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2017 MAZDA 3 / Axela Sedan OEM Service and Repair Workshop Manual

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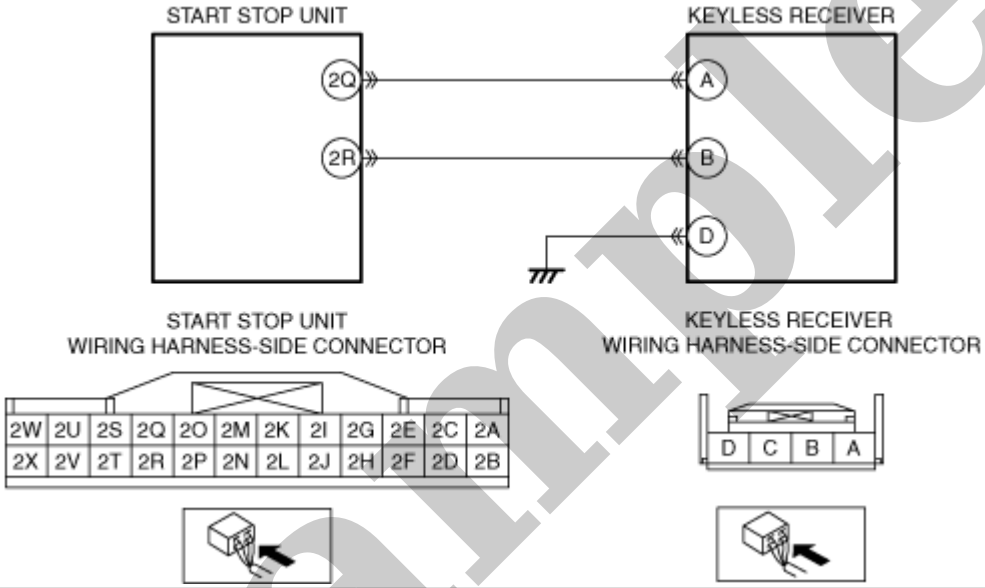
DTC U201F:11 [START STOP UNIT]

SM2899066

id0902p602430

Description	Keyless receiver circuit malfunction
Detection condition	• Start stop unit detects that the keyless receiver circuit voltage of less than 3.4 V for 0.5 s or more.
Fail-safe	Not applicable
Possible cause	• Keyless receiver connector or terminal malfunction • Start stop unit connector or terminal malfunction • Short to ground in wiring harness between start stop unit terminal 2Q and keyless receiver terminal A • Keyless receiver malfunction • Start stop unit malfunction



Diagnostic Procedure

Step	Inspection		Action
1	INSPECT KEYLESS RECEIVER CONNECTOR CONDITION • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the keyless receiver 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.

Step	Inspection		Action
2	INSPECT START STOP UNIT CONNECTOR CONDITION • Disconnect the start stop unit 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.
3	INSPECT KEYLESS RECEIVER CIRCUIT FOR SHORT TO POWER SUPPLY • Reconnect the start stop unit connector. • Verify that the keyless receiver connector is 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): — Keyless receiver terminal A — Start stop unit terminal 2Q • 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 start stop unit terminal 2Q and keyless receiver terminal A. **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 5.
4	INSPECT KEYLESS RECEIVER • Inspect the keyless receiver. (See KEYLESS RECEIVER INSPECTION.) • Is the keyless receiver normal?	Yes	Go to the next step.
		No	Replace the keyless receiver, then go to the next step. (See KEYLESS RECEIVER REMOVAL/INSTALLATION.)
5	VERIFY THAT REPAIRS HAVE BEEN COMPLETED • Always reconnect all disconnected connectors. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Clear the DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].) • Switch the ignition ON (engine off or on) and wait for 1 s or more. • Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].) • Is the same DTC displayed?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the start stop unit. (See START STOP UNIT REMOVAL/INSTALLATION.) Go to the next step.
		No	Go to the next step.
6	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.

DTC U3000:01 [START STOP UNIT]

SM2899070

id0902p602470

Description	Start stop unit internal malfunction
Detection condition	• Start stop unit detects the internal malfunction.
Fail-safe	Not applicable
Possible cause	• Start stop unit internal malfunction
System wiring diagram	Not applicable

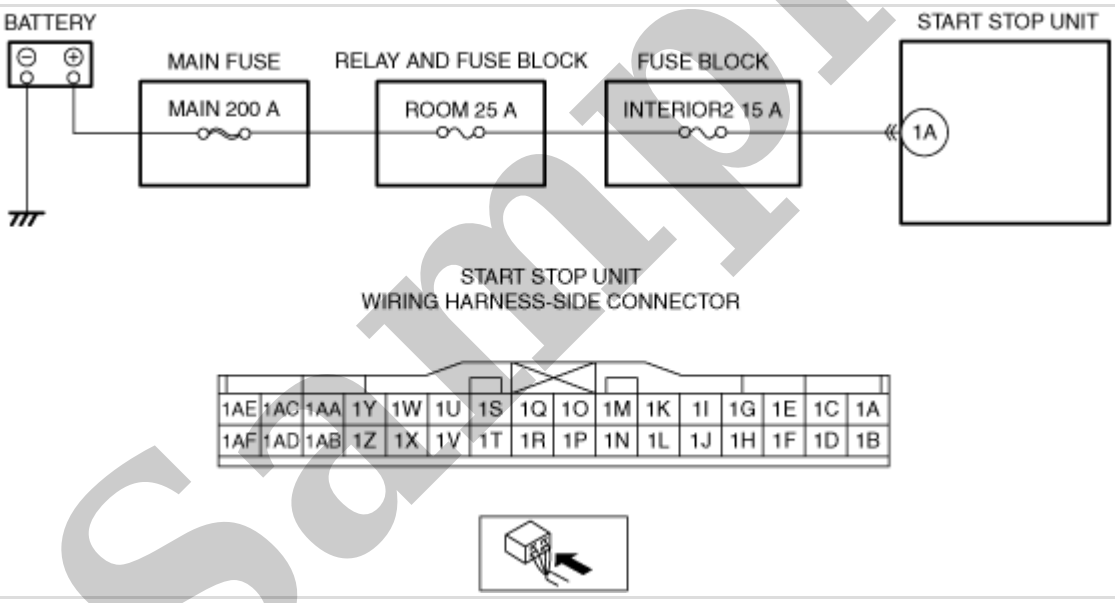
Diagnostic Procedure

Step	Inspection		Action
1	VERIFY IF MALFUNCTIONING LOCATION IS START STOP UNIT DEPENDING ON REPEATABILITY • Clear the DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].) • Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].) • 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 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 [START STOP UNIT].)
		No	DTC troubleshooting completed.

DTC U3003:16 [START STOP UNIT]

SM2899072

id0902p602490

Description	**Start stop unit power supply voltage (terminal 1A) low input**
Detection condition	• Start stop unit power supply circuit voltage (terminal 1A) of 5V or more, less than 8.5 V is detected for 5 s or more.
Fail-safe	• The door lock and unlock may not operate using the advanced keyless entry system. (With advanced keyless entry system) • The door lock and unlock may not operate using the keyless entry system. (With keyless entry system) • When starting the engine, it may be necessary to use the method for starting the engine when the transmitter battery is dead.
Possible cause	• DTCs are stored in the PCM. • Battery malfunction • Generator malfunction • Start stop unit connector or terminal malfunction • Malfunction between battery positive terminal and start stop unit terminal 1A • Start stop unit malfunction
	

Diagnostic Procedure

Step	Inspection		Action
1	**VERIFY PCM DTCs** • Retrieve the PCM DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-D 2.2)].) (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5T)].) (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))].) (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Are any DTCs displayed?	Yes	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [PCM (SKYACTIV-D 2.2)].) (See DTC TABLE [PCM (SKYACTIV-G 2.5T)].) (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))].) (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].)
		No	Go to the next step.

Step	Inspection		Action
2	INSPECT START STOP UNIT CONNECTOR CONDITION • Disconnect the start stop unit 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 4.
3	INSPECT ACC RELAY CIRCUIT FOR SHORT TO POWER SUPPLY • Always reconnect all disconnected connectors. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Measure the voltage at the start stop unit terminal 2C (wiring harness-side). • Is the voltage 2.5 V or more?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between ACC relay terminal E and start stop unit terminal 2C. **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 the next step.
		No	Go to the next step.
4	VERIFY THAT REPAIRS HAVE BEEN COMPLETED • Always reconnect all disconnected connectors. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Clear the DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].) • Switch the ignition off and wait for 1 s or more. • Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].) • Is the same DTC displayed?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the start stop unit. (See START STOP UNIT REMOVAL/INSTALLATION.) Go to the next step.
		No	Go to the next step.
5	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.

Step	Inspection		Action
3	INSPECT START STOP UNIT CONNECTOR CONDITION • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the start stop unit 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.
4	INSPECT ACC RELAY CIRCUIT FOR SHORT TO GROUND • Verify that the ACC relay is removed. • Verify that the start stop unit connector is disconnected. • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — ACC relay terminal D — Start stop unit terminal 1E • Is there continuity?	Yes	Inspect the MIRROR 7.5 A fuse. • If the fuse is blown: — Refer to the wiring diagram and verify whether or not there is a common connector between MIRROR 7.5 A fuse and start stop unit terminal 1E. **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. • Replace the fuse. • If the fuse is damaged: — Replace the fuse. • If the fuse is normal: — Refer to the wiring diagram and verify whether or not there is a common connector between ACC relay terminal D and MIRROR 7.5 A fuse. **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 6.
		No	Go to the next step.

Step	Inspection		Action
2	**VERIFY IF MALFUNCTIONING LOCATION IS ACCESSORY DEPENDING ON REPEATABILITY** • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Remove the accessory part installed to the accessory socket. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Clear the DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].) • Switch the ignition off and wait for 5 s or more. • Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].) • Is the same DTC displayed?	Yes	Go to the next step.
		No	System is normal. (Explain to the customer that the malfunction occurred due to an accessory installed to the vehicle.) Go to Step 7.
3	**INSPECT ACC RELAY** • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Remove the ACC relay. (See RELAY LOCATION.) • Inspect the ACC relay. (See RELAY INSPECTION.) • Is the ACC relay normal?	Yes	Go to the next step.
		No	Replace the ACC relay, then go to Step 6. (See RELAY LOCATION.)
4	**INSPECT START STOP UNIT CONNECTOR CONDITION** • Disconnect the start stop unit 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.
5	**INSPECT ACC RELAY CIRCUIT FOR SHORT TO POWER SUPPLY** • Always reconnect all disconnected connectors. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Measure the voltage at the start stop unit terminal 1E (wiring harness-side). • Is the voltage 2.5 V or more?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between ACC relay terminal D and start stop unit terminal 1E. **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 the next step.
		No	Go to the next step.

Step	Inspection		Action
1	**INSPECT KEYLESS ANTENNA (EXTERIOR, REAR) CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the keyless antenna (exterior, rear) 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 7.
2	**INSPECT LF CONTROL UNIT CONNECTOR CONDITION** • Disconnect the LF control unit 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 7.
3	**INSPECT KEYLESS ANTENNA (EXTERIOR, REAR) CIRCUIT FOR SHORT TO GROUND** • Verify that the LF control unit and keyless antenna (exterior, rear) connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — Keyless antenna (exterior, rear) terminal B — Keyless antenna (exterior, rear) terminal A • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • LF control unit terminal W—Keyless antenna (exterior, rear) terminal B • LF control unit terminal X—Keyless antenna (exterior, rear) terminal A **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 7.
		No	Go to the next step.
4	**INSPECT KEYLESS ANTENNA (EXTERIOR, REAR) CIRCUIT FOR OPEN CIRCUIT** • Verify that the LF control unit and keyless antenna (exterior, rear) connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — LF control unit terminal W—Keyless antenna (exterior, rear) terminal B — LF control unit terminal X—Keyless antenna (exterior, rear) terminal A • Is there continuity?	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: • LF control unit terminal W—Keyless antenna (exterior, rear) terminal B • LF control unit terminal X—Keyless antenna (exterior, rear) terminal A **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 an open circuit. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has an open circuit. Go to Step 7.
5	**INSPECT LF CONTROL UNIT** • Inspect the LF control unit. (See LF CONTROL UNIT INSPECTION.) • Is the LF control unit normal?	Yes	Go to the next step.
		No	Replace the LF control unit, then go to Step 7. (See LF CONTROL UNIT REMOVAL/INSTALLATION.)