

2012 - Mazda6 - Transmission/ Transaxle

NO.8 DOES NOT SHIFT TO 5GR [FS5A-EL]

8	Does not shift to 5GR
DESCRIPTION	• Vehicle does not upshift from 4GR to 5GR even though vehicle speed is increased. • Vehicle does not shift to 5GR even though accelerator pedal is released in D position at 60 km/ h { 37 mph} .
POSSIBLE CAUSE	• Basically, TCC does not operate when the fail-safe is operating. Verify the DTCs first. If the TCC operates when driving at high speeds only, the malfunction (improper adjustment) is in the TR switch circuit. CAUTION: • If the TCC is stuck, inspect it. In addition, inspect the oil cooler for foreign particles which may have mixed in with the ATF. 1. Clutch or brake slippage, burned • Line pressure low • APP sensor malfunction • ECT sensor malfunction • VSS malfunction • MAF sensor malfunction • CKP sensor malfunction • Input/turbine speed sensor malfunction • Sensor GND malfunction 2. TFT sensor malfunction • Short or open circuit in wiring harness • Poor connection of connector • Sensor malfunction 3. TR switch malfunction • Short or open circuit in wiring harness

	Poor connection of connector • Sensor malfunction • Selector cable adjustment incorrect • TR switch adjustment incorrect 4. Shift solenoid A, shift solenoid B, shift solenoid D, Shift solenoid F valve malfunction • Short or open circuit in wiring harness • Poor connection of connector • Solenoid valve stuck 5. M position switch (built-in selector lever component) malfunction 6. Control valve body malfunction NOTE: • Before following the troubleshooting steps, make sure that the Automatic Transaxle On-Board Diagnostic and Automatic Transaxle Basic Inspection are conducted.
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Diagnostic procedure

STEP	INSPECTION		ACTION
1	INSPECT SELECTOR LEVER POSITION SIGNAL FOR MALFUNCTION • With the ignition at the ON, does the gear position indicator light indication correspond to the selector lever position?	Yes	Go to the next step.
		No	Go to No.27 "GEAR POSITION INDICATOR LIGHT DOES NOT ILLUMINATE IN M POSITION" or No. 28 "GEAR POSITION INDICATOR LIGHT ILLUMINATES IN P, R, N AND D POSITION"
2	INSPECT ATF TEMPERATURE SIGNAL FOR MALFUNCTION • Inspect the value at the following TCM PIDs using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [FS5A-EL].) ▪ TFT ▪ TFTV • Are the PID values normal?	Yes	Go to the next step.
		No	Repair or replace any malfunctioning parts.

3	DETERMINE IF MALFUNCTION CAUSED BY SOLENOID VALVE MECHANICAL MALFUNCTION OR CONTROL SIGNAL ERROR - Inspect the value at the following TCM PIDs using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [FS5A-EL].) - SSA/SS1 - SSB/SS2 - SSD/SS4 - SSF_SS6 - Are the PID values normal?	Yes	Overhaul the control valve body and repair or replace any malfunctioning parts. (See Automatic Transaxle Workshop Manual FS5A-EL.) If any problem remains, overhaul the transaxle and repair or replace any malfunctioning parts. (See Automatic Transaxle Workshop Manual FS5A-EL.)
		No	Go to the next step.
4	VERIFY IF MALFUNCTION CAUSE IS TCM FOR POOR GND OR INPUT SIGNAL - Disconnect the TCM connector. - Is the resistance between the ground terminal at the TCM connector and the body ground less than 5.0 ohms?	Yes	Inspect the value at the following PCM and TCM PIDs using the M-MDS. (See PCM INSPECTION [MZR 2.5].) (See ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [FS5A-EL].) PCM PIDs: - APP - ECT - MAF - RPM TCM PIDs: - TR - TSS - OSS Repair or replace any malfunctioning parts.
		No	Repair open ground circuit. Reconnect the TCM connector.
5	- Verify the test results. - If normal, return to the diagnostic index to service any additional symptoms.		

- If the malfunction remains, inspect the related Service Bulletins and/or On-line Repair Information and perform repair or diagnosis.
 - If the vehicle is repaired, troubleshooting is completed.
 - If the vehicle is not repaired or additional diagnostic information is not available, replace the TCM.

[< Previous](#) [Next >](#)

[Back to Top](#)

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		No	Repair or replace any malfunctioning parts.

3	DETERMINE IF MALFUNCTION CAUSED BY SOLENOID VALVE MECHANICAL MALFUNCTION OR CONTROL SIGNAL ERROR - Inspect the value at the following TCM PIDs using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [FS5A-EL].) - SSA/SS1 - SSB/SS2 - SSD/SS4 - SSF_SS6 - Are the PID values normal?	Yes	Overhaul the control valve body and repair or replace any malfunctioning parts. (See Automatic Transaxle Workshop Manual FS5A-EL.) If any problem remains, overhaul the transaxle and repair or replace any malfunctioning parts. (See Automatic Transaxle Workshop Manual FS5A-EL.)
		No	Go to the next step.
4	VERIFY IF MALFUNCTION CAUSE IS TCM FOR POOR GND OR INPUT SIGNAL - Disconnect the TCM connector. - Is the resistance between the ground terminal at the TCM connector and the body ground less than 5.0 ohms?	Yes	Inspect the value at the following PCM and TCM PIDs using the M-MDS. (See PCM INSPECTION [MZR 2.5].) (See ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [FS5A-EL].) PCM PIDs: - APP - ECT - MAF - RPM TCM PIDs: - TR - TSS - OSS Repair or replace any malfunctioning parts.
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[< Previous](#) [Next >](#)

[Back to Top](#)

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