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2016 Mazda 3 Service and Repair Manual

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DTC U0515:68 [INSTRUMENT CLUSTER]

SM2898892

id0902e898800

Description	Error signal received from start stop unit
Detection condition	• Instrument cluster receives the error signals from the start stop unit with the ignition switched ON (engine off or on).
Fail-safe function	Not applicable
Possible cause	• DTCs are stored in the start stop unit. • Start stop unit malfunction • Instrument cluster malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection		Action
1	VERIFY START STOP UNIT DTCs • Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].) • Are any DTCs displayed?	Yes	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [START STOP UNIT].)
		No	Go to the next step.
2	VERIFY IF MALFUNCTIONING LOCATION IS START STOP UNIT DEPENDING ON REPEATABILITY • Clear the DTC for the instrument cluster using the M-MDS. (See CLEARING DTC [INSTRUMENT CLUSTER].) • Switch the ignition ON (engine off or on) and wait for 20 s or more. • Retrieve the instrument cluster DTCs using the M-MDS. (See DTC INSPECTION [INSTRUMENT CLUSTER].) • Is the same DTC displayed?	Yes	Replace the start stop unit, then go to the next step. (See START STOP UNIT REMOVAL/INSTALLATION.)
		No	Go to Step 4.
3	VERIFY THAT REPAIRS HAVE BEEN COMPLETED • Clear the DTC for the instrument cluster using the M-MDS. (See CLEARING DTC [INSTRUMENT CLUSTER].) • Switch the ignition ON (engine off or on) and wait for 20 s or more. • Retrieve the instrument cluster DTCs using the M-MDS. (See DTC INSPECTION [INSTRUMENT CLUSTER].) • Is the same DTC displayed?	Yes	Replace the instrument cluster, then go to the next step. (See INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)
		No	Go to the next step.
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 [INSTRUMENT CLUSTER].)
		No	DTC troubleshooting completed.

DTC U0402:68 [INSTRUMENT CLUSTER]

SM2898894

id0902e898890

Description	Error signal received from TCM
Detection condition	• Instrument cluster received the error signals from the TCM for 1 s or more with the ignition switched ON (engine off or on).
Fail-safe function	Not applicable
Possible cause	• The TCM could not send a normal signal temporarily. (DTCs are stored in the TCM.) • TCM malfunction • Instrument cluster malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection		Action
1	VERIFY TCM DTCs • Retrieve the TCM DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) • Are any DTCs displayed?	Yes	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL, GW6AX-EL)].)
		No	Go to the next step.
2	DRIVE VEHICLE THEN VERIFY DTCs FOR TCM AGAIN • Drive the vehicle at a vehicle speed of 30 km/h {19 mph} or more for 100 s or more. • Retrieve the TCM DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) • Are any DTCs displayed?	Yes	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL, GW6AX-EL)].)
		No	Go to the next step.
3	VERIFY THAT REPAIRS HAVE BEEN COMPLETED • Clear the DTC for the instrument cluster using the M-MDS. (See CLEARING DTC [INSTRUMENT CLUSTER].) • Switch the ignition ON (engine off or on) and wait for 20 s or more. • Retrieve the instrument cluster DTCs using the M-MDS. (See DTC INSPECTION [INSTRUMENT CLUSTER].) • Is the same DTC displayed?	Yes	Replace the instrument cluster, then go to the next step. (See INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)
		No	Go to the next step.
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 [INSTRUMENT CLUSTER].)
		No	DTC troubleshooting completed.

Step	Inspection		Action
5	VERIFY INSTRUMENT CLUSTER POWER SUPPLY VOLTAGE • Always reconnect all disconnected connectors. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Display the PID VPWR using the M-MDS. (See PID/DATA MONITOR INSPECTION [INSTRUMENT CLUSTER].) • Is the voltage B+?	Yes	Go to the next step.

DTC U3000:41 [INSTRUMENT CLUSTER]

SM2898896

id0902e899950

Description	Instrument cluster internal malfunction
Detection condition	• Instrument cluster detects the internal malfunction.
Fail-safe	Not applicable
Possible cause	• Instrument cluster malfunction
System wiring diagram	Not applicable

Diagnostic Procedure

Step	Inspection		Action
1	PERFORM DTC INSPECTION AND VERIFY INSTRUMENT CLUSTER MALFUNCTION • Clear the DTC for the instrument cluster using the M-MDS. (See CLEARING DTC [INSTRUMENT CLUSTER].) • Retrieve the instrument cluster DTCs using the M-MDS. (See DTC INSPECTION [INSTRUMENT CLUSTER].) • Is the same Pending DTC present?	Yes	Replace the instrument cluster, then go to the next step. (See INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)
		No	Go to the next step.
2	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 [INSTRUMENT CLUSTER].)
		No	DTC troubleshooting completed.

DTC U0001:88/U0100:00/U0101:00/U0151:00/U0155:00/U0214:00 [POSITION MEMORY CONTROL MODULE]

SM2898899

id0902o746880

Description	• U0001:88 — Module communication error (HS-CAN) • U0100:00 — Communication error with PCM • U0101:00 — Communication error with TCM • U0151:00 — Communication error with SAS control module • U0155:00 — Communication error with instrument cluster • U0214:00 — Communication error with start stop unit
Detection condition	• U0001:88 — Position memory control module (front seat) the CAN bus communication line (HS-CAN) malfunction • U0100:00 — Position memory control module (front seat) could not receive the CAN signal from the PCM for 5 s or more with the ignition switched ON (engine off or on). • U0101:00 — Position memory control module (front seat) could not receive the CAN signal from the TCM for 5 s or more with the ignition switched ON (engine off or on). • U0151:00 — Position memory control module (front seat) could not receive the CAN signal from the SAS control module for 5 s or more with the ignition switched ON (engine off or on). • U0155:00 — Position memory control module (front seat) could not receive the CAN signal from the instrument cluster for 5 s or more with the ignition switched ON (engine off or on). • U0214:00 — Position memory control module (front seat) could not receive the CAN signal from the start stop unit for 5 s or more with the ignition switched ON (engine off or on).

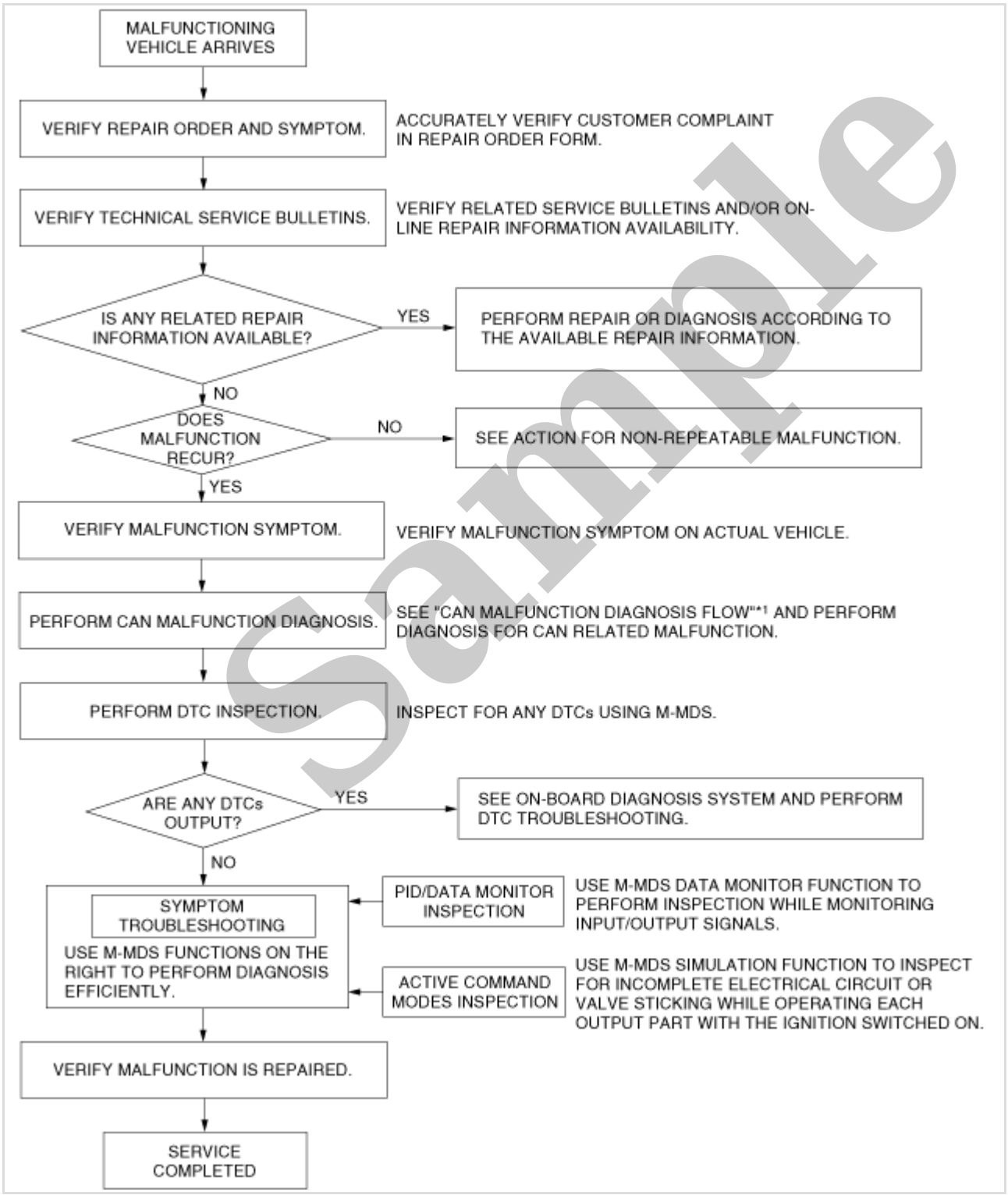
FOREWORD [POSITION MEMORY CONTROL MODULE]

SM2898900

id0902o796010

• If there is any vehicle malfunction complaint lodged by a customer, perform malfunction diagnosis according to the troubleshooting procedure. (See Troubleshooting Procedure.)

Troubleshooting Procedure



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DTC TABLE [POSITION MEMORY CONTROL MODULE]

SM2898903

id0902o796050

×: Applicable−: Not applicable

DTC No.	Warning/indicator light	Description	Fail-safe	Drive cycle	Self test type*1	Memory function	Page
B1B87:13	−	Lift motor and position sensor circuit malfunction	×	−	C	×	(See DTC B1B87:13 [POSITION MEMORY CONTROL MODULE].)
B1B89:13	−	Slide motor and position sensor circuit malfunction	×	−	C	×	(See DTC B1B89:13 [POSITION MEMORY CONTROL MODULE].)
B1B91:13	−	Tilt motor and position sensor circuit malfunction	×	−	C	×	(See DTC B1B91:13 [POSITION MEMORY CONTROL MODULE].)
B1B93:13	−	Recliner motor and position sensor circuit malfunction	×	−	C	×	(See DTC B1B93:13 [POSITION MEMORY CONTROL MODULE].)
U0001:88	−	Module communication error (HS-CAN)	×	−	C	×	(See DTC U0001:88/U0100:00/U0101:00/U0151:00/U0155:00/U0214:00 [POSITION MEMORY CONTROL MODULE].)
U0100:00	−	Communication error with PCM	×	−	C	×	
U0101:00	−	Communication error with TCM	×	−	C	×	
U0151:00	−	Communication error with SAS control module	×	−	C	×	
U0155:00	−	Communication error with instrument cluster	×	−	C	×	
U0214:00	−	Communication error with start stop unit	×	−	C	×	
U3003:16	−	Position memory control module power supply voltage low input	−	−	C	×	(See DTC U3003:16 [POSITION MEMORY CONTROL MODULE].)

*1:C: CMDTC self test, D: ODDTC self test

Step	Inspection		Action
3	**INSPECT TILT MOTOR AND POSITION SENSOR CIRCUIT FOR SHORT TO GROUND** • Verify that the tilt motor and position sensor and position memory control module (front seat) connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — Tilt motor and position sensor terminal B — Tilt motor and position sensor terminal D — Tilt motor and position sensor terminal F — Tilt motor and position sensor terminal H • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • Position memory control module (front seat) terminal 3C–Tilt motor and position sensor terminal B • Position memory control module (front seat) terminal 3D–Tilt motor and position sensor terminal D • Position memory control module (front seat) terminal 3K–Tilt motor and position sensor terminal F • Position memory control module (front seat) terminal 3L–Tilt motor and position sensor terminal H **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to ground. Go to Step 9.
		No	Go to the next step.
4	**INSPECT TILT MOTOR AND POSITION SENSOR CIRCUIT FOR SHORT TO POWER SUPPLY** • Verify that the tilt motor and position sensor and position memory control module (front seat) connectors are disconnected. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off or on). • Measure the voltage at the following terminals (wiring harness-side): — Tilt motor and position sensor terminal B — Tilt motor and position sensor terminal D — Tilt motor and position sensor terminal F — Tilt motor and position sensor terminal H • Is the voltage 0 V?	Yes	Go to the next step.
		No	Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • Position memory control module (front seat) terminal 3C–Tilt motor and position sensor terminal B • Position memory control module (front seat) terminal 3D–Tilt motor and position sensor terminal D • Position memory control module (front seat) terminal 3K–Tilt motor and position sensor terminal F • Position memory control module (front seat) terminal 3L–Tilt motor and position sensor terminal H **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to power supply. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to power supply. Go to Step 9.