

SPRINGS AND SHOCK ABSORBERS

COIL TYPE SPRINGS are used in the front on all models. The lower end of the spring is seated on the lower control arm and the upper end in a recess in the front crossmember. Rubber pads are used at the seats at both ends of the spring.

A four-leaf spring with a plastic liner between the first and second leaves is used on the rear of all models. The spring has a single mounting at the front end (see Fig. 1) and a shackle at the rear. The bushing used at the front end of the spring and both bushings used in the shackle at the rear are of the same type, but are of different size. The bushings consist of a rubber cushion between two steel sleeves and are bonded to the sleeves.

Direct acting type non-adjustable shock absorbers are used on both the front and rear of all models. The front shock absorber is mounted within the front spring. The upper end of the shock absorber extends up through the crossmember and frame side rail and is connected to a bell-shaped bracket which is riveted on top of the frame. The lower end is mounted on a plate which is bolted to the lower control arm. Both ends of the shock absorbers are mounted on rubber grommets. The rear shock absorber is mounted at right angles to the frame, the upper end within the crossmember, and the lower end directly to the spring plate. Both ends are mounted on rubber grommets.

SPECIFICATIONS

	ALL MODELS
Front spring—type.....	Coil
Rear springs—size.....	2½" x 50" (63,5 mm. x 127 cm.)
—standard number of leaves.....	4*
Shackle or bolt lubricant.....	None
Shackle length.....	3" (76,2 mm.)**
Rear spring front mounting.....	Rubber bushing
Diameter front eye.....	1½" (38,1 mm.)
Shock absorbers—make.....	Houde and Monroe
—type.....	Direct Acting

* All Station Wagons have 2 additional helper leaves.
 **3" x 3½" (76,2 mm. x 88,9 mm.) on Champion and Flighthawk.

SPRINGS

FRONT SPRING

Removal and Installation—All Models

The removal and installation procedures for the front springs are covered in the Front Suspension and Steering System section.

REAR SPRING

Removal and Installation—All Models

Raise the car and support it with a stationary jack placed under the side of the frame just ahead of the front of the rear spring to be removed. Place a hydraulic jack under the rear axle housing to take the load of the rear axle assembly off the spring.

Disconnect the shock absorber from the spring plate. On President Y models, disconnect the rear stabilizer shaft link from the spring plate.

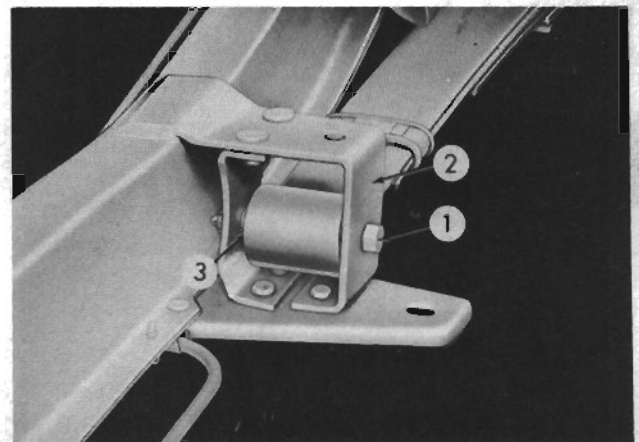


FIG. 1

1. Spring bolt 2. Mounting bracket 3. Bushing

Remove the rear spring front bolt and nut. A hole is provided in the body member for access to the spring bolt to facilitate removal. It may be necessary, in some cases, to remove the body bolt and shims to align the body hole with the head of the spring bolt.

Remove the spring U-bolt nuts and spring plate.

Remove the rear shackle bolt nuts, drive the shackle bolts out of the bushing, and remove the spring.

Disassembly—All Models

Remove the rebound clips from both ends of the spring. Install a C clamp near the center of the spring to hold the leaves together; then remove the spring center bolt. Remove the C clamp and separate the leaves and plastic liner.

Reassembly—All Models

Wash the leaves thoroughly and grind off all galled spots. Carefully inspect the leaves for cracks.

Use a $\frac{3}{8}$ " (9,52 mm.) rod about 4" (101,6 mm.) long to keep the leaves and liner aligned during the reassembly. Place the rod vertically in a vise, tightening the vise securely. Then assemble the leaves and liner on the rod.

After assembling all leaves and liner, install a C clamp at the center of the spring, tighten the clamp, and draw the assembly together. Remove the rod and install a new center bolt. Tighten the bolt securely and peen the threads at the nut to prevent loosening of the nut.

Install the service rebound clips.

Installation—All Models

Inspect the bushings and replace if necessary. Position the spring with the eye containing the large diameter bushing at the front hanger. Align the bushing with the holes of the hanger and install the front bolt. Swing the rear end of the spring up to the frame and position the end between the shackle plates. Align the holes and install the bolts and nuts. Shift the rear axle assembly so that the spring center bolt head is properly seated in the axle housing spring seat. Install the U bolts and nuts, tightening the nuts evenly to 47 to 50 ft-lbs (6,5 to 6,9 kg-m) on the Champion and Flighthawk and 63 to 68 ft-lbs (8,7 to 9,4 kg-m) on all other models.

Connect the shock absorbers and, on the President Y model, also connect the stabilizer shaft link to the spring plate.

SPRING BUSHINGS AND SHACKLES

REAR SPRING—REAR BUSHING

Removal—All Models

Remove the rear spring as outlined under Rear Spring—Removal.

Tool No. J-4655-B is required to remove and install the bushing. Insert the puller stud (2, Fig. 2) through the bushing and install the threaded adapter (b) on the bolt. Slide the large hexagonal sleeve (4) over the stud with the closed end outward, and install the bearing (3) and nut (1) on the stud. Then turn the nut (see Fig. 3) to draw the threaded adapter against the bushing, and force the bushing out into the hollow portion of the large hex sleeve.

Installation—All Models

Coat the bushing lightly with white lead and insert it into the spring eye or frame bracket just enough to hold it in place. Insert the stud (1, Fig. 4) through



FIG. 3

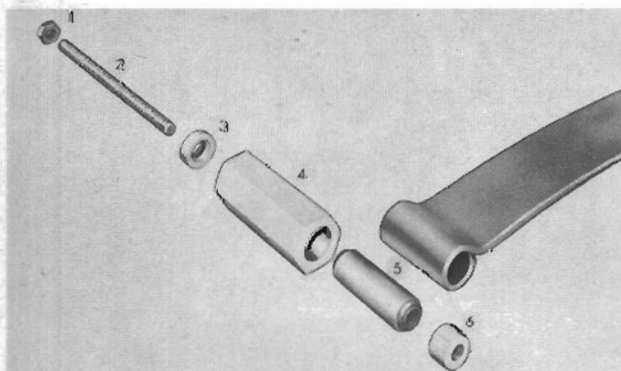


FIG. 2

- | | |
|----------------|---------------------|
| 1. Nut | 4. Sleeve |
| 2. Puller stud | 5. Bushing |
| 3. Bearing | 6. Threaded adapter |

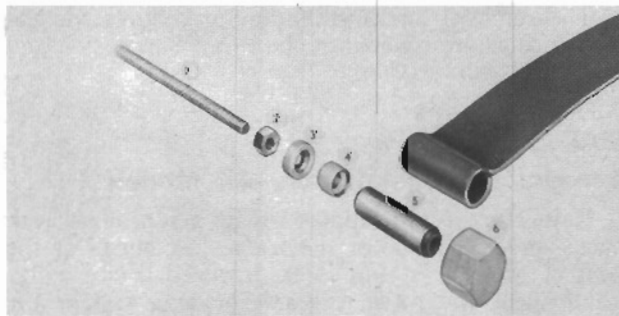


FIG. 4

- | | |
|---------------|-----------------------|
| 1. Stud | 4. Unthreaded adapter |
| 2. Pusher nut | 5. Bushing |
| 3. Bearing | 6. Stop adapter |

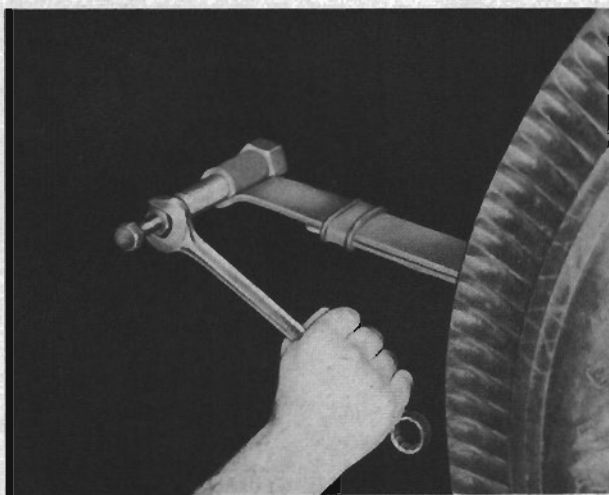


FIG. 5

the bushing and spring eye or frame bracket and install the stop adapter (6) on the stud. Slide the unthreaded adapter (4) over the stud, with the cupped side toward the bushing. Install the thrust bearing (3) and pusher nut (2) and turn the pusher nut as in Fig. 5 to force the bushing into place.

Install the spring as outlined under Rear Spring—Installation.

REAR SPRING—FRONT BUSHING

Removal and Installation—All Models

The rear spring front bushing on all models is removed and installed in the same manner as described under Rear Spring—Rear Bushing—Removal and Installation, except that Rear Spring Bushing Remover and Replacer J-6317 is used, as illustrated in Figs. 6 and 7.

REAR SHACKLE

Removal—All Models

Support the car with a stationary jack and place a hydraulic jack under the rear axle assembly to support the weight of the axle assembly. Remove the nuts (5, Fig. 8) and outer plate (4). Then remove the bolts and inner plate (2).

Install one of the bolts in the inner plate. Insert the bolt through the frame bracket bushing and install the outer plate and nut on the bolt. Align the lower hole of the inner plate with the spring eye bushing and insert the other bolt through the plate and bushing. Swing the outer plate into position at the spring eye, push the bolt through the plate, and install the retaining nut. Tighten both nuts to 50 ft-lbs (6,9 kg-m) torque.

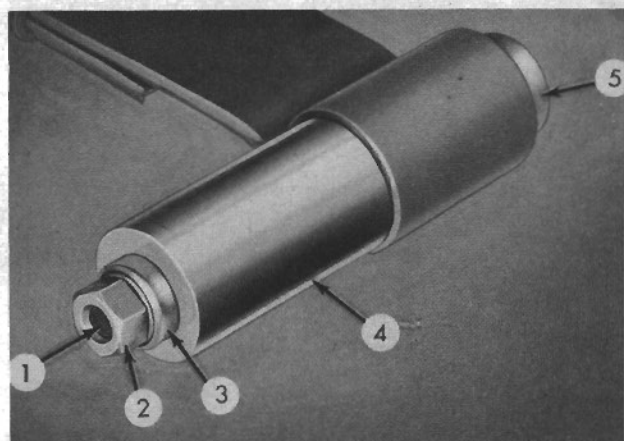


FIG. 6

1. Stud
2. Nut

3. Bearing
4. Sleeve

5. Threaded adapter

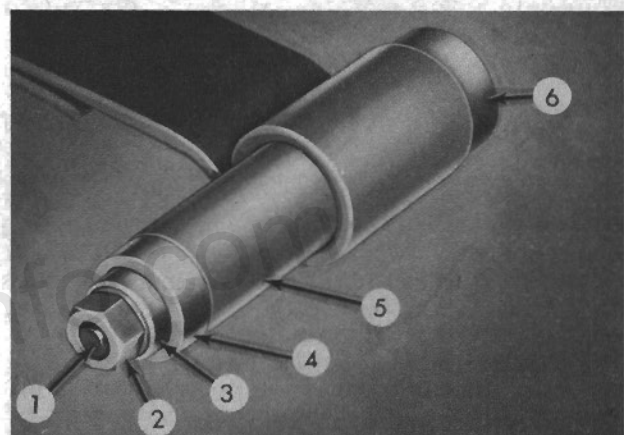


FIG. 7

1. Stud
2. Nut
3. Bearing

4. Unthreaded adapter
5. Sleeve
6. Stop adapter

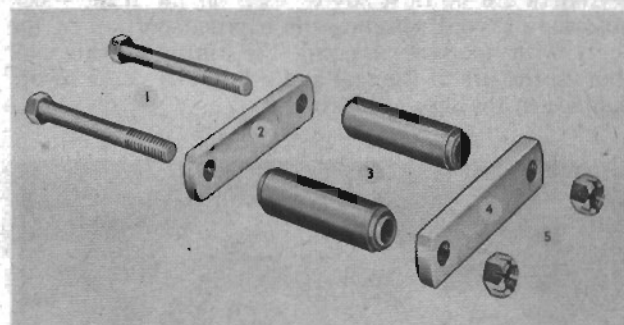


FIG. 8

1. Bolts
2. Inner plate

3. Bushing
4. Outer plate

5. Nut

SHOCK ABSORBERS

FRONT SHOCK ABSORBER

Removal—All Models

To remove the front shock absorber, first remove the lock nut (1, Fig. 9) and retaining nut (2) at the

upper end of the shock absorber. To prevent turning of the shock absorber while removing the retaining nut, hold the shock absorber with a small wrench at the flats provided on the end of the shock absorber shaft.

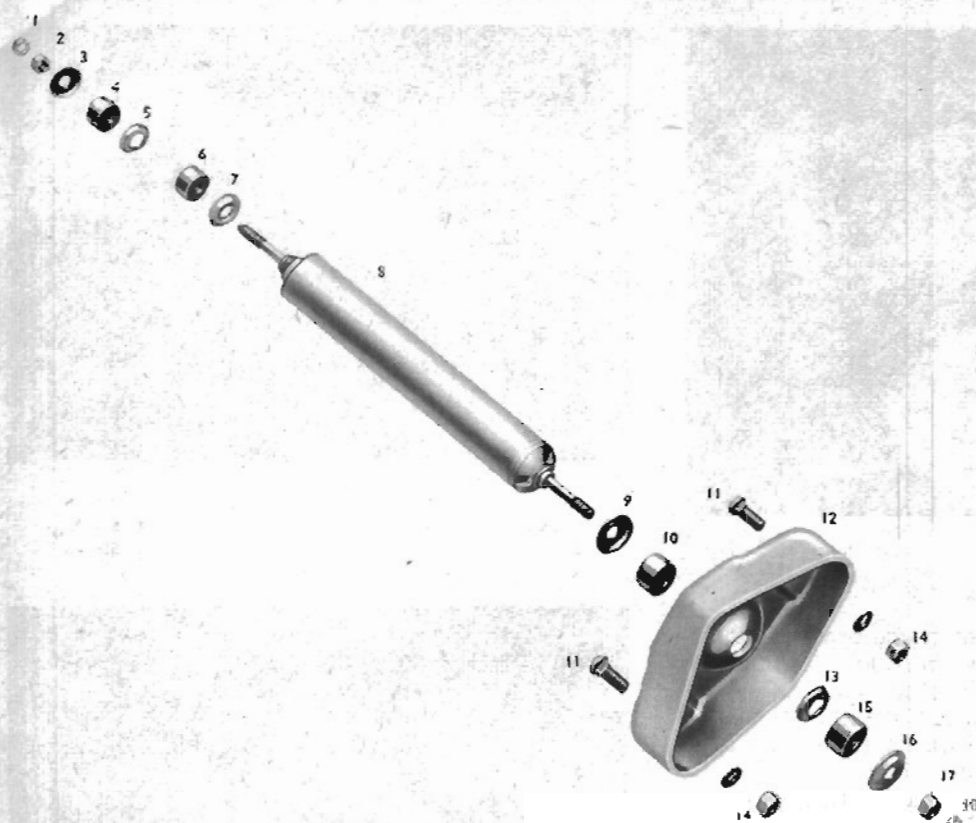


FIG. 9

1. Lock nut
2. Retaining nut
3. Grommet retainer
4. Grommet
5. Grommet seat
6. Grommet
7. Grommet retainer
8. Shock absorbers
9. Grommet retainer
10. Grommet
11. Retaining bolts
12. Mounting plate
13. Grommet seat
14. Nuts
15. Grommet
16. Grommet retainer
17. Nut
18. Lock nut

Remove the grommet retainer (3), grommet (4), and grommet seat (5). Remove the two mounting plate retaining bolts (11) and thread the shock absorber out of the spring (see Fig. 10). Remove the grommet (6), Fig. 9) and grommet retainer (7) from the shaft at the upper end of the shock absorber. Remove the lock nut (18), mounting plate retaining nut (17), grommet retainer (16), grommet (15), grommet seat (13), and mounting plate (12). Then remove the grommet (10) and retainer (9) from the end of the shock absorber.

There are no dust covers used on the front shock absorbers. Avoid grasping the exposed portion of the shaft with tools or marring the finish as this will shorten the life of the seal and eventually cause severe damage to the shock absorber.

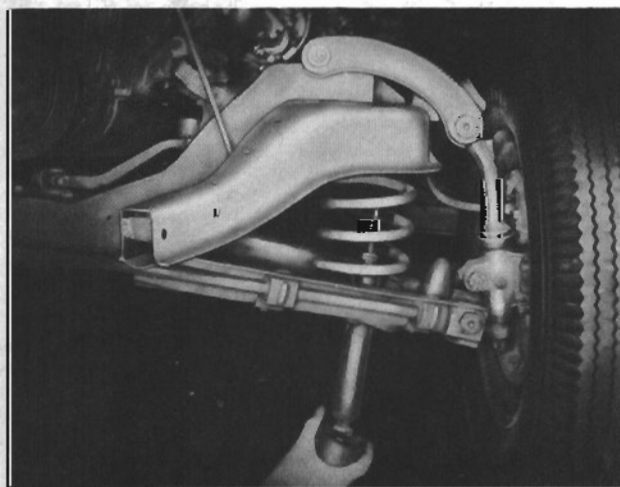


FIG. 10

Installation—All Models

Install the grommet retainer (9, Fig. 9) and grommet (10) on the lower end of the shock absorber. Position the mounting plate (12) on the shock absorber and install the grommet seat (13), grommet (15), retainer (16), retaining nut (17), and lock nut (18). The retaining nut and lock nut should be installed so the top of the lock nut is flush with the end of the threads. Install the grommet retainer (7) and grommet (6) on the upper end of the shock absorber. Position the assembly within the spring. Install the retaining bolts (11) and nuts (14), and tighten securely. Make sure that the bolts are seated in the control arm. Install the grommet seat (5), grommet (4), and retainer (3). Install the retaining nut and lock nut (1), holding the shock absorber with a wrench on the flats provided. When properly tightened, the top of the lock nut should be flush with the threads on the shaft.

REAR SHOCK ABSORBER

Removal—All Models

To remove the shock absorber (see Fig. 11), disconnect the upper end of the shock absorber from the frame crossmember by removing the retaining bolt. Pull the end of the shock absorber out of the crossmember and remove the spacer washers and bushings. Remove the lower mounting bolt nut and slide the shock absorber off the mounting bolt. Remove the spacers and bushings.

Installation—All Models

Insert the bushings (3 and 6, Fig. 12) and spacer (4) in the upper end of the shock absorber. Start the

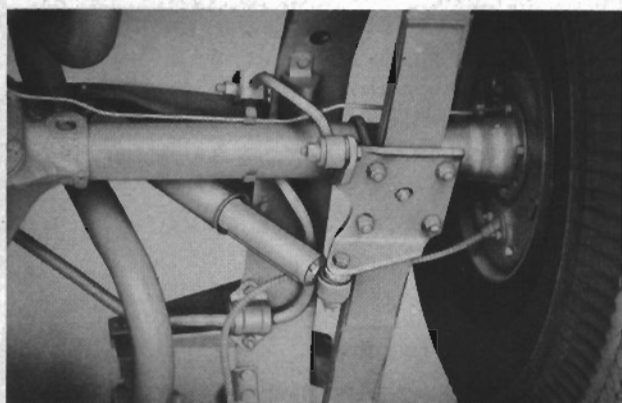


FIG. 11

upper bolt (1) through the crossmember from the front, place the narrow spacer (2) on the bolt, and position the upper end of the shock absorber at the crossmember and insert the bolt through the bushings. Position the wide spacer (7) between the crossmember and the bushing, push the bolt through the spacer and crossmember, then install the lock washer (8) and retaining nut (9). Insert the bushings (13 and 15) and spacer (14) in the lower end of the shock absorber. Place the narrow spacer (12) to the front and wide spacer (16) to the rear on the bushings, position the lower end of the shock absorber at the spring plate, and install the mounting bolt (17), lock washer (11), and nut (10).



FIG. 12

1. Upper mounting bolt
2. Spacer
3. Bushing
4. Spacer
5. Shock absorber
6. Bushing
7. Spacer
8. Lock washer
9. Nut
10. Nut
11. Lock washer
12. Spacer
13. Bushing
14. Spacer
15. Bushing
16. Spacer
17. Lower mounting bolt

REAR STABILIZER SHAFT

Removal—President Y Models

Disconnect the stabilizer shaft link from the spring plate by removing the lower link bolt (see Fig. 13). After disconnecting both ends, remove the shaft bushing retainer bolts and remove the shaft from the vehicle.

Remove the bushing retainers. Locate the split in the bushings and remove the bushings from the shaft. Remove the bushing and spacer from each link. Remove the upper link bolts and remove the links from the shaft. Remove the bushing and spacer from each end of shaft.

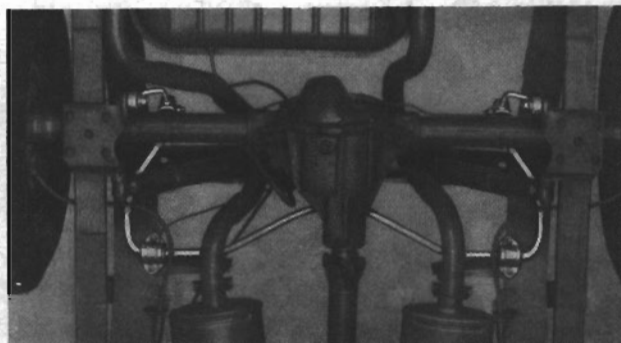


FIG. 13

