



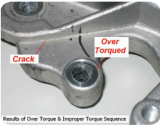









Problem	Potential Cause	Reason
Overheating  	Fan Operation	Inoperable fan Fan doesn't operate when it should Defective fan clutch
	Radiator Condition	Clogged internally Contamination Broken fins Air flow obstruction
	Lower Radiator Hose	Leak Collapsed
	Thermostat	Stuck Closed Installed in incorrect direction
	Radiator Cap	Holds incorrect pressure Incorrect PSI rated cap
	Improper Coolant Mixture	Lower boiling point
	Air in System	Trapped air pocket Not bled properly
	Low Coolant Level	Local boiling creates corrosive vapors
	Tensioner	Slack can allow belt slippage
	Improper Belt Routing	Spin water pump in opposite direction of flow
	Clogged Exhaust System	Excess back pressure can cause engine to work harder
	Incorrect Fuel Mixture	Extreme lean condition in fuel system
	Head Gasket/Head Failure	Combustion gases entering the cooling system
Ignition Timing	Incorrect ignition timing can be an issue in older applications	
Bearing/Shaft/Pulley Failures  	Fan Clutch	Defective fan clutch causes excessive vibration Defective fan clutch can cause a sudden load Not properly installed
	Fan Blades	Bent fan blades cause imbalance and excessive vibration Improper blades cause imbalance and excessive vibration Not properly installed
	Tensioner	High load from incorrect belt tension High side load from misalignment
	Faulty/Inadequate Motor Mounts	Engine tilt can occur causing fan blades to interfere with other components
	Housing Breakage  	Torque
Foreign Material		Material wedged between mounting surfaces
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Leaks    	Mounting Surface	Surfaces unclean Surfaces uneven or damaged Sealant applied unevenly or excessively Incorrect torque
	Weep Hole	Contamination Excessive load Air pockets/low coolant Improper coolant Insufficient flush Incorrect/Defective radiator cap Incorrect system pressure
	Water Pump Outlet & Hose Connection	Hose cracks or pin holes Incorrect hose