

2012 - Mazda6 - Transmission/ Transaxle

NO.9 ABNORMAL SHIFTING [FS5A-EL]

9	Abnormal shifting
DESCRIPTION	• Shifts incorrectly (incorrect shift pattern).
POSSIBLE CAUSE	• There is a malfunction in the signal circuit which controls shifting (APP sensor, input/turbine speed sensor, vehicle speed sensor), the control valve is stuck, the accumulator (forward or servo apply) is stuck, or the clutch circuit is stuck. NOTE: • If a tire of a different diameter from the standard tire is installed, the TCM determines that the driving mode is the AAS mode, and may change to a different shift timing from the normal timing. 1. Clutch slippage, burnt • Line pressure low • Control valve body malfunction • Shift solenoid D malfunction • Shift solenoid E malfunction • Shift solenoid F malfunction • Shift solenoid A malfunction • Shift solenoid B malfunction • Shift solenoid C malfunction • Pressure control solenoid B malfunction • Body GND malfunction 2. Signal malfunction • VSS malfunction • Sensor GND malfunction • APP sensor malfunction • Input/turbine speed sensor malfunction

3. TR switch malfunction

- Selector cable adjustment incorrect
- TR switch adjustment incorrect

4. Wheel speed signal malfunction

- Tire of a different diameter from the standard tire is installed
- ABS wheel-speed sensor malfunction

NOTE:

- Before following the troubleshooting steps, make sure that the Automatic Transaxle On-Board Diagnostic and Automatic Transaxle Basic Inspection are conducted.

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY TIRE CONDITION • Inspect the tire size and air pressure. • Is the tire of specified size and air pressure?	Yes Go to the next step.
		No Replace with a specified tire size or adjust the air pressure of each specified tire to the specified value.
2	INSPECT THE WHEEL-SPEED SIGNAL • Display the following DSC CM PIDs using the M-MDS. (See ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].) ▪ WSPD_LF ▪ WSPD_LR ▪ WSPD_RF ▪ WSPD_RR • Are the monitoring values displayed uniformly while driving?	Yes Go to the next step.
		No • Perform the following inspections: ABS wheel-speed sensor installation inspection ▪ Is the ABS wheel-speed sensor installation normal? ABS sensor rotor installation inspection ▪ Is the ABS

			sensor rotor installed twisted? (may cause output of abnormal wave pattern at high speeds.) ▪ Are there missing teeth on the sensor rotor? If there is any malfunction, repair or replace the malfunctioning location.
3	INSPECT TCM FOR POOR GND • Disconnect the TCM connector. • Is the resistance between the ground terminal at the TCM connector and the body ground less than 5.0 ohms?	YesGo to the next step. No Repair open ground circuit. Reconnect the TCM connector.	
4	VERIFY IF MALFUNCTION CAUSE IS INPUT SIGNAL OR TRANSAXLE (INCLUDING CONTROL VALVE BODY) • 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 PID: ▪ APP TCM PIDs: ▪ THOP ▪ TSS ▪ OSS ▪ VSS • Are the PID values normal?	YesOverhaul 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 Repair or replace any malfunctioning parts.	

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.

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		No Replace with a specified tire size or adjust the air pressure of each specified tire to the specified value.
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