

2012 - Mazda6 - Transmission/ Transaxle

NO.8 DOES NOT SHIFT TO 6GR [AY6A-EL]

8	Does not shift to 6GR
DESCRIPTION	• Vehicle does not upshift from 5GR to 6GR even though vehicle speed is increased. • Vehicle does not shift to 6GR even though accelerator pedal is released in D position at 80 km/ h { 50 mph} .
POSSIBLE CAUSE	• The malfunctioning circuit is basically the same as No.9 "ABNORMAL SHIFTING". However, a malfunction of the TFT sensor, M position switch circuit or TR switch circuit. ▪ Clutch or brake slippage, burnt • Line pressure low • Incorrect accelerator opening signal • VSS malfunction • Input/turbine speed sensor malfunction • Sensor ground malfunction • Shift solenoid C malfunction • Shift solenoid D malfunction • Shift solenoid E malfunction • Line pressure control solenoid malfunction • Shift solenoid F malfunction • Control valve body malfunction ▪ TFT sensor malfunction • Short or open circuit in wiring harness • Poor connection of connector • Sensor malfunction ▪ TR switch malfunction

	Selector lever adjustment incorrect ▪ M position switch (built-in selector lever component) malfunction • Selector lever adjustment incorrect • Short or open circuit in wiring harness ▪ Torque converter malfunction ▪ 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. (See BASIC INSPECTION [AY6A-EL].)
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Diagnostic procedure

STEP	INSPECTION	ACTION	
1	INSPECT SELECTOR LEVER POSITION SIGNAL FOR MALFUNCTION • With the ignition at ON. • Does the gear position indicator light indication correspond to selector lever position?	Yes	Go to the next step.
		No	Go to No.27 "GEAR POSITION INDICATOR LIGHT DOES NOT ILLUMINATE IN D OR M POSITION", or No.28 "GEAR POSITION INDICATOR LIGHT ILLUMINATE IN P, R OR N POSITION".
2	VERIFY SHIFT CONTROL OPERATION • Drive the vehicle in D position and inspect following: ▪ 1-2 shift up and down ▪ 2-3 shift up and down ▪ 3-4 shift up and down ▪ 4-5 shift up and down ▪ 5-6 shift up and down • Are all shift-up and shift-down possible?	Yes	Go to the next step.
		No	No shift at all: • Go to No.7 "NO SHIFTING". Abnormal shift: • Go to No.9 "ABNORMAL SHIFTING".
3	INSPECT SHIFT SOLENOIDS FOR MALFUNCTION	Yes	Go to the next step.

	• Stop the engine. • Inspect following solenoid. ▪ Shift solenoid C (See SHIFT SOLENOID C INSPECTION [AY6A-EL].) ▪ Shift solenoid D (See SHIFT SOLENOID D INSPECTION [AY6A-EL].) ▪ Shift solenoid E (See SHIFT SOLENOID E INSPECTION [AY6A-EL].) ▪ Shift solenoid F (See SHIFT SOLENOID F INSPECTION [AY6A-EL].) ▪ Line pressure control solenoid (See LINE PRESSURE CONTROL SOLENOID INSPECTION [AY6A-EL].) • Are they normal?	No Inspect the coupler component. If normal, replace the control valve body. (See CONTROL VALVE BODY REMOVAL/ INSTALLATION [AY6A-EL].)
4	VERIFY IF MALFUNCTION CAUSE IS TORQUE CONVERTER OR TRANSAXLE (INCLUDING CONTROL VALVE BODY) • Perform the stall test. (See MECHANICAL SYSTEM TEST [AY6A-EL].) • Is the stall speed within the specified?	Yes Inspect the ATF condition. If large amount of metal specks are found, replace the transaxle. (See AUTOMATIC TRANSAXLE REMOVAL/ INSTALLATION [AY6A-EL].) If a large amount of metal specks are not found, replace the control valve body.

		(See CONTROL VALVE BODY REMOVAL/ INSTALLATION [AY6A-EL] .)
		No Replace the torque converter. (See TORQUE CONVERTER REMOVAL/ INSTALLATION [AY6A-EL] .)
5	• Verify test results. ▪ If normal, return to the diagnostic index to service any additional symptoms. ▪ If malfunction remains, inspect the related Service Bulletins and/or On-line Repair Information and perform repair or diagnosis. • If the vehicle is repaired, troubleshooting completed. • If the vehicle is not repaired or additional diagnostic information is not available, replace the TCM.	

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		(See CONTROL VALVE BODY REMOVAL/ INSTALLATION [AY6A-EL] .)
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