

NO.11 ENGINE STALLS/QUITS, ENGINE RUNS ROUGH, MISSES, BUCK/JERK, HESITATION/STUMBLE, SURGES [ZJ, Z6]

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11	<p align="center">ENGINE STALLS/QUITS - ACCELERATION/CRUISE</p> <p align="center">ENGINE RUNS ROUGH - ACCELERATION/CRUISE</p> <p align="center">MISSES - ACCELERATION/CRUISE</p> <p align="center">BUCK/JERK - ACCELERATION/CRUISE/DECELERATION</p> <p align="center">HESITATION/STUMBLE - ACCELERATION</p> <p align="center">SURGES - ACCELERATION/CRUISE</p>
DESCRIPTION	<ul style="list-style-type: none"> • The engine stops unexpectedly at beginning of acceleration or during acceleration. • The engine stops unexpectedly while cruising. • The engine speed fluctuates during acceleration or cruising. • The engine misses during acceleration or cruising. • The vehicle bucks/jerks during acceleration, cruising, or deceleration. • Momentary pause at beginning of acceleration or during acceleration • Momentary minor irregularity in engine output
POSSIBLE CAUSE	<ul style="list-style-type: none"> • A/C system operation is improper. • Erratic signal or no signal from CMP sensor • Air leakage from intake-air system parts • Purge solenoid valve malfunction • IAC valve improper operation • Improper EGR valve operation • Erratic signal from CKP sensor • Low engine compression • Vacuum leakage • Poor fuel quality • Main relay intermittent malfunction • Throttle body malfunction • Engine overheating • Spark plug malfunction • Improper air/fuel mixture ratio control operation • Improper variable tumble control operation • Erratic signal to ignition coil • Air cleaner restriction • PCV valve malfunction • Fuel flow into evaporative purge hose • Improper valve timing due to jumping out timing belt • Restriction in exhaust system • Intermittent open or short circuit in fuel body pump circuit • Inadequate fuel pressure • Fuel pump mechanical malfunction • Check valve (two-way) malfunction (integrated with fuel tank) • Fuel leakage from fuel injector • Fuel injector clogging • Fuel line restriction or clogging • Pressure regulator malfunction (built-in fuel pump unit) • TP sensor misadjustment • Intermittent open or short circuit of MAF sensor, TP sensor and VSS • ATX malfunction (ATX)

- Clutch slippage (MTX)
- Loose attaching bolts or worn engine mounts.

Warning

The following troubleshooting flow chart contains the fuel system diagnosis and repair procedures. Read the following warnings before performing the fuel system services:

- 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 \[ZJ, Z6, LF\]](#).)

Caution

- 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 • Air cleaner element • 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 the intake manifold: such as the IAC valve, EGR valve • Ignition wiring • Fuel quality (such as proper octane, contamination, winter/summer blend) • Electrical connections • Smooth operation of throttle valve 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 the 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.
		Yes	Go to the next step.
			RPM PID: Inspect the CKP sensor and related harness for

4	Connect the WDS or equivalent to the DLC-2. Access RPM, VPWR, MAF, TP and VSS PIDs. Drive vehicle with monitoring PIDs. Are PIDs within specifications? (See PCM INSPECTION [ZJ, Z6] .)	No	such as vibration, intermittent open/short circuit. VPWR PID: Inspect for open circuit intermittently. MAF PID: Inspect for open circuit of the MAF sensor and related wire harness intermittently. TP PID: Inspect if output signal from the TP sensor changes smoothly. VSS PID: Inspect for open circuit of the VSS and related wire harness intermittently. (except MTX with ABS) Inspect the ABS or DSC system . (MTX with ABS)
5	Visually inspect the CKP sensor and teeth of the crankshaft pulley. Are the CKP sensor and teeth of the crankshaft pulley normal?	Yes	Go to the next step.
		No	Replace the malfunctioning part.
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 conditions. Is the spark plug wet, covered with carbon or grayish white?	Yes	Spark plug is wet or covered with carbon: Inspect for fuel leakage from the fuel injector. Spark plug is grayish white: Inspect for clogged the fuel injector.
		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 the PCV valve.
9	Verify that the throttle lever is resting on the throttle valve stop screw and/or the throttle valve orifice plug. Is lever in correct position?	Yes	Go to the next step.
		No	Adjust if necessary.
10	Visually inspect the exhaust system part. Is there any deformed exhaust system part?	Yes	Replace the suspected part.
		No	Go to the next step.
		Yes	Go to the next step.
			Zero or low:

11	<p>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].)</p>	No	<p>Inspect the fuel pump relay and the fuel pump related circuit. Inspect the fuel line for clogging. • if there is no malfunction, 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>
12	<p>Visually inspect for fuel leakage at the fuel injector O-ring and fuel line. Service if necessary. Is fuel line pressure held after FP PID is turned Off? (See FUEL LINE PRESSURE INSPECTION [ZJ, Z6, LF].)</p>	Yes	Go to the next step.
		No	<p>Inspect the pressure regulator diaphragm condition. • If the condition is normal, inspect the fuel injector. (See FUEL INJECTOR INSPECTION [ZJ, Z6, LF].) • If the condition is not normal, replace the fuel pump unit. (See FUEL PUMP UNIT REMOVAL/INSTALLATION [ZJ, Z6, LF].)</p>
13	<p>Note</p> <ul style="list-style-type: none"> • Following test is for engine stalling with the A/C on. If other symptom exists, go to the next step. <p>Connect a pressure gauge to the A/C low and high pressure side lines. Turn the A/C on and measure low side and high side pressure. Are pressure within specifications? (See REFRIGERANT PRESSURE CHECK.)</p>	Yes	Go to the next step.
		No	<p>If the A/C is always on, go to 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 [ZJ, Z6].) For other symptoms, inspect the following: • Refrigerant charging amount • Condenser fan operation</p>
14	<p>Connect the WDS or equivalent to the DLC-2. Warm up engine and idle it. Access O2S11 PID Is O2S11 PID normal? • More than 0.45 V when the accelerator pedal is suddenly depressed: rich condition. • Less than 0.45 V during fuel cut: lean condition</p>	Yes	Go to the next step.
		No	Inspect and repair or replace the front HO2S, wiring harness, connector or terminal, then go to the next step.
15	<p>Inspect the evaporative purge hose between the fuel tank and purge valve. Does fuel flow into the evaporative purge hose?</p>	Yes	Inspect the check valve (two-way). (See FUEL TANK INSPECTION [ZJ, Z6, LF].)
		No	Go to the next step.
16	<p>Disconnect the vacuum hose between the purge solenoid valve and the intake manifold from the purge solenoid valve side. Plug the opening end of the vacuum hose. Drive the vehicle. Does engine condition improve?</p>	Yes	<p>Go to the next step. Inspect if the purge solenoid valve is stuck open mechanically. Inspect the EVAP control system. (See Purge Control System Inspection.)</p>
		No	Go to the next step.
	Visually inspect the CMP sensor and		

17	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.
18	Inspect variable tumble control operation. (See Variable Tumble Control Operation Inspection .) Is the variable tumble control normal?	Yes	Go to the next step.
		No	Replace or replace the malfunctioning part.
19	Inspect the EGR system. (See EGR Control System Inspection .) Is the EGR system normal?	Yes	Go to the next step.
		No	Replace or replace the malfunctioning parts.
20	Is engine compression correct? (See COMPRESSION INSPECTION [ZJ, Z6] .)	Yes	Inspect the following: • Valve timing. (See Timing Chain Installation Note .) • Engine mounts • Check valve (two-way) • Internal transaxle part (ATX) • Clutch (MTX)
		No	Inspect for cause.
21	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] .)		