

# 1967-1968 A&F-CAR STANDARD (NON-ADJUSTABLE) STEERING COLUMN DISASSEMBLY & REPAIR INSTRUCTIONS (IN-CAR) PAPER #1

Disassembly and Repair Instructions Addressed in this Paper

Degree of Difficulty

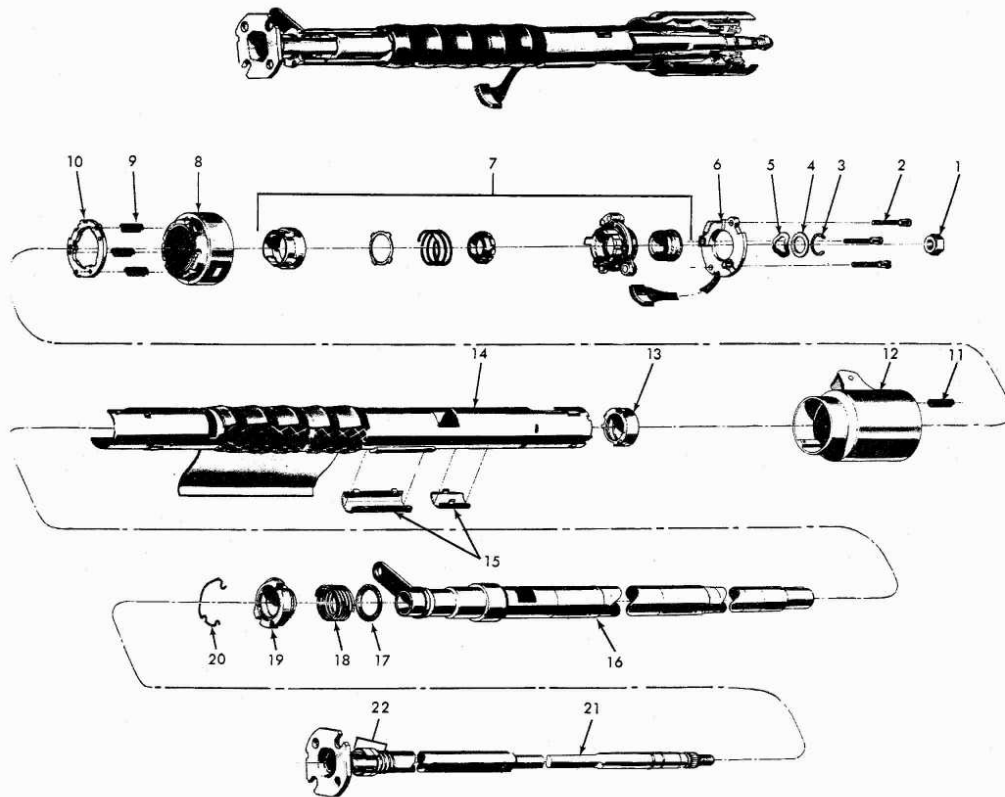
REPLACE THE TURN SIGNAL SWITCH

Moderate

REPLACE THE UPPER COLUMN BEARING

Moderate

## 1967-68 A & F-Car Standard (Non-Adjustable) Steering Column



- |                       |                           |                      |                        |
|-----------------------|---------------------------|----------------------|------------------------|
| 1. Steering Wheel Nut | 7. Upper Bearing Assembly | 13. Bearing          | 18. Spring             |
| 2. Screw              | 8. Cover                  | 14. Mast Jacket      | 19. Bearing            |
| 3. Retaining Ring     | 9. Spring                 | 15. Wiring Protector | 20. Retainer           |
| 4. Thrust Washer      | 10. Lock Plate            | 16. Shift Tube       | 21. Steering Shaft     |
| 5. Wave Washer        | 11. Shift Lever Spring    | 17. Washer           | 22. Tolerance Ring Kit |
| 6. Turn Signal Switch | 12. Bowl                  |                      |                        |

- 1). Part #22 (Tolerance Ring Kit) is not correct. Replaced as part of steering shaft campaign.
- 2). Lower bearing should be held in place by a clamp, bolt, & nut.
- 3). 1968 Strg Column most likely had a separate intermediate steering shaft.
- 4). Floor shift strg columns had shift tubes #16 but no lower lever as shown.

The following procedures describe how to remove and replace the turn signal switch and/or the upper bearing on the 1967–1968 standard (non-adjustable) General Motors A&F-car steering columns. Note, this paper describes repair procedures without removing the steering column from the car.

All General Motors 1967 and 1968 passenger cars came equipped with the first generation Saginaw energy absorbing steering columns. All steering columns were of this design (including tilt and the telescoping types). In a severe frontal collision these steering columns were designed to collapse forward into the instrument cluster with a controlled force. The steering shafts and transmission shift tubes inside these steering columns were also designed to collapse as well.

### **Getting Started**

You will note that this paper includes several pictures and drawings. On the first page is a Steering Column Blowup drawing that shows all of the steering column detail parts. These parts are identified by numerical callouts. A great number of early production 1967 steering columns were recalled to replace the steering shafts and lower bearings with new design parts. Unfortunately, most of the 1967 GM service literature never reflected these design changes. To make matters worse, the 1968 shop manuals seem to have been updated in a very haphazard manner so even that literature for the most part is not correct.

The Steering Column Installation Detail drawing shows how the column is assembled into the dash structure. The parts in this drawing have alphabetical callouts. The Chevrolet Chassis Service Manual indicates that the turn signal switch and other parts associated with the steering column head can be replaced without the steering column being removed from the car. The shop manual is not specific as to how to do it. This paper suggests two methods to accomplish the service procedure.

In order to remove the turn signal switch from the steering column, the switch wires must be free to move and pass up through the large capsule bracket (M), as well as a small metal cover #15, the shift bowl #12, and shroud. You will find that the turn signal switch wires have a curved electrical connector down under the dash that connects to the vehicle body harness. This connector is too large to pass between the capsule bracket and the steering column jacket. (The connector will pass up through the bowl and shroud.) Two possible methods describing the removal process with the column in place are presented.

### **Steering Wheel Disassembly**

The following procedures are common regardless of the final switch removal method. Disconnect the battery. Remove the horn button or horn pad and remove the horn contact and steering wheel nut. Use a puller to remove the steering wheel and hub assembly. Make sure that your puller and bolts are square to the steering wheel hub. NEVER, hammer on the end of the steering column shaft in order to try and release the hub. There should be an indentation on the hub as well as a matching mark on the end of the steering shaft. They should be in alignment. If there are no marks, use a crayon or grease pencil to the mark the orientation of both parts.

### **Upper Column Disassembly**

Remove the screws holding the plastic trim cover from under the instrument panel and remove the cover.

On Chevelle steering columns with a column shift automatic, remove the indicator wire by removing the screw at the bottom of the steering column.

On Camaro steering columns with automatic trans and the shift lever on the column, remove the screws securing the PRNDL dial retainer and dial and remove them. Slide the indicator out of the shift bowl and remove the indicator. Remove the cap and bulb from the turn signal switch housing if so equipped.

On steering columns with the shift lever on the column, drive out the shift lever retaining pin from the shift bowl #12 and remove the lever.

Slide the upper bearing preload spring and the canceling cam off of the steering shaft. Remove the turn signal lever screw and remove the lever. Push the hazard warning switch in, then unscrew and remove the hazard knob. Remove the c-clip #3, the thrust washer #4, and the wave washer #5 from the steering column shaft.

### **Method #1—Remove Curved Connector from Turn Signal Switch Wires**

Go down under the dash and disconnect the curved turn signal switch connector from the vehicle body harness. Use the wire from a heavy paper clip or use a very thin blade screwdriver and insert it into the connector from the contact side to disengage each wire and contact. There should be a small molded square channel in the connector that will guide you to a metal tang on the contact that holds it in place. Once you depress the tang and the wire and contact should come right out of the connector. You should take a small knife blade and bend the tang back out so that it will engage the connector correctly when the parts are reassembled. Make sure that you note the wire locations so that you will reinstall them in the correct order.

Without the curved turn signal switch connector the wires will be free to pass right up and out of the steering column.

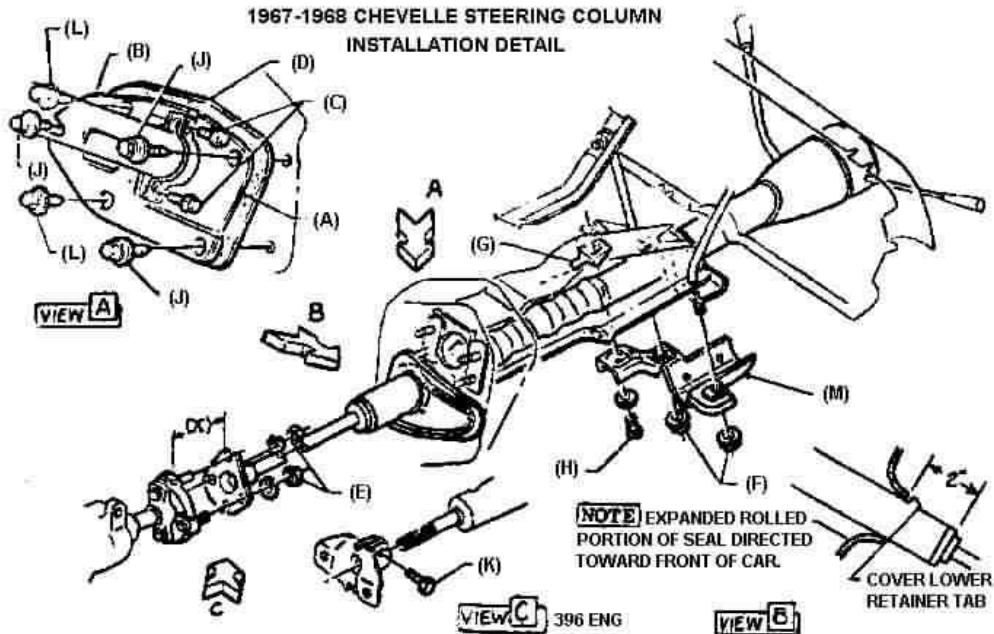
### **Method #2- Remove Capsule Bracket & Wiring Cover**

Go down under the dash and unfasten the four bolts that hold the capsule bracket (M) to the steering column jacket. Then remove the two nuts (F) and the forward bolt (H) and washer that hold the capsule bracket up into the instrument panel. Don't lose the wedge (G) that is sandwiched between the capsule bracket and the dash bracket by bolt (H).

**IMPORTANT:** With the capsule bracket removed the steering column will not be supported up into the instrument panel. The steering column should NEVER be allowed to just hang cantilevered under the dash (held only by the attachments at the floor and the flexible coupling). Allowing the steering column to hang will place very large loads on the lower column bearing #19 and the mast jacket #14 which could cause failure.

## Method #2- Remove Capsule Bracket & Wiring Cover (Continued)

Therefore you must have an assistant hold the steering column in place or you must prop the column in its original position. Once the capsule bracket and the cover are removed, the turn signal switch wires and connector can be pulled up through the shift bowl housing #12 and the shroud. Proceed to the next procedure.



## Removal of the Turn Signal Switch & Bearing Housing Assembly

Most people get a little frustrated while taking apart or reassembling the 1967-68 standard steering column because they don't realize that turn signal switch #6 and the attached bearing assembly #7, cover #8, and plate #10 are all attached together. They "cam lock" into the steering column jacket #16 and all come off together as a unit (see picture below).

Loosen the three turn signal switch mounting screws #2 until the switch cover can be rotated counter-clockwise. It may be necessary to push on top of the screws to loosen the cover assembly. Lift the whole switch and attached housing off, while pulling the turn signal switch wires up and out of the steering column.

Then remove the three screws #2 and springs #9 from the plate #10. Finish removing the turn signal switch from the bearing assembly #7 and cover #8.



REMOVING TURN SIGNAL SWITCH COVER FROM  
COLUMN (SWITCH WIRES NOT SHOWN)

### **Replacing the Upper Column Bearing**

The upper column bearing is part of the bearing housing. It is a press fit from the steering wheel side of the housing. The GM part number is 7800269 and it is no longer available from GM dealers.

The bearing that is part of bearing assembly #7 was not designed to be serviced. It was a press fit into the die cast housing and there is a thin lip on the housing bore that was staked or spun over to retain the bearing. The bearing has been known to come loose. If this is the problem that you are correcting, you can try to epoxy glue the bearing case into the housing bore. You can also attempt to carefully peen limited areas of the case over on the bearing.

### **Reassembly**

Assemble the upper bearing assembly and the turn signal switch into the cover, feeding the switch wires through the back of the cover. Align the signal switch and the bearing housing holes with the holes in the cover. Install the three mounting screws through the holes. Slide the three springs onto the screw ends and place the lock plate in position over the screws and springs. Turn the screws three turns into the lock plate. (There should still be a little movement of the lock plate.)

### **Method #1 – Curved Turn Signal Switch Connector Removed**

Feed a length of the switch wires through the shift bowl housing #13 and shroud. Feed the loose ends through the cover. Reinstall the curved connector on the wires. Make sure that the wires are in the correct location.

### **Method #2 – Capsule Bracket & Wiring Cover Removed**

Feed the switch wires and connector through the shift bowl housing #13 and shroud. Pull the turn signal wires flat and reinstall the metal cover. Set the capsule bracket in place and install the four bolts. Torque them to 15 ft-lbs. Install the two rear nuts (F) and torque them to 20 ft-lbs. Insert the wedge (G) to the distance required to fill the gap. Do not force it any further. Holding the wedge in position, install the capsule bracket bolt (H) and washer, tighten to 20 ft-lbs.

### **Upper Column Reassembly**

Place the signal switch unit on top of the column jacket #14, aligning the tangs on the I.D. of the lock plate with the slots in the top of the jacket. Push the turn signal unit down applying pressure and twist it clockwise. It should lock into place. Tighten the three screws in a criss-cross sequence to avoid cocking the lock plate.

Slide the wave washer and thrust washer over the steering shaft against the upper bearing housing.

Slide the C-ring over the steering shaft and install it into the groove in the steering shaft. **MAKE SURE IT IS FULLY SEATED!**

### **Upper Column Reassembly (Continued)**

Place the turn signal lever in position and secure it with a screw. Screw the hazard warning button into place.

On Camaros so equipped, install the bulb and cap. Install indicator into shift bowl. Install dial and retainer with screws.

Reinstall shift lever and drive retaining pin to hold it in place if required.

The steering column position inside the vehicle body should not have changed during the previous procedures. Therefore, it should not be necessary to realign the steering column to the flexible coupling on the gear.

Snap the turn signal wire connector into the vehicle body harness.

Reattach the shift indicator pointer if so equipped. Reattach the plastic trim cover under the instrument panel.

**Caution: The turn signal switch must be in the neutral position when assembling the canceling cam.** Slide the canceling cam and upper bearing preload spring onto end of the steering shaft.

Align the mark on the steering wheel hub with the steering shaft. Reinstall the steering wheel and hub, torque the steering wheel nut to 35 ft-lbs. Reinstall the horn button or pad.

Reconnect the battery.

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