

NO.12 LACK/LOSS OF POWER-ACCELERATION/CRUISE [ZJ, Z6]

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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"> • Improper A/C system operation • Erratic signal or no signal from CMP sensor • Air leakage from intake-air system parts • Restriction in intake-air system • Intake air temperature too hot • Improper variable intake-air control operation • Improper variable tumble control operation • Purge control solenoid malfunction • Brake dragging • Erratic signal from CKP sensor • Low engine compression • Vacuum leakage • Poor fuel quality • Erratic signal to ignition coil • Engine overheating • Throttle body malfunction • Spark plug malfunction • Air cleaner restriction • PCV valve malfunction • Improper valve timing due to jumping out of timing belt • Improper variable valve timing control operation • Restriction in exhaust system • Intermittent open or short circuit in fuel pump related circuit • Inadequate fuel pressure • Fuel pump mechanical malfunction • Fuel line restriction or clogging • Fuel leakage from fuel injector • Fuel injector clogging • Intermittent open or short circuit of MAF sensor, TP sensor, IAT sensor and VSS • ATX malfunction (ATX) • Clutch slippage (MTX) <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. (See BEFORE SERVICE PRECAUTION [ZJ, Z6, LF].) (See AFTER SERVICE PRECAUTION [ZJ, Z6, LF].) <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	Verify the following: • Vacuum connection • Restriction in intake-air system (such as air cleaner element, fresh duct) • No air leakage from the intake-air system • No restriction of the intake-air system • Proper sealing of the intake manifold and components attached to intake manifold; such as IAC valve, EGR 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. If engine stall condition exists, retrieve continuous memory and KOEO 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 the engine overheating?	Yes	Go to symptom troubleshooting "No.17 Cooling system concerns - Overheating". (See NO.17 COOLING SYSTEM CONCERNS-OVERHEATING [ZJ, Z6] .)
		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 vehicle while monitoring PIDs. Are PIDs within specifications? (See PCM INSPECTION [ZJ, Z6] .)	Yes	Go to the next step.
		No	RPM PID: Inspect the CKP sensor and related wiring harness for vibration and/or intermittent open/short circuit. MAF PID: Inspect for intermittent open circuit of the MAF sensor and related wiring harness. TP PID: Inspect if the TP sensor output increases smoothly. IAT PID: Inspect for air suction in the intake-air system. If normal, inspect intermittent short circuit of IAT sensor and, related wiring harness. VSS PID: Inspect for intermittent open circuit of the VSS and related wiring harness.
5	Visually inspect the CKP sensor and teeth of the crankshaft pulley. Are the CKP sensor and teeth of the	Yes	Go to the next step.

	crankshaft pulley normal?	No	Replace the malfunctioning crankshaft pulley.
6	Measure gap between the CKP sensor and teeth of the crankshaft pulley. Specification 0.5-1.5 mm {0.02-0.05 in} Is gap within specification?	Yes	Go to the next step.
		No	Replace the crankshaft pulley.
7	Inspect the spark plug condition. Is the spark plug wet, covered with carbon or grayish white?	Yes	Spark plug is wet or covered with carbon: Inspect the fuel injector for fuel leakage. Spark plug is grayish white: Inspect for clogged the fuel injector.
		No	Install the 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 the PCV valve.
9	Visually inspect the exhaust system part. Is there any deformed exhaust system part?	Yes	Replace the suspected 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 FUEL LINE PRESSURE INSPECTION [ZJ, Z6, LF] .)	Yes	Go to the next step.
		No	Zero or low: Inspect the fuel pump relay and the fuel pump relay related circuit. Inspect the fuel line for clogging. • If normal, replace the fuel pump unit. (See FUEL PUMP UNIT REMOVAL/INSTALLATION [ZJ, Z6, LF] .) High: Replace the fuel pump unit. (See FUEL PUMP UNIT REMOVAL/INSTALLATION [ZJ, Z6, LF] .)
11	Inspect variable tumble control operation. (See Variable Tumble Control Operation Inspection .) Does the variable tumble control function properly?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part.
12	Inspect variable intake-air control operation. (See Variable Intake-air Control Operation Inspection .) Does the variable intake-air control function properly?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part.
	Note • Following test is for the engine stalling with the A/C on concern. If other symptoms exist, go to the next step.	Yes	Go to the next step.
			If the A/C is always on, go to symptom troubleshooting "No. 24 A/C is always on or A/C compressor runs continuously".

13	Connect pressure gauge to the 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 REFRIGERANT PRESSURE CHECK .)	No	(See NO.24 A/C IS ALWAYS ON OR A/C COMPRESSOR RUNS CONTINUOUSLY [ZJ, Z6] .) For other symptoms, inspect the following: • Refrigerant charging amount • Condenser fan operation
14	Inspect A/C cut-off operation. (See A/C Cut-off Control System Inspection .) Does A/C cut-off function properly?	Yes	Go to the next step.
		No	Inspect the A/C cut-off system components. (See A/C Cut-off Control System Inspection .)
15	Disconnect the vacuum hose between the purge solenoid valve and the intake manifold from the purge solenoid valve side. Plug opening end of vacuum hose. Drive the vehicle. Does the engine condition improve?	Yes	Inspect if the purge solenoid valve is stuck open mechanically. Inspect EVAP control system. (See Purge Control System Inspection .)
		No	Go to the next step.
16	Visually inspect the CMP sensor and projections of the camshaft pulley. Are the CMP sensor and projections of the camshaft pulley normal?	Yes	Go to the next step.
		No	Replace the malfunctioning part.
17	Inspect the EGR system. (See EGR Control System Inspection .) Is EGR system normal?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part according to inspection result.
18	Inspect variable valve timing control system operation. (See Variable Valve Timing Control System Operation Inspection .) Does variable valve timing control system function properly?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part.
19	Is engine compression correct? (See COMPRESSION INSPECTION [ZJ, Z6] .)	Yes	Inspect the following: • Valve timing. (See Timing Chain Installation Note .) • Shift point (ATX) • Clutch (MTX) • Brake system for dragging
		No	Inspect for cause.
20	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] .)		