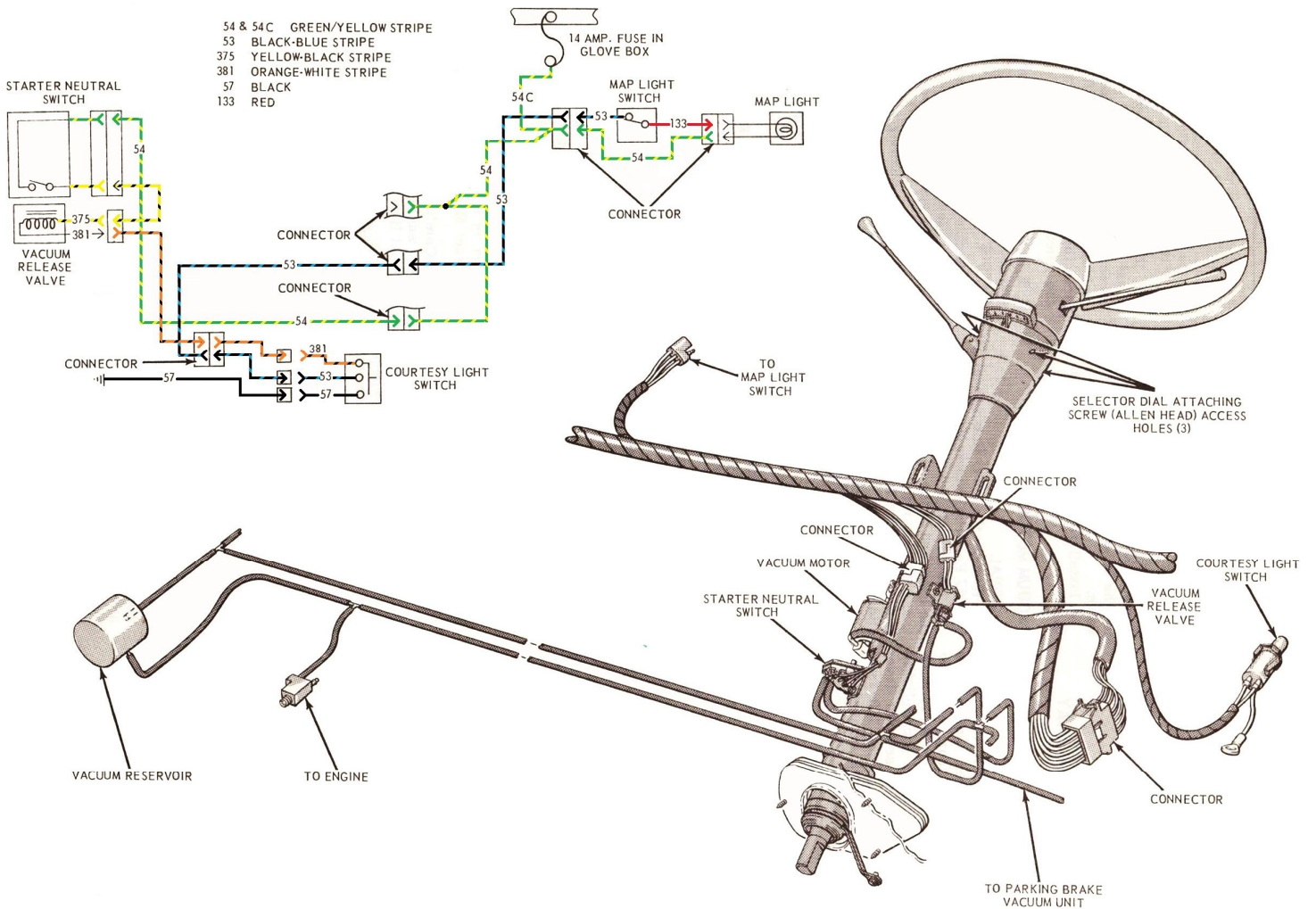




67 Mustang Tilt-Away Steering Column Adjustment & Repair

NOTE: The following information was taken from Technical Service Bulletin #916 Dated October 21, 1966



DESCRIPTION

A dual-action (tilt-away type) steering column features nine driving positions (four up and four down from a center position) and a tilt-away position that is automatically accomplished when the ignition key is turned to the OFF position and the left door is opened. This completes an electrical circuit through a switch in the left door jamb located just below the courtesy light switch and an electrically operated vacuum release valve mounted on the lower edge of the instrument panel approximately eight inches to the right of the steering column (Illus. G1476-A). The vacuum release valve is connected to a vacuum reservoir located on the right side of the dash panel in the engine compartment and to a vacuum motor located on the lower end of the steering column tube by rubber hoses. When the vacuum release valve is energized electrically, it opens a valve and allows reservoir vacuum to act on the vacuum motor diaphragm to pull the parking pawl out of the lower flange at the upper end of the column. Spring tension then moves the steering wheel upward and to the right at approximately a 45 degree angle (tilt-away position) at the steering shaft universal joint. The column will remain in the tilt-away position until the driver manually moves the column to the drive position after the left door has been closed.

A starter safety switch located to the right of the vacuum motor on the steering column prevents the engine from being started while the steering wheel is in the tilt-away position. The starter safety switch is actuated by the locking pawl. A tab provided on the rod depresses the switch to open the starter motor circuit when the wheel is in the tilt position. When the steering wheel is

placed in the drive position, the tab moves upward and allows the switch plunger to move upward and allows the switch plunger to move outward and close the circuit.

The vacuum reservoir has a capacity STEERING to operate (cycle) the steering column for approximately three times after the engine has been shut down.

VACUUM MOTOR REMOVAL AND INSTALLATION

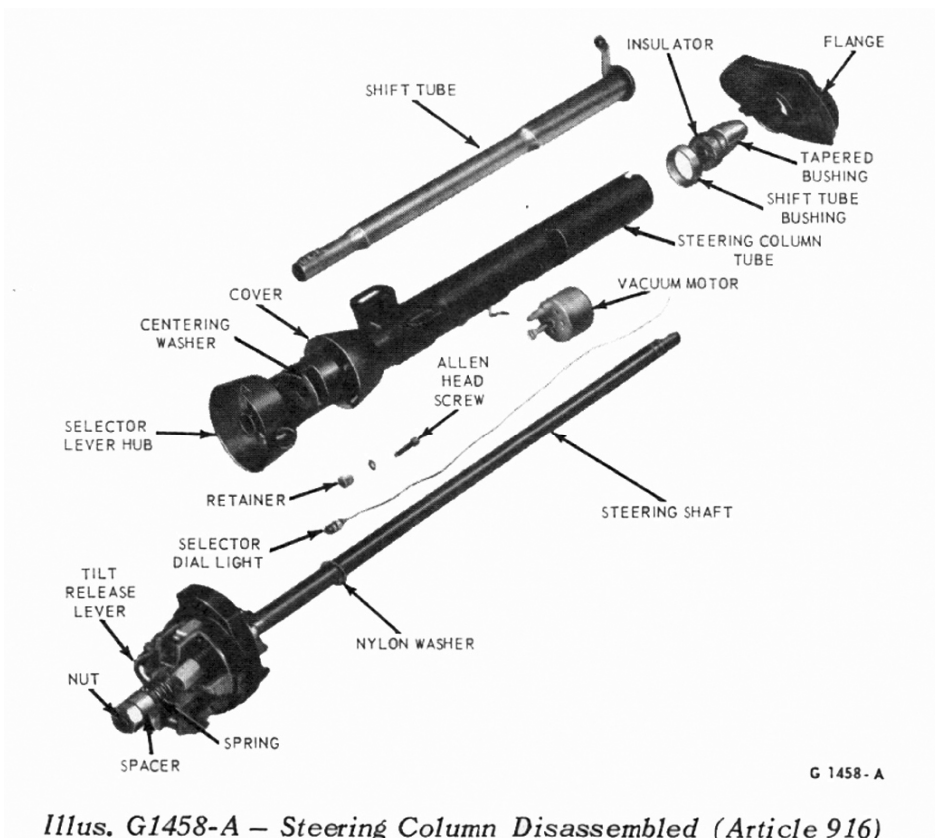
REMOVAL

1. Disconnect the vacuum hose from the lower end of the motor (Illus. CL476-A).
2. Lift the retaining clip from the lower end of the locking pawl rod, then slide the rod out of the vacuum motor push rod. Remove the retaining clip.

3. Remove the two vacuum motor attaching screws and remove the motor from the column.

INSTALLATION

1. Position the vacuum motor on the column so that the retaining slot on the lower end engages the steering column tube. Install but do not tighten the two attaching screws.
2. Hold the locking pawl rod retaining clip in place on the vacuum motor rod and insert the locking pawl rod in the clip and vacuum motor rod, Snap the retaining clip into place.
3. Slide the vacuum motor as required to align the locking pawl rod and vacuum motor. Tighten the two vacuum motor attaching screws.
4. Connect the vacuum hose to the vacuum motor.



G 1458 - A

Illus. G1458-A – Steering Column Disassembled (Article 916)

VACUUM RELEASE VALVE

REMOVAL

1. Disconnect the wire from the vacuum release valve terminal (Illus. G1476-A).
2. Disconnect the two vacuum hoses from the release valve.
3. Remove the bolt that attaches the vacuum release valve mounting bracket to the lower edge of the instrument panel. Remove the vacuum release valve and mounting bracket.

INSTALLATION

1. Position the vacuum release valve on the lower edge of the instrument panel so that the mounting bracket points upward and the one connector points toward the steering column. Secure the release valve bracket with the attaching bolt.
2. Connect the wire to the terminal at the rear of the valve.
3. Connect the reservoir hose to the connector at the rear of the valve. Connect the vacuum motor hose to the connector that points toward the steering column.
4. Start the engine and check the steering column operation.

STARTER SAFETY SWITCH

REMOVAL

1. Disconnect the two plug in type wires from the rear of the starter safety switch located on the right side of the column (Illus. G1476-A).
2. Remove the two switch attaching screws and remove the switch and bracket.

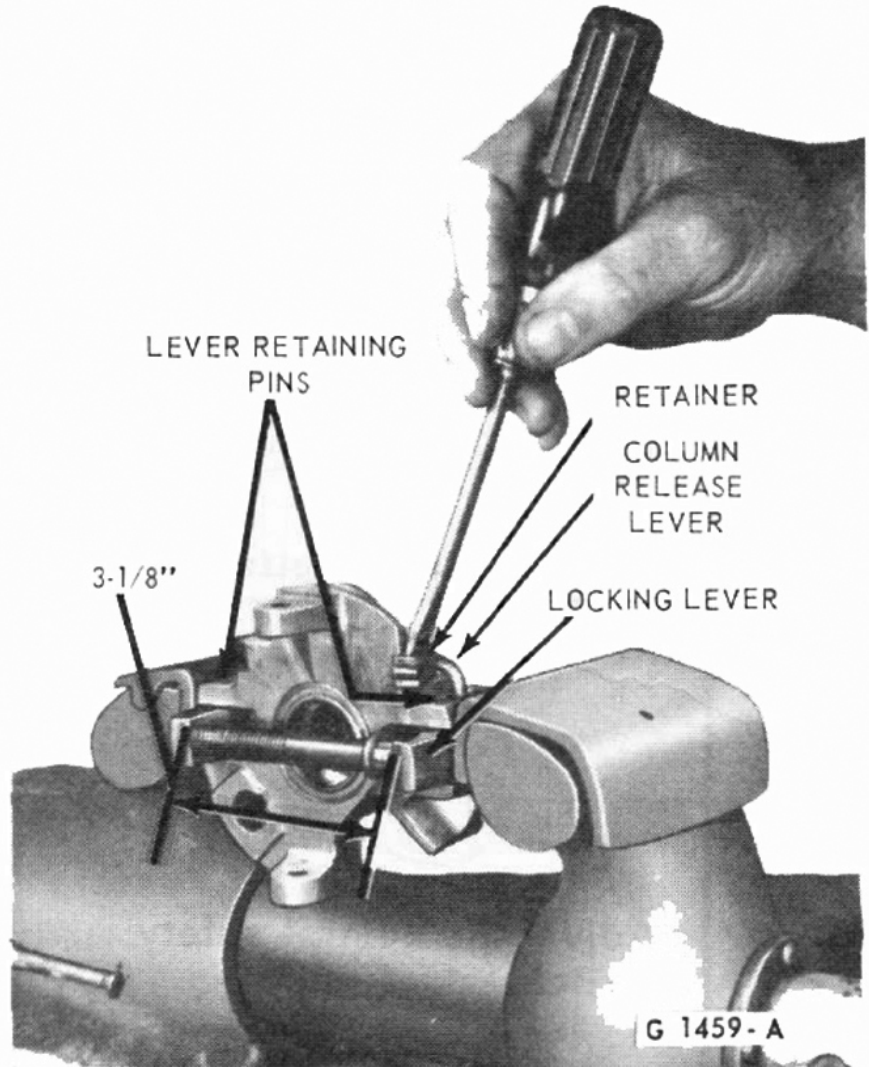
3. Remove the switch from the bracket.

INSTALLATION

1. Assemble the starter safety switch in the bracket.
2. Position the starter safety switch and bracket on the column tube and install but do not tighten the screws.

3. Place the steering wheel in the drive position and slide the switch forward or back on the steering column tube to establish a clearance of 0.080 inch gap between the tab on the locking pawl rod and the switch plunger, then tighten the two attaching screws.

4. Connect the two wires to the rear of the switch being careful not to disturb the position of the switch in the bracket.



Illus. G1459-A – Removing or Installing Locking Lever (Article 916)

LOCKING LEYER**REMOVAL**

1. Remove the upper flange and bearings as detailed on Page 3-9 of the 1967 Ford Preliminary Shop Manual.
2. Insert a 3 1/8-inch bolt between the lower ends of the locking levers (Illus. G1459-A) to relieve the tension from the column release lever.
3. Place the flange in a vise as shown in Illus. G1459-A and remove the two retainers with a screwdriver.
4. Lift the column release lever from the flange.
5. Drive the locking lever retaining pins from the flange with a small drift.
6. Release the vise slowly to prevent the levers from flying out.
7. Remove the levers, spring caps and springs from the flange (Fig. 7 of

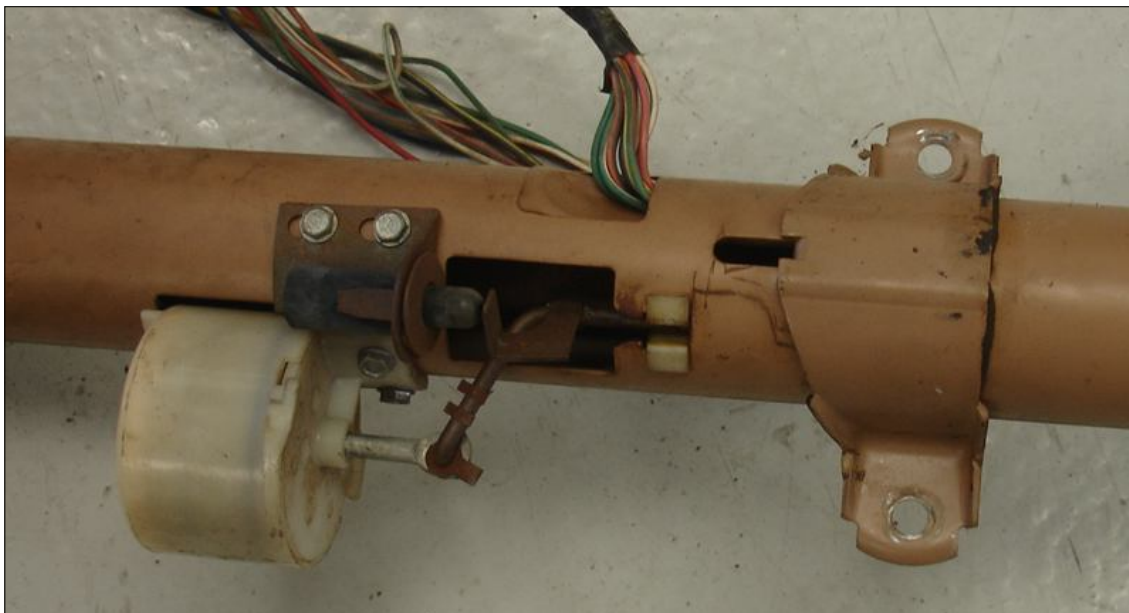
the 1967 Ford Preliminary Manual)

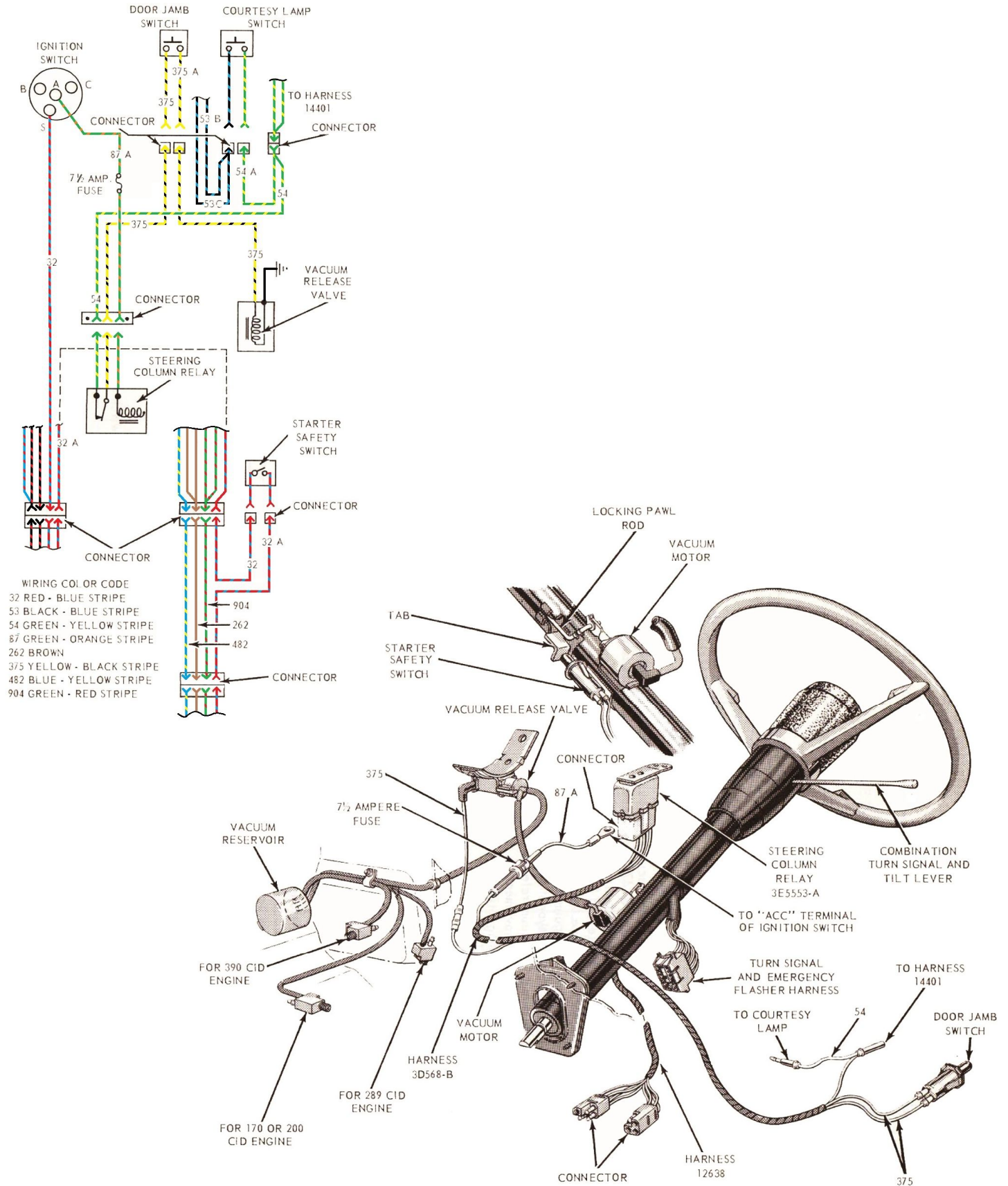
INSTALLATION

1. Make sure that the rubber insulators are in place in the upper flange.
2. Position the springs, spring caps and locking levers in the upper flange.
3. Place the assembly in a vise and compress the springs. Install the lever retaining pins in the upper flange.
4. Install a 3 1/8-inch bolt between the lower ends of the locking levers as shown in Illus. G1459-A.
5. Make sure that the column release lever stop is in place in the upper flange, then position the column release lever on the flange. Install the two retainers.
6. Remove the 3 1/8-inch bolt from between the levers.
7. Install the upper flange and bearings as detailed on Page 3-9 of the 1967 Ford Preliminary Manual.

**PART II --
TROUBLE DIAGNOSIS
TILT-AWAY
STEERING COLUMN**

This trouble diagnosis procedure is compiled as a guide to correct problems which may occur in the tilt-away steering column. Trouble symptoms, possible causes and corrective measures are listed in the order they should be checked to eliminate the possibility of removing the steering column from the vehicle unnecessarily, or replacing serviceable parts.





Illus. G1476-A - Tilt Column Vacuum and Electrical Systems (Article 916)

TILT-AWAY STEERING COLUMN CONDITIONS

A. STEERING WHEEL WILL NOT TILT-AWAY WHEN SELECTOR LEVER IS IN PARK (T-BIRD) OR IGNITION SWITCH IS TURNED OFF (MUSTANG) AND LEFT FRONT DOOR IS OPENED

Most Probable Cause	Action Indicated	Reference For Appropriate Shop Manual	If Defective
1. Blown fuse (no courtesy lights)	Check fuse between steering column relay and ignition switch (Mustang only) or fuse on fuse panel in glove box (Thunderbird) <p style="text-align: center;">IF OK</p>	Illus. G1476-A or page 41 in 1967 T-Bird Owner's Manual.	Replace fuse
2. Neutral safety switch improperly adjusted.	Check the neutral safety switch for proper operation (Thunderbird only). <p style="text-align: center;">IF OK</p>	Group 7	Adjust the neutral safety switch.
3. Disconnected, pinched or obstructed vacuum line.	Disconnect hose that connects vacuum release valve to dash panel junction block (Thunderbird) or reservoir (Mustang). Start engine and check for vacuum at the release valve end of hose. If there is no vacuum, disconnect hose from preceding connection and check vacuum. Repeat this test at each connection (forward or backward) until obstruction is located. <p style="text-align: center;">IF OK</p>	Illus. G1475-A and G1476-A	Remove any obstruction. Repair or replace worn or damaged tubing.
4. Open circuit in steering column electrical circuit.	Check circuit continuity between left front door jamb switch, neutral start switch (T-Bird) and vacuum release valve solenoid with an ohmmeter test lamp. See Illus. G1475-A or G1476-A. <p style="text-align: center;">IF OK</p>		Replace courtesy light switch or make necessary repairs to the circuit.
5. Defective vacuum release valve.	Disconnect wiring harness from vacuum release valve solenoid (Illus. G1475-A and G1476-A). Connect ground wire (-) to exposed terminal of solenoid harness (T-Bird). Connect a positive lead (+) to insulated terminal of vacuum release valve. (T-Bird) or to the bayonet terminal on a Mustang. If vacuum release valve solenoid clicks or movement is detected by feeling the magnetic cylinder, the valve is satisfactory. <p style="text-align: center;">IF OK</p>	Illus. G1475-A and G1476-A	Replace vacuum release valve as required.
6. Defective vacuum motor.	Disconnect rubber hose from vacuum motor. Connect a vacuum hose with minimum of 10 inches vacuum to motor and observe operation (See NOTE 1). Attach a pull scale to vacuum motor and apply minimum of 10 inches vacuum. If motor registers 16-18 pounds pull, it is satisfactory. The scale reading will be proportionally higher than the amount of vacuum applied. Then check locking pawl for proper adjustment, also check pawl rod for binding or other damage. <p style="text-align: center;">IF OK</p>	Illus. G1475-A and G1476-A in this bulletin.	Replace vacuum motor if defective. Remove steering column. Adjust the locking pawl correctly. Repair or replace damaged pawl rod.

NOTE 1. Vacuum can be obtained by attaching a hose directly to the engine manifold and running the engine or by using the vacuum source on a distributor stroboscope. If the motor has a tendency to operate but cannot pull the pawl free of the flange, disconnect the motor from the locking pawl rod when checking with pull scale.

B. ENGINE WILL NOT START WITH LEFT DOOR CLOSED AND STEERING COLUMN IN DRIVE POSITION (MUSTANG ONLY)

Most Probable Cause	Action Indicated	Reference For Appropriate Shop Manual	If Defective
1. Wire disconnected from starter safety switch.	Check wiring connections. IF OK	See Illus. G1476-A in this bulletin.	Connect wires to switch.
2. Starter safety switch not adjusted correctly.	Check clearance between switch and tab on locking pawl rod. IF OK	Illus. G1476-A in this bulletin.	Adjust switch.
3. Defective starter safety switch.	Disconnect the wires and connect an ohmmeter to the switch. The ohmmeter should read zero with the steering wheel in Drive position or it is defective. Place the steering wheel in the tilt-away position. If engine will not start and there is no vacuum reserve,	Illus. G1476-A in this bulletin.	Replace starter safety switch, if found to be defective.

F. RUBBING OR SCRAPING NOISE WHEN SELECTOR LEVER IS MOVED (THUNDERBIRD ONLY)

Most Probable Cause	Action Indicated	Reference For Appropriate Shop Manual	If Defective
1. Turn signal wire retaining clip interfering with lower cover.	Slide lower cover downward on column and check position of retaining clip. IF OK	Group 3, Part 3-3	Reposition the retaining clip correctly.
2. Nylon wave washer missing from between selector lever hub and lower flange (T-Bird only)	Remove steering column. Remove steering shaft and tilt mechanism from the column and check for missing washer. (Fig. 7 of the 1967 Ford Preliminary Manual.) IF OK	Group 3, Part 3-3	Install the washer.
3. Defective hub or centering washer.	Check hub and centering washer for damage. IF OK	See centering washer removal in this bulletin.	Install new hub or washer.
4. Selector dial and/or housing loose or out of position.	Check selector dial and housing for looseness or improper positioning.	As detailed in this bulletin.	Position selector dial housing correctly and tighten the three Allen head attaching screws through the openings shown in Illus. G1475-A.

G. STEERING WHEEL TILTS-AWAY WHEN ENGINE IS STARTED

Most Probable Cause	Action Indicated	Reference For Appropriate Shop Manual	If Defective
1. Vacuum reservoir hose connected directly to vacuum motor.	Disconnect vacuum hose from vacuum motor and place steering wheel in drive position. Start engine and observe action.	See Illus. G1475-A and G1476-A in this bulletin.	Connect vacuum hose to proper connections.

H. STEERING WHEEL WILL NOT STAY IN DRIVE POSITION

Most Probable Cause	Action Indicated	Reference For Appropriate Shop Manual	If Defective
1. Defective courtesy light switch.	Remove the switch and connect an ohmmeter to the switch terminals. The gauge should read on the infinite side of the scale when the plunger is depressed.		Replace switch if defective.

