

NO.15 EMISSION COMPLIANCE [ZJ, Z6]

B3E010318881W48

15	EMISSION COMPLIANCE
DESCRIPTION	Fails emissions test.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Vacuum lines leakage or blockage • Cooling system malfunction • Spark plug malfunction • Leakage from intake manifold • Erratic or no signal from CMP sensor • Inadequate fuel pressure • PCV valve malfunction or incorrect valve installation • EGR valve malfunction • Exhaust system clogging • Fuel tank ventilation system malfunction • Charcoal canister damage • Air cleaner element clogging or restriction • Throttle body malfunction • Spark leakage from high-tension leads • Improper air/fuel mixture ratio control operation • Bend or open circuit front HO2S or rear HO2S wiring harness • Catalyst converter malfunction • Engine internal parts malfunction • Excessive carbon is built up in combustion chamber • Improper engine compression • Improper valve timing <p>Warning</p> <p>The following troubleshooting flow chart contains the fuel system diagnosis and repair procedures. Read the following warnings before performing the fuel system services:</p> <ul style="list-style-type: none"> • 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 the "BEFORE SERVICE PRECAUTION" and "AFTER SERVICE PRECAUTION" described in this manual. <p>(See BEFORE SERVICE PRECAUTION [ZJ, Z6, LF].) (See AFTER SERVICE PRECAUTION [ZJ, Z6, LF].)</p> <p>Caution</p> <ul style="list-style-type: none"> • If there is foreign material on the connecting area of the quick release connector, it might damage the connector or fuel pipe. To prevent this, disconnect the connector and clean the connecting area before connecting.

Diagnostic procedure

STEP	INSPECTION	RESULTS	ACTION
1	Inspect for following: • Vacuum lines for leakage or blockage • Electrical connections • Proper maintenance schedule followed	Yes	Go to the next step.

	<ul style="list-style-type: none"> Intake-air system and air cleaner element concerns: obstructions, leakage or dirtiness Are all items normal?	No	Service if necessary. Repeat Step 1.
2	Connect the WDS or equivalent to the DLC-2. Retrieve any continuous memory, KOEO and KOER DTCs using WDS or equivalent. Are there any DTCs displayed?	Yes	DTC is displayed: Go to the appropriate DTC inspection. (See DTC TABLE [ZJ, Z6].)
		No	No DTC is displayed: Go to the next step.
3	Is any other drivability concern present?	Yes	Go to appropriate symptom troubleshooting.
		No	Go to the next step.
4	Connect the WDS or equivalent to the DLC-2. Access ECT PID. Warm-up the engine and idle it. Verify ECT PID is correct. (See PCM INSPECTION [ZJ, Z6].) Is ECT PID correct?	Yes	Go to the next step.
		No	Inspect for coolant leakage, cooling fan and thermostat operation.
5	Connect the WDS or equivalent to DLC-2. Warm up the engine and idle it. Access O2S11 PID. Is O2S11 PID normal? • More than 0.45 V when accelerator pedal is suddenly depressed: rich condition. • Less than 0.45 V during fuel cut: lean condition	Yes	Go to the next step.
		No	Inspect and repair or replace front HO2S, wiring harness, connector or terminal, then go to the next step. (See FRONT HEATED OXYGEN SENSOR (HO2S) INSPECTION [ZJ, Z6].)
6	Perform the spark test. (See Spark Test.) Is strong blue spark visible at each cylinder?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part according to spark test results.
7	Install fuel pressure gauge between the fuel pipe and the fuel distributor. Start the engine and idle it. Measure fuel line pressure during idle. Is fuel line pressure correct during idle? (See FUEL LINE PRESSURE INSPECTION [ZJ, Z6, LF].)	Yes	Go to the next step.
		No	Low: Inspect for clogged fuel line. • If normal, replace fuel pump unit. (See FUEL PUMP UNIT REMOVAL/INSTALLATION [ZJ, Z6, LF].) High: Replace fuel pump unit. (See FUEL PUMP UNIT REMOVAL/INSTALLATION [ZJ, Z6, LF].)
8	Remove and shake the PCV valve. Does the PCV valve rattle?	Yes	Go to the next step.
		No	Replace the PCV valve.
9	Inspect inside charcoal canister for fuel saturation. Is excess amount of liquid fuel present in the charcoal canister?	Yes	Replace the charcoal canister.
		No	Inspect fuel tank vent system. (See FUEL TANK INSPECTION [ZJ, Z6, LF].) Then, go to the next step.
10	Visually inspect the exhaust system part. Is there any defective exhaust	Yes	Replace the suspected part.

	system part?	No	Go to the next step.
11	Inspect the three way catalytic converter. (See EXHAUST SYSTEM INSPECTION [ZJ, Z6] .)	Yes	Inspect the EGR system. (See EGR Control System Inspection .)
	Is the three way catalytic converter normal?	No	Replace the three way catalytic converter.
12	Verify test results. • If normal, return to diagnostic index to service any additional symptoms. (See ENGINE SYMPTOM TROUBLESHOOTING [ZJ, Z6] .) • If malfunction remains, inspect related Service information perform repair or diagnosis. - If vehicle repaired, troubleshooting completed. - If vehicle not repaired or additional diagnostic information not available, replace the PCM. (See INTAKE-AIR SYSTEM REMOVAL/INSTALLATION [ZJ, Z6] .)		