

Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

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

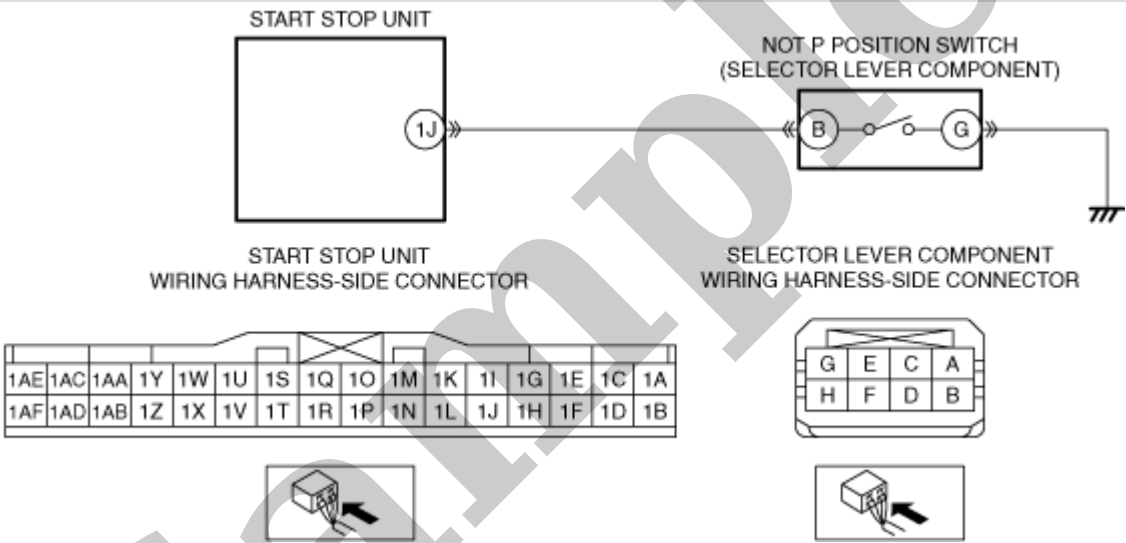
[Go to manual page](#)

DTC P081C:24 [START STOP UNIT]

SM2899058

id0902p602280

Description	NOT P position switch circuit malfunction
Detection condition	• Start stop unit detects that the NOT P position switch is stuck off for 5 s or more for a continuous 5 times with the ignition switched ON (engine off or on).
Fail-safe	• Perform the NOT P position switch control in a position other than P.
Possible cause	• Selector lever component connector or terminal malfunction • Open circuit in wiring harness between selector lever component terminal G and body ground • NOT P position switch malfunction • Start stop unit connector or terminal malfunction • Open circuit in wiring harness between start stop unit terminal 1J and selector lever component terminal B • Start stop unit malfunction



Diagnostic Procedure

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

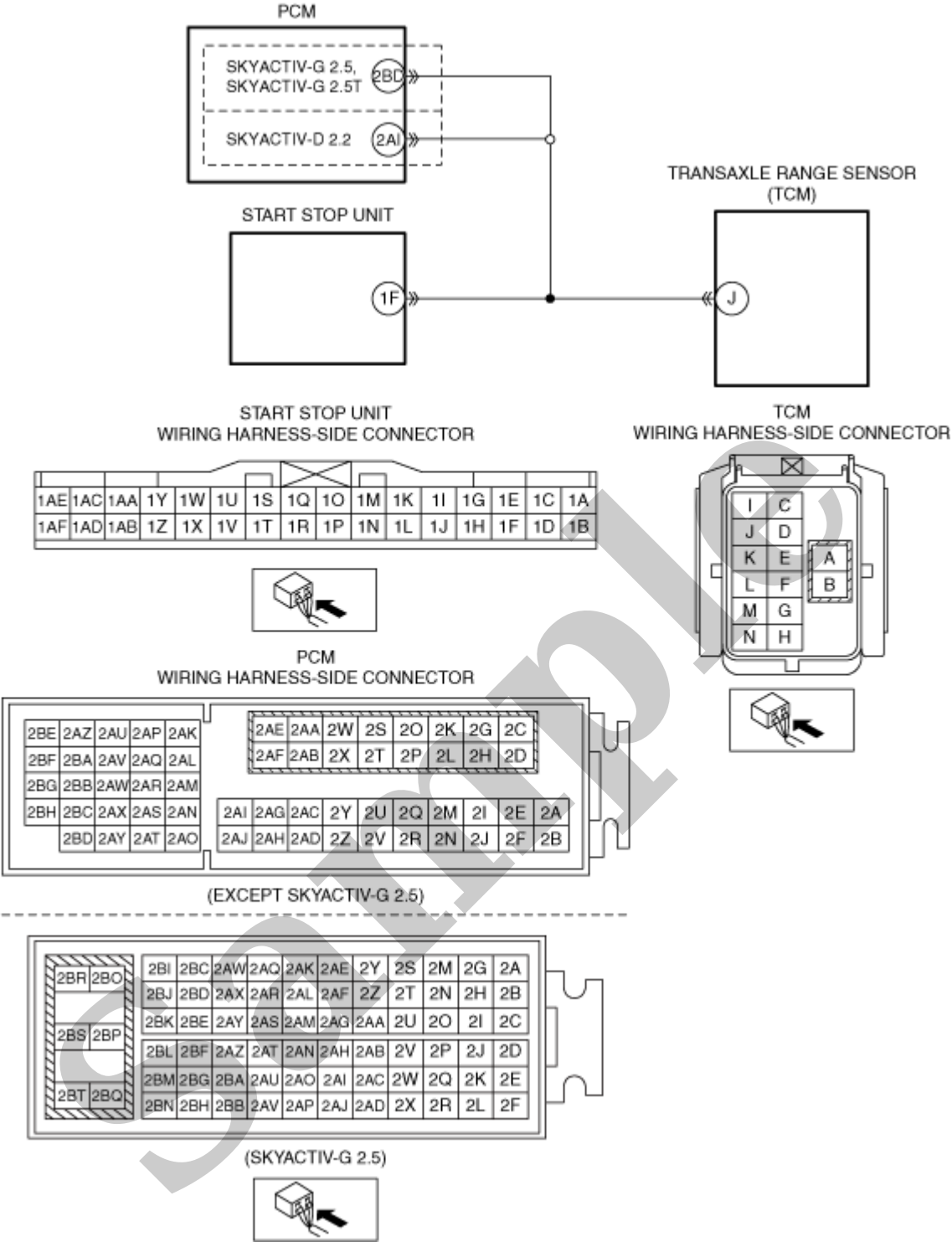
DTC P0850:23 [START STOP UNIT]

SM2899059

id0902p602320

Description	Transaxle range sensor circuit malfunction
Detection condition	• The start stop unit detected the following condition 5 times continuously with the ignition switched ON (engine off or on). — A transaxle range sensor signal is in the P or N position for a continuous 1 s or more even though the TCM CAN signal is in a position other than the P and N positions.
Fail-safe	• Perform control of the internal signal for control of the transaxle range sensor as position other than P, N positions.
Possible cause	• DTCs are stored in the TCM. • TCM connector or terminal malfunction • PCM connector or terminal malfunction • Start stop unit connector or terminal malfunction • Short to ground in wiring harness between the following terminals: — PCM terminal 2BD—TCM terminal J (SKYACTIV-G 2.5 or SKYACTIV-G 2.5T) — PCM terminal 2AI—TCM terminal J (SKYACTIV-D 2.2) — Start stop unit terminal 1F—TCM terminal J • Open circuit in wiring harness between the following terminals: — PCM terminal 2BD—TCM terminal J (SKYACTIV-G 2.5 or SKYACTIV-G 2.5T) — PCM terminal 2AI—TCM terminal J (SKYACTIV-D 2.2) — Start stop unit terminal 1F—TCM terminal J • Transaxle range sensor malfunction • PCM malfunction • Start stop unit malfunction

Step	Inspection	Action
6	INSPECT TRANSAXLE RANGE SENSOR CIRCUIT FOR OPEN CIRCUIT • Verify that the TCM, PCM and start stop unit connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — PCM terminal 2BD—TCM terminal J (SKYACTIV-G 2.5 or SKYACTIV-G 2.5T) — PCM terminal 2AI—TCM terminal J (SKYACTIV-D 2.2) — Start stop unit terminal 1F—TCM terminal J • Is there continuity?	Yes
		Go to the next step. Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • PCM terminal 2BD—TCM terminal J (SKYACTIV-G 2.5 or SKYACTIV-G 2.5T) • PCM terminal 2AI—TCM terminal J (SKYACTIV-D 2.2) • Start stop unit terminal 1F—TCM terminal J 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 9.
7	VERIFY IF MALFUNCTIONING LOCATION IS TRANSAXLE RANGE SENSOR DEPENDING ON REPEATABILITY • 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). • Perform the following work 5 times or more. — Operate the selector lever to other than P and N position and wait for 1 s or more. — Operate the selector lever to P or N position and wait for 1 s or more. — Operate the selector lever to other than P and N position. • Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].) • Is the same DTC displayed?	Yes
		Replace the TCM, then go to the next step. (See CONTROL VALVE BODY REMOVAL/INSTALLATION [GW6A-EL, GW6AX-EL] .) Go to Step 10.



Diagnostic Procedure

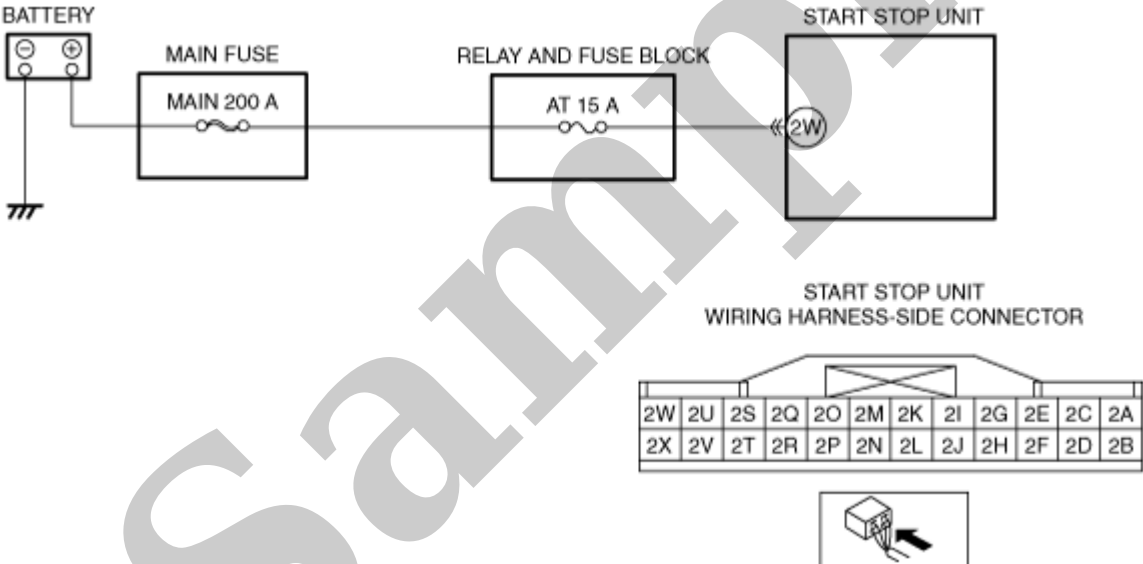
Step	Inspection	Action
1	VERIFY TCM DTCs - Retrieve the TCM DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) - Are any DTCs displayed?	Yes
	No	Go to the next step.
		Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL, GW6AX-EL)] .)

Step	Inspection	Action
8	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). • Perform the following work 5 times or more. — Operate the selector lever to P or N position and wait for 1 s or more. — Operate the selector lever to other than P and N position and wait for 1 s or more. — Operate the selector lever to P or N position.	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.
	• Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].) • Is the same DTC displayed?	No Go to the next step.
9	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 P1794:16 [START STOP UNIT]

SM2899062

id0902p602370

Description	Start stop unit power supply voltage (terminal 2W) low input
Detection condition	• Start stop unit power supply circuit voltage (terminal 2W) of less than 6.5 V is detected for 5 s or more.
Fail-safe	Not applicable
Possible cause	• DTCs are stored in the PCM. • Battery malfunction • Generator malfunction • Start stop unit connector or terminal malfunction • Start stop unit power supply circuit (terminal 2W) malfunction — Short to ground in wiring harness between MAIN 200 A fuse and start stop unit terminal 2W — AT 15 A fuse malfunction — Open circuit in wiring harness between battery positive terminal and start stop unit terminal 2W • 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
		No
		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))] .)
		Go to the next step.

Step	Inspection	Action
		Inspect the AT 15 A fuse. • If the fuse is blown: — Refer to the wiring diagram and verify whether or not there is a common connector between MAIN 200 A fuse and start stop unit terminal 2W. 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 battery positive terminal and start stop unit terminal 2W. 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:

Detection condition

- U0001:88
 - Start stop unit detects the CAN bus communication line (HS-CAN) malfunction 10 times continuously with the ignition switched ON (engine off or on).
- U0100:00
 - Start stop unit could not receive the CAN signal from the PCM for 1 s or more with the ignition switched ON (engine off or on).
- U0101:00
 - Start stop unit could not receive the CAN signal from the TCM for 1 s or more with the ignition switched ON (engine off or on).
- U0121:00
 - Start stop unit could not receive the CAN signal from the DSC HU/CM for 1 s or more with the ignition switched ON (engine off or on).
- U0121:87
 - Start stop unit could not receive the CAN signal from the DSC HU/CM for 10 s or more with the ignition switched off.
- U0131:00
 - Start stop unit could not receive the CAN signal from the electric power steering (EPS) control module for 1.2 s or more with the ignition switched ON (engine off or on).
- U0140:00
 - Start stop unit could not receive the CAN signal from the front body control module (FBCM) for 5 s or more with the ignition switched ON (engine off or on).
- U0146:00
 - Start stop unit could not receive the CAN signal from the instrument cluster for 5 s or more with the ignition switched ON (engine off or on).
- U0151:00
 - Start stop unit could not receive the CAN signal from the SAS control module for 1 s or more with the ignition switched ON (engine off or on).
- U0155:00
 - Start stop unit could not receive the CAN signal from the instrument cluster for 5 s or more with the ignition switched ON (engine off or on).

Step	Inspection	Action
1	INSPECT REAR BODY CONTROL MODULE (RBCM) CONNECTOR CONDITION • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the rear body control module (RBCM) 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.
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 6.
3	INSPECT WIRING HARNESS BETWEEN REAR BODY CONTROL MODULE (RBCM) AND START STOP UNIT FOR SHORT TO GROUND • Verify that the rear body control module (RBCM) and start stop unit connectors are disconnected. • Inspect for continuity between rear body control module (RBCM) terminal 3B (wiring harness-side) and body ground. • Is there continuity?	Yes Refer to the wiring diagram and verify whether or not there is a common connector between start stop unit terminal 1Q and rear body control module (RBCM) terminal 3B. 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.
4	INSPECT WIRING HARNESS BETWEEN REAR BODY CONTROL MODULE (RBCM) AND START STOP UNIT FOR OPEN CIRCUIT • Verify that the rear body control module (RBCM) and start stop unit connectors are disconnected. • Inspect for continuity between start stop unit terminal 1Q (wiring harness-side) and rear body control module (RBCM) terminal 3B (wiring harness-side). • 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 start stop unit terminal 1Q and rear body control module (RBCM) terminal 3B. 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 6.