ARROW & COLT

Arrow
Colt

DESCRIPTION

Strut type suspension consists of a vertically mounted strut assembly, lower control arm, and stabilizer bar. Strut assembly is mounted to top of fender panel by a thrust bearing. Strut assembly mounts at bottom to steering arm and pivots in ball joint. Strut components are: shock absorber built into strut outer tube, coil spring around outside of strut tube, and wheel spindle integral with bottom of strut tube. A stabilizer bar is attached to front chassis members and at ends to lower control arms. Some models are also equipped with strut bars.

ADJUSTMENT

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

See Wheel Alignment Specifications & Procedures in WHEEL ALIGNMENT Section.

WHEEL BEARING ADJUSTMENT

See Wheel Bearing Adjustment in WHEEL ALIGNMENT Section.

BALL JOINT CHECKING

See Ball Joint Checking in WHEEL ALIGNMENT Section.

REMOVAL & INSTALLATION

STABILIZER & STRUT BAR

Removal – Raise vehicle and support on safety stands. Disconnect stabilizer and strut bars from mountings on lower control arm. Remove strut bracket from body mounting position. Remove stabilizer bracket on each side and take off stabilizer. Next, lift off strut bar after noting position of all washers and bushings.

Installation – To install, reverse removal procedure and note the following: Make sure distance between strut bar end and lock nut is 3.1" (78.7 mm). Install strut bar bushing with convex surface to front side.

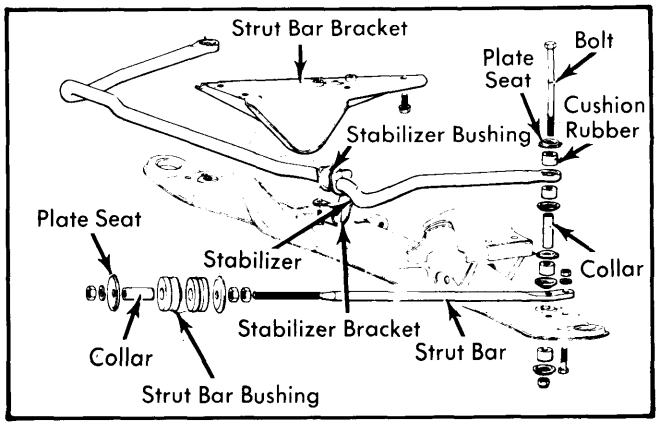

Fig. 1 Exploded View of Coupe, Sedan and Hatchback Strut/Stabilizer Bar Assembly

LOWER CONTROL ARM

Removal – 1) Raise vehicle and place on safety stands. Remove tire and wheel.

2) Disconnect stabilizer bar from lower control arm.

3) On Coupe, Sedan and Hatchback models, take out strut rod.

4) Remove 3 bolts mounting strut assembly to steering arm. Remove nut from ball joint stud and pull steering arm from ball joint.

5) On Coupe, Sedan and Hatchback models, remove control arm pivot shaft bolt.

6) On Hardtop and Station Wagon models, remove bolts mounting control arm to crossmember.

7) Remove control arm from vehicle.

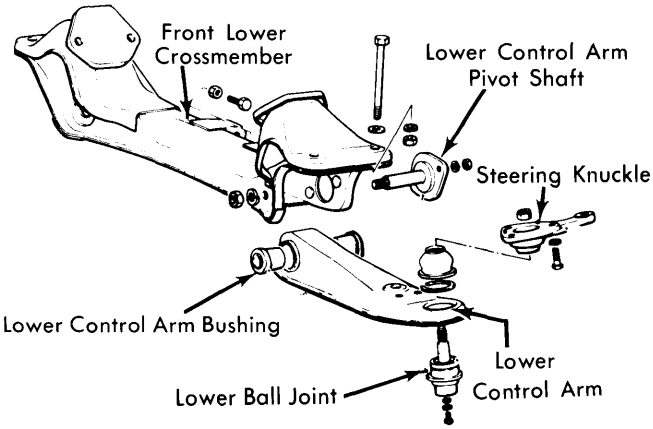

Fig. 2 Exploded View of Colt and Arrow Front Suspension. Coupe, Sedan and Hatchback Use Suspension Shown

Ball Joint Replacement – 1) Pry out ball joint dust seal.

2) Remove snap ring from groove in ball joint seat.

3) Press ball joint from control arm.

4) Select new ball joint. Position ball joint in control arm. Seat ball joint into position so ball joint and lower control arm reference marks are aligned.

NOTE – *It should take approximately 11,000 lbs. (5000 kg) to fully seat ball joint.*

5) Fit new snap ring into ball joint groove. It may be necessary to tap snap ring into place.

NOTE – *Make sure not to open snap ring wider than necessary.*

6) Apply packing sealer inside of dust cover metal ring. Seat metal ring into snap ring surface by tapping with hammer.

Bushing Replacement – Hardtop, Station Wagon – 1) Remove bolts and washers from both ends of pivot shaft.

2) Press pivot shaft with rear bushing out of control arm. Remove rubber stopper *(Fig. 3)* and press out front bushing.

3) Select new pivot shaft bushings and washers. Press front bushing with pivot shaft into control arm. Place a holder between rear branches of control arm. Press in rear bushing.

ARROW & COLT (Cont.)

4) Install pivot shaft bolts and new washers. Do not tighten pivot bolts until weight of vehicle is on ground.

Installation – To install lower control arm, reverse removal procedure and note following:

- On Hardtop and Station Wagon models, make sure mounting nut on crossmember has chamfered edges facing rounded corners of bracket.
- Smear grease on strut mounting surface before fitting to steering knuckle.

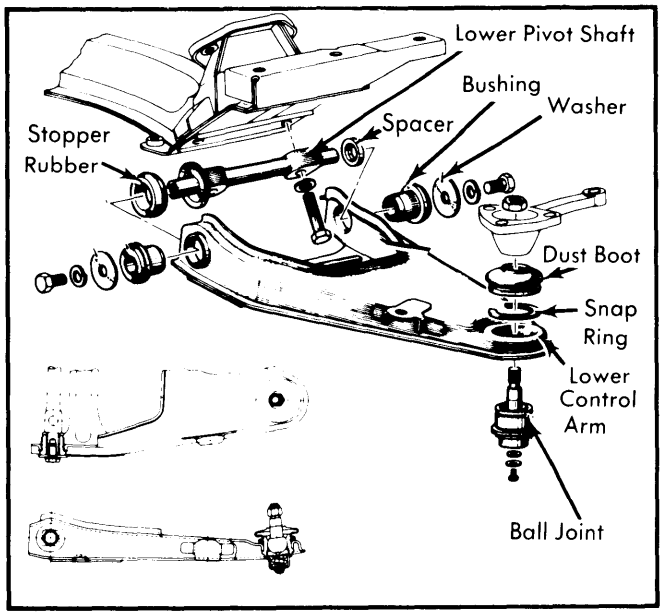

Fig. 3 Exploded View of Lower Control Arm Assembly. Only Hardtop and Station Wagon Models Use Suspension Shown

STRUT ASSEMBLY

Removal – Raise vehicle and place safety stands under chassis members. Disconnect strut assembly from lower control arm as previously outlined. Remove brake caliper and hub. Remove dust cover and disc brake adapter. Remove three bolts retaining strut assembly to fender panel and remove strut assembly from vehicle.

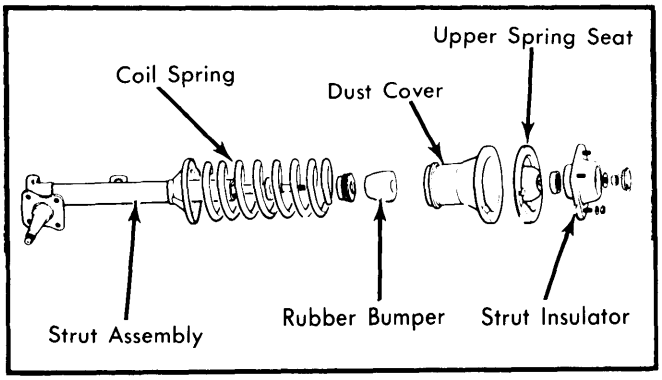

Fig. 4 Internal Strut Assembly Components

Disassembly – 1) Secure strut assembly in vise and remove small dust cover in middle of thrust bearing assembly. Compress spring using tool CT-1105 (or equivalent) and remove nut retaining thrust bearing. Remove thrust bearing, coil spring, upper spring seat, and rubber bumper.

2) Hold strut assembly vertical in vise and use wrench CT01112 (or equivalent) to remove shock absorber seal. Push piston rod to lowest position and drain oil. Remove "O" ring from top of strut tube and drain piston rod assembly and guide up and out of tube. Remove guide from piston rod and rod from cylinder.

Reassembly – 1) Thoroughly clean all components and check for wear or distortion. Coat piston rod with shock absorber oil and install in cylinder. Insert cylinder and piston rod in strut tub. Push piston rod to bottom of stroke and fill cylinder with 10 ounces of shock absorber oil. Slowly move piston rod up and down until air is removed from cylinder.

2) Install guide over cylinder and push down until it contacts upper edge of cylinder. Install "O" ring between guide and strut tube. **NOTE** – *Always use new "O" ring when removed.* Using seal guide CT-1111B (or equivalent), slide shock absorber seal over piston rod and tighten until edge of seal nut touches strut tube. **NOTE** – *Always use new seal when removed.*

3) Compress spring and install over strut tube. Pull piston rod to end of travel and slide on rubber bumper. Install upper spring seat, thrust bearing and nut, and tighten temporarily. Make sure spring is seated and release tool. Using holding tool CT-1112 (or equivalent), hold upper spring seat and tighten piston rod nut.

Installation – To install, reverse removal procedure and tighten all nuts and bolts.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Strut-to-Steering Knuckle	
Coupe, Sedan, Hatchback	39 (5.4)
Hardtop, Station Wagon	29-36 (4.0-5.0)
Lower Control Arm Pivot Shaft	
Coupe, Sedan, Hatchback	43-51 (6.0-7.1)
Lower Control Arm Pivot Shaft Thrust Washers	
Hardtop, Station Wagon	①40-47 (5.5-6.5)
Crossmember-to-Lower Control Arm	
Coupe, Sedan, Hatchback	72-87 (10.0-12.0)
Steering Knuckle-to-Ball Joint	29-43 (4.0-7.1)
Steering Knuckle-to-Tie Rod	29-39 (4.0-5.4)
Stabilizer Bracket-to-Frame	7-11 (.97-1.5)
Strut Bar-to-Frame	
Coupe, Sedan, Hatchback	54-61 (7.5-8.4)
Strut Bar-to-Lower Control Arm	
Coupe, Sedan, Hatchback	36-43 (4.0-7.1)
Strut Bar Bracket	
Coupe, Sedan, Hatchback	29-33 (4.0-4.6)
Stabilizer Bar-to-Lower Control Arm	22-25 (3.0-3.5)

① – With wheel on ground.