

1961



OLDSMOBILE

STARFIRE SUPPLEMENT



SERVICE MANUAL

STARFIRE CONVERTIBLE

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GENERAL DESCRIPTION

The Starfire (3667 Series) convertible engine has a compression ratio of 10.25:1. The rear axle has a ratio of 3.42:1. Power steering, Hydra-Matic, power brakes, 4-power windows, bucket type seats and dual exhaust are standard equipment. A 1.10-way power seat is standard equipment on the drivers side and the front passenger seat is stationary.

A console, located between the bucket type seats contains a tachometer, window control switches, courtesy lights and a map case. The floor mounted Hydra-Matic shift lever and indicator are also located in the console.

For service procedures that are common to all Series, refer to the 88, S88 and 98 Service Manual.

GENERAL INFORMATION

HYDRA-MATIC

The Hydra-Matic transmission serial No. is stamped on an aluminum plate located on the transmission. The starting serial No. is OB-61-1001.

The following parts are peculiar to the OB-61 Hydra-Matic transmission:

Piston Assembly, Front Clutch - The front clutch piston assembly contains a ball check which prevents centrifugal apply of the front clutch, at high engine r.p.m., with the transmission in neutral. The ball check is not serviced separately.

Governor - Service procedures the same as 88, S88 and 98.

Control Valve Assembly and Separator Plate - Relocated oil passages provide for a fully modulated 3-2 down shift. The separator plate is identified by 3 notches on the side of the separator plate.

MODEL IDENTIFICATION

MODEL DESIGNATION

Series	Body Style	Designation Series Style
36	Starfire (Convertible Coupe)	3667

STARTING VEHICLE IDENTIFICATION NUMBER

Built At:	36 Series
Lansing, Michigan	616M01001
Atlanta, Georgia	616A01001
Kansas City, Kansas	616K01001
Linden, New Jersey	616L01001
South Gate, California	616C01001
Wilmington, Delaware	616W01001
Arlington, Texas	616T01001

ENGINE UNIT NUMBER

The engine unit number is stamped on the left cylinder head. For engine identification refer to chart.

ENGINE IDENTIFICATION

Series	Engine Unit Number			Engine Color	Carburetor Type	Piston Type	Head Gasket Thickness	Compression Ratio
	Prefix (Code Letter)	Starting Unit No.	Suffix (Code Letter)					
36	G	----	S	Red	4 Bbl.	Flat	.025"	10.25:1

CAMSHAFT

The camshaft for the 3667 engine can be identified by referring to Fig. 1.

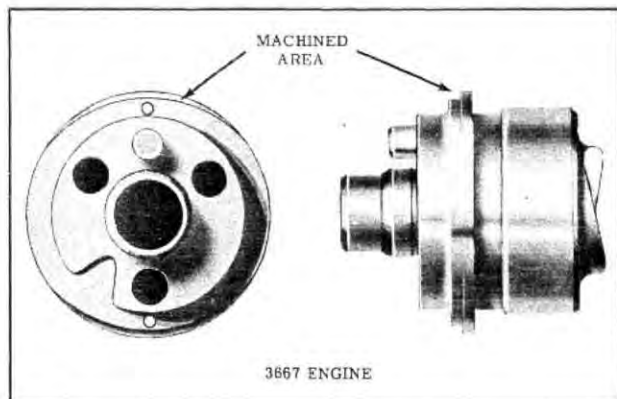


Fig. 1 Camshaft Identification

EXTERNAL METHOD OF CHECKING VALVE TIMING

1. Remove left hand valve cover.

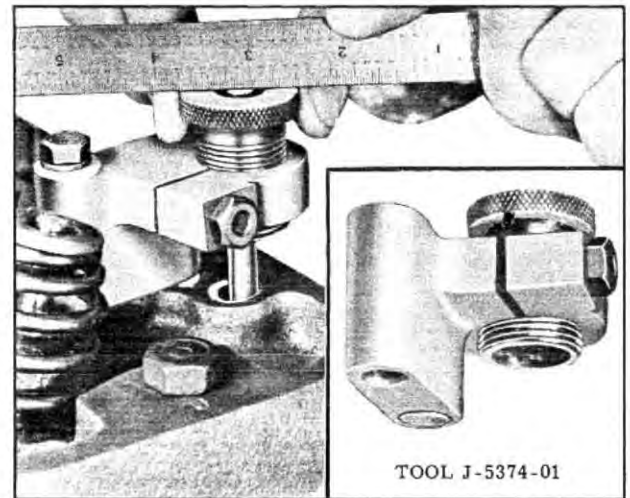


Fig. 2 Tool J-5374-01 in Position

2. Install jumper wire and crank engine until timing pointer on engine front cover indexes with the 0° mark on the harmonic balancer. If both valves of No. 1 cylinder are closed the piston will be on top dead center of the firing stroke. If valves are not closed, crank

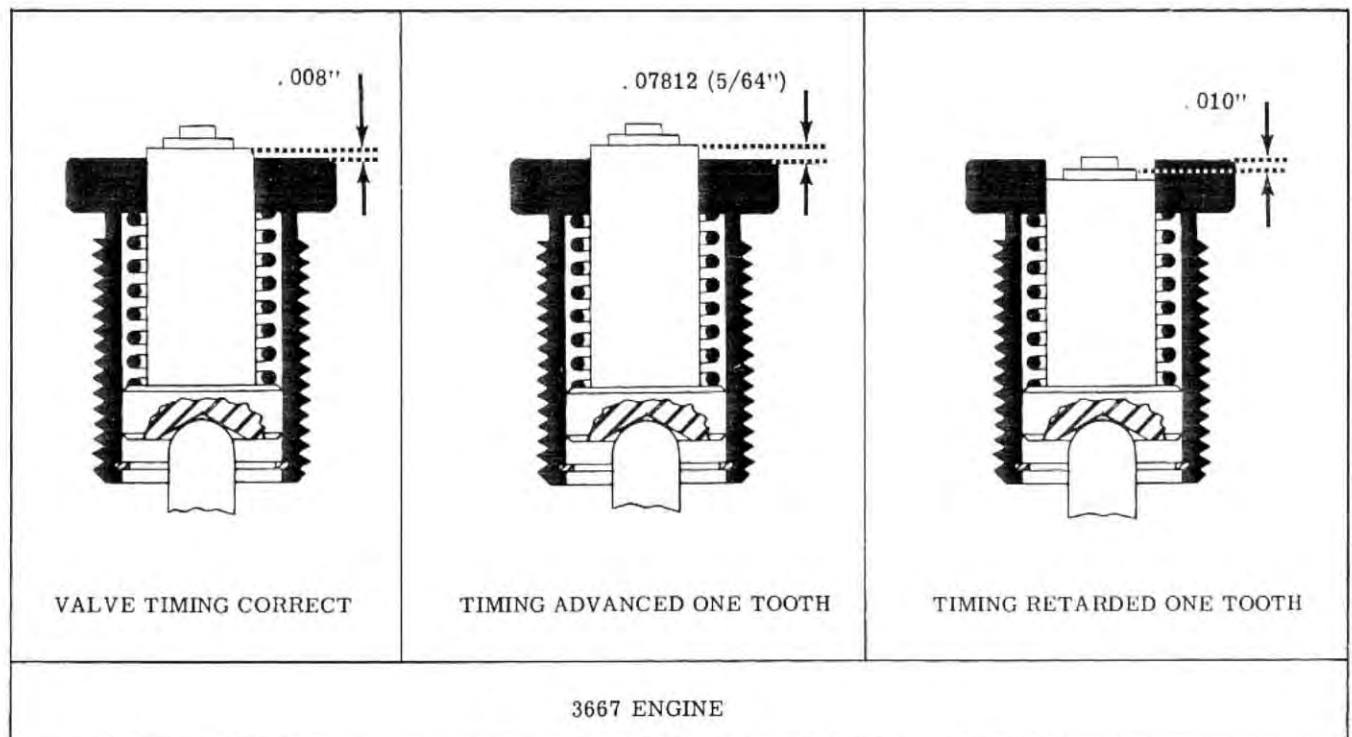


Fig. 3 Interpretation of Valve Timing

engine one complete revolution, to put piston on top dead center of the firing stroke.

3. Remove the left hand rocker arm shaft assembly.
4. Install Tool J-5374-01 in place of the rear rocker shaft bracket with step plunger over No. 7 cylinder exhaust push rod (rearmost push rod).
5. Adjust main body of Gauge, so the step plunger contacts the push rod and the small diameter of the step plunger is flush with the top of the main body as shown in Fig. 2.
6. Crank engine ONE complete revolution so that No. 1 cylinder is again on top dead center (beginning of intake stroke). Refer to Fig. 3 for interpretation of the valve timing.

CONSOLE

The tachometer, window switches, tachometer light bulb, courtesy light bulbs, map case light

bulb and the shift indicator light bulb can be removed without removing the console. To remove the window switches and shift indicator light bulb, the console map case must first be removed. To remove the tachometer, a console extension panel must first be removed. (Refer to Inset Fig. 7) The tachometer is calibrated at the factory and should be serviced only by an authorized U.M.S. dealer.

Removal (Fig. 4)

1. Remove shift lever knob and button.
2. Remove the map case.
3. Remove console extension, then disconnect the console wiring harness connectors from beneath the instrument panel.
4. Pull the edge of the carpets from beneath the carpet retainers.
5. Remove console to floor bracket attaching screws. Leave the attaching brackets fastened to the floor pan except the left front bracket

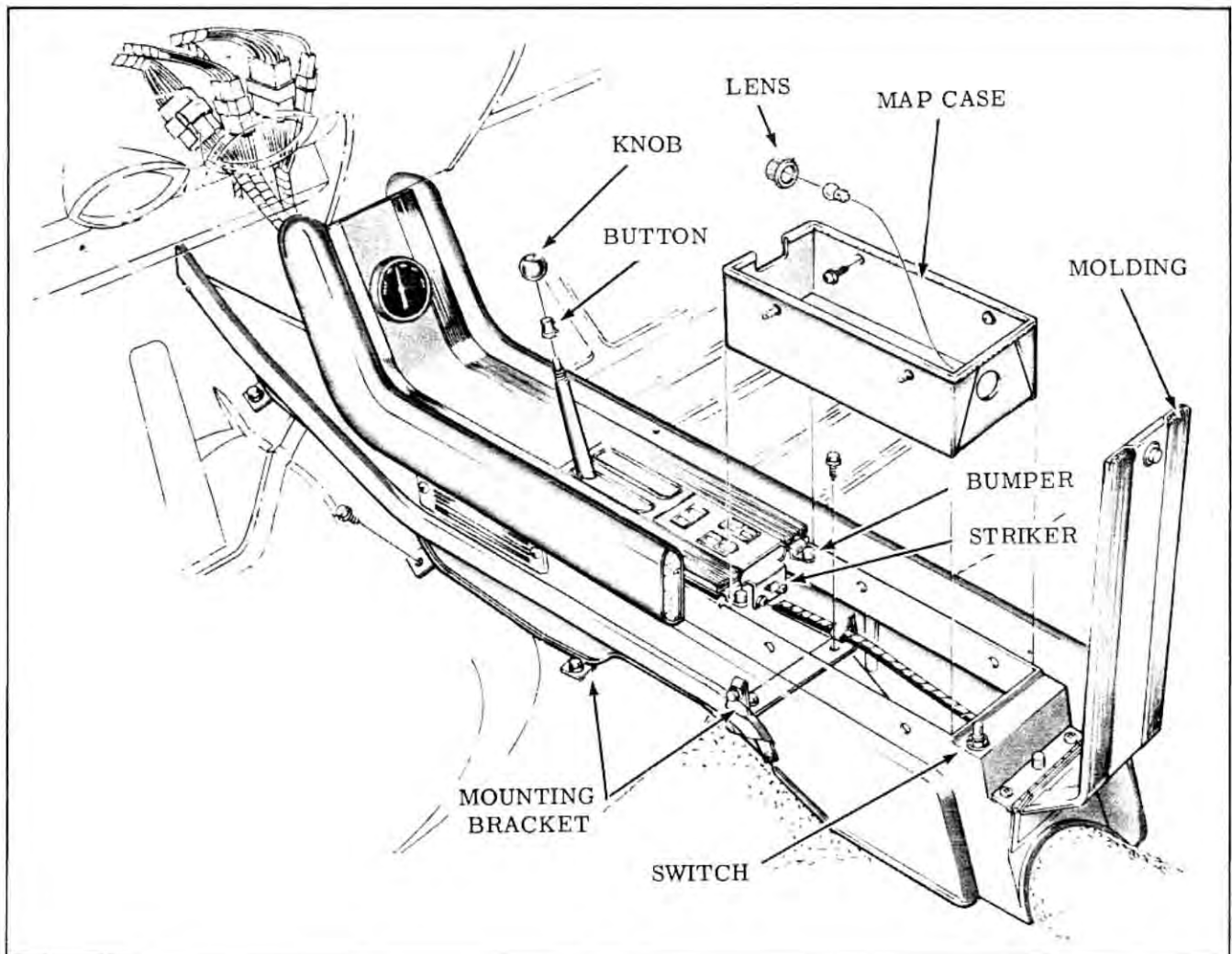


Fig. 4 Console Attachment

which must be removed from the floor pan as the console ground wire is fastened under this screw.

NOTE: Two attaching screws are located inside the map case opening.

6. Remove console from car.

7. To install console, reverse the removal procedure.

Disassembly

After the console is removed from the car, the various components of the console can be removed and installed by referring to Figs. 5, 6, 7 and 8.

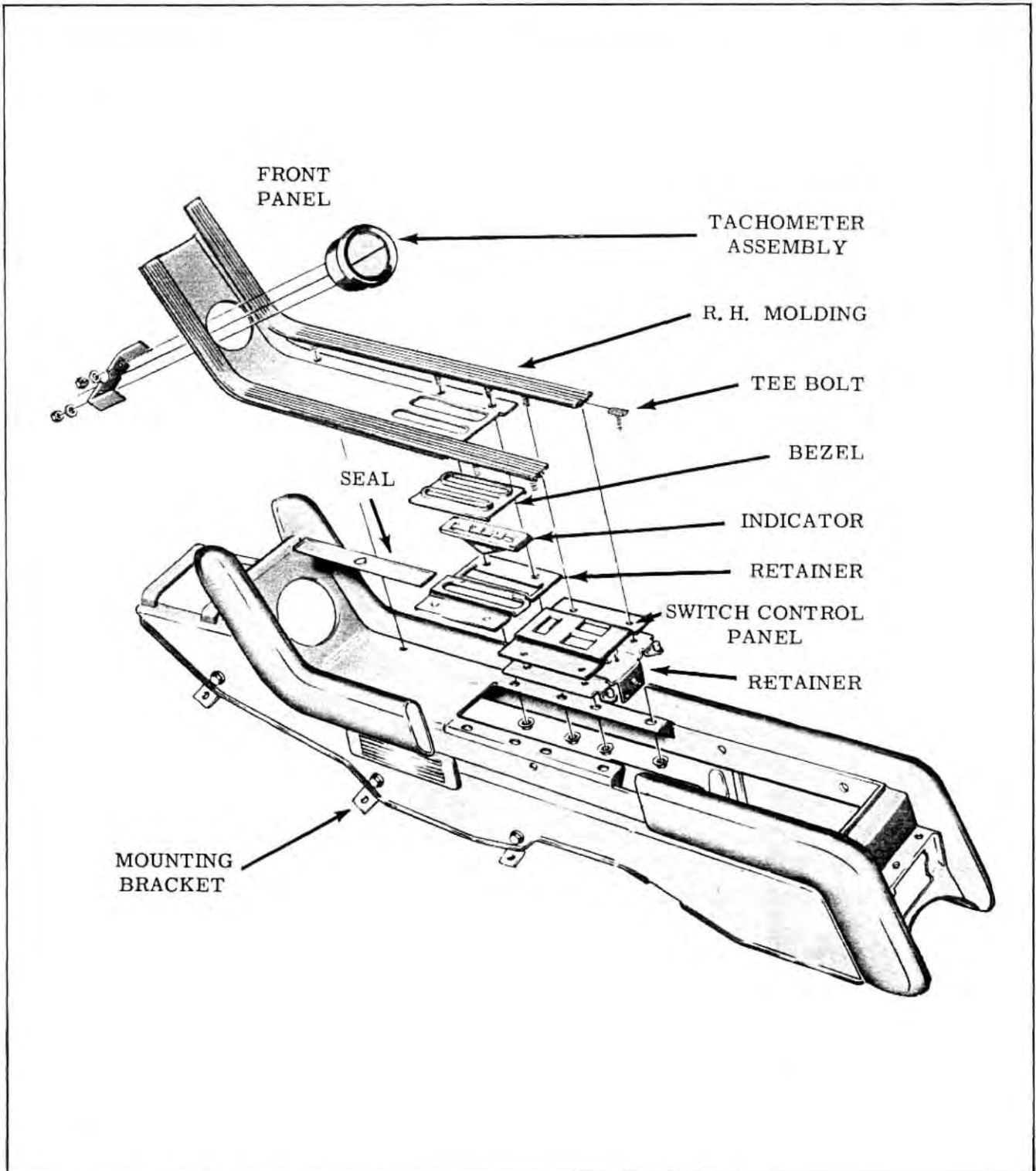


Fig. 5 Exploded View of Console

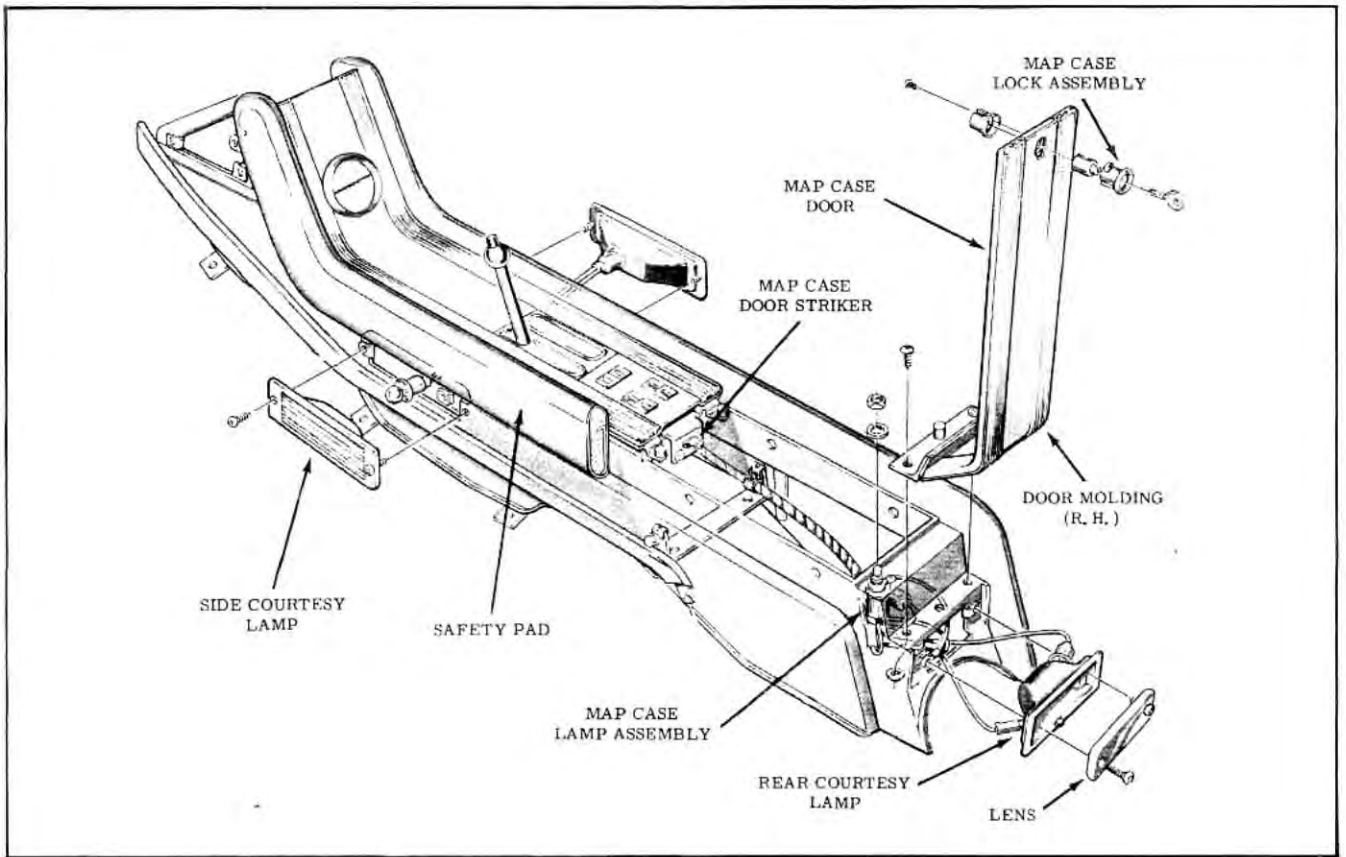


Fig. 6 Exploded View of Console

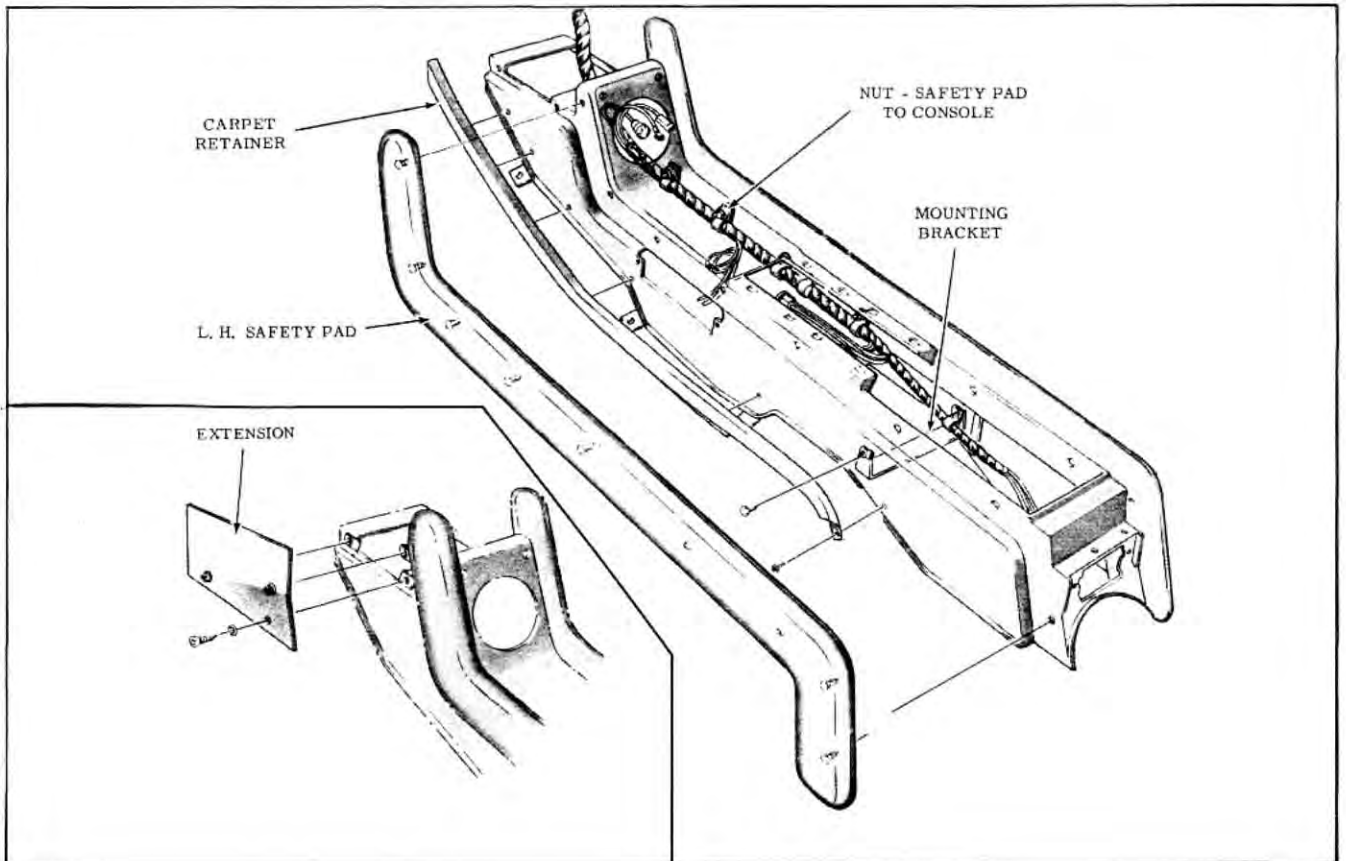


Fig. 7 Exploded View of Console

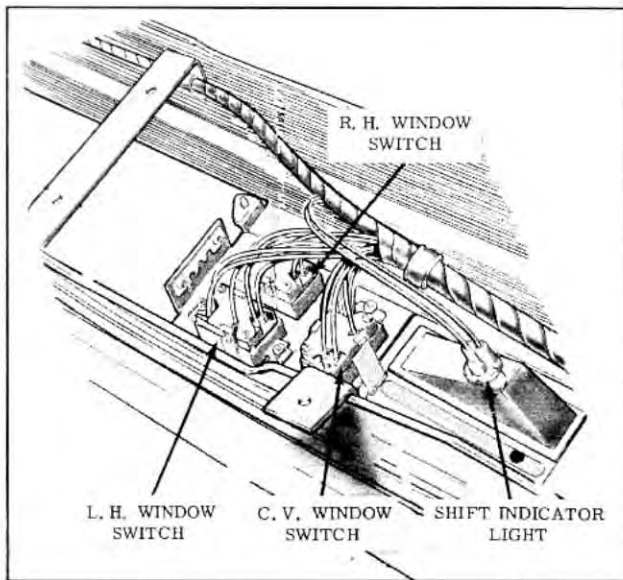


Fig. 8 Underside View of Console Window Switches

SHIFT LINKAGE

The Hydra-Matic shift lever is floor mounted between the bucket seats. (Fig. 9)

For linkage removal, refer to Fig. 10. To remove the shift lever or bracket assembly, the console must be removed.

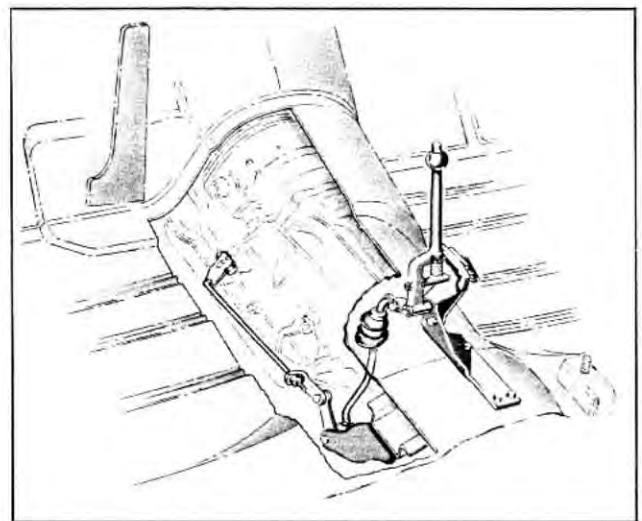


Fig. 9 Shift Linkage Installed

MANUAL LEVER ADJUSTMENT

The manual lever adjustment provides for proper clearance between the neutral detent in the transmission and the stop for the selector lever in the console.

1. Place the selector lever in the neutral position.
2. Disconnect the manual rod from the transmission manual lever.

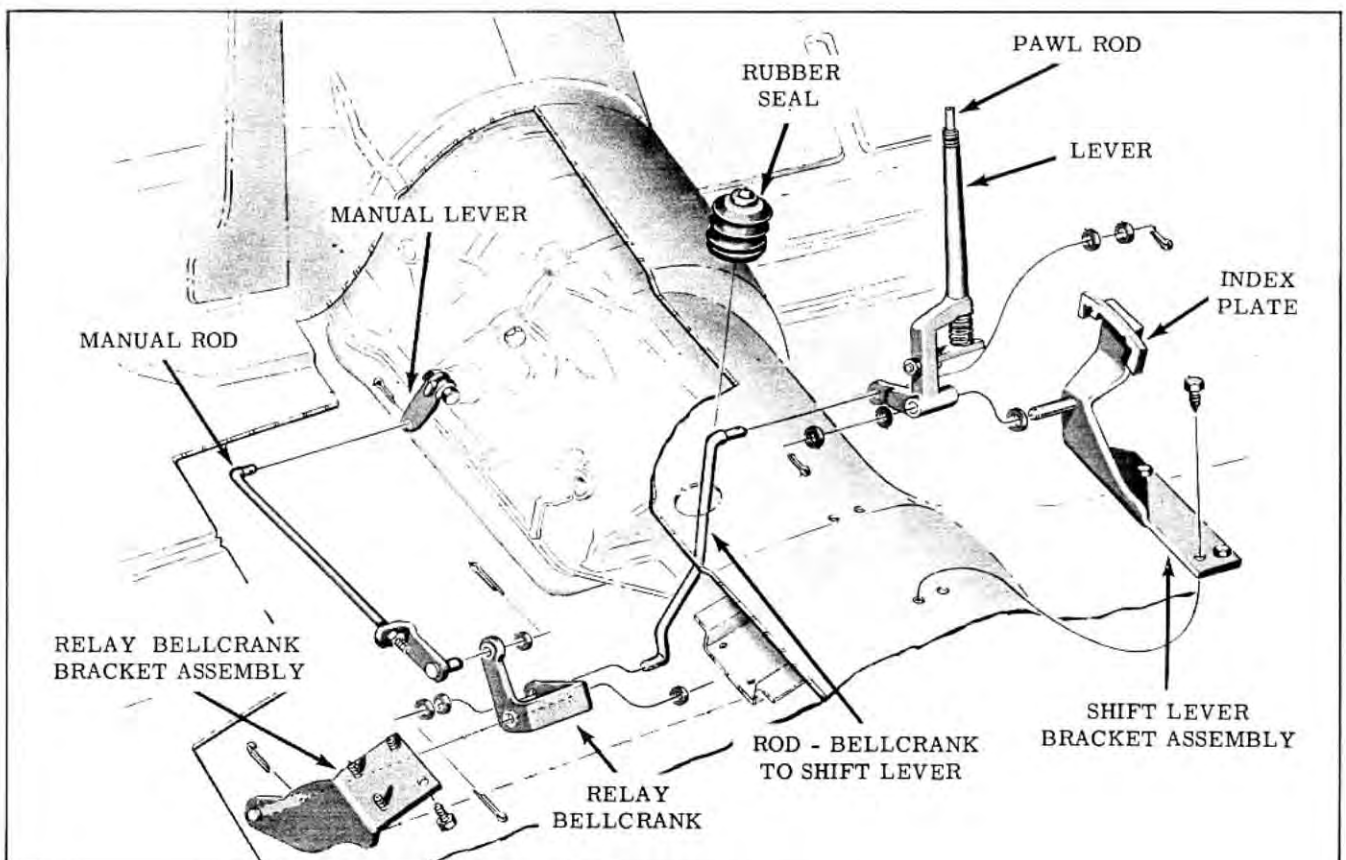


Fig. 10 Exploded View of Shift Linkage

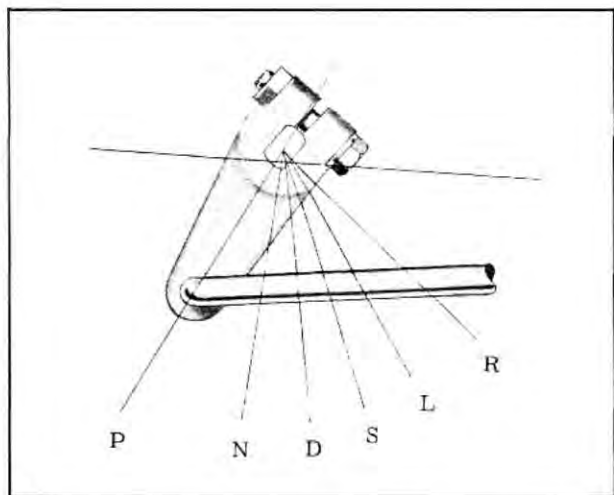


Fig. 11 Transmission Manual Lever Detent Positions

3. Place the transmission manual lever in the neutral detent position. (Fig. 11)
4. Loosen lock nut on manual rod. With selector lever held against its stop in the neutral position and the transmission manual lever in the neutral detent position, adjust the manual rod until the manual rod enters the transmission manual lever.

5. Lengthen manual rod 2 or 3 turns.
6. Connect manual rod to transmission manual lever and install washer and cotter pin. Tighten lock nut on manual rod.

COMBINATION NEUTRAL SAFETY AND BACK-UP LIGHT SWITCH

The neutral safety switch (Fig. 12) is mounted inside the console. The switch prevents starting of the engine with the transmission in gear. The engine may be started with the selector lever in neutral or park position.

Checking

1. Apply parking brake firmly.
2. Position selector lever into "D" range and turn ignition switch to "start".
3. While holding ignition switch on "start", slowly move selector lever toward "N" position until engine cranks and starts.
4. Without moving selector lever after engine starts, depress accelerator pedal slightly to determine whether or not transmission is in

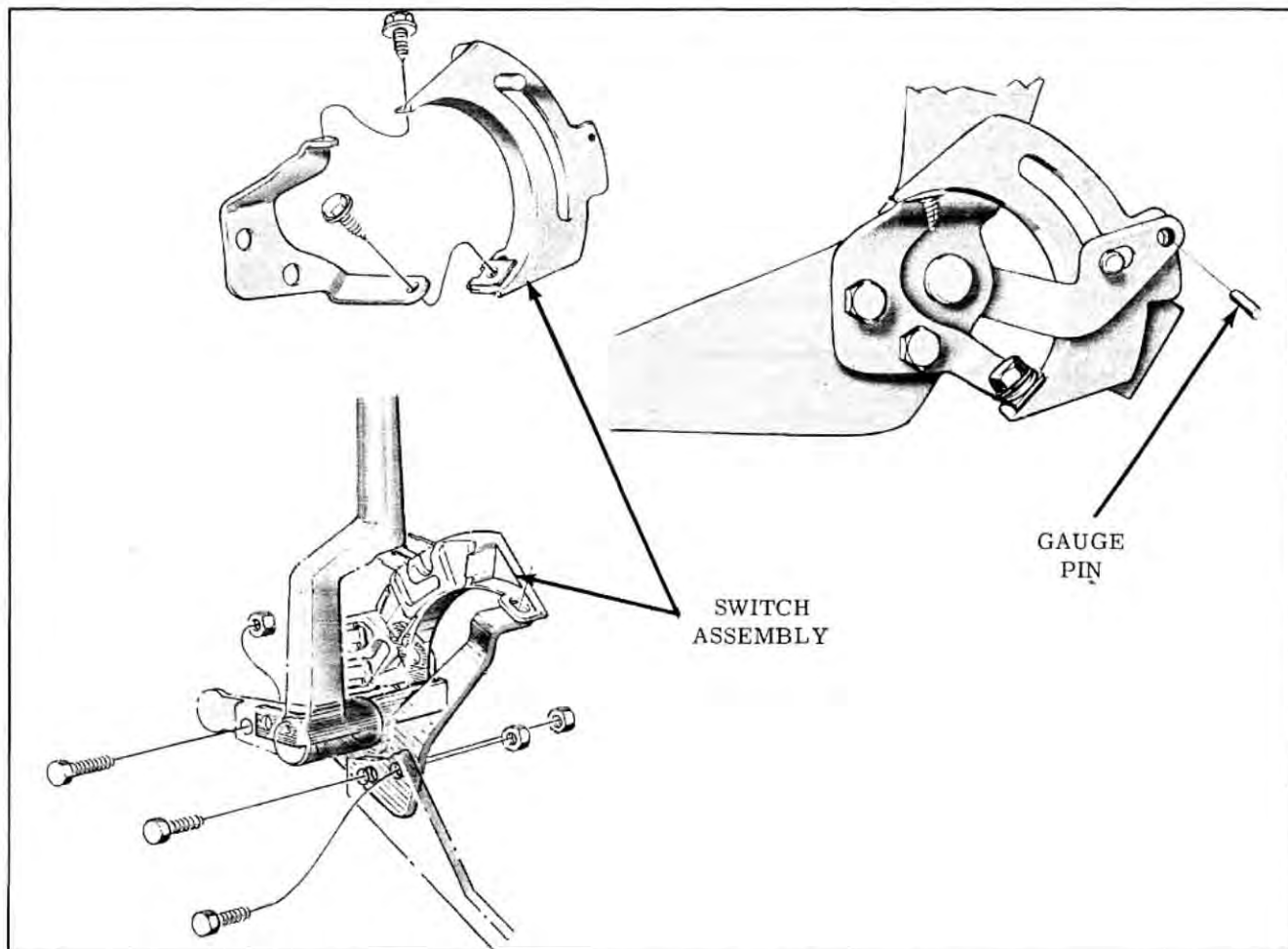


Fig. 12 Neutral Safety and Back-Up Lamp Switch Installation

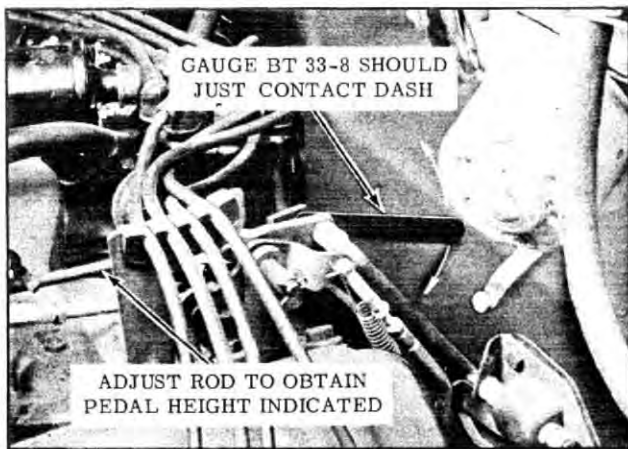


Fig. 13 Accelerator Pedal Height Adjustment

gear. If neutral safety switch is properly adjusted, transmission will not be in gear.

NOTE: If equipped with back-up lights, the lights should operate with the ignition on and the selector lever in reverse.

Adjustment (Fig. 12)

1. Remove console.
2. Loosen the switch attaching screws.
3. With the selector lever in neutral, position the switch so that a .090" gauge pin can be inserted through the hole in the switch arm and into the hole in the face of the switch.
4. Tighten the switch attaching screws and remove the gauge pin. Recheck adjustment.

THROTTLE LINKAGE ADJUSTMENT

The throttle linkage adjustments are the same



Fig. 14 Removing Bucket Seat Cushion

as the regular 88, S88 and 98. However, when adjusting the accelerator pedal height, Gauge BT-33-8 is used. (Fig. 13)

BUCKET TYPE FRONT SEAT CUSHIONS

On all bucket type front seat assemblies the cushion may be removed by lifting up on the forward edge of the seat cushion and then pulling cushion forward. (Fig. 14)

After seat cushion has been removed, the seat-back cushion may be removed by tilting the seat-back forward and removing two attaching screws along lower edge of seat-back; with seat-back in raised position, move seat-back cushion downward while pulling lower edge of cushion forward. (Fig. 15)

BUCKET TYPE FRONT SEAT ASSEMBLY

Removal and Installation

1. Remove seat cushion assembly.
 - a. On electrically operated seat, disconnect wiring harness from seat control switch and from actuator motor.
 - b. On stationary seat, remove nut located at the front inboard corner of seat assembly.
2. Remove bolts and screws that secure seat adjusters or stationary seat supports to floor pan. (Fig. 16)
3. Remove seat assembly from body.
4. To install, reverse removal procedure.

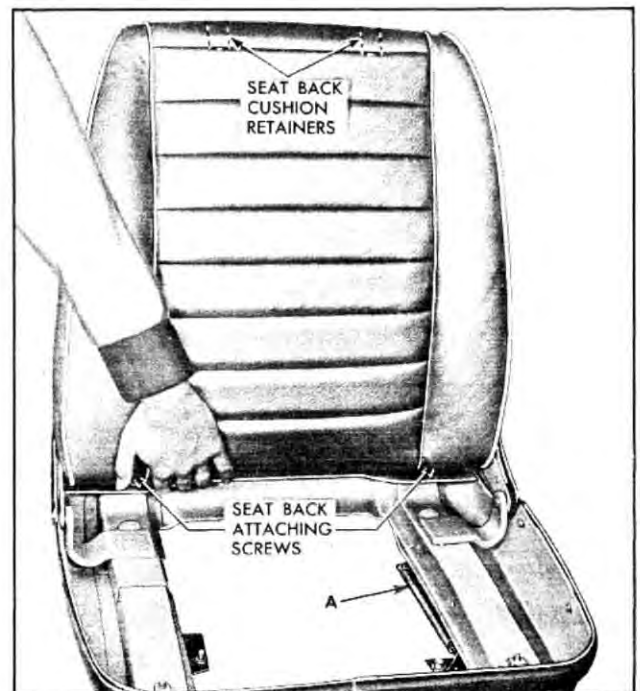


Fig. 15 Removing Bucket Seat Back Cushion

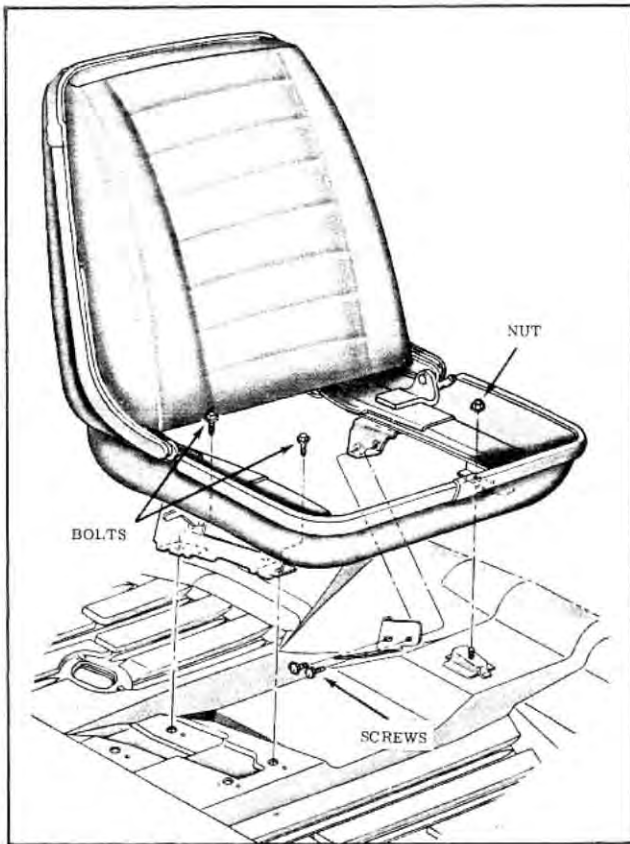


Fig. 16 Bucket Seat Attachment

FRONT SEAT ADJUSTER

Removal and Installation

1. Remove seat assembly and place upside down on a clean protected surface.
2. When outboard adjuster is being replaced, disconnect power drive cable from adjuster gear nut.

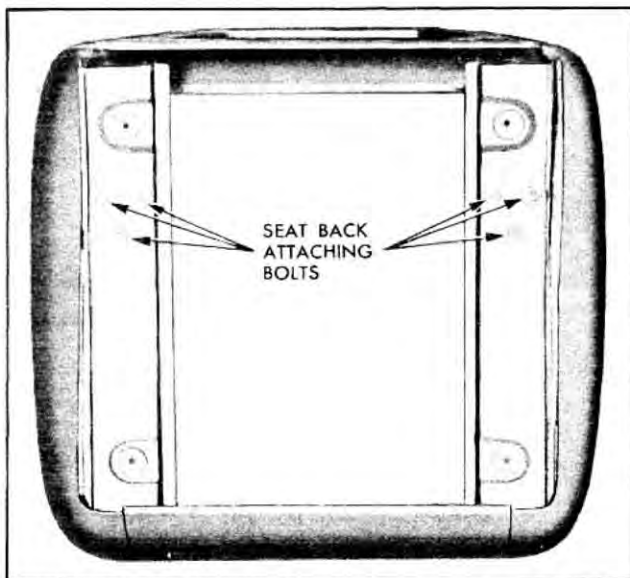


Fig. 17 Seat Back Attachment

3. Remove seat adjuster-to-seat bottom frame bolts and remove adjuster from seat.
4. To install, reverse removal procedure.

FRONT SEAT BACK ASSEMBLY

Removal and Installation

1. Remove seat assembly and place upside down on a clean protected surface.
2. Remove seat back frame to seat frame attaching bolts and remove seat back assembly from seat. (Fig. 17)
3. To install seat back assembly, reverse removal procedure.

FRONT SEAT ADJUSTER GEAR NUT AND JACKSCREW ASSEMBLY

Removal and Installation

1. Operate seat to full forward position and remove seat assembly and place upside down on a clean protected surface.
2. Remove horizontal travel assist spring. (See "A" in Fig. 15)

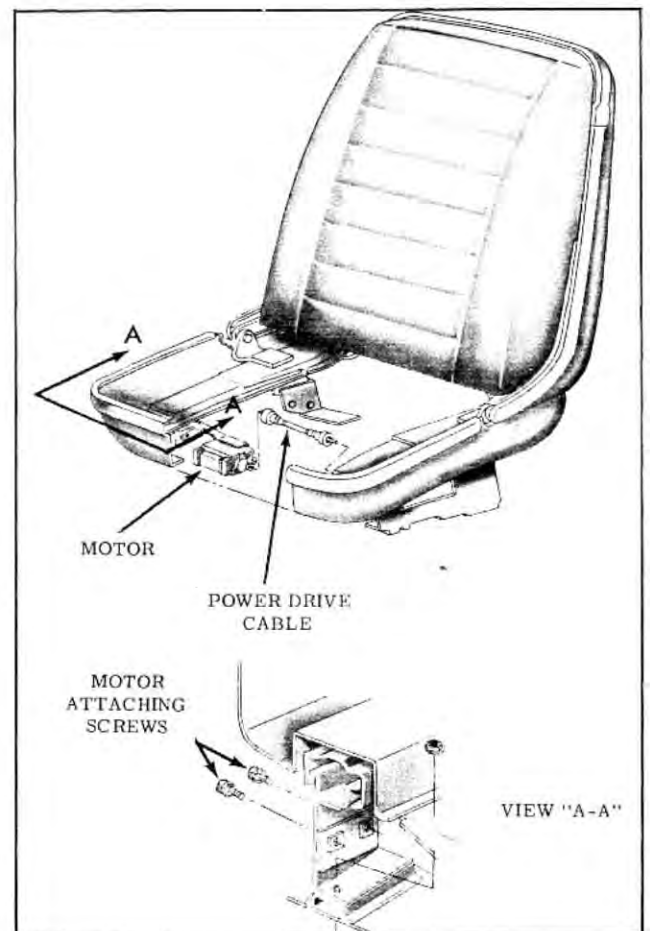


Fig. 18 Power Seat Mechanism

3. Disconnect power drive cable at adjuster gear nut. (Fig. 18)
4. Using a "clutch" type screwdriver, remove two shoulder bolts securing gear nut to lower track pedestal portion of adjuster.
5. Remove nut and retaining clip from rear end of jackscrew.
6. Disengage gear nut and jackscrew assembly from crossbar stop and remove from seat adjuster assembly. Gear nut and spacers may now be removed from jackscrew.
7. To install, reverse removal procedure.

SEAT ADJUSTER ACTUATOR MOTOR

Removal and Installation

1. Remove front seat cushion.
2. Remove screws and washers that secure actuator motor to motor support, indicated in View "A-A", Fig. 18.
3. Disconnect power drive cable and wiring harness from actuator motor and remove actuator motor.
4. To install, reverse removal procedure.

SIDE MOLDINGS, EXTERIOR

The aluminum panel molding on the front fender

is attached by screws and the fender side lower molding. (Fig. 19)

The aluminum panel molding on the door is retained by screw attached snap-on type clips and by the door outer panel lower molding.

The aluminum panel molding on the rear fender is retained by snap-on clips along the forward area, attaching screws at the rear and by the rear fender lower molding.

CONSOLE CARPET INSTALLATION

Early production cars will not have the carpets pierced for the floor pad installation. On these cars it will be necessary to locate the center laterally, between the accelerator pedal studs, measure back 3-3/8" as shown in Fig. 20 and pierce a hole using it as a guide to square the floor pad before piercing the remaining three holes.

Before installing the L.H. carpet, the filler pad must first be installed as illustrated. The R.H. side does not require a filler pad. The R.H. heel pad should be located symmetrical with the L.H. side. Install floor pad using correct length screw as illustrated in Fig. 21. Fasten carpet to dash insulator and install side panels and grilles in same manner as regular production cars.

RADIO

The radio can be removed after removing the console. The front speaker can be removed without removing the console by first removing the console extensions and the ash tray assembly.

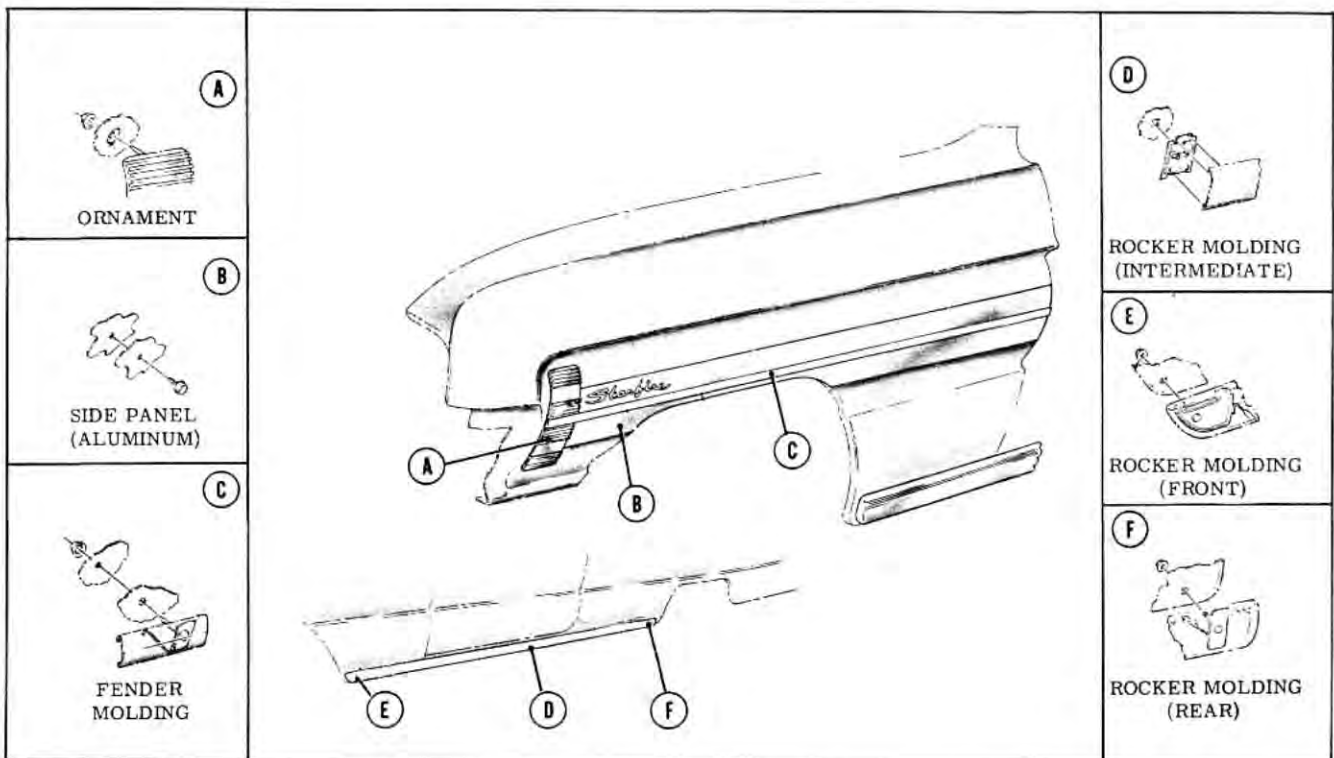


Fig. 19 Front Fender Molding Attachment

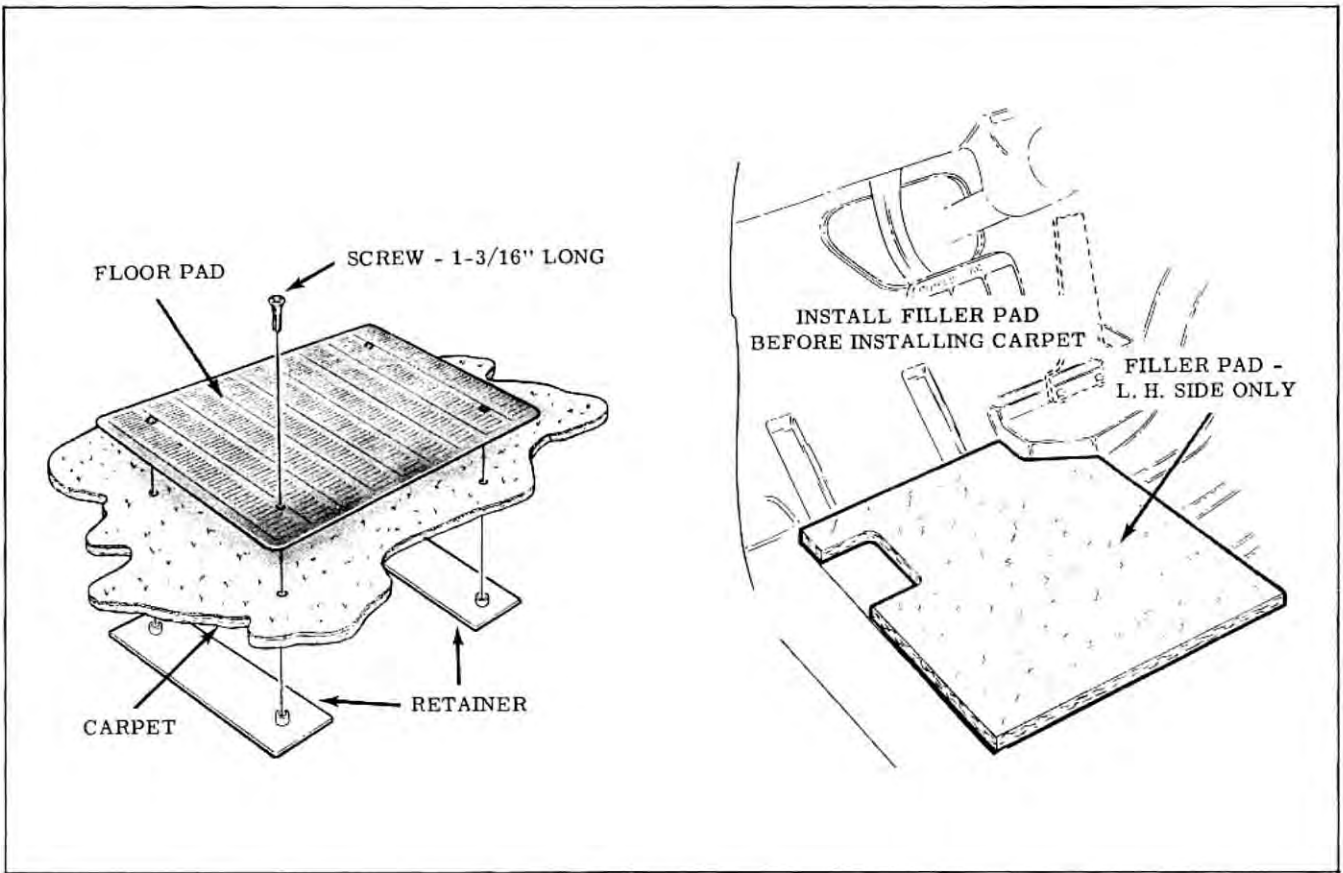


Fig. 20 Floor Pad Installation

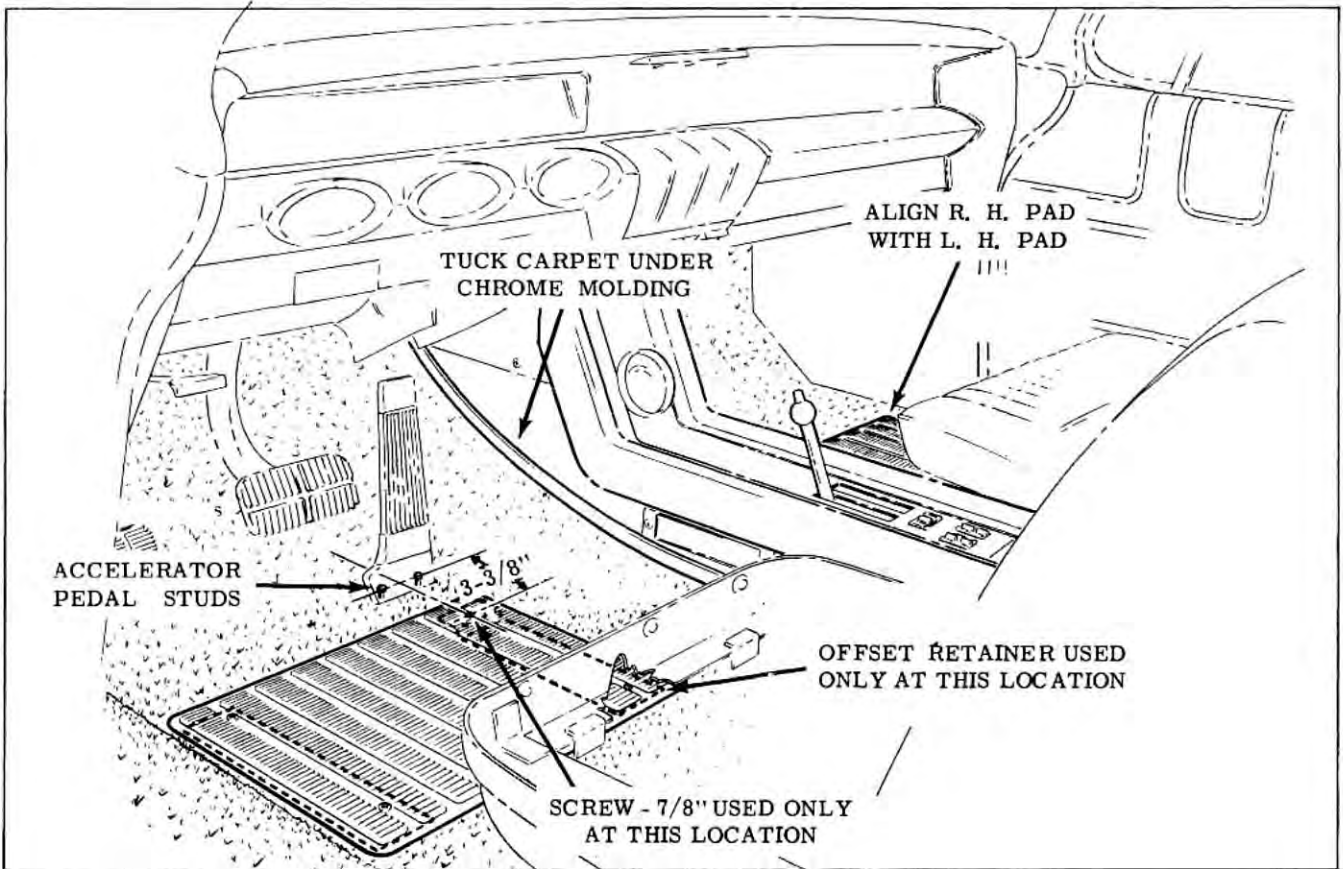


Fig. 21 Floor Carpet Installation

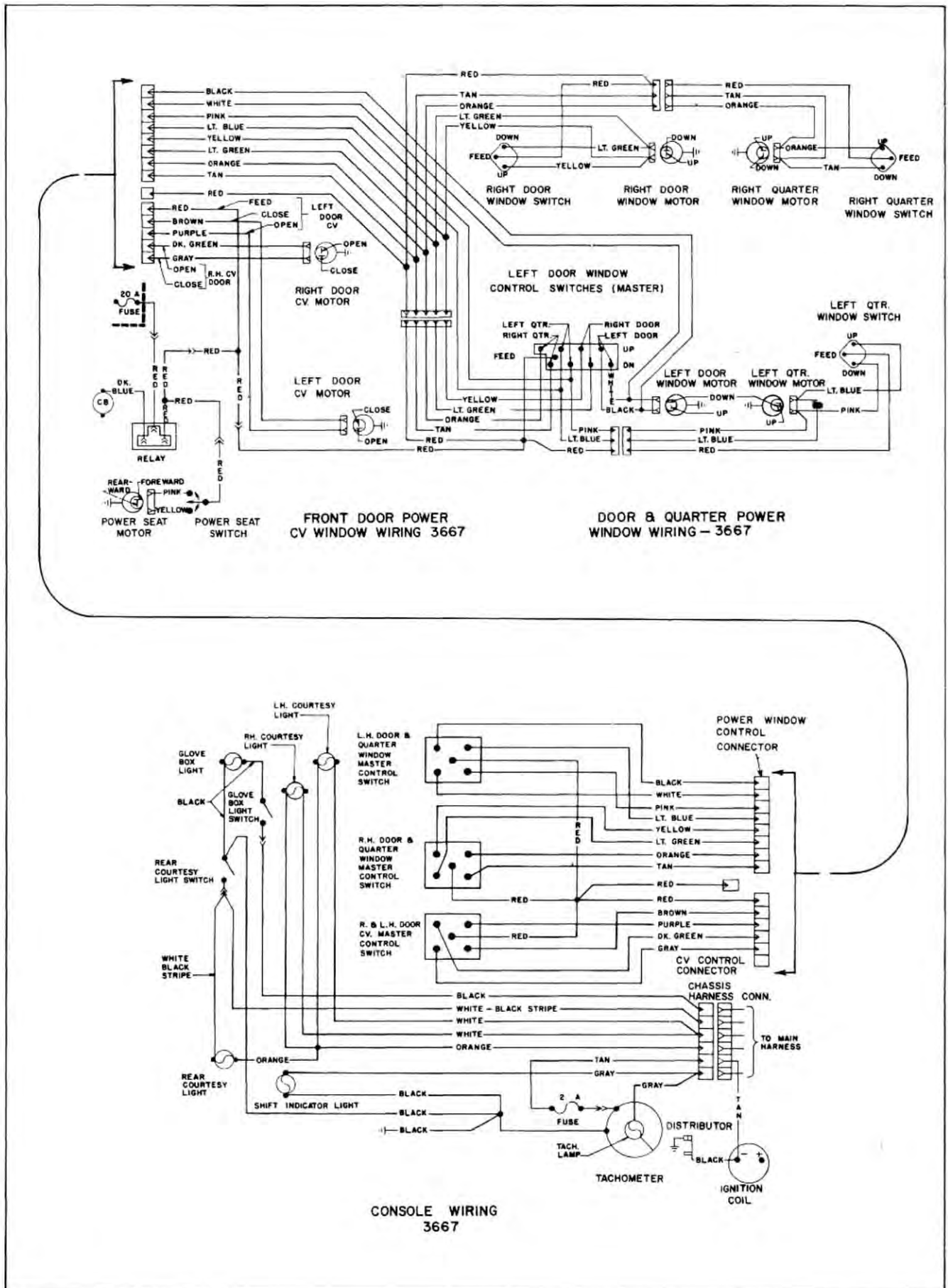


Fig. 22 Schematic Wiring Diagram

GENERAL SPECIFICATIONS

ENGINE

Horsepower	330 @ 4600 RPM
Torque	440 @ 2800 RPM
Displacement	394 Cubic Inches
Compression Ratio	10.25 to 1
Bore and Stroke	4 1/8" x 3 11/16"
Carburetor	4 Barrell (4GC)
Lifters	Hydraulic

REAR AXLE

Axle Ratio	3.42 to 1
No. of Teeth on Speedometer Drive Gear	13
No. of Teeth on Speedometer Driven Gear	32

TIRES

Tire Size	8.50 x 14
Tire Pressure	22 PSI