

# REAR SUSPENSION

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## GENERAL DESCRIPTION

The rear suspension (Fig. 4-1 and Fig. 4-2) consists of two uniformly stressed rear springs and two shock absorbers mounted to the spring lower seats. On some models rear suspension radius rods are used. The springs are rubber mounted at both axle and frame attaching points, thus ensuring uniform spring loading, minimizing transmittal of road vibration to passenger compartment and providing pivot point to absorb axle wind-up. The springs are positioned to the axle spring seats by locating pins butt welded to the spring leaf.

## MAINTENANCE AND ADJUSTMENTS

The periodic maintenance and adjustments are not required for the rear suspension components. The suspension system should be checked for shock absorber action, condition of suspension bushings, tightness of suspension attaching bolts and an overall visual inspection of components for defects.

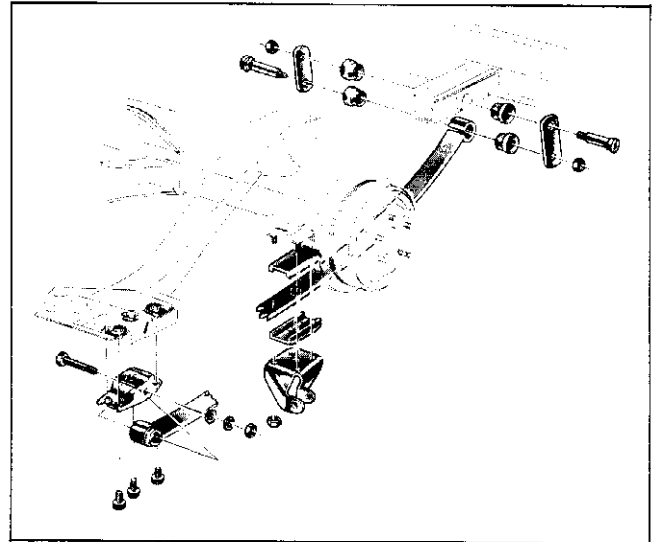


Fig. 4-2 Rear Suspension Spring Attachment

## LEAF SPRING, SPRING SEAT PADS AND SPRING EYE BUSHING

### REMOVAL

1. Raise rear of vehicle at axle housing and support weight of vehicle at both frame and side rails near front eye of springs with jack stands.
2. Disconnect radius rod at rear bushing bolt, only on side being repaired.
3. Loosen and remove shock absorber lower attaching bolt.
4. Loosen the front spring eye-to-bracket retaining bolts.
5. Remove the screws securing the spring retainer bracket to the underbody.
6. Lower axle assembly sufficiently to permit access to spring retainer bracket and remove bracket from spring.
7. The spring eye bushing can be replaced without completely removing the spring from the vehicle. If bushing requires replacement, proceed as follows.
  - a. Insert wood wedge or plank between spring and frame to pry spring eye down for clearance to use bushing removal tool.

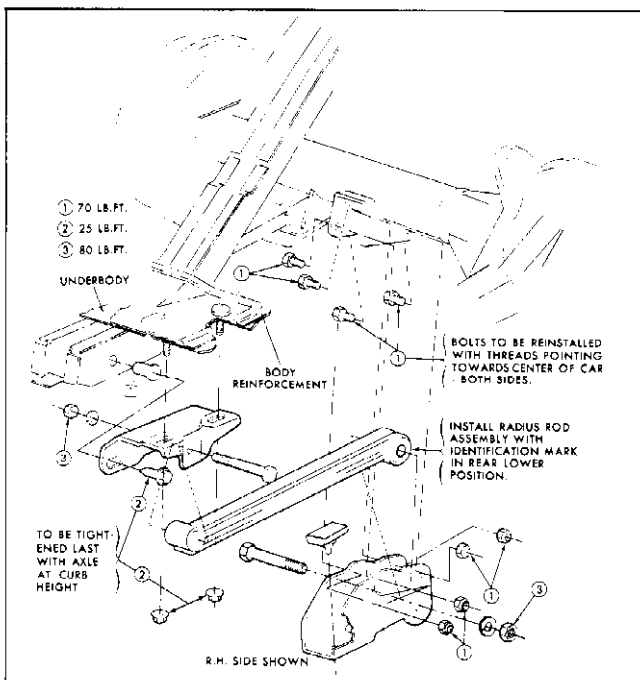


Fig. 4-1 Rear Suspension Radius Rod

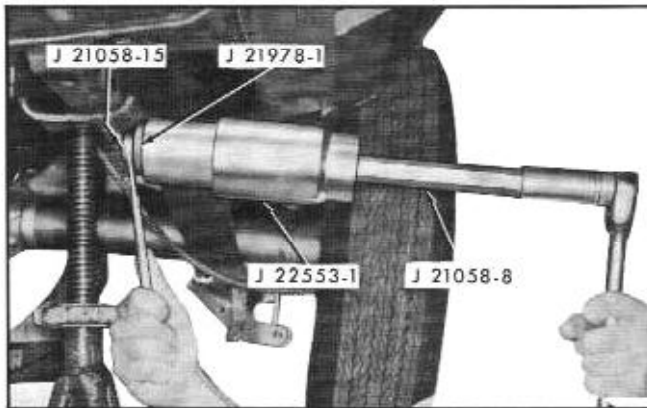


Fig. 4-3 Removing Spring Front Bushing

b. Position remover adapter J 21978-1 over puller screw J 21058-15 so that adapter is against head of puller screw. Refer to Fig. 4-3 for view of removal tools.

c. Position puller screw through eye of bushing so that remover adapter J 21978-1 is against unflanged side of bushing.

d. Position large end of barrel J 22553-1 over puller screw and seat barrel against spring eye.

e. Position thrust bearing on puller screw then install and tighten nut J 21058-8 against thrust bearing.

f. Check to make sure that all puller parts are properly aligned then proceed to tighten nut until bushing is pulled free of spring eye—disassemble puller tool.

g. Position installer adapter J 22553-2 over flange end of bushing then position puller screw J 21058-15 through installer adapter and bushing. Refer to Fig. 4-4 for view of installation tools.

h. Position puller screw through spring eye until bushing contacts spring. Install small end of barrel J 22553-1 over puller screw and seat barrel against spring.

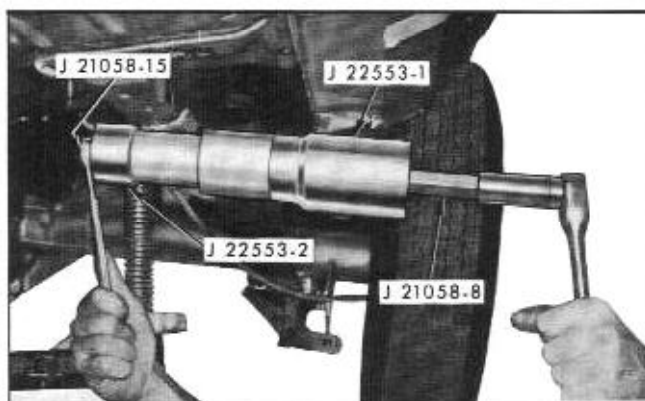


Fig. 4-4 Installing Spring Front Bushing

i. Install thrust bearing and nut J 21058-8. Check puller tools and bushing for proper alignment; then tighten nut to pull bushing into spring.

*NOTE: Do not apply additional torque to nut J 21058-8 after bushing flange contacts spring. Torque applied after flange is seated will tend to distort flange and reposition bushing in spring.*

j. Disassemble bushing installation tools and remove from spring.

8. Pry parking brake cable out of the retainer bracket mounted on the spring mounting plate.

9. Remove spring bracket-to-axle bracket retaining nuts; remove upper and lower rubber spring pads and bracket.

10. Support spring; then remove lower bolt from spring rear shackle. Separate shackle and withdraw spring from vehicle.

11. Remove rear spring shackle upper bolt and withdraw shackle bushings from frame.

## INSTALLATION

1. Position spring front mounting bracket to spring front eye. Spring attaching bolt must be installed so that head of bolt is toward center of vehicle.

2. Position spring shackle upper bushings in frame; position shackles to bushings and loosely install bolt and nut.

3. Install bushing halves in spring rear eye, place spring to shackles and loosely install shackle lower bolt and nut.

*NOTE: When installing spring, make sure spring is positioned so that parking brake cable is on underside of spring.*

4. Raise front end of spring and position bracket to underbody. Guide spring into position so that it will index in the axle bracket and also make sure that the tab on spring bracket is indexed in slot provided in the underbody.

5. Loosely install spring-to-underbody bracket.

6. Position spring upper cushion between spring and axle bracket so that spring cushion ribs align with axle bracket locating ribs.

7. Place lower spring cushion on spring so that cushion is indexed on locating dowel. Upper cushion and lower cushion will be aligned if installation is correct.

8. Place lower mounting plate over locating dowel on spring lower pad and loosely install retaining nuts.

9. If new mounting plate was installed, transfer parking brake cable retaining bracket to new plate.

10. Position shock absorber to spring mounting plate and loosely install eye bolt and nut — head of bolt should be toward front of vehicle.

11. Position parking brake cable in retaining bracket and securely clamp bracket to retain cable.

12. Position radius rod in rear bracket and install bolt.

13. Remove stand jacks and lower vehicle so that weight of vehicle rests on suspension components. Torque all affected parts to specifications.

**SHOCK ABSORBER**

**REMOVAL**

1. Raise rear of vehicle and support rear axle assembly (Fig. 4-5).

2. Loosen and remove shock absorber lower attaching bolt from shock absorber eye.

3. Remove shock absorber upper mounting bracket-to-underbody retaining screws and withdraw shock absorber and bracket.

4. Remove nut, upper retainer and grommet, and retainer from the shock absorber rod.

5. Inspect rubber grommets and gasket for damage and deterioration—replace as required.

**INSTALLATION**

1. Assemble lower retainer and grommet, bracket and gasket, upper grommet and retainer and nut to the shock absorber rod. Torque nut to specifications.

2. Position shock absorber bracket to underbody. Install and torque bracket retaining screws to specifications.

3. Insert shock absorber eye into lower bracket; install bolt with head toward front of vehicle. Torque nut to specifications.

4. Lower vehicle and test shock absorber action.

**SHOCK ABSORBER LOWER MOUNT OR SPRING PADS**

**REMOVAL**

1. Raise car at axle housing.

2. Remove rear radius rod bushing bolt to disconnect rod, only on the side being repaired.

3. Remove lower shock bolt and compress shock to move out of way.

4. Place jack stands under frame and lower axle to relieve spring tension.

5. Remove four bolts attaching lower shock mount and withdraw mount.

6. Raise axle up to provide clearance to remove upper spring pad.

**INSTALLATION**

1. Reverse removal procedure.

*NOTE: When installing spring pad be sure dowel pin in spring and spring pad line up with lower shock mount before tightening attaching nuts.*

2. See torque specification at end of section.

**RADIUS ROD AND RADIUS ROD BRACKET**

**REMOVAL**

1. Raise car on hoist (Fig. 4-1).

2. Remove two nuts and one bolt from front bracket.

3. Remove four nuts and bolts from rear bracket.

4. Withdraw radius rod and front bracket as an assembly from car.

5. Remove front and rear bushing bolts and nuts to remove brackets on work bench.

*NOTE: Radius rod and bushings are serviced as an assembly.*

**INSTALLATION**

Install by reversing removal procedure.

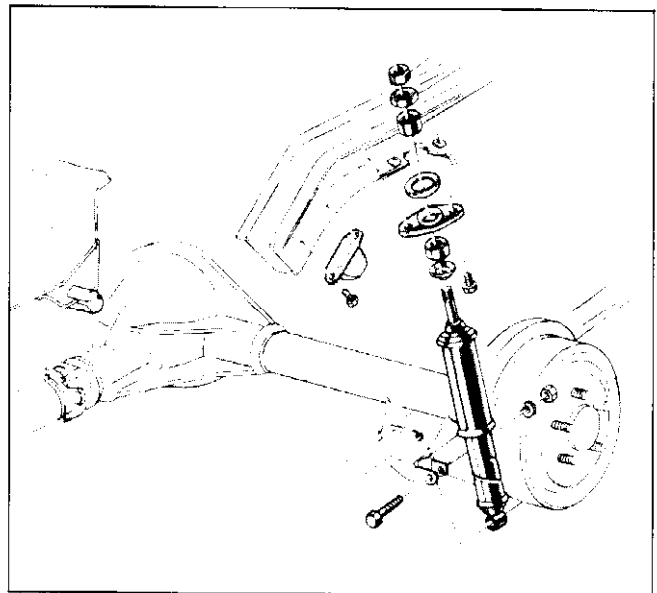


Fig. 4-5 Rear Shock Absorber Installation

*NOTE: Do not tighten radius rod bushing bolts when rod is off car. Bolts at front bracket should be tightened with weight of car on wheels.*

2. With screwdriver pry pad up and out of alignment hole.

**RADIUS ROD BRACKET PAD**

**INSTALLATION**

**REMOVAL**

1. Raise car.

1. Coat new pad with suitable lubricant.
2. Using a pair of pliers pull rubber tab through retaining hole.
3. Lower car.

RADIUS RODS USED	6-Cyl. 1-Bbl.	6-Cyl. 4-Bbl.	V-8 2 and 4 Bbl.
None	*Auto. Trans.	Auto. Trans.	Auto. Trans.
One on R.H. Side	Man. Trans.	Man. Trans.	Man. Trans.
Two			

\*One rod is used if axle ratio is 3.23:1

Fig. 4-6 Radius Rod Usage

**TORQUE SPECIFICATIONS**

	Lb. Ft.		Lb. Ft.
Bolts, four axle housing to rear radius bracket . . . . .	70	Nut, spring plate to axle housing . . . . .	50
Nut, radius rod front bushing bolt . . . . .	80	Nut, spring pin rear bushing . . . . .	50
Nut, radius rod rear bushing bolt . . . . .	80	Screw, shock absorber underplate to frame rail . . . . .	8
Screw, radius rod front bracket to side rail . . . . .	25	Nut, shock absorber lower attaching bolt . . . . .	45
Nut and washer assembly, radius rod front bracket to underbody . . . . .	25	Bolt, bumper . . . . .	8
Nut, spring front bushing bolt . . . . .	70	Shock mount bracket nuts . . . . .	40
Screw assembly, front spring bracket to underbody . . . . .	70	Nut, shock absorber stem . . . . .	90In. Lb.