

2012 - Mazda6 - Transmission/ Transaxle

NO.18 EXCESSIVE SHIFT SHOCK IS FELT WHEN UPSHIFTING AND DOWNSHIFTING [FS5A-EL]

18	Excessive shift shock is felt when upshifting and downshifting
DESCRIPTION	Excessive shift shock is felt when depressing the accelerator pedal at upshifting. During cruising, excessive shift shock is felt when depressing the accelerator pedal at downshifting.
POSSIBLE CAUSE	- Shift shock may worsen when the fail-safe is operating. The shift shock has worsened if the APP sensor, input/turbine speed sensor, or vehicle speed sensor signal malfunctions. - Clutch slippage, burnt (Forward clutch, 2-4 brake band, 3-4 clutch) - Line pressure low, high - Shift solenoid D malfunction - Shift solenoid E malfunction - Shift solenoid A malfunction - Shift solenoid B malfunction - Shift solenoid C malfunction - Pressure control solenoid B malfunction - Pressure control solenoid A malfunction - Control valve body malfunction - Body GND malfunction - Signal malfunction - TFT sensor malfunction - VSS malfunction - Sensor GND malfunction - APP sensor malfunction - Input/turbine speed sensor malfunction - Poor hydraulic operation (Malfunction in range change) - Oil pressure switch malfunction

	• Forward accumulator malfunction • Servo apply accumulator malfunction 4. Engine mounts installation • Loose attaching bolts • Worn parts 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 ENGINE MOUNT FOR MALFUNCTION • Inspect the engine mounts for loose tightening bolts or worn parts. • Are all engine mounts normal?	Yes	Go to the next step.
		No	Readjust, retighten or replace engine mounts.
2	INSPECT FOR TRANSAXLE SLIPPAGE MALFUNCTION • Perform the stall test. (See MECHANICAL SYSTEM TEST [FS5A-EL].) • Is the stall speed normal?	Yes	Go to the next step.
		No	Repair or replace any malfunctioning parts.
3	INSPECT ACCELERATOR PEDAL POSITION SIGNAL FOR MALFUNCTION • Inspect the value at the following PCM PID using the M-MDS. (See PCM INSPECTION [MZR 2.5].) ▪ APP • Is the PID value normal?	Yes	Go to the next step.
		No	Repair or replace any malfunctioning parts.
4	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?	Yes	Go to the next step.
		No	Repair the open ground circuit. Reconnect the TCM connector.
5	VERIFY IF MALFUNCTION CAUSE IS LINE PRESSURE CONTROL SIGNAL OR TRANSAXLE (INCLUDING CONTROL VALVE BODY)	Yes	Overhaul the control valve body and repair or replace any malfunctioning parts.

	Inspect the value at the following TCM PID using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [FS5A-EL] .) ▪ LPS • Is the LPS PID value normal?	(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.
6	• 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 Readjust, retighten or replace engine mounts.
2	INSPECT FOR TRANSAXLE SLIPPAGE MALFUNCTION • Perform the stall test. (See MECHANICAL SYSTEM TEST [FS5A-EL].) • Is the stall speed normal?	Yes Go to the next step.
		No Repair or replace any malfunctioning parts.
3	INSPECT ACCELERATOR PEDAL POSITION SIGNAL FOR MALFUNCTION • Inspect the value at the following PCM PID using the M-MDS. (See PCM INSPECTION [MZR 2.5].) ▪ APP • Is the PID value normal?	Yes Go to the next step.
		No Repair or replace any malfunctioning parts.
4	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?	Yes Go to the next step.
		No Repair the open ground circuit. Reconnect the TCM connector.
5	VERIFY IF MALFUNCTION CAUSE IS LINE PRESSURE CONTROL SIGNAL OR TRANSAXLE (INCLUDING CONTROL VALVE BODY)	Yes Overhaul the control valve body and repair or replace any malfunctioning parts.

	Inspect the value at the following TCM PID using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [FS5A-EL] .) ▪ LPS • Is the LPS PID value normal?	(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.)
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