

## **1969 THRU 1976 GM A&F-CAR STANDARD (NON-ADJUSTABLE) STEERING COLUMN DISASSEMBLY & REPAIR INSTRUCTIONS PAPER #3**

### Disassembly and Repair Instructions Addressed in this Paper

	Degree of Difficulty	Page
REPLACE RACK AND/OR SECTOR	Moderate	2
REPLACE UPPER BEARING	Moderate	2
REPLACE LOWER COLUMN BEARING	See D&R Paper #2	
REMOVE SHIFT TUBE	Moderate	3

### **How the Paper is Setup**

There are a limited number of steering column service procedures that are addressed in this paper. This paper starts at the point where the steering wheel, horn parts, shaft lock, ignition lock cylinder, key warning buzzer, turn signal switch, ignition switch, and lower bearing have been removed from a standard steering column. Also for much easier access to the steering column it is assumed that it has been removed from the car. All of these disassembly and removal procedures were described in detail in Std Strg Column 69-76 Disassembly & Repair Papers #1 & #2.

This paper refers to several other papers, a blowup drawing, and several line drawings that are entitled GM A & F-Car. These papers are very generic and you will find them to be most helpful when working on most General Motors standard (non-adjustable) steering columns from this time frame.

This paper makes reference to various line drawing descriptions. They are included on several pages entitled GM A & F-Car Standard Steering Column Page #1 & #2.

The steering column installation is shown on a drawing entitled GM A & F-Car Steering Column Parts and Mounting.

Also there is a drawing entitled GM A & F-Car 1969-76 Standard Steering Column Blowup. Steering column parts are called out in this paper with reference to numbers on that drawing.

The drawings are all available from the author or from the host websight. You will find these pictures and descriptions to be most helpful when working on your steering column.

### **Types of Steering Columns Addressed in this Paper**

This is a generic paper for all standard (non-adjustable) steering columns that were installed in GM vehicles from 1969 through 1976 and particularly A & F-car models.

## Column Shift Models

Drive out the upper shift lever pivot pin #13 and remove the shift lever #11.

### Remove Turn Signal Housing and Shroud from Column Jacket – Description #4

Remove the four hex head screws #35 securing the turn signal housing to the column jacket #63. Pull the assembly from the jacket (See FIG. 1).

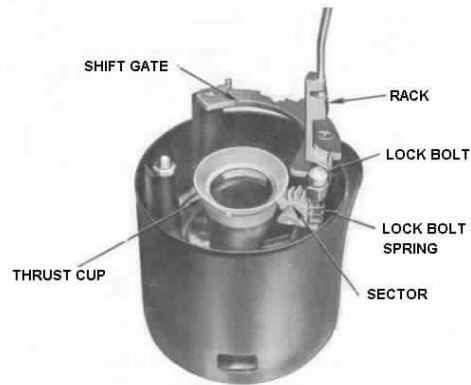
On floor shift models, tip the housing and shroud assembly upside down. Remove three screws and separate the shroud #12 from the housing. On column shift models the shroud snaps into the gearshift lever housing #14.

Remove the thrust cup #23 from the lower side of the housing (See FIG. 2).

**FIG 1 REMOVING TURN SIGNAL HOUSING**



**FIG 2 TURN SIGNAL HOUSING ASSY**

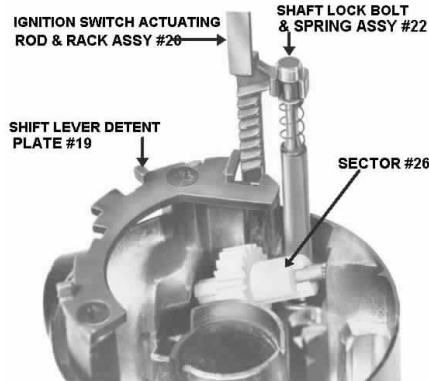


### Remove Rack and/or Sector

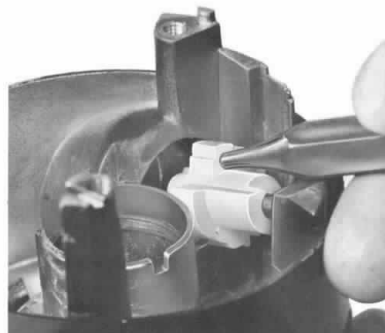
Lift the ignition switch actuating rod and rack assembly #20 and shaft lock bolt and spring assembly #22 out of the housing (See FIG 3). If required, pull the rack away from the lock bolt to separate. Remove the rack preload spring #24.

Remove the shift lever detent plate #19. Remove the sector #26 through the lock cylinder hole by pushing firmly on the block tooth of the sector with a blunt punch (See FIG. 4).

**FIG 3 REMOVING RACK & LOCK BOLT**



**FIG 4 REMOVING SECTOR**



### **Replace Upper Steering Shaft Bearing**

Remove the four screws #35 attaching the bearing housing #30 to the jacket #63. The upper steering shaft bearing is installed into the die cast housing from the driver side and the housing lip is spun over to retain it.



According to the Saginaw service literature, the bearing was not serviceable. However there was a service bearing available through GM dealers until recently. I believe that the part number was 7800269. If your local dealer does a part search, you may still find a few of them on dealer's shelves.

As a service procedure, it would seem that you would take the housing and grind the spun lip away, then remove the bearing from the instrument panel side. The new bearing can then be placed in the housing bore. As long as you are careful with the housing and bearing assembly (particularly when reinstalling the steering shaft) there is really no need to glue or epoxy the bearing into the housing. Once the spring, canceling cam, and locking plate are in place, the bearing is preloaded back into the housing and cannot move.

### **Disassembly of the Lower End – Remove Shift Tube**

Remove the two Screws #44 that hold the neutral start switch (and/or the backup light switch) #43 in place. Remove the switch. With the lower bearing and adapter removed (addressed completely in Disassembly & Repair Paper #2), align the lever on shift tube assembly #58 with the opening in the mast jacket #63. The shift tube should slide right out of the steering column mast jacket.

**The following procedures address replacing parts and reassembling the steering column.**

### **Reassemble the Lower End**

Apply a thin coat of lithium based grease to all friction surfaces.

Press the lower bearing assembly #51 into the plastic adapter #53. (Fully described in Disassembly & Repair Paper #2.)

Insert the shift tube assembly #56 into the lower end of the jacket and rotate until the upper shift tube key slides into the bowl keyway #14.

### **Reassemble the Lower End (Continued)**

Assemble the thrust washer #55, shift tube thrust spring #54, the bearing and adapter assembly, and lower bearing retainer #57 into the bottom of the jacket. Holding the retainer in place, insert the retainer clip #52 into the jacket and mating retainer slots.

Align the drive pin on the neutral –start/back up switch to the slot in the shift tube assembly. Loosely attach the switch to the mast jacket making sure to use the proper screws. Switch must be aligned and the screws tightened with the column in the car.

### **Reassembly – Sector, Rack, & Bolt**

Insert the new sector through the housing lock cylinder hole and assemble it onto the pin. Orient the sector so that the tang end is toward the outside of the hole. Press the sector over the pin with a blunt tool. The sector should turn freely when installed.

Insert the rack preload spring #24 from the bottom side. The bow of the spring should be against the rack. Note: On early columns the long end of the spring will hook onto the steering wheel side of the housing. Later springs are symmetrical so there is no up or down.

Assemble the bolt to the rack cross-arm (FIG 3). Insert the rack and lock bolt into the housing from the bottom with the teeth up (toward the steering wheel) and toward the centerline of the column (FIG 3). Assemble the rack to the sector so that the teeth match. Make sure that the large tooth on the sector matches the large tooth cutout on the rack when the rack assembly is pushed all the way in.

### **Reassembly – Bowl & Shroud, Turn Signal Housing to Jacket**

On floorshift models, position the shroud into the bowl #14. Drive three screws tighten to 18 inch-lbs. On column shift models, snap the shroud into the shift bowl. Install the assembly onto the upper end of the column jacket. Rotate the bowl to be sure it is seated in the bearing.

With the bowl in place, install the turn signal and lock cylinder housing onto the jacket. The gearshift housing should be in PARK position and the rack pulled downward. Be sure that the turn signal housing is seated on the jacket and drive the four screws (60 inch-lbs).

Slide the steering shaft assembly into the column. (The upper housing should be in place before the shaft is assembled.)

**Continue with Reassembly Instructions Contained in Papers #2 and #1.**

**Final Words of Caution:**

To maintain the energy absorbing function of the steering column, always replace screws, bolts, and nuts as specified.

When a steering column assembly is removed from the car, special care must be taken in handling it. A sharp blow on the end of the steering shaft, leaning on the assembly, or dropping the assembly could shear or loosen the plastic fasteners that maintain column rigidity.

Plastic parts that are 30 years old can be very brittle! Handle your steering column parts with care.

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