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2017 MAZDA 5 / Premacy OEM Service and Repair Workshop Manual

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PID/DATA MONITOR INSPECTION [START STOP UNIT]

SM2899089

id0902p602730

- 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 "DataLogger".
 - (2)Select "Modules".
 - (3)Select "SSU".
- 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.

Step	Inspection		Action
7	VERIFY IF OTHER DTCs DISPLAYED • Are any other DTCs displayed?	Yes	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [START STOP UNIT] .)
		No	DTC troubleshooting completed.

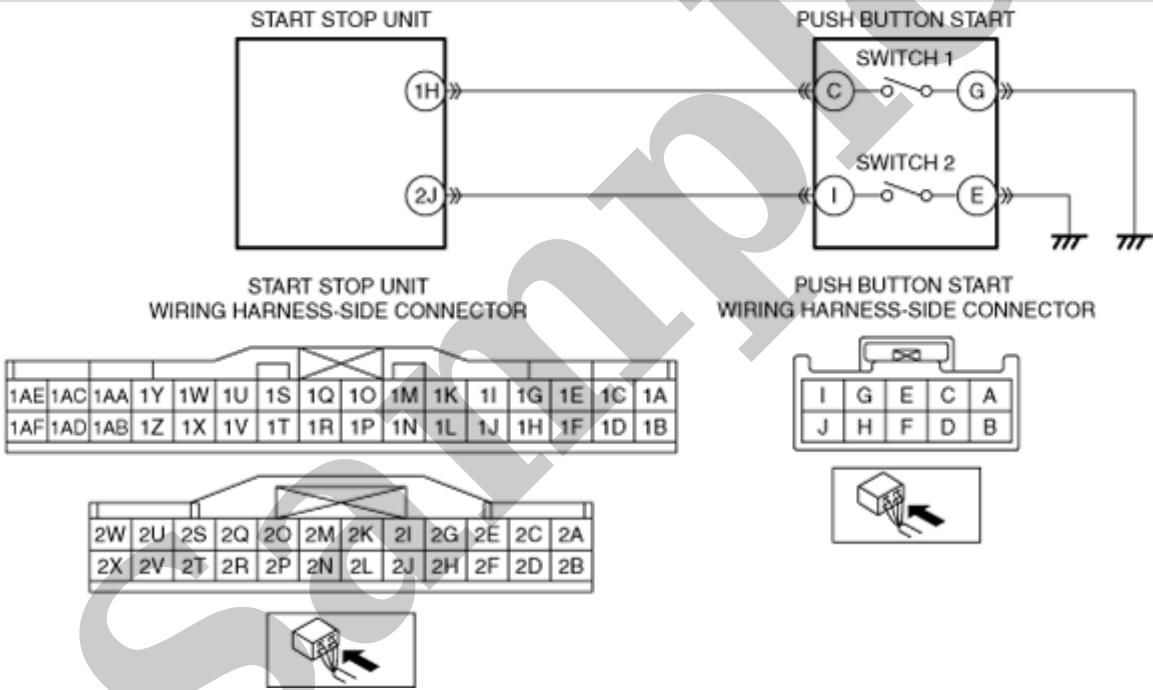
Sample

DTC B108B:24 [START STOP UNIT]

SM2899027

id0902p601940

Description	Push button start switch 1 circuit malfunction
Detection condition	• Start stop unit detects that the push button start switch 1 is kept in an off condition 5 times or more even though the push button start switch 2 is on.
Fail-safe	Not applicable
Possible cause	• Push button start connector or terminal malfunction • Open circuit in wiring harness between push button start terminal G and body ground • Start stop unit connector or terminal malfunction • Open circuit in wiring harness between start stop unit terminal 1H and push button start terminal C • Push button start switch 1 malfunction • Start stop unit malfunction

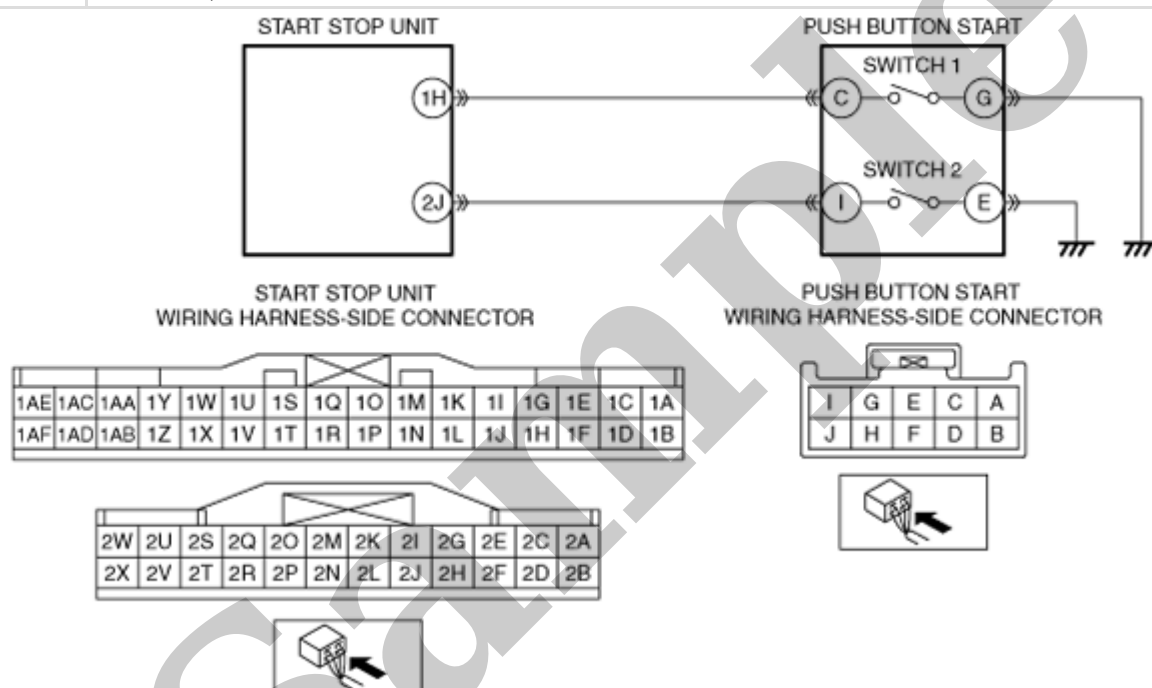


Diagnostic Procedure

Step	Inspection	Action
1	INSPECT PUSH BUTTON START CONNECTOR CONDITION • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the push button start connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes Go to the next step.
		No Repair or replace the connector, then go to Step 6.

SM2899028

Description	Push button start switch 2 circuit malfunction
Detection condition	• Start stop unit detects the push button start switch 2 is stuck on for 120 s or more.
Fail-safe	• Perform the control with the push button start switch 2 turned off.
Possible cause	• Push button start connector or terminal malfunction • Start stop unit connector or terminal malfunction • Short to ground in wiring harness between start stop unit terminal 2J and push button start terminal I • Push button start switch 2 malfunction • Start stop unit malfunction



Step	Inspection	Action
1	INSPECT PUSH BUTTON START CONNECTOR CONDITION • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the push button start connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes Go to the next step.
		No Repair or replace the connector, then go to Step 5.

PID	Unit/Operation	Data contents	Data read/use method	Module control terminal
CRU_CON_SW *1	Not_Pressed/On *3/Off/MODE *2/On/Off/OFF_CANCE L/Cancel/Resume *2/Fault/Resume_Plus *3/Set (+) *2/Set (-) *2/Distance (+) *2/Distance (-) *2	Cruise control switch operation condition • Not_Pressed: Each switch of cruise control switch is not pressed. • On: Cruise ON switch is pressed. • Off: – • MODE: MODE switch is pressed. • Off/On: – • OFF_CANCEL: OFF / CANCEL switch is pressed. • Cancel: – • Resume: RESUME switch is pressed. • Fault: Cruise control switch has a malfunction. • Resume_Plus: RESUME / + switch is pressed. • Set (+): SET + switch is pressed. • Set (-): SET - switch is pressed. • Distance (+): DISTANCE (+) switch is pressed. • Distance (-): DISTANCE (-) switch is pressed.	–	1Y (Cruise control switch signal)
ES_UL_SW	Not_Unlock/Unlock	Steering lock unlock switch condition • Off: Steering lock unlock switch is off. • On: Steering lock unlock switch is on.	–	–
ES_UL_SW_M	Not_Unlock/Unlock	Memory value of steering lock unlock switch • Off (Lock): Memory value of steering lock unlock switch is not unlocked. • On (Unlock): Memory value of steering lock unlock switch is unlocked.	–	–
ES_ULL_SW	Off/On	Steering lock unlock/lock switch condition • Off: Switch the ignition to ACC or ON (engine off or on). (With steering lock released) • On: Door is opened with ignition switched OFF. (with steering wheel locked)	–	–

PID	Unit/Operation	Data contents	Data read/use method	Module control terminal
PAD_UP_SW	Off/On	Note Displays in the M-MDS but it does not operate.		
R_FOG_SW	Off/On	Note Displays in the M-MDS but it does not operate.		
RELAY_ACC	Off/On	ACC relay operation condition • Off: ACC relay drive is off. • On: ACC relay drive is on.	–	2C (ACC relay control)
RELAY_IG1	Off/On	IG1 relay operation condition • Off: IG1 relay drive is off. • On: IG1 relay drive is on.	–	2S (IG1 relay control)
RELAY_IG2	Off/On	IG2 relay operation condition • Off: IG1 relay drive is off. • On: IG2 relay drive is on.	–	2D (IG2 relay control)
RF_RECEP_ST	Initial/Transmitter/RF_Response	Displays radio reception status from the remote transmitter • Initial: Signal from remote transmitter is not received by start stop unit • Transmitter: Signal by button operation on remote transmitter is received by start stop unit • RF_Response: During remote transmitter authorization, response signal from remote transmitter is received by start stop unit	When verifying the PID value while operating the remote transmitter buttons, if “Transmitter” is displayed it can be determined that the transmission between the remote transmitter, keyless receiver, and start stop unit is normal.	2R (Keyless receiver communication)

PID	Unit/Operation	Data contents	Data read/use method	Module control terminal
STR_ANG_S	Without/With	Vehicle with/without steering angle sensor • Without: Steering angle sensor is not equipped. • With: Steering angle sensor is equipped.	–	–
STR_ANG_S_A	V	Displays voltage at the steering angle sensor A signal	–	1U (Steering angle sensor (signal A/D1)) Note • (See STEERING ANGLE SENSOR INSPECTION .)
STR_ANG_S_B	V	Displays voltage at the steering angle sensor B signal	–	1W (Steering angle sensor (signal A/D1)) Note • (See STEERING ANGLE SENSOR INSPECTION .)
STR_ANG_S_V	V	Displays steering angle sensor power supply voltage Note • “5 V” is displayed even if the voltage is 5 V or more.	–	1S (Steering angle sensor power supply)
T_SEN_LF	Off/On	Note Displays in the M-MDS but it does not operate.		
T_SEN_RF	Off/On	Note Displays in the M-MDS but it does not operate.		
TURN_SW_L	Off/On	Turn switch (LH) input • Off: Turn switch is in position other than LH. • On: Turn switch is in LH position.	–	–
TURN_SW_R	Off/On	Turn switch (RH) input • Off: Turn switch is in position other than RH. • On: Turn switch is in RH position.	–	–

ACTIVE COMMAND MODES INSPECTION [START STOP UNIT]

SM2899091

id0902p602750

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 "DataLogger".

(2)Select "Modules".

(3)Select "SSU".

3.Select the simulation items from the PID table.

4.Perform the active command modes function, inspect the operations for each parts.

- If the operation of output parts cannot be verified after the active command mode inspection is performed, this could indicate the possibility of an open or short circuit, sticking, or operation malfunction in the output parts.

Step	Inspection		Action
4	VERIFY IF OTHER DTCs DISPLAYED • Are any other DTCs displayed?	Yes	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [START STOP UNIT].)
		No	DTC troubleshooting completed.

Sample