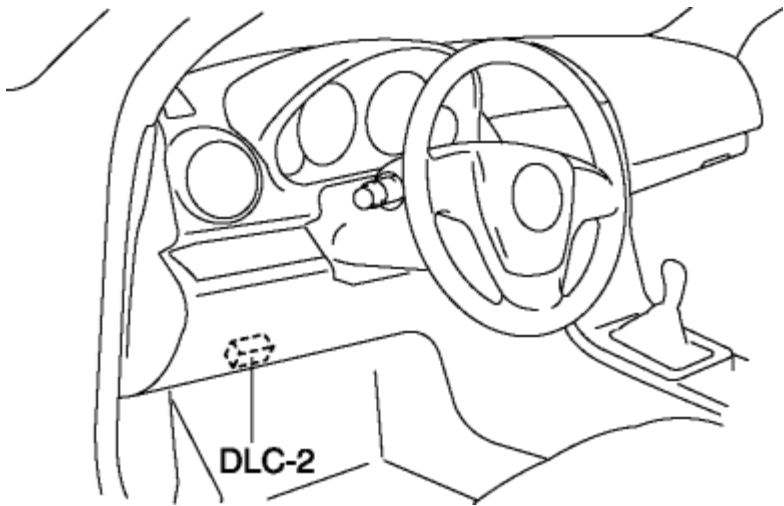


2012 - Mazda6 - Transmission/ Transaxle

ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [FS5A-EL]

1. Connect the M-MDS (IDS) to the DLC-2.



2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
- Select "DataLogger".
 - Select "Modules".
 - Select "TCM".
3. Select the applicable PID from the PID table.
4. Verify the PID data according to the detections 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 Table (Reference)

Monitor item	Unit/Condition	Test condition	Specification	Inspection item
--------------	----------------	----------------	---------------	-----------------

DGP_DIS_1	km {mile}	This PID indicates the traveled distance since DTC P1712:00 was last recorded.		
DGP_DIS_2	km {mile}	This PID indicates the traveled distance since the maximum rotation speed difference occurred between the left and right drive wheels.		
DGP_MAX_DIF	RPM	This PID indicates the maximum rotation speed difference between the left and right drive wheels.		
DGP_SPD	KPH {MPH}	This PID Indicates the vehicle speed with the trailing wheels at the time the maximum rotation speed difference between the left and right drive wheels occurred.		
DWN SW	On/Off	Selector lever at shift down position	On	- Down switch (See DOWN SWITCH INSPECTION [FS5A-EL] .) - Related harness
		Except selector lever at shift down position	Off	
ECT	°C {°F}	ECT 20°C {68°F}	Approx.20°C {68°F}	PCM (See PCM INSPECTION [MZR 2.5] .)
		ECT 80°C {176°F}	Approx.80°C {176°F}	
GEAR_RA	—	1GR	Approx.3.620	- Following PIDs: - SSA/SS1 - SSB/SS2 - SSC/SS3 - SSD/SS4 - SSE_SS5 - SSF_SS6
		2GR	Approx.1.925	
		3GR	Approx.1.285	
		4GR	Approx.0.933	
		5GR	Approx.0.692	
GEAR_SEL	1st/2nd/3rd/4th/5th	1GR	1st	- Following PIDs: - SSA/SS1 - SSB/SS2 - SSC/SS3 - SSD/SS4 - SSE_SS5
		2GR	2nd	
		3GR	3rd	
		4GR	4th	

		5GR	5th	SSF_SS6
HTM_CNT	—	This PID indicates number of high oil temperature mode operations. High oil temperature mode is switched when ATF reaches approx.130 °C {266 °F} or more.		
HTM_DIS	km {mile}	This PID indicates travel distance after operation of high oil temperature mode. High oil temperature mode is switched when ATF reaches approx.130 °C {266 °F} or more.		
ISS	RPM	Vehicle stopped	0 RPM	- Intermediate sensor (See INTERMEDIATE SENSOR INSPECTION [FS5A-EL] .) - Related harness
		Vehicle speed 30 km/h {19 mph} in 3GR	Approx.1,300 RPM	
LINEDES	Pa {kgf/m ² , psi}	Idle at P position after warm-up	Approx.400 kPa {4.08 kgf/cm ² , 58.0 psi}	- Following PIDs: - SSA/SS1 - SSB/SS2 - SSC/SS3 - SSD/SS4 - SSE_SS5 - SSF_SS6
		Engine speed 2,000 rpm at P position	Approx.560 kPa {5.71 kgf/cm ² , 81.2psi}	
LPS	A	Idle at P position after warm-up	Approx.950 mA	- Pressure control solenoid A (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		Engine speed 2,000 rpm at P position	Approx.830 mA	
LPSB	%	Gear shifting from 4GR to 5GR	Approx.100 %	- Pressure control solenoid B (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		Gear shifting from 5GR to 4GR	Approx.50 %	
		Other conditions	0 %	

MNL SW	On/Off	Selector lever at P position	Off	- M position switch (See M POSITION SWITCH INSPECTION [FS5A-EL] .) - Related harness
		Selector lever at R position	Off	
		Selector lever at N position	Off	
		Selector lever at D positionposition	Off	
		Selector lever at M position	On	
OP_SW_B	On/Off	1GR	On	- Oil pressure switch (See OIL PRESSURE SWITCH INSPECTION [FS5A-EL] .) - Related harness
		2GR	On	
		3GR	On	
		4GR	Off	
		5GR	Off	
OSS	RPM	Vehicle stopped	0 RPM	- VSS (See VEHICLE SPEED SENSOR (VSS) INSPECTION [FS5A-EL] .) - Related harness
		Vehicle speed 30 km/h {19 mph} in 3GR	Approx.250 RPM	
RPM	RPM	Engine stopped	0 RPM	PCM (See PCM INSPECTION [MZR 2.5] .)
		Engine speed 1,000 rpm	Approx.1,000 RPM	
SSA/SS1	%	1GR at D position	0 %	Shift solenoid A (See SOLENOID VALVE INSPECTION [FS5A-EL] .)
		2GR at D position	0 %	
		3GR at D position	0 %	

		4GR at D position	Approx.100 %	Related harness
		5GR at D position	Approx.100 %	
SSB/SS2	%	1GR at D position	Approx.100 %	- Shift solenoid B (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		2GR at D position	0 %	
		3GR at D position	0 %	
		4GR at D position	0 %	
		5GR at D position	0 %	
SSC/SS3	%	1GR at D position	Approx.100 %	- Shift solenoid C (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		2GR at D position	Approx.100 %	
		3GR at D position	0 %	
		4GR at D position	0 %	
		5GR at D position	0 %	
SSD/SS4	On/Off	1GR at D position	Off	- Shift solenoid D (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		2GR at D position	Off	
		3GR at D position	Off	
		4GR at D position	On	

		5GR at D position	On	
SSE_SS5	On/Off	TCC released	Off	- Shift solenoid E (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		TCC engaged	On	
SSF_SS6	On/Off	1GR at D position	Off	- Shift solenoid F (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		2GR at D position	Off	
		3GR at D position	Off	
		4GR at D position	Off	
		5GR at D position	On	
TFT	°C {°F}	ATF 20 °C {68°F}	Approx.20 °C {68°F}	- TFT sensor (See TRANSAXLE FLUID TEMPERATURE (TFT) SENSOR INSPECTION [FS5A-EL] .) - Related harness
		ATF 65 °C {149°F}	Approx.65 °C {149°F}	
TFTV	V	ATF 20 °C {68°F}	Approx.3.3 V	- TFT sensor (See TRANSAXLE FLUID TEMPERATURE (TFT) SENSOR INSPECTION [FS5A-EL] .) - Related harness
		ATF 65 °C {149°F}	Approx.1.3 V	
THOP	%	Accelerator pedal fully released	Approx.13 %	PCM (See PCM INSPECTION [MZR 2.5] .)
		Accelerator pedal fully depressed	Approx.84 %	

TR	P/R/N/D	Selector lever at P position	P	- TR switch (See TRANSAXLE RANGE (TR) SWITCH INSPECTION [FS5A-EL] .) - Related harness
		Selector lever at R position	R	
		Selector lever at N position	N	
		Selector lever at D position	D	
		Selector lever at M position	D	
TR_SENS	V	Selector lever at P position	4.3—4.8	- TR switch (See TRANSAXLE RANGE (TR) SWITCH INSPECTION [FS5A-EL] .) - Related harness
		Selector lever at R position	3.8—4.2	
		Selector lever at N position	3.0—3.5	
		Selector lever at D position	2.2—2.7	
		Selector lever at M position	2.2—2.7	
TSS	RPM	Engine speed 1,000 rpm at P position	Approx.950 RPM	- Input/turbine speed sensor (See INPUT/ TURBINE SPEED SENSOR INSPECTION [FS5A-EL] .) - Related harness
		Vehicle stopped at D position	0 RPM	
UP SW	On/Off	Selector lever at shift up position	On	- Up switch (See UP SWITCH INSPECTION [FS5A-EL] .) - Related harness
		Except selector lever at shift up position	Off	
		Under any		Battery (See BATTERY

VPWR	V	condition	B+	INSPECTION [MZR 2.5] .) Related harness
VSS	KPH {MPH}	Vehicle stopped	Approx.0 KPH {0 MPH}	- VSS (See VEHICLE SPEED SENSOR (VSS) INSPECTION [FS5A-EL] .) - Related harness
		Vehicle speed 30 km/h {19 mph}	Approx.30 KPH {19 MPH}	

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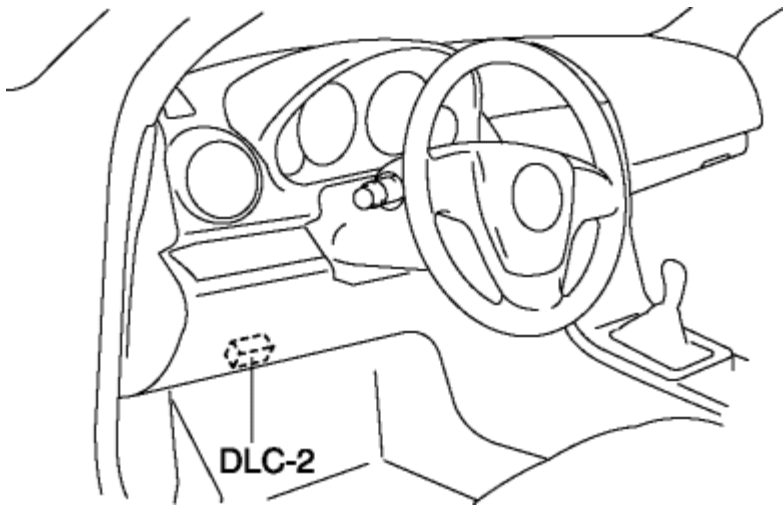
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2012 - Mazda6 - Transmission/ Transaxle

ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [FS5A-EL]

1. Connect the M-MDS (IDS) to the DLC-2.



2. After the vehicle is identified, select the following items from the initialization screen of the M-MDS.
- Select "DataLogger".
 - Select "Modules".
 - Select "TCM".
3. Select the applicable PID from the PID table.
4. Verify the PID data according to the detections 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.
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PID/ DATA Monitor Table (Reference)

Monitor item	Unit/Condition	Test condition	Specification	Inspection item
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DGP_DIS_1	km {mile}	This PID indicates the traveled distance since DTC P1712:00 was last recorded.		
DGP_DIS_2	km {mile}	This PID indicates the traveled distance since the maximum rotation speed difference occurred between the left and right drive wheels.		
DGP_MAX_DIF	RPM	This PID indicates the maximum rotation speed difference between the left and right drive wheels.		
DGP_SPD	KPH {MPH}	This PID Indicates the vehicle speed with the trailing wheels at the time the maximum rotation speed difference between the left and right drive wheels occurred.		
DWN SW	On/Off	Selector lever at shift down position	On	- Down switch (See DOWN SWITCH INSPECTION [FS5A-EL] .) - Related harness
		Except selector lever at shift down position	Off	
ECT	°C {°F}	ECT 20°C {68°F}	Approx.20°C {68°F}	PCM (See PCM INSPECTION [MZR 2.5] .)
		ECT 80°C {176°F}	Approx.80°C {176°F}	
GEAR_RA	—	1GR	Approx.3.620	- Following PIDs: - SSA/SS1 - SSB/SS2 - SSC/SS3 - SSD/SS4 - SSE_SS5 - SSF_SS6
		2GR	Approx.1.925	
		3GR	Approx.1.285	
		4GR	Approx.0.933	
		5GR	Approx.0.692	
GEAR_SEL	1st/2nd/3rd/4th/5th	1GR	1st	- Following PIDs: - SSA/SS1 - SSB/SS2 - SSC/SS3 - SSD/SS4 - SSE_SS5
		2GR	2nd	
		3GR	3rd	
		4GR	4th	

		5GR	5th	SSF_SS6
HTM_CNT	—	This PID indicates number of high oil temperature mode operations. High oil temperature mode is switched when ATF reaches approx.130 °C {266 °F} or more.		
HTM_DIS	km {mile}	This PID indicates travel distance after operation of high oil temperature mode. High oil temperature mode is switched when ATF reaches approx.130 °C {266 °F} or more.		
ISS	RPM	Vehicle stopped	0 RPM	- Intermediate sensor (See INTERMEDIATE SENSOR INSPECTION [FS5A-EL] .) - Related harness
		Vehicle speed 30 km/h {19 mph} in 3GR	Approx.1,300 RPM	
LINEDES	Pa {kgf/m ² , psi}	Idle at P position after warm-up	Approx.400 kPa {4.08 kgf/cm ² , 58.0 psi}	- Following PIDs: - SSA/SS1 - SSB/SS2 - SSC/SS3 - SSD/SS4 - SSE_SS5 - SSF_SS6
		Engine speed 2,000 rpm at P position	Approx.560 kPa {5.71 kgf/cm ² , 81.2psi}	
LPS	A	Idle at P position after warm-up	Approx.950 mA	- Pressure control solenoid A (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		Engine speed 2,000 rpm at P position	Approx.830 mA	
LPSB	%	Gear shifting from 4GR to 5GR	Approx.100 %	- Pressure control solenoid B (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		Gear shifting from 5GR to 4GR	Approx.50 %	
		Other conditions	0 %	

MNL SW	On/Off	Selector lever at P position	Off	M position switch (See M POSITION SWITCH INSPECTION [FS5A-EL] .)
		Selector lever at R position	Off	
		Selector lever at N position	Off	
		Selector lever at D positionposition	Off	
		Selector lever at M position	On	
OP_SW_B	On/Off	1GR	On	Oil pressure switch (See OIL PRESSURE SWITCH INSPECTION [FS5A-EL] .)
		2GR	On	
		3GR	On	
		4GR	Off	
		5GR	Off	
OSS	RPM	Vehicle stopped	0 RPM	VSS (See VEHICLE SPEED SENSOR (VSS) INSPECTION [FS5A-EL] .)
		Vehicle speed 30 km/h {19 mph} in 3GR	Approx.250 RPM	
RPM	RPM	Engine stopped	0 RPM	PCM (See PCM INSPECTION [MZR 2.5] .)
		Engine speed 1,000 rpm	Approx.1,000 RPM	
SSA/SS1	%	1GR at D position	0 %	Shift solenoid A (See SOLENOID VALVE INSPECTION [FS5A-EL] .)
		2GR at D position	0 %	
		3GR at D position	0 %	

		4GR at D position	Approx.100 %	Related harness
		5GR at D position	Approx.100 %	
SSB/SS2	%	1GR at D position	Approx.100 %	- Shift solenoid B (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		2GR at D position	0 %	
		3GR at D position	0 %	
		4GR at D position	0 %	
		5GR at D position	0 %	
SSC/SS3	%	1GR at D position	Approx.100 %	- Shift solenoid C (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		2GR at D position	Approx.100 %	
		3GR at D position	0 %	
		4GR at D position	0 %	
		5GR at D position	0 %	
SSD/SS4	On/Off	1GR at D position	Off	- Shift solenoid D (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		2GR at D position	Off	
		3GR at D position	Off	
		4GR at D position	On	

		5GR at D position	On	
SSE_SS5	On/Off	TCC released	Off	- Shift solenoid E (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		TCC engaged	On	
SSF_SS6	On/Off	1GR at D position	Off	- Shift solenoid F (See SOLENOID VALVE INSPECTION [FS5A-EL] .) - Related harness
		2GR at D position	Off	
		3GR at D position	Off	
		4GR at D position	Off	
		5GR at D position	On	
TFT	°C {°F}	ATF 20 °C {68°F}	Approx.20 °C {68°F}	- TFT sensor (See TRANSAXLE FLUID TEMPERATURE (TFT) SENSOR INSPECTION [FS5A-EL] .) - Related harness
		ATF 65 °C {149°F}	Approx.65 °C {149°F}	
TFTV	V	ATF 20 °C {68°F}	Approx.3.3 V	- TFT sensor (See TRANSAXLE FLUID TEMPERATURE (TFT) SENSOR INSPECTION [FS5A-EL] .) - Related harness
		ATF 65 °C {149°F}	Approx.1.3 V	
THOP	%	Accelerator pedal fully released	Approx.13 %	PCM (See PCM INSPECTION [MZR 2.5] .)
		Accelerator pedal fully depressed	Approx.84 %	

TR	P/R/N/D	Selector lever at P position	P	- TR switch (See TRANSAXLE RANGE (TR) SWITCH INSPECTION [FS5A-EL] .) - Related harness
		Selector lever at R position	R	
		Selector lever at N position	N	
		Selector lever at D position	D	
		Selector lever at M position	D	
TR_SENS	V	Selector lever at P position	4.3—4.8	- TR switch (See TRANSAXLE RANGE (TR) SWITCH INSPECTION [FS5A-EL] .) - Related harness
		Selector lever at R position	3.8—4.2	
		Selector lever at N position	3.0—3.5	
		Selector lever at D position	2.2—2.7	
		Selector lever at M position	2.2—2.7	
TSS	RPM	Engine speed 1,000 rpm at P position	Approx.950 RPM	- Input/turbine speed sensor (See INPUT/ TURBINE SPEED SENSOR INSPECTION [FS5A-EL] .) - Related harness
		Vehicle stopped at D position	0 RPM	
UP SW	On/Off	Selector lever at shift up position	On	- Up switch (See UP SWITCH INSPECTION [FS5A-EL] .) - Related harness
		Except selector lever at shift up position	Off	
		Under any		Battery (See BATTERY

VPWR	V	condition	B+	INSPECTION [MZR 2.5] .) Related harness
VSS	KPH {MPH}	Vehicle stopped	Approx.0 KPH {0 MPH}	- VSS (See VEHICLE SPEED SENSOR (VSS) INSPECTION [FS5A-EL] .) - Related harness
		Vehicle speed 30 km/h {19 mph}	Approx.30 KPH {19 MPH}	

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