

2012 - Mazda6 - Engine

NO.11 ENGINE STALLS/ QUIT S, ENGINE RUNS ROUGH, MISSES, BUCK/ JERK, HESITATION/ STUMBLE, SURGES [MZI 3.7 V6]

11	ENGINE STALLS/QUITS—ACCELERATION/CRUISE ENGINE RUNS ROUGH—ACCELERATION/CRUISE MISSES—ACCELERATION/CRUISE BUCK/JERK—ACCELERATION/CRUISE/DECELERATION HESITATION/STUMBLE—ACCELERATION SURGES—ACCELERATION/CRUISE
DESCRIPTION	• Engine stops unexpectedly at the beginning of acceleration or during acceleration. • Engine stops unexpectedly while cruising. • Engine speed fluctuates during acceleration or cruising. • Engine misses during acceleration or cruising. • Vehicle bucks/jerks during acceleration, cruising, or deceleration. • Momentary pause at beginning of acceleration or during acceleration. • Momentary minor irregularity in engine output.
	• Vacuum leakage • Air cleaner restriction • Air leakage from intake-air system parts • Intake air system restriction • Poor fuel quality • Disconnected electrical system connector • Loose attaching bolts or worn engine mounts • PCM DTC is stored. • Engine overheating • Throttle body restriction or clogged • Erratic signal to PCM ▪ APP sensor or related circuit malfunction ▪ TP sensor or related circuit malfunction ▪ CKP sensor or related circuit malfunction ▪ MAF sensor or related circuit malfunction ▪ TP sensor or related circuit malfunction ▪ Battery or related circuit malfunction ▪ VSS or related circuit malfunction • Erratic signal from CKP sensor • Fuel leakage from fuel injector

**POSSIBLE
CAUSE**

- Fuel injector clogging
- Improper operation of drive-by-wire control system
- Restriction in exhaust system
- Inadequate fuel pressure
 - Intermittent open or short circuit in fuel pump circuit
 - Fuel pump mechanical malfunction
 - Fuel line restriction or clogging
 - Pressure regulator malfunction (built-in fuel pump unit)
- Fuel leakage from fuel system
- Improper A/C system operation
- Improper operation of cruise control system
- Improper air/fuel mixture ratio control operation
- A/F sensor or related circuit malfunction
- PCV valve malfunction
- Check valve (two-way) malfunction integrated with fuel tank
- Purge solenoid valve malfunction
- Fuel flow into evaporative purge hose
- Erratic signal or no signal from CMP sensor
- Low engine compression
- Improper valve timing due to jumping out timing chain
- ATX malfunction

WARNING:

- The following troubleshooting flow chart contains the fuel system diagnosis and repair procedures. Read the following warnings before servicing the fuel system:
 - Fuel vapor is hazardous. It can easily ignite, causing serious injury and damage. Always keep sparks and flames away from fuel.
 - Fuel line spills and leakage are dangerous. Fuel can ignite and cause serious injuries or death and damage. Fuel can also irritate skin and eyes. To prevent this, always complete "BEFORE SERVICE PRECAUTION" and "AFTER SERVICE PRECAUTION" described in this manual. (See **BEFORE SERVICE PRECAUTION [MZI 3.7 V6]**.) (See **AFTER SERVICE PRECAUTION [MZI 3.7 V6]**.)

CAUTION:

- Disconnecting/connecting quick release connector without cleaning it may cause damage to fuel pipe and quick release connector. Always clean quick release connector joint area before disconnecting/connecting, and make sure that it is free of foreign material.

Diagnostic procedure

STEP	INSPECTION	RESULTS	ACTION
1	INSPECT RELATED PART CONDITION • Verify the following: ▪ Vacuum connection ▪ Air cleaner element ▪ No air leakage	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part according to the inspection results. Repeat Step 1.

	from intake-air system ▪ No restriction of intake-air system ▪ Proper sealing of intake manifold and components attached to intake manifold ▪ Ignition wiring ▪ Fuel quality (such as proper octane, contamination, winter/summer blend) ▪ Electrical connections ▪ Smooth operation of throttle valve ▪ Engine mount installation • Are all items normal?		
2	VERIFY PCM DTC • Switch the ignition to ON (Engine off). • Retrieve any DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) • Are there any DTCs displayed?	Yes	DTC is displayed: • Go to the appropriate DTC inspection. (See DTC TABLE [MZI 3.7 V6].)
		No	No DTC is displayed: • Go to the next step.
3	VERIFY IF MALFUNCTION CAUSE IS OVERHEATING • Is the engine overheating?	Yes	Go to the symptom troubleshooting "NO.17 COOLING SYSTEM CONCERNS-OVERHEATING". (See NO.17 COOLING SYSTEM CONCERNS-OVERHEATING [MZI 3.7 V6].)
		No	Go to the next step.
4	VISUALLY INSPECT THROTTLE BODY • Visually inspect the throttle valve. (See INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZI 3.7 V6].) • Are any foreign materials adhere to around throttle valve?	Yes	Clean the throttle valve.
		No	Go to the next step.
5	VERIFY CURRENT INPUT SIGNAL STATUS CAUTION: • While performing this step, always operate the vehicle in a safe and lawful manner.	Yes	Go to the next step.
		No	APP1 or APP2 PID is not specified: • Inspect if output signal from APP sensor changes

	- When the M-MDS is used to observe monitor system status while driving, be sure to have another technician with you, or record the data in the M-MDS using the PID/DATA MONITOR AND RECORD capturing function and inspect later. - Access the following PCM PIDs using the M-MDS: (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) - APP1 - APP2 - RPM - VPWR - MAF - TP1 - TP2 - VSS - Monitor each PID while driving the vehicle. - Are all PIDs normal? (See PCM INSPECTION [MZI 3.7 V6].)		smoothly. RPM PID is not specified: - Inspect the CKP sensor and related wiring harness for vibration or intermittent open/short circuit. VPWR PID is not specified: - Inspect for open circuit intermittently. MAF PID is not specified: - Inspect for open circuit of the MAF sensor and related wiring harness intermittently. TP1 or TP2 PID is not specified: - Inspect if output signal from TP sensor changes smoothly. VSS PID is not specified: - Inspect for open circuit of VSS and related wiring harness intermittently. Repair or replace the malfunctioning part according to the inspection results.
6	INSPECT CKP SENSOR - Inspect the CKP sensor. (See CRANKSHAFT POSITION (CKP) SENSOR INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
7	VERIFY SPARK PLUG CONDITION - Verify the spark plug conditions. - Is spark plug wet, covered with carbon or grayish white?	Yes	Spark plug is wet or covered with carbon: - Inspect for fuel leakage from fuel injector. Spark plug is grayish white: - Inspect the fuel injector for clogging. Repair or replace the malfunctioning part according to the inspection results.
		No	Install the spark plugs on original cylinders. Go to the next step.
8	INSPECT DRIVE-BY-WIRE CONTROL SYSTEM OPERATION - Perform the drive-by-wire control system operation inspection. (See ENGINE CONTROL SYSTEM OPERATION INSPECTION [MZI 3.7 V6].) - Does the drive-by-wire control	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part according to the inspection results.

	system function properly?		
9	INSPECT DEFORMED IN EXHAUST SYSTEM - Visually inspect the exhaust system part. - Is there any deformed exhaust system part?	Yes No	Repair or replace the malfunctioning part according to the inspection results. Go to the next step.
10	INSPECT FUEL LINE PRESSURE - Install the fuel pressure gauge between the fuel pipe and fuel distributor. - Measure the fuel line pressure. (See FUEL LINE PRESSURE INSPECTION [MZI 3.7 V6].) - Is the fuel line pressure correct?	Yes No	Go to the next step. Zero or low: - Inspect for the following: - Fuel pump relay - Fuel pump circuit - Fuel line for clogging - If there is no malfunction, replace the fuel pump unit. (Fuel pump or pressure regulator malfunction) (See FUEL PUMP UNIT REMOVAL/ INSTALLATION [MZI 3.7 V6].) High: - Replace the fuel pump unit. (Pressure regulator malfunction) (See FUEL PUMP UNIT REMOVAL/ INSTALLATION [MZI 3.7 V6].)
11	INSPECT FUEL SYSTEM FOR FUEL LEAKAGE - Visually inspect for fuel leakage at fuel injector O-ring and fuel line. - Service if necessary. - Is the fuel line pressure held after ignition is switched to off? (See FUEL LINE PRESSURE INSPECTION [MZI 3.7 V6].)	Yes No	Go to the next step. Inspect the fuel injector. (See FUEL INJECTOR INSPECTION [MZI 3.7 V6] .) If the fuel injector is normal, replace the fuel pump unit. (See FUEL PUMP UNIT REMOVAL/ INSTALLATION [MZI 3.7 V6].)
12	DETERMINE IF MALFUNCTION CAUSE IS A/ C SYSTEM OR OTHER NOTE: - The following test is for engine running at rough idle with A/C on. If other symptoms exist, go to the next step. - Connect the pressure gauge to A/C low and high pressure side lines. - Start the engine and idle it. - Turn the A/C switch on. - Measure low side and high side pressures. (See REFRIGERANT PRESSURE CHECK.)	Yes No	Go to the next step. If the A/C is always on: - Go to the symptom troubleshooting "NO.24 A/C IS ALWAYS ON OR A/C COMPRESSOR RUNS CONTINUOUSLY". (See NO.24 A/ C IS ALWAYS ON OR A/ C COMPRESSOR RUNS CONTINUOUSLY [MZI 3.7 V6].) For other symptoms: - Inspect the following: - Refrigerant charging amount - Condenser fan operation - Repair or replace the malfunctioning part according to the inspection results.

	Are pressures within specifications?		
13	INSPECT CRUISE CONTROL SYSTEM NOTE: - The following test should be performed for symptom with cruise control ON. If other symptoms exist, go to the next step. - Inspect the cruise control system operation. - Is the cruise control system normal?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part according to the inspection results.
14	INSPECT CURRENT A/ F SENSOR SIGNAL - Inspect the A/F sensor. (See AIR FUEL RATIO (A/ F) SENSOR INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes	Inspect the A/F sensor installation and exhaust gas leakage. Repair or replace the malfunctioning part according to the inspection results. If there is no malfunction, replace the A/F sensor. (See AIR FUEL RATIO (A/ F) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6].)
		No	Go to the next step.
15	INSPECT PCV VALVE NOTE: - The PCV valve cannot be reassembled once it is removed because the tabs will have been broken. Inspect the PCV valve without removing it from the vehicle. - Inspect the PCV valve with it installed. (See POSITIVE CRANKCASE VENTILATION (PCV) VALVE INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes	Replace the PCV valve. (See POSITIVE CRANKCASE VENTILATION (PCV) VALVE REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
		No	Go to the next step.
16	DETERMINE IF MALFUNCTION CAUSE IS CHECK VALVE (TWO-WAY) OR OTHER - Inspect the evaporative purge hose between the fuel tank and the purge valve. - Does fuel flow into evaporative purge hose?	Yes	Inspect the check valve (two-way). (See FUEL TANK INSPECTION [MZI 3.7 V6] .) Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
17	DETERMINE IF MALFUNCTION CAUSE IS EVAP CONTROL SYSTEM OR OTHER CAUTION: - While performing this step, always operate the vehicle in a safe and lawful manner. - Disconnect the vacuum hose between purge solenoid valve and intake manifold from purge solenoid side.	Yes	Inspect the following: - Purge solenoid valve is stuck open. - EVAP control system Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.

	• Plug opening end of vacuum hose. • Drive the vehicle. • Does the engine condition improve?		
18	INSPECT CMP SENSOR • Inspect the CMP sensor. (See CAMSHAFT POSITION (CMP) SENSOR INSPECTION [MZI 3.7 V6] .) • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
19	INSPECT IF MALFUNCTION CAUSE IS LOW ENGINE COMPRESSION OR OTHER • Is the engine compression correct?	Yes	Inspect the following: • Valve timing • Internal transaxle part • Engine mounts • Check valve (two-way) Repair or replace the malfunctioning part according to the inspection results.
		No	Inspect for cause. Repair or replace the malfunctioning part according to the inspection results.
20	Verify test results. • If normal, return to diagnostic index to service any additional symptoms. (See SYMPTOM DIAGNOSTIC INDEX [MZI 3.7 V6] .) • If malfunction remains, inspect related Service Bulletins and/or On-line Repair Information and perform repair or diagnosis. ▪ If vehicle is repaired, troubleshooting completed. ▪ If vehicle is not repaired or additional diagnostic information is not available, reprogram the PCM if a later calibration is available. Retest.		

2012 - Mazda6 - Engine

NO.11 ENGINE STALLS/ QUITTS, ENGINE RUNS ROUGH, MISSES, BUCK/ JERK, HESITATION/ STUMBLE, SURGES [MZI 3.7 V6]

11	ENGINE STALLS/QUITS—ACCELERATION/CRUISE ENGINE RUNS ROUGH—ACCELERATION/CRUISE MISSES—ACCELERATION/CRUISE BUCK/JERK—ACCELERATION/CRUISE/DECELERATION HESITATION/STUMBLE—ACCELERATION SURGES—ACCELERATION/CRUISE
DESCRIPTION	• Engine stops unexpectedly at the beginning of acceleration or during acceleration. • Engine stops unexpectedly while cruising. • Engine speed fluctuates during acceleration or cruising. • Engine misses during acceleration or cruising. • Vehicle bucks/jerks during acceleration, cruising, or deceleration. • Momentary pause at beginning of acceleration or during acceleration. • Momentary minor irregularity in engine output.
	• Vacuum leakage • Air cleaner restriction • Air leakage from intake-air system parts • Intake air system restriction • Poor fuel quality • Disconnected electrical system connector • Loose attaching bolts or worn engine mounts • PCM DTC is stored. • Engine overheating • Throttle body restriction or clogged • Erratic signal to PCM ▪ APP sensor or related circuit malfunction ▪ TP sensor or related circuit malfunction ▪ CKP sensor or related circuit malfunction ▪ MAF sensor or related circuit malfunction ▪ TP sensor or related circuit malfunction ▪ Battery or related circuit malfunction ▪ VSS or related circuit malfunction • Erratic signal from CKP sensor • Fuel leakage from fuel injector

**POSSIBLE
CAUSE**

- Fuel injector clogging
- Improper operation of drive-by-wire control system
- Restriction in exhaust system
- Inadequate fuel pressure
 - Intermittent open or short circuit in fuel pump circuit
 - Fuel pump mechanical malfunction
 - Fuel line restriction or clogging
 - Pressure regulator malfunction (built-in fuel pump unit)
- Fuel leakage from fuel system
- Improper A/C system operation
- Improper operation of cruise control system
- Improper air/fuel mixture ratio control operation
- A/F sensor or related circuit malfunction
- PCV valve malfunction
- Check valve (two-way) malfunction integrated with fuel tank
- Purge solenoid valve malfunction
- Fuel flow into evaporative purge hose
- Erratic signal or no signal from CMP sensor
- Low engine compression
- Improper valve timing due to jumping out timing chain
- ATX malfunction

WARNING:

- The following troubleshooting flow chart contains the fuel system diagnosis and repair procedures. Read the following warnings before servicing the fuel system:
 - Fuel vapor is hazardous. It can easily ignite, causing serious injury and damage. Always keep sparks and flames away from fuel.
 - Fuel line spills and leakage are dangerous. Fuel can ignite and cause serious injuries or death and damage. Fuel can also irritate skin and eyes. To prevent this, always complete "BEFORE SERVICE PRECAUTION" and "AFTER SERVICE PRECAUTION" described in this manual. (See **BEFORE SERVICE PRECAUTION [MZI 3.7 V6]**.) (See **AFTER SERVICE PRECAUTION [MZI 3.7 V6]**.)

CAUTION:

- Disconnecting/connecting quick release connector without cleaning it may cause damage to fuel pipe and quick release connector. Always clean quick release connector joint area before disconnecting/connecting, and make sure that it is free of foreign material.

Diagnostic procedure

STEP	INSPECTION	RESULTS	ACTION
1	INSPECT RELATED PART CONDITION • Verify the following: ▪ Vacuum connection ▪ Air cleaner element ▪ No air leakage	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part according to the inspection results. Repeat Step 1.

	from intake-air system ▪ No restriction of intake-air system ▪ Proper sealing of intake manifold and components attached to intake manifold ▪ Ignition wiring ▪ Fuel quality (such as proper octane, contamination, winter/summer blend) ▪ Electrical connections ▪ Smooth operation of throttle valve ▪ Engine mount installation • Are all items normal?		
2	VERIFY PCM DTC • Switch the ignition to ON (Engine off). • Retrieve any DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) • Are there any DTCs displayed?	Yes	DTC is displayed: • Go to the appropriate DTC inspection. (See DTC TABLE [MZI 3.7 V6].)
		No	No DTC is displayed: • Go to the next step.
3	VERIFY IF MALFUNCTION CAUSE IS OVERHEATING • Is the engine overheating?	Yes	Go to the symptom troubleshooting "NO.17 COOLING SYSTEM CONCERNS-OVERHEATING". (See NO.17 COOLING SYSTEM CONCERNS-OVERHEATING [MZI 3.7 V6].)
		No	Go to the next step.
4	VISUALLY INSPECT THROTTLE BODY • Visually inspect the throttle valve. (See INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZI 3.7 V6].) • Are any foreign materials adhere to around throttle valve?	Yes	Clean the throttle valve.
		No	Go to the next step.
5	VERIFY CURRENT INPUT SIGNAL STATUS CAUTION: • While performing this step, always operate the vehicle in a safe and lawful manner.	Yes	Go to the next step.
		No	APP1 or APP2 PID is not specified: • Inspect if output signal from APP sensor changes

	- When the M-MDS is used to observe monitor system status while driving, be sure to have another technician with you, or record the data in the M-MDS using the PID/DATA MONITOR AND RECORD capturing function and inspect later. - Access the following PCM PIDs using the M-MDS: (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) - APP1 - APP2 - RPM - VPWR - MAF - TP1 - TP2 - VSS - Monitor each PID while driving the vehicle. - Are all PIDs normal? (See PCM INSPECTION [MZI 3.7 V6].)		smoothly. RPM PID is not specified: - Inspect the CKP sensor and related wiring harness for vibration or intermittent open/short circuit. VPWR PID is not specified: - Inspect for open circuit intermittently. MAF PID is not specified: - Inspect for open circuit of the MAF sensor and related wiring harness intermittently. TP1 or TP2 PID is not specified: - Inspect if output signal from TP sensor changes smoothly. VSS PID is not specified: - Inspect for open circuit of VSS and related wiring harness intermittently. Repair or replace the malfunctioning part according to the inspection results.
6	INSPECT CKP SENSOR - Inspect the CKP sensor. (See CRANKSHAFT POSITION (CKP) SENSOR INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
7	VERIFY SPARK PLUG CONDITION - Verify the spark plug conditions. - Is spark plug wet, covered with carbon or grayish white?	Yes	Spark plug is wet or covered with carbon: - Inspect for fuel leakage from fuel injector. Spark plug is grayish white: - Inspect the fuel injector for clogging. Repair or replace the malfunctioning part according to the inspection results.
		No	Install the spark plugs on original cylinders. Go to the next step.
8	INSPECT DRIVE-BY-WIRE CONTROL SYSTEM OPERATION - Perform the drive-by-wire control system operation inspection. (See ENGINE CONTROL SYSTEM OPERATION INSPECTION [MZI 3.7 V6].) - Does the drive-by-wire control	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part according to the inspection results.

	system function properly?		
9	INSPECT DEFORMED IN EXHAUST SYSTEM - Visually inspect the exhaust system part. - Is there any deformed exhaust system part?	Yes No	Repair or replace the malfunctioning part according to the inspection results. Go to the next step.
10	INSPECT FUEL LINE PRESSURE - Install the fuel pressure gauge between the fuel pipe and fuel distributor. - Measure the fuel line pressure. (See FUEL LINE PRESSURE INSPECTION [MZI 3.7 V6].) - Is the fuel line pressure correct?	Yes No	Go to the next step. Zero or low: - Inspect for the following: - Fuel pump relay - Fuel pump circuit - Fuel line for clogging - If there is no malfunction, replace the fuel pump unit. (Fuel pump or pressure regulator malfunction) (See FUEL PUMP UNIT REMOVAL/ INSTALLATION [MZI 3.7 V6].) High: - Replace the fuel pump unit. (Pressure regulator malfunction) (See FUEL PUMP UNIT REMOVAL/ INSTALLATION [MZI 3.7 V6].)
11	INSPECT FUEL SYSTEM FOR FUEL LEAKAGE - Visually inspect for fuel leakage at fuel injector O-ring and fuel line. - Service if necessary. - Is the fuel line pressure held after ignition is switched to off? (See FUEL LINE PRESSURE INSPECTION [MZI 3.7 V6].)	Yes No	Go to the next step. Inspect the fuel injector. (See FUEL INJECTOR INSPECTION [MZI 3.7 V6] .) If the fuel injector is normal, replace the fuel pump unit. (See FUEL PUMP UNIT REMOVAL/ INSTALLATION [MZI 3.7 V6].)
12	DETERMINE IF MALFUNCTION CAUSE IS A/ C SYSTEM OR OTHER NOTE: - The following test is for engine running at rough idle with A/C on. If other symptoms exist, go to the next step. - Connect the pressure gauge to A/C low and high pressure side lines. - Start the engine and idle it. - Turn the A/C switch on. - Measure low side and high side pressures. (See REFRIGERANT PRESSURE CHECK.)	Yes No	Go to the next step. If the A/C is always on: - Go to the symptom troubleshooting "NO.24 A/C IS ALWAYS ON OR A/C COMPRESSOR RUNS CONTINUOUSLY". (See NO.24 A/ C IS ALWAYS ON OR A/ C COMPRESSOR RUNS CONTINUOUSLY [MZI 3.7 V6].) For other symptoms: - Inspect the following: - Refrigerant charging amount - Condenser fan operation - Repair or replace the malfunctioning part according to the inspection results.

	Are pressures within specifications?		
13	INSPECT CRUISE CONTROL SYSTEM NOTE: - The following test should be performed for symptom with cruise control ON. If other symptoms exist, go to the next step. - Inspect the cruise control system operation. - Is the cruise control system normal?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part according to the inspection results.
14	INSPECT CURRENT A/ F SENSOR SIGNAL - Inspect the A/F sensor. (See AIR FUEL RATIO (A/ F) SENSOR INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes	Inspect the A/F sensor installation and exhaust gas leakage. Repair or replace the malfunctioning part according to the inspection results. If there is no malfunction, replace the A/F sensor. (See AIR FUEL RATIO (A/ F) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6].)
		No	Go to the next step.
15	INSPECT PCV VALVE NOTE: - The PCV valve cannot be reassembled once it is removed because the tabs will have been broken. Inspect the PCV valve without removing it from the vehicle. - Inspect the PCV valve with it installed. (See POSITIVE CRANKCASE VENTILATION (PCV) VALVE INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes	Replace the PCV valve. (See POSITIVE CRANKCASE VENTILATION (PCV) VALVE REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
		No	Go to the next step.
16	DETERMINE IF MALFUNCTION CAUSE IS CHECK VALVE (TWO-WAY) OR OTHER - Inspect the evaporative purge hose between the fuel tank and the purge valve. - Does fuel flow into evaporative purge hose?	Yes	Inspect the check valve (two-way). (See FUEL TANK INSPECTION [MZI 3.7 V6] .) Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
17	DETERMINE IF MALFUNCTION CAUSE IS EVAP CONTROL SYSTEM OR OTHER CAUTION: - While performing this step, always operate the vehicle in a safe and lawful manner. - Disconnect the vacuum hose between purge solenoid valve and intake manifold from purge solenoid side.	Yes	Inspect the following: - Purge solenoid valve is stuck open. - EVAP control system Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.

	• Plug opening end of vacuum hose. • Drive the vehicle. • Does the engine condition improve?		
18	INSPECT CMP SENSOR • Inspect the CMP sensor. (See CAMSHAFT POSITION (CMP) SENSOR INSPECTION [MZI 3.7 V6].) • Is there any malfunction?	Yes No	Repair or replace the malfunctioning part according to the inspection results. Go to the next step.
19	INSPECT IF MALFUNCTION CAUSE IS LOW ENGINE COMPRESSION OR OTHER • Is the engine compression correct?	Yes No	Inspect the following: • Valve timing • Internal transaxle part • Engine mounts • Check valve (two-way) Repair or replace the malfunctioning part according to the inspection results. Inspect for cause. Repair or replace the malfunctioning part according to the inspection results.
20	Verify test results. • If normal, return to diagnostic index to service any additional symptoms. (See SYMPTOM DIAGNOSTIC INDEX [MZI 3.7 V6].) • If malfunction remains, inspect related Service Bulletins and/or On-line Repair Information and perform repair or diagnosis. ▪ If vehicle is repaired, troubleshooting completed. ▪ If vehicle is not repaired or additional diagnostic information is not available, reprogram the PCM if a later calibration is available. Retest.		