2012 - Mazda6 - Transmission/ Transaxle

DTC P0744:00 [FS5A-EL]

DTC P0744:00	TCC slip control malfunction
DETECTION CONDITION	• The TCM detects that revolution ratio of the input revolution to intermediate revolution is 1.09 or more, or 0.91 or less when the following conditions are met. ▪ 3GR ▪ TCC slip control: On • The TCM detects that revolution ratio of the input revolution to intermediate revolution is 0.817 or more, or 0.636 or less when the following conditions are met. ▪ 4GR or 5GR ▪ TCC slip control: On **Diagnostic support note** • The MIL does not illuminate. • The AT warning light illuminates. • PENDING CODE is not available. • FREEZE FRAME DATA is not available. • The DTC is stored in the TCM memory.
POSSIBLE CAUSE	• Deteriorated ATF • ATF level low • Solenoid valve malfunction ▪ Pressure control solenoid A ▪ Shift solenoid B ▪ Shift solenoid C ▪ Shift solenoid D ▪ Shift solenoid E

	Line pressure low • Oil pump malfunction • Forward clutch slipping • 2-4 brake band slipping • 3-4 clutch slipping • Primary control valve body malfunction • TCM malfunction

Diagnostic procedure

STEP	INSPECTION		ACTION
1	**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.
2	**VERIFY THAT NO OTHER DTCs ARE PRESENT** • Switch the ignition to off, and then switch the ignition to ON. • Verify the DTCs recorded in the TCM (See **ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [FS5A-EL]**.) • Are any DTCs other than P0744:00 recorded?	Yes	Go to the applicable DTC inspection (See **ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [FS5A-EL]**.)
		No	Go to the next step.
3	**INSPECT ATF CONDITION** • Inspect the ATF condition. (See **AUTOMATIC TRANSAXLE FLUID (ATF) INSPECTION [FS5A-EL]**.) • Is it normal?	Yes	Go to the next step.
		No	Replace the ATF, then go to Step 9. (See **AUTOMATIC TRANSAXLE FLUID (ATF) REPLACEMENT [FS5A-EL]**)
4	**INSPECT ATF LEVEL** • Inspect the ATF level. (See **AUTOMATIC TRANSAXLE FLUID (ATF) INSPECTION [FS5A-EL]**.) • Is it normal?	Yes	Go to the next step.
		No	Add ATF to the specified level, then go to Step 9 (See **AUTOMATIC TRANSAXLE FLUID (ATF) INSPECTION [FS5A-EL]**)

5	**INSPECT SOLENOID VALVE** • Inspect the following solenoid valves: (See **SOLENOID VALVE INSPECTION [FS5A-EL]**.) ▪ Pressure control solenoid A ▪ Shift solenoid B ▪ Shift solenoid C ▪ Shift solenoid D ▪ Shift solenoid E • Is there any malfunction?	Yes	Replace the solenoid valve, then go to Step 9. (See **SOLENOID VALVE REMOVAL/ INSTALLATION [FS5A-EL]**.)
		No	Go to the next step.
6	**INSPECT LINE PRESSURE** • Perform the "Line Pressures Test". (See **MECHANICAL SYSTEM TEST [FS5A-EL]**.) • Is there any malfunction?	Yes	Repair or replace malfunctioning part according to test result, then go to Step 9.
		No	Go to the next step.
7	**INSPECT STALL SPEED** • Perform the "Stall Test". (See **MECHANICAL SYSTEM TEST [FS5A-EL]**.) • Is there any malfunction?	Yes	Repair or replace malfunctioning part according to test result, then go to Step 9.
		No	Go to the next step.
8	**INSPECT PRIMARY CONTROL VALVE BODY** • Remove the primary control valve body. (See **CONTROL VALVE BODY REMOVAL/ INSTALLATION [FS5A-EL]**.) • Disassemble the primary control valve body. • Inspect the following parts: ▪ Shift valve ▪ Return spring ▪ Hydraulic passage • Is there any malfunction?	Yes	Repair or replace malfunctioning part according to inspection result, then go to next step.
		No	Replace the transaxle, then go to the next step. (See **AUTOMATIC TRANSAXLE REMOVAL/ INSTALLATION [FS5A-EL]**.)
9	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Make sure to reconnect all the disconnected connectors. • Clear the DTC using the M-MDS. • Perform the following procedure to ensure that the DTC has been resolved:	Yes	Replace the TCM, then go to the next step. (See **TCM REMOVAL/ INSTALLATION [FS5A-EL]**.)
		No	Go to the next step.

	◦ Start the engine. ◦ Warm up the engine to normal operating temperature. ◦ Drive the vehicle under the following conditions for 1 s or more. ▪ 3GR ▪ Accelerator pedal position: 12% or less ▪ Vehicle speed: 30 km/h {19 mph} or more ◦ Drive the vehicle under the following conditions for 1 s or more. ▪ 4GR ▪ Accelerator pedal position: 12% or less ▪ Vehicle speed: 41 km/h {25 mph} or more • Is the same DTC present?		
10	**VERIFY NO DTCs ARE PRESENT** • Perform the "Reading DTCs Procedure". (See **ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [FS5A-EL]**.) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See **ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [FS5A-EL]**.)
		No	DTC troubleshooting completed.

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2012 - Mazda6 - Transmission/ Transaxle

DTC P0744:00 [FS5A-EL]

DTC P0744:00	TCC slip control malfunction
DETECTION CONDITION	• The TCM detects that revolution ratio of the input revolution to intermediate revolution is 1.09 or more, or 0.91 or less when the following conditions are met. ▪ 3GR ▪ TCC slip control: On • The TCM detects that revolution ratio of the input revolution to intermediate revolution is 0.817 or more, or 0.636 or less when the following conditions are met. ▪ 4GR or 5GR ▪ TCC slip control: On **Diagnostic support note** • The MIL does not illuminate. • The AT warning light illuminates. • PENDING CODE is not available. • FREEZE FRAME DATA is not available. • The DTC is stored in the TCM memory.
POSSIBLE CAUSE	• Deteriorated ATF • ATF level low • Solenoid valve malfunction ▪ Pressure control solenoid A ▪ Shift solenoid B ▪ Shift solenoid C ▪ Shift solenoid D ▪ Shift solenoid E

	Line pressure low • Oil pump malfunction • Forward clutch slipping • 2-4 brake band slipping • 3-4 clutch slipping • Primary control valve body malfunction • TCM malfunction

Diagnostic procedure

STEP	INSPECTION		ACTION
1	**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.
2	**VERIFY THAT NO OTHER DTCs ARE PRESENT** • Switch the ignition to off, and then switch the ignition to ON. • Verify the DTCs recorded in the TCM (See **ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [FS5A-EL]**.) • Are any DTCs other than P0744:00 recorded?	Yes	Go to the applicable DTC inspection (See **ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [FS5A-EL]**.)
		No	Go to the next step.
3	**INSPECT ATF CONDITION** • Inspect the ATF condition. (See **AUTOMATIC TRANSAXLE FLUID (ATF) INSPECTION [FS5A-EL]**.) • Is it normal?	Yes	Go to the next step.
		No	Replace the ATF, then go to Step 9. (See **AUTOMATIC TRANSAXLE FLUID (ATF) REPLACEMENT [FS5A-EL]**)
4	**INSPECT ATF LEVEL** • Inspect the ATF level. (See **AUTOMATIC TRANSAXLE FLUID (ATF) INSPECTION [FS5A-EL]**.) • Is it normal?	Yes	Go to the next step.
		No	Add ATF to the specified level, then go to Step 9 (See **AUTOMATIC TRANSAXLE FLUID (ATF) INSPECTION [FS5A-EL]**)

5	**INSPECT SOLENOID VALVE** • Inspect the following solenoid valves: (See **SOLENOID VALVE INSPECTION [FS5A-EL]**.) ▪ Pressure control solenoid A ▪ Shift solenoid B ▪ Shift solenoid C ▪ Shift solenoid D ▪ Shift solenoid E • Is there any malfunction?	Yes	Replace the solenoid valve, then go to Step 9. (See **SOLENOID VALVE REMOVAL/ INSTALLATION [FS5A-EL]**.)
		No	Go to the next step.
6	**INSPECT LINE PRESSURE** • Perform the "Line Pressures Test". (See **MECHANICAL SYSTEM TEST [FS5A-EL]**.) • Is there any malfunction?	Yes	Repair or replace malfunctioning part according to test result, then go to Step 9.
		No	Go to the next step.
7	**INSPECT STALL SPEED** • Perform the "Stall Test". (See **MECHANICAL SYSTEM TEST [FS5A-EL]**.) • Is there any malfunction?	Yes	Repair or replace malfunctioning part according to test result, then go to Step 9.
		No	Go to the next step.
8	**INSPECT PRIMARY CONTROL VALVE BODY** • Remove the primary control valve body. (See **CONTROL VALVE BODY REMOVAL/ INSTALLATION [FS5A-EL]**.) • Disassemble the primary control valve body. • Inspect the following parts: ▪ Shift valve ▪ Return spring ▪ Hydraulic passage • Is there any malfunction?	Yes	Repair or replace malfunctioning part according to inspection result, then go to next step.
		No	Replace the transaxle, then go to the next step. (See **AUTOMATIC TRANSAXLE REMOVAL/ INSTALLATION [FS5A-EL]**.)
9	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Make sure to reconnect all the disconnected connectors. • Clear the DTC using the M-MDS. • Perform the following procedure to ensure that the DTC has been resolved:	Yes	Replace the TCM, then go to the next step. (See **TCM REMOVAL/ INSTALLATION [FS5A-EL]**.)
		No	Go to the next step.

	◦ Start the engine. ◦ Warm up the engine to normal operating temperature. ◦ Drive the vehicle under the following conditions for 1 s or more. ▪ 3GR ▪ Accelerator pedal position: 12% or less ▪ Vehicle speed: 30 km/h {19 mph} or more ◦ Drive the vehicle under the following conditions for 1 s or more. ▪ 4GR ▪ Accelerator pedal position: 12% or less ▪ Vehicle speed: 41 km/h {25 mph} or more • Is the same DTC present?		
10	**VERIFY NO DTCs ARE PRESENT** • Perform the "Reading DTCs Procedure". (See **ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [FS5A-EL]**.) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See **ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [FS5A-EL]**.)
		No	DTC troubleshooting completed.

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