

NO.15 EMISSION COMPLIANCE [LF]

B3E010318881W17

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 • Erratic signal to ignition coil • Improper air/fuel mixture ratio control operation • Bend or open circuit HO2S wiring harness • Catalyst converter malfunction • Engine internal parts malfunction • Excessive carbon is built up in combustion chamber • Improper engine compression • Improper valve timing
	Warning
	The following troubleshooting flow chart contains fuel system diagnosis and repair procedures. Read following warnings before performing fuel system services:
	<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 "BEFORE SERVICE PRECAUTION" and "AFTER SERVICE PRECAUTION" described in this manual. (See BEFORE SERVICE PRECAUTION [ZJ, Z6, LF].) (See AFTER SERVICE PRECAUTION [ZJ, Z6, LF].)
	Caution <ul style="list-style-type: none"> • Disconnecting/connecting quick release connector without cleaning it may possibly 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
	Inspect the following:		
	• Vacuum lines for leakage or blockage	Yes	Go to the next step.
	• Electrical connections		
	• Proper maintenance schedule		

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

10	part. Is there any deformed exhaust system part?	Yes	Replace the part.
		No	Go to the next step.
11	Inspect the threeway catalytic converter. (See EXHAUST SYSTEM INSPECTION [LF] .) Is the threeway catalytic converter normal?	Yes	Inspect the EGR system. (See EGR Control System Inspection .)
		No	Replace the threeway catalytic converter.
12	Verify test results. • If normal, return to diagnostic index to service any additional symptoms. (See ENGINE SYMPTOM TROUBLESHOOTING [LF] .) • 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 PCM REMOVAL/INSTALLATION [LF] .)		