

20. WATER PUMP & THERMOSTAT HOUSING

20.1. WATER PUMP (The pulley is considered elsewhere.)

Water pumps do not have casting dates; casting numbers may be hidden by the pulley or engine mounting bracket. 1953 very early adapter plates have a casting date (Example: 3-18-53).

On the back side of the pump is a cover plate which is flat and held in place with slot head screws.

	6-cyl 1953-55	8-cyl 1955-56	1957	1958-60	1961-62
Casting No.	3706011	3704911	3736492 3736493	3736493	3782609
Part No.	3706009	3704906	3736492 3741034	3741034	3787566
Adapter Plate	3706013	none	none	none	none



Six Cylinder Engines: the water pump mounted on an adaptor plate. Both the plate and the base of the pump were round and peculiar to the Corvette.

The plate mounted to the engine block with six each 3/8 inch bolts and lock washers. During 1953 these washers changed from spring-lock type to internal tooth-lock type. The plate was painted engine blue but the bolts and washers were cadmium or zinc plated.

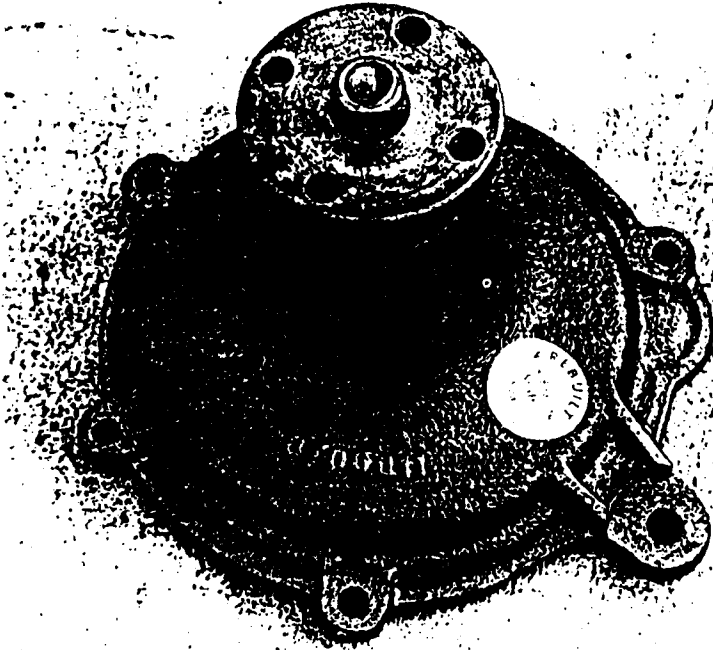
The pump mounted to the plate with six hex bolts and lock washers. Five of the bolts were 1/2 inch diameter; the sixth was 5/16 inch diameter and attaches the generator brace. The three external bolts switched to the tooth-lock type washer during 1953. The pump is painted engine blue but all bolts and washers are cadmium or zinc plated.

Eight Cylinder Engines: the water pump mounted directly to the engine block along with the front engine mounting bracket. Both the water pump and engine bracket were installed prior to engine painting and received orange paint. If heater equipped, the hose fitting is 5/8 inch curved type.

This pump was oval shaped with a bend in the center. Beginning 1957, there is a built-up boss, about one inch square on the top of the bend. Beginning 1961, this boss was converted to a 5/8 inch outlet for the line leading to the radiator surge tank.

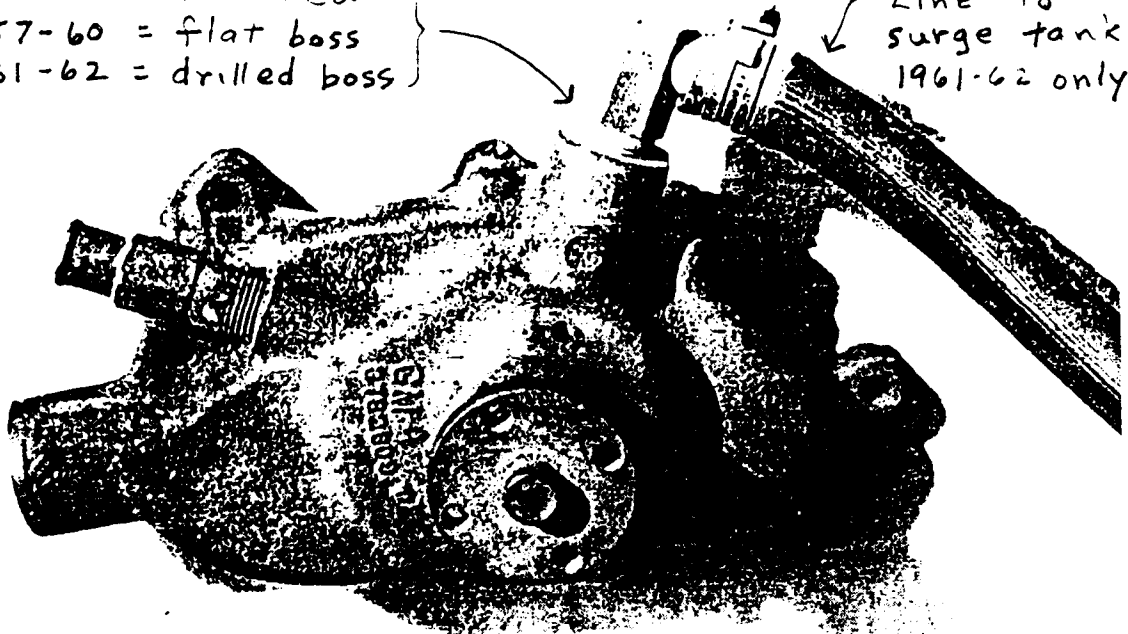
WATER PUMPS

Right:
1953-55
6 CYLINDER



Below:
1955-62
8 CYLINDER

1955-56 = rounded
1957-60 = flat boss
1961-62 = drilled boss



20.2. THERMOSTAT HOUSING

Thermostat housings were made of the same material as the intake manifold (iron on iron; aluminum on aluminum).

Six Cylinder: ?

Eight Cylinder: Cast iron housings had PN 3705018 beneath "23".

Cast aluminum housings had PN 3837223 in various places/sizes, but only the first one was used thru 1962.

- PN near either mount hole; narrow neck; base not recessed
- PN on top; thick neck; base slightly recessed
- large PN at rear base; thick neck; base deeply recessed
- small PN at rear base; otherwise same
- PN on pass side; thick neck; base not recessed

Two explanations have been offered for the variations after 1962. One is that GM made minor running changes without changing the PN, therefore the changes would occur sequentially. Another is that the changes were vendor variances made from a single GM drawing, therefore the changes would occur randomly depending on the source of supply. At this time neither theory is documented.

1955: All housings are cast iron; housing and attaching bolts are painted to match engine.

1956-62: Iron intakes use an iron housing;
painted engine color and attached with bolts.

Aluminum intakes use an aluminum housing;
natural finish and attached with studs and nuts.



Water Pump References:

Adams pages 62, 132, 234-5, 333-5

NCRS Judging Manual 1953-55, page 36
1956-57, page 39
1958-60, page 22 & 27
1961-62, page 16 & 22

Thermostat Housing References:

Adams pictures pages 287-8, 375-6, 378

Straight Talk Vol I-2, page 19
Vol I-4, page 12
Vol II-4, page 16

NCRS Judging Manual 1953-55, page 38
1956-57, page 41
1958-60, page 22
1961-62, page 16



21. RADIATOR & SURGE TANK

Radiators are painted gloss black.

Surge tanks are located in three places: internal to the radiator, mounted on top of it, or completely separate.

	1953-55 six cyl	1955-57 V-8	1958-60	1960 hi-lift	1961 FI hi-lift	1961-62
Spt Assy	?	3706288	3744856	3772854	3786902	3786902 (1)
Radiator	copper 3130953	copper 3133689	copper 3141674 3139588*	alum (2) 3747516	alum 3151116	copper(3) 3150916
Fill Neck	none	L shape	L shape	straight	none	none
Rad Cap	none	7 psi 850549 3708173 3708174 (4)	7 psi 850549 3708173 3708174 (4)	13 psi 861362	none	none
Surge Tank	3706261 (5)	none	none	yes (6)	3151016 (7)	3151016 (7)
Surge Cap	4 psi 850778 (8)	none	none	none	13 psi 861306 861307 (9)	13 psi 861306 861307 (9)

* 3139588: very early 1958; may not have been used at all.



RADIATOR FOOTNOTES

- (1) FI after AIM 1-11-62: seal PN 3814905 was installed on the sides of the radiator. The seal was .06 inch rubber, 3 inches wide and 15.98 inches long with three 5/16 inch holes.

The seal was held in place by three retainers PN 3795485 with two center tabs "clinched" to hold the seal. The retainers were .7 inches wide and 1.7 inches long with a .1 inch rim around the edges.

Large carb after AIM 1-23-62: added same seal as FI above (does not mention the retainers).

- (2) Shortages resulted in use of copper core radiator on many hi-lift engines. The aluminum radiator had a peculiar inlet hose, PN 3777482.
- (3) Early base 1961s used 1960 type radiators until exhausted; 192 each used copper radiators; 1500 each used aluminum
- (4) Various zinc plated caps were used randomly:

PN 850549 - stamped ">-turn tight->" and ">-remove slowly->" stamped with last three digits of PN

PN 3708173 - stamped ">-tighten->" and ">-remove slowly->" flat top; "7" stamped near "slowly" not available 1955

PN 3708174 - stamped ">-tighten->" and ">-remove slowly->" round top; stamped "7" near "remove" not available 1955



SURGE TANK FOOTNOTES

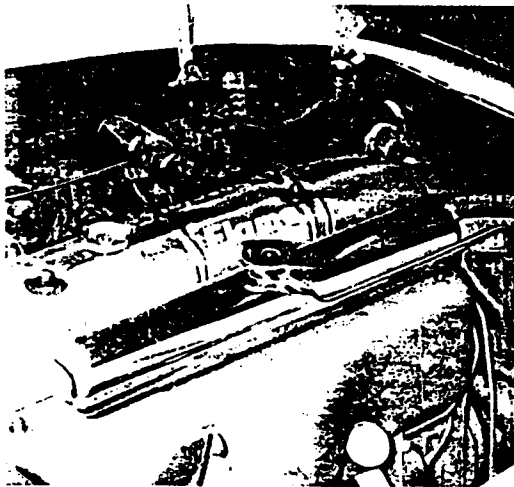
- (5) The surge tank was a long cylinder which mounted along side the valve cover. It was made of chrome plated brass and came in three minor variations.

Until 1953 about VIN -1279, the overflow pipe had a 90 degree bend pointing down.

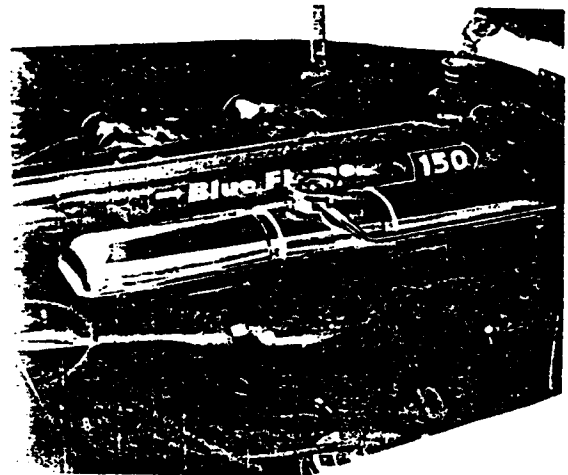
Starting 1953 about VIN -1283, the pipe is shorter and straight. The pipe feeds a black rubber tube (no clamp) which is held to adjacent fuel/vacuum lines with brass tie-bands .

Until mid 1954 between VIN -1111 and -1120, the casing was smooth. After that, two indented bands 1-inch wide were added, one on each side of the cap.

Smooth Surge Tank



Indented Surge Tank



- (6) The surge tank mounted on top of radiator. On the driver's side, a plastic plug was added about Jan 1960. The words "CHECK WATER" appear above the plug and "LEVEL HERE" below.
- (7) An aluminum surge tank mounted on the driver side opposite the generator. A manufacturing date was stamped on the end.
- (8) The cap was stamped "778" and "4#"; it was chrome plated.
- (9) All 1961 caps changed on AIM 2-23-61 from PN 861306 (aluminum) to PN 861307 (zinc plated steel). Both are stamped with last three digits of PN, "13", and ">-TURN TIGHT->" and ">-REMOVE SLOWLY->".



Identification Plate: Radiators are made by Harrison (GM) Division. A metal plate was soldered to the radiator's rear vertical surface, top center. The only exception is the 1960 aluminum radiator, the ID plate is on the surge tank, top center, attached with two slot screws.

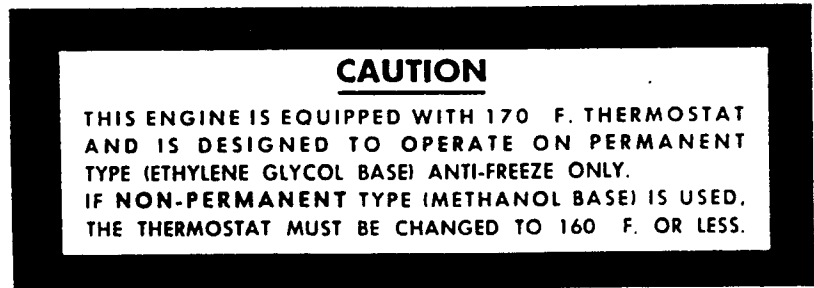
The plate contains the PN and manufacture date code. The radiator date should precede the vehicle assembly date. Example: 53J is 1953 Sep; "I" is not used for a month.

Caution Sticker: One of two stickers were used near the filler cap of the radiator and/or surge tank. Both were gummed-back paper (printed in green ink on white background).

One was 2 inches square. It appeared on all six cyl radiators after E54S004000, all 1955-57 eight cyl radiators, and all 1962 surge tanks. A similar sticker (1.5 x 5 inches) appeared on all 1958-62 radiators. The sticker PN changed on AIM 12-17-58.

PN 3718263

PN 3750355 or 3764584



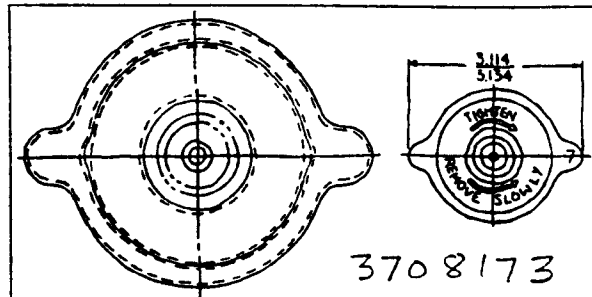
Radiator References:

- Adams 1953-55 pages 48, 52-6, 61, 87
- 1956-57 pages 150-1
- 1958-60 pages 252-3, 274, 276
- 1961-62 pages 350-2, 364-7, 371-2, 375, 377-8, 382-3, 385

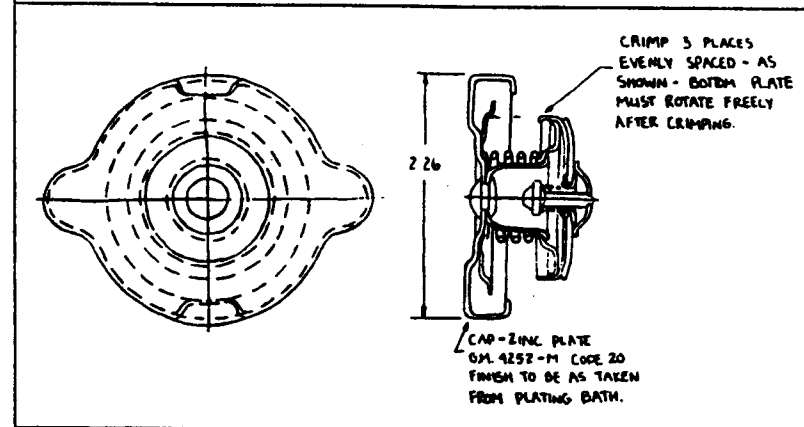
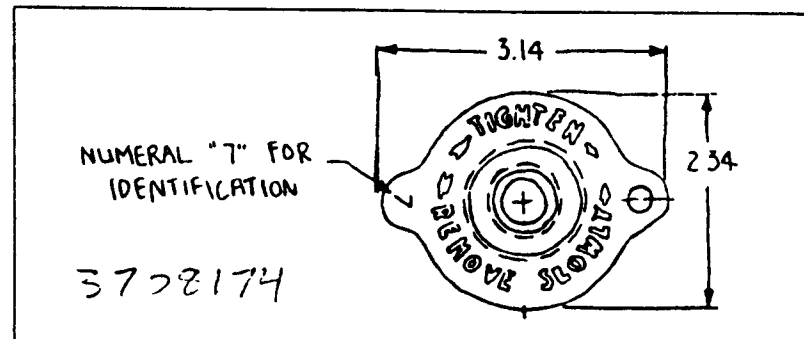
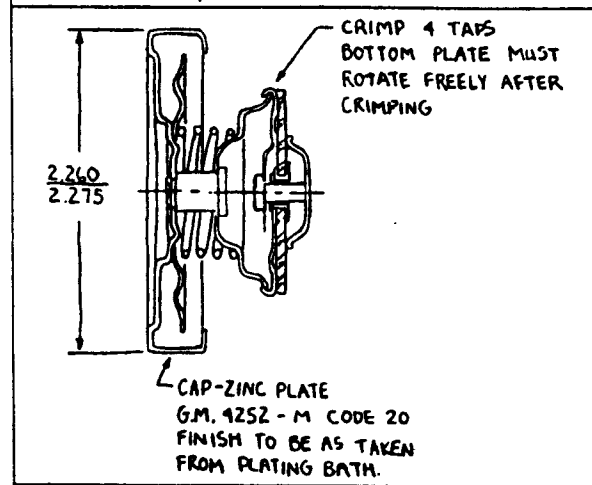
- NCRS Judging Manual 1953-55 page 38
- 1956-57 page 41
- 1953-55 page 22 & 27
- 1953-55 page 17 & 22

- GM Assembly Manual 1956-59 Sect 13 Sheet 3.00
- 1960 Sect 11 Sheet 6.00
- RPO 469 Sheet 3.00
- 1961-62 Sect 11 Sheet 5.00

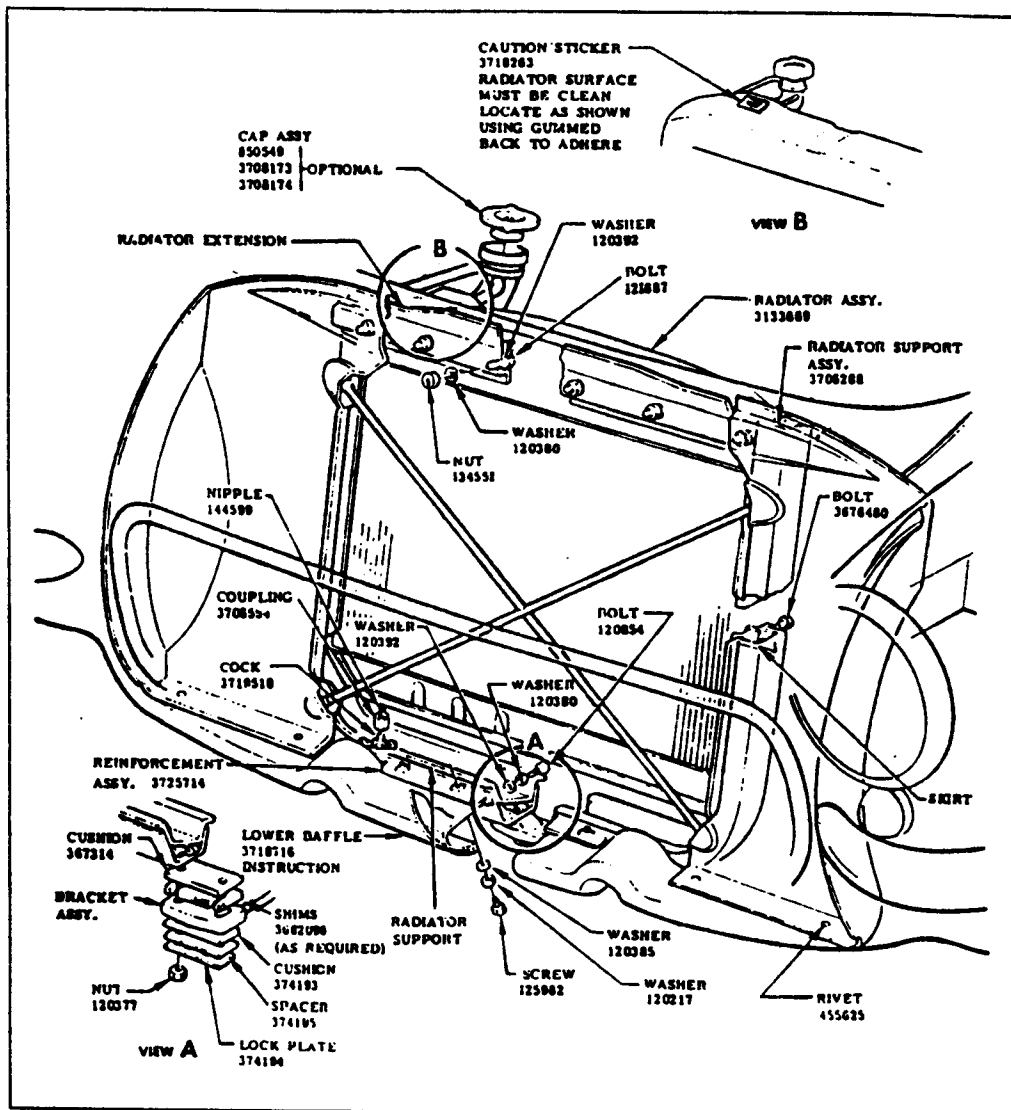
RADIATOR CAPS
1956-60



3708173



RADIATOR
1956-57



RADIATOR
1962

FUEL INJ
AFTER
AIM 1-11-62

AND

LARGE CARB
AFTER
AIM 1-23-62

