



COOLING & HEATING GROUP XI

GENERAL

COOLING SYSTEM

The cooling system in the Checker is of the pressure type. This means that the water is under pressure when operating with a pressure cap on the radiator. The pressure cap is designed with a spring pressure of approximately four pounds to hold the sealing portion of the cap tight against the top of the filler neck. Under this pressure, created by the cap, water is prevented from boiling at its normal boiling point.

As you know, water boils at 212 degrees Fahrenheit at normal atmospheric pressure. You also know that under low atmospheric pressures, as found in high altitudes, water will boil at less than 212 degrees. On the other hand, if more pressure is applied, water will boil at higher than 212 degrees temperature. This is the principle used in a pressure cooling system. The cooling system is sealed by the pressure cap, causing pressure to be developed, raising the boiling point of the water.

The boiling point of the water in the system is increased 3 degrees for every pound increase of pressure. The Checker cooling system has a four pound pressure cap, thus, the boiling point of the water is 224 degrees.

We have learned, from records of innumerable tests, that an engine operates more efficiently at high temperatures. Gasoline economy is better and sludge formation is minimized. The Checker can be equipped, as optional equipment, with a thermostatically operated shutter, which is used to help maintain these higher temperatures for winter driving, and to furnish additional heat to the car heater in extremely cold outside temperatures. The thermostat is set to start opening at 170 degrees. Depending on outside temperatures, the normal water temperatures will be from 170 to 200 degrees and with a pressure cap, temperatures can go over 212 degrees without affecting the efficiency of the engine or without any danger of overheating.

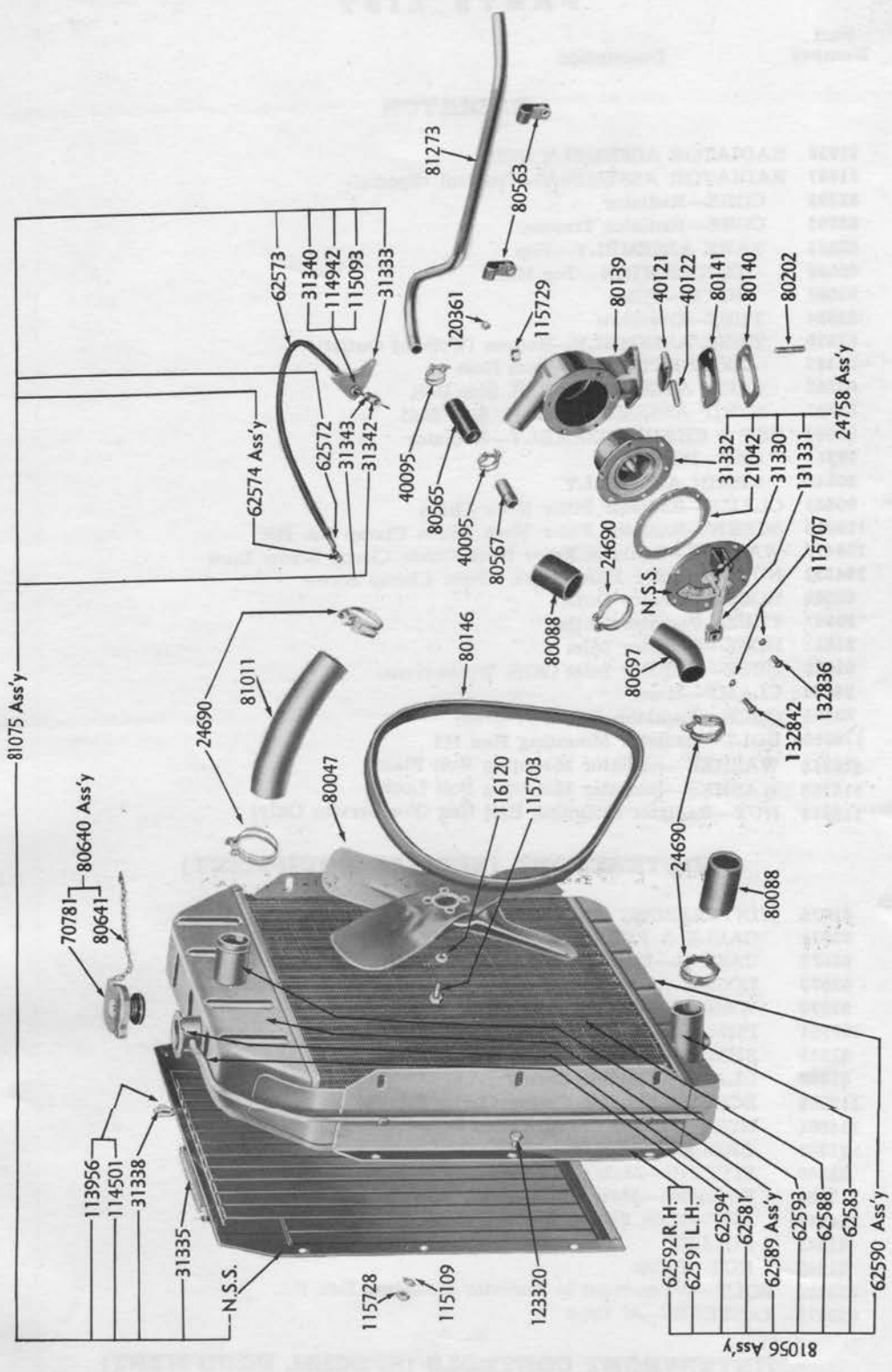
Real overheating will be indicated by the continued loss of water boiling out of the radiator, and unless this happens the system is working in a normal and satisfactory manner. However, if the radiator is over filled, some water will be lost through the overflow pipe when the engine is warmed up the first time. This loss, however, will not continue and additional water should not be added.

The radiator cap should not be removed when the engine is hot, as the removal will release the pressure in the cooling system and cause the hot water to overflow the filler neck. When the cap is removed, the pressure is lost.

Be guided, therefore, by the heat indicator. As long as it stays within the operating range, marked on the dial, the cooling system is functioning properly; and you should instruct filling station attendants to leave the radiator cap alone. The cooling system then will retain its maximum temperature control and the engine will continue to operate at its greatest efficiency.

HEATING SYSTEM

The Checker is equipped with a centrally located heater on dash. All models have defrosters as part of this heater.



COOLING AND HEATING SYSTEM

COOLING AND HEATING

GROUP 11

PARTS LIST

No. Part
Req'd. Number Description

RADIATOR

1	81056	RADIATOR ASSEMBLY STD.
1	81057	RADIATOR ASSEMBLY—Tropical (Special)
1	62588	CORE—Radiator
1	62595	CORE—Radiator Tropical
1	62589	TANK ASSEMBLY—Top
1	62593	CONNECTION—Top Hose
1	62581	NECK—Filler
1	62594	TUBE—Overflow
1	62590	TANK ASSEMBLY—Bottom (Without Outlet)
1	62583	CONNECTION—Bottom Hose
1	62592	STRIP ASSEMBLY—R. H. Side Bolt
1	62591	STRIP ASSEMBLY—L. H. Side Bolt
1	80640	CAP & CHAIN ASSEMBLY—Radiator
1	70781	CAP—Radiator
1	80641	CHAIN ASSEMBLY
1	80642	CLAMP—Radiator Filler Neck Chain
1	129028	SCREW—Radiator Filler Neck Chain Clamp Rd. Hd.
1	138473	WASHER—Radiator Filler Neck Chain Clamp Screw Lock
1	134532	NUT—Radiator Filler Neck Chain Clamp Screw
2	80088	HOSE—Radiator Outlet
1	80697	TUBE—Radiator Outlet
1	81011	HOSE—Radiator Inlet
1	81076	HOSE—Radiator Inlet (With Winterfront)
6	24690	CLAMP—Hose
1	23305	COCK—Radiator—1/4 I. P. Drain
6	119860	BOLT—Radiator Mounting Hex Hd.
6	446355	WASHER—Radiator Mounting Bolt Plain
6	115109	WASHER—Radiator Mounting Bolt Lock
6	118613	NUT—Radiator Mounting Bolt Hex (For Service Only)

WINTERFRONT (SPECIAL EQUIPMENT)

1	81075	WINTERFRONT ASSEMBLY
1	62574	CABLE & FERRULE ASSEMBLY
1	62572	CASING—Flexible
1	62573	LOOM—Auto
2	62570	WASHER—Return Spring Post
1	107761	PIN—Return Spring Post Cotter
1	31335	SPRING—Return
1	31338	CLAMP—Flexible Casing
1	113956	SCREW—Flexible Casing Clamp Rd. Hd.
1	114501	NUT—Flexible Casing Clamp Screw
1	31333	BRACKET—Cover
1	31340	FITTING—Male
1	115093	WASHER—Male Fitting Lock
1	114942	NUT—Male Fitting Hex
1	31342	COLLET
1	31343	NUT—Collet
6	123320	BOLT—Winterfront to Radiator Mounting Hex Hd.
6	626015	FASTENER—U Type

WINTERFRONT CONTROLS (SPECIAL EQUIPMENT)

1	24758	THERMOSTAT ASSEMBLY—(For use with Winterfront)
1	31332	THERMOSTAT UNIT
1	21042	GASKET—Thermostat
1	31330	YOKE
1	31331	ARM & SWIVEL ASSEMBLY—Crank

COOLING AND HEATING

GROUP 11

PARTS LIST

Req'd. Number
No. Part

Description

WINTERFRONT CONTROLS (CONT.)

1	21046	PIN—Arm and Swivel Assembly to Yoke
1	20590	PIN—Arm and Swivel Assembly to Thermostat Cover
2	112526	PIN—Cotter
4	132836	SCREW—Cover Fastening Rd. Hd. (For use with Winterfront)
2	132842	SCREW—Cover Fastening Rd. Hd. (For use with Winterfront)
6	115707	WASHER—Cover Fastening Screw Lock (For use with Winterfront)
2	120361	NUT—Cover Fastening Screw Hex (For use with Winterfront)

CYLINDER WATER CONNECTIONS

1	80139	OUTLET—Engine Water (For use with Winterfront)
2	80202	STUD—Water Outlet (For use with Winterfront)
1	80362	ELBOW—Engine Water Outlet (For use without Winterfront)
2	62101	STUD—Water Outlet Elbow (For use without Winterfront)
2	116120	WASHER—Water Outlet Stud Lock
2	115729	NUT—Water Outlet Stud Hex
2	80140	GASKET—Water Outlet
1	80141	PLATE—Water Outlet Reducing
1	40121	DOOR—Water Outlet Check Valve
1	40122	PIN—Valve Door
1	80374	GASKET—Elbow to Head
1	40042	COCK—Cylinder Water Drain
1	80375	THERMOSTAT—Engine
1	80373	RING—Thermostat Adapter

HEATER CONTROL AND HOSES

1	80564	HOSE—Heater Engine Tube to Water Pump
1	81270	HOSE—Heater to Engine Tube
1	81271	HOSE—Heater to Engine Valve
1	81273	TUBE—Heater Engine
1	81272	VALVE ASSEMBLY—Heater Shut-Off
6	40095	CLAMP ASSEMBLY—Heater Hose
2	80563	CLIP—Heater Engine Tube
1	142269	BUSHING—Valve to Cylinder Head Reducing
1	80567	NIPPLE—Water Pump Heater

FAN AND PULLEY

1	62094	PULLEY ASSEMBLY—Fan
1	80146	BELT—Fan and Generator
1	80047	BLADE ASSEMBLY—Fan
4	115703	BOLT—Fan Blade Mounting Hex Hd.
4	116120	WASHER—Fan Blade Mounting Bolt Lock