Troubleshooting the Cooling System

Problem	Cause	Solution
High temperature gauge indication—overheating	• Coolant level low	• Replenish coolant
	• Improper fan operation	• Repair or replace as necessary
	• Radiator hose(s) collapsed	• Replace hose(s)
	• Radiator airflow blocked	• Remove restriction (bug screen, fog lamps, etc.)
	• Faulty pressure cap	• Replace pressure cap
	• Ignition timing incorrect	• Adjust ignition timing
	• Air trapped in cooling system	• Purge air
	• Heavy traffic driving	• Operate at fast idle in neutral intermittently to cool engine
	• Incorrect cooling system component(s) installed	• Install proper component(s)
	• Faulty thermostat	• Replace thermostat
	• Water pump shaft broken or impeller loose	• Replace water pump
	• Radiator tubes clogged	• Flush radiator
	• Cooling system clogged	• Flush system
	• Casting flash in cooling passages	• Repair or replace as necessary. Flash may be visible by removing cooling system components or removing core plugs.
	• Brakes dragging	• Repair brakes
	• Excessive engine friction	• Repair engine
	• Antifreeze concentration over 68%	• Lower antifreeze concentration percentage
	• Missing air seals	• Replace air seals
	• Faulty gauge or sending unit	• Repair or replace faulty component
	• Loss of coolant flow caused by leakage or foaming	• Repair or replace leaking component, replace coolant
	• Viscous fan drive failed	• Replace unit
Low temperature indication—undercooling	• Thermostat stuck open	• Replace thermostat
	• Faulty gauge or sending unit	• Repair or replace faulty component
Coolant loss—boilover	• Overfilled cooling system	• Reduce coolant level to proper specification
	• Quick shutdown after hard (hot) run	• Allow engine to run at fast idle prior to shutdown
	• Air in system resulting in occasional "burping" of coolant	• Purge system
	• Insufficient antifreeze allowing coolant boiling point to be too low	• Add antifreeze to raise boiling point
	• Antifreeze deteriorated because of age or contamination	• Replace coolant
	• Leaks due to loose hose clamps, loose nuts, bolts, drain plugs, faulty hoses, or defective radiator	• Pressure test system to locate source of leak(s) then repair as necessary