

NO.5 ENGINE STALLS-AFTER START/AT IDLE [LF]

B3E010318881W07

5	ENGINE STALLS-AFTER START/AT IDLE
DESCRIPTION	<ul style="list-style-type: none"> • The engine stops unexpectedly.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • A/C system operation is improper • Air leakage from intake-air system parts • Purge valve malfunction • Improper operation of IAC valve • EGR valve malfunction • No signal from CKP sensor due to sensor, related wire or wrong installation • Vacuum leakage • Engine overheating • Low engine compression • Erratic signal to ignition coil • Poor fuel quality • PCV valve malfunction • Air cleaner restriction • Restriction in exhaust system • Electrical connector disconnection • Open or short circuit in fuel pump body and related wiring harness • No battery power supply to PCM or poor GND • Inadequate fuel pressure • Fuel pump body mechanical malfunction • Fuel leakage from fuel injector • Fuel injector clogging • Ignition coil malfunction • Improper air/fuel mixture ratio control • Improper valve timing • Immobilizer system and/or circuit malfunction (if equipped) • Immobilizer system operating properly. (Ignition key is not registered.) • Pressure regulator malfunction <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 "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"> • 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
1	<p>Note</p> <ul style="list-style-type: none"> The following test should be performed for vehicles with immobilizer system. Go to Step 8 for vehicles without immobilizer system. <p>Connect the WDS or equivalent to the DLC-2. Do the following conditions appear?</p> <ul style="list-style-type: none"> The engine is not completely started. DTC P1260 is displayed. 	Yes	Both conditions appear: Go to Step 3.
		No	Either or other condition appears: Go to the next step.
2	Does the engine stall after approx. 2 s since the engine is started?	Yes	Go to the next step.
		No	Immobilizer system is normal. Go to Step 10.
3	Is the coil connector securely connected to the coil?	Yes	Go to the next step.
		No	Connect the coil connector securely. Return to Step 2.
4	Does the security light illuminate?	Yes	Go to the next step.
		No	Inspect the instrument cluster and wiring harness.
5	<p>Connect the WDS or equivalent to the DLC-2 and retrieve DTC. Are any of following DTCs displayed? DTC</p> <p>B1213, B1600, B1601, B1602, B1681, B2103, B2139, B2141, B2431, U2510</p>	Yes	Go to the appropriate DTC inspection. (See DTC TABLE [LF] .)
		No	Go to the next step.
6	<p>Inspect for the following wiring harnesses and connectors:</p> <ul style="list-style-type: none"> Between coil terminal A and instrument cluster terminal 2Q Between coil terminal B and instrument cluster terminal 2S <p>Is there any malfunction?</p>	Yes	Repair or replace the suspected wiring harness and connector.
		No	Go to the next step.
7	<p>Inspect for the following wiring harnesses and connectors:</p> <ul style="list-style-type: none"> Between PCM terminal 1A1 and instrument cluster terminal 1I Between PCM terminal 1AM and instrument cluster terminal 1K <p>Is there any malfunction?</p>	Yes	Repair or replace the suspected wiring harness and connector.
		No	Go to the next step.
8	<p>Verify the following:</p> <ul style="list-style-type: none"> Vacuum connection Air cleaner element No air leakage from intake-air system No restriction of intake-air system Proper sealing of intake manifold and components attached to intake manifold: EGR valve, IAC valve Ignition wiring Fuel quality: proper octane, contamination, winter/summer blend Electrical connections Smooth operation of throttle valve <p>Are all items normal?</p>	Yes	Go to the next step.
		No	Service if necessary. Repeat Step 8.
			DTC is displayed:

9	Connect the WDS or equivalent to the DLC-2. Retrieve any continuous memory, KOEO and KOER DTCs using WDS or equivalent. If the engine stalls, retrieve continuous memory and KOEO DTCs. Are there any DTCs displayed?	Yes	Go to the appropriate DTC inspection. (See DTC TABLE [LF] .) Communication error message is displayed: Inspect for the following: • Open circuit in wiring harness between main relay and PCM terminal 1BE • Open circuit in wiring harness between main relay terminal B and PCM terminal 1AT • The main relay is stuck open. • Open or poor GND circuit (PCM terminal 1BH, 1AZ, 1BC, 1BD or 1BG) • Poor connection of vehicle body GND
		No	No DTC is displayed: Go to the next step.
10	Attempt to start engine at part throttle. Does engine run smoothly at part throttle?	Yes	Inspect the IAC valve and wiring harness. (See IDLE AIR CONTROL (IAC) VALVE INSPECTION [LF] .)
		No	Go to the next step.
11	Connect the WDS or equivalent to the DLC-2. Access RPM PID. Is RPM PID indicating engine speed during engine cranking?	Yes	Go to the next step.
		No	Inspect for following: • Open or short circuit in CKP sensor • Open or short circuit between CKP sensor terminal A and PCM terminal 2Y • Open or short circuit in between CKP sensor terminal B and PCM terminal 2Z • Open or short circuit in CKP sensor wiring harnesses If CKP sensor and wiring harness are normal, go to the next step.
12	Visually inspect CKP sensor and teeth of crankshaft pulley. Are CKP sensor and teeth of crankshaft pulley normal?	Yes	Go to the next step.
		No	Replace the malfunctioning part.
13	Measure gap between CKP sensor and teeth of crankshaft pulley. Specification 0.5-1.9 mm {0.020-0.75 in} Is gap within specification?	Yes	Go to the next step.
		No	Adjust the CKP sensor. (See CRANKSHAFT POSITION (CKP) SENSOR REMOVAL/INSTALLATION [LF] .)
14	Inspect the ignition coil related wiring harness condition (intermittent open or short circuit) for all cylinders. Are harness conditions normal?	Yes	Go to the next step.
		No	Repair the wiring harnesses.
15	Perform the spark test. (See Spark Test .) Is strong blue spark visible at each cylinder?	Yes	Go to the next step. If symptoms occurs with the A/C on, go to Step 21.
		No	Repair or replace the malfunctioning part according to spark test result.
			Spark plug is wet or covered with carbon: Inspect for fuel leakage from injector.

16	Inspect spark plug condition. Is the spark plug wet, covered with carbon or grayish white?	Yes	Spark plug is grayish white: Inspect for clogged fuel injector.
		No	Install spark plugs on original cylinders. Go to the next step.
17	Remove and shake PCV valve. Does PCV valve rattle?	Yes	Go to the next step.
		No	Replace the PCV valve.
18	Visually inspect the exhaust system part. Is there any deformed exhaust system part?	Yes	Replace the suspected part.
		No	Go to the next step.
19	Install the fuel pressure gauge between the fuel pipe and 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 the 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 and fuel pump relay related circuit. Inspect the fuel line for clogging. • If normal, replace 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].)
20	Visually inspect the fuel injector for fuel leakage O-ring and fuel line. Service if necessary. Is the fuel line pressure held after the ignition switch is turned off? (See FUEL LINE PRESSURE INSPECTION [ZJ, Z6, LF].)	Yes	Go to the next step.
		No	Inspect the fuel injector. • If fuel injector is normal, replace fuel pump unit. (See FUEL PUMP UNIT REMOVAL/INSTALLATION [ZJ, Z6, LF].)
21	Note • Following test is for stall concerns with the A/C on. If other symptoms exist, go to the next step. Connect pressure gauges to A/C low and high pressure side lines. Turn A/C on and measure low side and high side pressures. Are pressures within specifications? (See REFRIGERANT PRESSURE CHECK.)	Yes	Go to the next step.
		No	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 [LF].) For other symptoms, inspect the following: • Refrigerant charging amount • Condenser fan operation
22	Disconnect vacuum hose between the purge valve and intake manifold from purge valve side. Plug the opening end of vacuum hose. Start the engine. Is the engine stall now eliminated?	Yes	Inspect if the purge valve is stuck open. Inspect the evaporative emission control system.
		No	Go to the next step.
23	Is air leakage felt or heard at the intake-air system components while racing the engine to higher speed?	Yes	Repair or replace the malfunctioning part.
		No	Go to the next step.
24	Inspect engine condition while tapping the EGR valve housing. Does the engine condition improve?	Yes	Replace the EGR valve.
		No	Go to the next step.

25	Is the engine compression correct?	Yes	Inspect the valve timing.
		No	Inspect for cause.
26	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] .)		