

NO.17 COOLING SYSTEM CONCERNS-OVERHEATING [ZJ, Z6]

B3E010318881W50

17	COOLING SYSTEM CONCERNS -OVERHEATING
DESCRIPTION	Engine runs at higher than normal temperature/overheats.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Improper coolant level • Blown fuses • Coolant leakage • Excessive A/C system pressure • A/C system operation is improper. • Improper water/anti-freeze mixture • Fans reverse rotation • Poor radiator condition • Thermostat malfunction • Radiator hose damage • Improper or damaged radiator cap • Cooling fan is inoperative. • Coolant overflow system malfunction • Improper tension of drive belt • Drive belt damage

Diagnostic procedure

STEP	INSPECTION	RESULTS	ACTION
1	Inspect the following: <ul style="list-style-type: none"> • Engine coolant level • Coolant leakage • Water and anti-freeze mixture • Radiator condition • Collapsed or restricted radiator hoses • Radiator pressure cap • Overflow system • Fan rotational direction • Fuses 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. 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	Start the engine and idle it. Turn the A/C switch on. Does A/C compressor engage?	Yes	Go to Step 5.
		No	Inspect for the following and repair or replace if necessary: <ul style="list-style-type: none"> • Refrigerant charging amount • Open circuit in wiring harness between A/C relay and PCM terminal 1AL • Seized A/C magnetic clutch • A/C magnetic clutch malfunction If all items are normal, go to the next step.
		Yes	Go to the next step.
			Inspect the following:

4	Connect the WDS or equivalent to the DLC-2. Access AC_REQ PID. Start the engine and idle it. Turn the A/C switch on. Does AC_REQ PID read On?	No	<ul style="list-style-type: none"> • Refrigerant pressure switch operation • A/C switch is stuck open. • Open or short circuit between refrigerant pressure switch and PCM terminal 1Q • Open circuit of blower motor fan switch and resistor (if blower motor does not operate) • Evaporator temperature sensor and A/C amplifier
5	Inspect cooling fan control system operation. (See Cooling Fan Motor Operation Inspection .) Does the cooling fan control system function properly?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part.
6	Is the drive belt normal?	Yes	Go to the next step.
		No	Replace the drive belt. (See DRIVE BELT REPLACEMENT [ZJ, Z6] .)
7	Is there leakage around heater unit in passenger compartment?	Yes	Inspect and service heater for leakage.
		No	Go to the next step.
8	Is there leakage at coolant hoses and/or radiator?	Yes	Replace the malfunctioning part.
		No	Go to the next step.
9	Cool down the engine. Remove the thermostat and inspect operation. (See THERMOSTAT REMOVAL/INSTALLATION [ZJ, Z6] .) (See THERMOSTAT INSPECTION [ZJ, Z6] .) Is the thermostat normal?	Yes	Engine coolant temperature sensor and the thermostat are normal, inspect the engine block for leakage or blockage.
		No	Access ECT PID. Inspect for both ECT PID and the temperature gauge readings. <ul style="list-style-type: none"> • If the temperature gauge on the instrument cluster indicates normal range but ECT PID is not same as the temperature gauge reading, inspect the ECT sensor. • If the temperature gauge on the instrument cluster indicates overheating but ECT PID is normal, inspect the temperature gauge and the heat gauge unit.
10	Verify test results. <ul style="list-style-type: none"> • 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] .)		