

14. SHIELDING (RADIO & HEAT)

The shielding discussed here has two purposes. One is to contain the high-energy electrical impulses in the engine area and thus prevent them from interfering with the reception of the AM radio. The other is to protect spark plug boots and wires from the heat of the exhaust manifold and header pipe. Some shields do both.

Considered elsewhere: the grounding straps and the capacitors.

14.1. 1953-55 Six Cylinder Engines

All vehicles are equipped with shielding.

The shielding consisted of two pieces (upper and lower) covering the entire passenger side of the engine. They are made of stamped steel and held in place with three chromed wing nuts at sides and two chromed acorn nuts with internal tooth lock washers on top.

The upper half of the ignition shielding mounts on two studs on the Corvette valve cover. Note: the passenger car valve cover does not have these studs.

The ignition shields were painted separately (black interior, engine color exterior) and installed after the engine was in the car's chassis.

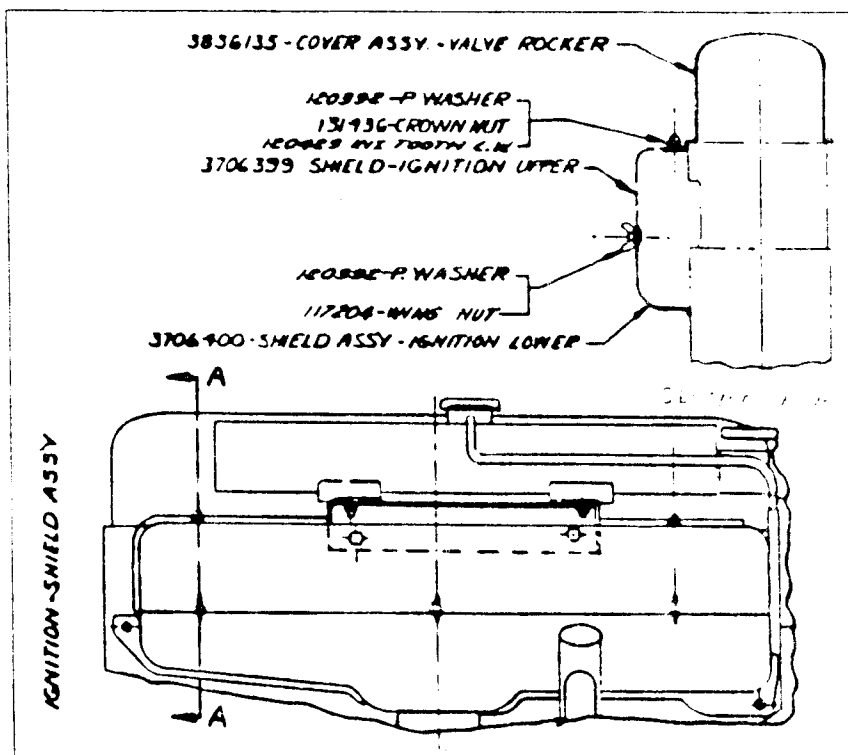
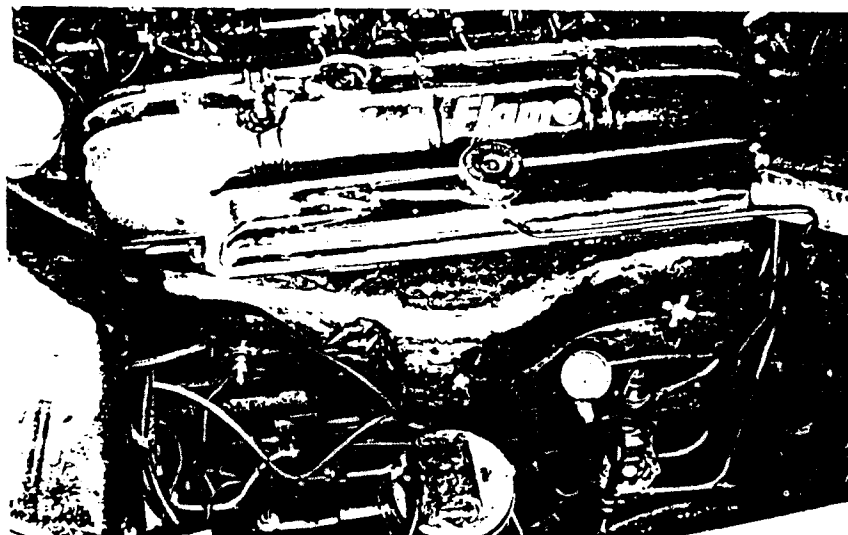
In mid 54 an unexplained change was made in the way the six-cylinder engine's ignition shields were finished. Most of the shielding and valve covers were painted as usual, but some were chrome plated. Between E54S001636 and -4381, surveys report fourteen percent with chrome ignition shielding and eighteen percent with chrome valve covers.

The engine's electrical needs are fed through a co-axial capacitor (condenser) mounted on the ignition shielding with clutch head fasteners at lower rear. The ignition coil and distributor were mounted inside the shielding. Since the entire system was covered by the shielding, anti-static graphite spark plug wires were not used.

Spark plug wires have bellows ribbing on boots and use black triad plastic guide clips, one each for wires 1-2-3 and 4-5-6.



SHIELDING
1953-55
SIX CYLINDER



14.2. 1955 Eight-Cylinder Ignition Shielding

All vehicles are equipped with riveted shielding.

This ignition shielding was unique in that every part of the system had its own section of shielding. The distributor and coil each had a dome-shaped metal cover and each spark plug wire was sheathed separately in metal braid.

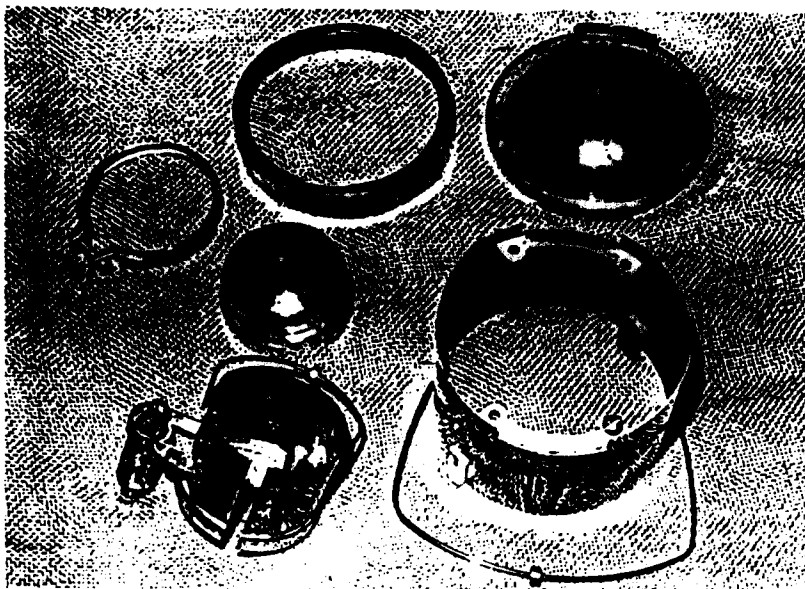
Both the distributor and coil had chromed "can" shaped covers. Early shielding (about first 50) had a manufacturer's ID tag; later shielding used a sticker decal.

The coil shield had a chromed condenser mounted on it. Two more capacitors are mounted on the voltage regulator plate; plus a static condenser is mounted on the generator.

The distributor shield had a four screw terminal inside to connect all eight braid ends. The braid (with spark plug wire inside) came through the vertical side of the distributor shield, then passed through two clips bolted to each side of the block and ended at the spark plug boot. The boot end of the braid was bent back and grounded by the same bolt holding the clip on the block.

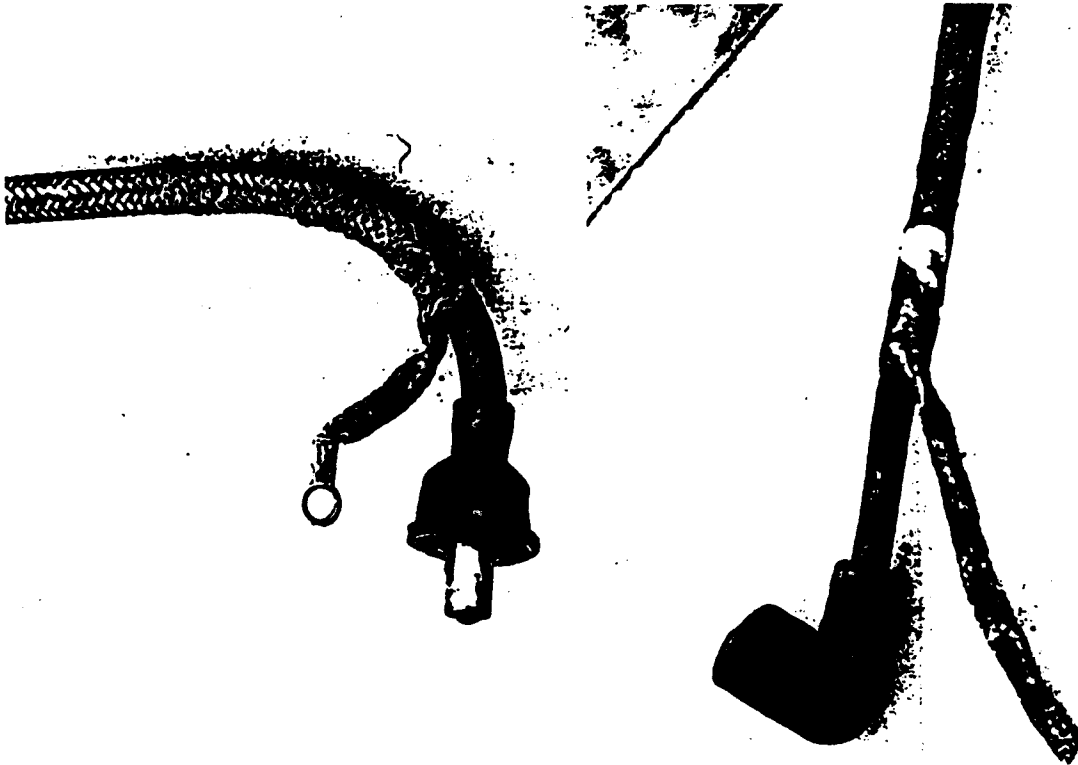
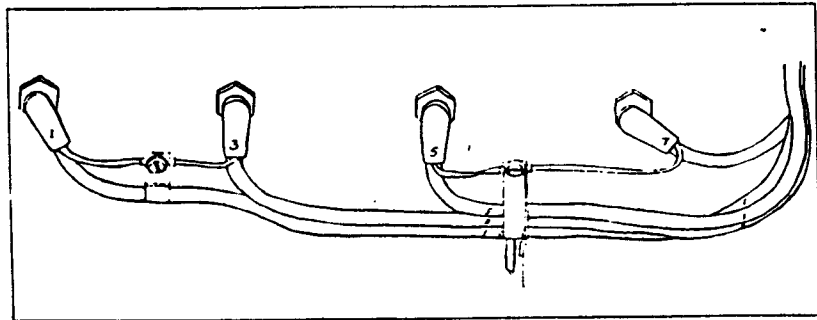
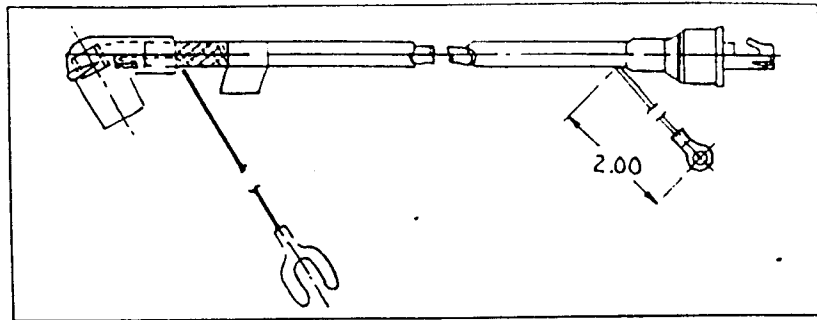
In mid 55 (about VIN #400) braided grounding straps were added to engine mounting brackets (both sides) and muffler tailpipe hangers (both sides).

SHIELDS
1955 V-8



SHIELDS - 1955
EIGHT CYLINDER

SPARK PLUG
BRAID CASING



14.3. 1956-62 General

All Shields: The dates shown on the following pages are drawing dates. Manufacture and installation would occur some time later.

Beginning 1956, radios were no longer installed on all vehicles. Although radios were optional, shielding was standard until AIM 2-2-56 when it became part of radio FOA 102. Thus it's possible for an earlier vehicle to appear correct with shielding and without a radio. No such examples have been verified, so check for evidence that the radio was removed.

Support Brackets: brackets are painted semi-gloss black.

All years used the same brackets on radio & non radio cars so mounting tabs were present for radio shields.

1961-62 with RPO 242 (crankcase vent) uses a different passenger bracket (PN 3744405) which does not have the vent tube provision and is similar to the driver side.

Bolts & Washers:

All 56-7 shielding: 3728415 wing bolts; chrome plated

All 58-62 vert/hor: 3728415 wing bolts; chrome plated
120380 lock washer; cadmium or zinc plated

Top: 1958-61 until AIM 7-25-61
121798 hex bolts (1/4-20x1/2"); chrome plated
120390 lock washers; cadmium or zinc plated
late 61-2 4423554 hex bolt & washer assy; cad or zinc plated
(has external star tooth washer)

1958-60: Check spacer used on right rear horizontal bracket.



Non Radio Equipped Heat Shields

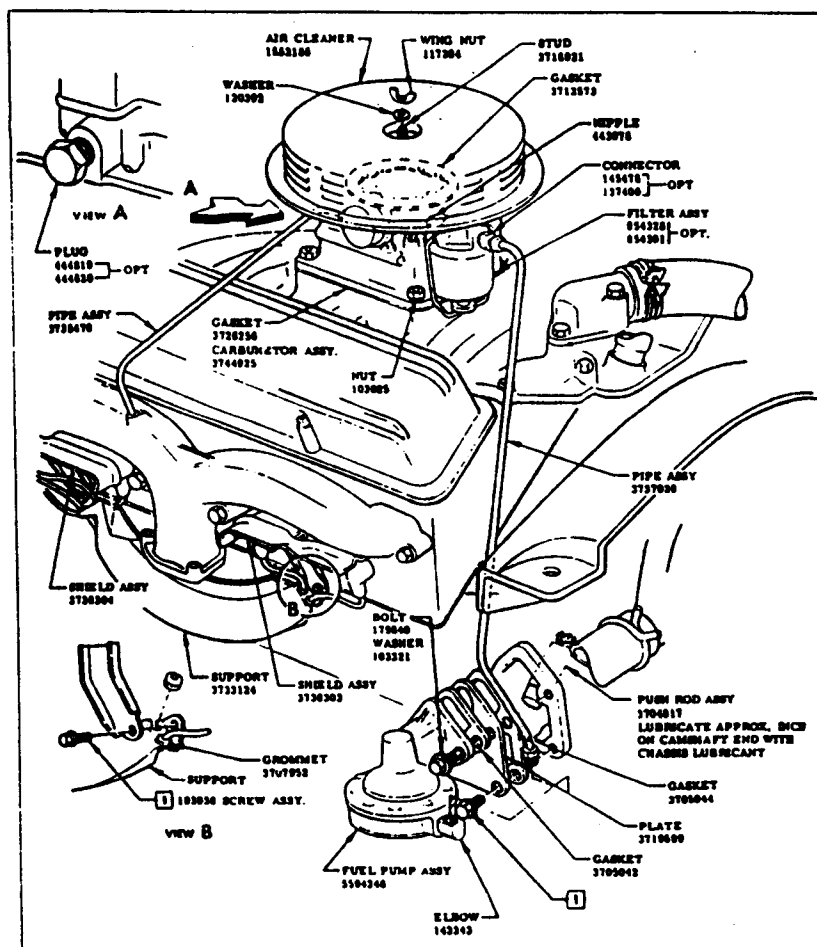
1956 had an early and late versions of spark plug wire protection which changed on AIM 2-2-56.

Early 56 shielding was standard equipment and provided both heat and radio protection. These early combination shields were in three pieces (front/rear/center). Later the heat shield remained three-piece but changed design; while the radio shields joined the front and rear pieces into one and borrowed the new crescent shaped heat shield.

Late 56-62: protection against heat is provided by two cane shaped shields (front/rear) between the exhaust manifold and the spark plug wires, plus a crescent shaped heat guard (PN 3733124) in the center for the two front wires to cross over the header pipe. These three heat guards are cadmium or zinc plated (one center guard had black paint over the plating) and mount to the block. The cane shaped pieces continue thru 1962, but the crescent shaped piece disappears after 1957.



HEAT SHIELDS
BEFORE AIM 2-2-56



14.4. 1956-62 Radio Equipped

Top Shield (carbureted): Apr 56 changed from chrome to stainless.

1956-61 used PN 3730328 but it had several changes.

Original: top hole 9/32 inch round

27 Mar 56: elongated top hole to slot 9/32 x 15/32 inch

Apr 56: before - sides formed by top piece bending down
after - sides formed by front/rear skirts wrap-around

May 56: notch for accelerator linkage was modified

Mar 60 (late): rear center depression was removed
front skirt lengthened, depression & hole added
rear skirt attaching holes changed to slots

1962 used PN 3798636 which was identical to the prior PN except passenger notch is modified from slanted in 61 to vertical in 62.

Top Shield (fuel injected): FI shielding was added in 1957, about VIN #600; it can be identified by the extral bulge in the front for the coil; all years are stainless steel.

1957-61 used PN 3741865 but had several changes.

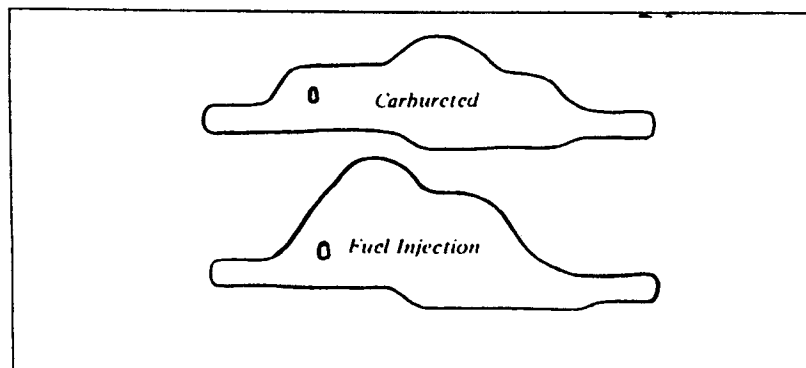
Aug 56: original had short front skirt
only one cutout (for accelerator linkage)

May 57: front skirt added two notches near distributor
front & rear skirts modified for accelerator linkage

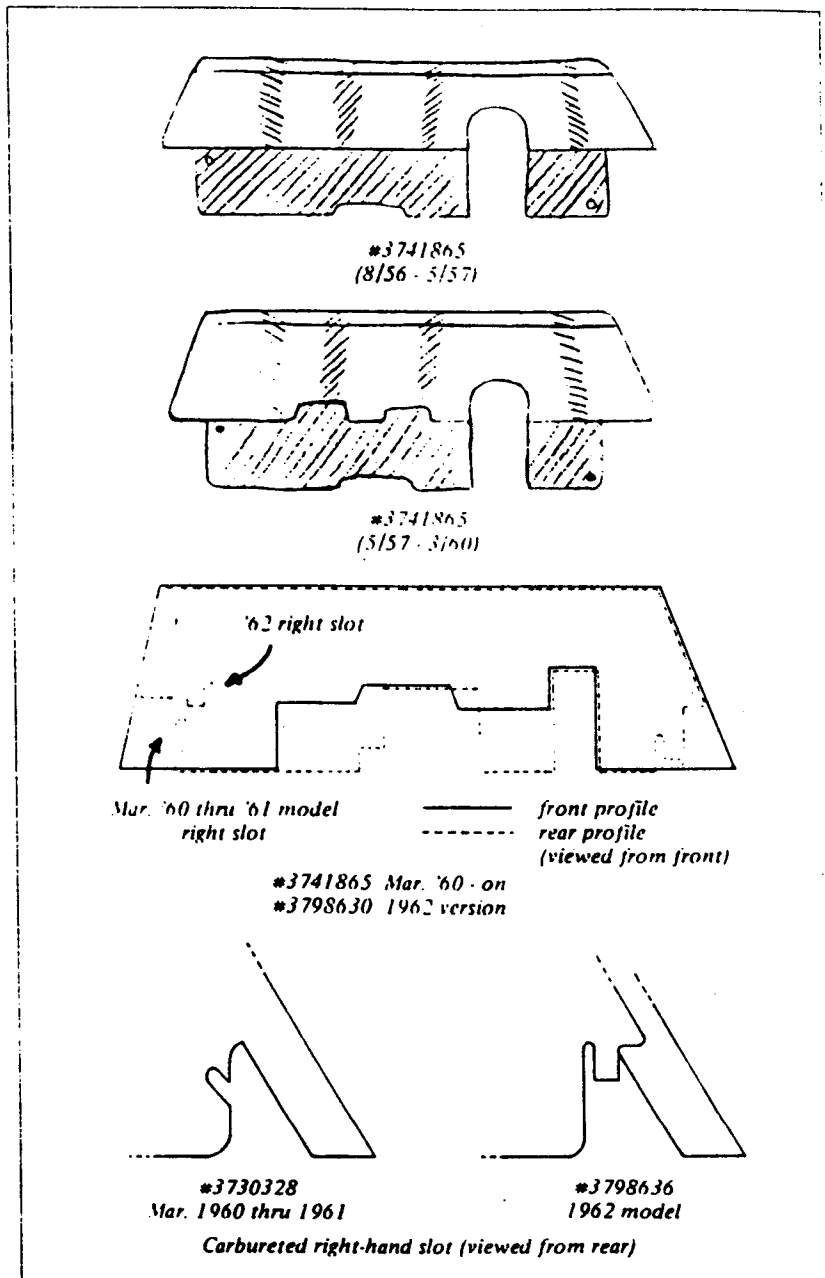
Mar 60: front skirt made longer, hole added
rear holes replaced by notches (dr=vert, pass=slant)

1962 used PN 3798630 which was identical to the prior PN except for passenger side notch is modified from slanted in 61 to vertical in 62.

Note: All three FI reproductions from Jerry Kohn in Sawyer MI are very good but won't hold a magnet (originals do) because he uses a better quality stainless steel.



TOP SHIELD
1956-62



Vertical Driver Shield: All years used PN 3728949 but there were a number of changes. It changed from chromed to stainless steel in mid Jan 61.

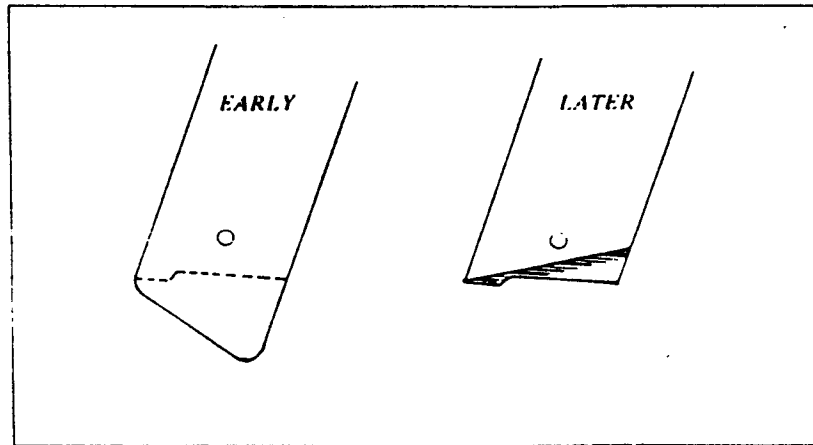
- Jul 55: first produced for 56 model; 9/32 in holes
- Sep 55: upper end shorter so top could fit over holes enlarged to 3/8 in
- May 57: lower end diagonal tip removed
- Jul 61: changed material thickness from .021 in to .035 in

Vertical Passenger Shield: All years used PN 3728950 but there were a number of changes. All years were chromed steel.

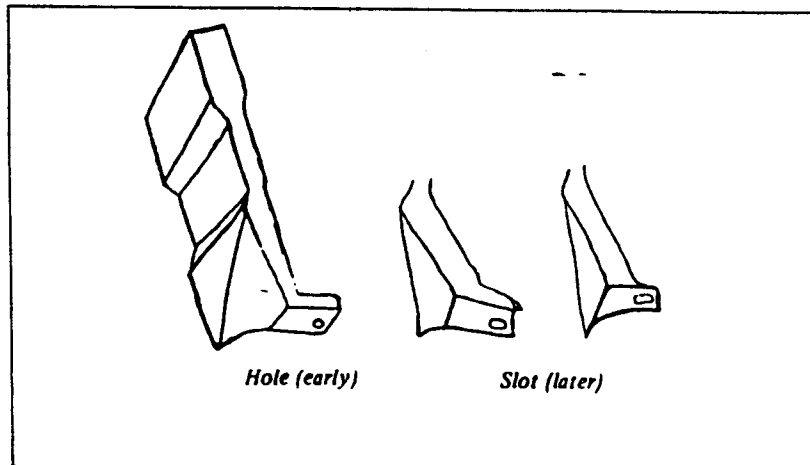
- Jul 55: first produced for 56 model; 9/32 in holes
- Sep 55: upper end shorter so top could fit over holes enlarged to 3/8 in
minor change in lower dimension
- Jul 61: changed material thickness from .021 in to .035 in
lower hole changed to a slot



VERTICAL DRIVER



VERTICAL PASSENGER



Horizontal Driver Shield: 30 Jun 61 to 13 Feb 62 are stainless, all others are chromed steel.

1956 early: it was two pieces until AIM 2-2-56.

1956-61: used PN 3736235; a one-piece design with several changes.

7 May 56: released print

2 Jul 57: added rear lower cutout

upper cutout 2.31 in deep x 3.80 in long

lower cutout depth tapers x 3.75 in long

1962: used PN 3796647; has inner metal reinforcement and larger cutout for manifold.

Horizontal Passenger Shield: 30 Jun 61 to 13 Feb 62 had stainless, all others had chrome.

1956 early: it was two pieces until AIM 2-2-56 (about VIN -1658).

1956-61: used PN 3736236; a one-piece design with several changes.

2 Apr 57: released print; no revisions

upper cutout 2.31 in deep x 3.53 in long

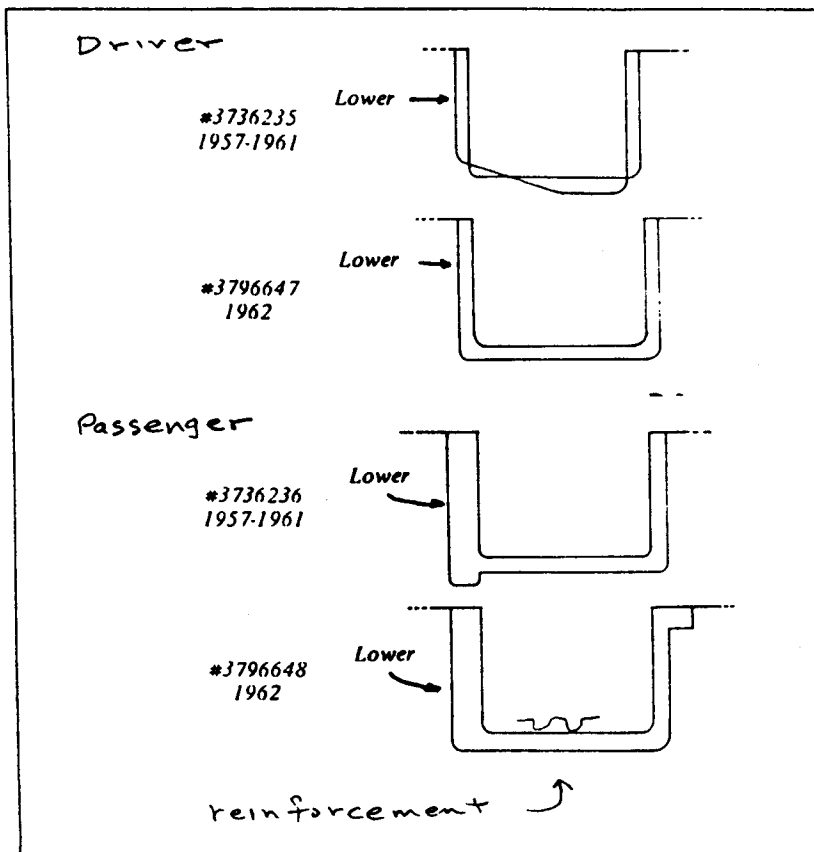
lower cutout 3.25 in deep x 5.00 in long

lower cutout has notch for auto choke valve spring

1962: used PN 3796648; has inner metal reinforcement

16 Nov 60: upper cutout 2.50 in deep x 3.53 in long

19 Sep 61: added upper cutout & lower notch for oil dip stick



14.9. REFERENCES:

Adams pages 48, 52-4, 57-61, 85-6, 127, 156-7, 232, 334, 414-7

GM Assy Manual 1956 Sect 6 Sheet 3.00
1957-62 Sect 6 Sheet 12.00
1956-62 FOA 102 Sheet 3.00 thru 5.00

NCRS Judging Manual 1953-55, page 35
1956-57, page 38
1958-60, page 21
1961-62, page 15-16

