ON-BOARD DIAGNOSTIC SYSTEM PID/DATA MONITOR INSPECTION [FW6A-EL, FW6AX-EL]

id050227290300

- 1. Connect the M-MDS to the DLC-2.
- 2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
 - (1) Select "Data Logger".
 - (2) Select "Modules". (3) Select "TCM".
- 3. Select the applicable PID from the PID table.
- 4. Verify the PID data according to the directions on the screen.

Note

- · The PID data screen function is used for monitoring the calculated value of input/output signals in the module. Therefore, if the monitored value of the output parts is not within the specification, it is necessary to inspect the monitored value of input parts corresponding to the applicable output part control. In addition, because the system does not display an output part malfunction as an abnormality in the monitored value, it is necessary to inspect the output parts individually.
- When detecting DTCs, PIDs related to a malfunctioning system may not display even if the module is normal. Therefore, if a PID is not displayed, it is necessary to verify the DTC, perform malfunction diagnosis of the DTC that was detected, and do repairs.

PID/DATA monitor item table (Reference)

—: Not applicable

Item	Unit/ Condition	Test condition	Specification (Reference)	Output part name
DGP_DIS_1	km {mile}	Displays traveled distance since the differential protection control operated due to excessive rotation difference between left/right drive wheels		_
DGP_DIS_2	km {mile}	Displays traveled distance since the DGP	_MAX_DIF is updated	_
		Displays maximum rotation difference since	ce the differential protection	
DGP_MAX_DIF	RPM	control operated due to excessive rotation difference between left/right drive wheels		_
DGP_SPD	KPH (MPH)	Displays vehicle speed with trailing wheels since the differential protection control operated due to excessive rotation difference between left/right drive wheels		_
ECT	°C {°F}	Displays ECT		ECT sensor
				ECU internal
ECU_A	°C {°F}	Displays ECU internal temperature A		temperature
				sensor A
				ECU internal
ECU_B	°C {°F}	Displays ECU internal temperature B		temperature
				sensor B
				ECU internal
ECU_C	°C {°F}	Displays ECU internal temperature C		temperature
			sensor C	
EOP_DUTY	%	Displays drive duty ratio for electric AT oil	numn	Electric AT oil
201_0011	70	. ,		pump
EOP_RLY	Off/On	Electric AT oil pump relay stopped	Off	Electric AT oil
201_1(2)	011/011	Electric AT oil pump relay operating	On	pump relay
		Selector lever in 1GR at D position	Approx. 3.5526	 Shift solenoid
		Selector lever in 2GR at D position	Approx. 2.0228	No.1
		Selector lever in 3GR at D position	Approx. 1.4522	Shift solenoid
GEAR_RA	Ratio	Selector lever in 4GR at D position	Approx. 1.0000	No.2
02, 11 (_10 (, tatio	Selector lever in 5GR at D position	Approx. 0.7084	Shift solenoid
		Selector lever in 6GR at D position	Approx. 0.5993	No.3 • Shift solenoid No.4
	·	Selector lever in 1GR at D position	1	Shift solenoid
		Selector lever in 2GR at D position	2	No.1
		Selector lever in 3GR at D position	3	Shift solenoid
GEAR SEL	1/2/3/4/5/6	Selector lever in 4GR at D position	4	No.2
GLAIN_SEL	1/2/3/4/3/0	Selector lever in 5GR at D position	5	 Shift solenoid
		Selector lever in 6GR at D position	6	No.3 • Shift solenoid No.4

Item	Unit/ Condition	Test condition	Specification (Reference)	Output part name
HI_TEMP	_	Displays ATF high temperature mode determination amount (ATF temperature 132 °C {270 °F} or more)		_
HTM_CNT	_	Displays ATF high temperature mode determination amount (ATF temperature 132 °C {270 °F} or more)		_
HTM_DIS	km {mile}	Displays traveled distance after determining mode (ATF temperature 132 °C {270 °F} of the control of the contro	or more)	_
LINEDES	kPa {kgf/cm ² , psi}	Idle at P position after warm-up	Approx. 500 kPa {5.10 kgf/ cm ² , 72.5 psi}	_
LN_C_CLUTCH	kPa {kgf/cm ² , psi}	Displays hydraulic control learning value of	data	_
LN_O_CLUTC H	kPa {kgf/cm ² , psi}	Displays hydraulic control learning value of	data	_
LN_OV_SCOP E	_	Displays hydraulic control learning value of	data	_
LN_T_CLUTCH	kPa {kgf/cm ² , psi}	Displays hydraulic control learning value of	data.	_
LOCK_UP	OFF/SLIP/ON	Except below SLIP: * "SLIP" is displayed during TCC control wengine speed and turbine shaft speed lee Resets while TCC control is stopped or intended in engine speed and turbine/shaft speed is ON: * "ON" is displayed during TCC control and between the engine speed and turbine setween the engine speed and turbine setween the engine speed and turbine setween the TCC control is stopped or intended in engine speed and turbine shaft speed is setwice it is the TCC controls the TCC hydraulic preparessure loss and transaxle vibration due Therefore, normally, there is a difference but turbine shaft speed. Because the TCC hydraulic turbine shaft speed.	ss than the control value. If the difference between the the specification or more. If there is almost no difference haft speed*. If the difference between the the specification or more. It is sessure to suppress hydraulic to TCC clutch engagement between the engine speed and If it is hot, there is almost no	_
LONGI_ACCEL	_	Displays acceleration calculated from the	1	_
OP_SW1	Off/On	Selector lever at P position Selector lever at R position Selector lever at N position Selector lever in 1GR at D position Selector lever in 2GR at D position Selector lever in 3GR at D position Selector lever in 4GR at D position Selector lever in 5GR at D position Selector lever in 6GR at D position	Off Off Off On On On On Off Off Off	Oil pressure switch No.1
OP_SW1_OFF	kPa {kgf/cm ² , psi}	After performing on-board diagnostic test mode	More than 50 kPa {0.51 kgf/ cm ² , 7.3 psi} (0 kPa {0 kgf/ cm ² , 0 psi} before performing on-board diagnostic test mode)	Oil pressure switch No.1
OP_SW1_ON	kPa {kgf/cm ² , psi}	After performing on-board diagnostic test mode	Less than 320 kPa {3.26 kgf/ cm ² , 46.4 psi} (0 kPa {0 kgf/ cm ² , 0 psi} before performing on-board diagnostic test mode)	Oil pressure switch No.1

Item	Unit/ Condition	Test condition	Specification (Reference)	Output part name
		Selector lever at P position	Off	
		Selector lever at R position	Off	
		Selector lever at N position	Off	
		Selector lever in 1GR at D position	Off	Oil progeure
OP_SW2	Off/On	Selector lever in 2GR at D position	On	Oil pressure switch No.2
		Selector lever in 3GR at D position	Off	SWITCH INO.2
		Selector lever in 4GR at D position	Off	
		Selector lever in 5GR at D position	Off	
		Selector lever in 6GR at D position	On	
		·	More than 50 kPa {0.51 kgf/	
OP_SW2_OFF	kPa {kgf/cm ² , psi}	After performing on-board diagnostic test mode	cm ² , psi} (0 kPa {0 kgf/cm ² , 0 psi} before performing onboard diagnostic test mode)	Oil pressure switch No.2
OP_SW2_ON	kPa {kgf/cm ² , psi}	After performing on-board diagnostic test mode	Less than 260 kPa {2.65 kgf/ cm ² , 37.7 psi} (0 kPa {0 kgf/ cm ² , 0 psi} before performing	Oil pressure switch No.2
			on-board diagnostic test mode)	
		Selector lever at P position	Off	
		Selector lever at R position	On	
		Selector lever at N position	Off	
		Selector lever in 1GR at D position	Off	
OP_SW3	Off/On	Selector lever in 2GR at D position	Off	Oil pressure
000	0	Selector lever in 3GR at D position	On	switch No.3
		Selector lever in 4GR at D position	Off	
		Selector lever in 5GR at D position	On	
		Selector lever in 6GR at D position	Off	
		Selector lever in our at D position	More than 50 kPa {0.51 kgf/	
OP_SW3_OFF	kPa {kgf/cm ² , psi}	After performing on-board diagnostic test mode	cm ² , 7.3 psi} (0 kPa {0 kgf/cm ² , 0 psi} before performing on-board diagnostic test mode)	Oil pressure switch No.3
OP_SW3_ON	kPa {kgf/cm ² , psi}	After performing on-board diagnostic test mode	Less than 215 kPa {2.19 kgf/ cm ² , 31.2 psi} (0 kPa {0 kgf/ cm ² , 0 psi} before performing	Oil pressure switch No.3
	psij		on-board diagnostic test mode)	omton resid
		Selector lever at P position	Off	
		Selector lever at R position	Off	
		Selector lever at N position	Off	
		Selector lever in 1GR at D position	Off	0.1
OP_SW4	Off/On	Selector lever in 2GR at D position	Off	Oil pressure
_		Selector lever in 3GR at D position	Off	switch No.4
		Selector lever in 4GR at D position	On	
		Selector lever in 5GR at D position	On	
		Selector lever in 6GR at D position	On	1
	kPa {kgf/cm ² ,		More than 50 kPa {0.51 kgf/ cm ² , 7.3 psi} (0 kPa {0 kgf/	Oil pressure
OP_SW4_OFF	psi}	mode	cm ² , 0 psi} before performing on-board diagnostic test mode)	switch No.4
OP_SW4_ON	kPa {kgf/cm ² , psi}	After performing on-board diagnostic test mode	Less than 260 kPa {2.65 kgf/ cm ² , 37.7 psi} (0 kPa {0 kgf/ cm ² , 0 psi} before performing on-board diagnostic test mode)	Oil pressure switch No.4
		Vehicle stopped	0 RPM	
OSS	RPM	Vehicle stopped Vehicle speed 30 km/h {19 mph} in 3GR at D position	Approx. 1000 RPM	Output shaft speed sensor
PUMP_SPEED	RPM	Vehicle stopped at D position During i-stop control	200—2,000 RPM	_
RPM	RPM	Displays engine speed	ı	PCM
	Not Active/			
SC_STATE	Active	The shift control execution condition is dis	played.	_

Item	Unit/ Condition	Test condition	Specification (Reference)	Output part name
SE_TYPE	No valid data/ Bf_1st Af_2nd/ Bf_1st Af_3rd/ Bf_1st Af_5th/ Bf_1st Af_6th/ Bf_2nd Af_1st/ Bf_2nd Af_3rd/ Bf_2nd Af_5th/ Bf_2nd Af_5th/ Bf_2nd Af_5th/Bf_3rd Af_1st/Bf_3rd Af_1st/Bf_3rd Af_1st/Bf_3rd Af_1st/Bf_3rd Af_1st/Bf_3rd Af_1st/Bf_3rd Af_5th/Bf_3rd Af_5th/Bf_3rd Af_5th/Bf_5th Af_1st/Bf_5th Af_1st/Bf_5th Af_1st/Bf_5th Af_1st/Bf_5th Af_1st/Bf_5th Af_1st/Bf_5th Af_2nd/ Bf_5th Af_1st/Bf_5th Af_1st/Bf_5th Af_1st/Bf_5th Af_2nd/ Bf_5th Af_3rd/Bf_5th Af_2nd/ Bf_5th Af_3rd/Bf_5th Af_2nd/ Bf_5th Af_3rd/Bf_6th Af_3rd/Bf_6th Af_3rd/Bf_6th Af_3rd/Bf_6th Af_3rd/Bf_6th Af_3th/Bf_6th	Note Bf indicates gear position before shift Af indicates gear position after shiftin (Example of display) Bf_1st Af_2n • Bf_1st:Gear position at 1st gear • Af_2nd:Gear position at 2nd gear	fting ng d before shifting	
SHIFT_CTRL	DEFAULT/ MANUAL/ C_CONTROL / HIGH_TEMP/ D_MANUAL/ FAIL_SAFE	D position normal mode M position manual mode Cruise control (cruise control system) Automatic transaxle protection mode (ATF high temperature mode) D position direct mode Fail-safe mode	DEFAULT MANUAL C_CONTROL HIGH_TEMP D_MANUAL FAIL_SAFE	
SS_ON-OFF	Off/On	On/off solenoid is off. On/off solenoid is on.	Off On	On/off solenoid
SS1	A	Vehicle stopped at P position Vehicle stopped at R position Vehicle stopped at N position Driving in D position 1GR Driving in D position 2GR Driving in D position 3GR Driving in D position 4GR Driving in D position 5GR Driving in D position 5GR Driving in D position 6GR	Approx. 0 A Approx. 0 A Approx. 0 A Approx. 1 A Approx. 0 A Approx. 0 A	Shift solenoid No.1

Item	Unit/ Condition	Test condition	Specification (Reference)	Output part name
		Vehicle stopped at P position	Approx. 0 A	
		Vehicle stopped at R position	Approx. 0 A	
		Vehicle stopped at N position	Approx. 0 A	
		Driving in D position 1GR	Approx. 1 A	Ob:#!:-!
SS1_C	Α	Driving in D position 2GR	Approx. 1 A	Shift solenoid No.1
_		Driving in D position 3GR	Approx. 1 A	NO.1
		Driving in D position 4GR	Approx. 1 A	
		Driving in D position 5GR	Approx. 0 A	
		Driving in D position 6GR	Approx. 0 A	_
		Vehicle stopped at P position	Approx. 0 A	
		Vehicle stopped at R position	Approx. 0 A	-
		Vehicle stopped at N position	Approx. 0 A	
		Driving in D position 1GR	Approx. 0 A	-
SS2	Α	Driving in D position 2GR	Approx. 1 A	Shift solenoid
332	A	Driving in D position 3GR		No.2
			Approx. 0 A	_
		Driving in D position 4GR	Approx. 0 A	_
		Driving in D position 5GR	Approx. 0 A	
		Driving in D position 6GR	Approx. 1 A	
		Vehicle stopped at P position	Approx. 0 A	
		Vehicle stopped at R position	Approx. 0 A	
		Vehicle stopped at N position	Approx. 0 A	
		Driving in D position 1GR	Approx. 0 A	Shift solenoid
SS2_C	Α	Driving in D position 2GR	Approx. 1 A	- Sniπ solenoid - No.2
		Driving in D position 3GR	Approx. 0 A	
		Driving in D position 4GR	Approx. 0 A	
		Driving in D position 5GR	Approx. 0 A	
		Driving in D position 6GR	Approx. 1 A	
		Vehicle stopped at P position	Approx. 1 A	
		Vehicle stopped at R position	Approx. 0 A	7
		Vehicle stopped at N position	Approx. 1 A	1
		Driving in D position 1GR	Approx. 1 A	-
SS3	Α	Driving in D position 2GR	Approx. 1 A	Shift solenoid
000	^	Driving in D position 3GR	Approx. 0 A	No.3
				+
		Driving in D position 4GR	Approx. 1 A	-
		Driving in D position 5GR	Approx. 0 A	_
		Driving in D position 6GR	Approx. 1 A	
		Vehicle stopped at P position	Approx. 1 A	
		Vehicle stopped at R position	Approx. 0 A	
		Vehicle stopped at N position	Approx. 1 A	
		Driving in D position 1GR	Approx. 1 A	Shift solenoid
SS3_C	Α	Driving in D position 2GR	Approx. 1 A	No.3
		Driving in D position 3GR	Approx. 0 A	140.5
		Driving in D position 4GR	Approx. 1 A	
		Driving in D position 5GR	Approx. 0 A	
		Driving in D position 6GR	Approx. 1 A	
		Vehicle stopped at P position	Approx. 0 A	
		Vehicle stopped at R position	Approx. 0 A	
		Vehicle stopped at N position	Approx. 0 A	7
		Driving in D position 1GR	Approx. 0 A	1
SS4	Α	Driving in D position 2GR		Shift solenoid
007	^	Driving in D position 3GR	Approx. 1 A	No.4
				+
		Driving in D position 4GR	Approx. 0 A	-
		Driving in D position 5GR	Approx. 0 A	4
		Driving in D position 6GR	Approx. 0 A	

Item	Unit/ Condition	Test condition	Specification (Reference)	Output part name
		Vehicle stopped at P position	Approx. 0 A	
		Vehicle stopped at R position	Approx. 0 A	
		Vehicle stopped at N position	Approx. 0 A	
		Driving in D position 1GR	Approx. 0 A	Shift solenoid No.4
SS4_C	Α	Driving in D position 2GR	Approx. 1 A	
		Driving in D position 3GR	Approx. 1 A	110.4
		Driving in D position 4GR	Approx. 0 A	
		Driving in D position 5GR	Approx. 0 A	
		Driving in D position 6GR	Approx. 0 A	
		Vehicle stopped at P position	Approx. 0 A	
		Vehicle stopped at R position	Approx. 0 A	
		Vehicle stopped at N position	Approx. 0 A	
		Under the following conditions: • Driving in D position 1GR • Accelerator pedal opening angle is approx. 10 %	Approx. 430 mA	
		Under the following conditions: • Driving in D position 2GR • Accelerator pedal opening angle is approx. 10 % Under the following conditions: • Driving in D position 3GR • Accelerator pedal opening angle is approx. 10 % Under the following conditions: • Driving in D position 4GR • Accelerator pedal opening angle is approx. 10 % Approx. 430 mA Approx. 430 mA	Approx. 430 mA	-
SSLU	A		TCC control solenoid	
			Approx. 430 mA Approx. 430 mA	
		 Under the following conditions: Driving in D position 5GR Accelerator pedal opening angle is approx. 10 % 		
		 Under the following conditions: Driving in D position 6GR Accelerator pedal opening angle is approx. 10 % 	Approx. 430 mA	

Item	Unit/ Condition	Test condition	Specification (Reference)	Output part name
		Vehicle stopped at P position	Approx. 0 A	
		Vehicle stopped at R position	Approx. 0 A	
		Vehicle stopped at N position	Approx. 0 A	
		Under the following conditions:		
		Driving in D position 1GR	Approx. 430 mA	
		Accelerator pedal opening angle is	Approx. 450 mA	
		approx. 10 %		
		Under the following conditions:		
		Driving in D position 2GR	Δpprov 430 mΔ	
		Accelerator pedal opening angle is	Approx. 430 mA	
		approx. 10 %		
		Under the following conditions:		
		Driving in D position 3GR	Approx. 430 mA	TCC control
SSLU_C	Α	Accelerator pedal opening angle is	πρριοχ. 400 π/τ	solenoid
		approx. 10 %		GOICHOIG
		Under the following conditions:		
		Driving in D position 4GR	Approx. 430 mA	
		Accelerator pedal opening angle is	/ Approx. Tee III.	
		approx. 10 %		
		Under the following conditions:		
		Driving in D position 5GR	Approx. 430 mA	
		• Accelerator pedal opening angle is		
		approx. 10 %	Approx. 430 mA	
		Under the following conditions:		
		Driving in D position 6GR Assolute to position and a posi		
		Accelerator pedal opening angle is approx. 10 %		
		Vehicle stopped at P position	0 kPa {0 kgf/cm ² , 0 psi}	
		Vehicle stopped at R position	0 kPa {0 kgf/cm ² , 0 psi}	
		Vehicle stopped at N position	0 kPa {0 kgf/cm ² , 0 psi}	_
		Under the following conditions:	U KPa {U kgi/Ciii=, U psi}	_
		Driving in D position 1GR	Approx. 360 kPa {3.67 kgf/	
		• Accelerator pedal opening angle is cm ² , 52.2 psi} approx. 10 %	cm-, 52.2 psi}	
		Under the following conditions:		_
		Driving in D position 2GR	Approx. 360 kPa {3.67 kgf/	
		Accelerator pedal opening angle is	cm ² , 52.2 psi}	
		approx. 10 %	Citi , 52.2 psi	
		Under the following conditions:		
	kPa {kgf/cm ² ,	Driving in D position 3GR	Approx. 360 kPa {3.67 kgf/	TCC control
SSLU_PRES	psi}	Accelerator pedal opening angle is	cm ² , 52.2 psi}	solenoid
	polj	approx. 10 %	J , 62.2 pc.,	
		Under the following conditions:		
		Driving in D position 4GR	Approx. 360 kPa {3.67 kgf/	
		Accelerator pedal opening angle is	cm ² , 52.2 psi}	
		approx. 10 %		
		Under the following conditions:		
		Driving in D position 5GR	Approx. 360 kPa {3.67 kgf/	
		Accelerator pedal opening angle is	cm ² , 52.2 psi}	
		approx. 10 %		_
		Under the following conditions:	1	
		Driving in D position 6GR	Approx. 360 kPa {3.67 kgf/	
		Accelerator pedal opening angle is	cm ² , 52.2 psi}	
		approx. 10 %		

Item	Unit/ Condition	Test condition	Specification (Reference)	Output part name
		Vehicle stopped at P position	Approx. 980 mA	
		Vehicle stopped at R position	Approx. 930 mA	
		Vehicle stopped at N position	Approx. 980 mA	
		Under the following conditions:		
		Driving in D position 1GR	Approx. 400—800 mA	
		 Accelerator pedal opening angle is 	Approx. 400—800 IIIA	
		approx. 10 %		
		Under the following conditions:		
		Driving in D position 2GR	Approx. 400—800 mA	
		Accelerator pedal opening angle is	, approximos dos max	
		approx. 10 %		
		Under the following conditions:		
000	_	Driving in D position 3GR	Approx. 400—800 mA	Pressure control
SSP	A	Accelerator pedal opening angle is		solenoid
		approx. 10 %		_
		Under the following conditions:		
		 Driving in D position 4GR Accelerator pedal opening angle is	Approx. 400—800 mA	
		approx. 10 %		
		Under the following conditions:		_
		Driving in D position 5GR		
		Accelerator pedal opening angle is	Approx. 400—800 mA	
		approx. 10 %		
		Under the following conditions:	Approx. 400—800 mA	
		Driving in D position 6GR		
		Accelerator pedal opening angle is		
		approx. 10 %		
		Vehicle stopped at P position	Approx. 980 mA	
		Vehicle stopped at R position	Approx. 930 mA	_
		Vehicle stopped at N position	Approx. 980 mA	
		Under the following conditions:		
		Driving in D position 1GR	Approx. 400—800 mA	
		 Accelerator pedal opening angle is 	74prox. 400 000 m/t	
		approx. 10 %		
		Under the following conditions:		
		Driving in D position 2GR	Approx. 400—800 mA	
		Accelerator pedal opening angle is		
		approx. 10 %		_
		Under the following conditions:		
SSP_C	Α	Driving in D position 3GRAccelerator pedal opening angle is	Approx. 400—800 mA	Pressure control
331 _0		approx. 10 %		solenoid
		Under the following conditions:		-
		Driving in D position 4GR		
		Accelerator pedal opening angle is	Approx. 400—800 mA	
		approx. 10 %		
		Under the following conditions:		1
		Driving in D position 5GR	400 000	
		Accelerator pedal opening angle is	Approx. 400—800 mA	
		approx. 10 %		
		Under the following conditions:		
		Driving in D position 6GR	Approx 400 900 mA	
		Accelerator pedal opening angle is	Approx. 400—800 mA	
		approx. 10 %		

Item	Unit/ Condition	Test condition	Specification (Reference)	Output part name
		Vehicle stopped at P position	Approx. 45 kPa {0.46 kgf/cm ² , 6.5 psi}	
		Vehicle stopped at R position	Approx. 80 kPa {0.82 kgf/cm ² , 12 psi}	
		Vehicle stopped at N position	Approx. 45 kPa {0.46 kgf/cm ² , 6.5 psi}	
		 Under the following conditions: Driving in D position 1GR Accelerator pedal opening angle is approx. 10 % 	130—460 kPa {1.33—4.69 kgf/ cm ² , 18.9—66.7 psi}	
		Under the following conditions: • Driving in D position 2GR • Accelerator pedal opening angle is	130—460 kPa {1.33—4.69 kgf/ cm ² , 18.9—66.7 psi}	
SSP_PRES	kPa {kgf/cm ² , psi}	approx. 10 % Under the following conditions: • Driving in D position 3GR • Accelerator pedal opening angle is approx. 10 %	130—460 kPa {1.33—4.69 kgf/ cm ² , 18.9—66.7 psi}	Pressure control solenoid
		Under the following conditions: • Driving in D position 4GR • Accelerator pedal opening angle is approx. 10 % Under the following conditions: • Driving in D position 5GR • Accelerator pedal opening angle is approx. 10 % 130—460 kPa {1.33—4.69 kgf/ cm², 18.9—66.7 psi} 130—460 kPa {1.33—4.69 kgf/ cm², 18.9—66.7 psi}		
		 Under the following conditions: Driving in D position 6GR Accelerator pedal opening angle is approx. 10 % 	130—460 kPa {1.33—4.69 kgf/ cm ² , 18.9—66.7 psi}	
TFT	°C {°F}	Displays ATF temperature		TFT sensor
THOD	, ,	Accelerator pedal fully released	Approx. 22 %	
THOP	%	Accelerator pedal fully depressed	Approx. 91 %	PCM
TORQUE_ACT	Nm	Displays actual engine torque		_
TORQUE_DES	Nm	Displays desired engine torque		_
		Selector lever at P position Selector lever at M position (-) side	P SHIFT_DOWN	
TR	P/ SHIFT_DOW	Selector lever at M position (+) side position SHIFT_UP	Transaxle range	
	N/SHIFT_UP/ M/D/N/R	Selector lever at M position	M	sensor
	IVI/D/IN/IX	Selector lever at D position	D	
		Selector lever at N position	N	
		Selector lever at R position	R	
TSS	RPM	Vehicle stopped at D position	0 RPM	Turbine/input shaft speed
		Engine speed 1,000 rpm at P position	900—1,100 RPM	sensor
UPSHIFT_REV	Off/On	Shift-up due to engine request is not recorded. (Shift up request can be reset by clearing the DTCs.)	Off	_
		Shift-up due to engine request is recorded.	On	
VPWR	V	Displays TCM power supply voltage		Battery TCM
VSS	KPH (MPH)	Displays vehicle speed		Output shaft speed sensor