|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Features and Parameters | | |  |  |  | |
| List of Supported Feature and Parameters | | |  |  |  | |
| Service Parameter Name ID | Is Feature | Display ECM Value | Parent Name | ID | Not Do not  Adjustable Display in this US / Enable  Feature | |
| Fan Clutch User Selectable 686 | No | No | Fan Control | 687 | Yes | Yes |
| Fan Control 687 | Yes | Yes |  |  | No | No |
| Fan Type 688 | Yes | Yes | Fan Control | 687 | No | No |
| Fan Control Switch 691 | Yes | Yes | Fan Control | 687 | No | No |
| Variable Speed Fan Frequency 699 | No | Yes | Fan Type | 688 | No | No |
| Fan Control Logic 700 | No | Yes | Fan Control | 687 | No | No |
| Fan Air Conditioning Pressure 701 User Selectable | No | No | Fan Control | 687 | Yes | Yes |
| Air Conditioning Pressure 702  Switch Input | Yes | Yes | Fan Control | 687 | No | No |
| Minimum Fan On Time for Air 703 Conditioning Pressure Switch | No | Yes | Air Conditioning  Pressure Switch  Input | 702 | No | No |
| Fan Clutch Vehicle Speed 704  Interaction User Selectable | No | No | Fan Control | 687 | Yes | Yes |
| Vehicle Speed Interaction 705 | Yes | Yes | Air Conditioning  Pressure Switch  Input | 702 | No | No |

Name :Niraj Kumar

1. TIS ID : 72
2. FFS ID : 308
3. Feature Display Name : Fan Control
4. Bucketing Hierarchy -> List of Features and their Parameters

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Fan Engine Brake User 706  Selectable | | No | | No | | | Fan Control | | 687 | | Yes | | Yes |
| Fan on with Engine Braking 707 | | Yes | | Yes | | | Fan Control | | 687 | | No | | No |
| Fan OEM Pressure User 708  Selectable | | No | | No | | | Fan Control | | 687 | | Yes | | Yes |
| OEM Pressure Input 709 | | Yes | | Yes | | | Fan Control | | 687 | | No | | No |
| Fan OEM Temperature User Selectable | 710 | | No | | No | Fan Control | | 687 | | Yes | | Yes | |
| OEM Temperature Input | 711 | | Yes | | Yes | Fan Control | | 687 | | No | | No | |
| Fan Manual Input User Selectable | 712 | | No | | No | Fan Control | | 687 | | Yes | | Yes | |

5. List of parameters supported in Trip Info or Monitors section for the assigned TIS

List of Parameter supported for Trip Info:

No parameter will be display under Trip for Fan Control

List of Parameter supported in Monitors:

Monitor Parameter List

Monitor Parameter Name ID Param ID

|  |  |  |
| --- | --- | --- |
| Air Conditioning Pressure Switch | 690 | 2648 |
| Fan Control Command | 689 | 2642 |
| Fan Control Switch | 1414 | 2656 |

1. Data Type attributes for the Features and Parameters.

i)Fan Clutch User Selectable

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| True | True | 1 | Yes |
| False | False | 0 | No |

ii) Fan Control

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| Disabled | Disable | 1 | No |
| Enabled | Enable | 0 | Yes |

iii) Fan Type

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enumeration Data Type Information  TIS Enumeration Name | Display Name | Value | Simulator Value |
| \_DISCRETE | On/Off | 0 | Yes |
| \_VARIABLE\_SPEED | Variable Speed | 1 | No |
| \_TRI\_STATE | Tri-State | 2 | No |
| BEHR\_VISCOUS\_STYLE | Electronic Viscous without Speed Sensor | 3 | No |
| HORTON\_VMASTER\_ULTRA\_STYLE | Electronic Viscous with Speed Sensor | 4 | No |
| BORG\_WARNER\_COOL\_LOGIC\_STYLE | Variable Speed without Speed Sensor | 5 | No |
| DATALINK\_OUTPUT | Datalink Output | 6 | No |
| IMPROVED\_HIGH\_FREQUENCY\_VISCO US | High Efficiency Viscous | 7 | No |
| ADJUSTABLE\_BLADE\_POSITION | Adjustable Blade Position | 8 | No |
| ADJUSTABLE\_SPEED\_AND\_DIRECTIO N | Adjustable Speed and Direction | 9 | No |

iv)Fan control switch

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| Disabled | Disable | 0 | No |
| Enabled | Enable | 1 | Yes |

v) Variable Speed Fan Frequency

No data available

vi) Fan Control Logic

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| Active High | 12/24 Volt On | 0 | Yes |
| Active Low | 0 Volt On | 1 | No |

vii) Fan Air Conditioning Pressure User Selectable

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| True | True | 1 | Yes |
| False | False | 0 | No |

viii) Air Conditioning Pressure Switch Input

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| Disabled | Disable | 0 | No |
| Enabled | Enable | 1 | Yes |

ix) Minimum Fan On Time for Air Conditioning Pressure Switch

Data not available

x) Fan Clutch Vehicle Speed Interaction User Selectable

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| True | True | 1 | Yes |
| False | False | 0 | No |

xi) Vehicle Speed Interaction

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| Disabled | Disable | 0 | Yes |
| Enabled | Enable | 1 | No |

xii) Fan Engine Brake User Selectable

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| True | True | 1 | Yes |
| False | False | 0 | No |

xiii) Fan on with Engine Braking

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| Disabled | Disable | 0 | No |
| Enabled | Enable | 1 | Yes |

xiv) Fan OEM Pressure User Selectable

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| True | True | 1 | Yes |
| False | False | 0 | No |

xv) OEM Pressure Input

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| Disabled | Disable | 0 | Yes |
| Enabled | Enable | 1 | No |

xvi) Fan OEM Temperature User Selectable

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| True | True | 1 | Yes |
| False | False | 0 | No |

xvii) OEM Temperature Input

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| Disabled | Disable | 0 | Yes |
| Enabled | Enable | 1 | No |

xviii) Fan Manual Input User Selectable

TIS Data Type: Enumeration

Service Data Type: Enumerations

Enumeration:

|  |  |  |  |
| --- | --- | --- | --- |
| Enum Name | Display Name | Value | Simulator Value |
| True | True | 1 | Yes |
| False | False | 0 | No |

1. Feature Active parameter of the assigned TIS

If Feature active parameter will be enabled we will be able to see that parameter in our tool and if it is disabled we won’t be to see it.

Feature active Parameter : Fan clutch Enable

1. User Selectable Parameter of the assigned TIS

If user Selectable parameter will be active we will be able to modify that parameter and if this parmeter is disabled it wont allow the user to modify that parameter.

User Selectable Parameter of the assigned TIS : Fan\_Clutch\_User\_Selectable

9. Create a table for multiple conditions on Feature Active and User Selectable parameters.

|  |  |  |  |
| --- | --- | --- | --- |
| User Selectable | User Active | Will be able to modify? | Will it be displayed |
| 0 | 0 | No | No |
| 0 | 1 | No | Yes |
| 1 | 0 | Yes | No |
| 1 | 1 | Yes | Yes |

10. Explain Simple Dependencies

When one parameter is dependent on another parameter than it is known as Simple dependencies.

11. Explain Complex Dependencies

When one parameter is dependent on more than one parameter than it is known as Complex Dependencies.

12. Supported\_TIS\_IDs list of your ECM-PID configuration

13.Check if TIS 4927 (MLS3) is supported in your ECM.

Ans: Yes it is supported

14. Provide below information for the assigned TIS :

* Base TIS and its Feature Active and User Selectable

When a TIS is not extension of any parameter than it is a Base TIS.

Fan Contril itself is a Base TIS it is not extension of any parameter i.e. It is not dependent on any TIS If its Feature active is 1 it will be visible and if its user selectable is 1 it will be editable else if its Feature active is 0 it won’t we displayed and if its selectable user is we won’t be able to modify it.

* Extension TIS and its Feature Active and User Selectable

Extension TIS is dependent on Base TIS state.

15. Provide Information for any one parameter from the TIS assigned :

Security Domain

Parameter Name : :Fan\_AC\_Pressure\_Enable

ID : 2644

Security Domain:

Description : Enables or disables the A/C Pressure Switch Input. When enabled, the fan clutch can be controlled ON/OFF based on an A/C Pressure Switch Input in order to maintain the refrigerant temperature and maximize fuel economy

Is included in template?

Yes

Mandatory Save/Restore?

Yes

Its TIS parameter

Fan\_AC\_Pressure\_Enable

ID : 2644