

Steering Columns

FORD MOTOR CO.

All Models

DESCRIPTION

All models use steering columns with shift control rod within column tube. Directional signal switch and lever, hazard warning control knob and ignition switch are mounted on columns. Columns are equipped with anti-theft locking device and automatic transmission models have the transmission linkage in the column. Two types of columns are available, a standard column and a tilt column which features 5 positions.

REMOVAL & INSTALLATION

"F" MODELS & BRONCO

Removal – 1) Set parking brake and disconnect negative battery cable. Remove steering wheel. See *Steering Wheels and Column Switches in this Section*. Remove bolt and nut attaching coupling shaft to steering column. Disconnect shift linkage rods from column.

2) Remove steering floor opening cover plate screws. Remove shroud by loosening screw at bottom, placing shift lever in first gear on manual transmissions, or "1" position on automatic transmissions, and spreading shroud open and pulling it up and away from instrument panel and column.

3) Remove automatic transmission indicator actuation cable. Remove instrument panel column opening cover. Remove column support bracket-to-pedal support bracket bolts. Disconnect turn signal-hazard flasher warning switch and ignition switch wiring harnesses. Remove column from vehicle. Remove support bracket from column.

Installation – 1) Attach column support bracket, making sure all switch wiring is on the outside of column. Hand start the floor opening cover plate clamp bolt and press plate until clamp butts on column outer tube. Place column in vehicle through opening in floor.

2) Connect turn signal, hazard flasher and ignition switch wiring harnesses. Raise column to pedal support bracket and hand start the bolts. Tighten floor plate cover bolts, support bracket bolts and cover plate clamp bolt. Install and adjust automatic transmission shift indicator cable. Install steering column instrument panel opening cover.

3) Mount shroud by placing manual transmission in first gear, automatic transmission in "1", and spreading shroud around steering column and through opening in instrument panel. Post on interior will index shroud when properly installed. Tighten screw at bottom of shroud. Attach shift linkage rods to column. Fasten coupling shaft to steering column.

"E" MODELS

Removal – 1) Set parking brake and disconnect negative battery cable. Remove nuts attaching flexible coupling to steering shaft flange. Remove shift linkage rods from column. Remove steering wheel. See *Steering Wheels and Column Switches in this Section*. Remove steering column floor opening cover plate screws.

2) Remove shroud by pulling shroud tabs out of clip at bottom of column. Remove instrument panel column opening cover. Remove bolts attaching column bracket to pedal support bracket. Disconnect turn signal, hazard warning and ignition switch wiring harnesses. Remove steering column.

Installation – 1) Place column in vehicle. Connect turn signal, hazard warning and ignition switch wiring harnesses. Inserting the steering shaft flange through the floor opening so that flange engages the flexible coupling, raise the steering column up to the pedal support bracket and loosely install the support bolts.

2) Loosely install the flexible coupling-to-flange fasteners, and the floor plate fasteners. Install steering wheel. Align steering column and flexible coupling. See *Steering Column Alignment in this Story*. Attach shift linkage rods. Tighten all fasteners. Connect battery.

OVERHAUL

STANDARD COLUMN

Disassembly – 1) Remove steering wheel and column. Remove turn signal lever. Drive out shift lever pivot pin on 3 speed manual and automatic transmission models, and remove lever.

2) Remove turn signal-hazard switch retaining screws and partially withdraw switch from upper flange. Remove snap ring

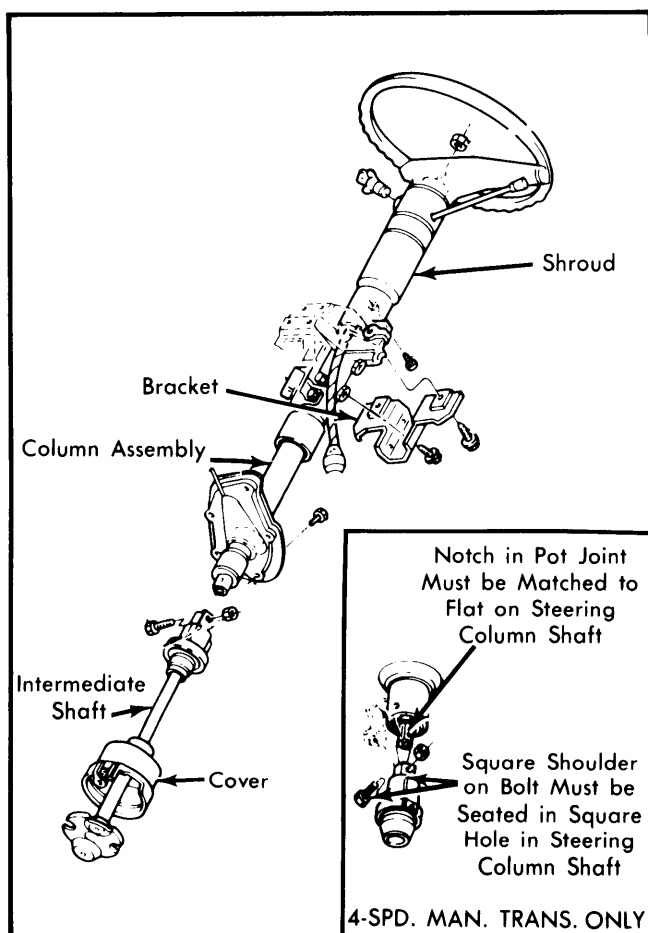


Fig. 1 Steering Column Installation
("F" Models and Bronco)

FORD MOTOR CO. (Cont.)

from steering shaft above bearing. On "F" and Bronco models, remove lower bearing retainer.

3) Using a light hammer, gently drive the steering shaft out the bottom of the steering column. Clip the ignition switch in the "LOCK" position and remove ignition switch and actuation rod.

4) Remove shift indicator on automatic transmission models. Loosen the upper flange retaining nuts until 1 or 2 threads remain engaged, then pinch the nuts toward each other and pull flange off outer tube.

5) Remove shift tube retaining screw from bottom of shift socket on automatic transmission models. Remove shift socket on 3 speed manual and automatic transmission, or remove flange extension on manual 4 speed transmissions.

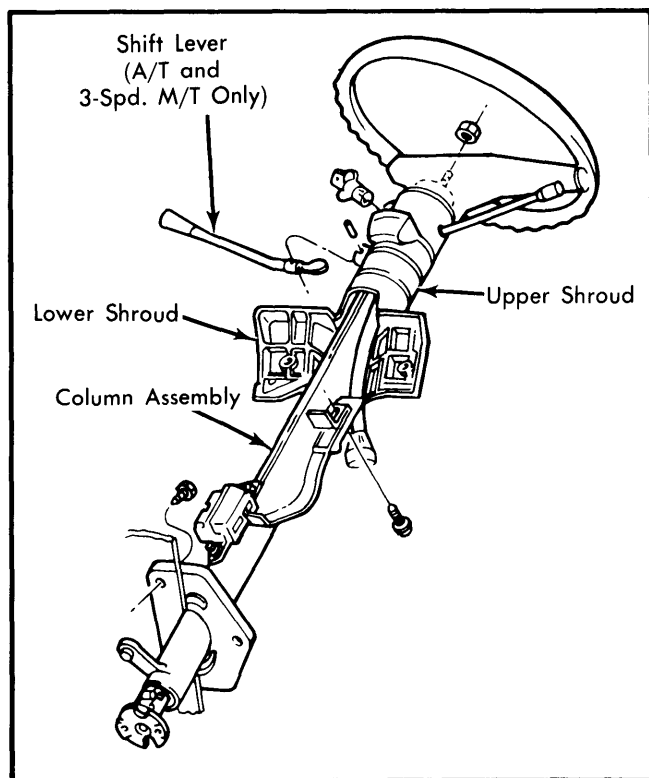


Fig. 2 Steering Column Installation ("E" Models)

6) On "E" models, remove lower bearing retainer on automatic transmission models. Remove shift tube assembly from column bottom on "F" and Bronco models with 3 speed manual or automatic transmission. Remove shift tube assembly from top of column on "E" models with 3 speed manual or automatic transmissions.

7) On "E" models with 3 speed manual transmission withdraw lower shift arms spacer from column outer tube. Remove lamp from flange on automatics and separate turn signal-hazard flasher warning switch from flange.

8) On all models, remove bearing and tire from upper flange by gently tapping opposite side of flange with light hammer. On "E" models, remove floor opening cover plate from outer tube.

Reassembly ("F" & Bronco Models) – 1) Placing bushing in socket retainer in outer tube on 3 speed manual transmissions. Place bushing on upper hub and wave washer on lower hub of shift socket on 3 speed manual transmissions. Install shift socket in outer tube on automatic transmissions. Install flange extension on outer tube on 4 speed manual transmission models.

2) Place wave washer in flange hub on automatics. Install assembled flange onto outer tube by pinching nuts toward each other and pressing flange in place. Retaining bolt "T" head will engage cutouts in outer tube as nuts are tightened.

3) Insert assembled shift tube assembly through lower column opening. Install shift tube retaining screw through bottom of shift socket on automatics. Install steering shaft clip below knurl for upper bearing.

4) Check assembled shaft length. It should be 35½". Adjust by gently tapping in the appropriate direction. Load shaft up through bottom of column taking care not to collapse steering shaft.

5) Place upper bearing tire onto bearing and press onto knurl on steering shaft until snap ring groove is visible above bearing. Install snap ring. Install turn signal-hazard warning switch.

6) Install lower bearing retainer making sure the centerline of the coupling shaft attachment hole extends ⅜" below the lower face of the retainer. Minor adjustments can be made by gently tapping the shaft in the appropriate direction.

7) Install ignition switch actuation rod. Mount ignition switch and hand start retaining nuts with the lock cylinder in lock position. Tighten retaining nuts and remove clip. Install shift lever. Install turn signal switch lever.

Reassembly ("E" Models) – 1) On 3 speed manual transmission models, place bushing in socket retainer in outer tube. Place bushing on upper hub and wave washer on lower hub of shift socket. Insert lower shift arms and spacer in outer tube.

2) Insert shift tube assembly from top on 3 speeds, or from bottom on automatic transmission models. Install shift socket onto shift tube in outer tube, or flange extension onto outer tube and tighten.

3) Install shift tube retaining screw in bottom of shift socket on automatic models. Place turn signal-hazard warning switch wiring harness through flange. Press lamp and wire into flange on automatics.

4) Feed turn signal harness through shift socket by pinching the flange casting retaining nuts toward each other. Install flange. Install ignition switch actuation rod and ignition switch.

5) With ignition switch mounting nuts loose, clip the switch through the opening in the side of the switch casting. Center the switch on the actuation rod. Tighten retaining nuts and remove clip.

6) Install steering shaft from bottom of column. Install lower bearing retainer. Install upper shaft bearing and tire. Install snap ring on shaft above upper bearing. Install turn signal-hazard warning switch.

FORD MOTOR CO. (Cont.)

NOTE — Care must be taken not to change the length of the steering shaft on "F" and Bronco models because of the telescoping feature.

- 3) Install flange retainer assemblies using new hex screws. Install lower bearing retainer. Attach ignition switch loosely to the outer tube.
- 4) Connect upper and lower actuators. Install cover on column. Install turn signal switch and wiring harness in steering column. Attach wiring harness to steering column clips. Install 2 screws attaching turn signal switch to the flange casting and 1 screw attaching warning buzzer terminal.
- 5) Install turn signal lever. Install lock drive gear. Install lock cylinder with key in "ON" position. Install the retaining pin flush with cylinder.
- 6) With ignition switch mounting nuts loose, clip the switch through the opening in the side of the switch casting. Center the switch on the actuation rod. Tighten retaining nuts and remove clip.
- 7) Install shift lever and pivot pin. Install turn signal lever. Install steering column and steering wheel.

ADJUSTMENT

STEERING COLUMN ALIGNMENT

"F" Models & Bronco — There is no alignment adjustment of the steering column and coupling shaft. Alignment is maintained by the slip-joint coupling shaft attaching the steering column to steering gear. Check the flexible coupling for clearance between the slots on the coupling shaft flange and the flexible coupling safety pins. The pin to flange clearance should be .010".

NOTE — If it is determined that the coupling has been driven in a non-flat position for more than 12,000 miles, coupling should be replaced.

"E" Models — 1) Remove steering column trim panel. Loosen bolts securing steering column to brake and clutch pedal support. Loosen steering column opening cover plate to dash panel screws. Loosen lower column clamp.

2) Make sure flexible coupling nuts are tight. With front wheels in straight ahead position, pull up on steering column until the flex coupling is in a flat to a $\frac{1}{8}$ " concaved position, pointing toward steering wheel.

3) Tighten steering column to support bracket bolts. Tighten steering column opening cover screws. Insert a .010" shim between right flex coupling safety pin and slot. Now turn steering wheel one revolution clockwise.

4) Check to see if shim is tight. If shim cannot be removed, loosen cover plate clamp and plate attaching bolts. Realign column until shim remains loose enough to be removed when rotating steering wheel.

5) Insert a .010" shim between left flex coupling safety pin and slot. Now turn steering wheel one revolution counterclockwise. Check shim tightness and adjust as described in step 4).

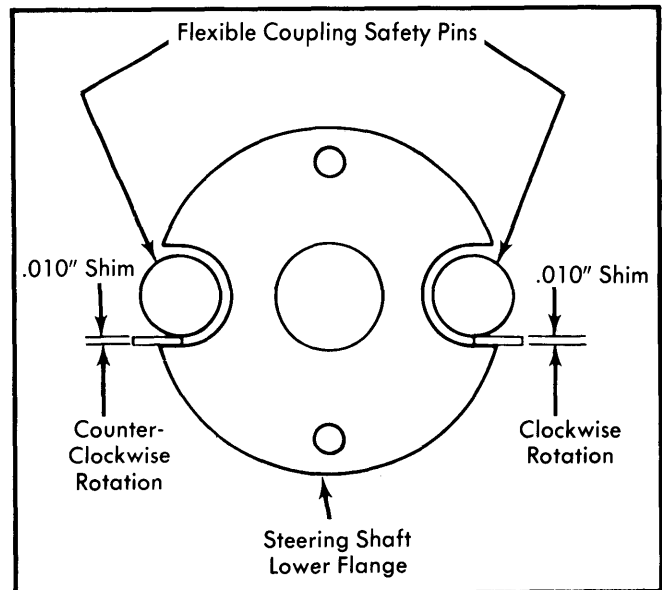


Fig. 4 Aligning Steering Column ("E" Models Only)