

# NO.12 LACK/LOSS OF POWER-ACCELERATION/CRUISE [LF]

B3E010318881W14

12	LACK/LOSS OF POWER - ACCELERATION/CRUISE
DESCRIPTION	Performance is poor under load (such as power down when climbing hills).
POSSIBLE CAUSE	<ul style="list-style-type: none"> <li>• Improper A/C system operation</li> <li>• Erratic signal or no signal from CMP sensor</li> <li>• Air leakage from intake-air system parts</li> <li>• Restriction in intake-air system</li> <li>• Intake-air temperature too hot</li> <li>• Improper variable intake-air control operation</li> <li>• Improper variable tumble control operation</li> <li>• Purge valve malfunction</li> <li>• Improper EGR valve operation</li> <li>• Brake dragging</li> <li>• Erratic signal from CKP sensor</li> <li>• Low engine compression</li> <li>• Vacuum leakage</li> <li>• Poor fuel quality</li> <li>• Erratic signal to ignition coil</li> <li>• Engine overheating</li> <li>• Throttle body malfunction</li> <li>• Spark plug malfunction</li> <li>• PCV valve malfunction</li> <li>• Improper valve timing due to jumping out of timing belt</li> <li>• Restriction in exhaust system</li> <li>• Intermittent open or short in fuel pump related circuit</li> <li>• Inadequate fuel pressure</li> <li>• Fuel pump mechanical malfunction</li> <li>• Fuel line restriction or clogging</li> <li>• Fuel leakage from fuel injector</li> <li>• Fuel injector clogging</li> <li>• Intermittent open or short circuit of MAF sensor, TP sensor, IAT sensor and VSS</li> <li>• Clutch slippage (MTX)</li> <li>• ATX malfunction (ATX)</li> </ul> <p><b>Warning</b></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"> <li>• Fuel vapor is hazardous. It can easily ignite, causing serious injury and damage. Always keep sparks and flames away from fuel.</li> <li>• 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 <a href="#">BEFORE SERVICE PRECAUTION [ZJ, Z6, LF]</a>.) (See <a href="#">AFTER SERVICE PRECAUTION [ZJ, Z6, LF]</a>.)</li> </ul> <p><b>Caution</b></p> <ul style="list-style-type: none"> <li>• 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.</li> </ul>

## Diagnostic procedure

STEP	INSPECTION	RESULTS	ACTION
1	Verify the following: • Vacuum connection • Restriction in the intake-air system (such as air cleaner element, fresh air duct) • No air leakage from intake-air system • No restriction of intake-air system • Proper sealing of intake manifold and components attached to intake manifold; such as EGR valve, IAC valve • Fuel quality (such as proper octane, contamination, winter/summer blend) Are all items normal?	Yes	Go to the next step.
		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. If engine stall condition exists, retrieve continuous memory and KOEO DTCs. Are there any DTCs displayed?	Yes	<b>DTC is displayed:</b> Go to the appropriate DTC inspection. (See <a href="#">DTC TABLE [LF]</a> .)
		No	<b>No DTC is displayed:</b> Go to the next step.
3	Is the engine overheating?	Yes	Go to symptom troubleshooting "No.17 Cooling system concerns - Overheating". (See <a href="#">NO.17 COOLING SYSTEM CONCERNS-OVERHEATING [LF]</a> .)
		No	Go to the next step.
4	Connect the WDS or equivalent to the DLC-2. Access RPM, MAF, TP, IAT and VSS PIDs. Drive the vehicle while monitoring PIDs. Are PIDs within specifications? (See <a href="#">PCM INSPECTION [LF]</a> .)	Yes	Go to the next step.
		No	<b>RPM PID:</b>  Inspect the CKP sensor and related wiring harness for vibration and/or intermittent open/short circuit.  <b>MAF PID:</b>  Inspect for intermittent open circuit of MAF sensor and related wiring harness.  <b>TP PID:</b>  Inspect if TP sensor output increases smoothly.  <b>IAT PID:</b>  Inspect for air suction in intake-air system. If normal, inspect intermittent short circuit of IAT sensor and related wiring harness.  <b>VSS PID:</b>  Inspect for intermittent open circuit of VSS and related wiring harness.
5	Visually inspect CKP sensor and teeth of crankshaft pulley. Are CKP sensor and teeth of	Yes	Go to the next step.

	crankshaft pulley normal?	No	Replace the malfunctioning part.
6	Measure the gap between the CKP sensor and teeth of crankshaft pulley.  <b>Specification</b>  <b>0.5-1.9 mm {0.020-0.75 in}</b>  Is the gap within the specification?	Yes	Go to the next step.
		No	Adjust the CKP sensor.
7	Inspect spark plug condition. Is the spark plug wet, covered with carbon or grayish white?	Yes	<b>Spark plug is wet or covered with carbon:</b>  Inspect the fuel injector for fuel leakage.  <b>Spark plug is grayish white:</b>  Inspect the fuel injector for clogging.
		No	Install spark plugs on original cylinders. Go to the next step.
8	Remove and shake the PCV valve. Does the PCV valve rattle?	Yes	Go to the next step.
		No	Replace PCV valve.
9	Visually inspect the exhaust system part. Is there any deformed exhaust system part?	Yes	Replace the part.
		No	Go to the next step.
10	Install fuel pressure gauge between the fuel pipe and the fuel distributor. Connect the WDS or equivalent to the DLC-2. Turn the fuel pump on using FP PID in output state control of datalogger function. Is fuel line pressure correct? (See <a href="#">FUEL LINE PRESSURE INSPECTION [ZJ, Z6, LF]</a> .)	Yes	Go to the next step.
		No	<b>Zero or low:</b>  Inspect the fuel pump and the fuel pump relay related circuit. Inspect the fuel line for clogging. • If there is no malfunction, replace the fuel pump unit. (See <a href="#">FUEL PUMP UNIT REMOVAL/INSTALLATION [ZJ, Z6, LF]</a> .)  <b>High:</b>  Replace the fuel pump unit. (See <a href="#">FUEL PUMP UNIT REMOVAL/INSTALLATION [ZJ, Z6, LF]</a> .)
11	Inspect the variable tumble control operation. (See <a href="#">Variable Tumble Control Operation Inspection</a> .) Does the variable tumble control function properly?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part.
12	Inspect the variable intake-air operation. (See <a href="#">Variable Intake-air Control Operation Inspection</a> .) Does the variable intake-air function properly?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part.
	<b>Note</b>  • The following test is for engine stall with the A/C on concern. If other symptoms exist, go to the	Yes	Go to the next step.
			If the A/C is always on, go to symptom

13	next step. Connect pressure gauge to A/C low and high side pressure lines. Turn the A/C on and measure low side and high side pressures. Are pressures within specifications? (See <a href="#">REFRIGERANT PRESSURE CHECK.</a> )	No	troubleshooting "No.24 A/C is always on or A/C compressor runs continuously". (See <a href="#">NO.24 A/C IS ALWAYS ON OR A/C COMPRESSOR RUNS CONTINUOUSLY [LF].</a> ) For other symptoms, inspect following: • Refrigerant charging amount • Condenser fan operation
14	Inspect A/C cut-off operation. (See <a href="#">A/C Cut-off Control System Inspection.</a> ) Does A/C cut-off work properly?	Yes	Go to the next step.
		No	Inspect the A/C cut-off system components.
15	Disconnect vacuum hose between the purge valve and the intake manifold from the purge valve side. Plug opening end of vacuum hose. Drive the vehicle. Does the engine condition improve?	Yes	Inspect if the purge valve is stuck open mechanically. Inspect the EVAP control system. (See <a href="#">Purge Control System Inspection.</a> )
		No	Go to the next step.
16	Visually inspect the CMP sensor and projections of camshaft pulley. Are CMP sensor and projections of camshaft pulley normal?	Yes	Go to the next step.
		No	Replace the malfunctioning part.
17	Inspect the EGR system. (See <a href="#">EGR Control System Inspection.</a> ) Is the EGR system normal?	Yes	Go to the next step.
		No	Replace the malfunctioning part.
18	Is engine compression correct?	Yes	Inspect the following: • Valve timing • Clutch (MTX) • Internal ATX components (ATX) • Brake system for dragging
		No	Inspect for cause.
19	Verify test results. • If normal, return to diagnostic index to service any additional symptoms. (See <a href="#">ENGINE SYMPTOM TROUBLESHOOTING [LF].</a> ) • 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 <a href="#">PCM REMOVAL/INSTALLATION [LF].</a> )		