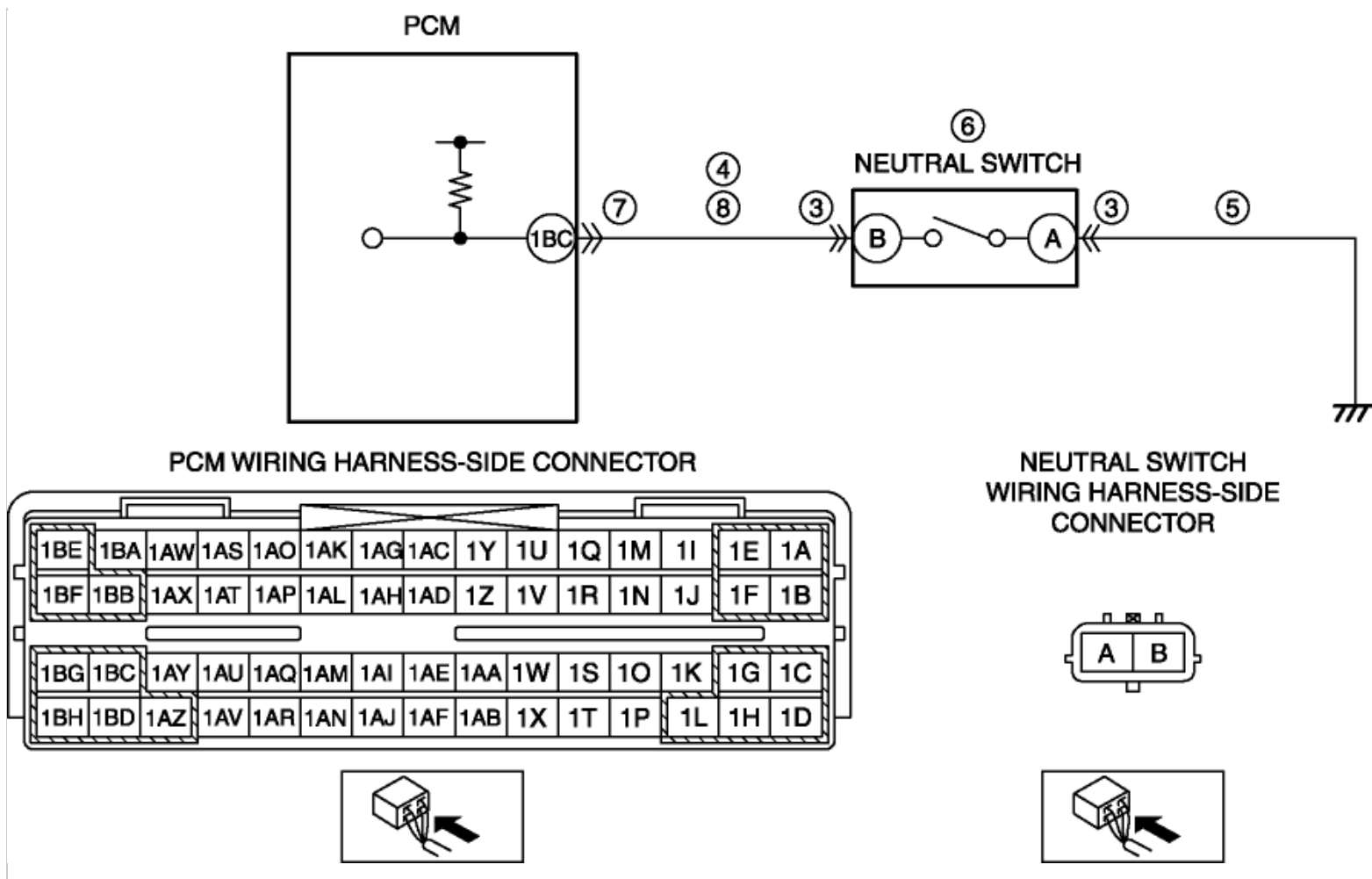


2012 - Mazda6 - Engine

DTC P0850:00 [MZR 2.5]

DTC P0850:00	Neutral switch input circuit problem
DETECTION CONDITION	- The PCM monitors changes in input voltage from the neutral switch. If the PCM does not detect the voltage changes while driving the vehicle at a vehicle speed above 30 km/ h { 19 mph } and the clutch pedal turns press and depress 10 times repeatedly, the PCM determines that the neutral switch circuit has a malfunction. Diagnostic support note - This is a continuous monitor (CCM). - The MIL illuminates if the PCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the PCM. - PENDING CODE is available if the PCM detects the above malfunction condition during the first drive cycle. - FREEZE FRAME DATA (Mode 2)/Snapshot data is available. - The DTC is stored in the PCM memory.
POSSIBLE CAUSE	- Neutral switch connector or terminal malfunction - Open circuit in wiring harness between neutral switch terminal A and body ground - Neutral switch malfunction - PCM connector or terminal malfunction - Short to ground in wiring harness between neutral switch terminal B and PCM terminal 1BC - Open circuit in wiring harness between neutral switch terminal B and PCM terminal 1BC - PCM malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED Has the FREEZE FRAME DATA (Mode 2)/snapshot data been recorded?	YesGo to the next step.
		NoRecord the FREEZE FRAME DATA (Mode 2)/snapshot data on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY - Verify related Service Bulletins and/or on-line repair information availability. - Is any related repair information available?	YesPerform repair or diagnosis according to the available repair information. If the vehicle is not repaired, go to the next step.
		NoGo to the next step.
3	INSPECT NEUTRAL SWITCH CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the neutral switch connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?	YesRepair or replace the terminal and/or connector, then go to Step 9.
		NoGo to the next step.
	CLASSIFY MALFUNCTION IS SIGNAL CIRCUIT SIDE OR	

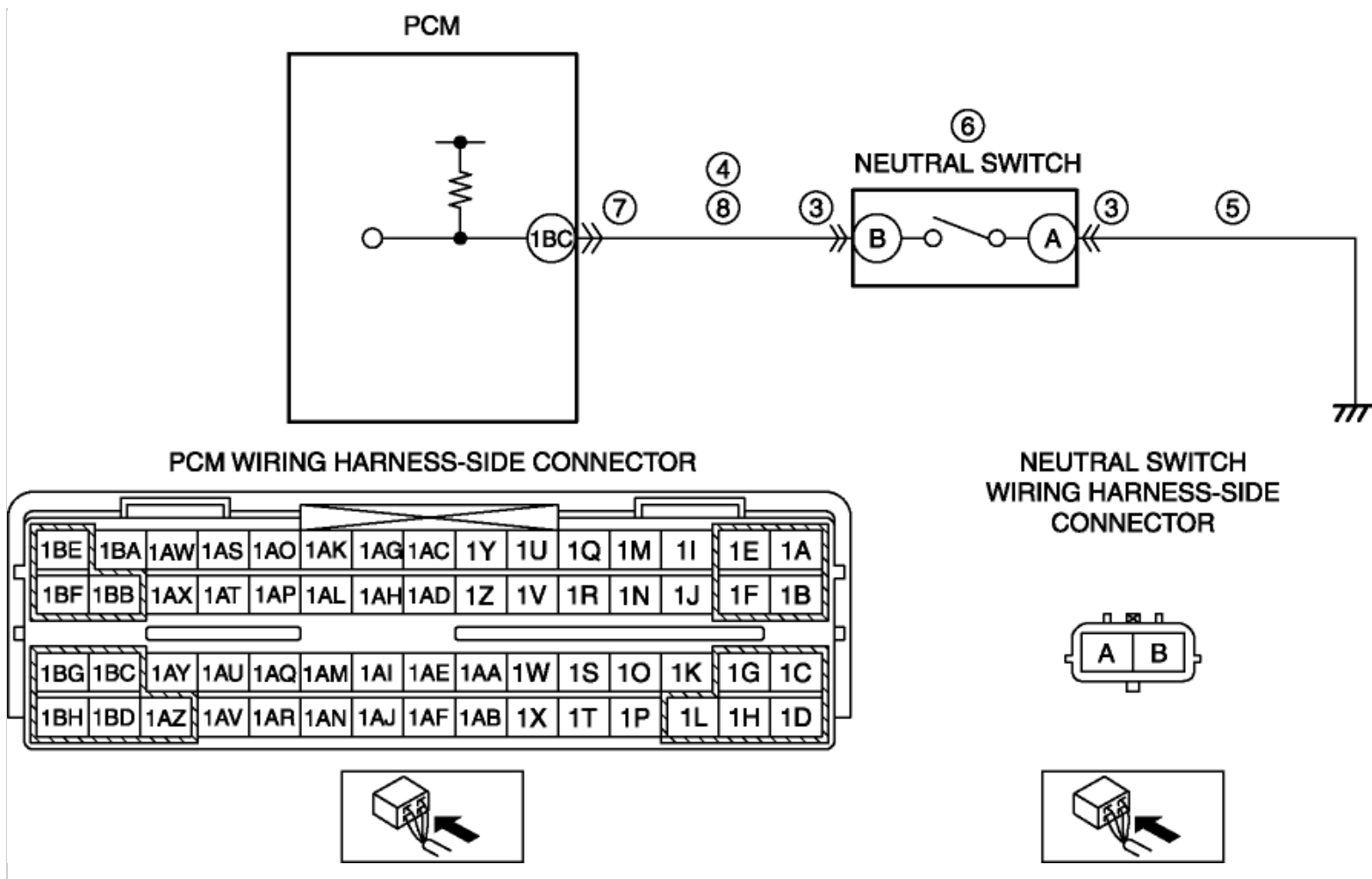
4	GROUND CIRCUIT SIDE • Neutral switch connector is disconnected. • Switch the ignition to ON (engine off). • Measure the voltage between neutral switch terminal B (wiring harness-side) and body ground. • Is there any voltage?	Yes Malfunction is ground circuit side: • Go to the next step. No Malfunction is signal circuit side: • Go to Step 7.
5	INSPECT NEUTRAL SWITCH GROUND CIRCUIT FOR OPEN CIRCUIT • Neutral switch connector is disconnected. • Switch the ignition to off. • Inspect for continuity between neutral switch terminal A (wiring harness-side) and body ground. • Is there continuity?	Yes Go to the next step. No Repair or replace the wiring harness for a possible open circuit, then go to Step 9.
6	INSPECT NEUTRAL SWITCH • Inspect the neutral switch. (See NEUTRAL SWITCH INSPECTION [MZR 2.5].) • Is there any malfunction?	Yes Replace the neutral switch, then go to Step 9. (See NEUTRAL SWITCH REMOVAL/ INSTALLATION [G66M-R].) No Go to Step 9.
7	INSPECT PCM CONNECTOR CONDITION • Switch the ignition to off. • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes Repair or replace the terminal and/or connector, then go to Step 9. No Go to the next step.
8	CLASSIFY MALFUNCTION IS SIGNAL CIRCUIT OR PCM • Neutral switch and PCM connectors are disconnected. • Reconnect the PCM connector. • Switch the ignition to ON (engine off). • Measure the voltage between PCM terminal 1BC (wiring harness-side) and body ground. • Is the voltage normal? (See PCM INSPECTION [MZR 2.5].)	Yes Repair or replace the malfunctioning wiring harness, then go to the next step. No Go to the next step.
9	VERIFY DTC TROUBLESHOOTING COMPLETED • Make sure to reconnect all disconnected connectors. • Start the engine. • Clear the DTC from the PCM memory using the M-MDS.	Yes Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZR 2.5].) Go to the next step.

	(See AFTER REPAIR PROCEDURE [MZR 2.5].) • Drive the vehicle above 30 km/ h { 19 mph} and stop vehicle. • Depress and release the clutch pedal more than 10 times during drive cycle. • Perform the Pending Trouble Code Access Procedure. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) • Is the PENDING CODE for this DTC present?		No Go to the next step.
10	VERIFY AFTER REPAIR PROCEDURE • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZR 2.5].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5] .)
		No	DTC troubleshooting completed.

2012 - Mazda6 - Engine

DTC P0850:00 [MZR 2.5]

DTC P0850:00	Neutral switch input circuit problem
DETECTION CONDITION	- The PCM monitors changes in input voltage from the neutral switch. If the PCM does not detect the voltage changes while driving the vehicle at a vehicle speed above 30 km/ h { 19 mph } and the clutch pedal turns press and depress 10 times repeatedly, the PCM determines that the neutral switch circuit has a malfunction. Diagnostic support note - This is a continuous monitor (CCM). - The MIL illuminates if the PCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the PCM. - PENDING CODE is available if the PCM detects the above malfunction condition during the first drive cycle. - FREEZE FRAME DATA (Mode 2)/Snapshot data is available. - The DTC is stored in the PCM memory.
POSSIBLE CAUSE	- Neutral switch connector or terminal malfunction - Open circuit in wiring harness between neutral switch terminal A and body ground - Neutral switch malfunction - PCM connector or terminal malfunction - Short to ground in wiring harness between neutral switch terminal B and PCM terminal 1BC - Open circuit in wiring harness between neutral switch terminal B and PCM terminal 1BC - PCM malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED Has the FREEZE FRAME DATA (Mode 2)/snapshot data been recorded?	Yes Go to the next step.
		No Record the FREEZE FRAME DATA (Mode 2)/snapshot data on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY - Verify related Service Bulletins and/or on-line repair information availability. - Is any related repair information available?	Yes Perform repair or diagnosis according to the available repair information. If the vehicle is not repaired, go to the next step.
		No Go to the next step.
3	INSPECT NEUTRAL SWITCH CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the neutral switch connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?	Yes Repair or replace the terminal and/or connector, then go to Step 9.
		No Go to the next step.
	CLASSIFY MALFUNCTION IS SIGNAL CIRCUIT SIDE OR	

4	GROUND CIRCUIT SIDE • Neutral switch connector is disconnected. • Switch the ignition to ON (engine off). • Measure the voltage between neutral switch terminal B (wiring harness-side) and body ground. • Is there any voltage?	Yes Malfunction is ground circuit side: • Go to the next step. No Malfunction is signal circuit side: • Go to Step 7.
5	INSPECT NEUTRAL SWITCH GROUND CIRCUIT FOR OPEN CIRCUIT • Neutral switch connector is disconnected. • Switch the ignition to off. • Inspect for continuity between neutral switch terminal A (wiring harness-side) and body ground. • Is there continuity?	Yes Go to the next step. No Repair or replace the wiring harness for a possible open circuit, then go to Step 9.
6	INSPECT NEUTRAL SWITCH • Inspect the neutral switch. (See NEUTRAL SWITCH INSPECTION [MZR 2.5].) • Is there any malfunction?	Yes Replace the neutral switch, then go to Step 9. (See NEUTRAL SWITCH REMOVAL/ INSTALLATION [G66M-R].) No Go to Step 9.
7	INSPECT PCM CONNECTOR CONDITION • Switch the ignition to off. • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes Repair or replace the terminal and/or connector, then go to Step 9. No Go to the next step.
8	CLASSIFY MALFUNCTION IS SIGNAL CIRCUIT OR PCM • Neutral switch and PCM connectors are disconnected. • Reconnect the PCM connector. • Switch the ignition to ON (engine off). • Measure the voltage between PCM terminal 1BC (wiring harness-side) and body ground. • Is the voltage normal? (See PCM INSPECTION [MZR 2.5].)	Yes Repair or replace the malfunctioning wiring harness, then go to the next step. No Go to the next step.
9	VERIFY DTC TROUBLESHOOTING COMPLETED • Make sure to reconnect all disconnected connectors. • Start the engine. • Clear the DTC from the PCM memory using the M-MDS.	Yes Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZR 2.5].) Go to the next step.

	(See AFTER REPAIR PROCEDURE [MZR 2.5].) • Drive the vehicle above 30 km/ h { 19 mph} and stop vehicle. • Depress and release the clutch pedal more than 10 times during drive cycle. • Perform the Pending Trouble Code Access Procedure. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) • Is the PENDING CODE for this DTC present?		No Go to the next step.
10	VERIFY AFTER REPAIR PROCEDURE • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZR 2.5].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5] .)
		No	DTC troubleshooting completed.