

FORD MOTOR CO., SPRING TOWER

Granada, Monarch
Versailles

DESCRIPTION

The front suspension is a ball joint type with a coil spring located between the upper control arm and the spring tower. The upper control arm pivots on bushings located on a shaft assembly which is bolted to the frame. The lower control arm pivots on a bolt attached to the number 2 crossmember. The shock absorber is attached to the pivot seat and the top of the spring tower. This suspension is similar to the enclosed spring suspension used on other models except for the location of the coil. On the enclosed spring models, the coil is located between the upper and lower control arms. See *Ford Motor Co. Enclosed Spring in this Section.*

ADJUSTMENT

CASTER & CAMBER

See *Caster and Camber Adjustments and Specifications in WHEEL ALIGNMENT Section.*

RIDING HEIGHT

See *Riding Height Adjustments and Specifications in WHEEL ALIGNMENT Section.*

FRONT WHEEL BEARINGS

See *Wheel Bearing Adjustment in WHEEL ALIGNMENT Section.*

BALL JOINT CHECKING

See *Ball Joint Checking in WHEEL ALIGNMENT Section.*

REMOVAL & INSTALLATION

BALL JOINTS

NOTE — Upper and lower control arms must always be replaced as an assembly. Do not install ball joints or other components in used control arm.

STABILIZER BAR BUSHING & INSULATOR

Removal — Raise vehicle on hoist. Remove nut, washer, and insulator from lower end of stabilizer bar attaching bolt. Remove bolt and remaining washers, insulators, and spacer.

Installation — Reverse removal procedure, noting the following: Stabilizer bar-to-lower arm bolt must be installed with head at top.

LOWER ARM STRUT AND/OR BUSHING

Removal — Position wood blocks under upper arm as shown in illustration. Raise vehicle, position safety stands, and remove wheel and tire. Remove adjustment nut from front of strut, then remove the two nuts attaching strut to lower arm. Tap strut upward to loosen, then remove strut. With two pry bars approximately 18" long, pry front washer forward to separate inner sleeve from outer sleeve. Remove front insulator from strut.

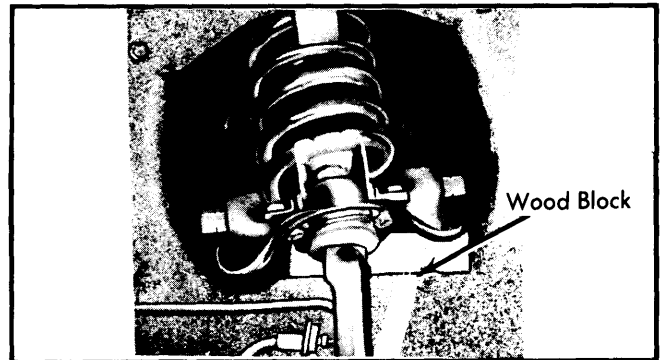


Fig. 2 View Showing Positioning of Wooden Block for Upper Control Arm Support

Installation — 1) Install new rear washer (large I.D.), outer sleeve and insulator bushing on forward end of strut rod. Position strut into crossmember and to lower control arm.

NOTE — Cut $\frac{1}{4}$ " off inner sleeve before reinstallation.

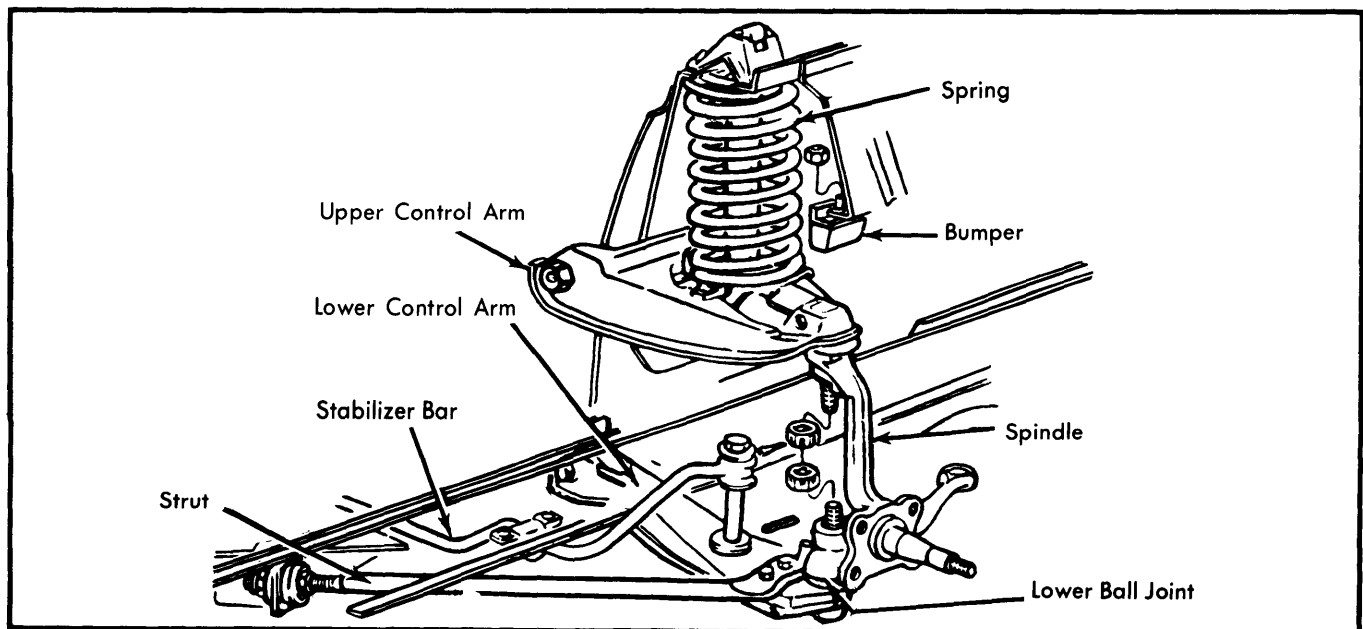


Fig. 1 Exploded View of Ford Spring Tower Type Front Suspension Assembly

Front Suspension

FORD MOTOR CO., SPRING TOWER (Cont.)

2) Install front washer, inner sleeve and adjusting nut. Tighten bolts to specifications and check front end alignment.

COIL SPRING

Removal - 1) Remove shock absorber and upper mounting bracket as an assembly. Position wooden block as shown in Fig. 2. Raise vehicle on a hoist, install safety stands, then remove wheel, brake caliper and rotor. Install coil spring compressor tool as shown in Fig. 3.

2) Remove the two upper arm-to-spring tower attaching nuts and swing upper arm outboard from spring tower. Release spring compressor tool and remove tool from spring. Remove spring from vehicle.

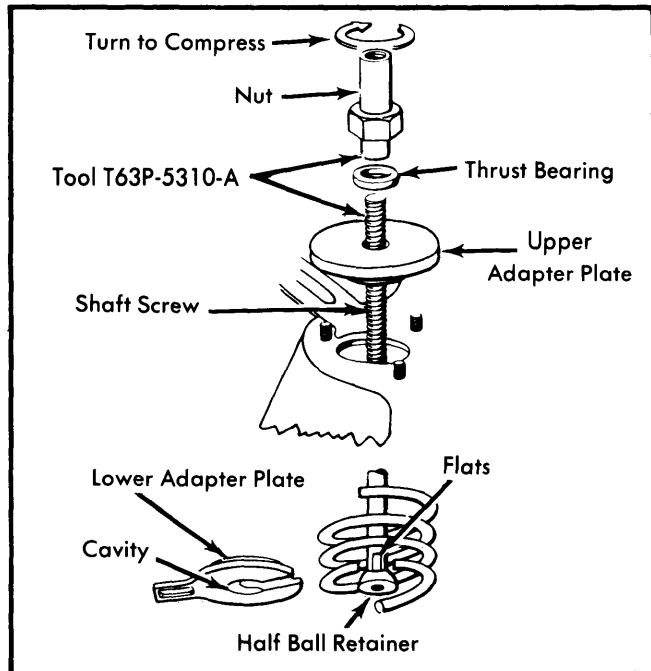


Fig. 3 Installation of Coil Spring Compressor Tool

Installation - Reverse removal procedures and tighten nuts and bolts. End of coil spring must be no more than 1/2" from tab on spring seat.

UPPER CONTROL ARM

Removal - 1) Raise vehicle and place wooden block under upper control arm as shown in Fig. 2. Remove wheel and tire and shock absorber with upper bracket.

NOTE - On all V8 models, remove air cleaner to obtain clearance for compression tool.

2) Install compression tool and compress spring. Loosen upper ball joint stud one or two turns. **Do not remove nut.** Position ball joint remover tool between upper and lower ball joint studs. Tool should seat firmly against ends of both studs and not against stud nuts.

3) Turn tool with a wrench to put tension on studs, then hit spindle sharply near upper stud with a hammer to break stud loose in spindle. Remove nut from upper stud and lift stud out of spindle. Remove upper arm inner shaft attaching nuts and remove upper arm.

Installation - Reverse removal procedure. Check caster, camber and toe-in.

LOWER CONTROL ARM

Removal - Place a wood block between upper arm and side rail. Raise vehicle, position safety stands, and remove wheel and tire. Detach stabilizer bar and link. Remove strut-to-lower arm attaching nuts and bolts. Loosen lower ball joint nut one or two turns (do not remove). Install suitable removal tool between upper and lower ball joint studs. Apply pressure to studs with tool, strike spindle near lower stud until ball joint breaks loose, and remove ball joint nut. Lower the control arm. Remove lower arm-to-underbody cam bolt, nut, and washer. Remove arm.

Installation - Reverse removal procedure and tighten nuts and bolts. Check caster, camber and toe-in.

UPPER CONTROL ARM BUSHING SERVICE

NOTE - Upper control arm shaft bushings may not be replaced on Granada, Monarch or Versailles models. If bushings require replacement, complete control arm must be replaced.

FRONT WHEEL SPINDLE

Removal - 1) Position wooden block between upper control arm and frame as shown in Fig. 2. Raise and support front of vehicle. Remove disc brake caliper and support out of way with wire. Remove hub and rotor assembly, then remove disc brake shield.

2) Disconnect tie rod end from spindle arm. Loosen but do not remove upper and lower ball joint stud nuts. Using ball joint removal tools, loosen ball joint studs in spindle. Position floor jack under control arm, remove ball joint stud nuts, then lower jack and remove spindle.

Installation - To install wheel spindle, reverse removal procedure and tighten all nuts and bolts to specified torque value. **NOTE** - If spindle is being replaced due to accident damage, check front wheel alignment and adjust as necessary.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Ball Joint-to-Spindle	Ⓢ75-90
Brake Shield-to-Spindle	9-14
Caliper-to-Spindle	90-120
Rubber Bumper	12-20
Strut-to-Lower Control Arm	90-115
Lower Control Arm-to-Underbody	85-100
Shock Absorber	
Upper	8-12
Lower	10-16
Stabilizer Bar-to-Body	6-12
Stabilizer-to-Lower Control Arm	6-12
Upper Control Arm Inner Shaft	85-100
Upper Spring Seat-to-Arm Shaft	25-40

Ⓢ - Versailles lower ball joint to spindle torque - 80-120.