

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 are only controls found on or in column tube. There are no ignition switches or steering column locking devices. Columns are not collapsible.

REMOVAL & INSTALLATION

"F" MODELS (2-WD)

Removal — 1) Position front wheels in straight ahead position and mark steering shaft flange-to-flexible coupling with chalk for reinstallation alignment. Remove steering wheel, then remove cover from instrument panel pad. Disconnect turn signal and back-up switch wires. Remove seal and toe-plate attaching screws from inner side of dash panel.

2) Disconnect shift rods at column shift levers. Remove steering column-to-lower bracket clamp. Remove lower bracket from outer side of dash panel by removing two attaching screws. Remove steering shaft flange-to-flexible coupling nuts. Remove column upper bracket-to-instrument panel screws, then remove steering column through dash panel opening toward inside of vehicle.

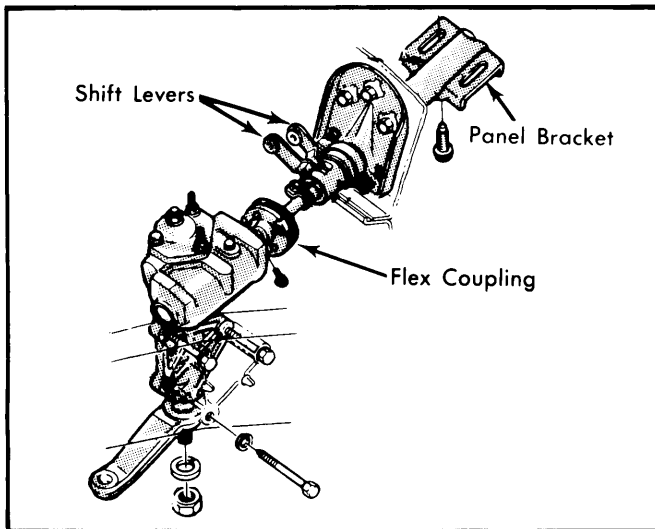


Fig. 1 "F" Models (2-WD)
Steering Column Installation

Installation — 1) Position column in vehicle and loosely install two attaching screws retaining upper bracket to instrument panel. Align flexible coupling to steering shaft flange using chalk mark made upon removal and install attaching nuts.

NOTE — Before tightening nuts make sure coupling pins are centrally located in steering shaft slots.

2) Move steering column up and down until flexible coupling and steering shaft axial planes are in alignment, then tighten upper bracket-to-instrument panel screws. Connect column shift levers to shift rods and wires to back-up switch and turn signal. Install toe-plate and seal to dash panel, then install cover to instrument panel.

3) Install steering wheel on shaft. Position lower support bracket on steering column and against dash panel, then install and tighten attaching screws. Install bracket clamp and tighten. Road test vehicle and recheck to ensure flexible coupling and steering shaft are in alignment with coupling pins centrally located in slots.

"F" MODELS (4-WD) BRONCO

Removal — 1) Disconnect horn turn signal and back-up light wires. Remove attaching screws to horn assembly. Remove steering wheel. Disconnect coupling "U" joint bolt and shift rods at column shift levers.

2) Remove bolts from column seal assembly to dash panel. Remove four screws holding trim cover. Remove bolts from column to clutch and brake pedal support and remove column assembly.

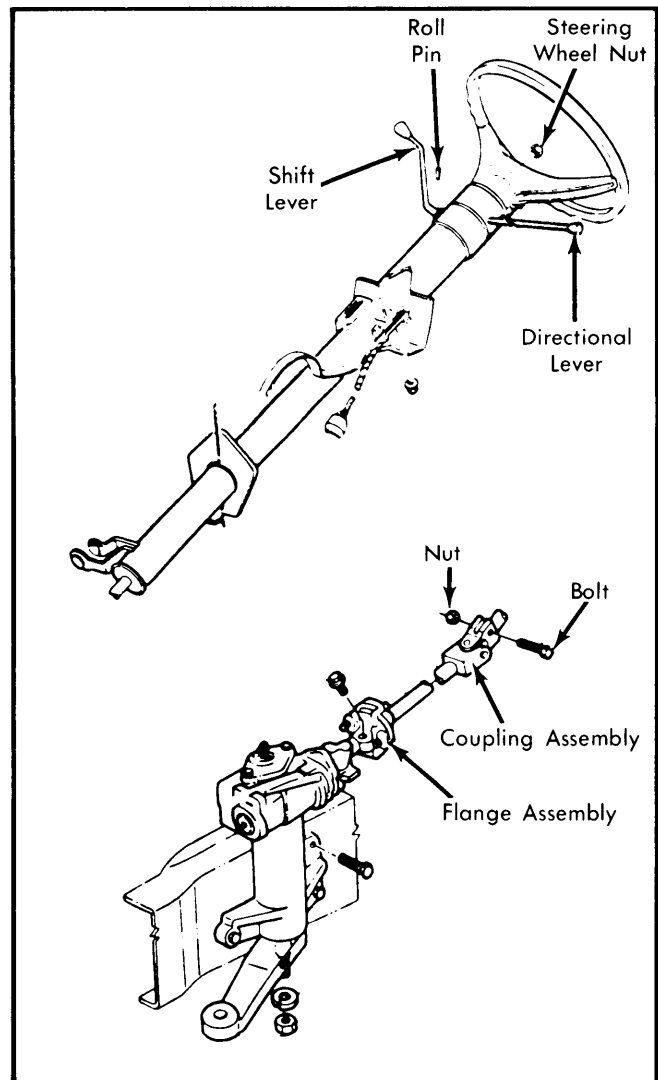


Fig. 2 "F" Model (4-WD) and Bronco
Steering Column Installation

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Installation — 1) Install column and align flex coupling to gear. Install two screws loosely, attach steering column to clutch and brake pedal support. Install bolt in coupling shaft "U" joint and tighten. Move column up or down until flex coupling is in flat plane. Tighten upper bracket-to-clutch and brake support screws.

2) Connect column shift levers to shift rods. Attach turn signal switch wires and back-up light switch wires. Install trim cover and steering wheel. Install lower support bracket and check flexible coupling with coupling pins for alignment. Road test and check directional lights.

"E" MODELS

Removal — 1) Position front wheels in straight ahead position and mark steering shaft flange-to-flexible coupling with chalk for reinstallation alignment. Remove steering wheel, then remove cover from instrument panel pad. Disconnect shift rods at column shift levers, back-up switch wire and ignition switch wire connector.

2) Remove steering shaft flange-to-flexible coupling nuts. Remove three attaching bolts for column opening cover plate

and seal assembly-to-inner side of dash panel. Loosen lower clamp bolt for steering column. Remove upper bracket-to-brake support bracket attaching bolts, then remove column through dash panel and into vehicle.

Installation — 1) Position column in vehicle and loosely install two bolts securing column upper bracket to brake support bracket. Align flexible coupling to steering shaft flange using chalk mark made upon removal and install attaching nuts.

NOTE — Before tightening nuts make sure coupling pins are centrally located in steering shaft slots.

2) Pull steering column upward until flexible coupling is in position between flat and concaved upward $\frac{1}{10}$ " , then tighten upper bracket-to-brake support bracket bolts. Connect shift levers to shift rods.

3) Position cover plate and seal assembly against dash panel and tighten bolts so seal is not distorted. Position clamp against cover plate so window in clamp engages tab on column and tighten clamp bolts.

4) Connect ignition wire connector and back-up switch wires. Install instrument panel cover and steering wheel. Road test vehicle and recheck to ensure coupling pins are centrally located in slots of flexible coupling.

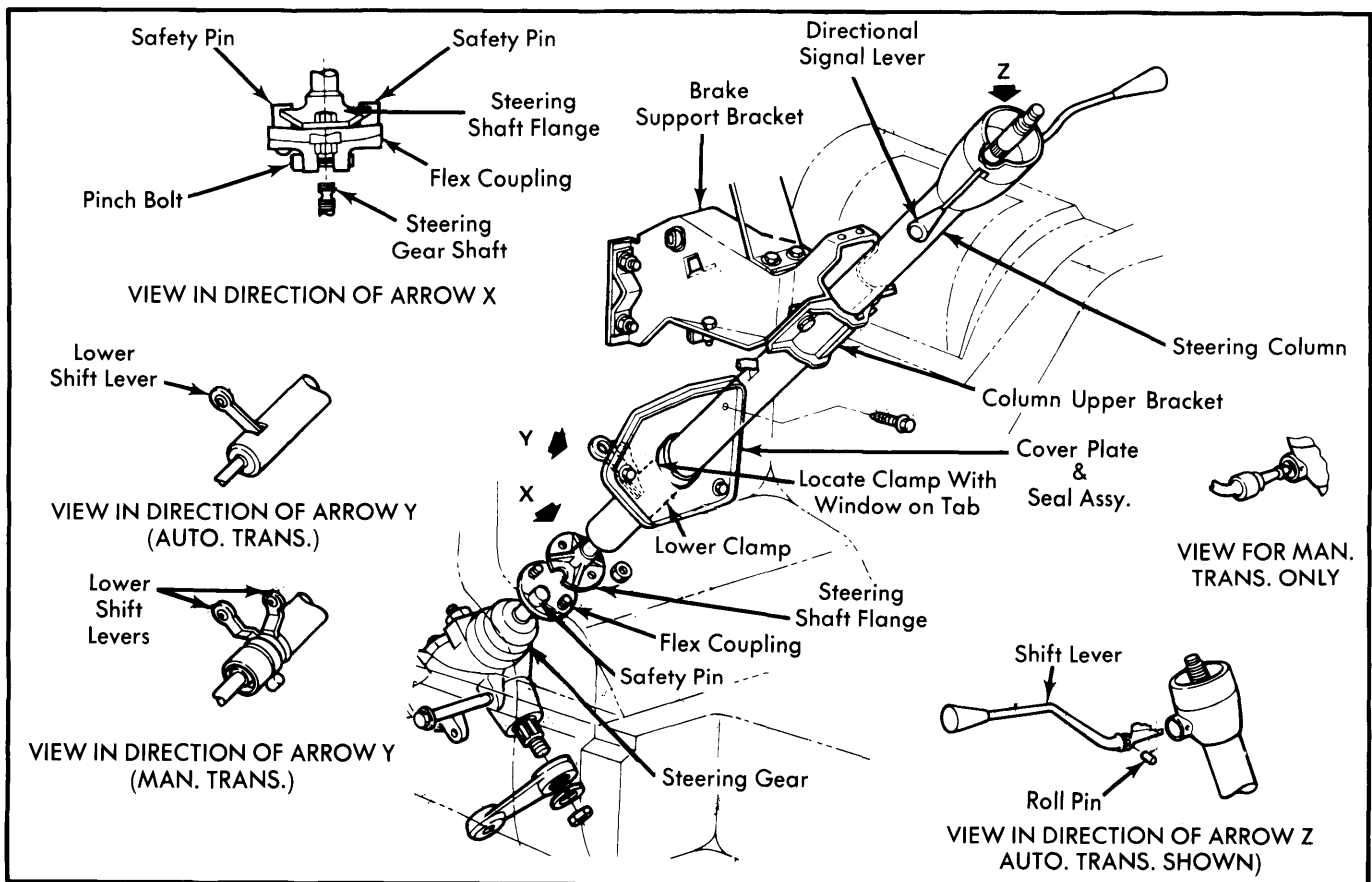


Fig. 3 "E" Models Steering Column Installation

Steering Columns

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OVERHAUL

ALL MODELS

Disassembly – 1) Remove steering wheel and column. On auto. trans. models use a punch and hammer to remove retaining pin in shift lever, remove lever.

2) On all models, unscrew and remove turn signal lever. Remove three screws from turn signal unit. Remove unit and wiring harness.

3) On auto. trans. models, remove transmission indicator light.

4) On all models, remove snap ring from steering shaft. Slide steering column off shaft. Remove two nuts from flange and separate upper and lower flange.

CAUTION – Note position of upper flange in relation to lower flange.

5) Using a punch and hammer tap bearing out of upper flange. Slide steering shaft out of column. Remove lower flange and shift tube from column.

6) On auto. trans. models. Remove spring and wave washer from shift tube. Remove shift fork from steering column.

7) On manual trans. models, remove shift fork assembly, noting position of forks and spacers.

Reassembly – 1) On auto. trans. models, install shift fork in column. Position spring and wave washer on shift tube. Install shift tube in column. Insure tab on shift tube is aligned with notch on shift fork.

2) On manual trans. models, install shift fork and spacer assembly and install in steering column. The tang on middle spacer should protrude through hole in column. Slide column over steering shaft.

3) On all models, using suitable tool, install bearing into upper flange. Connect upper and lower flange. Install nuts and bolts and tighten.

4) On auto. trans. models, slide column over steering shaft.

5) On all models, install snap ring on column shaft. Install wiring harness and turn signal assembly.

6) On auto. trans. models, install transmission indicator light. Install shift lever and drive in retaining pin.

7) On all models, screw in turn signal lever, install steering wheel and column.

TILT COLUMN

Disassembly – 1) Remove steering wheel. Using punch and hammer, remove shift lever retaining pin. Remove shift lever and shift lever spring. Unscrew and remove turn signal and tilt actuator.

2) Remove bolt and two screws from turn signal assembly. Remove tilt actuator. Unscrew and remove upper flange to tilt upper flange. Remove snap ring from steering shaft.

3) Invert assembly, remove three allen-head screws and spacers connecting lower flange to column. Using a $\frac{7}{16}$ " 12 point socket, remove flange connecting steering column to steering gear. If needed pry open flange with a screwdriver.

4) Remove tilt column mechanism, steering shaft, wiring harness and transmission indicator light. Remove shift tube and lower flange from column. Remove spring from shift tube. Remove shift fork and cap at end of steering column.

5) On tilt mechanism remove two spring clips from wire bale and remove wire bale. Using a punch and hammer remove pin in locking lever. Remove locking lever and spring.

NOTE – A "C" clamp may be used to removed tension on pin for easier removal.

6) Remove steering column snap ring. Remove two pivot pins inside of flange, using tool T70P-3D739-A. Separate upper and lower flange assembly and remove spring.

CAUTION – Care must be taken when separating flange, because spring is under tension.

NOTE – Do not use old pivot pins if they are loose in flange.

7) Remove flanges, steering shaft and wiring harness. Remove upper and lower bearings.

Assembly – 1) Install shift fork and spring on shift tube. Install shift tube in column ensuring tab on shift column is inserted into notch on shift fork. Hold pressure on lower flange to keep spring from unseating. Install Allen bolts and spacers.

2) Connect steering column assembly to lower flange and shift tube assembly. Install tilt mechanism, steering shaft and wiring harness. Install transmission indicator light and cap on bottom of steering column.

3) Install flange connecting steering column to steering gear. Install snap ring on steering shaft. Install upper flange and tilt actuating mechanism. Install turn signal assembly, shift lever spring, shift lever and retaining pin. Install turn signal and tilt lever.

4) Install upper and lower bearings. Install upper and lower flanges, steering shaft and wiring harness. Assemble upper and lower flanges and install pivot pins using a "C" clamp. Install steering column upper snap ring.

5) Install locking lever and spring, insert dowel pin. Install spring and cap assembly in upper tilt flange. Position wire bale on upper flange and install two spring clips. Install steering column and wheel.

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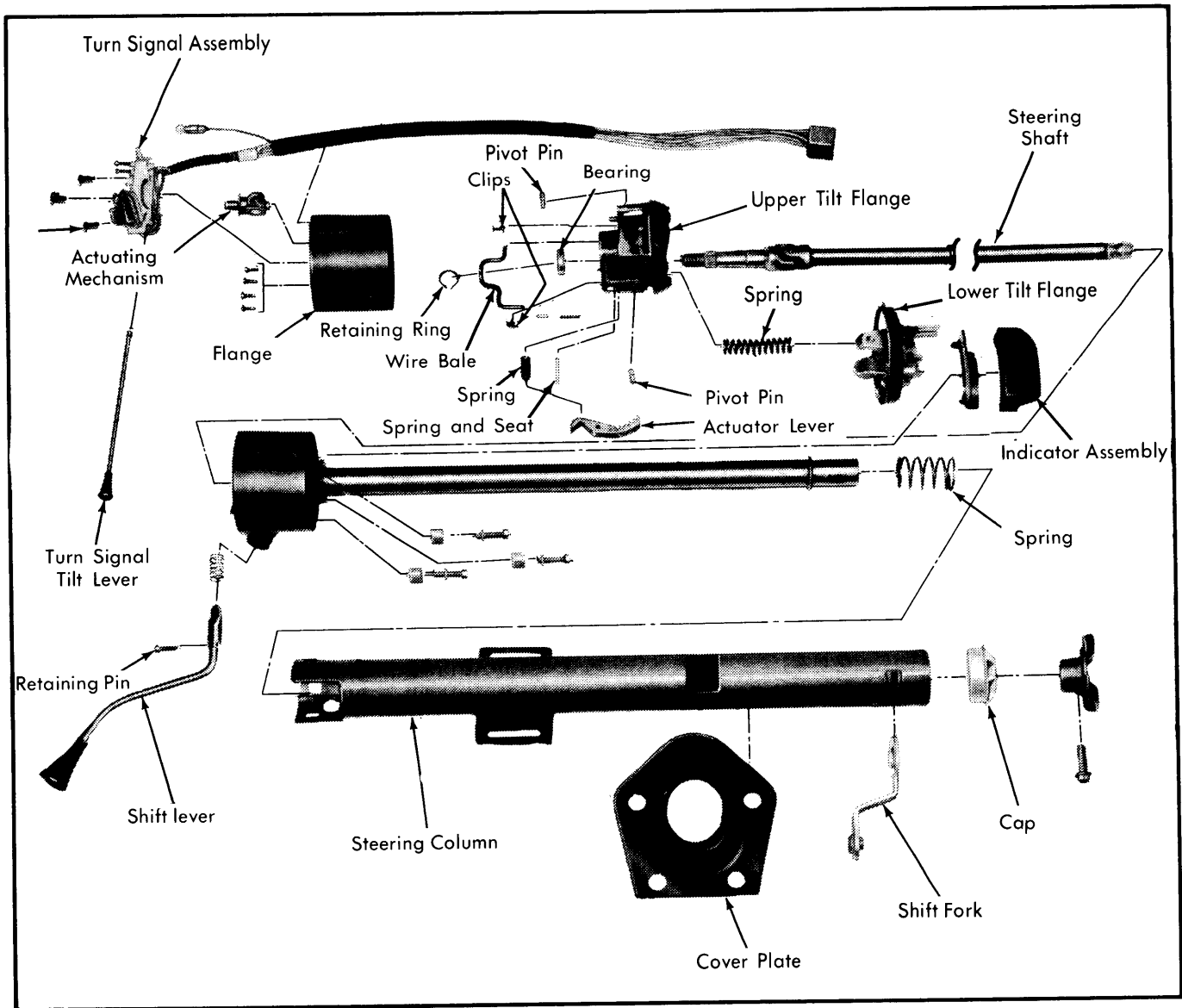


Fig. 4 Exploded View of Tilt Column Assembly

ADJUSTMENT

STEERING COLUMN ALIGNMENT

"F" Models & Bronco - 1) Check the flexible coupling for clearance between slots and coupling safety pins. Pins must be centered in slots.

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.

2) Loosen the three lower steering column support bracket bolts and bracket clamp. Remove two screws securing trim cover to instrument panel. Remove trim cover. Loosen two screws attaching steering column to instrument panel and allow column to drop $\frac{1}{8}$ ".

3) Grab steering wheel and shake column to remove any stress or misalignment. Check coupling slot and safety pin clearance with front wheels in straight ahead position.

4) Move column up or down until flexible coupling is in flat plane. Tighten two screws securing steering column to dash. Install trim panel. Install and tighten lower steering column mount bolts. Check pin and slot clearance in flexible coupling.

"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.

Steering Columns

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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).

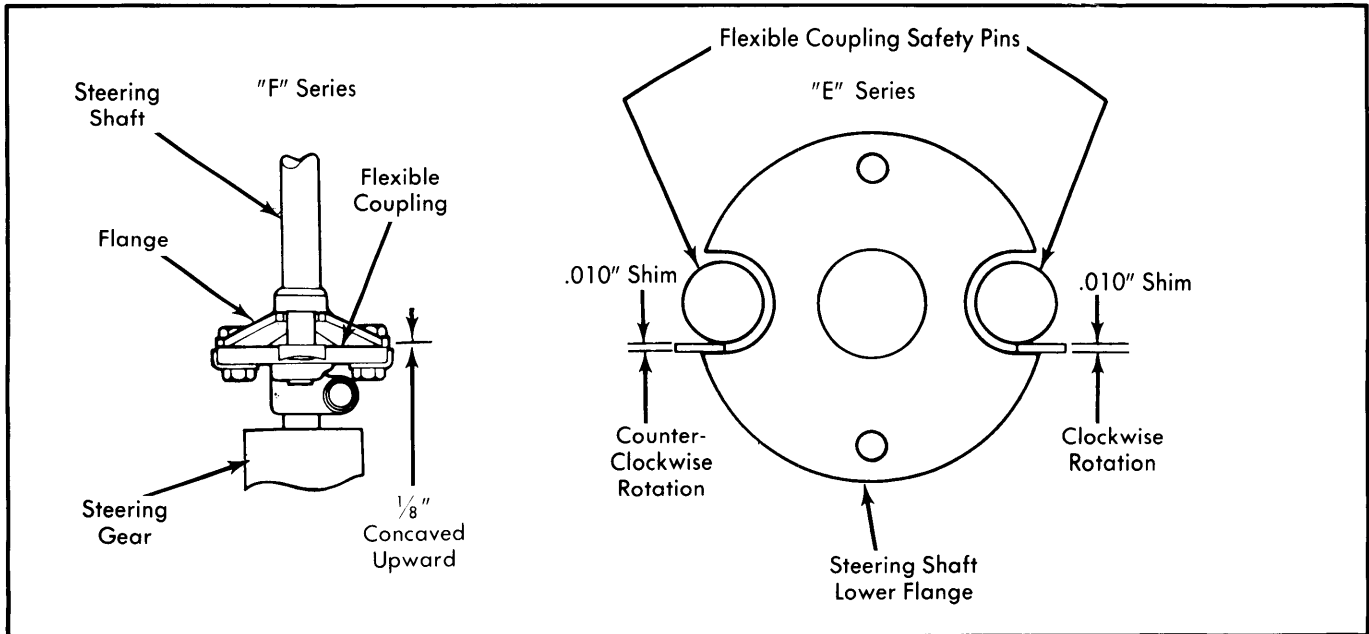


Fig. 5 Aligning Steering Columns