator	J1939				Identifies the status of the actuator that controls the coarse engagement of the transmission input clutch.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5615	Transmission clutch fine engagement actuator	J1939				Identifies the status of the actuator that controls the fine engagement of the transmission input clutch.			
	5616	Transmission clutch coarse disengagement actuator	J1939				Identifies the status of the actuator that controls the coarse disengagement of the transmission input clutch.			
	5617	Transmission clutch fine disengagement actuator	J1939				Identifies the status of the actuator that controls the fine disengagement of the transmission input clutch.			
	5618	Transmission gear shift cylinder 1 actuator 1	J1939				Identifies the status of Transmission gear shift cylinder 1 actuator 1			
	5619	Transmission gear shift cylinder 1 actuator 2	J1939				Identifies the status of Transmission gear shift cylinder 1 actuator 2			
	5620	Transmission gear shift cylinder 2 actuator 1	J1939				Identifies the status of Transmission gear shift cylinder 2 actuator 1			
	5621	Transmission gear shift cylinder 2 actuator 2	J1939				Identifies the status of Transmission gear shift cylinder 2 actuator 2			
	5622	Transmission splitter engagement system	J1939				Used for the status of the system that controls the transmission splitter engagement.			
	5623	Transmission range engagement system	J1939				Used for the status of the transmission range engagement system.			
	5624	Trailer-VDC Active	J1939-71	65103	3.1	2	This parameter makes it possible to warn the driver if one of the trailers activate the brakes because of an VDC function active in the trailer.			
	5625	Engine Exhaust Back Pressure Regulator Position	J1939-71	64753	3	8	The position of the Exhaust Back Pressure Regulator (EBPR) expressed as a percentage of full travel.			
	5626	Engine Exhaust Back Pressure Regulator Preliminary FMI	J1939-71	64753	4.1	5	Used to identify the applicable J1939-73 FMI detected in the Engine Exhaust Back Pressure Regulator (EBPR) by the manufacturers software.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5627	Engine Exhaust Back Pressure Regulator Temperature Status	J1939-71	64753	4.6	3	Used to identify the status of the Engine Exhaust Back Pressure Regulator (EBPR) drive circuitry temperature.			
	5628	Engine Exhaust Back Pressure Regulator Control Operation Status	J1939-71	64753	5.1	4	Used to identify the status of Engine Exhaust Back Pressure Regulator.			
	5629	Diesel Particulate Filter Active Regeneration Inhibited Due to Low Exhaust Gas Pressure	J1939-71	64892	8.3	2	Indicates the state of diesel particulate filter active regeneration inhibition due to low exhaust gas pressure.			
	5630	Park Brake Command	J1939-71	57344	5.1	2	Request by a secondary device to command the Park Brake.			
(R)	5631	Engine Throttle Valve 1 Differential Pressure	J1939-71	64961	7-8	16	The differential pressure between the intake and outlet of the throttle valve 1.			
	5632	Aftertreatment 1 Diesel Particulate Filter 1 Soot Sensor Analysis Request Frequency 1	J1939-71	64731	1-2	16	First requested analysis frequency for the diesel particulate filter 1 soot sensor.			
	5633	Aftertreatment 1 Diesel Particulate Filter 1 Soot Sensor Analysis Request Frequency 2	J1939-71	64731	3-4	16	Second requested analysis frequency for the diesel particulate filter 1 soot sensor.			
	5634	Aftertreatment 1 Diesel Particulate Filter 1 Soot Sensor Analysis Request Frequency 3	J1939-71	64731	5-6	16	Third requested analysis frequency for the diesel particulate filter 1 soot sensor.			
	5635	Aftertreatment 1 Diesel Particulate Filter 1 Soot Sensor Analysis Request Frequency 4	J1939-71	64731	7-8	16	Fourth requested analysis frequency for the diesel particulate filter 1 soot sensor.			
	5636	Aftertreatment 1 Diesel Particulate Filter 1 Soot Sensor Analysis Frequency 1	J1939-71	64730	1-2	16	The analysis frequency associated with the frequency 1 soot signal for the diesel particulate filter 1 soot sensor.			
	5637	Aftertreatment 1 Diesel Particulate Filter 1 Soot Sensor Frequency 1 Soot Signal	J1939-71	64730	3-4	16	The soot signal attenuation measurement for analysis frequency 1 for the diesel particulate filter 1 soot sensor.			
	5638	Aftertreatment 1 Diesel Particulate Filter 1 Soot Sensor Analysis Frequency 2	J1939-71	64730	5-6	16	The analysis frequency associated with the frequency 2 soot signal for the diesel particulate filter 1 soot sensor.			

Rev	SPN	J1939 Reference							J1587 Reference		
		SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID	
	5639	Aftertreatment 1 Diesel Particulate Filter 1 Soot Sensor Frequency 2 Soot Signal	J1939-71	64730	7-8	16	The soot signal attenuation measurement for analysis frequency 2 for the diesel particulate filter 1 soot sensor.				
	5640	Aftertreatment 1 Diesel Particulate Filter 1 Soot Sensor Analysis Frequency 3	J1939-71	64729	1-2	16	The analysis frequency associated with the frequency 3 soot signal for the diesel particulate filter 1 soot sensor.				
	5641	Aftertreatment 1 Diesel Particulate Filter 1 Soot Sensor Frequency 3 Soot Signal	J1939-71	64729	3-4	16	The soot signal attenuation measurement for analysis frequency 3 for the diesel particulate filter 1 soot sensor.				
	5642	Aftertreatment 1 Diesel Particulate Filter 1 Soot Sensor Analysis Frequency 4	J1939-71	64729	5-6	16	The analysis frequency associated with the frequency 4 soot signal for the diesel particulate filter 1 soot sensor.				
	5643	Aftertreatment 1 Diesel Particulate Filter 1 Soot Sensor Frequency 4 Soot Signal	J1939-71	64729	7-8	16	The soot signal attenuation measurement for analysis frequency 4 for the diesel particulate filter 1 soot sensor.				
	5644	Aftertreatment 1 Diesel Particulate Filter 2 Soot Sensor Analysis Request Frequency 1	J1939-71	64728	1-2	16	First requested analysis frequency for the diesel particulate filter 2 soot sensor.				
	5645	Aftertreatment 1 Diesel Particulate Filter 2 Soot Sensor Analysis Request Frequency 2	J1939-71	64728	3-4	16	Second requested analysis frequency for the diesel particulate filter 2 soot sensor.				
	5646	Aftertreatment 1 Diesel Particulate Filter 2 Soot Sensor Analysis Request Frequency 3	J1939-71	64728	5-6	16	Third requested analysis frequency for the diesel particulate filter 2 soot sensor.				
	5647	Aftertreatment 1 Diesel Particulate Filter 2 Soot Sensor Analysis Request Frequency 4	J1939-71	64728	7-8	16	Fourth requested analysis frequency for the diesel particulate filter 2 soot sensor.				
	5648	Aftertreatment 1 Diesel Particulate Filter 2 Soot Sensor Analysis Frequency 1	J1939-71	64727	1-2	16	The analysis frequency associated with the frequency 1 soot signal for the diesel particulate filter 2 soot sensor.				
	5649	Aftertreatment 1 Diesel Particulate Filter 2 Soot Sensor Frequency 1 Soot Signal	J1939-71	64727	3-4	16	The soot signal attenuation measurement for analysis frequency 1 for the diesel particulate filter 2 soot sensor.				

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5650	Aftertreatment 1 Diesel Particulate Filter 2 Soot Sensor Analysis Frequency 2	J1939-71	64727	5-6	16	The analysis frequency associated with the frequency 2 soot signal for the diesel particulate filter 2 soot sensor.			
	5651	Aftertreatment 1 Diesel Particulate Filter 2 Soot Sensor Frequency 2 Soot Signal	J1939-71	64727	7-8	16	The soot signal attenuation measurement for analysis frequency 2 for the diesel particulate filter 2 soot sensor.			
	5652	Aftertreatment 1 Diesel Particulate Filter 2 Soot Sensor Analysis Frequency 3	J1939-71	64726	1-2	16	The analysis frequency associated with the frequency 3 soot signal for the diesel particulate filter 2 soot sensor.			
	5653	Aftertreatment 1 Diesel Particulate Filter 2 Soot Sensor Frequency 3 Soot Signal	J1939-71	64726	3-4	16	The soot signal attenuation measurement for analysis frequency 3 for the diesel particulate filter 2 soot sensor.			
	5654	Aftertreatment 1 Diesel Particulate Filter 2 Soot Sensor Analysis Frequency 4	J1939-71	64726	5-6	16	The analysis frequency associated with the frequency 4 soot signal for the diesel particulate filter 2 soot sensor.			
	5655	Aftertreatment 1 Diesel Particulate Filter 2 Soot Sensor Frequency 4 Soot Signal	J1939-71	64726	7-8	16	The soot signal attenuation measurement for analysis frequency 4 for the diesel particulate filter 2 soot sensor.			
	5656	Retarder Coolant Outlet Temperature	J1939				Coolant temperature located at the outlet of the driveline retarder.			
	5657	NAME Checksum / Error Code	J1939-81	37632	1	8	NAME checksum is used as a check to ensure the NM message has been sent to the correct CA.			
	5658	Manufacturer Code Qualifier Flag	J1939-81	37632	2.1	1	When this qualifier flag is set to "0" in the NM message, the Commanded Manufacturer Code field is used to replace the Manufacturer Code field currently being used by the CA.			
	5659	ECU Instance Qualifier Flag	J1939-81	37632	2.2	1	When this qualifier flag is set to "0" in the NM message, the Commanded ECU Instance is used to replace the ECU Instance currently being used by the CA.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5660	Function Instance Qualifier Flag	J1939-81	37632	2.3	1	When this qualifier flag is set to "0" in the NM message, the Commanded Function Instance is used to replace the Function Instance currently being used by the CA.			
	5661	Function Qualifier Flag	J1939-81	37632	2.4	1	When this qualifier flag is set to "0" in the NM message, the Commanded Function is used to replace the Function currently being used by the CA.			
	5662	Vehicle System Qualifier Flag	J1939-81	37632	2.5	1	When this qualifier flag is set to "0" in the NM message, the Commanded Vehicle System is used to replace the Vehicle System currently being used by the CA.			
	5663	Vehicle System Instance Qualifier Flag	J1939-81	37632	2.6	1	When this qualifier flag is set to "0" in the NM message, the Commanded Vehicle System Instance is used to replace the Vehicle System Instance currently being used by the CA.			
	5664	Industry Group Qualifier Flag	J1939-81	37632	2.7	1	When this qualifier flag is set to "0" in the NM message, the Commanded Industry Group is used to replace the Industry Group currently being used by the CA.			
	5665	Arbitrary Address Capable Qualifier Flag	J1939-81	37632	2.8	1	When this qualifier flag is set to "0" in the NM message, the Commanded Arbitrary Address Capable field should be used to replace the Arbitrary Address Capable field currently being used by the CA.			
	5666	NM Control Mode Indicator	J1939-81	37632	3.1	4	Control Mode used to define the purpose of the NM message.			
	5667	Commanded Manufacturer Code	J1939-81	37632	3.6-8,4	11	The target CA shall use this 11 bit value for the Manufacturer Code if the corresponding qualifier flag in Byte 2 is set to "0".			
	5668	Commanded ECU Instance	J1939-81	37632	5.1	3	The target CA shall use this 3 bit value for its ECU Instance field if the corresponding qualifier flag in Byte 2 is set to "0".			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
	5669	Commanded Function Instance	J1939-81	37632	5.4	5	The target CA shall use this 5 bit value for its Function Instance if the corresponding qualifier flag in Byte 2 is set to "0".			
	5670	Commanded Function	J1939-81	37632	6	8	The target CA shall use this 8 bit value for its Function field if the corresponding qualifier flag in Byte 2 is set to "0".			
	5671	Commanded Vehicle System	J1939-81	37632	7.2	7	The target CA shall use this 7 bit value for its Vehicle System field if the corresponding qualifier flag in Byte 2 is set to "0".			
	5672	Commanded Vehicle System Instance	J1939-81	37632	8.1	4	The target CA shall use this 4 bit value for its Vehicle System Instance field if the corresponding qualifier flag in Byte 2 is set to "0".			
	5673	Commanded Industry Group	J1939-81	37632	8.5	3	The target CA shall use this 3 bit value for its Industry Group field if the corresponding qualifier flag in Byte 2 is set to "0".			
	5674	Commanded Arbitrary Address Capable	J1939-81	37632	8.8	1	The target CA shall use this 1 bit value for its Arbitrary Address Capable field if the corresponding qualifier flag in Byte 2 is set to "0".			
(R)	5675	Operator Shift Prompt	J1939-71	65279	1.3	2	Command to activate an indicator that advises the operator to shift to a different gear. Typically this would be used as part of a fuel economy improvement or drivability aid.			
(R)	5676	Advanced emergency braking system state	J1939-71	61487	1.1	4	Current operational state of advanced emergency braking system			
(R)	5677	Collision warning level	J1939-71	61487	1.5	4	To implement different HMI (human machine interface) concepts, e.g. visual only, visual/audible, different warning tones etc., the AEBS provides different levels of collision warning.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5678	Relevant object detected for advanced emergency braking system	J1939-71	61487	2.1	3	Indication if the advanced emergency braking system (AEBS) is monitoring a relevant object			
(R)	5679	Bend off probability of relevant object	J1939-71	61487	2.4	3	Probability if monitored relevant object might start a turning maneuver, which could clear the travelling path of the host vehicle.			
(R)	5680	Time to collision with relevant object	J1939-71	61487	3	8	The time to collision is the duration after which the predicted travelling paths of host vehicle and relevant object lead to a distance of 0m between both.			
(R)	5681	Driver activation demand for Advanced Emergency Braking System	J1939-71	2816	1.1	2	This command is to be transmitted from the respective HMI unit to the AEBS unit.			
(R)	5682	AEBS2 message Counter	J1939-71	2816	8.1	4	The message counter is increased with every transmitted AEBS2 message.			
(R)	5683	AEBS2 message checksum	J1939-71	2816	8.5	4	Used to check the message checksum of the transmitting (HMI) unit within the AEBS2 system.			
(R)	5684	Reference Engine Gas Mass Flow Rate	J1939-71	65109	3-4	16	Configuration of the mass flow rate of gaseous fuel expected for 100% engine fuel valve control command.			
(R)	5685	Barometric Absolute Pressure (High Resolution)	J1939-71	64992	7-8	16	Barometric Absolute Pressure (High Resolution).			
(R)	5686	Engine Exhaust Gas Port 1 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 1 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1137.			
(R)	5687	Engine Exhaust Gas Port 2 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 2 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1138.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5688	Engine Exhaust Gas Port 3 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 3 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1139.			
(R)	5689	Engine Exhaust Gas Port 4 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 4 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1140.			
(R)	5690	Engine Exhaust Gas Port 5 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 5 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1141.			
(R)	5691	Engine Exhaust Gas Port 6 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 6 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1142.			
(R)	5692	Engine Exhaust Gas Port 7 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 7 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1143.			
(R)	5693	Engine Exhaust Gas Port 8 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 8 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1144.			
(R)	5694	Engine Exhaust Gas Port 9 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 9 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1145.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5695	Engine Exhaust Gas Port 10 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 10 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1146.			
(R)	5696	Engine Exhaust Gas Port 11 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 11 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1147.			
(R)	5697	Engine Exhaust Gas Port 12 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 12 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1148.			
(R)	5698	Engine Exhaust Gas Port 13 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 13 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1149.			
(R)	5699	Engine Exhaust Gas Port 14 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 14 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1150.			
(R)	5700	Engine Exhaust Gas Port 15 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 15 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1152.			
(R)	5701	Engine Exhaust Gas Port 16 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 16 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1152.			

Rev	SPN	SPN Name	J1939 Reference					J1587 Reference		
			SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5702	Engine Exhaust Gas Port 17 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 17 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1153.			
(R)	5703	Engine Exhaust Gas Port 18 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 18 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1154.			
(R)	5704	Engine Exhaust Gas Port 19 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 19 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1155.			
(R)	5705	Engine Exhaust Gas Port 20 Difference from Average Temperature	J1939				The difference in temperature of exhaust port 20 from the average of all exhaust ports on an engine. For systems with three or fewer thresholds in either extreme (FMI 0, 1, 15, 16, 17 or 18) use SPN 1156.			
(R)	5706	Aftertreatment 1 Diesel Exhaust Fluid Pump Heater	J1939-71	64725	1	8	Percentage of heating applied to the aftertreatment 1 diesel exhaust fluid pump heater.			
(R)	5707	Aftertreatment 1 Diesel Exhaust Fluid Pump Heater Command	J1939-71	64832	5	8	Command for the Aftertreatment 1 Diesel Exhaust Fluid Pump Heater.			
(R)	5708	Engine Coolant Pressure 2	J1939-71	64768	8	8	Gage pressure of liquid found in the engine coolant system - second instance			
(R)	5709	NOx Sensor ATO1 Self-diagnosis Trigger	J1939-71	64719	1.1	4	Signal to trigger the self-diagnosis of NOx sensor ATO1 (Aftertreatment Outlet Bank 1)			
(R)	5710	NOx Sensor ATI1 Self-diagnosis Trigger	J1939-71	64719	1.5	4	Signal to trigger the self-diagnosis of NOx sensor ATI1 (Aftertreatment Intake Bank 1)			
(R)	5711	NOx Sensor ATO2 Self-diagnosis Trigger	J1939-71	64719	2.1	4	Signal to trigger the self-diagnosis of NOx sensor ATO2 (Aftertreatment Outlet Bank 2)			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5712	NOx Sensor ATI2 Self-diagnosis Trigger	J1939-71	64719	2.5	4	Signal to trigger the self-diagnosis of NOx sensor ATI2 (Aftertreatment Intake Bank 2)			
(R)	5713	NOx Sensor ATO1 Self-diagnosis Status	J1939-71	61455	7.6	3	Self-diagnosis result status for NOx sensor ATO1 (Aftertreatment Outlet Bank 1)			
(R)	5714	NOx Sensor ATI1 Self-diagnosis Status	J1939-71	61454	7.6	3	Self-diagnosis result status for NOx sensor ATI1 (Aftertreatment Intake Bank 1)			
(R)	5715	NOx Sensor ATO2 Self-diagnosis Status	J1939-71	61457	7.6	3	Self-diagnosis result status for NOx sensor ATO2 (Aftertreatment Outlet Bank 2)			
(R)	5716	NOx Sensor ATI2 Self-diagnosis Status	J1939-71	61456	7.6	3	Self-diagnosis result status for NOx sensor ATI2 (Aftertreatment Intake Bank 2)			
(R)	5717	NOx Sensor ATO1 Self-diagnosis Final Result	J1939-71	64782	5	8	Self-diagnosis result for NOx sensor ATO1 (Aftertreatment Outlet Bank 1) as a ratio of detected value to reference value defined by supplier.			
(R)	5718	NOx Sensor ATI1 Self-diagnosis Final Result	J1939-71	64784	5	8	Self-diagnosis result for NOx sensor ATI1 (Aftertreatment Intake Bank 1) as a ratio of detected value to reference value defined by supplier.			
(R)	5719	NOx Sensor ATO2 Self-diagnosis Final Result	J1939-71	64778	5	8	Self-diagnosis result for NOx sensor ATO2 (Aftertreatment Outlet Bank 2) as a ratio of detected value to reference value defined by supplier.			
(R)	5720	NOx Sensor ATI2 Self-diagnosis Final Result	J1939-71	64780	5	8	Self-diagnosis result for NOx sensor ATI2 (Aftertreatment Intake Bank 2) as a ratio of detected value to reference value defined by supplier.			
(R)	5721	NOx Sensor ATO1 Operation Hours Counter	J1939-71	64783	6-7	16	Counted hours that the NOx-sensor was operated with status "dewpoint reached"			
(R)	5722	NOx Sensor ATI1 Operation Hours Counter	J1939-71	64785	6-7	16	Counted hours that the NOx-sensor was operated with status "dewpoint reached"			
(R)	5723	NOx Sensor ATO2 Operation Hours Counter	J1939-71	64779	6-7	16	Counted hours that the NOx-sensor was operated with status "dewpoint reached"			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5724	NOx Sensor ATI2 Operation Hours Counter	J1939-71	64781	6-7	16	Counted hours that the NOx-sensor was operated with status "dewpoint reached"			
(R)	5725	Guidance system command exit/reason code	ISO 11783-7			6	Indicates why the guidance system cannot currently accept remote commands or has most recently stopped accepting remote commands.			
(R)	5726	Guidance Limit Status	ISO 11783-7			3	Reports the Tractor ECU's present limit status associated with guidance commands that are persistent.			
(R)	5727	Drive Strategy Priority 1	ISO 11783-7			8	Used to show the current Tractor drive strategy priority structure, which determines the balance between fuel economy/consumption and the torque reserve of the engine. This parameter shows the highest priority.			
(R)	5728	Drive Strategy Priority 2	ISO 11783-7			8	Used to show the current Tractor drive strategy priority structure, which determines the balance between fuel economy/consumption and the torque reserve of the engine. This parameter shows the second to highest priority.			
(R)	5729	Drive Strategy Priority 3	ISO 11783-7			8	Used to show the current Tractor drive strategy priority structure, which determines the balance between fuel economy/consumption and the torque reserve of the engine. This parameter shows the third to highest priority.			
(R)	5730	Drive Strategy Priority 4	ISO 11783-7			8	Used to show the current Tractor drive strategy priority structure, which determines the balance between fuel economy/consumption and the torque reserve of the engine. This parameter shows the lowest priority.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5731	Drive Strategy Request State	ISO 11783-7			2	Used to report the tractor's state associated with Drive Strategy requests that are transient/temporary/one-shot.			
(R)	5732	Drive Strategy Exit/Reason Code	ISO 11783-7			6	Indicates why the drive strategy subsystem cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5733	Drive Strategy Priority 1 Request	ISO 11783-7			8	Used to request an alteration to the Tractor drive strategy priority structure, which determines the balance between fuel economy/consumption and the torque reserve of the engine. This parameter is the highest priority request.			
(R)	5734	Drive Strategy Priority 2 Request	ISO 11783-7			8	Used to request an alteration to the Tractor drive strategy priority structure, which determines the balance between fuel economy/consumption and the torque reserve of the engine. This parameter is the second to highest priority request.			
(R)	5735	Drive Strategy Priority 3 Request	ISO 11783-7			8	Used to request an alteration to the Tractor drive strategy priority structure, which determines the balance between fuel economy/consumption and the torque reserve of the engine. This parameter is the third to highest priority request.			
(R)	5736	Drive Strategy Priority 4 Request	ISO 11783-7			8	Used to request an alteration to the Tractor drive strategy priority structure, which determines the balance between fuel economy/consumption and the torque reserve of the engine. This parameter is the lowest priority request.			
(R)	5737	Restore Operator Drive Strategy Setting Request	ISO 11783-7			2	Used to request that the drive strategy subsystem restores the settings for drive strategy to the state before automation was ended.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5738	Fuel System Water Drain Actuator	J1939				Fuel System Water Drain Actuator solenoid. This is the actuator which drains water which may be collected within the fuel system or fuel filter.			
(R)	5739	Aftertreatment 2 Outlet Soot Sensor Heater	J1939				Internal heater of the Aftertreatment 2 Outlet Soot Sensor, exhaust bank 2.			
(R)	5740	Aftertreatment 2 Outlet Soot	J1939				The soot measured at the outlet of the aftertreatment system in exhaust bank 2.			
(R)	5741	Aftertreatment 1 Outlet Soot	J1939				The soot measured at the outlet of the aftertreatment system in exhaust bank 1.			
(R)	5742	Aftertreatment Diesel Particulate Filter Temperature Sensor Module	J1939				Module will take temperature sensor inputs from the Aftertreatment Diesel Particulate Filter Temperature Sensors and multiplex the sensor values to the engine ECU via the J1939 network.			
(R)	5743	Aftertreatment Selective Catalytic Reduction Temperature Sensor Module	J1939				Module will take temperature sensor inputs from the Aftertreatment Selective Catalytic Reduction Temperature Sensors and multiplex the sensor values to the engine ECU via the J1939 network.			
(R)	5744	Aftertreatment 2 SCR System Missing	J1939				Indicates that the device is missing in exhaust bank 2, used with FMI 31 (Condition Exists).			
(R)	5745	Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater	J1939				Aftertreatment DEF heater internal to the Aftertreatment Dosing Unit.			
(R)	5746	Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater Relay	J1939				Relay used to provide power to the Aftertreatment DEF dosing unit heater.			
(R)	5747	Aftertreatment 1 Outlet Soot Sensor Heater	J1939				Internal heater of the Aftertreatment 1 Outlet Soot Sensor, exhaust bank 1.			
(R)	5748	Aftertreatment 2 Diesel Exhaust Fluid Dosing Unit Loss of Prime	J1939				Indicates that the Aftertreatment 2 Diesel Exhaust Fluid Dosing Unit has lost prime.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5749	Engine Exhaust Gas Pressure 2	J1939				Gage pressure of the exhaust gasses as measured at the turbine intake of the turbocharger of exhaust bank 2. See also SPN 1209 for exhaust bank 1.			
(R)	5750	Wireless Rolling Message Counter	J1939-71	61488	1-2	16	A counter incremented with each instance of the Wireless Status message.			
(R)	5751	Transmitter Command State	J1939-71	61488	3.5	4	The command contained in the signal received by the wireless transceiver from an off-board transmitter.			
(R)	5752	Transmitter ID 1	J1939-71	61488	4-6	24	The ID of the off-board transmitter that sent the incoming message received by the wireless transceiver.			
(R)	5753	Wireless Signal Strength 1	J1939-71	61488	7	8	The absolute received signal strength of the signal received from the off-board transmitter.			
(R)	5754	Unique Beacon Message Identifier Number	J1939-71	34816	1-2	16	The number is used to identify a wireless message originating from a device on a particular machine.			
(R)	5755	Radio Beacon Direction	J1939-71	34816	3.7	2	Indicates the function of a particular instance of the Radio Beacon Request message.			
(R)	5756	Transmitter ID 2	J1939-71	34816	4-6	24	The ID of the off-board transmitter that sent the incoming special beacon message received by the wireless transceiver.			
(R)	5757	Wireless Signal Strength 2	J1939-71	34816	7	8	The absolute received signal strength of the special beacon signal received from the off-board transmitter.			
(R)	5758	Aftertreatment 1 Intake Gas Sensor Power Supply	J1939-71	64716	1.1	2	State signal which indicates when the Aftertreatment 1 Intake Gas Sensor driver output is being driven.			
(R)	5759	Aftertreatment 1 Outlet Gas Sensor Power Supply	J1939-71	64716	1.3	2	State signal which indicates when the Aftertreatment 1 Outlet Gas Sensor driver output is being driven.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5760	Aftertreatment 2 Intake Gas Sensor Power Supply	J1939-71	64716	1.5	2	State signal which indicates when the Aftertreatment 2 Intake Gas Sensor driver output is being driven.			
(R)	5761	Aftertreatment 2 Outlet Gas Sensor Power Supply	J1939-71	64716	1.7	2	State signal which indicates when the Aftertreatment 2 Outlet Gas Sensor driver output is being driven.			
(R)	5762	Transmission Load Reduction Inhibit Request	j1939-71	256	5.7	2	Request signal to the transmission to inhibit activation of load reduction functions.			
(R)	5763	Engine Exhaust Gas Recirculation 1 Actuator 1 Preliminary FMI	J1939-71	64715	1.1	5	Used to identify the applicable J1939-73 FMI detected in the Engine Exhaust Gas Recirculation 1 Actuator 1 by the manufacturer's software.			
(R)	5764	Engine Exhaust Gas Recirculation 1 Actuator 1 Temperature Status	J1939-71	64715	1.6	3	Used to identify the status of the Engine Exhaust Gas Recirculation 1 Actuator 1 drive circuitry temperature.			
(R)	5765	Engine Exhaust Gas Recirculation 1 Actuator 1 Temperature	J1939-71	64715	2	8	Temperature of the Engine Exhaust Gas Recirculation 1 Actuator 1 drive circuitry.			
(R)	5766	Engine Exhaust Gas Recirculation 1 Actuator 1 Desired Position	J1939-71	64715	3	8	The requested position of the Engine Exhaust Gas Recirculation 1 Actuator 1 by the engine ECU.			
(R)	5767	Engine Exhaust Gas Recirculation 1 Actuator 2 Preliminary FMI	J1939-71	64715	4.1	5	Used to identify the applicable J1939-73 FMI detected in the Engine Exhaust Gas Recirculation 1 Actuator 2 by the manufacturer's software.			
(R)	5768	Engine Exhaust Gas Recirculation 1 Actuator 2 Temperature Status	J1939-71	64715	4.6	3	Used to identify the status of the Engine Exhaust Gas Recirculation 1 Actuator 2 drive circuitry temperature.			
(R)	5769	Engine Exhaust Gas Recirculation 1 Actuator 2 Temperature	J1939-71	64715	5	8	Temperature of the Engine Exhaust Gas Recirculation 1 Actuator 2 drive circuitry.			
(R)	5770	Engine Exhaust Gas Recirculation 1 Actuator 2 Desired Position	J1939-71	64715	6	8	The requested position of the Engine Exhaust Gas Recirculation 1 Actuator 2 by the engine ECU.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5771	Engine Exhaust Gas Recirculation 1 Actuator 1 Operation Status	J1939-71	64715	7.1	4	Used to identify the status of Exhaust Gas Recirculation 1 Actuator 1			
(R)	5772	Engine Exhaust Gas Recirculation 1 Actuator 2 Operation Status	J1939-71	64715	7.5	4	Used to identify the status of Exhaust Gas Recirculation 1 Actuator 2			
(R)	5773	Engine Exhaust Gas Recirculation 2 Actuator 1 Preliminary FMI	J1939-71	64714	1.1	5	Used to identify the applicable J1939-73 FMI detected in the Engine Exhaust Gas Recirculation 2 Actuator 1 by the manufacturer's software.			
(R)	5774	Engine Exhaust Gas Recirculation 2 Actuator 1 Temperature Status	J1939-71	64714	1.6	3	Used to identify the status of the Engine Exhaust Gas Recirculation 2 Actuator 1 drive circuitry temperature.			
(R)	5775	Engine Exhaust Gas Recirculation 2 Actuator 1 Temperature	J1939-71	64714	2	8	Temperature of the Engine Exhaust Gas Recirculation 2 Actuator 1 drive circuitry.			
(R)	5776	Engine Exhaust Gas Recirculation 2 Actuator 1 Desired Position	J1939-71	64714	3	8	The requested position of the Engine Exhaust Gas Recirculation 2 Actuator 1 by the engine ECU.			
(R)	5777	Engine Exhaust Gas Recirculation 2 Actuator 2 Preliminary FMI	J1939-71	64714	4.1	5	Used to identify the applicable J1939-73 FMI detected in the Engine Exhaust Gas Recirculation 2 Actuator 2 by the manufacturer's software.			
(R)	5778	Engine Exhaust Gas Recirculation 2 Actuator 2 Temperature Status	J1939-71	64714	4.6	3	Used to identify the status of the Engine Exhaust Gas Recirculation 2 Actuator 2 drive circuitry temperature.			
(R)	5779	Engine Exhaust Gas Recirculation 2 Actuator 2 Temperature	J1939-71	64714	5	8	Temperature of the Engine Exhaust Gas Recirculation 2 Actuator 2 drive circuitry.			
(R)	5780	Engine Exhaust Gas Recirculation 2 Actuator 2 Desired Position	J1939-71	64714	6	8	The requested position of the Engine Exhaust Gas Recirculation 2 Actuator 2 by the engine ECU.			
(R)	5781	Engine Exhaust Gas Recirculation 2 Actuator 1 Operation Status	J1939-71	64714	7.1	4	Used to identify the status of Exhaust Gas Recirculation 2 Actuator 1			
(R)	5782	Engine Exhaust Gas Recirculation 2 Actuator 2 Operation Status	J1939-71	64714	7.5	4	Used to identify the status of Exhaust Gas Recirculation 2 Actuator 2			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5783	Engine Throttle Valve 1 Temperature	J1939-71	64713	1	8	Temperature of the engine throttle valve 1 drive circuitry.			
(R)	5784	Engine Throttle Valve 2 Temperature	J1939-71	64713	2	8	Temperature of the engine throttle valve 2 drive circuitry.			
(R)	5785	Engine Fuel Valve 1 Temperature	J1939-71	64713	3	8	Temperature of the Engine Fuel Valve 1 drive circuitry.			
(R)	5786	Engine Fuel Valve 2 Temperature	J1939-71	64713	4	8	Temperature of the Engine Fuel Valve 2 drive circuitry.			
(R)	5787	Engine Turbocharger Wastegate Actuator 2 Temperature	J1939-71	64713	5	8	Temperature of the Engine Turbocharger Wastegate Actuator 2 drive circuitry.			
(R)	5788	Engine Turbocharger Wastegate Actuator 1 Temperature	J1939-71	64753	6	8	Temperature of the Engine Turbocharger Wastegate Actuator 1 drive circuitry.			
(R)	5789	Engine Exhaust Back Pressure Actuator 1 Desired Position	J1939-71	64753	7	8	The requested position of the Engine Exhaust Back Pressure Actuator 1 by the engine ECU			
(R)	5790	Engine Exhaust Back Pressure Actuator 1 Temperature	J1939-71	64753	8	8	Temperature of the Engine Exhaust Back Pressure Actuator 1 drive circuitry.			
(R)	5791	Engine Turbocharger Compressor Bypass Actuator 1 Temperature	J1939-71	64755	5	8	Temperature of the Engine Turbocharger Compressor Bypass Actuator 1 drive circuitry.			
(R)	5792	Engine Turbocharger Compressor Bypass Actuator 2 Temperature	J1939-71	64755	6	8	Temperature of the Engine Turbocharger Compressor Bypass Actuator 2 drive circuitry.			
(R)	5793	Desired Engine Fueling State	J1939-71	34560	1.1	2	Devices send this request to the engine controller to shut off engine fueling or to keep the engine running.			
(R)	5794	Feedback Engine Fueling State	J1939-71	64712	1.1	2	This parameter provides feedback to the network that SPN 5793 Desired Engine Fueling State was honored.			
(R)	5795	Engine Fueling Inhibit Allowed	J1939-71	64712	1.3	2	This parameter is broadcast by the engine control system, and indicates to other devices on the network whether or not it will respond to requests to inhibit engine fueling via SPN 5793 Desired Engine Fueling State.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5796	Aftertreatment 1 SCR Dosing Air Assist Pump	J1939				A stand alone air pump used to supply air to an air assisted dosing system, typically for systems not utilizing an air compressor as the source for the air.			
(R)	5797	Aftertreatment Warm Up Diesel Oxidation Catalyst Temperature Sensor Module	J1939				A control module used to measure temperatures related to the aftertreatment warm up diesel oxidation (or close coupled) catalyst.			
(R)	5798	Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater Temperature	J1939				The temperature nearest the heater in the DEF dosing unit.			
(R)	5799	Aftertreatment 1 SCR Dosing Air Assist Pump Relay	J1939				A relay used to power a stand alone air pump used to supply air to an air assisted dosing system, typically for systems not utilizing an air compressor as the source for the air.			
(R)	5800	Auxiliary valve 0 exit/reason code	ISO 11783-7	65040	5.1	6	This parameter indicates why the Auxiliary Valve 0 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5801	Auxiliary valve 1 exit/reason code	ISO 11783-7	65041	5.1	6	This parameter indicates why the Auxiliary Valve 1 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5802	Auxiliary valve 2 exit/reason code	ISO 11783-7	65042	5.1	6	This parameter indicates why the Auxiliary Valve 2 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5803	Auxiliary valve 3 exit/reason code	ISO 11783-7	65043	5.1	6	This parameter indicates why the Auxiliary Valve 3 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5804	Auxiliary valve 4 exit/reason code	ISO 11783-7	65044	5.1	6	This parameter indicates why the Auxiliary Valve 4 cannot accept remote commands or has most recently stopped accepting remote commands.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5805	Auxiliary valve 5 exit/reason code	ISO 11783-7	65045	5.1	6	This parameter indicates why the Auxiliary Valve 5 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5806	Auxiliary valve 6 exit/reason code	ISO 11783-7	65046	5.1	6	This parameter indicates why the Auxiliary Valve 6 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5807	Auxiliary valve 7 exit/reason code	ISO 11783-7	65047	5.1	6	This parameter indicates why the Auxiliary Valve 7 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5808	Auxiliary valve 8 exit/reason code	ISO 11783-7	65048	5.1	6	This parameter indicates why the Auxiliary Valve 8 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5809	Auxiliary valve 9 exit/reason code	ISO 11783-7	65049	5.1	6	This parameter indicates why the Auxiliary Valve 9 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5810	Auxiliary valve 10 exit/reason code	ISO 11783-7	65050	5.1	6	This parameter indicates why the Auxiliary Valve 10 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5811	Auxiliary valve 11 exit/reason code	ISO 11783-7	65051	5.1	6	This parameter indicates why the Auxiliary Valve 11 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5812	Auxiliary valve 12 exit/reason code	ISO 11783-7	65052	5.1	6	This parameter indicates why the Auxiliary Valve 12 cannot accept remote commands or has most recently stopped accepting remote commands.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5813	Auxiliary valve 13 exit/reason code	ISO 11783-7	65053	5.1	6	This parameter indicates why the Auxiliary Valve 13 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5814	Auxiliary valve 14 exit/reason code	ISO 11783-7	65054	5.1	6	This parameter indicates why the Auxiliary Valve 14 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5815	Auxiliary valve 15 exit/reason code	ISO 11783-7	65055	5.1	6	This parameter indicates why the Auxiliary Valve 15 cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5816	Front hitch exit/reason code	ISO 11783-7	65092	6.1	5	This parameter indicates why the Front Hitch cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5817	Front PTO exit/reason code	ISO 11783-7	65092	7.1	5	This parameter indicates why the Front PTO cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5818	Machine selected speed exit/reason code	ISO 11783-7	64835	7.1	5	This parameter indicates why the Vehicle Speed control unit cannot currently accept remote commands or has most recently stopped accepting remote commands.			
(R)	5819	Rear hitch exit/reason code	ISO 11783-7	65093	6.1	5	This parameter indicates why the Rear Hitch cannot accept remote commands or has most recently stopped accepting remote commands.			
(R)	5820	Rear PTO exit/reason code	ISO 11783-7	65091	7.1	5	This parameter indicates why the Rear PTO cannot accept remote commands or has most recently stopped accepting remote commands.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5821	Wand Angle	J1939-71	61489	1-2	16	A wand sensor measures the angle of deflection of a wand from its null position. This parameter reports the measured angle of a wand sensor.			
(R)	5822	Wand Sensor Figure of Merit	J1939-71	61489	3.1	2	Figure of Merit sensor status for a wand sensor.			
(R)	5823	Measured Linear Displacement	J1939-71	61490	1-2	16	Distance to target as measured by the Linear Displacement Sensor.			
(R)	5824	Linear Displacement Sensor Sensor Figure of Merit	J1939-71	61490	3.1	2	Figure of Merit sensor status of Linear Displacement Sensor.			
(R)	5825	Driver Warning System Indicator Status	J1939-71	65279	2.1	3	The desired illumination of the Euro VI defined driver warning system indicator for relevant malfunctions and diesel exhaust fluid (reagent) tank low level.			
(R)	5826	Emission Control System Operator Inducement Severity	J1939-71	65279	2.4	3	Severity status of the operator inducement system for anomalies with the emission control system, such as tampering, low diesel exhaust fluid (reagent) quality, diesel exhaust fluid (reagent) tank level, or EGR system errors.			
(R)	5827	Aftertreatment 1 Average Distance Between Active DPF Regenerations	J1939-71	64920	37-40	32	Indicates the average distance since last reset between active regenerations, that have not been forced to occur by manual request, for Aftertreatment device 1.			
(R)	5828	Aftertreatment 2 Average Distance Between Active DPF Regenerations	J1939-71	64921	37-40	32	Indicates the average distance since last reset between active regenerations, that have not been forced to occur by manual request, for Aftertreatment device 2.			
(R)	5829	Engine Exhaust Gas Recirculation 1 Valve 1 Position Error	J1939-71	64962	1-2	16	The position error of the Exhaust Gas Recirculation 1 valve, determined as the actual position (SPN 2791) minus the commanded position (SPN 27).			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5830	Engine Exhaust Gas Recirculation 1 Valve 2 Position Error	J1939-71	64962	3-4	16	The position error of the Exhaust Gas Recirculation 1 valve 2, determined as the actual position (SPN 3821) minus the commanded position (SPN 3822).			
(R)	5831	Engine Exhaust Gas Recirculation 2 Valve 1 Position Error	J1939-71	64762	5-6	16	The position error of the Exhaust Gas Recirculation 2 valve, determined as the actual position (SPN 5264) minus the commanded position (SPN 5262).			
(R)	5832	Engine Exhaust Gas Recirculation 2 Valve 2 Position Error	J1939-71	64762	7-8	16	The position error of the Exhaust Gas Recirculation 2 valve 2, determined as the actual position (SPN 5265) minus the commanded position (SPN 5263).			
(R)	5833	Engine Fuel Mass Flow Rate	J1939-71	64962	5-6	16	Mass of fuel consumed by engine per unit of time.			
(R)	5834	Aftertreatment 2 Fuel Mass Rate	J1939-71	64736	7-8	16	Mass rate of total fuel being delivered to Aftertreatment 2 for DPF regeneration.			
(R)	5835	Aftertreatment 1 Particulate Sensor	J1939-71	64720	1-2	16	The particulate sensor measures the mass concentration of particulate matter in the exhaust downstream of the DPF in exhaust bank 1.			
(R)	5836	Aftertreatment 2 Particulate Sensor	J1939-71	64720	3-4	16	The particulate sensor measures the mass concentration of particulate matter in the exhaust downstream of the DPF in exhaust bank 2.			
(R)	5837	Fuel Type	J1939-71	64962	7	8	Type of fuel currently being utilized by the vehicle			
(R)	5838	EGR Valve Malfunction	J1939-73				Indicates that the diagnostic system has determined that the engine has been operated with an EGR valve malfunction.			
(R)	5839	Diesel Exhaust Fluid Consumption Malfunction	J1939-73				Indicates that the diagnostic system has determined that the engine has been operated with a diesel exhaust fluid (reagent) consumption malfunction.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5840	Diesel Exhaust Fluid Dosing Malfunction	J1939-73				Indicates that the diagnostic system has determined that the engine has been operated with a diesel exhaust fluid (reagent) dosing malfunction.			
(R)	5841	Diesel Exhaust Fluid Quality Malfunction	J1939-73				Indicates that the diagnostic system has determined that the engine has been operated with a diesel exhaust fluid (reagent) quality malfunction.			
(R)	5842	SCR Monitoring System Malfunction	J1939-73				Indicates that the diagnostic system has determined that the engine has been operated with an SCR monitoring system malfunction.			
(R)	5843	Engine OBD Warm-up Sequence	J1939-73	64710	1.1	2	Engine warm-up as defined by the applicable region's regulatory agency.			
(R)	5844	Model Year	J1939-73	64711	1-8	64	The compliance model year of the OBD system of the engine and or vehicle.			
(R)	5845	Certification Engine Family Name	J1939-73	64711	9+	1600	The regulated family name per the applicable region's certification agency. For engines certified in the US, this shall be the 12-character engine family name as defined by EPA.			
(R)	5846	OBD Test Results	J1939-73				This SPN is used in DM7 to request all of the OBD emission threshold monitor test results in one DM30 response.			
(R)	5847	Emergency Braking Active	J1939-71	64964	4.3	2	Signal which indicates an emergency braking situation (ref. ECE Regulation 13 paragraph 5.2.1.31) with high deceleration values.			
(R)	5848	Aftertreatment 1 SCR Intermediate NH3	J1939-71	61491	1-2	16	The amount of NH3 in the exhaust aftertreatment system measured by a NH3 sensor at an intermediate point in the SCR system, represented in NH3 molecule parts per million non-NH3 molecules in exhaust bank 1.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5849	Aftertreatment 1 SCR Intermediate NH3 Sensor Preliminary FMI	J1939-71	61491	3.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment SCR intermediate NH3 sensor by the manufacturer's sensor control software in exhaust bank 1.			
(R)	5850	Aftertreatment 1 SCR Intermediate NH3 Reading Stable	J1939-71	61491	4.1	2	Indicates that the NH3 reading of the aftertreatment SCR intermediate NH3 sensor is stable as determined by the manufacturer's control software in exhaust bank 1.			
(R)	5851	Aftertreatment 1 SCR Intermediate NH3 Gas Sensor Power In Range	J1939-71	61491	4.3	2	Indicates that the power supplied to the aftertreatment SCR intermediate NH3 gas sensor is within the manufacturer's specification in exhaust bank 1.			
(R)	5852	Aftertreatment 1 SCR Intermediate NH3 Gas Sensor at Temperature	J1939-71	61491	4.5	2	Indicates that the heater element of the aftertreatment SCR intermediate NH3 gas sensor is within the manufacturer's specified range for accurate measurements in exhaust bank 1.			
(R)	5853	Aftertreatment 1 SCR Intermediate NH3 Gas Sensor Heater Preliminary FMI	J1939-71	61491	5.1	5	Used to identify the applicable J1939-73 FMI detected in the heater of the outlet NH3 exhaust gas sensor by the manufacturer's sensor control software in exhaust bank 1.			
(R)	5854	Aftertreatment 1 SCR Intermediate NH3 Gas Sensor Heater Control	J1939-71	61491	6.1	2	Indicates the heater status in the warm-up process.			
(R)	5855	Aftertreatment 2 SCR Intermediate NH3	J1939-71	61492	1-2	16	The amount of NH3 in the exhaust aftertreatment system measured by a NH3 sensor at an intermediate point in the SCR system, represented in NH3 molecule parts per million non-NH3 molecules in exhaust bank 2.			
(R)	5856	Aftertreatment 2 SCR Intermediate NH3 Sensor Preliminary FMI	J1939-71	61492	3.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment SCR intermediate NH3 sensor by the manufacturer's sensor control software in exhaust bank 2.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5857	Aftertreatment 2 SCR Intermediate NH3 Reading Stable	J1939-71	61492	4.1	2	Indicates that the NH3 reading of the aftertreatment SCR intermediate NH3 sensor is stable as determined by the manufacturer's control software in exhaust bank 2.			
(R)	5858	Aftertreatment 2 SCR Intermediate NH3 Gas Sensor Power In Range	J1939-71	61492	4.3	2	Indicates that the power supplied to the aftertreatment SCR intermediate NH3 gas sensor is within the manufacturer's specification in exhaust bank 2.			
(R)	5859	Aftertreatment 2 SCR Intermediate NH3 Gas Sensor at Temperature	J1939-71	61492	4.5	1	Indicates that the heater element of the aftertreatment SCR intermediate NH3 gas sensor is within the manufacturer's specified range for accurate measurements in exhaust bank 2.			
(R)	5860	Aftertreatment 2 SCR Intermediate NH3 Gas Sensor Heater Preliminary FMI	J1939-71	61492	5.1	5	Used to identify the applicable J1939-73 FMI detected in the heater of the SCR intermediate NH3 exhaust gas sensor by the manufacturer's sensor control software in exhaust bank 2.			
(R)	5861	Aftertreatment 2 SCR Intermediate NH3 Gas Sensor Heater Control	J1939-71	61492	6.1	2	Indicates the heater status in the warm-up process.			
(R)	5862	Aftertreatment 1 SCR Intermediate Gas Temperature	J1939-71	64709	1-2	16	Temperature of engine combustion byproducts at an intermediate point in the SCR component in exhaust bank 1.			
(R)	5863	Aftertreatment 1 SCR Intermediate Gas Temperature Preliminary FMI	J1939-71	64709	3.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment SCR intermediate gas temperature sensor by the manufacturer's sensor control software in exhaust bank 1.			
(R)	5864	Aftertreatment 2 SCR Intermediate Gas Temperature	J1939-71	64708	1-2	16	Temperature of engine combustion byproducts at an intermediate point in the SCR component in exhaust bank 2.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5865	Aftertreatment 2 SCR Intermediate Gas Temperature Preliminary FMI	J1939-71	64708	3.1	5	Used to identify the applicable J1939-73 FMI detected in the aftertreatment SCR intermediate gas temperature sensor by the manufacturer's sensor control software in exhaust bank 2.			
(R)	5866	Engine Fueling Inhibit Prevented Reason	J1939-71	64712	1.5	4	If Engine Fueling Inhibit Allowed (SPN 5795) indicates that the engine will not inhibit fueling, then this parameter will indicate the reason.			
(R)	5867	Supply Gas Methane Percentage	J1939-71	64707	1-2	16	The percentage of methane in the gas supplied to the engine.			
(R)	5868	Spark Ignition Module Shutdown Relay Driver Control Circuit	J1939				Used to indicate faults with the spark ignition module shutdown relay driver control circuit.			
(R)	5869	Auxiliary Device AC Power Supply Circuit Breaker Tripped	J1939				Used with FMI 31 (Condition Exists) to indicate that the circuit breaker that connects AC power to an auxiliary device has tripped.			
(R)	5870	Alternator Heater Control Relay Driver Control Circuit	J1939				Used to indicate faults with the alternate heater relay driver control circuit.			
(R)	5871	Heated Oxygen Sensor Power Relay Driver Control Circuit	J1939				Used to indicate faults with the heated oxygen sensor relay driver control circuit.			
(R)	5872	Hybrid System Warning Indicator	J1939-71	64706	1.1	2	Signal from a hybrid system indicating that some aspect of its operation is not functioning correctly, and as a result, hybrid system operation may be altered or restricted.			
(R)	5873	Hybrid System Overheat Indicator	J1939-71	64706	1.3	2	Signal from a hybrid system indicating that at least one of its monitored temperatures is above normal acceptable limits, and as a result, hybrid system operation may be altered or restricted.			
(R)	5874	Hybrid System Stop Indicator	J1939-71	64706	1.5	2	Signal from a hybrid system indicating that some aspect of its operation is not functioning correctly, and as a result, the vehicle must be stopped.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5875	Transmission Ratio Neutral	J1939				The transmission's gear ratio in neutral. Intended to identify conditions related to gear ratio checks when neutral is expected.			
(R)	5876	Transmission Ratio Forward Range Low	J1939				The transmission's gear ratio in low forward range. Intended to identify conditions related to gear ratio checks when low forward range is expected.			
(R)	5877	Transmission Ratio Forward Range 1	J1939				The transmission's gear ratio in 1st forward range. Intended to identify conditions related to gear ratio checks when 1st forward range is expected.			
(R)	5878	Transmission Ratio Forward Range 2	J1939				The transmission's gear ratio in 2nd forward range. Intended to identify conditions related to gear ratio checks when 2nd forward range is expected.			
(R)	5879	Transmission Ratio Forward Range 3	J1939				The transmission's gear ratio in 3rd forward range. Intended to identify conditions related to gear ratio checks when 3rd forward range is expected.			
(R)	5880	Transmission Ratio Forward Range 4	J1939				The transmission's gear ratio in 4th forward range. Intended to identify conditions related to gear ratio checks when 4th forward range is expected.			
(R)	5881	Transmission Ratio Forward Range 5	J1939				The transmission's gear ratio in 5th forward range. Intended to identify conditions related to gear ratio checks when 5th forward range is expected.			
(R)	5882	Transmission Ratio Forward Range 6	J1939				The transmission's gear ratio in 6th forward range. Intended to identify conditions related to gear ratio checks when 6th forward range is expected.			
(R)	5883	Transmission Ratio Forward Range 7	J1939				The transmission's gear ratio in 7th forward range. Intended to identify conditions related to gear ratio checks when 7th forward range is expected.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5884	Transmission Ratio Forward Range 8	J1939				The transmission's gear ratio in 8th forward range. Intended to identify conditions related to gear ratio checks when 8th forward range is expected.			
(R)	5885	Transmission Ratio Forward Range 9	J1939				The transmission's gear ratio in 9th forward range. Intended to identify conditions related to gear ratio checks when 9th forward range is expected.			
(R)	5886	Transmission Ratio Forward Range 10	J1939				The transmission's gear ratio in 10th forward range. Intended to identify conditions related to gear ratio checks when 10th forward range is expected.			
(R)	5887	Transmission Ratio Reverse Range 1	J1939				The transmission's gear ratio in 1st reverse range. Intended to identify conditions related to gear ratio checks when 1st reverse range is expected.			
(R)	5888	Transmission Ratio Reverse Range 2	J1939				The transmission's gear ratio in 2nd reverse range. Intended to identify conditions related to gear ratio checks when 2nd reverse range is expected.			
(R)	5889	Hybrid System Fault	J1939				General fault within a hybrid system.			
(R)	5890	Hybrid System Temperature	J1939				Temperature issue with one or more components in the hybrid system.			
(R)	5891	Transmission Pressure Switch 1	J1939				First pressure switch of an automatic transmission.			
(R)	5892	Transmission Pressure Switch 2	J1939				Second pressure switch of an automatic transmission.			
(R)	5893	Transmission Pressure Switch 3	J1939				Third pressure switch of an automatic transmission.			
(R)	5894	Transmission Pressure Switch 4	J1939				Fourth pressure switch of an automatic transmission.			
(R)	5895	Transmission Pressure Switch 5	J1939				Fifth pressure switch of an automatic transmission.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5896	Transmission Pressure Switch 6	J1939				Sixth pressure switch of an automatic transmission.			
(R)	5897	Transmission Pressure Switch 7	J1939				Seventh pressure switch of an automatic transmission.			
(R)	5898	Transmission Pressure Switch 8	J1939				Eighth pressure switch of an automatic transmission.			
(R)	5899	Transmission Pressure Switch 9	J1939				Ninth pressure switch of an automatic transmission.			
(R)	5900	Transmission Pressure Control Solenoid 1	J1939				First pressure control solenoid of an automatic transmission.			
(R)	5901	Transmission Pressure Control Solenoid 2	J1939				Second pressure control solenoid of an automatic transmission.			
(R)	5902	Transmission Pressure Control Solenoid 3	J1939				Third pressure control solenoid of an automatic transmission.			
(R)	5903	Transmission Pressure Control Solenoid 4	J1939				Fourth pressure control solenoid of an automatic transmission.			
(R)	5904	Transmission Pressure Control Solenoid 5	J1939				Fifth pressure control solenoid of an automatic transmission.			
(R)	5905	Transmission Pressure Control Solenoid 6	J1939				Sixth pressure control solenoid of an automatic transmission.			
(R)	5906	Transmission Pressure Control Solenoid 7	J1939				Seventh pressure control solenoid of an automatic transmission.			
(R)	5907	Transmission Pressure Control Solenoid 8	J1939				Eighth pressure control solenoid of an automatic transmission.			
(R)	5908	Transmission Shift Solenoid 1	J1939				First shift solenoid of an automatic transmission.			
(R)	5909	Transmission Shift Solenoid 2	J1939				Second shift solenoid of an automatic transmission.			
(R)	5910	Transmission Shift Solenoid 3	J1939				Third shift solenoid of an automatic transmission.			
(R)	5911	Transmission Shift Solenoid 4	J1939				Fourth shift solenoid of an automatic transmission.			

J1939 Reference								J1587 Reference		
Rev	SPN	SPN Name	SPN Doc	PGN Number	Pos in PG	Bit Size	SPN Description	PID	MID	SID
(R)	5912	Transmission ECU Temperature	J1939				Internal temperature of the transmission control unit.			
(R)	5913	Transmission Oil Temperature 2	J1939-71	64917	5-6	16	Second instance of transmission lubricant temperature.	177		
(R)	5914	Transmission Oil Level 2 High / Low	J1939-71	64917	7	8	Second instance of a transmission oil level indicator. Conveys the current volume of transmission sump oil compared to recommended volume.			
(R)	5915	Transmission Oil Level 2 Countdown Timer	J1939-71	64917	8.1	4	Countdown timer for the first instance of a transmission oil level indicator.			
(R)	5916	Transmission Oil Level 2 Measurement Status	J1939-71	64917	8.5	4	Measurement status for the second instance of a transmission oil level indicator.			
	516096	Manufacturer Assignable SPN (first entry)	J1939-73			19				
	524287	Manufacturer Assignable SPN (last entry)	J1939-73			19				

Note 1: SPNs marked with a superscript dagger character (<sup>†</sup>) are used in multiple PGNs. While most SPNs can only be found in at most one PGN, there are exceptions. An example of such an SPN is SPN 2419.