

UPPER SHAFT BEARING

Fixed Column

Removal

1. Disconnect the negative battery cable from the terminal.
2. Remove the steering wheel as detailed in this Part.
3. Disconnect the electrical connections to the steering column.
4. Remove the turn indicator lever.
5. Remove the screws from the turn indicator switch and lift the switch over the end of the steering column upper shaft.
6. Remove the turn indicator switch and wiring harness from the steering column.
7. Remove the snap ring from the top of the steering column upper shaft.
8. Loosen the flange-to-steering column tube retaining nuts, and remove the T-bolts from the tube.
9. Raise the flange while tapping lightly on the steering shaft with a plastic hammer to free the bearing and flange from the shaft.
10. Remove the bearing and insulator from the flange.

Installation

1. Place the flange on the steering column tube.
2. Install the T-bolts and retaining nuts. Torque the nuts to 60-75 in-lb.
3. Prick punch the shaft serration diameter to insure an interference fit to the inner race. Place the bearing and insulator on the shaft, working them as far down the shaft as possible. Place a piece of pipe 3/4 ID x 2 1/8 inch long over the end of the shaft.
4. Install the steering wheel attaching nut (Fig. 3). Tighten the nut until the bearing is seated in the flange. Remove the nut and pipe from the shaft.

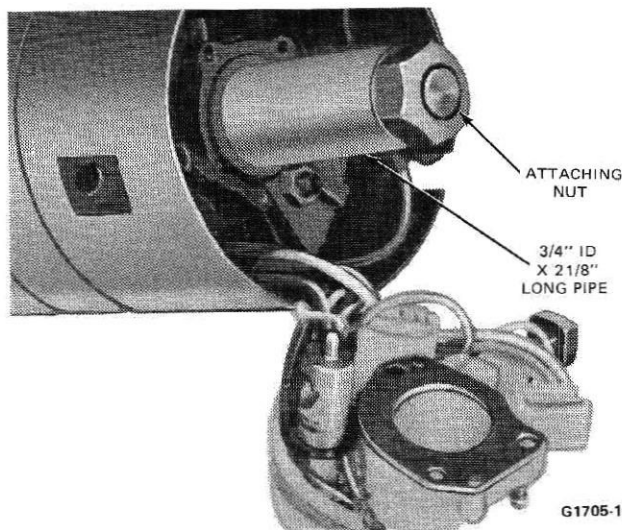


FIG. 3 Installing Upper Bearing—Fixed Columns

5. Install the snap ring in the groove on the shaft.
6. Install the turn indicator switch on the flange. Torque the screws to 20 to 30 in-lb.

7. Install the turn indicator lever.
8. Connect the electrical connections to the steering column.
9. Install the steering wheel as outlined in this Part.
10. Connect the negative battery cable to the terminal.
11. Test the steering column for proper operation.

TILT COLUMN

Removal

1. Remove the column as described later in this Part.
2. Place the flange casting on a bench with the smaller bearing facing down.
3. With a small pick, lightly tap on the outer race of the small bearing at each slot. **Never drive or apply pressure of any kind to the inner race of the bearing.**
4. Invert the flange casting and place it on a bench with the large upper bearing face down.
5. With a small pick, lightly tap on the outer race of the large bearing at each slot. **Never drive or apply pressure of any kind to the inner race of the bearing.**

Installation

1. Position the flange casting on a bench with the large bearing seat facing upward.
2. Select a socket wrench that is the same diameter as the outer race of the large upper bearing.
3. Position the large upper bearing over its bearing seat with the open side facing inward.
4. Place the socket wrench on the outer race of the bearing and lightly tap on the socket wrench until the bearing is in place. **Be careful not to contact the bearing inner race as damage will result.**
5. Invert the flange casting and place it on a bench with the small bearing seat facing upward.
6. Select a socket wrench that is the same diameter as the outer race of the small bearing.
7. Position the small bearing over its bearing seat with the open side facing inward.
8. Place the socket wrench on the outer race of the bearing and lightly tap on the socket wrench until the bearing is in place. **Be careful not to contact the bearing inner race as damage will result.**
9. Install the tilt column mechanism as described earlier in this Part.

STEERING COLUMN ASSEMBLY

Manual and automatic transmission linkage systems make use of oil impregnated plastic grommets to connect various rods or levers. To assure satisfactory retention of the connecting links and overall system operation, the grommets must be replaced and not reused when a grommet-type connection (as in a steering column replacement) is changed. Grommet removal and installation procedures are detailed in Group 17-02.

FORD/MERCURY

Removal

1. Disconnect the negative battery cable from the terminal.

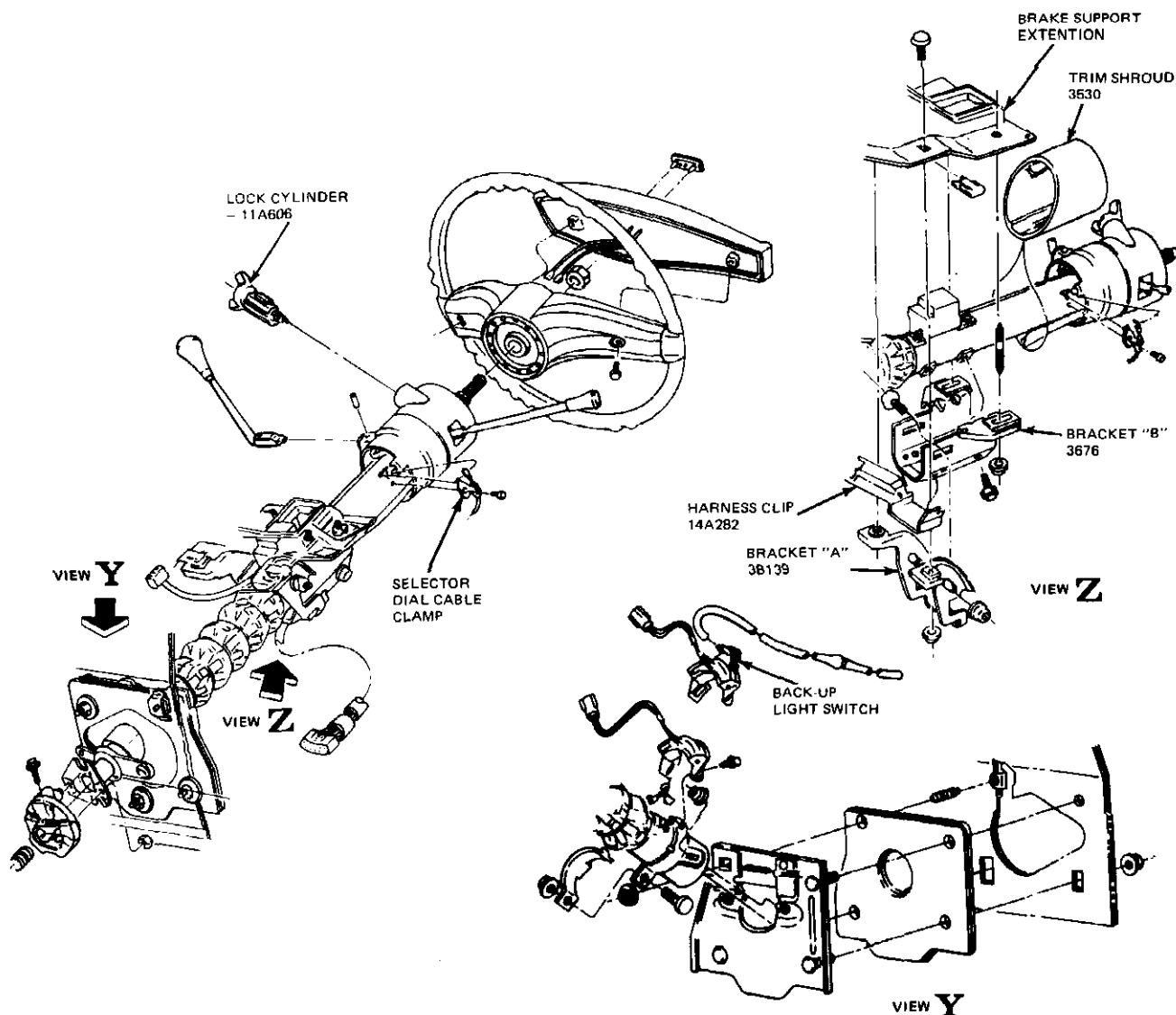
2. Remove the steering wheel as outlined in this Part.
3. Remove the lower instrument panel.
4. Remove the steering column trim shroud by pulling the shroud tabs out of the steering column clips.
5. Disconnect the electrical connections to the steering column.
6. Disconnect the PRND21 cable from the outer tube.
7. Remove the toe plate from the dash panel by removing four nuts from the engine compartment side of the dash panel, and one nut from the driver compartment side (Fig. 4).
8. Disconnect the transmission control rod and remove the nuts that attach the flexible coupling to the flange on the steering column shaft.
9. Remove the nuts that secure the steering column to the brake pedal support bracket.
10. Remove the steering column.

Installation

1. Install the electrical wiring harness bracket to Bracket "B" (if removed).

2. Loosen the bolts joining Bracket "A" and Bracket "B". Leave the square necks of the bolts in the slots.
3. Loosen the toe plate clamp and slide the cover back.
4. Insert the steering column assembly through the opening in the dash panel.
5. On fixed column steering wheels, place the flange on the shaft against the flexible coupling. Insert a 1/4 inch diameter rod between the flexible coupling fabric and the flange. Install the nuts and torque to 10 to 22 ft-lb. **Do not distort the flexible coupling when torquing the nuts or removing the rod.**

On tilt column wheels, place the shaft against the flexible coupling. Insert a 1/4 inch diameter rod between the flexible coupling fabric and the flange. Install the grade 8 bolt (385970-S100) and torque to 20-30 ft-lb. **Do not distort the flexible coupling when torquing the bolt or removing the rod.**



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FIG. 4 Fixed Steering Column Installation—Ford, Mercury (Tilt Similar)

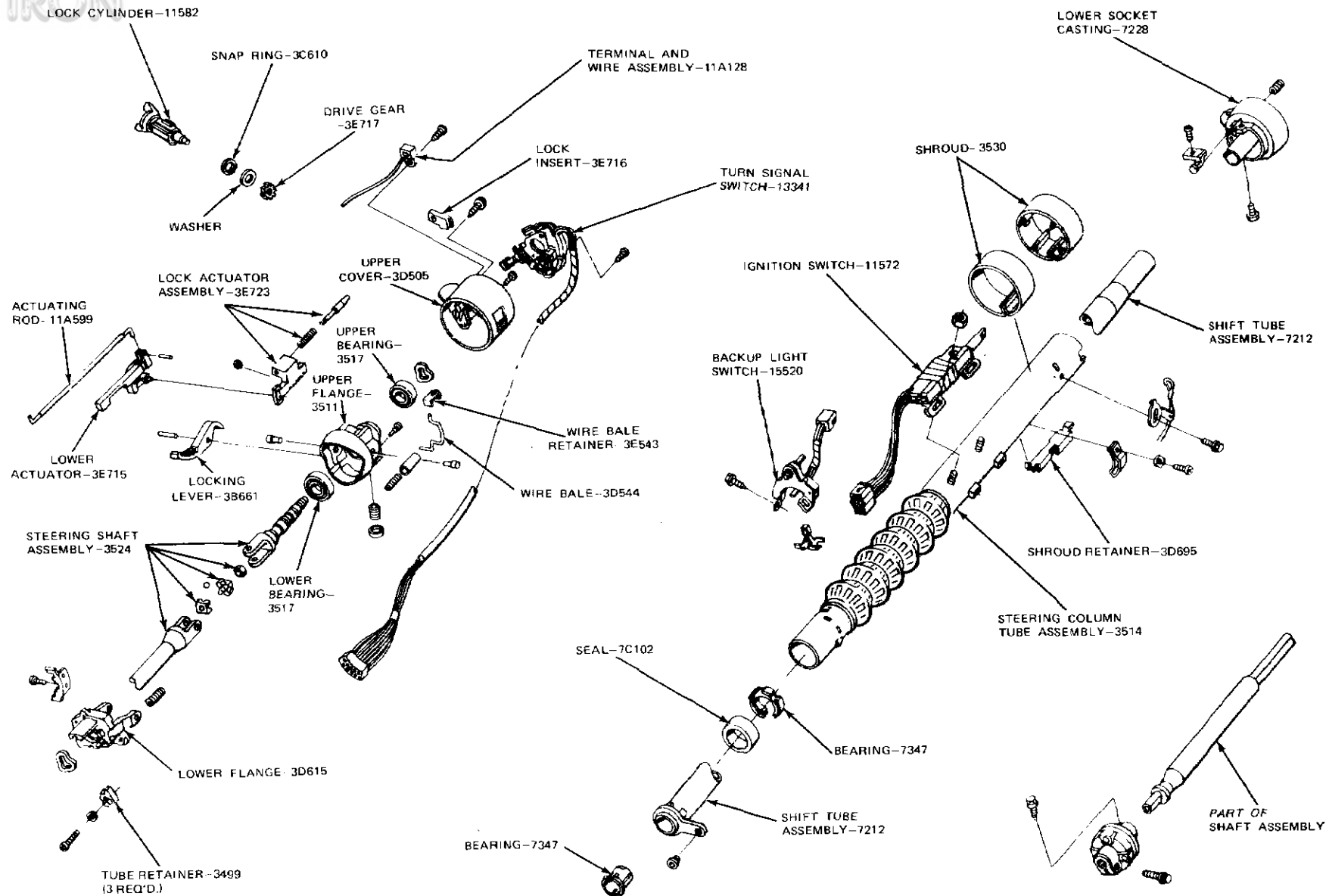


FIG. 5 Typical Tilt Column Disassembled

6. Install the column on the two rear studs of the brake pedal support bracket and finger-start the two nuts. Slide bracket "A" over the two forward bolts and finger-start the two nuts. Torque the nuts to 13 to 27 ft-lb, starting with the nuts on Bracket B.
7. Push the toe plate against the dash panel. Center the shift tube on the input shaft to prevent grounding and torque the nut on the passenger side to 8-14 ft-lbs. Torque the nuts that attach Bracket "A" to Bracket "B" to 13-27 ft-lbs.
8. Torque the toe plate nuts on the engine side to 8-14 ft-lbs.
9. Torque the toe plate clamp bolt to 5 to 12 ft-lb.
10. Torque the two nuts on the column clamps to toe plate 8-14 ft-lbs.
11. Remove the rod from between the flexible coupling and the flange.
12. Connect and adjust the transmission control rod.
13. Connect and adjust the PRND21 cable.
14. Connect the electrical connections to the column.
15. Install the trim shroud and inspect for clip damage. Replace the shroud if necessary.
16. Install the lower instrument panel.
17. Install the steering wheel.
18. Connect the negative battery cable to the terminal.
19. Test the steering column for proper operation.

LINCOLN CONTINENTAL (TILT AND FIXED COLUMN)

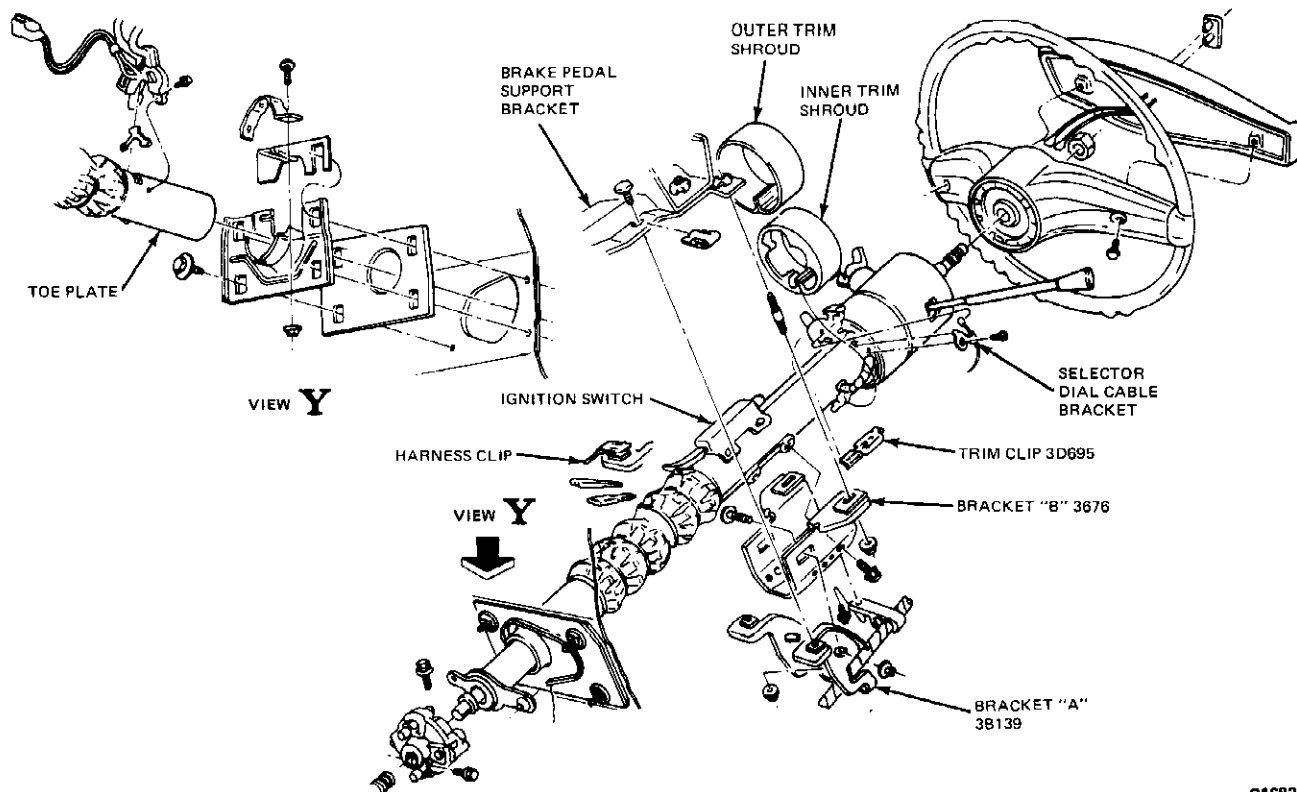
Removal

1. Disconnect the negative battery cable from the terminal.

2. Remove the steering wheel as outlined in this Part.
3. Remove the lower instrument panel.
4. Remove the trim shroud.
5. Disconnect the electrical connections to the steering column.
6. Disconnect the PRND21 cable.
7. Remove the toe plate.
8. Disconnect the transmission control rod and remove the bolt that attaches the flexible coupling to the steering column shaft.
9. Remove the nuts that attach the column support bracket to the brake pedal support bracket (Fig. 6).
10. Remove the steering column.

Installation

1. Install the electrical wiring harness bracket to Bracket "B" (if removed).
2. Loosen the bolts holding Bracket "A" to Bracket "B". Insure square necks of the bolts are in the slots.
3. Loosen the toe plate clamp and slide the cover back.
4. Insert the steering column assembly through the opening in the dash panel.
5. Place the steering shaft against the flexible coupling. Insert a 1/4 inch diameter rod between the flexible coupling fabric and the flange on the shaft. Install the grade 8 bolt (385970-S100) and torque to 20-30 ft-lb. **Do not distort the flexible coupling when torquing the bolt or removing the rod.**



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FIG. 6 Tilt Steering Column Installation—Lincoln (Fixed similar)

6. Install the column on the two rear studs of the brake pedal support bracket and install the two nuts. Slide bracket "A" over the two forward bolts and secure with nuts. Torque the rear nuts to 13 to 27 ft-lb.
7. Push the toe plate against the dash panel. Center the shift tube on the shaft to prevent grounding.
8. Torque the toe plate screws to 5 to 15 ft-lb.
9. Torque the toe plate clamp bolt to 5 to 12 ft-lb.
10. Torque the nuts that attach Bracket "A" to Bracket "B" to 13 to 27 ft-lb.
11. Remove the rod from between the flexible coupling and the shaft.
12. Connect and adjust the transmission control rod.
13. Connect and adjust the PRND21 cable.
14. Connect the electrical components to the column.
15. Install the lower instrument panel.
16. *Install the column trim shroud and inspect for clip damage. Replace the shroud, if necessary.*
17. Install the steering wheel.
18. Connect the negative battery cable to the terminal.
19. Test the steering column for proper operation.

TILT COLUMN MECHANISM—FORD/ MERCURY, LINCOLN

Removal

1. Disconnect the negative battery cable from the terminal.
2. Place the steering wheel in the full "UP" position and remove. Be sure full "UP" position is attained.
3. Remove the trim shroud.
4. Remove the section of instrument panel beneath the steering column.
5. Disconnect the electrical connections to the steering column. Remove the wires from the hardshell plastic coupler, **noting the position and color code of each wire in the coupler.**
6. Remove the lock drive gear as detailed in this Part.
7. Remove the turn signal lever.
8. Remove the screws securing the turn signal switch and warning buzzer terminal (Fig. 7). Remove the *wiring harness-to-steering column tube clips* (if required). Remove the turn signal switch and wiring harness from the steering column.
9. Remove the cover casting screws. Lift the cover casting up and over the steering column upper shaft, and remove the casting from the column. Unhook the upper actuator from the lower actuator and remove.
10. Loosen the toe plate from the dash panel. Remove the nuts securing the column brackets to the brake support bracket. Lower the steering column to expose the ignition switch.
11. Remove and discard the screws that attach the lower flange to the outer tube.
12. Loosen the ignition switch nut and washer assemblies and remove the ignition rod from the switch end.
13. Remove the spring clips holding the wire bale which acts as a release lever for the locking lever. Remove the wire bale (Fig. 8).
14. With a small drift, drive out the pin holding the locking lever. Remove the lever and spring. Use a C-clamp to relieve tension on the pin if necessary.
15. Remove the column upper shaft snap ring.
16. The upper and lower flange castings can now be separated by removing the two pivot pins located *in the side of the casting assembly with either Tool T67P-3D739-B or Tools T70P-3D739-A and T67P-3D739-C (Fig. 9).* **Do not use the pivot pins again if the press fit is loose in the lower flange.**

Installation

1. Install the lower actuator with the ignition switch rod attached.
2. Install the upper and lower flange with the two pivot pins (Fig. 9). Be sure the column position spring is properly seated between the upper and lower flange, and the wavy thrust washer is positioned properly between the lower flange and the socket. **Do not re-use loose pivot pins.**
3. Install the column upper shaft snap ring.
4. Assemble the locking lever and spring, and insert the pin that holds the lever. Use C-clamp to relieve the tension on the pin, if necessary (Fig. 10).
5. Place the wire bale on the upper casting and install the spring clips that hold the bale in place (Fig. 8).
6. Connect the ignition switch rod to the switch. Do not tighten the nuts.
7. Tighten the three Allen head screws, washers, and retainers holding the flange to the outer tube. Torque the screws to 50 to 60 in-lb. **Always use new Allen head screws to be sure the epoxy cement bonds properly.**
8. Connect the upper and lower actuators. Install the cover on the column. Torque the screws to 40 to 50 in-lb.
9. Install the turn signal switch and wiring harness in the steering column. Attach the wiring harness-to-steering column tube clips (if required). Install the two screws that attach the turn signal switch to the flange casting and the one screw that attaches the warning buzzer terminal. *Torque the screws to 20 to 30 in-lbs for the turn signal switch and 15-25 ft-lbs for the buzzer terminal.*
10. Install the turn signal lever.
11. Install the lock drive gear.
12. Install the lock cylinder with the key in the "ON" position. Install the retaining pin flush with the cylinder. Turn key to the "OFF" position.
13. Adjust the ignition switch as explained in Group 33, Part 70.
14. Attach the vacuum lines (if equipped). Reassemble the wires in the plastic coupler. **Be sure to connect the color-coded wires in the correct positions.** To install the steering column in the vehicle, follow Steps 1 through 19 under Ford/Mercury Column Installation in this Part.

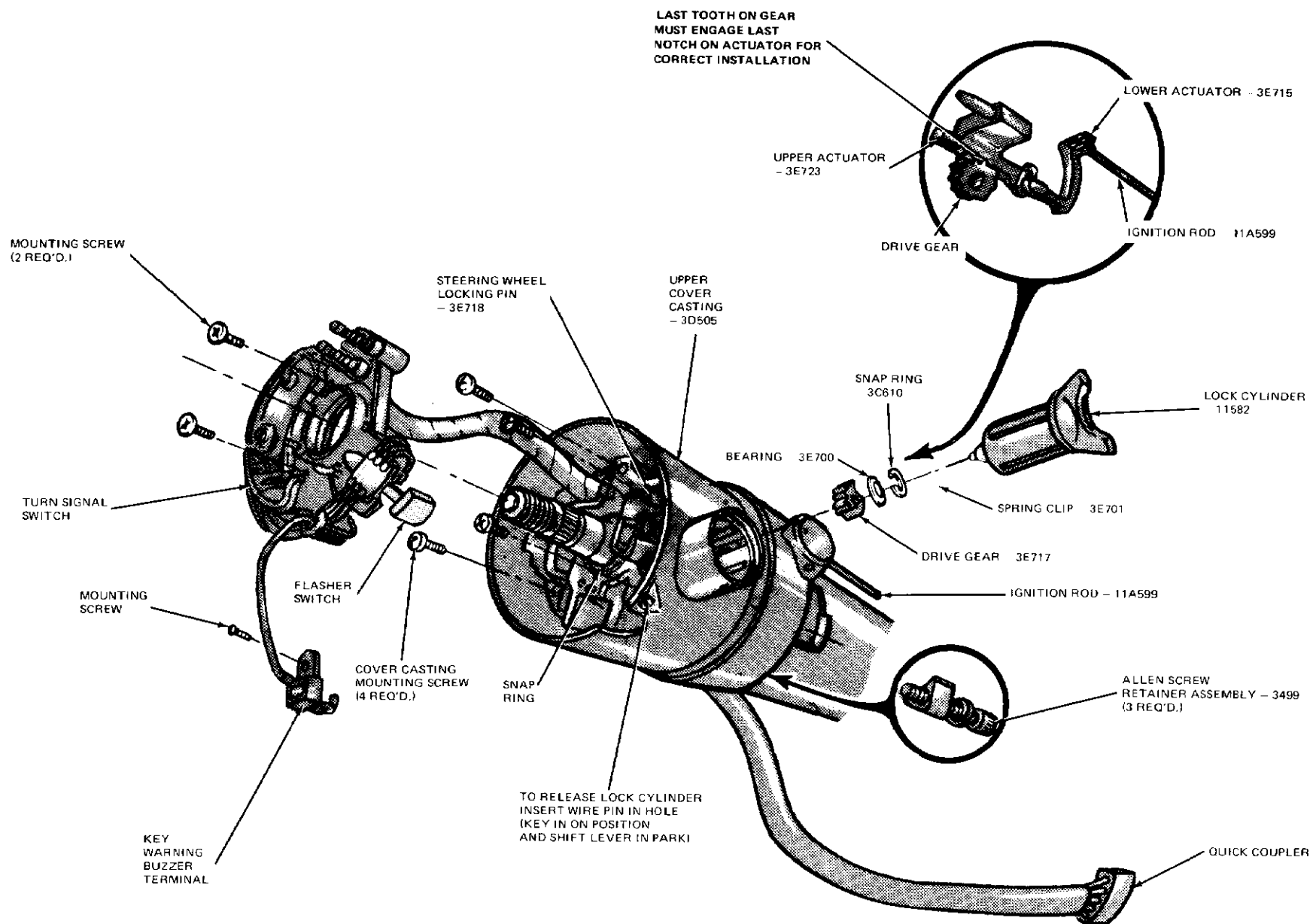
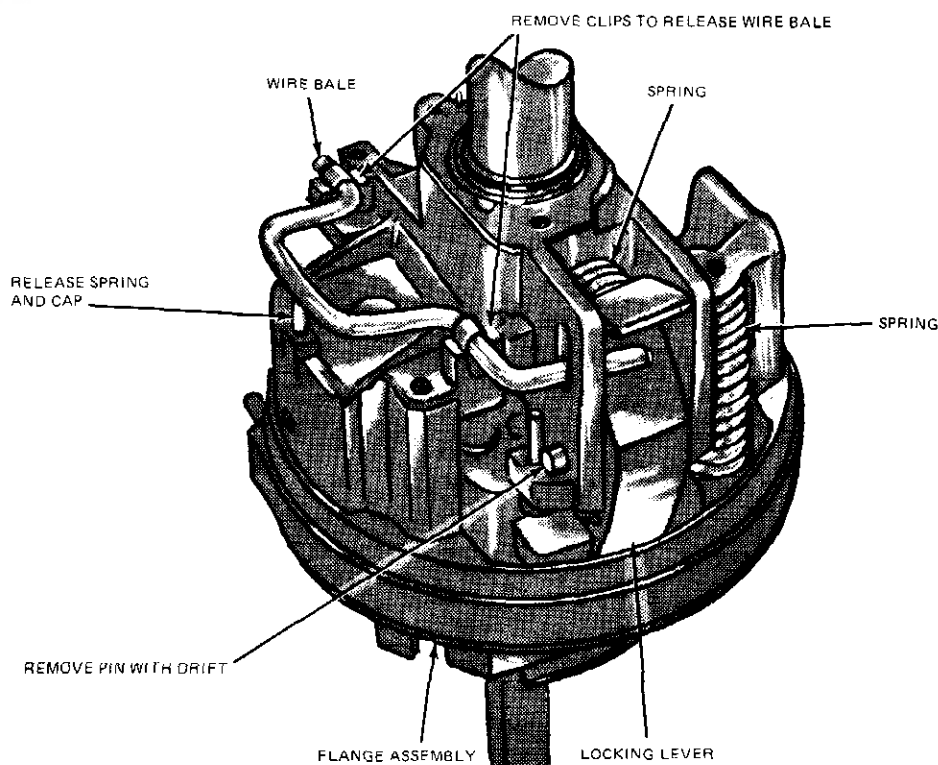


FIG. 7 Tilt Column Mechanism

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G1689-2A

FIG. 8 Removing Wire Bale and Tilt Locking Lever

15. Connect the electrical connections to the column.
16. Install lower instrument panel. Connect the speedometer cable, wire harness, the PRND21 cable (if required), and Bowden wire cables to the heat/air panel, to the instrument cluster. Install the cluster in the instrument panel. Install the instrument cluster trim cover.
17. Install the trim shroud.
18. Install the steering wheel as outlined in this Part.
19. Connect the negative battery cable to the terminal.
20. Test the steering column for proper operation.

IGNITION LOCK ACTUATOR AND STEERING WHEEL LOCK PIN

FIXED COLUMN

Removal

1. Remove the steering column shroud.
2. Remove the lock drive gear as detailed in this Part.
3. Disconnect the PRND21 cable.
4. Remove the attaching nuts that hold the steering column to brake pedal support.
5. Loosen the ignition switch attaching nuts and remove the ignition rod from the switch end.
6. Remove the upper shaft bearing as detailed in this Part.
7. Remove the ignition lock actuator rod and steering wheel lock pin assembly (Fig. 11).
8. Remove and discard the retaining clip at the lower end of the steering wheel lock pin. Remove the steering wheel lock pin and lock pin spring from the ignition switch actuator. **Do not lose the spring.**

FIXED COLUMN

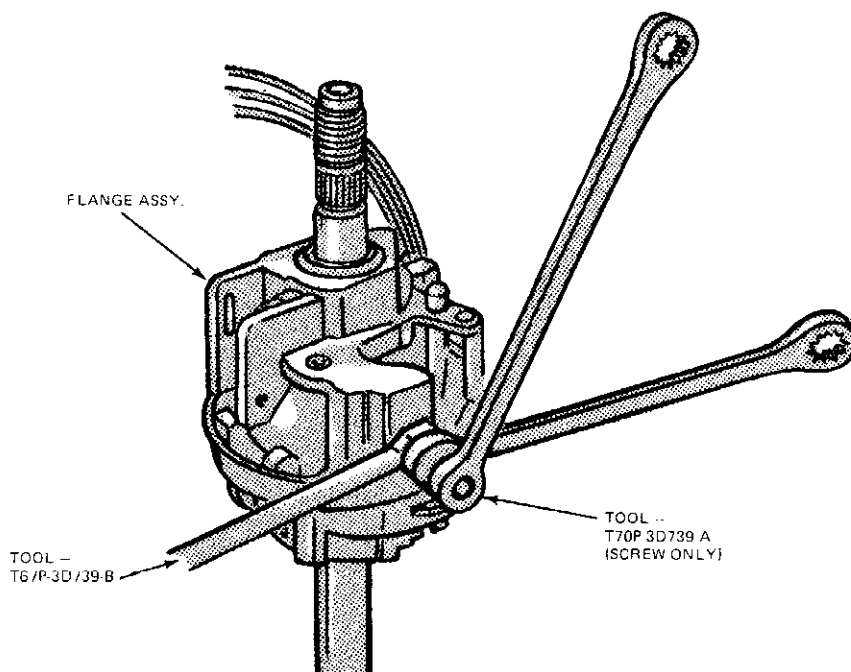
Installation

1. Install a new lock pin and clip, and the old lock pin spring in the actuator casting.
2. Place the actuator and steering wheel lock pin in the steering column.
3. Engage actuator rod into ignition switch. Do not tighten switch retaining nuts.
4. Install the lock drive gear, bearing and snap ring.
5. Install the lock cylinder with the key in the ON position. Install with the retaining pin flush with cylinder. Turn key to the OFF position.
6. Install the upper shaft bearing as detailed in this Part.
7. Adjust the ignition switch as explained in Part 33-70.
8. Secure the steering column to the brake pedal support.
9. Connect the PRND21 cable.
10. Install the trim shroud.

FLANGE AND/OR SOCKET CASTING (FIXED AND TILT COLUMNS)

Removal

1. On fixed columns, remove the actuator assembly as detailed in this Part.
On tilt columns, remove the tilt column mechanism as detailed in this Part.
2. Remove the flexible coupling as described in this Part (tilt only).



G1601-2C

FIG. 9 Removing Pivot Pin

3. Remove the steering shaft from the top of the column (tilt only).
4. Rotate the column inner tube and socket casting to expose the socket casting retaining bolt (automatic shift vehicles).
5. Remove the gear shift lever (manual shift vehicles).
6. Remove the socket casting retaining bolt and lift the casting off of the column inner tube (automatic shift vehicles).

Installation

1. Place the socket casting on the column inner tube. Align the retaining bolt hole and install the retaining bolt.
2. Install the gear shift lever, if removed. Working from the top, install the steering shaft assembly in the column (tilt only).
3. Install the flexible coupling (tilt only).
4. On fixed columns install the ignition switch actuator and steering wheel lock pin assembly.
On tilt columns, install the tilt column mechanism.

STEERING COLUMN SHIFT TUBE**FIXED COLUMN****Removal**

1. Remove the steering column assembly as detailed in this Part.
2. Secure the steering column assembly in a vise.
3. Remove the back-up lamp switch.
4. Remove the upper shaft bearing as detailed in this Part.

5. Working from the bottom of the column, remove the steering shaft.
6. Remove the gear shift lever (manual shift vehicles).
7. Remove the bolt holding the shift tube to the socket casting (automatic only).
8. Remove 3 screws holding the lower bearing to the outer tube (manual only). Remove the tube and bearing from the column.

Installation

1. Install the shift tube in the socket casting through the bottom of the outer tube. Torque the retaining bolt to 35 to 50 in-lb.
2. Install the shift tube and lower bearing into the socket casting and outer tube and secure with 3 screws. Torque to 20-25 in-lbs (column-shift manual).
3. Working from the bottom, insert the steering shaft in the column.
4. Install the upper shaft bearing.
5. Install the back-up lamp switch.
6. Install the steering column assembly as detailed in this Part.

TILT COLUMN**Removal**

1. Remove the steering column assembly as detailed in this Part.
2. Secure the assembly in a vise.
3. Remove the back-up lamp switch. **It is not necessary to remove the turn indicator switch and wiring harness from the steering column.**

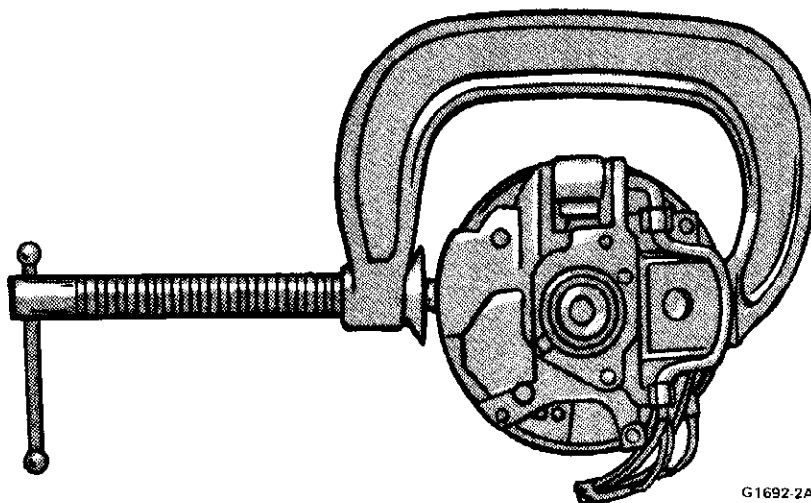


FIG. 10 Installing Flange Assembly Pivot Pins

4. Remove bolt that attaches the shift tube to the socket casting. Remove the shift tube from the housing.

Installation

1. Install the shift tube in the socket casting. Torque the retaining bolt to 40 to 45 in.-lb.
2. Install the back-up lamp switch.
3. Install the steering column assembly as detailed in this Part.

STEERING SHAFT AND ANTI-RATTLE CLIPS

FIXED COLUMN

Removal

1. Remove the steering column assembly as detailed in this Part.
2. Secure the steering column assembly in a vise.
3. Remove the back-up lamp switch.
4. Remove the upper shaft bearing as detailed in this Part.
5. Working from the bottom of the column, remove the steering shaft.
6. Draw a mark on the lower shaft where the upper and lower steering shaft sections form a joint line.
7. Separate the upper and lower steering shaft sections.

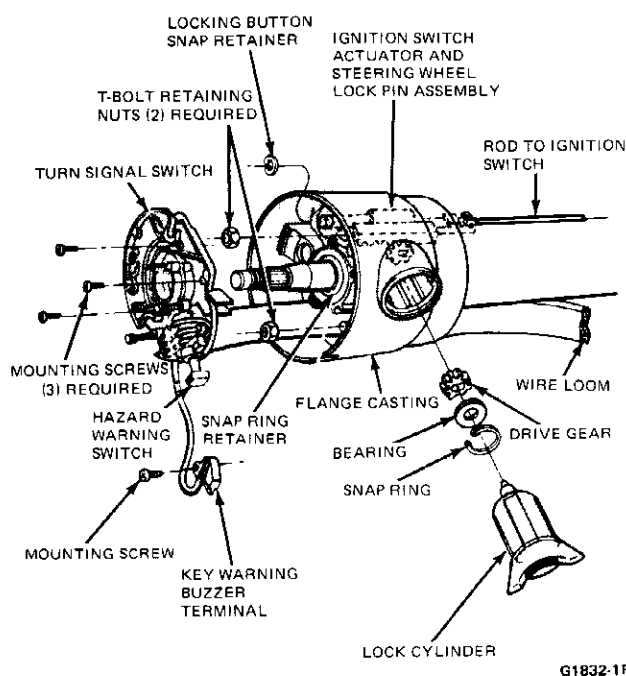


FIG. 11 Fixed Column Mechanism

8. Remove and discard the two steel anti-rattle clips.

Installation

1. Install new anti-rattle clips. **Be sure both are installed in the same direction.**
2. Liberally lubricate the lower six inches of the end of the upper shaft.
3. Secure the lower shaft in a vise. Install the upper shaft to the mark on the lower shaft.
4. Working from the bottom of the column, install the shaft into the column from the bottom.
5. Install the upper shaft bearing.
6. Install the back-up lamp switch.
7. Install the steering column assembly as detailed in this Part.

TILT COLUMN

Removal

1. Remove the steering column assembly as detailed in this Part.
2. Secure the steering column assembly in a vise.
3. Remove the back-up lamp switch. **It is not necessary to remove the turn indicator switch and wiring harness from the steering column.**
4. Working from the top of the column, remove the steering shaft and tilt mechanism.
5. Draw a mark on the lower column where the upper and lower steering shafts form a joint line.
6. Separate the upper and lower steering shafts.
7. Remove and discard the two steel anti-rattle clips.

Installation

1. Install new anti-rattle clips. **Be sure both are installed in the same direction.**
2. Lubricate the lower end of the upper shaft.
3. Secure the lower shaft in a vise and install the upper shaft to the mark on the lower shaft.
4. Install the steering shaft assembly and the tilt mechanism.
5. Install the back-up lamp switch.
6. Install the steering column assembly as detailed in this Part.

IGNITION LOCK CYLINDER ASSEMBLY

Common instructions for replacing all ignition lock cylinders are contained in Part 13-01.

IGNITION SWITCH LOCK DRIVE GEAR—FIXED OR TILT COLUMNS

Removal (Refer to Fig. 7)

1. Remove the lock cylinder assembly as detailed in Part 13-01.
2. Insert a flat bladed screwdriver in the recess of the drive gear at the bottom of the lock cylinder housing. Turn the lock drive gear counterclockwise three notches.

3. Remove the snap ring, washer and lock drive gear from the lock cylinder housing. **Note the position of the drive gear to the rack teeth.**

Installation (Refer to Fig. 7)

1. Install the lock drive gear in the housing in the same position as noted during removal. Installation is correct if the last tooth on the drive gear is meshed with the last tooth on the rack. Install the washer and snap ring.
2. Using the screwdriver blade, turn the drive gear clockwise three notches.
3. Install the lock cylinder.

FLEXIBLE COUPLING

Removal

1. **Fixed Column (Except Lincoln)**

Remove the two nuts that attach the flexible coupling to the flange on the steering column shaft assembly.

Tilt Column (Including Lincoln Fixed Column)

Remove the two bolts retaining the flexible coupling to the steering column shaft assembly.

2. Loosen the steering gear bolts. Back out the three bolts to clear the gear, leaving the bolts in the frame rail. Disengage gear from the coupling frame and lower gear on this bolt to support weight of gear. Do not disconnect any steering linkage or power steering hoses.
3. Remove the flexible coupling from the vehicle.

Installation

1. Position the flexible coupling on the steering gear input shaft to the flange on the steering column shaft assembly.
2. Assemble a new flange and insulator assembly to the steering gear input shaft. Move the steering gear into position while piloting the steering shaft into the coupling upper flange.
3. Install the one bolt retaining the flexible coupling to the steering gear input shaft. Torque the bolt to 20-30 ft-lb.
4. **Fixed Column (Except Lincoln)**

Insert a 1/4 inch diameter rod (flexible coupling spacer) between the flexible coupling fabric on the flange on the steering column shaft assembly. Install the two nuts that attach the flexible coupling to the flange on the steering column assembly. Torque the nuts to 10-20 ft-lb. **The flexible coupling must not be distorted when the attaching nuts are torqued, and the flexible coupling spacer has been removed.**

Tilt Column (Including Lincoln Fixed Column)

Insert a 1/4 inch diameter rod (flexible coupling spacer) between the flexible coupling fabric and the flange on the steering column shaft assembly. Install the one bolt that attaches the flexible coupling to the steering column shaft assembly. Torque the bolt to 20-30 ft-lb. **The flexible coupling must not be distorted when the bolt is torqued and the flexible coupling spacer has been removed.**



SPECIAL SERVICE TOOLS

Tool No.	Description
T67L-3600-A	Steering Wheel Remover
T6/P-3D739-B	Pivot Pin Remover
T67P-3D739-A	Pivot Pin Remover Kit
T67P-3D739-C	<i>Pivot Pin Remover Handle</i>

CG1716-1C

Steering Columns — Mini (Extruded Absorber Type)

PART
13-04

Applies To LTD II, Cougar, Thunderbird, Mustang, Pinto, Bobcat, Granada, Monarch, Versailles, and Continental Mark V

SUBJECT	PAGE	SUBJECT	PAGE
ADJUSTMENT		REMOVAL AND INSTALLATION (Cont'd.)	
Steering Wheel Spoke Adjustment	04-6	Lower Shaft Bearing	04-16
DESCRIPTION		Steering Column Assembly	04-7
Steering Column	04-1	Steering Column Shift Tube	04-15
REMOVAL AND INSTALLATION		Steering Shaft And Anti-Rattle Clips	04-17
Flange or Socket Casting	04-15	Steering Wheel	04-6
Flexible Coupling	04-17	Steering Wheel Locking Button	04-16
Ignition Lock Actuator And Steering		Tilt Column Mechanism	04-10
Wheel Lock Pin Assembly	04-14	U-Joint Assembly	04-16
Ignition Lock Cylinder Assembly	04-13	Upper Shaft Bearing	04-9
Ignition Lock Drive Gear	04-14	SPECIAL SERVICE TOOLS	04-18

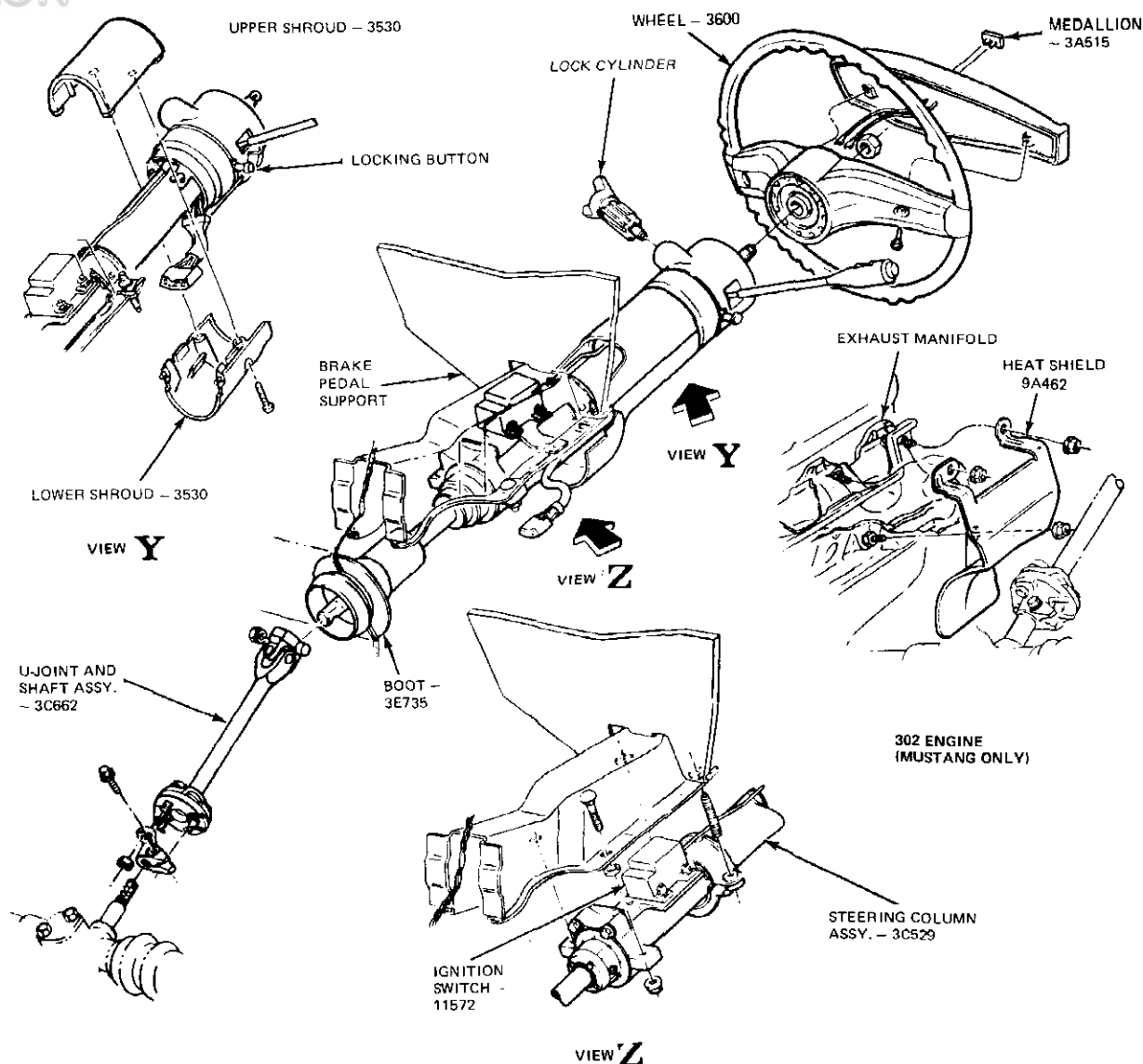
CG2423-2B

DESCRIPTION

STEERING COLUMN

MUSTANG, PINTO, AND BOBCAT

This steering column has been designed to improve safety and reliability, eliminate alignment problems and simplify service. The column is a fixed type. See Fig. 1.



G1960-2F

FIG. 1 Steering Column Installation—Mustang, Pinto, and Bobcat

The locking mechanism is actuated by depressing the push button located below the turn signal lever. This prevents inadvertent locking of the steering wheel by blocking the actuator out of the lock position.

The outer column tube terminates just below the attachment to the brake support bracket. The energy absorbing convolutions at the lower end of the tube have been deleted. Energy absorption is accomplished by the lower column mounting bracket. There is no shift tube in this assembly.

The steering shaft has a machined bar for the upper part with grooves in the lower half designed to accept two steel clips. The lower shaft is a formed tube which fits over the upper shaft. A shaft and U-joint assembly attaches to the lower steering shaft and to the steering gear at the other end.

The column is attached to the brake support bracket by two collar type brackets bolted to flanges on the brake support. The lower column attaching collar is a sintered iron ring with protrusions within the ring. The protrusions act as a die which deforms the outer tube

as the column collapses. Any extension of the iron ring die grooves beyond the original installation requires that the outer tube and mounting brackets be replaced as a unit.

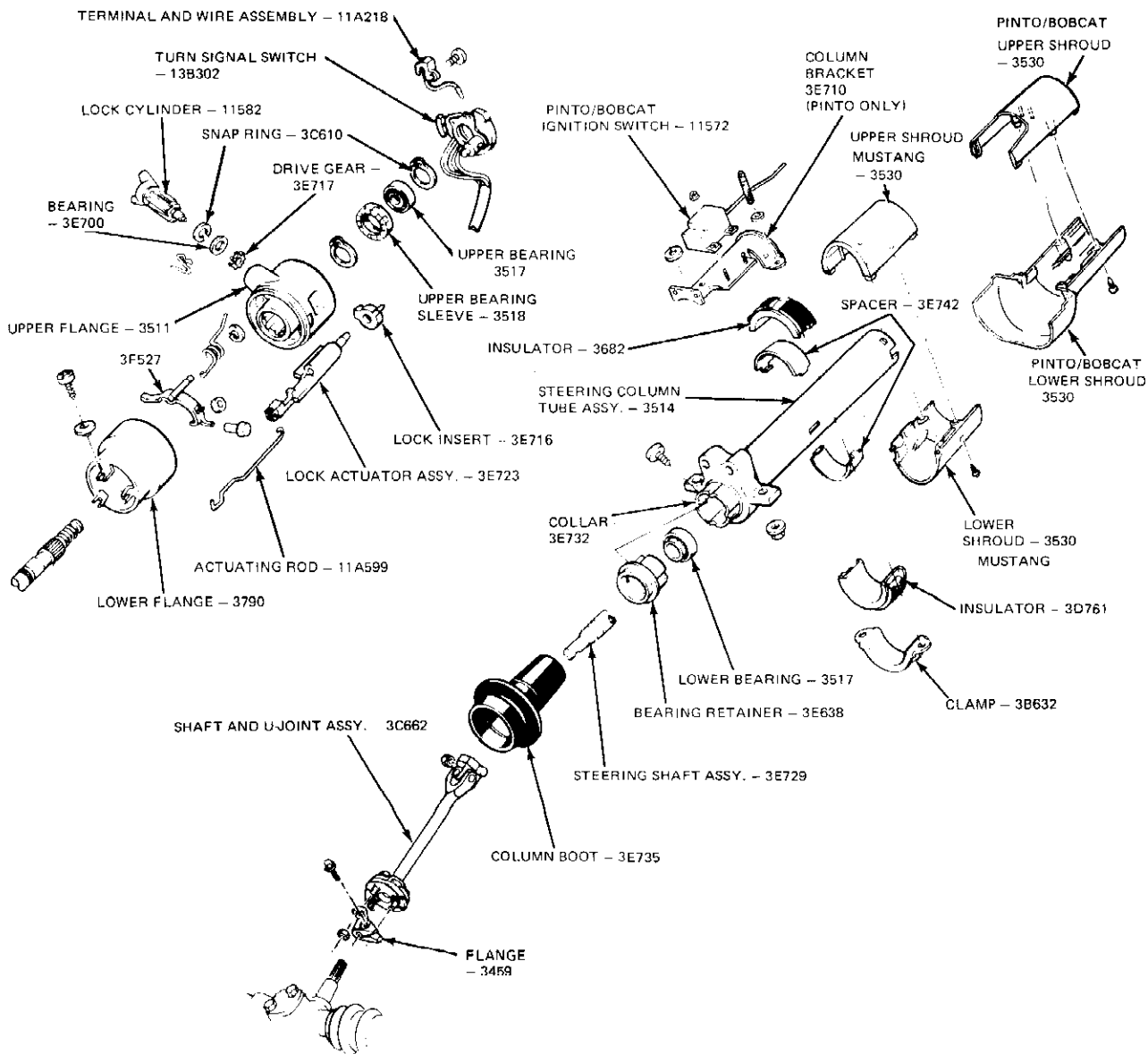
LTD II, COUGAR, THUNDERBIRD, AND CONTINENTAL MARK V

This column is available as fixed or tilt on LTD II, Cougar, Thunderbird and Continental Mark V (Fig. 3).

On floor shift vehicles, the push button mechanism must be depressed to lock the steering wheel. It is located on the left side of the steering column.

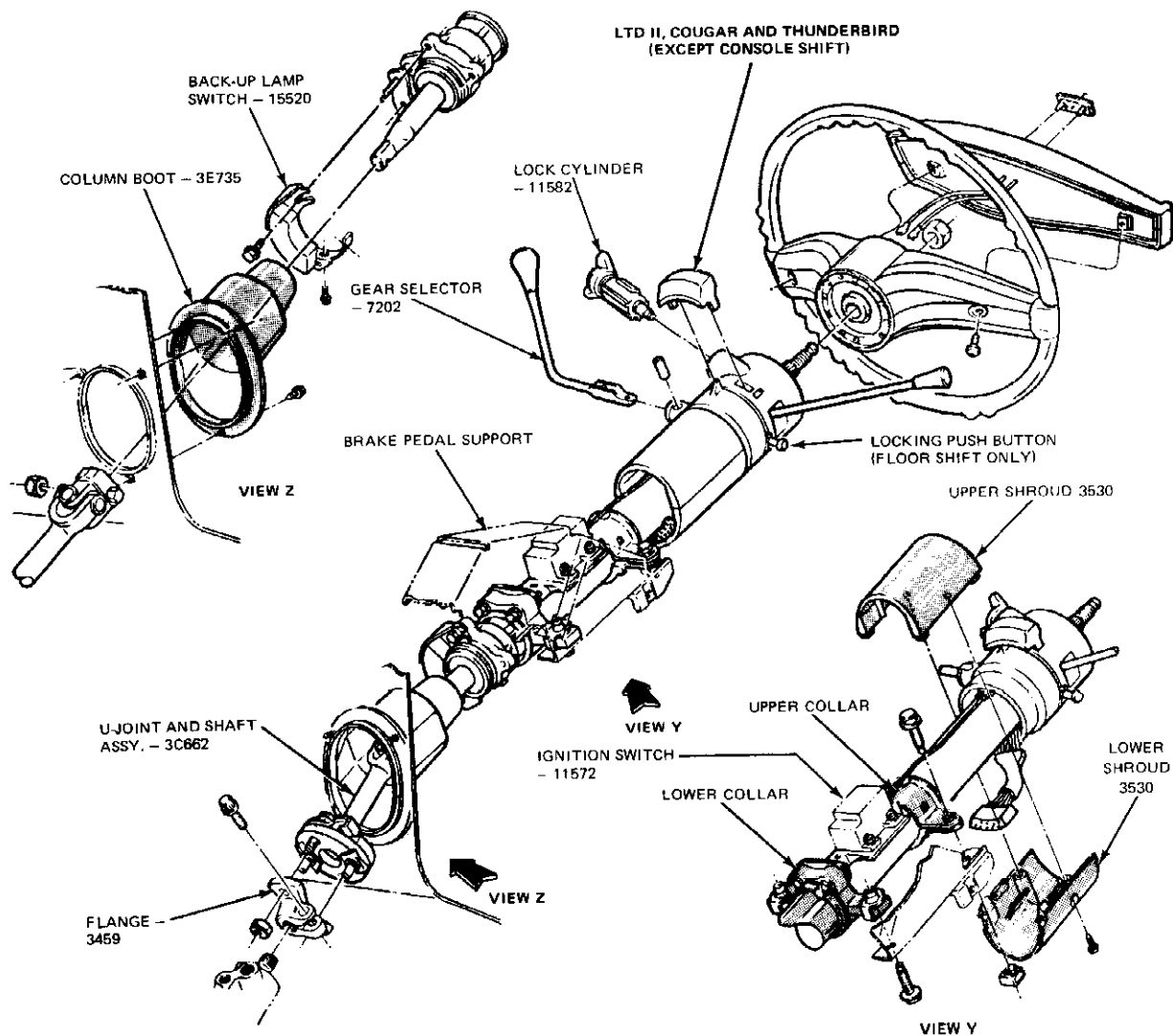
The outer column tube utilizes collar attaching brackets which provide a column collapsing system. The lower end of the tube is modified to accept a shift tube when applicable. The lower steering shaft bearing is mounted at the end of the tube (Fig. 4).

The upper steering shaft is a solid steel bar with two grooves to accept clips. The lower shaft is a formed steel tube which fits over the upper shaft. A coupling and U-joint assembly connect the tubular lower steering shaft to the steering gear.



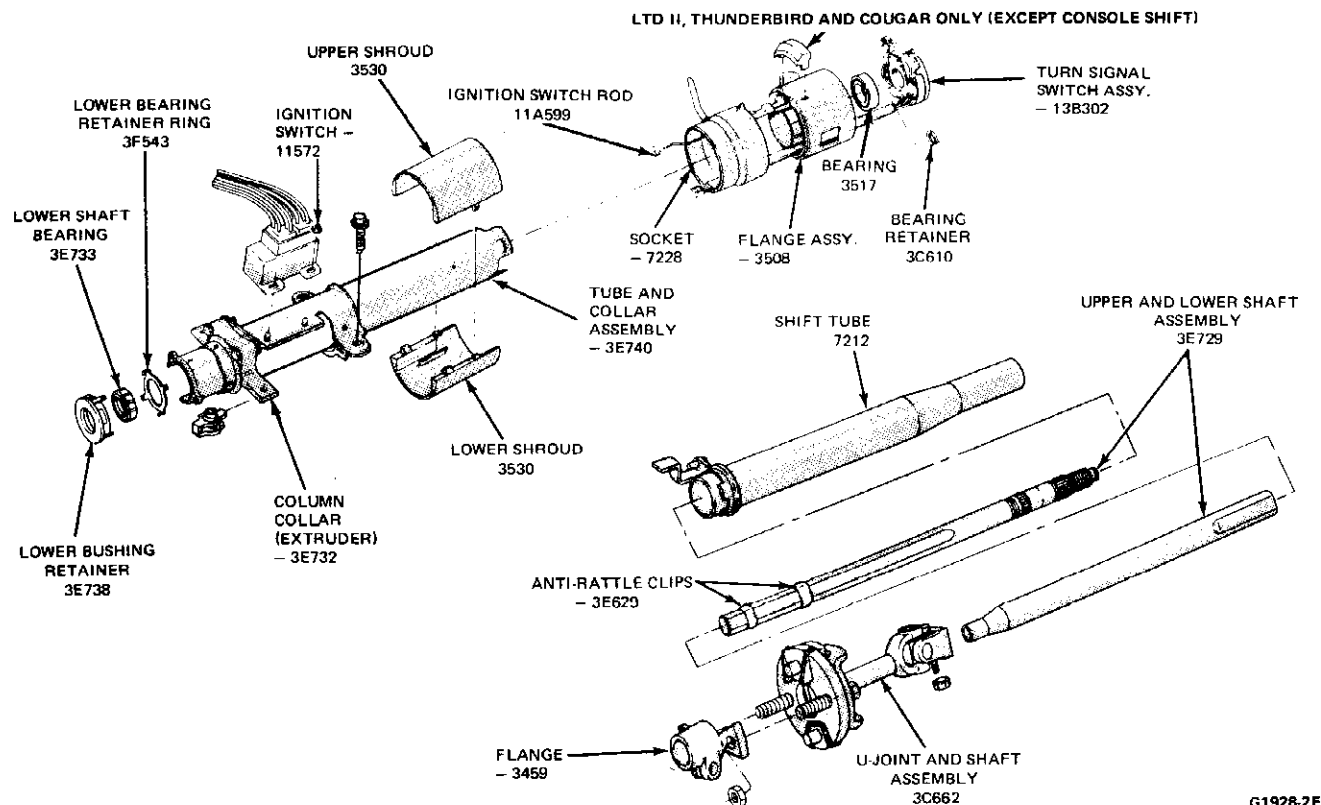
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FIG. 2 Steering Column Disassembled—Mustang II, Pinto and Bobcat



G1956-2E

FIG. 3 Steering Column Installation—LTD II, Cougar, Thunderbird, and Continental Mark V



G1928-2F

FIG. 4 Steering Column Disassembled—LTD II, Cougar, Thunderbird, and Continental Mark V

The column attaches to the brake pedal support bracket with two collar type brackets.

GRANADA/MONARCH/VERSAILLES

This column is available in three types: column-mounted automatic shift, floor shift (Monarch/Granada only) and tilt column. On the Monarch/Granada floor shift models, a push button mechanism is used to lock the steering wheel.

The outer column tube utilizes collar attaching brackets which provide a column collapsing system. The

lower end of the tube is modified to accept a shift tube when applicable.

The upper steering shaft is a solid machined steel bar with two grooves to accept clips. The lower shaft is a formed steel tube which fits over the upper shaft. A flange and coupling assembly connect the tubular lower shaft to the steering gear.

The column attaches to the brake pedal support bracket with two collar type brackets.

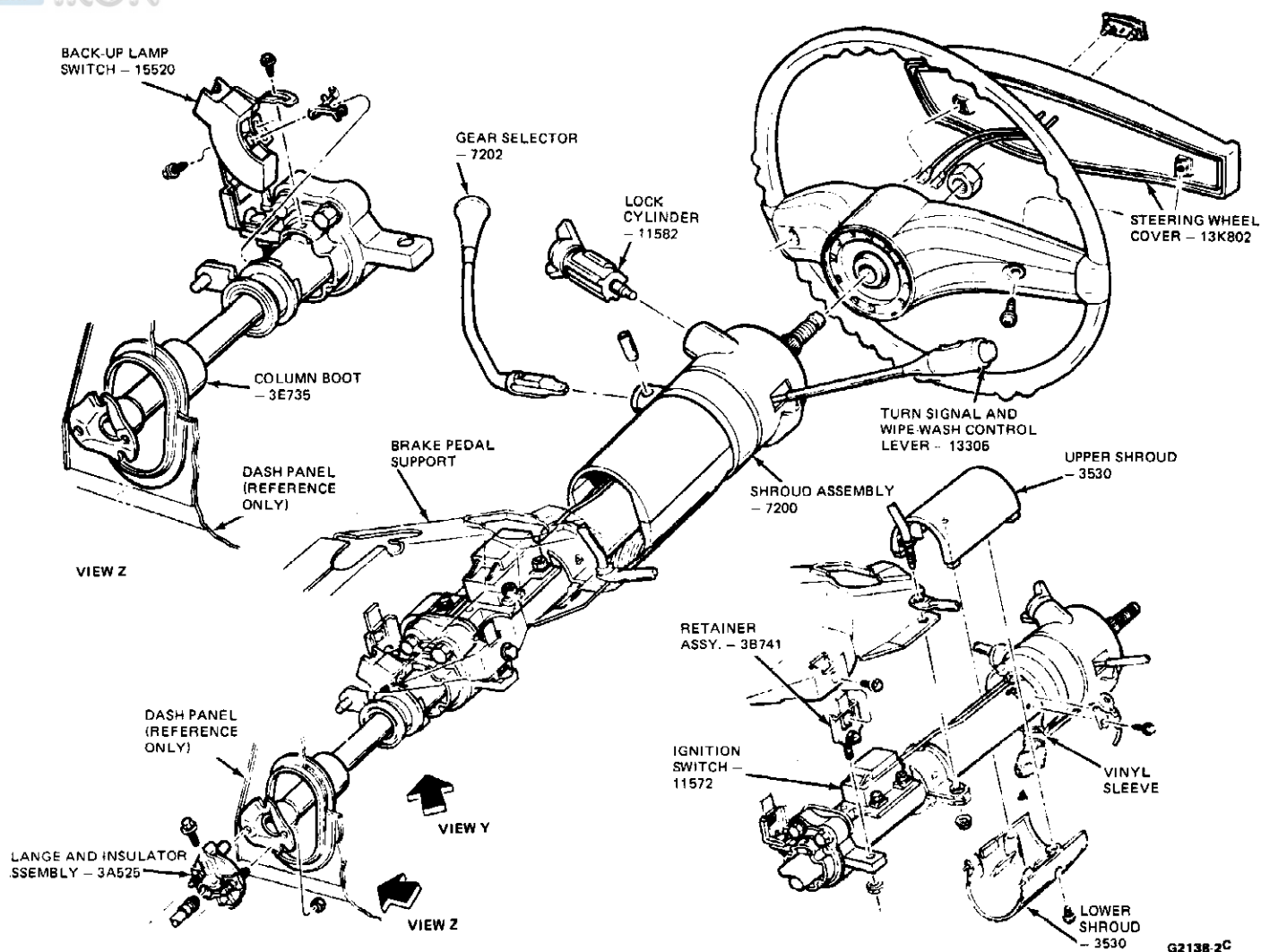


FIG. 5 Steering Column Installation—Granada, Monarch and Versailles

ADJUSTMENTS

STEERING WHEEL SPOKE POSITION ADJUSTMENT (EXCEPT PINTO, MUSTANG II, BOBCAT, FAIRMONT AND ZEPHYR)

When the steering gear is on the high point, the front wheels should be in the straight-ahead position and the steering wheel spokes should be in their normal position with the Pitman arm pointing directly forward. If the

spokes are not in their normal position, they can be adjusted as outlined in Part 14-01. This adjustment may be made only when the steering gear is on the high point and the spokes are not in the normal position.

REMOVAL AND INSTALLATION

STEERING WHEEL

Removal

1. Disconnect the negative battery cable (ground) from the battery.
2. From the underside of the steering wheel, remove the two screws that attach the steering wheel horn cover to the steering wheel.

On steering wheels with a center hub, rotate the center hub counterclockwise and remove. The hub will rotate less than 1/2 turn.

3. Lift the steering wheel horn cover up and disconnect the speed control (if equipped) and the horn blowing terminals.

4. Remove the steering wheel attaching nut.
5. Using Tool T67L-3600-A (Fig. 6), remove the steering wheel from the upper shaft. **Do not use a knock-off type steering wheel puller or strike the end of the steering column upper shaft with a hammer or damage will occur to the bearing or the collapsible steering column.**

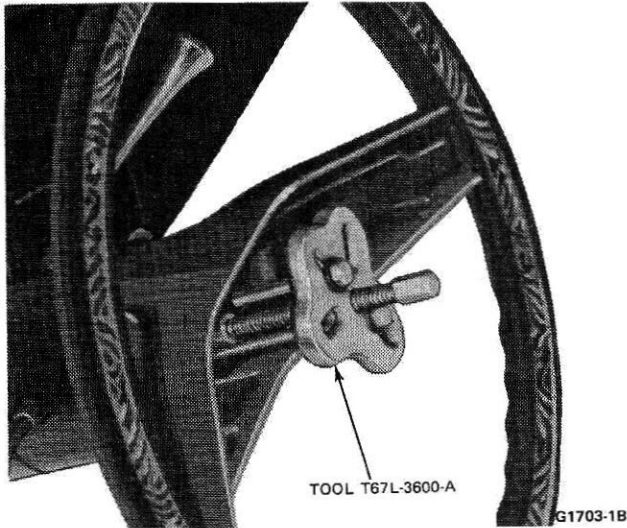


FIG. 6 Removing Steering Wheel

Installation

1. Position the steering wheel on the end of the steering wheel shaft. Align the mark on the steering column upper shaft with the mark on the steering wheel. **Make sure that the straight ahead steering wheel position corresponds to the straight ahead position of the front wheels.**
2. Install a new service wheel nut. Torque the nut to 30-40 ft-lb.
3. Connect the speed control (if equipped) and the horn terminals to the steering wheel.
4. Position the steering wheel horn cover or the center hub in the steering wheel.
5. Install the horn cover or center hub. If equipped with a horn cover, torque the screws to 13-20 in-lbs.
6. Connect the negative battery cable (ground) to the battery terminal.
7. Check the steering column for proper operation.

STEERING COLUMN ASSEMBLY

Manual and automatic transmission linkage systems make use of oil impregnated plastic grommets to connect various rods or levers. To assure satisfactory retention of the connecting links and overall system operation, the grommets must be replaced and not re-used when a grommet-type connection (as in a steering column replacement) is changed. Grommet removal and installation procedures are detailed in Group 17-02.

LTD II, COUGAR, THUNDERBIRD, AND CONTINENTAL MARK V

Removal

1. Disconnect the negative battery cable (ground) from the battery terminal.

2. Remove the steering wheel as described earlier in this Part.
3. Remove the screws that attach the instrument cluster trim cover to the instrument cluster. Remove the trim cover.
4. Remove the trim shrouds that cover the steering column at the instrument panel.
5. Disconnect the PRND21 cable from the steering column (Thunderbird and Continental Mark V only).
6. Remove the instrument cluster as outlined in Part 33-50.
7. Disconnect all electrical connections (quick-couplers) to the steering column. Disconnect all vacuum hose connections, if equipped.
8. Disconnect the transmission cable on the column shift automatics.
9. Remove the three screws that attach the dust boot to the dash panel. Disengage the dust boot at the base of the column.
10. Remove the two nuts that attach the flexible coupling to the flange on the steering input shaft. Disengage the safety strap and the bolt assembly from the flexible coupling.
11. Through the opening in the instrument panel, remove the two upper collar attaching bolts on the brake pedal support bracket. On LTD II and Cougar, it will be necessary to remove or rotate the vibration brace on the right side.
12. Under the instrument panel, remove the two bolts that attach the lower collar to the brake support bracket.

Installation

1. Install the steering column by inserting it through the openings in the instrument and dash panels. **Be careful not to damage components.**
2. Under the instrument panel, install two bolts that attach the lower collar to the brake pedal support bracket. Tighten fingertight.
3. Through the instrument panel opening, install two upper collar attaching bolts on the brake support bracket. On LTD II and Cougar, install vibration brace on the right side. Torque bolts to 20-37 ft-lb.
4. Torque the two bolts that attach the lower collar to the brake pedal support bracket to 20-37 ft-lb.
5. Connect the ignition switch blade connector.
6. Connect the speedometer cable, the wire harness connections, and the cables to the heat/air panel. Position the instrument cluster in the instrument panel.
7. Install the instrument cluster as outlined in Group 33 Part 50.
8. Engage the safety strap and bolt assembly to the flange on the steering gear input shaft. Install the two nuts that attach the steering column lower shaft and U-joint assembly to the flange on the steering gear input shaft. Torque the nuts to 20-37 ft-lb. **The safety strap must be properly positioned to prevent metal to metal contact after torquing nuts. The flexible coupling must not be distorted when the nuts are torqued. Pry**