

SECTION V—COOLING SYSTEM

1. THERMOSTAT

A 160 deg. F thermostat is installed in 6-Cyl. engines and 180 deg. F thermostat is installed in V-8 engines. If a non-permanent type anti-freeze (alcohol or methonal) is to be used in a V-8 engine the thermostat must be replaced with a 160 deg. F thermostat. This is necessary since a non-permanent type anti-freeze is subject to evaporation. It is important that a periodic check of the solution be made whenever a non-permanent type anti-freeze is used.

IMPORTANT

Cars equipped with air conditioning must have the cooling system protected with permanent anti-freeze during the summer to at least 150 deg. F and to anticipated temperatures during winter. This is necessary to protect the heater core.

2. OIL COOLER

Automatic transmission oil is cooled by means of an oil cooler tube located in the lower radiator tank.

TESTING FOR LEAKS

If there is evidence of transmission oil in engine coolant the oil cooler should be tested.

Disconnect cooler lines from radiator lower tank and install a pressure gauge to one of the cooler outlets. To the other outlet, connect a source of air pressure with a suitable valve. Apply no more than 50 lbs. of air pressure. If pressure gauge remains constant, cooler and fittings are leak proof. If a leak is detected, the cooler will have to be removed from the radiator lower tank and repaired with silver solder.

COOLING SYSTEM DATA AND SPECIFICATIONS

Models		M-1	M-2	
		230 cu. in.	318 cu. in.	361 cu. in.
Cooling System Type		Pressure Vent		
Radiator Relief Pressure		14 psi		
Radiator Core Type		Fin and Tube		
Water Pump	Type	Centrifugal		
	Bearings	Ball Bearing Assembly		
Bypass Recirculation		Internal	External	Internal
Radiator Hoses	Lower—Type	Moulded Curved Rubber		
	Lower—Inside Dia.	1.5 in.		
	Upper—Type	Moulded Curved Rubber		
	Upper—Inside Dia.	1.5 in.		
Cooling Capacity—Quarts		13 qts. 14 qts. (with heater)	20 qts. 21 qts. (with heater)	16 qts. 17 qts. (with heater)
Thermostat—Starts to Open		157-162° F	177-182° F	
Thermostat—Fully Open		185° F	202° F	
Fan	Number of Blades & Spacing	4—76°, 104° (V-8 with air conditioning Six blade, 45°-75°-60°		
	Diameter	17 in. (sq. tip)	18 in. (curved tip)	
	Ratio—Fan To Crankshaft R.P.M.			
Thermostat Type		Choke, Pellet actuated		

NOTE

A small amount of water pump lubricating oils may be detected in the radiator. This is oil generally used in anti-freeze or a rust resistor and should not be mistaken for transmission oil leakage.

TRANSMISSION INSPECTION

If a leak is evident in the cooler, the transmission oil pan should be removed and unit inspected for evidence of sludge, plugged screen or rust. If indications are such that there is little or no evidence and the transmission was operating properly prior to a detected leak, the transmission oil should be drained from the unit and torque converter when hot. Refill with new transmission type "A" oil.

CAUTION

Exercise every precaution when draining torque converter to prevent burning of hands.

If transmission was operating erratically when leak was detected, or if unit is badly contaminated with glycol, dirt or sludge, remove unit and disassemble completely and inspect for wear or deterioration. Clean thoroughly and replace necessary parts. Flush out torque converter.

3. FAN BELT

Correct belt tension is important to the proper operation of belt driven units. This is especially true on cars equipped with power steering or air conditioning. A slipping belt due to looseness or grease will cause premature wear of the belt and reduce the efficiency of the driven units. Over-tightening belts will put too great a load on bushings or bearings.

BELT TENSION

To check belt tension, place a straight edge on the belt between the generator pulley and fan pulley. Apply a 5 lb. force at the center of the belt and measure the deflection, Refer to Belt Tightening Specifications Chart for correct deflection.

BELT TENSION SPECIFICATIONS

Type of Accessories		New Belt (ins.)	Used Belt (ins.)	Location
V-8 318 cu. in.	Standard	$\frac{5}{32}$	$\frac{1}{4}$	Between generator and water pump.
	Power Steering	$\frac{1}{16}$	$\frac{1}{8}$	Between crankshaft and power steering pump.
	Air Conditioning	$\frac{1}{8}$ $\frac{5}{64}$	$\frac{1}{4}$ $\frac{3}{32}$	Between compressor and generator. Between idler and water pump.
	Air Suspension	$\frac{5}{16}$ $\frac{5}{16}$	$\frac{9}{16}$ $\frac{3}{32}$	Between compressor and generator. Between idler and water pump.
	Air Suspension With Air Conditioning	$\frac{1}{16}$ $\frac{1}{8}$	$\frac{1}{8}$ $\frac{1}{4}$	Between air compressor and idler. Between air conditioning compressor and idler.
V-8 361 cu. in.	Standard	$\frac{1}{8}$	$\frac{1}{4}$	Between generator and water pump.
	Power Steering	$\frac{1}{8}$	$\frac{3}{16}$	Between crankshaft and power steering pump.
	Air Suspension	$\frac{5}{16}$ $\frac{1}{16}$	$\frac{9}{16}$ $\frac{1}{8}$	Between air compressor and generator. Between water pump and idler.
	Air Suspension With Air Conditioning	$\frac{1}{8}$ $\frac{1}{8}$	$\frac{1}{4}$ $\frac{1}{4}$	Between idler and air conditioning compressor. Between air compressor and crankshaft.
6 Cyl.	Standard	$\frac{3}{32}$	$\frac{5}{32}$	Between generator and water pump.
	Power Steering	$\frac{3}{32}$ $\frac{3}{32}$	$\frac{7}{32}$ $\frac{5}{32}$	Between generator and water pump. Between water pump and power steering pump.