

Wheels: This is the third of eight columns covering the operation of the dash warning lamps.

Temperature Warning Lamp

The temperature warning lamp is one of the most important. This warning lamp may be labeled “hot” or “engine” or a symbol showing a thermometer indicating temperature.

Wheels: How does the temperature warning lamp work?

Halderman: A temperature sensitive resistor called a thermistor is used to monitor the temperature of the engine coolant. The vehicle computer then turns on the warning lamp if the temperature is excessive. On older vehicles, before computer-controlled warning lights, the sensing unit simply provided an electrical ground to the dash lamp when the sensor reached the overheat temperature. This red warning light indicates that the coolant temperature is dangerously high – usually over 258 degrees or about the boiling point of a 50/50 mixture of antifreeze and water under a 15 psi pressure provided by the radiator cap.

Wheels: What should the driver do if the coolant temperature warning lamp comes on during driving.

Halderman: If the air conditioning is on it causes a load and could contribute to the overheating. Turn it off.

NOTE: This may sound strange but there is a possibility that if the temperature warning lamp comes on and the air conditioning system is *not* on that by turning it on could help reduce the temperature of the engine coolant. The reason is that the coolant fan(s) on most vehicles are turned on whenever the air conditioning is turned on to help cool the air conditioning condenser. If there was a fault in the temperature sensor for the fan operation, then the fans can be forced on by turning on the air conditioning. Try to drive above 35 mph to force air through the radiator. If you are stuck in traffic, the best thing to do is to pull to the side of the road and shut off the engine and allow it to cool. This cooling period could take an hour or more.

Wheels: If the driver continued to drive with the temperature warning lamp on, is there a possibility of doing engine damage?

Halderman: Absolutely. When an engine overheats, parts such as the cylinder head expand and this can cause the head gasket to fail between the cylinder head and the block. When the head gasket fails, coolant can get into the engine oil, which can cause engine bearing damage. In other words, operating an engine when it is overheated can cost a lot of money to repair. Often the damage is so severe that an entire new or rebuilt engine is required. The cost of a replacement engine may exceed the value of the vehicle. Never drive a vehicle if the temperature warning lamp is on to avoid expensive repair.

