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# 8

## SUSPENSION AND STEERING

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## WHEELS

## Wheel Assembly

## REMOVAL &amp; INSTALLATION

## ♦ See Figures 1, 2, 3, and 4

1. Park the vehicle on a level surface.
2. Remove the jack, tire iron and, if necessary, the spare tire from their storage compartments.
3. Check the owner's manual, or refer to Section 1 of this manual for the jacking points on your vehicle. Then, place the jack in the proper position.
4. If equipped with lug nut trim caps, remove them by either unscrewing or pulling them off the lug nuts, as appropriate. Consult the owner's manual, if necessary.
5. If equipped with a wheel cover or hub cap, insert the tapered end of the tire iron in the groove and pry off the cover.
6. Apply the parking brake and block the diagonally opposite wheel with a wheel chock or two.

➡ **Wheel chocks may be purchased at your local auto parts store, or a block of wood cut into wedges may be used. If possible, keep one or two of the chocks in your tire storage compartment, in case any of the tires has to be removed on the side of the road.**



Fig. 1 With the vehicle still on the ground, break the lug nuts loose

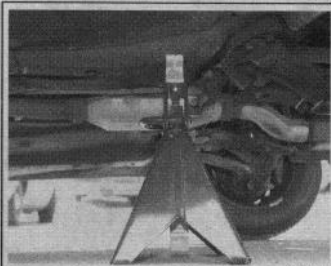


Fig. 3 Place the jackstands under the vehicle to support the vehicle's weight before attempting to remove the wheel(s)

7. If equipped with an automatic transmission/transaxle, place the selector lever in P or Park; with a manual transmission/transaxle, place the shifter in Reverse.

8. With the tires still on the ground, use the tire iron/wrench to break the lug nuts loose.

➡ **If a nut is stuck, never use heat to loosen it or damage to the wheel and bearings may occur. If the nuts are seized, one or two heavy hammer blows directly on the end of the bolt usually loosens the rust. Be careful, as continued pounding will likely damage the brake drum or rotor.**

9. Using the jack, raise the vehicle until the tire is clear of the ground. Support the vehicle safely using jackstands.

10. Remove the lug nuts, then remove the tire and wheel assembly.

**To install:**

11. Make sure the wheel and hub mating surfaces, as well as the wheel lug studs, are clean and free of all foreign material. Always remove rust from the wheel mounting surface and the brake rotor or drum. Failure to do so may cause the lug nuts to loosen in service.

12. Install the tire and wheel assembly and hand-tighten the lug nuts.

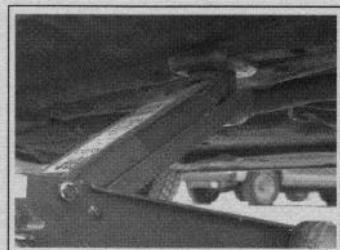


Fig. 2 After the lug nuts have been loosened, raise the vehicle using the jack until the tire is clear of the ground

13. Using the tire wrench, tighten all the lug nuts, in a crisscross pattern, until they are snug.

14. Raise the vehicle and withdraw the jackstand, then lower the vehicle.

15. Using a torque wrench, tighten the lug nuts in a crisscross pattern to 65–80 ft. lbs. (90–110 Nm). Check your owner's manual or refer to Section 1 of this manual for the proper tightening sequence.

## \*\*\* WARNING

**Do not overtighten the lug nuts, as this may cause the wheel studs to stretch or the brake disc (rotor) to warp.**

16. If so equipped, install the wheel cover or hub cap. Make sure the valve stem protrudes through the proper opening before tapping the wheel cover into position.

17. If equipped, install the lug nut trim caps by pushing them or screwing them on, as applicable.

18. Remove the jack from under the vehicle, and place the jack and tire iron/wrench in their storage compartments. Remove the wheel chock(s).

19. If you have removed a flat or damaged tire, place it in the storage compartment of the vehicle and take it to your local repair station to have it fixed or replaced as soon as possible.

## INSPECTION

Inspect the tires for lacerations, puncture marks, nails and other sharp objects. Repair or replace as necessary. Also check the tires for treadwear and air pressure as outlined in Section 1 of this manual.

Check the wheel assemblies for dents, cracks, rust and metal fatigue. Repair or replace as necessary.

## Wheel Lug Studs

## REMOVAL &amp; INSTALLATION

## With Disc Brakes

## ♦ See Figures 5, 6, and 7

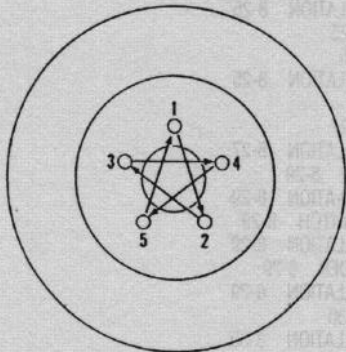
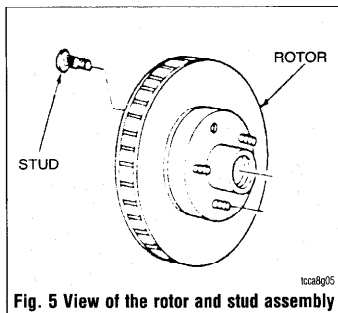


Fig. 4 Typical wheel lug tightening sequence



**Fig. 5 View of the rotor and stud assembly**

1. Raise and support the appropriate end of the vehicle safely using jackstands, then remove the wheel.

2. Remove the brake pads and caliper. Support the caliper aside using wire or a coat hanger. For details, please refer to Section 9 of this manual.

3. Remove the outer wheel bearing and lift off the rotor. For details on wheel bearing removal, installation and adjustment, please refer to Section 1 of this manual.

4. Properly support the rotor using press bars, then drive the stud out using an arbor press.

➔ **If a press is not available, CAREFULLY drive the old stud out using a blunt drift. MAKE SURE the rotor is properly and evenly supported or it may be damaged.**

**To install:**

5. Clean the stud hole with a wire brush and start the new stud with a hammer and drift pin. Do not use any lubricant or thread sealer.

6. Finish installing the stud with the press.

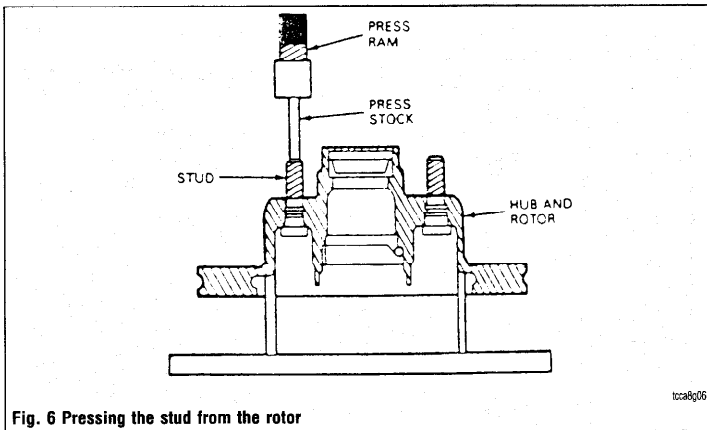
➔ **If a press is not available, start the lug stud through the bore in the hub, then position about 4 flat washers over the stud and thread the lug nut. Hold the hub/rotor while tightening the lug nut, and the stud should be drawn into position. MAKE SURE THE STUD IS FULLY SEATED, then remove the lug nut and washers.**

7. Install the rotor and adjust the wheel bearings.

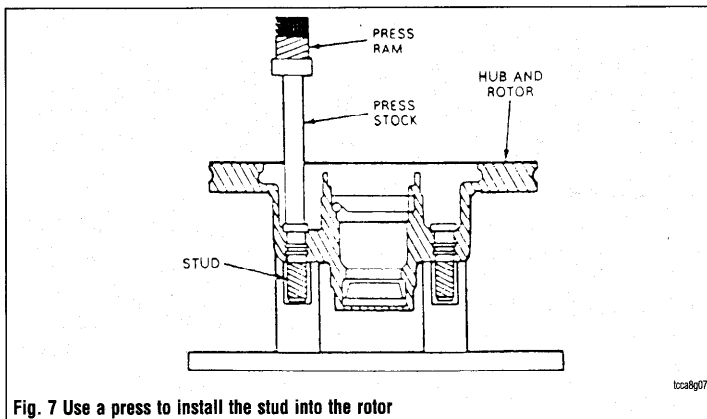
8. Install the brake caliper and pads.

9. Install the wheel, then remove the jackstands and carefully lower the vehicle.

10. Tighten the lug nuts to the proper torque.



**Fig. 6 Pressing the stud from the rotor**



**Fig. 7 Use a press to install the stud into the rotor**

**With Drum Brakes**

➔ **See Figures 8, 9, and 10**

1. Raise the vehicle and safely support it with jackstands, then remove the wheel.

2. Remove the brake drum.

3. If necessary to provide clearance, remove the brake shoes, as outlined in Section 9 of this manual.

4. Using a large C-clamp and socket, press the stud from the axle flange.

5. Coat the serrated part of the stud with liquid soap and place it into the hole.

**To install:**

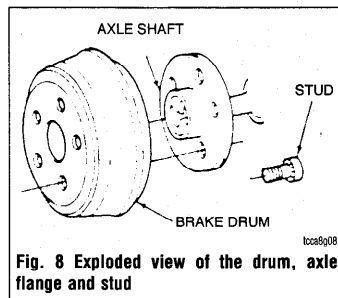
6. Position about 4 flat washers over the stud and thread the lug nut. Hold the flange while tightening the lug nut, and the stud should be drawn into position. **MAKE SURE THE STUD IS FULLY SEATED**, then remove the lug nut and washers.

7. If applicable, install the brake shoes.

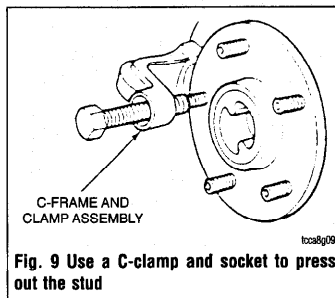
8. Install the brake drum.

9. Install the wheel, then remove the jackstands and carefully lower the vehicle.

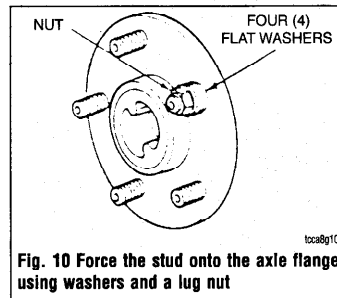
10. Tighten the lug nuts to the proper torque.



**Fig. 8 Exploded view of the drum, axle flange and stud**



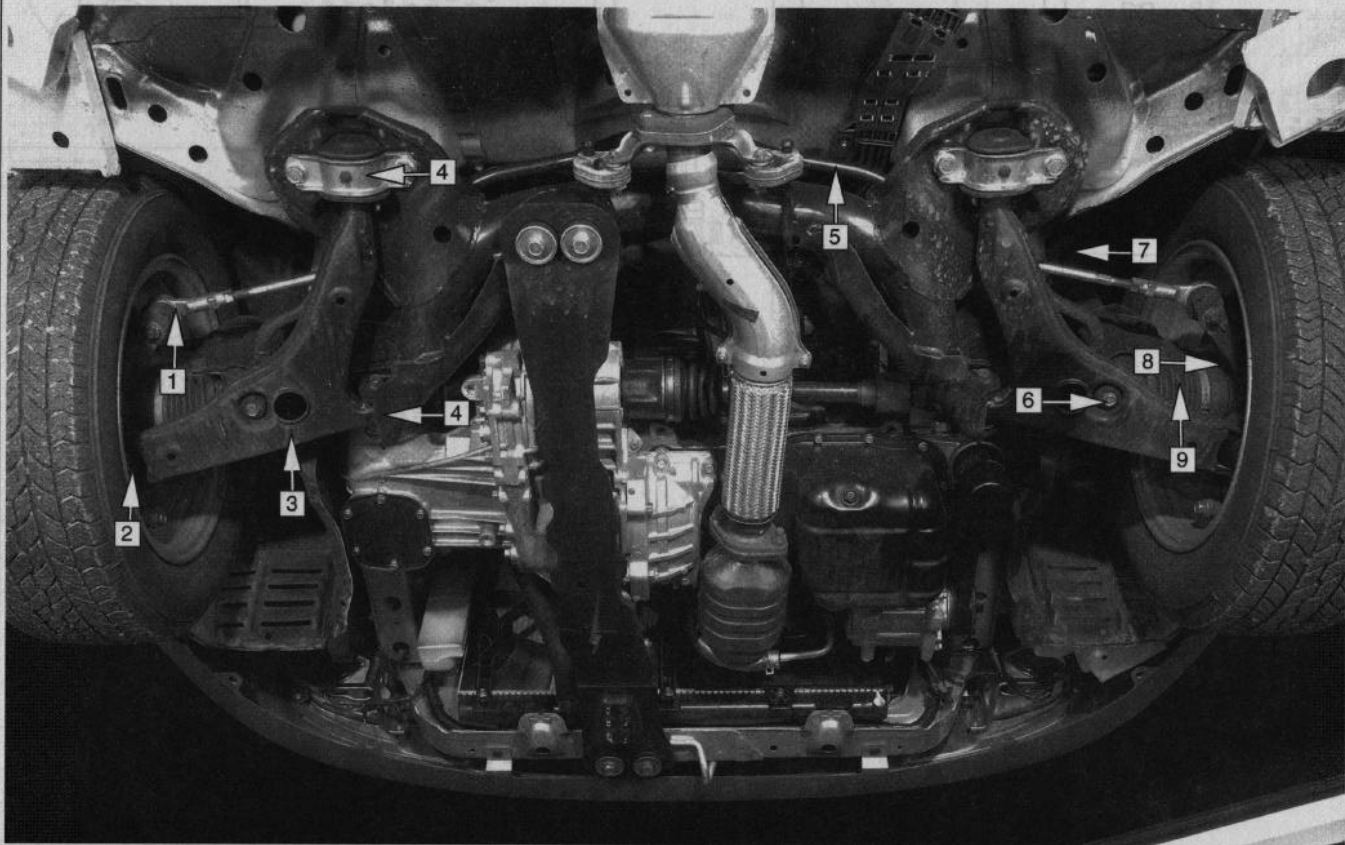
**Fig. 9 Use a C-clamp and socket to press out the stud**



**Fig. 10 Force the stud onto the axle flange using washers and a lug nut**

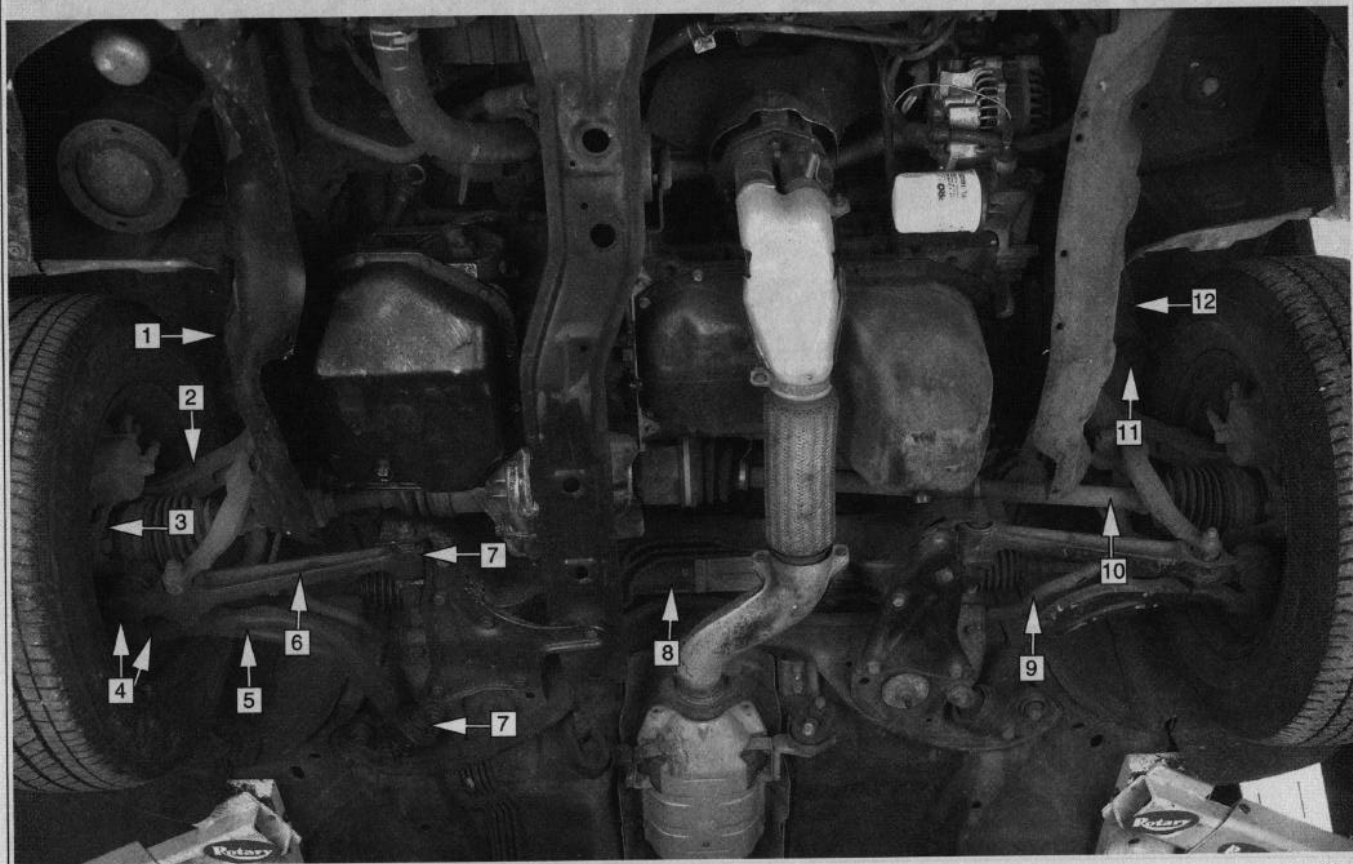
## 1993-00 MIRAGE FRONT SUSPENSION COMPONENT LOCATIONS

- |  |                             |
|--|-----------------------------|
| 1. Tie rod end                           | 6. Sway bar link            |
| 2. Lower ball joint                      | 7. Strut assembly           |
| 3. Lower control arm                     | 8. Hub and bearing assembly |
| 4. Lower control arm mounts and bushings | 9. Halfshaft assembly       |
| 5. Sway bar assembly                     |                             |



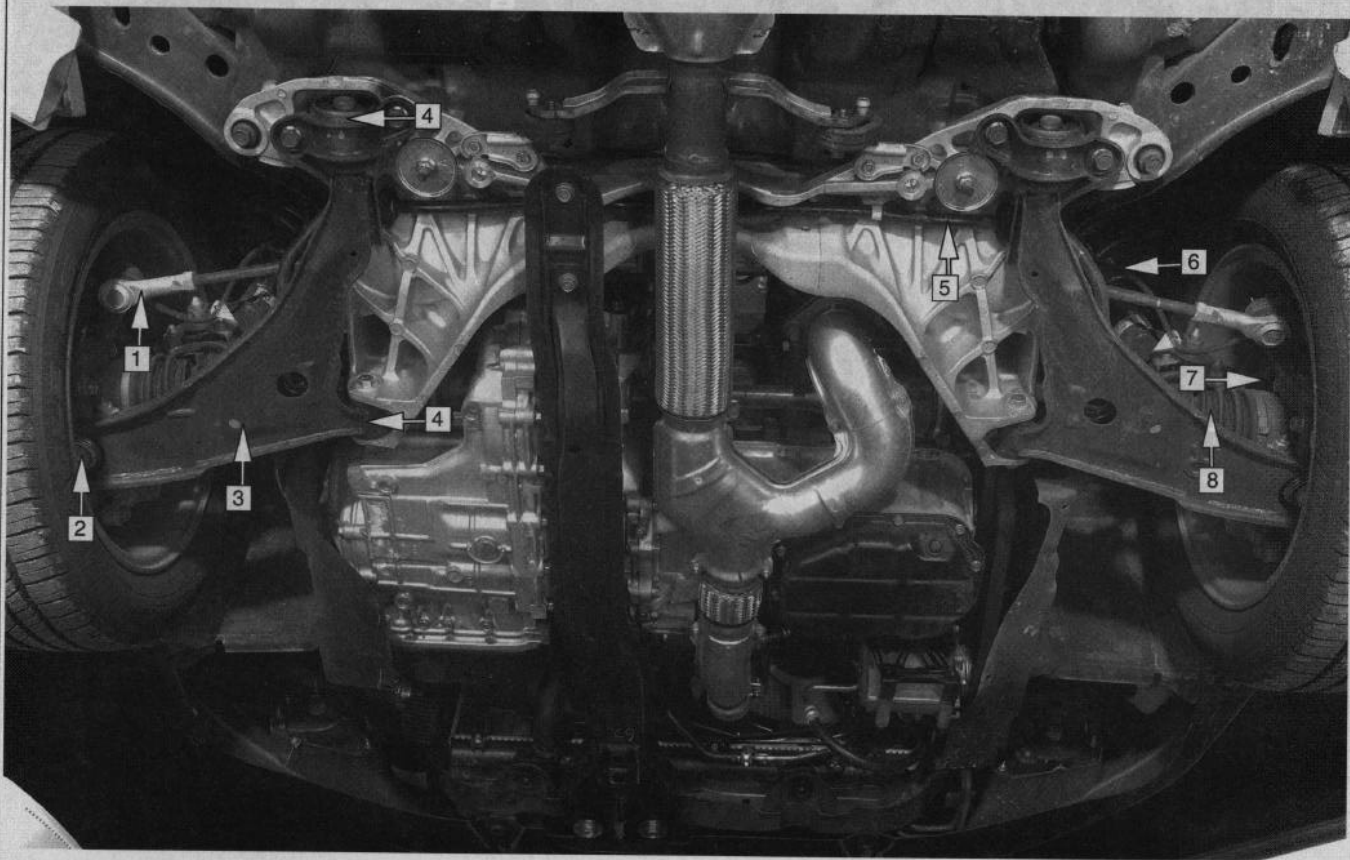
### 1994-98 GALANT FRONT SUSPENSION COMPONENT LOCATIONS

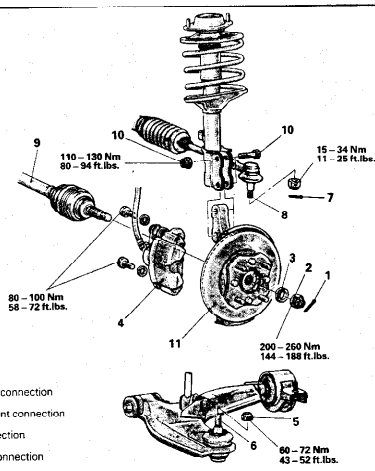
- |                                  |  |
|----------------------------------|--|
| 1. Shock and spring assembly     | 7. Lower control arm mounts and bushings |
| 2. Steering knuckle assembly     | 8. Steering rack and pinion              |
| 3. Hub and bearing assembly      | 9. Sway bar assembly                     |
| 4. Lower ball joints             | 10. Halfshaft assembly                   |
| 5. Compression lower control arm | 11. Upper ball joint                     |
| 6. Lateral lower control arm     | 12. Upper control arm                    |



## 1999-00 GALANT FRONT SUSPENSION COMPONENT LOCATIONS

- |  |                             |
|--|-----------------------------|
| 1. Tie rod end                           | 5. Sway bar assembly        |
| 2. Lower ball joint                      | 6. Strut assembly           |
| 3. Lower control arm                     | 7. Hub and bearing assembly |
| 4. Lower control arm mounts and bushings | 8. Halfshaft assembly       |

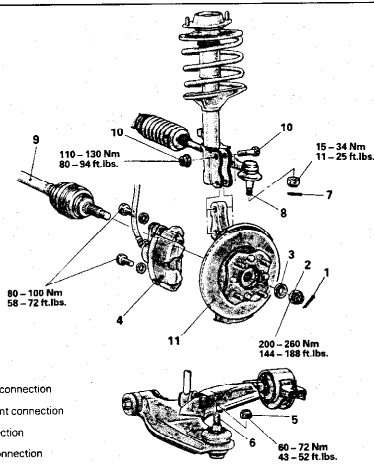




1. Cotter pin
2. Drive shaft
3. Washer
4. Caliper assembly connection
5. Self-locking nut
6. Lower arm ball joint connection
7. Cotter pin
8. Tie rod end connection
9. Drive shaft
10. Strut assembly connection
11. Hub and knuckle

1990-92 Mirage front suspension components

93159g01



1. Cotter pin
2. Drive shaft
3. Washer
4. Caliper assembly connection
5. Self-locking nut
6. Lower arm ball joint connection
7. Cotter pin
8. Tie rod end connection
9. Drive shaft
10. Strut assembly connection
11. Hub and knuckle

Diamante front suspension components

93156g01

## MacPherson Strut and Coil Spring

### REMOVAL & INSTALLATION

#### Diamante, 1990-93 Galant, and 1999-00 Galant

1. Disconnect the negative battery cable.
2. Raise and safely support the vehicle.
3. Remove the brake hose and the tube bracket.

➔ **Do not pry the brake hose and tube clamp away when removing it.**

4. If equipped with ABS, disconnect the front speed sensor mounting clamp from the strut.
5. Support the lower arm and remove the strut

to knuckle bolts. Use a piece of wire to suspend the knuckle to keep the weight off the brake hose.

6. If equipped with Active Electronic Control Suspension (Active-ECS) perform the following:
  - a. Loosen the nut that secures the air line to the top of the strut and discard the O-ring.
  - b. Remove the bolts that secure the actuator to the top of the strut and remove the component. Disconnect the wiring harness.

➔ **Before removing the top bolts, make matchmarks on the body and the strut insulator for proper reassembly.**

7. Remove the strut upper nuts and remove the strut assembly from the vehicle.

#### To install:

8. Install the strut to the vehicle and tighten the upper mounting nuts to 33 ft. lbs. (45 Nm).
9. Align the strut to the knuckle and connect

with the mounting bolts. Tighten the mounting bolts to 70-76 ft. lbs. (90-105 Nm).

10. If equipped with Active-ECS, perform the following:

- a. Install the air line with a new O-ring.
- b. Install the actuator to the top of the strut.

Connect the wiring harness.

11. Install the brake hose bracket and the ABS clamp, if equipped.

12. Install the wheel and tire assembly.

13. Have a front end alignment performed.

### Mirage

#### ➔ See Figure 11

1. Disconnect the negative battery cable.
2. Raise and safely support vehicle.
3. Remove the brake hose and tube bracket retainer bolt and bracket from the front strut. Do not pry the brake hose and tube clamp away when removing.
4. If equipped with ABS, disconnect the front speed sensor mounting clamp from the strut.
5. Support the lower arm using floor jack or equivalent. Remove the lower strut to knuckle bolts.

➔ **Before removing the top bolts, make matchmarks on the body and the strut insulator for proper reassembly.**

6. Remove the strut upper mounting bolts.
7. Remove the strut assembly from the vehicle.

#### To install:

8. Install the strut to the vehicle and install the top mounting bolts. Tighten the mounting bolts to 29 ft. lbs. (40 Nm).
9. Position the strut on the knuckle and install the mounting bolts. While holding the head of the lower mounting bolt, tighten the nuts to 80-94 ft. lbs. (110-130 Nm).
10. Install the brake hose bracket and the ABS clamp, if equipped.
11. Install the wheel and tire assembly.
12. Have a front end alignment performed.

### OVERHAUL

#### ➔ See Figures 12 thru 22

1. Remove the strut assembly from the vehicle, as outlined earlier in this Section.
2. Mount the strut assembly into a suitable spring compressor.
3. Compress the strut approximately 1/2 its height after initial contact with the top cap.

### \*\*\* WARNING \*\*\*

#### Never bottom the spring or dampener rod!

4. Remove the center nut from the strut and remove the upper mounting bracket and bushings.
  5. Remove the coil spring.
- To install:**
6. Install the compressed spring on the strut assembly.
  7. Install the upper bushings and the mounting bracket. Install the nut and tighten it to 43 ft. lbs. (59 Nm).
  8. Remove the strut from the spring compressor.
  9. Install the strut into the vehicle.

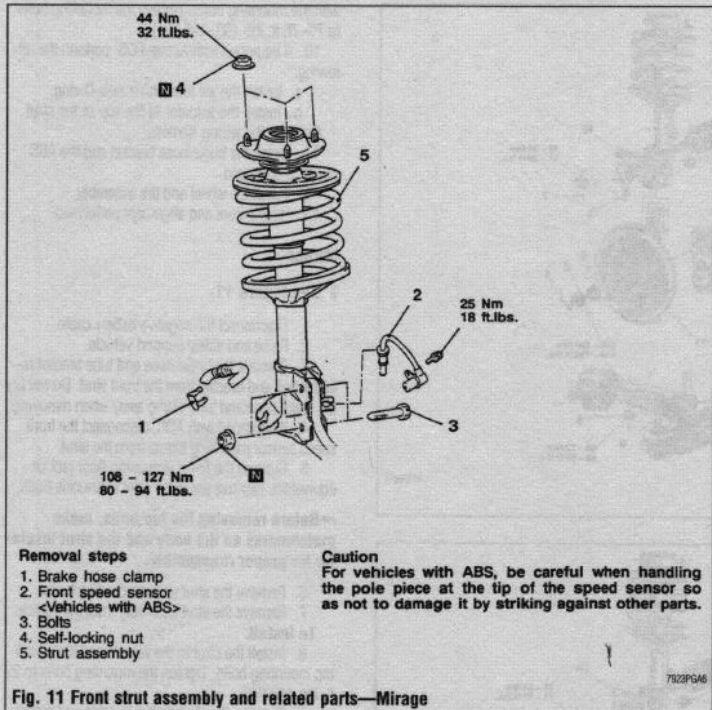


Fig. 11 Front strut assembly and related parts—Mirage

## Shock Absorber And Coil Spring

### REMOVAL & INSTALLATION

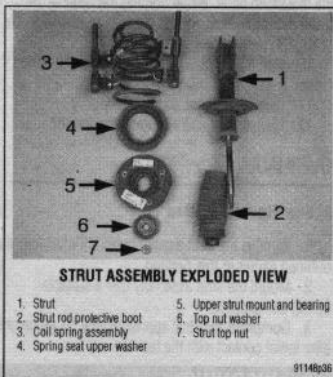
#### 1994-98 Galant

##### ♦ See Figures 23 and 24

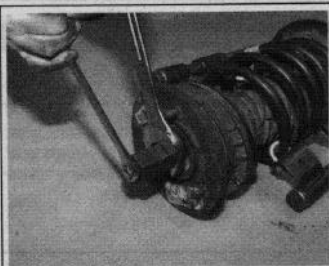
1. Disconnect the negative battery cable.
2. Raise and safely support vehicle.
3. Remove the appropriate wheel assembly.
4. Disconnect the sway bar link from the damper fork.
5. Remove the damper fork lower through-bolt and upper pinch bolt. Remove the damper fork assembly.
6. Remove the shock absorber upper nuts and remove the shock and spring assembly from the vehicle.

##### To install:

7. Install the upper bracket assembly and position it so that the three bolts are in the correct position.
8. Install the upper bushing, washer, and locknut. Tighten the locknut to 18 ft. lbs.
9. Install the shock absorber and tighten the upper mounting nuts to 32 ft. lbs. (44 Nm).
10. Align the shock to the damper fork and install the damper fork. Tighten the lower through-bolt/nut to 65 ft. lbs. (88 Nm) and the upper pinch bolt to 76 ft. lbs. (103 Nm).
11. Connect the sway bar link to the damper fork and tighten the link nut to 29 ft. lbs. (39 Nm).
12. Install the wheel and tire assembly.
13. Have a front end alignment performed.

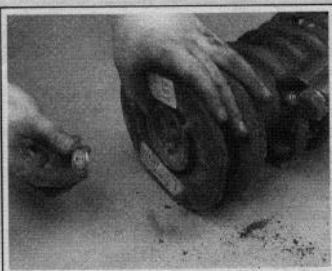






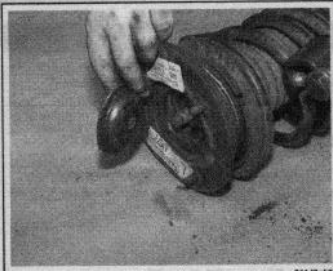
91146j35

**Fig. 17** Hold the small socket (strut rod) tight while loosening the larger socket (strut top nut) . . .



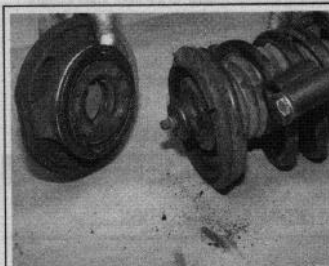
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**Fig. 18** . . . then remove the top nut from the strut . . .



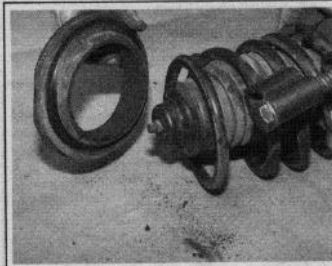
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**Fig. 19** . . . and remove the washer underneath



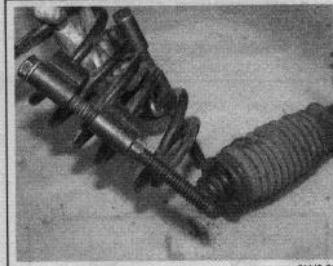
91146j66

**Fig. 20** Remove the strut mount and bearing assembly



91146j30

**Fig. 21** Remove the upper spring seat washer



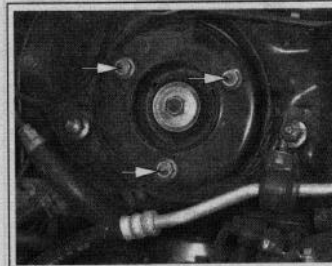
91146j31

**Fig. 22** Remove the coil spring assembly



92158j48

**Fig. 23** Remove the lower coil-over shock lower mounting bolt and nut from the control arm



93158j68

**Fig. 24** Remove the three shock absorber-to-body retaining nuts, then remove the shock and spring from the vehicle

## INSPECTION

### ▶ See Figure 25

1. Shake the ball joint stud a few times, then install the nut to the stud and use a preload socket (MB9c26 or equivalent) and an inch lb. torque wrench to measure the breakaway torque of the ball joint. The reading should be 3–22 inch lbs. (0.3–2.5 Nm).
2. If the measured value is higher than the standard, the upper control arm must be replaced.
3. If the value is lower than the standard, check that the ball joint turns smoothly without excessive plate. If so, the ball joint is OK.
4. Also, check the ball joint dust cover for cracks or other damage, if found, the upper control arm must be replaced.

## OVERHAUL

1. Remove the shock and spring assembly as outlined in this section.
2. Compress the coil spring with a special compression tool.
3. Remove the self-locking nut and washer. Remove the upper bushing, upper bracket assembly, the upper spring pad, and the collar.
4. Remove the other upper bushing, cup assembly, bump rubber, dust cover, and the coil spring. Carefully remove the coil spring compression tool.

### To install:

5. Install the compressed coil spring to the shock

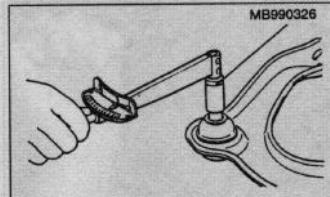
absorber assembly. Be sure to align the edge of coil spring to the stepped part of the spring seat. Install the dust cover, bump rubber, cup assembly, upper bushing, collar, and upper spring pad.

6. Install the shock and spring assembly as outlined in this section.

## Upper Ball Joint

### REMOVAL & INSTALLATION

The upper ball joint is an integral part of the upper control arm. If the ball joint becomes worn or damaged, the control arm must be replaced.



MB990326

86578j17

**Fig. 25** Measure the torque of the ball joint to see if it needs to be replaced

## Upper Control Arm

### REMOVAL & INSTALLATION

#### Except 1994–98 Galant

These vehicles use a strut type front suspension. No upper control arm is used.

#### 1994–98 Galant

#### See Figures 26 thru 33

1. Raise and safely support the vehicle.
2. Remove the front wheel.
3. Disconnect the upper arm ball joint from the steering knuckle.
4. Remove the upper arm shaft mounting nuts from the body.
5. Remove the upper arm.

6. Remove the through-bolts that attach the upper arm to the shafts.

#### To install:

7. Assemble the upper arm to the shafts at the proper angle. Tighten the through-bolts and nuts to 41 ft. lbs. (57 Nm). The proper angle is 84–86°. After the arm and the shafts are connected at the right angle, measure dimensions A and B to insure correct assembly, and compare with the following specifications:

- A O-ring: 11.8 in. (299.9mm)
- B O-ring: 9.2 in. (234.0mm)

8. Install the control arm assembly to the body with new self-locking nuts. Tighten the self-locking nuts to 62 ft. lbs. (86 Nm).

9. Connect the upper arm ball joint to the steering knuckle with a new self-locking nut. Tighten the locking nut to 20 ft. lbs. (28 Nm).

10. Install the front wheel.
11. Lower the vehicle.
12. Have a front end alignment performed.

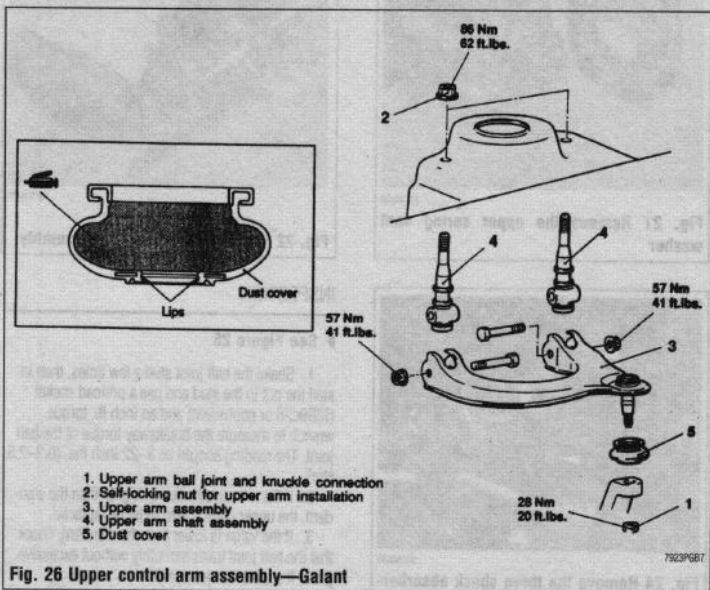


Fig. 26 Upper control arm assembly—Galant

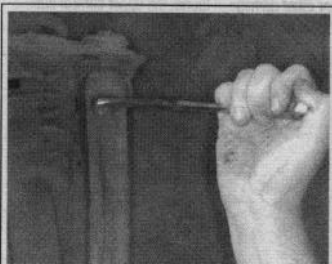


Fig. 27 Remove the nut retaining the upper ball joint to the steering knuckle . . .

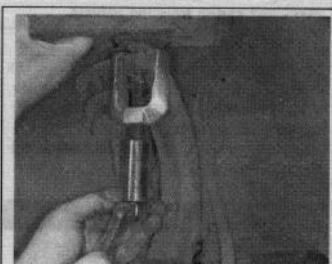


Fig. 28 . . . then install a suitable puller like this to separate the connection

## Lower Ball Joint

### REMOVAL & INSTALLATION

The lower ball joint is an integral part of the lower control arm assembly, and can not be serviced separately. A worn or damaged ball joint requires replacement of lower control arm assembly.

### INSPECTION

1. Raise and safely support the vehicles on jackstands. Allow the suspension to hang free.
2. Grasp the tire at the top and the bottom and move the top of the tire in and out.
3. Observe for any horizontal movement of the steering knuckle relative to the front lower control arm. If any movement is detected, replace the ball joint.
4. If the ball stud is disconnected from the steering knuckle and any looseness is detected, or if the ball stud can be twisted in its socket using finger pressure, replace the ball joint.

## Lower Control Arm

### REMOVAL & INSTALLATION

#### Diamante, 1990–93 Galant, and 1999–00 Galant

1. Disconnect the negative battery cable.
2. Raise the vehicle and support safely, allowing wheels and suspension to hang freely.
3. Remove the sway bar links from the lower control arm.
4. Disconnect the ball joint stud from the steering knuckle.
5. Remove the inner mounting frame through-bolt and nut.
6. Remove the rear mount bolts. Remove the clamp, if equipped.
7. Remove the rear rod bushing, if servicing.

#### To install:

8. Assemble the control arm and bushing.
9. Install the control arm to the vehicle and install the through-bolt. Replace the nut and snug temporarily.

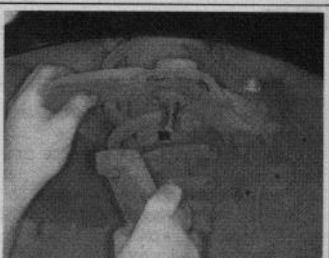
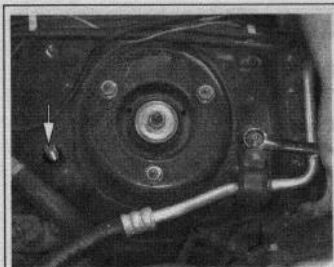
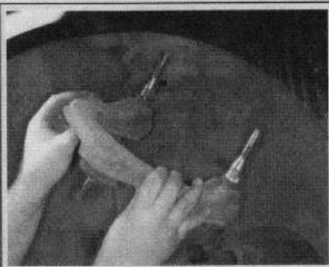


Fig. 29 After the ball joint-to-steering knuckle connection is separated, remove the ball joint from the knuckle



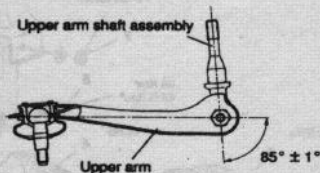
93158p55

**Fig. 30** Remove the nuts retaining the upper control arm to the body . . .



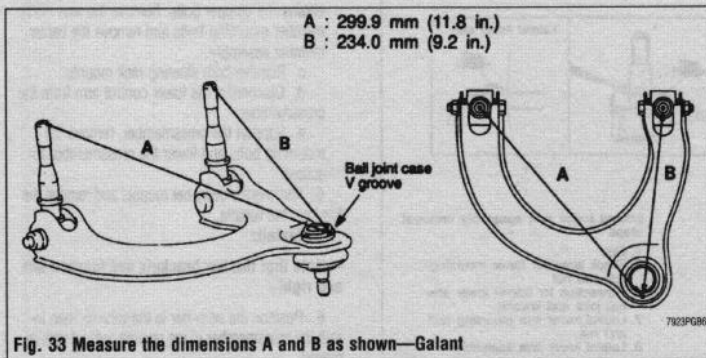
93158p42

**Fig. 31** . . . then remove the upper control arm from the vehicle



7923PG65

**Fig. 32** Correct angle of control arm and shafts—Galant



7923PG86

**Fig. 33** Measure the dimensions A and B as shown—Galant



93158p50

**Fig. 34** Use a wrench to remove the retaining nuts from the . . .

10. Install the rear mount clamp, bolts and replacement nuts. Tighten the bolts to 72–87 ft. lbs. (100–120 Nm). Tighten the nuts to 29 ft. lbs. (40 Nm).

11. Connect the ball joint stud to the knuckle. Install a new nut and tighten to 43–52 ft. lbs. (60–72 Nm).

12. Install the sway bar and links.

13. Lower the vehicle to the floor for the final tightening of the frame mount through-bolt.

14. Once the full weight of the vehicle is on the floor, tighten the frame mount through-bolt nuts to 75–90 ft. lbs. (102–122 Nm).

15. Connect the negative battery cable.

16. Check the wheel alignment and adjust if necessary.

## 1994–98 Galant

### ♦ See Figures 34 thru 40

The lower lateral arm ball joint and the compression arm ball joint are integral components of the lateral arm and the compression arm respectively. If the ball joints are to be serviced, the arms must be replaced.

1. Raise and support the vehicle safely.
2. Disconnect both ball joint studs from the steering knuckle.
3. To remove the lower lateral arm, remove the crossmember brackets.
4. Remove the inner lateral arm mounting bolts and nut.
5. Remove the arm from the vehicle.
6. Remove the two bolts holding the compression arm.



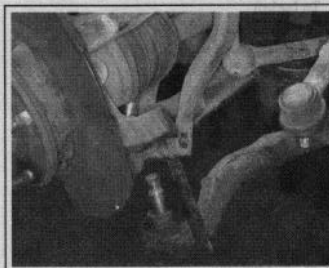
93158p49

**Fig. 35** . . . lower ball joint-to-steering knuckle junctions



93158p48

**Fig. 36** Remove the lower coil-over shock lower mounting bolt and nut from the control arm



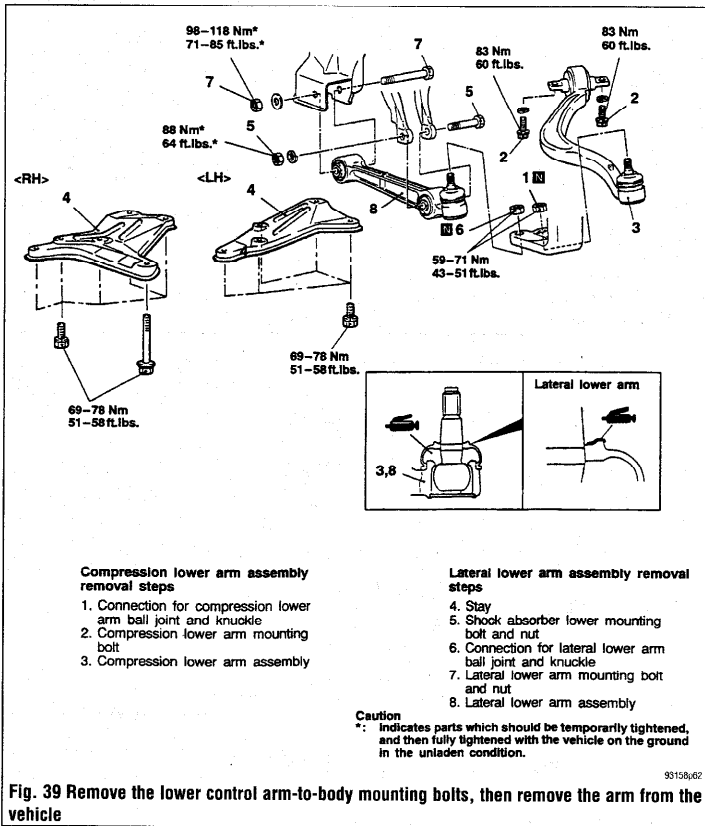
93158p47

**Fig. 37** Use a suitable prytool to separate . . .



93158p43

**Fig. 38** . . . the lower ball joints from the steering knuckle



7. Remove the compression arm.

#### To Install:

8. Assemble the control arms and bushings.
9. Install the lateral control arm to the vehicle and install the inner mounting bolts. Install a new nut and snug temporarily.
10. Install the compression arm to the vehicle.
11. Connect the ball joint studs to the knuckle. Install new nuts and tighten to 43-51 ft. lbs. (59-71 Nm).
12. Lower the vehicle to the floor for the final tightening.
13. Once the full weight of the vehicle is on the suspension, tighten the lateral arm rear bolt to 71-85 ft. lbs. (98-118 Nm) and the front bolt to the damper fork to 64 ft. lbs. (88 Nm).
14. Tighten the bolts for the compression arm to 60 ft. lbs. (83 Nm).
15. Reinstall the crossmember brackets with their mounting bolts. Tighten the mounting bolts to 51-58 ft. lbs. (69-78 Nm).
16. Have a front end alignment performed.

#### Mirage

♦ See Figure 41

► The suspension components should not be tightened until the vehicle's weight is resting on its wheels.

1. Raise the vehicle and support safely.
2. Remove the wheel and tire assembly.
3. Remove sway bar links or mounting nuts and bolts from lower control arm. Remove the joint cups and bushings.
4. Disconnect the ball joint stud from the steering knuckle.
5. Remove the inner lower arm mounting bolt and nut.
6. Remove the rear mount bolts from the retaining clamp. Remove the rear retainer clamp if equipped.
7. Remove the arm from the vehicle.

#### To Install:

8. Install the control arm to the vehicle and install the inner mounting bolt. Install new nut and tighten to 78 ft. lbs. (108 Nm).
9. Install the rear mount clamp and bolts. Tighten the clamp mounting bolts to 65 ft. lbs. (90 Nm).
10. Connect the ball joint stud to the knuckle. Install a new nut and tighten to 43-52 ft. lbs. (60-72 Nm).
11. Install the sway bar and links.
12. Lower the vehicle to the floor for the final tightening of the inner frame mount bolt.
13. Install the wheel and tire assembly.

## Sway Bar

### REMOVAL & INSTALLATION

#### Mirage

1. Disconnect the negative battery cable.
2. Raise and safely support vehicle.
3. Disassemble the links, remove the locknut, joint cup, bushing, and collar. Remove the sway bar link bolts.
4. It will be necessary to remove the center crossmember in order to remove the sway bar. The following steps are required to remove the crossmember:
  - a. Remove the front exhaust pipe.
  - b. Properly support the engine, remove the engine roll stopper bolts. Remove the four center member mounting bolts and remove the center member assembly.
  - c. Remove both steering rack mounts.
  - d. Disconnect the lower control arm from the crossmember.
  - e. Support the crossmember, remove the mounting bolts and lower the crossmember for access.
5. Remove the sway bar mounts and remove the bar from the vehicle.

#### To install:

► Note that the bar brackets are marked left and right.

6. Position the sway bar in the vehicle, then install the crossmember in the reverse order it was removed.
7. Install the sway bar mount brackets, and tighten the mounting bolts to 16 ft. lbs. (22 Nm).
8. Connect the sway bar links and tighten the bolts with rubber bushings, until the amount of bolt protrusion at the end of link mounting bolt is 0.87 inches (22mm).
9. Lower the vehicle and connect the negative battery cable.

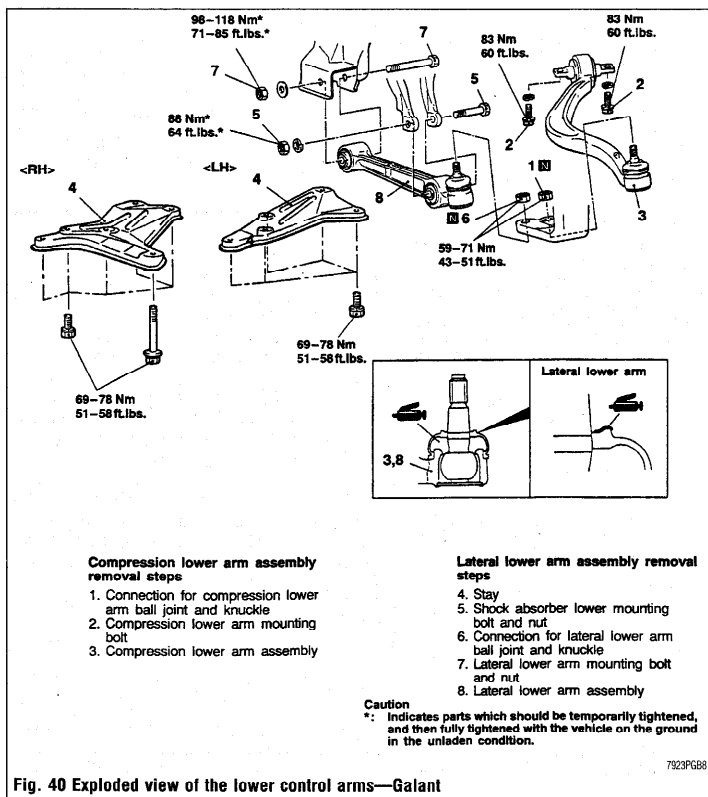
#### 1990-93 Galant

##### FWD VEHICLE

1. Disconnect the negative battery cable.
2. Raise and safely support vehicle.
3. Remove the front exhaust pipe and gasket from the manifold and using wire, tie it down and out of the way.

► When relocating the front exhaust pipe, make sure the flexible joint is not bent more than a few degrees or damage to the pipe joint may occur.

4. Remove the center crossmember rear installation bolts.
5. Remove the sway bar link bolts. On the pillow-ball type, hold ball stud with a hex wrench and remove the self-locking nut with a box wrench.
6. Remove the sway bar bolts and mounts.
7. Remove the bar from the vehicle, as follows:
  - a. Pull both ends of the sway bar toward the rear of the vehicle.
  - b. Move the right sway bar end until the end clears the lower arm.
  - c. Remove the sway bar out the right side of the vehicle.



**Fig. 40 Exploded view of the lower control arms—Galant**

**Compression lower arm assembly removal steps**

1. Connection for compression lower arm ball joint and knuckle
2. Compression lower arm mounting bolt
3. Compression lower arm assembly

**Lateral lower arm assembly removal steps**

4. Stay
5. Shock absorber lower mounting bolt and nut
6. Connection for lateral lower arm ball joint and knuckle
7. Lateral lower arm mounting bolt and nut
8. Lateral lower arm assembly

**Caution**  
\*: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.

8. Inspect all bushings for wear and deterioration and replace as required.
9. Check the sway bar for damage, and replace as required.

**To install:**

10. Install the sway bar into the vehicle.
11. Install the sway bar brackets on the vehicle, following any side locating markings on the brackets. Temporarily tighten the sway bar bracket. Align the bushing end with the marked part of the sway bar and then fully tighten the sway bar bracket.
12. If equipped with the pillow-ball type mounting, install the sway bar links and link mounting nuts. Using a wrench, secure the ball studs at both ends of the sway bar link while tightening the mounting nuts. Tighten the nuts on the sway bar bolt so that the distance of bolt protrusion above the top of the nut is 0.63-0.70 in. (16-18mm).
13. Install the front exhaust pipe with new gasket in place. Tighten new self-locking nuts to 29 ft. lbs. (40 Nm).
14. Connect the negative battery cable.

**AWD VEHICLE**

1. Disconnect the negative battery cable.
2. Remove the front exhaust pipe.
3. Remove the center gusset and transfer assembly.
4. Using a wrench to secure the ball studs at both ends of the sway bar link, remove the sway bar link mounting nuts. Remove the sway bar link.

5. Remove the sway bar bracket installation bolt and the sway bar bracket and bushing.
6. Disconnect the sway bar coupling at the right lower control arm. Pull out the left side sway bar edge, pulling it out between the driveshaft and the lower arm. Pull out the right side bar below the lower arm.

**To install:**

7. Install the bar into the vehicle in the same manner as removal.
8. Temporarily tighten the sway bar bracket. Align the bushing end with the marked part of the sway bar and then fully tighten the stabilizer bar bracket.
9. Install and tighten the sway bar bracket bolt.
10. Install the sway bar links and link mounting nuts. Using a wrench, secure the ball studs at both ends of the sway bar link while tightening the mounting nuts. Tighten the nuts on the sway bar bolt so that the distance of bolt protrusion above the top of the nut is 0.63 to 0.70 in. (16 to 18mm).
11. Install the transfer assembly and gusset.
12. Install the left crossmember. Tighten the rear mounting bolts to 58 ft. lbs. (80 Nm) and the front mounting bolts to 72 ft. lbs. (100 Nm).

**1994-00 Galant**

♦ **See Figures 42, 43, and 44**

1. Disconnect the negative battery cable.
2. Raise and safely support the vehicle.

3. Disconnect the sway bar links by removing the self-locking nuts.
4. Remove the sway bar mounting brackets and bushings.
5. Remove the bar from the vehicle.
6. Inspect all components for wear or damage, and replace parts as needed.

**To install:**

7. Install the sway bar into the vehicle.
8. Loosely install the sway bar brackets on the vehicle.
9. Align the side locating markings on the sway bar, so that the marking on the bar, extends approximately 0.40 inches (10mm) from the inner edge of the mounting bracket, on both sides.
10. With the sway bar properly aligned, tighten the mounting bracket bolts to 28 ft. lbs. (39 Nm).
11. Connect the sway links to the damper fork and the sway bar. Tighten the locking nuts to 28 ft. lbs. (39 Nm).
12. Lower the vehicle and connect the negative battery cable.

**Diamante**

1. Disconnect the negative battery cable.
2. Raise the vehicle and support safely.
3. Remove the front exhaust pipe and engine undercover.
4. Remove the left and right frame members.
5. Remove the sway bar link.
6. Remove the sway bar brackets and remove the sway bar from the vehicle.

**To install:**

7. Note that the bar brackets are marked left and right. Lubricate all rubber parts and install the bushings, the sway bar and brackets.
8. Install the sway bar link.
9. Install the frame members.
10. Install the engine undercover and exhaust pipe.
11. Connect the negative battery cable.

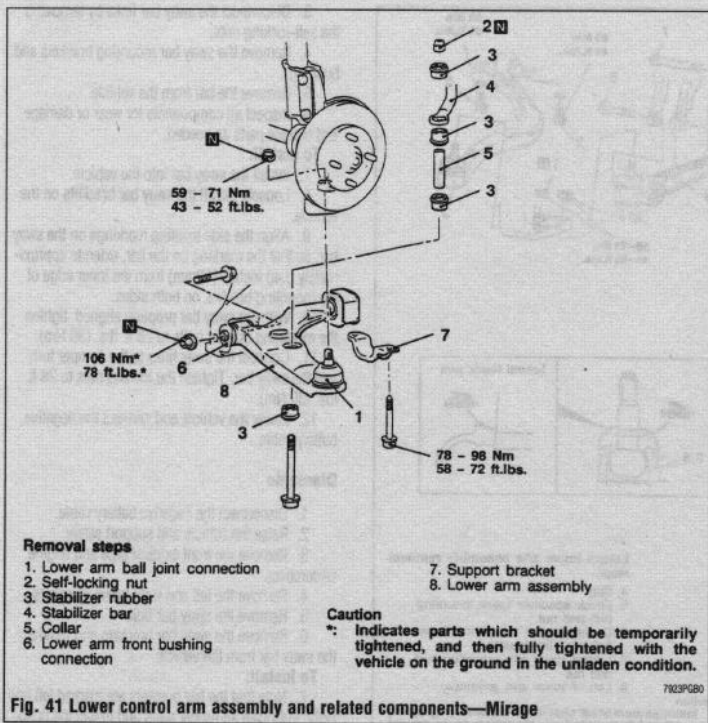
**Knuckle, Hub, and Bearing**

**REMOVAL & INSTALLATION**

**Diamante, Mirage, 1990-93 Galant, and 1999-00 Galant**

♦ **See Figures 45, 46, and 47**

1. Disconnect the negative battery cable.
2. Raise the vehicle and support safely. Remove the halfshaft nut.
3. If equipped with ABS, remove the front wheel speed sensor.
4. If equipped with Active Electronic Control Suspension (Active-ECS), disconnect the height sensor from the lower control arm.
5. Remove the caliper assembly and brake pads. Suspend the caliper with a wire.
6. Using a suitable ball joint separator tool, disconnect the ball joint and tie rod end from the steering knuckle.
7. Remove the halfshaft from the hub.
8. Unbolt the lower end of the strut and remove the hub and steering knuckle assembly from the vehicle.
9. Remove the hub, bearings and races as follows:



➔ Do not use a hammer to accomplish this or the bearing will be damaged.

- Remove the oil seal from the axle side of the knuckle using a small prying tool.
- Remove the wheel bearing inner race from the front hub using a puller.

➔ Be careful that the front hub does not fall when the inner race is removed.

- Remove the snapping from the axle side of the knuckle. Remove the bearing from the knuckle using a puller.
- Once the bearing is removed, the bearing outer race can be removed by tapping out with a brass drift pin and a hammer.

**To install:**

10. Install the hub, bearings, and races as follows:

- Fill the wheel bearing with multipurpose grease. Apply a thin coating of multipurpose grease to the knuckle and bearing contact surfaces.
- Press the wheel bearing into the knuckle using an appropriate pressing tool. Once the bearing is installed, install the inner race using the proper driving tool.
- Drive the oil seal into the knuckle using the proper size driver. Drive seal into knuckle until it is flush with the knuckle end surface.
- Using pressing tool MB990998 or equivalent, mount the front hub assembly into the knuckle. Tighten the nut of the pressing tool to

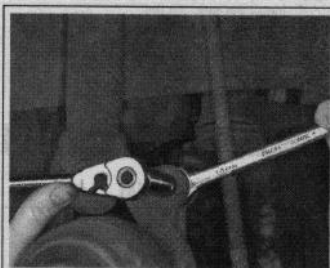


Fig. 42 Remove the sway bar link self-locking nuts . . .



Fig. 43 . . . then remove the sway bar links from the vehicle

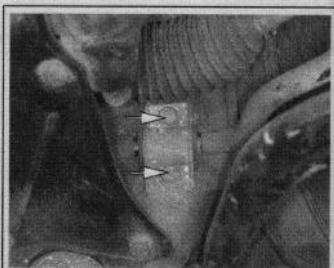
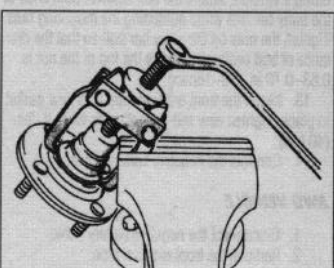
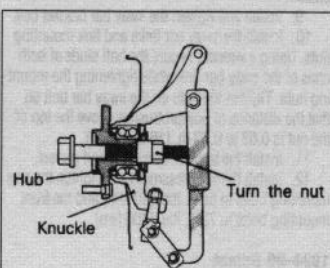
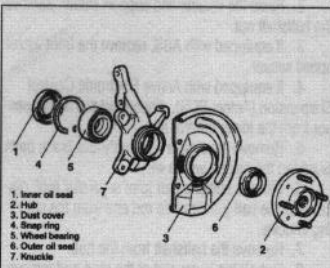


Fig. 44 The sway bar mounting bracket and bushings are retained by 2 bolts



144–188 ft. lbs. (200–260 Nm). Rotate the hub to seat the bearing.

e. Mount the knuckle assembly in a vise. Check the hub assembly turning torque and end-play as follows:

- Using a torque wrench and socket MB990998 or equivalent, turn the hub in the knuckle assembly. Note the reading on the torque wrench and compare to the desired reading of 16 inch lbs. (1.8 Nm) or less. This is known as the breakaway torque.

- Check for roughness when turning the bearing.

- Mount a dial indicator on the hub so the pointer contacts the machined surface on the hub.

- Check the end-play.
- Compare the reading to the limit of 0.002 in. (0.05mm).

f. If the starting torque or the hub end-play are not within specifications while the nut is tightened to 144–188 ft. lbs. (200–260 Nm), the bearing, hub or knuckle have probably not been installed correctly. Repeat the disassembly and assembly procedure and recheck starting torque and end-play.

11. Install the hub and knuckle assembly onto the vehicle. Install the lower ball joint stud into the steer-

ing knuckle and install a new nut. Tighten to 52 ft. lbs. (72 Nm).

12. Install the halfshaft into the hub/knuckle assembly.

13. Install the two front strut lower mounting bolts and tighten to 80–94 ft. lbs. (110–130 Nm) on Mirage or 65–76 ft. lbs. (90–105 Nm) on Diamante models.

14. Install the tie rod end and tighten the nut to 25 ft. lbs. (34 Nm) for Mirage and 21 ft. lbs. (29 Nm) on Diamante models.

15. Install the brake disc and caliper assembly.

16. If equipped with Active-ECS, connect the height sensor and tighten the mounting bolt to 15 ft. lbs. (20 Nm).

17. Install the front speed sensor, if removed.

18. Install the washer and new locknut to the end of the halfshaft. Tighten the locknut snugly to 144–188 ft. lbs. (200–260 Nm).

19. Install the tire and wheel assembly onto the vehicle.

20. Lower the vehicle to the ground.

#### 1994–98 Galant

#### ▶ See Figures 48 thru 58

1. Raise the vehicle and support safely.
2. Remove the appropriate wheel assembly.

3. Remove the cotter pin, halfshaft nut and washer.

4. If equipped with ABS, remove the Vehicle Speed Sensor (VSS).

5. Remove the caliper and brake pads. Support the caliper out of the way using wire.

6. Remove the brake rotor from the hub assembly.

7. Disconnect the upper ball joint from the steering knuckle and pull the knuckle outward.

8. From the back of the knuckle, remove the four bolts securing the hub to the knuckle.

9. Remove the hub and bearing assembly from the knuckle.

▶ **The hub assembly is not serviceable and should not be disassembled.**

#### To install:

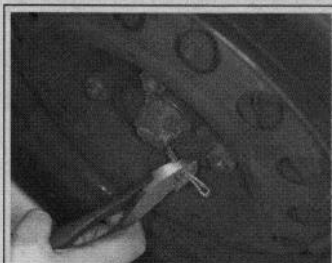
10. Install the hub to the steering knuckle and tighten the mounting bolts to 65 ft. lbs. (88 Nm).

11. Connect the upper ball joint to the steering knuckle and tighten the self-locking nut to 21 ft. lbs. (28 Nm).

12. Install the axle washer and nut. Tighten the nut to 145–188 ft. lbs. (200–260 Nm).

13. Position the rotor on the hub.

14. Install the caliper holder and the brake caliper.



93157p03

Fig. 48 Remove the cotter pin from the axle shaft . . .



93157p02

Fig. 49 . . . then loosen the axle nut while the vehicle is still on the ground



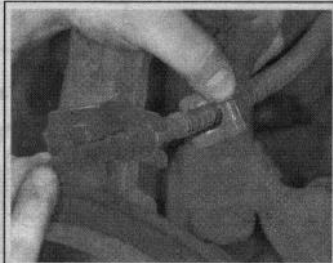
93157p09

Fig. 50 Using a suitable punch and hammer, gently tap the halfshaft out of the steering knuckle . . .



93157p05

Fig. 51 . . . then slide the halfshaft out of the knuckle



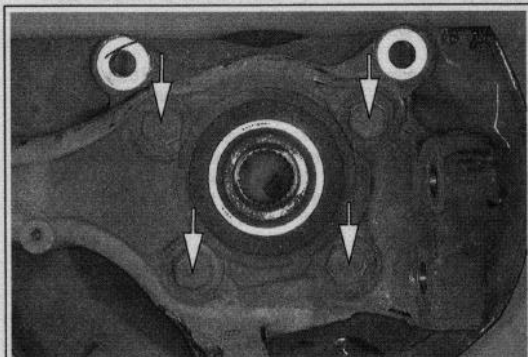
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Fig. 52 Remove the retaining clip, then remove the brake caliper hose from the steering knuckle



93159p09

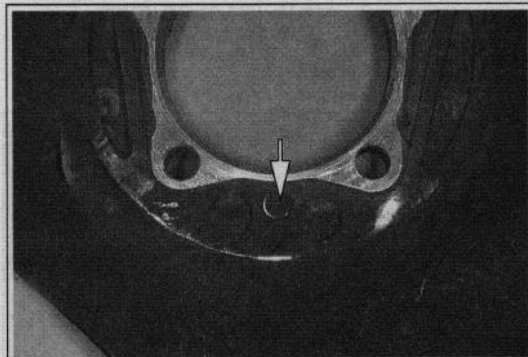
Fig. 53 Lift the knuckle up and remove it from the vehicle



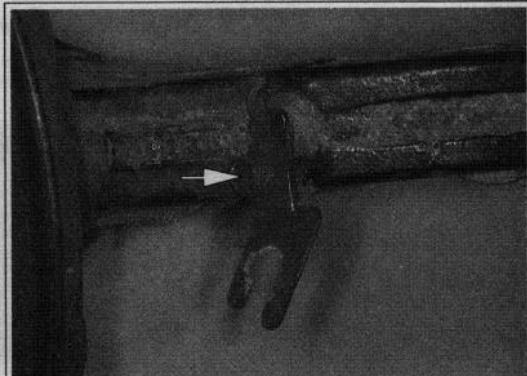
**Fig. 54** To remove the hub and bearing assembly, unfasten the four retaining bolts . . .



**Fig. 55** . . . then remove the hub and bearing assembly from the knuckle



**Fig. 56** If replacing the steering knuckle, you must remove the retaining bolt and transfer the brake dust shield . . .



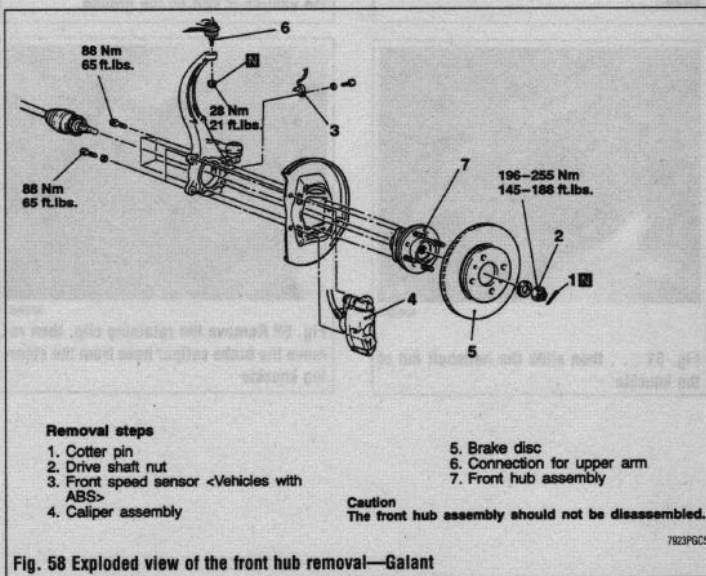
**Fig. 57** . . . and the brake hose retaining clip to the new knuckle

15. If equipped with ABS, install the VSS.
16. Install the wheel assembly and lower the vehicle.

## Wheel Alignment

If the tires are worn unevenly, if the vehicle is not stable on the highway or if the handling seems uneven in spirited driving, the wheel alignment should be checked. If an alignment problem is suspected, first check for improper tire inflation and other possible causes. These can be worn suspension or steering components, accident damage or even unmatched tires. If any worn or damaged components are found, they must be replaced before the wheels can be properly aligned. Wheel alignment requires very expensive equipment and involves minute adjustments which must be accurate; it should only be performed by a trained technician. Take your vehicle to a properly equipped shop.

Following is a description of the alignment angles which are adjustable on most vehicles and how they affect vehicle handling. Although these angles can apply to both the front and rear wheels, usually only the front suspension is adjustable.



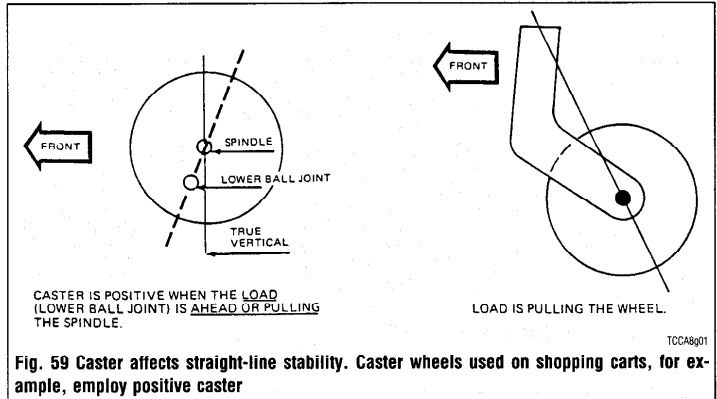
**Fig. 58** Exploded view of the front hub removal—Galant



## CASTER

### See Figure 59

Looking at a vehicle from the side, caster angle describes the steering axis rather than a wheel angle. The steering knuckle is attached to a control arm or strut at the top and a control arm at the bottom. The wheel pivots around the line between these points to steer the vehicle. When the upper point is tilted back, this is described as positive caster. Having a positive caster tends to make the wheels self-centering, increasing directional stability. Excessive positive caster makes the wheels hard to steer, while an uneven caster will cause a pull to one side. Overloading the vehicle or sagging rear springs will affect caster, as will raising the rear of the vehicle. If the rear of the vehicle is lower than normal, the caster becomes more positive.



**Fig. 59 Caster affects straight-line stability. Caster wheels used on shopping carts, for example, employ positive caster**

## CAMBER

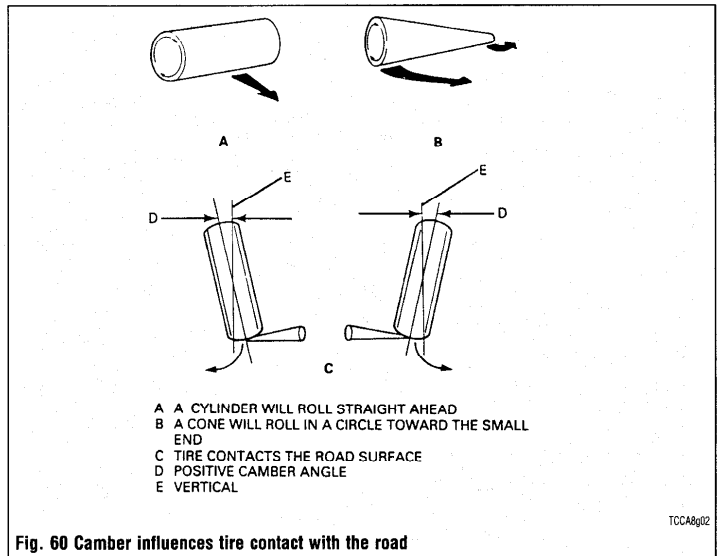
### See Figure 60

Looking from the front of the vehicle, camber is the inward or outward tilt of the top of wheels. When the tops of the wheels are tilted in, this is negative camber; if they are tilted out, it is positive. In a turn, a slight amount of negative camber helps maximize contact of the tire with the road. However, too much negative camber compromises straight-line stability, increases bump steer and torque steer.

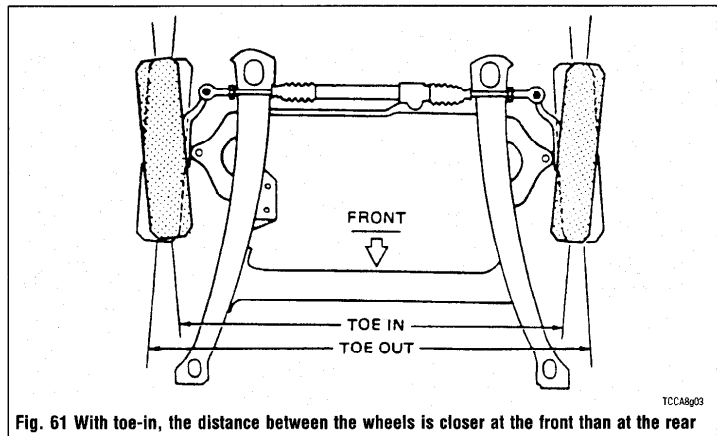
## TOE

### See Figure 61

Looking down at the wheels from above the vehicle, toe angle is the distance between the front of the wheels, relative to the distance between the back of the wheels. If the wheels are closer at the front, they are said to be toed-in or to have negative toe. A small amount of negative toe enhances directional stability and provides a smoother ride on the highway.



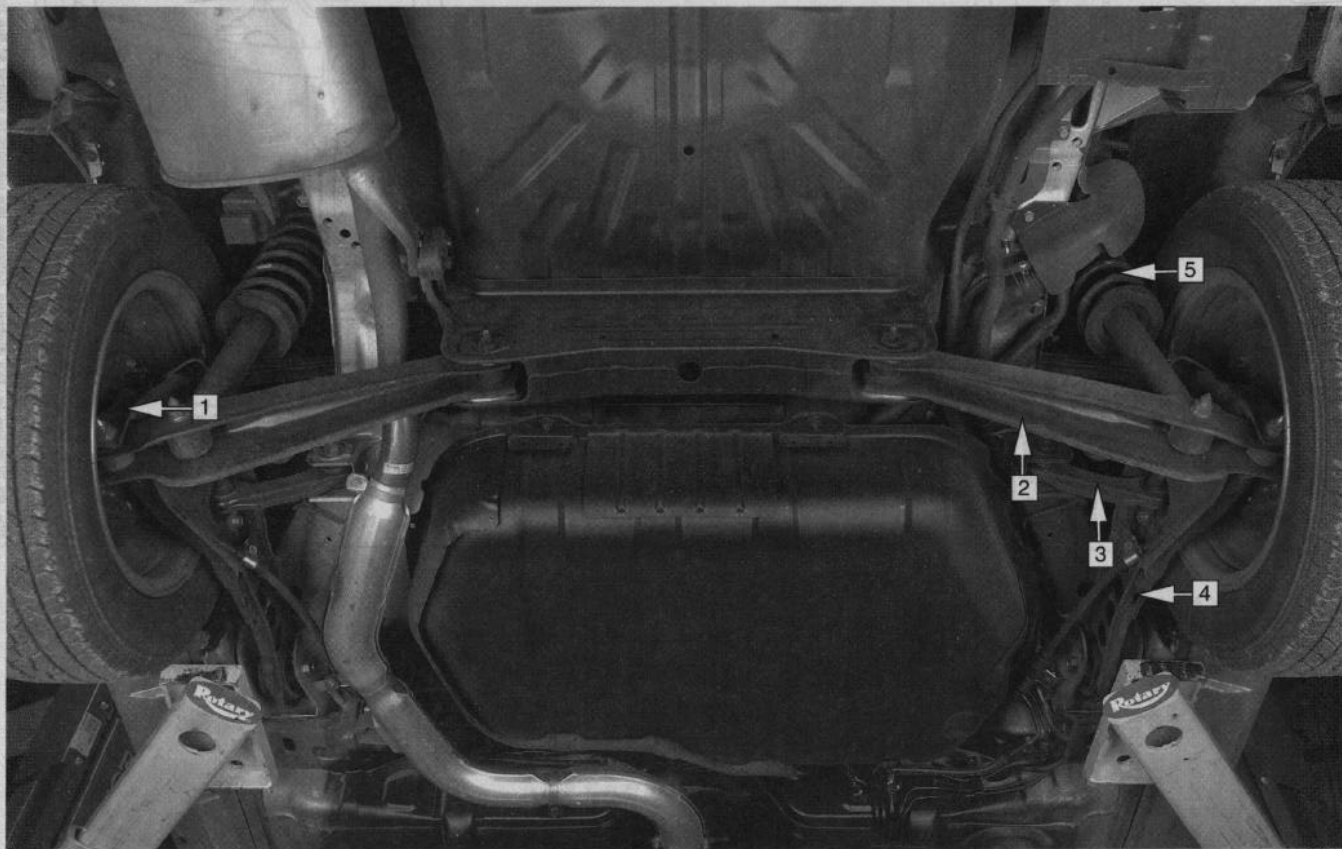
**Fig. 60 Camber influences tire contact with the road**



**Fig. 61 With toe-in, the distance between the wheels is closer at the front than at the rear**

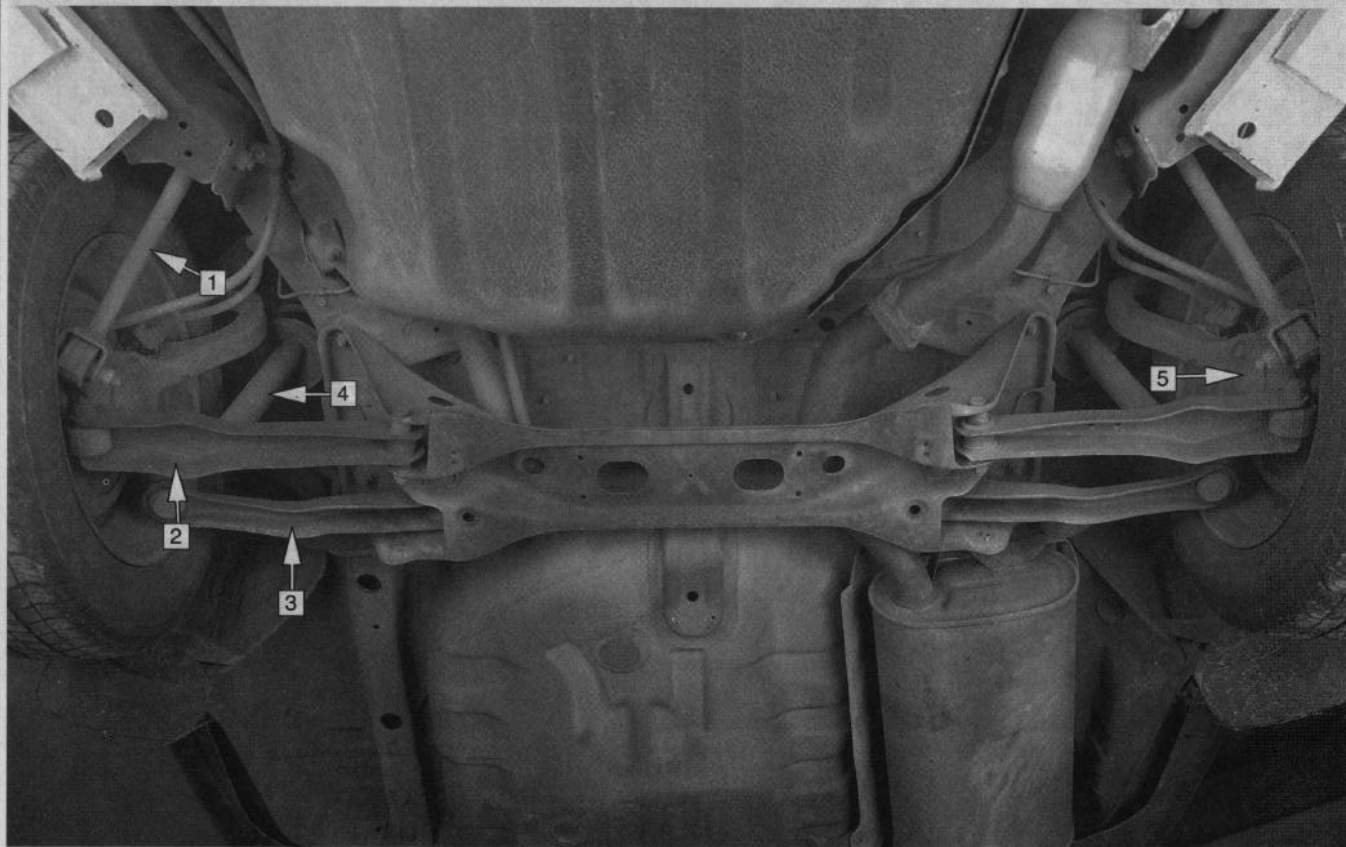
## 1993-00 MIRAGE REAR SUSPENSION COMPONENT LOCATIONS

1. Hub and bearing assembly
2. Lower control arm
3. Control link
4. Trailing arm
5. Strut assembly



### 1994-98 GALANT REAR SUSPENSION COMPONENT LOCATIONS

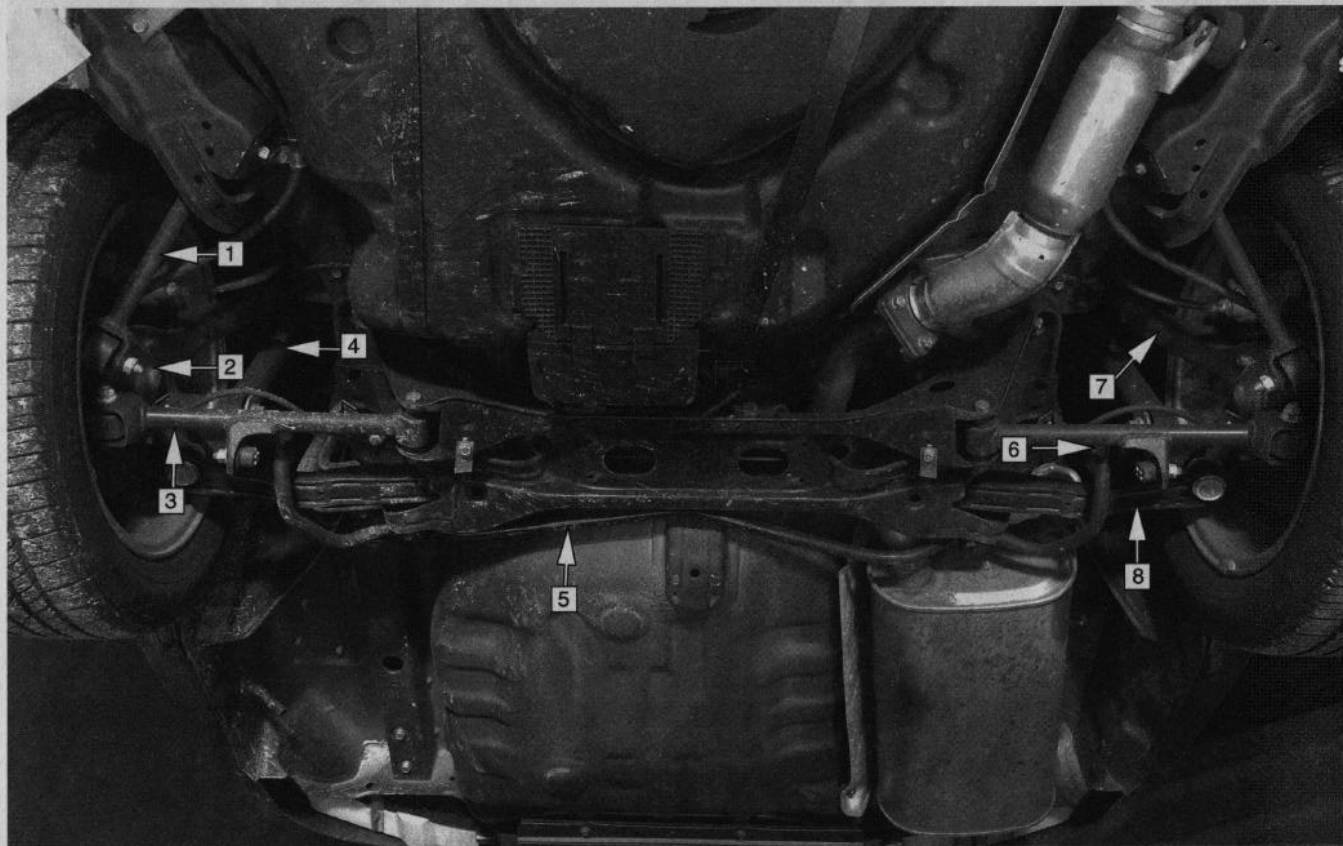
- |                             |                             |
|-----------------------------|-----------------------------|
| 1. Hub and bearing assembly | 4. Trailing arm             |
| 2. Toe control arm          | 5. Hub and bearing assembly |
| 3. Lower control arm        |                             |

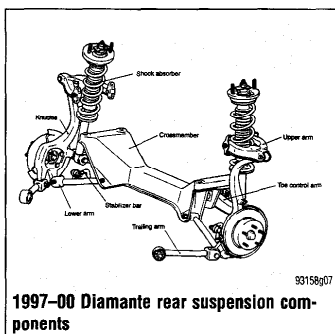
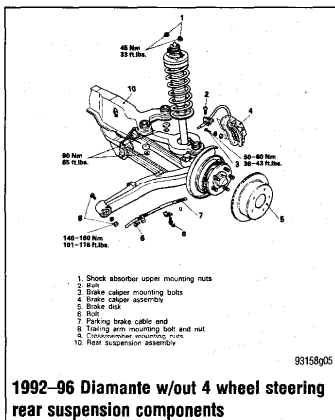
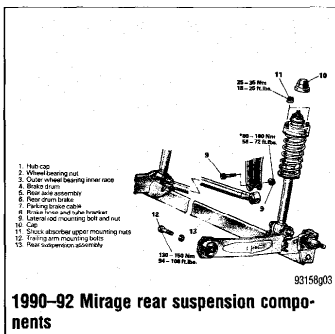


93158p08

## 1999-00 GALANT REAR SUSPENSION COMPONENT LOCATIONS

- |                             |                     |
|-----------------------------|---------------------|
| 1. Trailing arm             | 5. Sway bar         |
| 2. Hub and bearing assembly | 6. Sway bar link    |
| 3. Lower control arm        | 7. Steering knuckle |
| 4. Strut assembly           | 8. Toe control arm  |



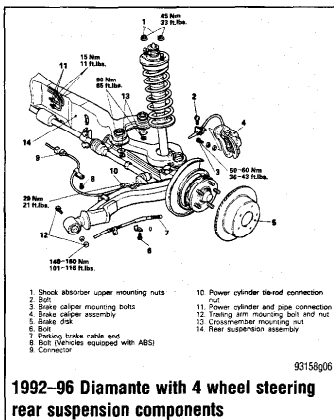
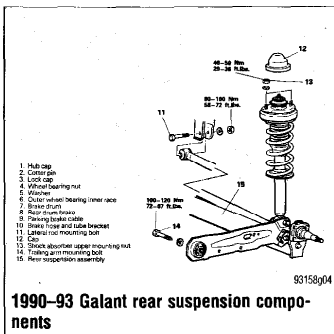


## Strut And Coil Spring

### REMOVAL & INSTALLATION

#### Diamante

1. Disconnect the negative battery cable.
2. Raise and properly support vehicle.
3. Remove both rear wheels.
4. Support the lower control arm with a jack.
5. Matchmark the positioning of the upper spring plate to the vehicle for reinstallation purposes.
6. If equipped with Active Electronic Control Suspension (Active-ECS), perform the following:
  - a. Loosen the nut that secures the air line to



to the top of the strut and discard the O-ring.

b. Remove the bolts that secure the actuator to the top of the strut and remove the component. Disconnect the wiring harness.

7. Remove the shock absorber lower mounting bolt and remove the two nuts that secure the shock upper plate to the vehicle.

8. Lower the support jack and remove the shock from the vehicle.

**To install:**

9. Position the upper spring plate and install the strut. Use the support jack to assist with installation.

10. Tighten the upper strut mounting nuts to 33 ft. lbs. (45 Nm).

11. Tighten the lower strut mounting bolt to 71 ft. lbs. (98 Nm).

12. If equipped with Active-ECS perform the following:

- a. Using a new O-ring, tighten the nut that secures the air line to the top of the strut to 84 inch lbs. (9 Nm).
- b. Install the actuator to the top of the shock absorber and secure with mounting bolts. Connect the wiring harness.

13. Remove the support jack, install wheels and lower vehicle.

14. Connect the negative battery cable.

#### 1990-93 Galant

#### FWD MODELS

**➔The strut assembly is a load bearing component, therefore the vehicle chassis and**

**axle weight must be supported separately, requiring the use of two separate lifting devices.**

1. Disconnect the negative battery cable.
2. Raise and support vehicle chassis.
3. Raise and support torsion axle and arm assembly slightly. Make sure the jack does not contact the lateral rod.

**➔Always use a wooden block between the jack receptacle and the axle beam. Place the jack at the center of the axle beam.**

4. Remove the trunk interior trim to gain access to the top mounting nuts.
5. If equipped with Active-FCS, perform the following steps:
  - a. Label and disconnect the air tubes from the shock absorber.

**➔Immediately plug or cap the lines with tape or similar product to prevent the entry of dirt into the system. Do NOT bend or crimp the air tubes. Plug or cover the air ports on the joint and actuator.**

- b. Remove the O-ring and bushing.
  - c. Remove the actuator assembly.
6. Remove the top cap and upper shock mounting nuts.
  7. Remove the strut lower mounting bolt and remove the assembly from the vehicle.

#### To install:

8. Position the strut assembly so that the lower mounting bolt can be installed and lightly tightened.
9. Use a jack to raise or lower the axle assembly so that the top strut plate studs aligns through the body. Raise the jack to hold the strut assembly in position.
10. Install the top plate nuts on the studs. Tighten the upper shock mounting nuts to 29 ft. lbs. (40 Nm).
11. With the car on the ground, tighten the lower mounting bolt to 72 ft. lbs. (100 Nm).
12. If equipped with Active-ECS, assemble the actuator components in the following order:
  - a. Install the adapter to the mounting bracket.
  - b. Using new O-rings, connect the air line to the actuator. Tighten the locknuts to 6 ft. lbs. (9 Nm).
  - c. Swab the air connectors with a solution of soapy water. Start the engine, cycle the suspension controls and observe the joints for any sign of air leaks.
13. Install top cap and interior trim.

#### AWD MODELS

1. Disconnect the negative battery cable.
2. Raise and support vehicle chassis.
3. Raise and support trailing arm assembly slightly.
4. Remove the trunk interior trim to gain access to the top mounting nuts.
5. Remove the top cap and upper shock mounting nuts.
6. Remove the brake tube bracket bolt.
7. Remove the shock lower mounting bolt and remove the assembly from the vehicle.

#### To install:

8. Position the strut assembly so that the lower mounting bolt can be installed and lightly tightened.
9. Use a jack to raise or lower the trailing arm, so that the top strut plate studs aligns through the

body. Raise the jack to hold the strut assembly in position.

10. Install the top plate nuts on the studs. Tighten the upper shock mounting nuts to 29 ft. lbs. (40 Nm).

11. With the car on the ground, tighten the lower mounting bolt to 65–80 ft. lbs. (90–110 Nm).

12. Connect the brake bracket and tighten the mounting bolt to 12 ft. lbs. (17 Nm).

13. Install the top cap and interior trim.

## 1994–00 Galant

### See Figures 62, 63, and 64

1. Raise and support the vehicle chassis.
2. Raise and support the lower control arm assembly slightly.
3. In order to gain access to the top mounting nuts, remove the rear seat as follows:
  - a. While pulling the rear seat stopper outward, lift the lower cushion upward. Remove the lower cushion.
  - b. Remove the seat back mounting bolts.
  - c. Lift the seat back upward and remove the seat.
4. Remove the shock upper mounting nuts.
5. Remove the shock lower mounting bolt and remove the assembly from the vehicle.

#### To install:

6. Position the shock assembly so that the lower mounting bolt can be installed and lightly tightened.
7. Use a jack to raise or lower the lower control arm, so that the top shock plate studs align through the body. Raise the jack to hold the shock assembly in position.
8. Install the top plate nuts on the studs and tighten the mounting nuts to 32 ft. lbs. (44 Nm).
9. With the vehicle on the ground, tighten the lower mounting bolt to 71 ft. lbs. (98 Nm).
10. Install the rear seat back and cushion.

## Mirage

1. Remove the trunk interior trim to gain access to the top mounting nuts.
2. Remove the top cap and upper shock mounting nuts.
3. Raise and support vehicle chassis.
4. Support the trailing arm assembly with a jack.
5. Matchmark the upper spring plate to the vehicle chassis for reassembly and remove the upper spring plate mounting nuts.
6. Remove the strut lower mounting bolt and remove the assembly from the vehicle.

#### To install:

7. Position the strut assembly so that the lower mounting bolt can be installed and lightly tightened.
8. Use a jack to raise or lower the axle assembly so that the top shock plate studs aligns through body. Raise the jack to hold the strut assembly in position.
9. Install the top plate nuts and tighten them to 20 ft. lbs. (27 Nm).
10. Lower the vehicle and tighten the lower mounting bolt to 65 ft. lbs. (90 Nm).
11. Install the top cap and interior trim.

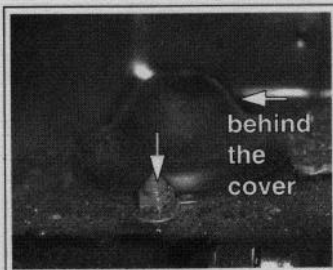


Fig. 62 Remove the two top mounting nuts

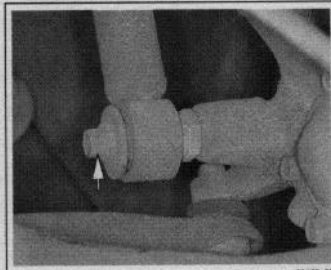


Fig. 63 Remove the shock lower mounting bolt

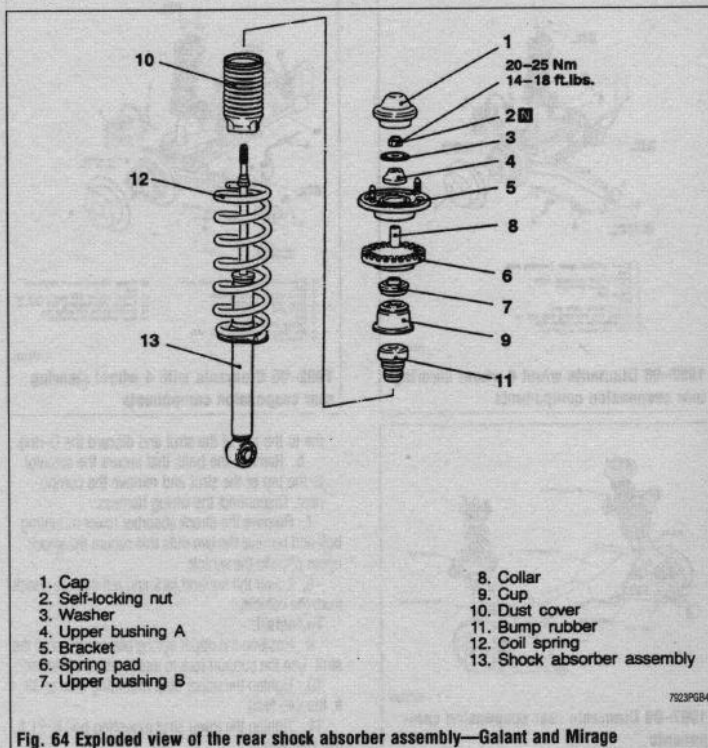


Fig. 64 Exploded view of the rear shock absorber assembly—Galant and Mirage

## OVERHAUL

### Mirage and 1994–00 Galant

1. Remove the shock and spring assembly from the vehicle. Refer to the procedure above.
2. Use a coil spring compressor and compress the coil spring.
3. Remove the shock cap.
4. While holding the piston rod, remove the self-locking nut.
5. Remove the upper bracket assembly and spring pad.
6. Remove the collar, upper bushing, cup assembly, bump rubber and dust cover.
7. Remove the coil spring from the shock.

#### To install:

8. Align the end of the coil spring with the stepped part of the spring seat and install the compressed coil spring on the shock.
9. Install the dust cover, bump rubber, cup assembly, upper bushing, collar, upper spring pad and bracket assembly on the shock.
10. Install the upper bushing and washer on the piston rod.
11. Install a new self-locking nut on the piston rod. Temporarily tighten the nut.
12. Remove the spring compressor from the spring. Tighten the self-locking nut to 16 ft. lbs. (25 Nm).
13. Install the shock cap.
14. Install the shock and spring assembly into the vehicle. Refer to the procedure above.

## Upper Control Arms

## REMOVAL AND INSTALLATION

## 1990-93 Galant

1. Disconnect the negative battery cable.
2. Raise and safely support vehicle.
3. Remove the tire and wheel assembly.
4. Support the rear lower control arm.
5. Remove the brake line clamp bolt.
6. Remove the nut and separate the upper ball joint, using tool MB9135 or equivalent, from the rear trailing arm/steering knuckle.

It is important to use proper method of joint separation when reusing joint. Damage can result from unapproved methods, resulting in possible joint failure.

7. Matchmark the eccentric on the upper installation bolt and remove from the control arm.
8. Remove the upper arm from the vehicle.

**To install:**

9. Install the arm to the vehicle and install the upper arm installation bolt. Align the matchmarks and tighten the nut snugly only.
10. Install the upper arm ball joint to the rear spindle assembly and install new nut. Tighten to 52 ft. lbs. (72 Nm).
11. Install the tire and wheel assembly.
12. Lower the vehicle until the suspension supports its weight.
13. Tighten the upper arm installation bolt to 116 ft. lbs. (160 Nm).
14. Check the rear wheel alignment.

## 1994-98 Galant

## See Figures 65, 66, and 67

1. Raise and safely support the vehicle.
2. Remove the wheel and tire assembly.
3. Remove the through-bolt securing the upper arm to the knuckle.
4. Remove the four bolts securing the upper arm to the body.
5. Remove the upper arm assembly.
6. Remove the through-bolts and nuts and remove the upper arm to body brackets.

**To install:**

7. Install the upper arm to body brackets to the upper arm. Tighten the bolts and nuts to 41 ft. lbs. (57 Nm).
8. Install the upper arm to the vehicle and tighten the four bolts to 28 ft. lbs. (39 Nm).
9. Install the through-bolt securing the upper arm to the knuckle. Do not tighten the nut until the vehicle is on the floor at normal riding height.
10. Install the wheel and tire assembly.
11. Safely lower the vehicle to the floor and tighten the nut for the through-bolt to 71 ft. lbs. (98 Nm).
12. Check and adjust wheel alignment if necessary.

## Diamante

1. Raise and properly support vehicle.
2. Remove appropriate wheel assembly.
3. Disconnect the sway bar and remove the strut assembly.

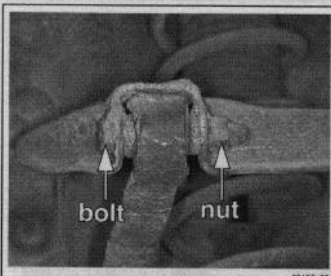


Fig. 65 Remove the through-bolt securing the upper arm to the knuckle

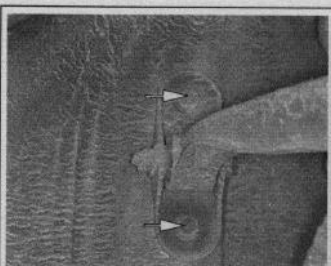


Fig. 66 Remove the bolts securing the upper arm to the body on the left and . . .



Fig. 67 . . . right side of the upper control arm

4. Support the trailing arm assembly and remove the self-locking nut connecting the control arm to the trailing arm.
5. Using a joint separation tool, disconnect the upper ball joint from the trailing arm.
6. Disconnect the control arm from the subframe and remove the assembly.

**To install:**

7. Install the control arm to the subframe and lightly tighten the mounting bolt.
8. Connect the control arm to the trailing arm and tighten the self-locking nut to 54-61 ft. lbs. (75-89 Nm).
9. Install the strut assembly and connect the sway bar.
10. Install wheel and lower vehicle.
11. With full weight of vehicle on the ground, tighten the control arm to subframe bolt to 54-61 ft. lbs. (75-89 Nm).

12. Check rear wheel alignment and adjust if necessary.

## Lower Control Arms

## REMOVAL AND INSTALLATION

## 1990-93 Galant

1. Disconnect the negative battery cable.
2. Raise the vehicle and support safely.
3. Remove sway bar links or mounting nuts and bolts from lower control arm. Remove the joint cups and bushings, if equipped.
4. Disconnect the ball joint stud from the steering knuckle, using tool MB9135 or equivalent.

It is important to use proper method when separating joints. Damage to joint could occur, resulting in possible failure.

5. Remove the inner lower arm mounting bolts and nut.
6. Remove the rear mount bolts. Remove the rear retainer clamp if equipped.
7. Remove the arm from the vehicle.
8. Remove the rear rod bushing, if service is required.

**To install:**

9. Assemble the control arm and bushing. Install the control arm to the vehicle and install the inner mounting bolts. Install new nut and snug temporarily.
10. Install the rear mount clamp, bolts and replacement nuts. Tighten the clamp mounting nuts to 34 ft. lbs. (47 Nm). Temporarily tighten the clamp mounting bolt. Once the weight of the vehicle is on the suspension, the bolt will be tightened to 72 ft. lbs. (100 Nm).
11. Connect the ball joint stud to the knuckle. Install a new nut and tighten to 43-52 ft. lbs. (60-72 Nm).
12. Install the sway bar and links.
13. Lower the vehicle to the floor for the final torquing of the inner frame mount bolt.
14. Once the full weight of the vehicle is on the suspension, tighten the inner lower arm mounting bolt nuts to 87 ft. lbs. (120 Nm). Tighten the inner clamp mounting bolt to 72 ft. lbs. (100 Nm).
15. Inspect all suspension bolts, making sure they all have been fully tightened.
16. Connect the negative battery cable.

## 1994-00 Galant

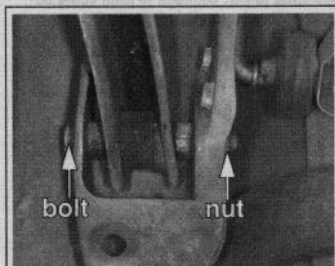
## LOWER CONTROL ARM

## See Figures 68 and 69

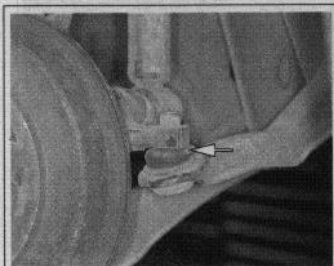
1. Raise and support the vehicle safely.
2. Remove the appropriate wheel assembly.
3. If equipped with ABS, disconnect the speed sensor harness brackets from the lower control arm.
4. Disconnect the stabilizer bar link from the lower control arm.
5. Remove the through-bolt, connecting the knuckle assembly to the lower control arm.
6. Remove the mounting bolt connecting the lower control arm to the suspension crossmember.
7. Remove the lower control arm from the vehicle.



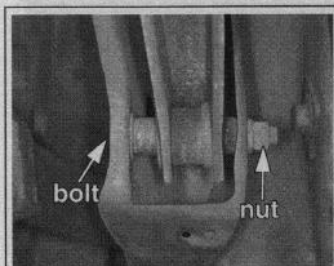
**Fig. 68** Remove the through-bolt connecting the knuckle assembly to the lower control arm



**Fig. 69** Remove the mounting bolt connecting the lower control arm to the suspension crossmember



**Fig. 70** Disconnect the ball joint stud from the steering knuckle



**Fig. 71** Remove the mounting bolt connecting the toe lower control arm to the suspension crossmember

**To install:**

➔ **The control arm mounting bolts must not be fully tightened until the full weight of the vehicle is on the ground.**

8. Install the control arm to the suspension crossmember and temporarily tighten the mounting bolt.
9. Connect the knuckle to the lower control arm and lightly tighten the through-bolt.
10. Connect the stabilizer bar link to the control arm and tighten the nut to 28 ft. lbs. (39 Nm).
11. Install the wheels and lower the vehicle to the floor.
12. Once the full weight of the vehicle is on the suspension, tighten the lower arm mounting bolt nuts to 71 ft. lbs. (98 Nm).
13. Check rear wheel alignment and adjust if necessary.

**TOE LOWER CONTROL ARM**

♦ See Figures 70 and 71

The lower ball joint is integral with the lower toe control arm. They are removed and replaced as an assembly.

1. Raise and support the vehicle safely.
2. Remove the appropriate wheel assembly.
3. Matchmark the control arm adjusting bolt to aid in reassembly.
4. Using joint separator MB991113, disconnect the ball joint stud from the steering knuckle.
5. Remove the mounting bolts connecting the lower control arm to the suspension crossmember.

**To install:**

6. Connect the control arm to the suspension crossmember. Align the matchmarks on the adjustment bolt and lightly tighten the bolt.
7. Connect the ball joint stud to the knuckle and tighten the nut to 20 ft. lbs. (28 Nm).
8. Install the wheels and lower the vehicle to the floor.
9. With the full weight of the vehicle on the ground, tighten the control arm through-bolt to 50–56 ft. lbs. (69–78 Nm).
10. Check rear wheel alignment and adjust if necessary.

**Diamante**

1. Raise and properly support vehicle. Remove appropriate wheel assembly.
2. Matchmark the camber adjusting bolt to aid in reassembly.
3. On vehicles equipped with Active Suspension, disconnect the ECS height sensor rod from lower arm.
4. Support trailing arm assembly and remove the self-locking nut connecting the lower arm to the trailing arm.
5. Disconnect the lower arm at the rear sub-frame. Remove the arm assembly.

**To install:**

6. Connect the control arm to the rear cross-member. Align matchmarks and lightly tighten.
7. Connect the control arm to the trailing arm and tighten the self-locking nut to 54–61 ft. lbs. (75–89 Nm).

8. Connect the ECS height sensor rod to the lower arm, if equipped.
9. Install wheel and lower vehicle.
10. With the full weight of the vehicle on the ground, tighten the control arm to rear crossmember bolt to 54–61 ft. lbs. (75–89 Nm).
11. Check rear wheel alignment and adjust if necessary.

**Trailing Arm**

**REMOVAL & INSTALLATION**

**1990–93 Galant**

1. Raise and safely support the vehicle securely on jackstands.
2. Remove the wheel and tire assembly.
3. Remove the brake drum or rotor.
4. Remove the hub and bearing assembly.
5. Support the rear axle using a jack or other suitable device.
6. Remove the lower shock absorber-to-trailing arm connection.
7. Remove the trailing arm-to-axle connection.
8. Remove the trailing arm-to-body mounting through-bolt and remove the trailing arm.

**To install:**

9. Install the trailing arm and install the trailing arm-to-body mounting through-bolt. Tighten the bolt to 72–87 ft. lbs. (100–120 Nm).
10. Install the trailing arm-to-axle connection. Tighten the bolt to 72–87 ft. lbs. (100–120 Nm).
11. Install the lower shock absorber-to-trailing arm connection. Tighten the bolt to 58–72 ft. lbs. (80–100 Nm).
12. Remove the axle support device.
13. Install the hub and bearing assembly.
14. Install the brake drum or rotor.
15. Install the wheel and tire assembly.
16. Lower the vehicle.

**1993–00 Mirage**

1. Raise and safely support the vehicle securely on jackstands.
2. Remove the wheel and tire assembly.
3. Remove the brake drum or rotor.
4. Remove the hub and bearing assembly.
5. Support the rear axle using a jack or other suitable device.
6. Remove the lower control arm-to-trailing arm connection.
7. Remove the upper link-to-trailing arm connection.
8. Remove the trailing arm-to-body mounting through-bolt and remove the trailing arm.

**To install:**

9. Install the trailing arm and install the trailing arm-to-body mounting through-bolt. Tighten the bolt to 72–87 ft. lbs. (100–120 Nm).
10. Install the upper link-to-trailing arm connection. Tighten the bolt to 65 ft. lbs. (90 Nm).
11. Install the lower control arm-to-trailing arm connection. Tighten the bolt to 65 ft. lbs. (90 Nm).
12. Remove the axle support device.
13. Install the hub and bearing assembly.
14. Install the brake drum or rotor.
15. Install the wheel and tire assembly.
16. Lower the vehicle.



**1994-00 Galant and 1997-00 Diamante**

1. Raise and safely support the vehicle securely on jackstands.
  2. Remove the wheel and tire assembly.
  3. Support the rear axle using a jack or other suitable device.
  4. Remove the trailing arm-to-knuckle connection.
  5. Remove the trailing arm-to-body mounting through-bolt and remove the trailing arm.
- To install:**
6. Install the trailing arm and install the trailing arm-to-body mounting through-bolt. Tighten the bolt to 99-114 ft. lbs. (137-157 Nm).
  7. Install the trailing arm-to-knuckle connection. Tighten the bolt to 85-99 ft. lbs. (118-137 Nm).
  8. Remove the axle support device.
  9. Install the wheel and tire assembly.
  10. Lower the vehicle.

**1992-96 Diamante**

1. Raise and safely support the vehicle securely on jackstands.
  2. Remove the wheel and tire assembly.
  3. Remove the brake rotor.
  4. Remove the hub and bearing assembly.
  5. Support the rear axle using a jack or other suitable device.
  6. Remove the lower shock absorber-to-trailing arm connection.
  7. Remove the stabilizer bar link-to-trailing arm connection.
  8. Remove the tie rod end-to-trailing arm connection.
  9. Remove the lower control arm-to-trailing arm connection.
  10. Remove the trailing arm-to-body mounting through-bolt and remove the trailing arm.
- To install:**
11. Install the trailing arm and install the trailing arm-to-body mounting through-bolt. Tighten the bolt to 101-116 ft. lbs. (140-160 Nm).
  12. Install the trailing arm-to-lower control arm connection. Tighten the bolt to 101-116 ft. lbs. (140-160 Nm).
  13. Install the tie rod end-to-trailing arm connection. Tighten the nut to 21 ft. lbs. (29 Nm).
  14. Install the stabilizer bar link-to-trailing arm connection. Tighten the nut to 29 ft. lbs. (40 Nm).
  15. Install the lower shock absorber-to-trailing arm connection. Tighten the bolt to 65 ft. lbs. (90 Nm).
  16. Remove the axle support device.
  17. Install the hub and bearing assembly.
  18. Install the brake rotor.
  19. Install the wheel and tire assembly.
  20. Lower the vehicle.

**Sway Bar****REMOVAL AND INSTALLATION****1990-93 Galant**

1. Raise and support the vehicle safely.
2. Place a jack under the rear axle and suspension assembly.
3. Remove the self-locking nuts and crossmember bracket.

4. Remove the retainer bolts and the stabilizer bar brackets. Remove the bushing.
5. Hold the stabilizer bar with a wrench. Remove the self-locking nut.
6. Once the stabilizer bar nut is removed, remove the joint cups and stabilizer rubber bushing.
7. Hold the stabilizer link with a wrench and remove the self-locking nuts. Remove the stabilizer link.
8. Lower the jack supporting the rear axle slightly. Maintain a slight gap between the rear suspension and the body of the vehicle.
9. Remove the stabilizer bar.
10. Inspect the bar for damage, wear and deterioration and replace as required.

**To install:**

11. Install the stabilizer bar into the vehicle. Raise the rear axle and suspension into place.
12. Install the stabilizer link into the stabilizer bar and install a new self-locking nut. Tighten the nut to 33 ft. lbs. (45 Nm).
13. Install the joint cups and stabilizer rubber to the link. Install a new self-locking nut onto the link. While holding the stabilizer link ball studs with a wrench, tighten the self-locking nut so the protrusion of the stabilizer link is within 0.354-0.433 in. (9-11mm).
14. Install the center stabilizer bar bushings, brackets and bolts. Tighten the bolts to 10 ft. lbs. (14 Nm).
15. Install the parking brake cable and rear speed sensor installation bolt.
16. Install the crossmember bracket and tighten the bolt to 61 ft. lbs. (85 Nm). Tighten the crossmember bracket mounting nut to 94 ft. lbs. (130 Nm).
17. Install the rubber insulators and new self-locking nuts onto the crossmember brackets. Tighten the nuts to 80-94 ft. lbs. (110-130 Nm).
18. Lower the vehicle.

**Diamante and 1994-98 Galant****▶ See Figure 72**

1. Disconnect the negative battery cable.
2. Raise and safely support the vehicle.
3. Disconnect the stabilizer links by removing the self-locking nuts.
4. Remove the stabilizer bar mounting brackets and bushings.
5. Remove the bar from the vehicle.
6. Inspect all components for wear or damage, and replace parts as needed.

**To install:**

7. Install the stabilizer bar into the vehicle.



**Fig. 72** Remove the self-locking nuts from the stabilizer bar link

8. Loosely install the stabilizer bar brackets on the vehicle.
9. Align the side locating markings on the stabilizer bar, so that the marking on the bar extends approximately 0.39 inches (10mm) from the outer edge of the mounting bracket, on both sides.
10. With the stabilizer bar properly aligned, tighten the mounting bracket bolts to 28 ft. lbs. (39 Nm).
11. Connect the stabilizer links to the damper fork and the stabilizer bar. Tighten the locking nuts to 28 ft. lbs. (38 Nm).
12. Lower the vehicle and connect the negative battery cable.

**Hub & Bearings****ADJUSTMENT****Mirage****▶ Never disassemble the rear hub bearing. The wheel bearing is serviced by replacement of the hub.**

1. Raise and safely support the vehicle.
2. Remove the rear wheel.
3. Remove the caliper and brake disc or brake drum.
4. Remove the dust cap and tighten the flange nut to 130 ft. lbs. (180 Nm).
5. Using a dial indicator, measure wheel bearing end-play. The maximum limit for end-play is 0.0020 inches (0.05mm).
6. Using a spring scale and a rope wrapped around the bolts, measure the rotary sliding resistance of the bearing/hub. The maximum limit for resistance is 4 lbs. (19 N).
7. If any of the readings exceed the specifications, replacement of the hub is required.
8. Install the dust cap.
9. Install the brake disc and caliper, or brake drum.
10. Install the rear wheel assembly and lower the vehicle to the floor.

**1990-93 Galant****▶ Vehicles equipped with rear disc brakes use a sealed hub and bearing assembly, which requires no adjustment. Drum brake models are adjusted using the following procedure.**

1. Raise the vehicle and support it safely.
2. Remove the wheel and tire assemblies.
3. If equipped with rear disc brakes, remove the caliper assembly.
4. Remove the grease cap and the hub nut.
5. Tighten the wheel bearing nut to 20 ft. lbs. (27 Nm) while rotating the drum/hub.
6. Back off the adjusting nut to remove the pre-load and then tighten it to 7 ft. lbs. (10 Nm).
7. Install the nut lock and a new cotter pin.
8. If brake caliper was removed, reinstall.
9. Install the wheel and lower the vehicle.

**Diamante and 1994-00 Galant**

Measure the wheel bearing end-play using a dial indicator. The end-play should be 0.002 inches (0.05mm) or less with the wheel bearing locknut

## 1994-00 Galant and 1997-00 Diamante

1. Raise and safely support the vehicle securely on jackstands.
2. Remove the wheel and tire assembly.
3. Support the rear axle using a jack or other suitable device.
4. Remove the trailing arm-to-knuckle connection.
5. Remove the trailing arm-to-body mounting through-bolt and remove the trailing arm.

### To install:

6. Install the trailing arm and install the trailing arm-to-body mounting through-bolt. Tighten the bolt to 99-114 ft. lbs. (137-157 Nm).
7. Install the trailing arm-to-knuckle connection. Tighten the bolt to 85-99 ft. lbs. (118-137 Nm).
8. Remove the axle support device.
9. Install the wheel and tire assembly.
10. Lower the vehicle.

## 1992-96 Diamante

1. Raise and safely support the vehicle securely on jackstands.
2. Remove the wheel and tire assembly.
3. Remove the brake rotor.
4. Remove the hub and bearing assembly.
5. Support the rear axle using a jack or other suitable device.
6. Remove the lower shock absorber-to-trailing arm connection.
7. Remove the stabilizer bar link-to-trailing arm connection.
8. Remove the tie rod end-to-trailing arm connection.
9. Remove the lower control arm-to-trailing arm connection.
10. Remove the trailing arm-to-body mounting through-bolt and remove the trailing arm.

### To install:

11. Install the trailing arm and install the trailing arm-to-body mounting through-bolt. Tighten the bolt to 101-116 ft. lbs. (140-160 Nm).
12. Install the trailing arm-to-lower control arm connection. Tighten the bolt to 101-116 ft. lbs. (140-160 Nm).
13. Install the tie rod end-to-trailing arm connection. Tighten the nut to 21 ft. lbs. (29 Nm).
14. Install the stabilizer bar link-to-trailing arm connection. Tighten the nut to 29 ft. lbs. (40 Nm).
15. Install the lower shock absorber-to-trailing arm connection. Tighten the bolt to 65 ft. lbs. (90 Nm).
16. Remove the axle support device.
17. Install the hub and bearing assembly.
18. Install the brake rotor.
19. Install the wheel and tire assembly.
20. Lower the vehicle.

## Sway Bar

### REMOVAL AND INSTALLATION

#### 1990-93 Galant

1. Raise and support the vehicle safely.
2. Place a jack under the rear axle and suspension assembly.
3. Remove the self-locking nuts and crossmember bracket.

4. Remove the retainer bolts and the stabilizer bar brackets. Remove the bushing.
5. Hold the stabilizer bar with a wrench. Remove the self-locking nut.
6. Once the stabilizer bar nut is removed, remove the joint cups and stabilizer rubber bushing.
7. Hold the stabilizer link with a wrench and remove the self-locking nuts. Remove the stabilizer link.
8. Lower the jack supporting the rear axle slightly. Maintain a slight gap between the rear suspension and the body of the vehicle.
9. Remove the stabilizer bar.
10. Inspect the bar for damage, wear and deterioration and replace as required.

### To install:

11. Install the stabilizer bar into the vehicle. Raise the rear axle and suspension into place.
12. Install the stabilizer link into the stabilizer bar and install a new self-locking nut. Tighten the nut to 33 ft. lbs. (45 Nm).
13. Install the joint cups and stabilizer rubber to the link. Install a new self-locking nut onto the link. While holding the stabilizer link ball studs with a wrench, tighten the self-locking nut so the protrusion of the stabilizer link is within 0.354-0.433 in. (9-11mm).
14. Install the center stabilizer bar bushings, brackets and bolts. Tighten the bolts to 10 ft. lbs. (14 Nm).
15. Install the parking brake cable and rear speed sensor installation bolt.
16. Install the crossmember bracket and tighten the bolt to 61 ft. lbs. (85 Nm). Tighten the crossmember bracket mounting nut to 94 ft. lbs. (130 Nm).
17. Install the rubber insulators and new self-locking nuts onto the crossmember brackets. Tighten the nuts to 80-94 ft. lbs. (110-130 Nm).
18. Lower the vehicle.

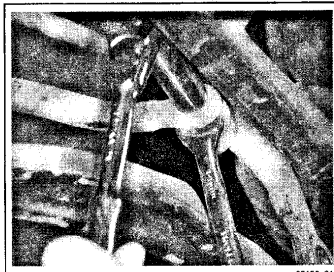
#### Diamante and 1994-98 Galant

### See Figure 72

1. Disconnect the negative battery cable.
2. Raise and safely support the vehicle.
3. Disconnect the stabilizer links by removing the self-locking nuts.
4. Remove the stabilizer bar mounting brackets and bushings.
5. Remove the bar from the vehicle.
6. Inspect all components for wear or damage, and replace parts as needed.

### To install:

7. Install the stabilizer bar into the vehicle.



**Fig. 72 Remove the self-locking nuts from the stabilizer bar link**

8. Loosely install the stabilizer bar brackets on the vehicle.

9. Align the side locating markings on the stabilizer bar, so that the marking on the bar extends approximately 0.39 inches (10mm) from the outer edge of the mounting bracket, on both sides.

10. With the stabilizer bar properly aligned, tighten the mounting bracket bolts to 28 ft. lbs. (39 Nm).
11. Connect the stabilizer links to the damper fork and the stabilizer bar. Tighten the locking nuts to 28 ft. lbs. (38 Nm).
12. Lower the vehicle and connect the negative battery cable.

## Hub & Bearings

### ADJUSTMENT

#### Mirage

➔ **Never disassemble the rear hub bearing. The wheel bearing is serviced by replacement of the hub.**

1. Raise and safely support the vehicle.
2. Remove the rear wheel.
3. Remove the caliper and brake disc or brake drum.
4. Remove the dust cap and tighten the flange nut to 130 ft. lbs. (180 Nm).
5. Using a dial indicator, measure wheel bearing end-play. The maximum limit for end-play is 0.0020 inches (0.05mm).
6. Using a spring scale and a rope wrapped around the bolts, measure the rotary sliding resistance of the bearing/hub. The maximum limit for resistance is 4 lbs. (19 N).
7. If any of the readings exceed the specifications, replacement of the hub is required.
8. Install the dust cap.
9. Install the brake disc and caliper, or brake drum.
10. Install the rear wheel assembly and lower the vehicle to the floor.

#### 1990-93 Galant

➔ **Vehicles equipped with rear disc brakes use a sealed hub and bearing assembly, which requires no adjustment. Drum brake models are adjusted using the following procedure.**

1. Raise the vehicle and support it safely.
2. Remove the wheel and tire assemblies.
3. If equipped with rear disc brakes, remove the caliper assembly.
4. Remove the grease cap and the hub nut.
5. Tighten the wheel bearing nut to 20 ft. lbs. (27 Nm) while rotating the drum/hub.
6. Back off the adjusting nut to remove the pre-load and then tighten it to 7 ft. lbs. (10 Nm).
7. Install the nut lock and a new cotter pin.
8. If brake caliper was removed, reinstall.
9. Install the wheel and lower the vehicle.

#### Diamante and 1994-00 Galant

Measure the wheel bearing end-play using a dial indicator. The end-play should be 0.002 inches (0.05mm) or less with the wheel bearing locknut

torqued to specifications. The wheel bearings are sealed units and are not adjustable. If defective, replacement is the only option.

## REMOVAL & INSTALLATION

### Mirage

#### 1990-92 MODELS

1. Raise the vehicle and support safely.
2. Remove the tire and wheel assembly.
3. If equipped with rear disc brakes, remove the caliper from the disc and remove the brake disc.
4. Remove the dust cap and bearing nut. Do not use an air gun to remove the nut.
5. Remove the outer wheel bearing.
6. Remove the drum and/or axle hub with the inner wheel bearing and the grease seal.
7. Remove the grease seal and remove the inner bearing.

#### To install:

8. Lubricate the inner bearing and install to the drum or hub.
9. Install a new grease seal.
10. To determine if the self-locking nut is reusable:
  - a. Screw in the self-locking nut until about 0.07-0.11 in. (2-3mm) of thread is visible under the nut.
  - b. Measure the torque required to turn the self-locking nut counterclockwise.
  - c. The lowest allowable torque is 48 inch lbs. (6 Nm). If the measured torque is less than the specification, replace the nut.
11. Install the drum and/or hub to the vehicle.
12. Lubricate and install the outer wheel bearing to the spindle.
13. Tighten the self-locking nut to 108-145 ft. lbs. (150-200 Nm).
14. Set up a dial indicator and measure the end-play while moving the hub or drum in and out. If the endplay exceeds 0.008 in. (0.002mm), retorque the nut. If still beyond the limit, replace the bearings.
15. Install the grease cap and wheel assembly.

#### 1993-00 MODELS

➔ **Never disassemble the rear hub bearing. The wheel bearing is serviced by replacement of the hub.**

1. If equipped with ABS, remove the wheel speed sensor.
2. Raise and safely support the vehicle.
3. Remove the rear wheel.
4. Remove the caliper and brake disc or brake drum.
5. Remove the dust cap and flange nut.
6. Remove the rear hub assembly.

#### To install:

7. Install the rear hub assembly using a new flange nut. Tighten the flange nut to 130 ft. lbs. (180 Nm).
8. Install the dust cap.
9. Install the wheel speed sensor if removed. The air gap should be 0.012-0.035 in. (0.3-0.9mm).
10. Install the brake disc and caliper, or brake drum.
11. Install the rear wheel assembly and lower the vehicle to the floor.

### 1990-93 Galant

#### DRUM BRAKE VEHICLES

1. Raise the vehicle and support it safely.
2. Remove the wheel and tire assemblies.
3. Remove the grease cap and the hub nut.
4. Remove the brake drum. The outer bearing will fall out while the drum is coming off. Do not drop it. Remove the hub and rotor assembly.
5. Pry out and discard the oil seal.
6. Remove the inner bearing.

➔ **Check the bearing races. If any scoring, heat checking or damage is noted, they should be replaced. When bearing or races need replacement, replace them as a set.**

7. If the bearings and races are to be replaced, drive out the race with a brass drift.

#### To install:

8. Before installing new races, coat them with wheel bearing grease. Drive into place with proper size driver. Make sure they are fully seated.
9. Thoroughly pack the bearings and lubricate the hubs with wheel bearing grease. Install the inner bearing and coat the lip and rim of the grease seal with grease. Drive the seal into place with a seal driver.
10. Install the drum assembly on the axle.
11. Lubricate and install the outer wheel bearing, washer and nut. To properly adjust the wheel bearing preload:
  - a. Tighten the wheel bearing nut to 20 ft. lbs. (27 Nm) while rotating the drum.
  - b. Back off the adjusting nut to remove the preload, then tighten it to 7 ft. lbs. (10 Nm).
  - c. Install the nut lock and a new cotter pin.
12. Install the wheel and lower the vehicle.

#### DISC BRAKE VEHICLES

1. Raise the vehicle and support safely.
2. Remove the tire and wheel assembly.
3. Remove the bolt(s) holding the speed sensor bracket to the knuckle and remove the assembly from the vehicle.

#### \*\*\* WARNING

**The speed sensor has a pole piece projecting from it. This exposed tip must be protected from impact or scratches. Do not allow the pole piece to contact the toothed wheel during removal or installation.**

4. Remove the caliper from the brake disc and suspend with a wire.
5. Remove the brake rotor.
6. Remove the grease cap, locking nut and tongued washer.
7. Remove the rear hub and bearing assembly.

➔ **The rear hub assembly can not be disassembled. If bearing replacement is required, replace the assembly as a unit.**

8. If replacing the hub assembly, remove the two bolts securing the speed sensor ring to the hub.
- To install:**
  9. Install the speed sensor to the hub and bearing assembly. Tighten the mounting bolts to 8 ft. lbs. (11 Nm).

10. Install the hub and bearing assembly to the axle shaft.

11. Install the tongued washer and a new locking nut. Tighten the locknut to 144-188 ft. lbs. (200-260 Nm). Once the locknut has been properly torqued, crimp the nut flange over the slot in the spindle, and install the grease cap.

12. Install the brake caliper and rotor.
13. Install the speed sensor and tighten the mounting bolt to 8 ft. lbs. (11 Nm).
14. Install the tire and wheel assembly.

#### \*\*\* WARNING

**Be sure to pump the brake pedal until it's firm, before moving vehicle.**

### 1994-00 Galant

#### DRUM BRAKE VEHICLES

#### ♦ See Figure 73, 74, 75

1. Raise the vehicle and support safely.
2. Remove the appropriate wheel assembly.
3. If equipped with ABS, remove the vehicle speed sensor.
4. Remove the brake drum from the hub assembly.
5. From the back of the knuckle, remove the four bolts securing the hub to the knuckle.
6. Remove the hub and bearing assembly from the knuckle.

➔ **The hub assembly is not serviceable and should not be disassembled.**

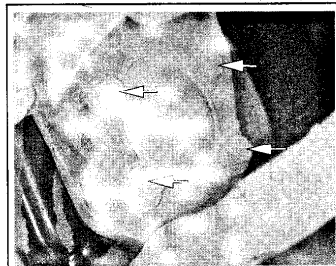
7. If replacing the hub, use special socket MB991248 and a press to remove the wheel sensor rotor from the hub.

#### To install:

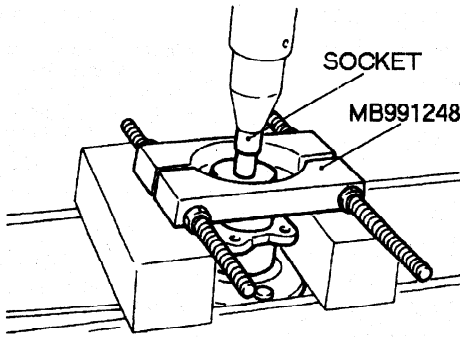
8. Press the wheel sensor rotor onto the hub.
9. Install the hub to the knuckle and tighten the mounting bolts to 54-65 ft. lbs. (74-88 Nm).
10. Install the brake drum on the hub.
11. If equipped with ABS, install the vehicle speed sensor.
12. Install the wheel assembly and lower the vehicle.

#### DISC BRAKE VEHICLES

1. Remove the cotter pin, halfshaft nut and washer.
2. Raise the vehicle and support safely.



**Fig. 73 The hub and bearing assembly is retained to the knuckle by four bolts**



**Fig. 74 Use a press to remove the speed sensor rotor from the hub—Galant**

7929PG17

16. If equipped with ABS, install the vehicle speed sensor.
17. Install the wheel assembly and lower the vehicle.

**Diamante**

➔ **The hub assembly is not repairable; if defective, replacement is the only option. If the hub is removed for any reason it must be replaced.**

1. Raise and support vehicle safely.
2. Remove the both of the rear wheels.
3. Remove the caliper and the brake disc. Support the caliper with wire to prevent stress to the brake hose.
4. If equipped with ABS, remove the bolt holding the speed sensor to the trailing arm and remove the sensor.

➔ **The speed sensor has a pole piece projecting from it. This exposed tip must be protected from impact or scratches. Do not allow the pole piece to contact the toothed wheel during removal or installation.**

5. Remove the grease cap, self-locking nut and tongued washer.

➔ **Do not use an air gun to remove the hub locknut.**

6. Remove the rear hub assembly from the spindle.
7. Remove the bolts that secure the ABS sensor ring to the hub and remove the ring from the hub.

**To install:**

8. Secure the sensor ring to the hub assembly and tighten the mounting bolts.
9. Install the hub assembly, tongued washer and a new self-locking nut. Tighten the nut to 166 ft. lbs. (230 Nm), align with the indentation in the spindle, and crimp.
10. Using a rope around the hub bolts and a spring balance, measure the resistance necessary to rotate the hub. If the resistance exceeds 7 ft. lbs. (10 Nm), loosen and retighten the locknut. If the resistance still exceeds the specification, the hub must be replaced.

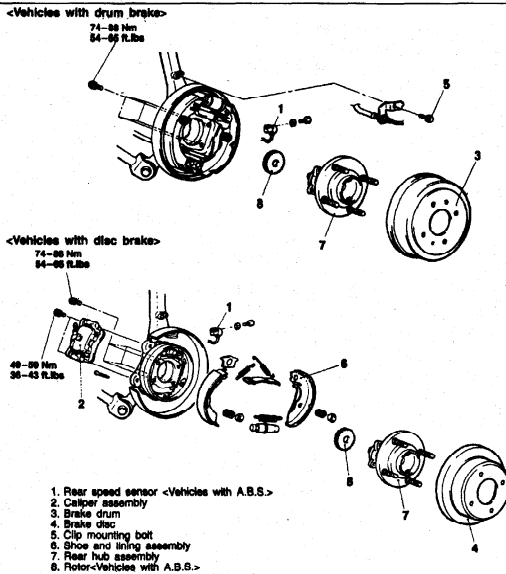
11. Using a dial indicator, measure the hub end-play. The endplay should be 0.002 inches (0.05mm) or less.

12. Install the brake rotor and caliper assembly.
13. Install the speed sensor to the knuckle.

➔ **Route the speed sensor cable correctly. Improper installation may cause cable damage and system failure. Use the white stripe on the outer insulation to keep the sensor harness properly positioned.**

14. Use a brass or other non-magnetic feeler gauge to check the air gap between the tip of the pole piece and the toothed wheel. Correct gap is 0.008–0.028 in. (0.2–0.7mm). Tighten the sensor bracket nut with the sensor located so the gap is the same at several points on the toothed wheel. If the gap is incorrect, it is likely that the toothed wheel is worn or improperly installed.

15. Bleed the brake system and install the rear wheels.



**Fig. 75 Exploded view of the rear hub/bearing assembly and related components—Galant**

7923PG08

3. Remove the appropriate wheel assembly.
4. If equipped with ABS, remove the vehicle speed sensor.
5. Remove the caliper and brake pads. Support the caliper out of the way using wire.
6. Remove the brake rotor from the hub assembly.
7. Remove the parking brake shoes as follows:
  - a. Remove the upper shoe to anchor springs.
  - b. Remove the lower shoe to shoe spring.
  - c. Remove the brake shoe hold-down springs.
  - d. Disconnect the parking brake cable from the actuating lever.
8. From the back of the knuckle, remove the four bolts securing the hub to the knuckle.
9. Remove the hub and bearing assembly from the knuckle.

➔ **The hub assembly is not serviceable and should not be disassembled.**

10. If replacing the hub, use special socket MB991248 and a press to remove the wheel sensor rotor from the hub.

**To install:**

11. Press the wheel sensor rotor onto the hub.
12. Install the hub to the knuckle and tighten the mounting bolts to 54–65 ft. lbs. (74–88 Nm).
13. Install the parking brake shoes.
14. Position the rotor on the hub. Install a couple of lug nuts and tightly tighten to hold rotor on hub.
15. Install the caliper holder and place brake pads in holder. Slide caliper over brake pads and install guide pins. Once caliper is secured, lug nuts can be removed.

## STEERING

## Steering Wheel

## REMOVAL &amp; INSTALLATION

## 1990-93 Mirage

1. Disconnect the negative battery cable.
2. Remove the horn pad from the steering wheel, by pulling the lower end of the pad upward. Detach horn button connector.
3. Remove steering wheel retaining nut.
4. Matchmark the steering wheel to the shaft.
5. Use a steering wheel puller to remove the steering wheel.

## \*\*\* WARNING

**Do not hammer on steering wheel to remove it. The collapsible column mechanism may be damaged.**

**To install:**

6. Line up the matchmarks and install the steering wheel to the shaft.
7. Tighten the steering wheel attaching nut to 29 ft. lbs. (40 Nm).
8. Reconnect the horn connector and install the horn pad.
9. Connect the negative battery cable.

## 1994-00 Mirage and Galant

♦ See Figures 76 thru 85

## \*\*\* CAUTION

**If equipped with an air bag, be sure to disarm it before starting repairs on the vehicle. Failure to do so could result in severe personal injury and damage to vehicle.**

1. Disarm the SRS system as outlined in Section 6.
2. Remove the covers and the air bag module mounting nut from behind the steering wheel.
3. To detach the connector of the clockspring from the air bag module, press the air bag's lock toward the module to spread the lock open. While holding lock in this position, use a small tipped prying tool to gently pry the connector from the module.
4. Remove the air bag module and store in a clean, dry place with the pad cover facing up.
5. Matchmark the steering wheel to the shaft.
6. Remove the steering wheel retaining nut and use a steering wheel puller to remove the wheel. Do not use a hammer, or the collapsible mechanism in the column could be damaged.

**To install:**

7. Confirm that the front wheels are in a straight-ahead position. Center the clockspring by aligning

the NEUTRAL mark on the clockspring with the mating mark on the casing. Then, install the steering wheel and tighten the new retaining nut to 29 ft. lbs. (40 Nm).

8. Install the air bag module.

9. Connect the negative battery cable, turn the key to the ON position; the SRS warning light should illuminate for seven seconds and go out.

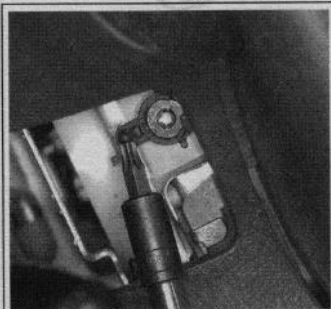
## 1990-93 Galant

1. Disconnect the negative battery cable.
2. Remove the horn pad from the steering wheel as follows:
  - a. For 1990-91 models only, the horn pad is removed by pushing the pad upward, to release the pad from the retaining clips. Detach horn button connector and remove the pad.
  - b. For 1992-93 models only, remove the screw from the bottom of the pad and push the pad upward, to release the pad from the retaining clips. Detach horn button connector and remove the pad.
3. Remove steering wheel retaining nut.
4. Matchmark the steering wheel to the shaft.
5. Use a steering wheel puller to remove the steering wheel.



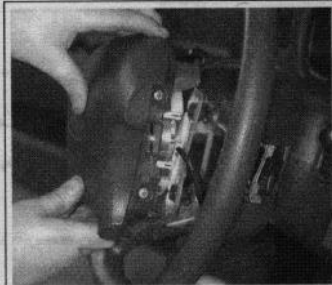
93158p05

**Fig. 76** The air bag is retained by two screws located in access holes on the back of the wheel. Remove the covers to access the screws



93158p04

**Fig. 77** The retaining screws usually require a Torx® drive tool to remove them



93158p03

**Fig. 78** After the air bag retaining screws are removed, grasp the airbag and carefully pull it from the steering wheel . . .



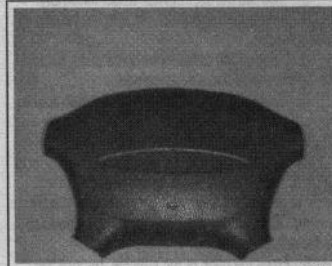
93158p02

**Fig. 79** . . . then detach the connector and remove the air bag module from the vehicle



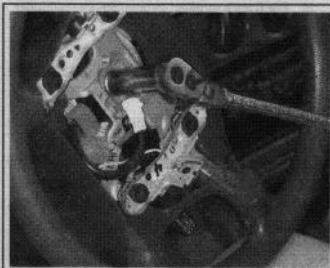
93158p06

**Fig. 80** To prevent personal injury, ALWAYS carry a live air bag facing away from you in case of accidental deployment

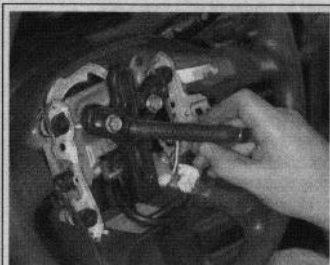


93158p07

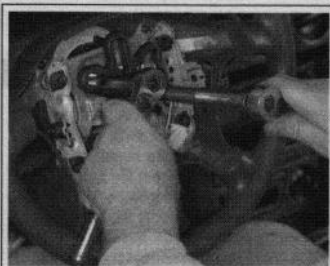
**Fig. 81** To prevent personal injury, ALWAYS place a live air bag with the cover facing up in case of accidental deployment



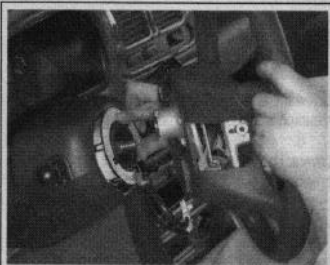
**Fig. 82** Remove the mounting bolt from the center of the steering wheel



**Fig. 83** Install a suitable steering wheel puller . . .



**Fig. 84** . . . then tighten down on the puller until the wheel is sufficiently loose



**Fig. 85** Lift the steering wheel straight off of the steering column and remove the wheel

### \*\*\* WARNING

Do not hammer on steering wheel to remove it. The collapsible column mechanism may be damaged.

#### To install:

- Line up the matchmarks and install the steering wheel to the shaft.
- Tighten the steering wheel attaching nut to 25–33 ft. lbs. (35–45 Nm).
- Attach the horn connector and install the horn pad.
- Connect the negative battery cable.

#### Diamante

### \*\*\* WARNING

Be sure to disarm the SRS (air bag) system, before starting repairs on the vehicle. Failure to do so could result in personal injury or death. DO NOT perform any work on the vehicle until after 90 seconds has passed. The air bag system is designed to retain enough short term voltage to make air bag deployment possible:

- Disarm the SRS system as outlined in Section 6.
- Remove the air bag module mounting nut from behind the steering wheel.
- Matchmark the steering wheel.
- Detach the connector of the clockspring from the air bag module, press the air bag's lock towards the module to spread the lock open. While holding lock in this position, use a small tipped prying tool to gently pry the connector from the module.
- Store the air bag module in a clean, dry place with the pad cover facing up.
- Remove the steering wheel retaining nut.
- Matchmark the steering wheel to the shaft.
- Use a steering wheel puller to remove the wheel.

### \*\*\* WARNING

Do not use a hammer or the collapsible mechanism in the column could be damaged.

#### To install:

- Confirm that the front wheels are in a straight-ahead position. Center the clockspring by aligning the NEUTRAL mark on the clockspring with the mating mark on the casing.
- Line up and install the steering wheel.
- Tighten the retaining nut as follows:
  - On 1992–93 Diamante models, tighten the retaining nut to 29 ft. lbs. (40 Nm)
  - On 1994–00 Diamante models, tighten the retaining nut to 33 ft. lbs. (45 Nm)
- Install the air bag module and tighten the retaining nuts to 48 inch lbs. (5 Nm).
- Connect the negative battery cable and check the SRS warning light operation.

## Combination Switch

### REMOVAL AND INSTALLATION

### \*\*\* CAUTION

The air bag system (SRS or SIR) must be disarmed before removing the steering wheel. Failure to do so may cause accidental deployment, property damage or personal injury.

- Disconnect the negative battery cable.
- If equipped, disable the air bag system.
- Remove the steering wheel as outlined earlier in this section.
- For Diamante models, remove the hood lock release handle.
- Remove the knee protector panel under the steering column, then the upper and lower column covers.
- For Diamante models, remove the lap cooler and foot blower duct work as necessary. Carefully detach the combination switch connectors.
- For Mirage models, detach all connectors, remove the wiring clip and remove the column switch assembly.
- For Galant models, if equipped, remove the four screws retaining the cruise control slip ring to the switch.
- For Galant models, remove the two retaining screws from the combination switch and remove the switch from the column.

#### To install:

- Install the switch assembly and secure all harness connectors with clips if needed. Make sure the wires are not pinched or out of place.
- Install the column covers and knee protector and all connectors.
- If removed, install the foot blower duct work and lap cooler.
- Confirm that the front wheels are in a straight-ahead position.
- Install the steering wheel, as outlined earlier in this section.
- Connect the negative battery cable, turn the key to the ON position, the SRS warning light should illuminate for seven seconds and go out. If the warning light is not functioning properly, refer to SRS system diagnosis.
- Check all functions of the combination switch for proper operation.

## Windshield Wiper Switch

### REMOVAL & INSTALLATION

➔ On vehicles not covered here, the windshield wiper switch is incorporated into the combination switch and is not separately serviceable. Refer to the procedure above.

#### Diamante

- Disconnect the negative battery cable.
- If equipped with an air bag, disarm as follows:
  - Position the front wheels in the straight ahead position and place the key in the LOCK

position. Remove the key from the ignition lock cylinder.

b. Disconnect the negative battery cable and insulate the cable end with high-quality electrical tape or similar non-conductive wrapping.

c. Wait at least 1 minute before working on the vehicle. The air bag system is designed to retain enough voltage to deploy the air bag for a short period of time even after the battery has been disconnected.

3. Remove the steering wheel, as outlined earlier in this section.

4. Remove the hood lock release handle.

5. Remove the switches from the knee protector below the steering column, and remove the exposed retaining screws. Then remove the knee protector.

6. Remove the column covers.

7. Remove necessary duct work and detach the windshield wiper switch connectors.

8. Remove the retaining screws and remove the windshield wiper switch assembly from the steering column.

### To install:

9. Install the wiper switch to the steering column and connect the connectors.

10. Install any removed duct work.

11. Install the column covers.

12. Install the knee protector and switches.

13. Install the hood release handle.

14. Confirm that the front wheels are in a straight ahead position. Install the steering wheel, as outlined earlier in this section.

15. Connect the negative battery cable and check the windshield wiper and washer for proper operation.

## Ignition Lock Cylinder

### REMOVAL & INSTALLATION

#### \*\*\* CAUTION

**The air bag system (SRS or SIR) must be disarmed before removing the steering wheel. Failure to do so may cause accidental deployment, property damage or personal injury.**

1. If equipped, properly disarm the air bag system.

2. Disconnect the negative battery cable.

3. Remove the hood lock release lever from the lower panel.

4. Remove the lower instrument panel knee protector.

5. Remove the ductwork with the lower knee panel and remove the steering wheel assembly.

#### \*\*\* WARNING

**Use proper steering wheel puller equipment when removing the steering wheel. The use of a hammer for removal could damage the collapsible mechanism within the column.**

6. Remove the lower and upper steering column covers.

7. For Diamante models, remove the lap cooler and foot shower duct work.

8. If necessary, remove the clip that holds the wiring harness against the steering column.

9. Detach all necessary connectors.

10. For Galant and Diamante models, remove the retaining screws, then remove the entire column switch/clockspring assembly from the left side of the steering column.

11. For Diamante models, remove the mounting screws from the ignition switch and pull the switch from the interlock cylinder.

12. Insert the key into the steering lock cylinder and turn to the **ACC** position.

13. With a small, pointed tool, push the lock pin of the steering lock cylinder inward and pull the lock cylinder out.

14. Remove the key reminder switch, if equipped.

### To install:

15. For Mirage, install the lock cylinder in the lock cylinder bracket. Make sure the cylinder operates properly before breaking off the heads of the special bolts, if the bracket was replaced.

16. For Galant and Diamante models, install the lock cylinder into the interlock housing. Be sure the lock pin snaps into place. Install the ignition switch into the interlock housing. Align the keyway of the ignition switch with the lock cylinder and secure with the mounting screws.

17. For Galant and Diamante models, install the column switch/clockspring assembly to the and connect the harness.

18. Install the key reminder switch, if equipped.

19. Attach the harness connections and install the wiring clip.

20. If removed, install the lap cooler and foot shower duct work.

21. Install the steering column upper and lower covers.

22. If necessary, install the knee protector and the steering wheel.

23. Install the hood lock release lever.

24. Connect the negative battery cable, enable the air bag system, and check the ignition switch and lock for proper operation.

## Ignition Switch

### REMOVAL AND INSTALLATION

#### Mirage and Galant

1. Disconnect the negative battery cable. If equipped, disarm the air bag system.

2. Remove the hood lock release lever from the lower panel.

3. Remove the lower instrument panel knee protector.

4. Remove the ductwork with the lower knee panel and remove the steering wheel assembly.

**Use proper steering wheel puller equipment when removing the steering wheel. The use of a hammer for removal could damage the collapsible mechanism within the column.**

5. Remove the lower steering column cover.

6. Remove the upper steering column cover.

7. Remove the clip that holds the wiring harness against the steering column.

8. For Galant models, insert the key into the steering lock cylinder and turn to the **ACC** position.

9. For Galant models, using a small pointed tool, push the lock pin of the steering lock cylinder inward and pull the lock cylinder out.

10. For Galant models, remove the key reminder switch, if equipped.

11. Unplug the ignition switch harness connector. Remove the ignition switch mounting screws and pull the switch from the steering lock cylinder.

**Vehicles equipped with automatic transaxle have safety-lock systems and will have a key interlock cable installed in a slide lever on the side of the key cylinder. Carefully unhook the interlock cable from the lock cylinder while withdrawing the cylinder from the lock housing.**

### To install:

**To remove the steering lock, use a hacksaw or equivalent to cut the special bolts through the bracket. The bracket and bolts must be replaced with new ones.**

12. With the ignition key removed, install the slide lever and the interlock cable to the steering lock cylinder. Apply grease to the interlock cable and install the cylinder into the lock housing. Check for normal operation of the interlock system.

13. Install the ignition switch into the rear of the lock cylinder housing. Be sure to align the keyway of the ignition switch with interlock cylinder.

14. Attach the harness connections and install the wiring clip.

15. Install the steering column upper and lower covers.

16. Install the knee protector.

17. Connect the negative battery cable, enable the air bag system (if equipped) and check the ignition switch and lock for proper operation.

#### Diamante

### \*\*\* CAUTION

**Work MUST NOT be started until at least 90 seconds after the ignition switch is turned to the LOCK position and the negative battery cable is disconnected from the battery. This will allow time for the air bag system backup power supply to deplete its stored energy preventing accidental air bag deployment which could result in unnecessary air bag system repairs and/or personal injury.**

1. Disconnect the negative battery cable.  
2. Disarm the air bag system, as outlined in Section 6.

3. Remove the steering wheel, as outlined earlier in this section.

4. Remove the hood lock release handle.

5. Remove the switches from the knee protector below the steering column and remove the exposed retaining screws. Then remove the knee protector.

6. Remove the steering column upper and lower covers. Use care removing the covers to prevent breakage of alignment tabs.

7. Remove lap cooler and foot shower duct work. Detach the ignition switch harness connectors.

8. Remove mounting screws from the ignition switch and pull switch from interlock cylinder.

### To install:

9. Install ignition switch into interlock housing. Align keyway of ignition switch with lock cylinder and secure with mounting screws.

10. Connect the ignition switch electrical harness plug.

11. Install lap cooler and foot shower duct work.
12. Install the upper and lower steering column covers.
13. Install the knee protector and switches.
14. Install the hood release handle.
15. Install the steering wheel, as outlined earlier in this section.
16. Connect the negative battery cable and check all functions of column-mounted switches and the ignition switch for proper operation.

## Steering Linkage

### REMOVAL & INSTALLATION

#### Tie Rod Ends

♦ See Figures 86 thru 94

1. Disconnect the negative battery cable.
  2. Remove the wheel and tire assembly.
  3. Remove the cotter pin and the castellated nut from the outer tie rod end. Discard the cotter pin.
  4. Separate the outer tie rod end from the steering knuckle using an appropriate tie rod end remover.
  5. Mark the outer tie rod jam nut on one side with a reference line for installation.
  6. Hold the outer tie rod end with a wrench and loosen the tie rod end jam nut.
  7. Back the tie rod end jam nut off ONE FULL TURN ONLY.
  8. Remove the outer tie rod end from the inner tie rod spindle.
- To Install:**
9. Clean the threads on the inner tie rod spindle (front wheel spindle connecting rod).
  10. Thread the new outer tie rod end onto the inner tie rod until it bottoms on the jam nut.

11. Back the tie rod and jam nut out one full turn until the reference line is in the same position as before.
12. Place the outer tie rod end stud into the steering knuckle. Set the front wheels in a straight ahead position.
13. Connect the outer tie rod end to the steering knuckle and install the castle nut. Tighten the nut to 25 ft. lbs. (34 Nm) on Mirage models and 21 ft. lbs. (29 Nm) on the Galant and Diamante models.
14. Continue to tighten the castellated nut until a new cotter pin can be inserted through the hole in the stud. Install a new cotter pin.
15. If required, repeat the procedure for the opposite side.
16. Reinstall the wheel and tire assembly. Tighten the lug nuts to 65–80 ft. lbs. (90–110 Nm).
17. Reconnect the negative battery cable.
18. Tighten the tie rod end jam nut to 30 ft. lbs.

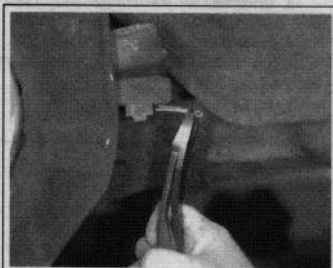


Fig. 86 Remove the cotter pin from the tie rod end . . .



Fig. 87 . . . then remove the retaining nut from the tie rod end



Fig. 88 A special puller is recommended for removing the tie rod end from the steering knuckle without damaging the tie rod end

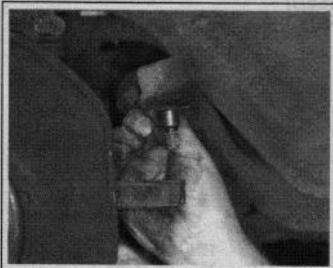


Fig. 89 Remove the tie rod end from the steering knuckle

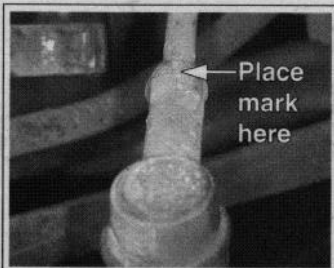


Fig. 90 Mark the outer tie rod jam nut on one side with a reference line for installation

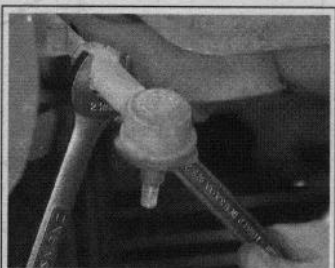


Fig. 91 Use two wrenches, one to hold the inner tie rod, and one to loosen the jam nut

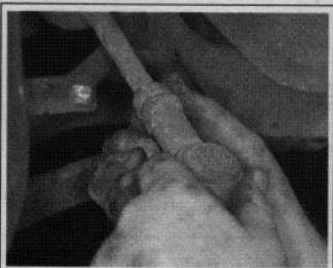


Fig. 92 Back the jam nut off ONE TURN ONLY . . .



Fig. 93 . . . then unthread the tie rod end from the inner tie rod



Fig. 94 Remove the tie rod end from the vehicle



(42 Nm) on Mirage and 36–39 ft. lbs. (49–53 Nm) on Galant and Diamante models.

19. Have the front end alignment checked, and adjusted if necessary.

## Inner Tie Rods

1. Raise the front of the vehicle and support it on jackstands.
2. Remove the wheel.
3. Remove the cotter pin and the outer tie rod ball joint stud nut. Note the position of the steering linkage.
4. Wire brush the threads on the tie rod shaft and lubricate with penetrating oil.
5. Using a suitable ball joint separator tool, remove the tie rod ball joint from the steering knuckle.
6. Loosen the locknut and remove the tie rod end from the tie rod. Count the number of complete turns it takes to completely remove it.
7. Remove the tie rod-to-steering gear locknut.
8. Remove the clamps that secure the flexible boot to the steering gear.
9. Slide the boot from the inner tie rod and remove the boot.
10. Bend the lock plate tabs from the inner tie rod end nut.

11. Loosen the inner tie rod end nut from the steering gear and remove the inner tie rod end.

### To Install:

12. Using a new lock plate, install the tie rod end and tighten the tie rod to 65 ft. lbs. (90 Nm).
13. Bend the tabs of the new lock plate to secure the inner tie rod end.
14. Slide the boot onto the steering gear and secure it with new clamps.
15. Install the outer tie rod end to the steering gear locknut.
16. Install the outer tie rod end, turning it in exactly as many turns as it was to remove the old one. Make sure it is correctly positioned in relationship to the steering linkage.
17. Connect the outer tie rod end to the steering knuckle and install the castle nut. Tighten the nut to 25 ft. lbs. (34 Nm.) on the Mirage and 21 ft. lbs. (29 Nm) on the Galant and Diamante models.
18. Install a new cotter pin to the castle nut.
19. Tighten the tie rod end locking nut to 30 ft. lbs. (42 Nm) on the Mirage and 36–39 ft. lbs. (49–53 Nm) on the Galant and Diamante models.
20. Install the wheel and tire assembly.
21. Lower the vehicle.
22. Have a front end alignment performed.

## Manual Rack And Pinion Steering Gear

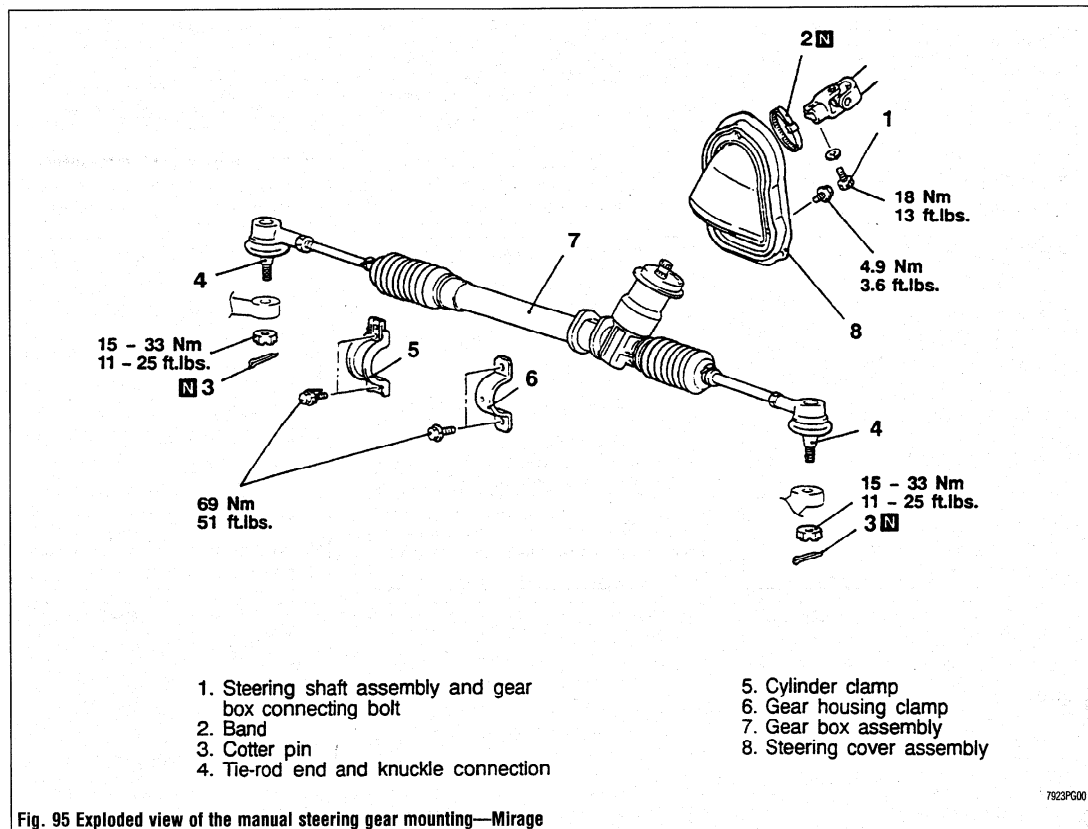
### REMOVAL & INSTALLATION

#### Mirage

▶ See Figure 95

▶ Prior to removal of the steering rack, center the front wheels and remove the ignition key. Failure to do so may damage the SRS clockspring and render SRS system inoperative. Be sure to properly disarm the air bag system.

1. Disconnect the battery negative cable.
2. Raise the vehicle and support safely and remove the wheels.
3. Disconnect the Heated Oxygen (HO<sub>2</sub>S) sensor and remove the front exhaust pipe.
4. Properly support the engine. Remove both roll stopper mounting bolts and the four center member installation bolts.
5. Remove the center member.



➤ **Matchmark the pinion input shaft of the rack to the lower steering column joint for installation purposes.**

6. Remove the pinch bolt holding the lower steering column joint to the rack and pinion input shaft.

7. Remove the cotter pins and disconnect the tie rod ends from the steering knuckle.

8. Remove the rack and pinion steering assembly and its rubber mounts from the right side of the vehicle.

**To install:**

9. Align the matchmarks of the input shaft and install the rack to the vehicle.

10. Secure the rack using the retainer clamps and bolts. Tighten the bolts to 51 ft. lbs. (70 Nm).

11. Tighten the steering column pinch bolt to 13 ft. lbs. (18 Nm).

12. Install the center member.

13. Install the front exhaust pipe.

14. Connect the HO<sub>2</sub>S sensor.

15. Connect the tie rod ends to the steering knuckles and tighten the castle nuts to 25 ft. lbs. (34 Nm). Install new cotter pins.

16. Install the wheels and connect the negative battery cable.

17. Have a front end alignment performed.

14. Install the transfer case and front exhaust pipe.

15. Refill the reservoir and bleed the system.

16. Have a front end alignment performed.

**REAR**

1. Disconnect the negative battery cable.

2. Raise the vehicle and support safely.

3. Drain the power steering fluid.

4. Remove the main muffler assembly.

5. Remove the rear shock absorber lower mounting bolts.

6. Using the proper equipment, support the weight of the rear differential. Remove the 2 small crossmember brackets.

7. Remove the large self-locking crossmember mounting nuts on the differential side.

8. Remove the oil line clamp bolts.

9. Remove the pressure tubes.

10. Hold the tie rod ends stationary and remove the tie rod end nuts. Remove the tie rod ends from the trailing arms.

11. Remove the mounting bolts and remove the rear steering gear.

**To install:**

12. Secure the unit to the crossmember. Move the power cylinder piston rod over its full stroke to determine its neutral position.

13. Align the tie rod ends with the holes in the trailing arms and install the nuts. Adjust the length of the tie rods with the nuts if necessary. The difference in length between the 2 tie rod ends should not exceed 0.04 in. (1mm). The nuts' torque specification is 42 ft. lbs. (58 Nm).

14. Replace the O-rings and install the pressure tubes. Clamp in place.

15. Install the large self-locking crossmember mounting nuts on the differential side. Tighten to 80–94 ft. lbs. (110–130 Nm).

16. Remove the support equipment.

17. Install the 2 small crossmember brackets.

18. Install the shock mounting bolts.

19. Install the muffler assembly.

20. Refill the reservoir and bleed the system.

21. Have a front end alignment performed.

**Galant**

**1990–93 MODELS**

1. Disconnect the negative battery cable.

2. Drain the power steering fluid.

3. Raise the vehicle and support safely.

4. Remove the bolt holding lower steering column joint to the rack and pinion input shaft.

5. Remove the transfer case, if equipped.

6. Remove the cotter pins and using the proper tools, separate the tie rod ends from the steering knuckle.

7. Locate the triangular brace near the stabilizer bar brackets on the crossmember and remove both the brace and the stabilizer bar bracket.

8. Support the center crossmember.

9. Remove the through-bolt from the rear roll stopper and remove the rear bolts from the center crossmember.

10. Disconnect the front exhaust pipe, if equipped with FWD.

11. Disconnect the power steering fluid pressure pipe and return hose from the rack fittings. Plug the fittings to prevent excess fluid leakage.

12. Lower the crossmember slightly.

13. Remove the rack and pinion steering assembly and its rubber mounts. Move the rack to the right to remove from the crossmember. Tilt the assembly downward and remove from the left side of the vehicle. Use caution to avoid damaging the boots.

**To install:**

14. Install the rack and install the mounting bolts. Tighten the mounting bolts to 43–58 ft. lbs. (60–80 Nm). When installing the rubber rack mounts, align the projection of the mounting rubber with the indentation in the crossmember.

15. Connect the power steering fluid lines to the rack.

16. Connect the exhaust pipe, if removed.

17. Raise the crossmember into position. Install the center member mounting bolts and tighten to 72 ft. lbs. (100 Nm). Install the roll stopper bolt and new nut. Tighten nut to 47 ft. lbs. (65 Nm).

18. Install the stabilizer bar brackets and brace.

19. Connect the tie rod ends and tighten nuts to 25 ft. lbs. (34 Nm).

20. Install the transfer case, if removed. Check and fill fluid.

21. Refill the reservoir with power steering fluid and bleed the system.

22. Have a front end alignment performed.

**1994–00 MODELS**

▶ **See Figure 96**

**⚠ WARNING**

**Prior to removal of the steering gear box, center the front wheels and remove the ignition key. Failure to do so may damage the SRS clock spring and render SRS system inoperative.**

1. Disconnect the negative battery cable.

2. Raise and properly support the vehicle.

3. Remove both front wheel assemblies.

4. Remove the bolt holding lower steering column joint to the rack and pinion input shaft.

5. Remove the stabilizer bar.

6. Remove the cotter pins, and using joint separator MB991113 or equivalent, disconnect the tie rod ends from the steering knuckle.

7. On vehicles equipped with Electronic Control Power steering (EPS), detach the wiring harness from the solenoid connector.

8. Locate the two triangular braces near the crossmember and remove both.

9. Support the center crossmember. Remove the through-bolt from the front round roll stopper and remove the bolts securing the center crossmember.

10. Remove the center crossmember.

11. Properly support the engine and remove the rear roll stopper through-bolt.

12. Disconnect the power steering fluid pressure pipe and return hose from the rack fittings. Plug the fittings to prevent excessive fluid leakage.

13. Remove the clamp bolts and the two bolts securing the rack assembly to the chassis.

14. Remove the rack and pinion steering assembly and its rubber mounts.

➤ **When removing the rack and pinion assembly, tilt the assembly to the vehicle side of the compression lower arm and remove from the left side of the vehicle.**

**Power Rack And Pinion Steering Gear**

**REMOVAL & INSTALLATION**

**Diamante**

**FRONT**

➤ **Prior to removal of the steering gear box, center the front wheels and remove the ignition key. Failure to do so may damage the SRS clock spring and render SRS system inoperative.**

1. Disconnect the negative battery cable.

2. Disconnect the front exhaust pipe.

3. If equipped with AWD, remove the transfer case assembly.

4. Remove the bolt holding the lower steering column joint to the rack and pinion input shaft.

5. Remove the cotter pins and disconnect the tie rod ends.

6. Remove the left and right frame members.

7. Remove the stabilizer bar bracket.

8. If equipped with four-wheel steering, disconnect the lines going to the rear pump.

9. Remove the rack and pinion steering assembly and its rubber mounts. Move the rack to the right to remove it from the crossmember.

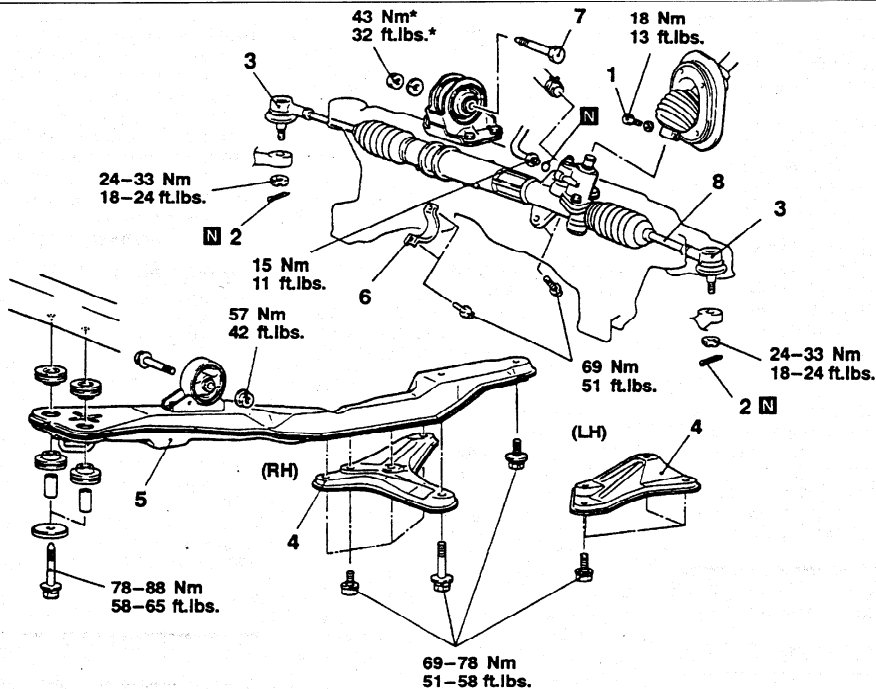
**To install:**

10. Install the rack and mounting bolts. Tighten the bolts to 51 ft. lbs. (70 Nm). When installing the rubber rack mounts, align the projection of the mounting rubber with the indentation in the crossmember. Install the pinch bolt.

11. Connect the pressure and return lines to the rack and to the rear pump, if equipped.

12. Install the frame members and tighten the bolts to 43–51 ft. lbs. (60–70 Nm).

13. Connect the tie rods and install new cotter pins.



1. Joint assembly and gear box connecting bolt
2. Cotter pin
3. Connection for tie rod end and knuckle
4. Stay
5. Center member assembly
6. Clamp
7. Bolt

8. Gear box assembly

### Caution

The fasteners marked \* should be temporarily tightened before they are finally tightened once the total weight of the engine has been placed on the vehicle body.

Fig. 96 Exploded view of the power steering gear removal procedure—Galant

### To install:

15. Center the rack assembly and insert the pin into the steering column shaft.
16. Install the rack and mounting bolts. Tighten the mounting bolts to 51 ft. lbs. (69 Nm).
17. Install the pinch bolt and tighten the bolt to 13 ft. lbs. (18 Nm).
18. Connect the power steering fluid lines to the rack and tighten the pressure hose fitting to 11 ft. lbs. (15 Nm). Secure the return hose with the clamp.
19. Raise the engine into position.
20. Install the rear roll stopper through-bolt and tighten to 32 ft. lbs. (43 Nm).
21. Raise the crossmember into position. Install the center member mounting bolts; tighten the front bolts to 58–65 ft. lbs. (78–88 Nm) and the rear bolt to 51–58 ft. lbs. (69–78 Nm).
22. Install the front roll stopper bolt and tighten the nut to 32 ft. lbs. (43 Nm).
23. Install the two triangular braces and tighten the mounting bolts to 50–56 ft. lbs. (69–78 Nm).

24. Install the stabilizer bar.
25. Connect the tie rod ends and tighten the nuts to 20 ft. lbs. (27 Nm).
26. On vehicles equipped with EPS, connect the wiring harness to the solenoid connector.
27. Install the wheel assemblies and lower the vehicle.
28. Refill the reservoir with power steering fluid and bleed the system.
29. Have a front end alignment performed.

### Mirage

#### 1990–92 MODELS

1. Disconnect the battery negative cable.
2. Raise the vehicle and support safely.
3. Remove the pinch bolt holding the lower steering column joint to the rack and pinion input shaft.
4. Remove the cotter pins and disconnect the tie rod ends from the steering knuckle.
5. Disconnect the power steering fluid pressure pipe and return hose from the rack fittings.
6. Remove the rack and pinion steering assembly and its rubber mounts.

### To install:

7. Install the steering gear into the vehicle and secure using the retainer clamps and bolts.
8. Connect the power steering fluid lines to the rack fittings.
9. Install the stabilizer bar and rear transaxle bracket.
10. Connect the tie rod ends to the steering knuckles.
11. Connect the negative battery cable.
12. Refill the reservoir and bleed the system.
13. Have a front end alignment performed.

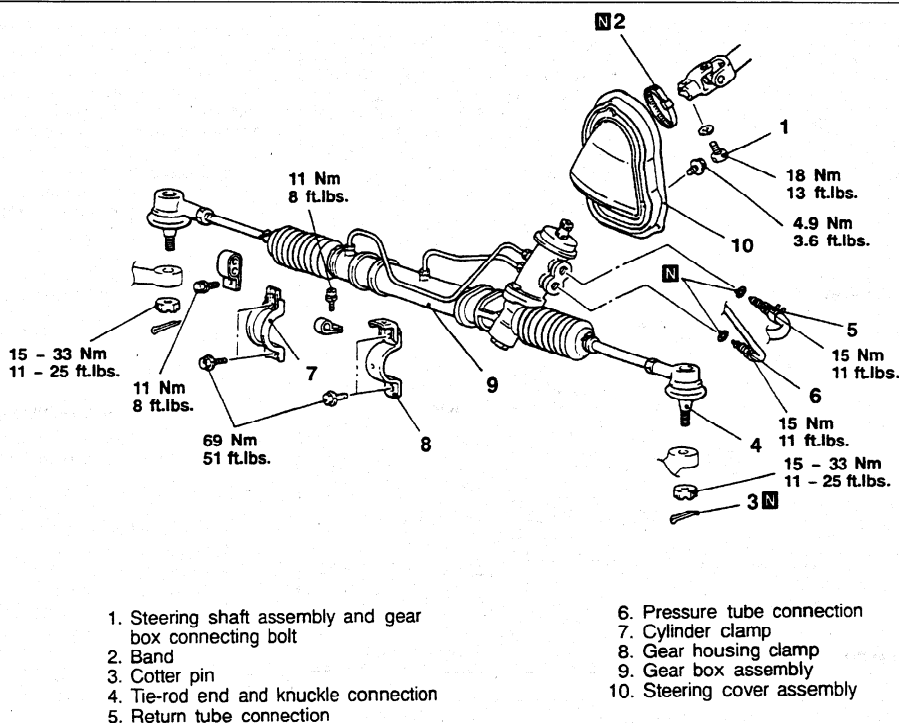


Fig. 97 Exploded view of the power steering gear assembly—Mirage

**1993-00 MODELS**

♦ See Figure 97

► **Prior to removal of the steering gear box, center the front wheels and remove the ignition key. Failure to do so may damage the SRS clockspring and render SRS system inoperative.**

1. Drain the power steering system.
2. Disconnect the battery negative cable. Raise the vehicle and support safely.
3. Disconnect the Heated Oxygen (HO<sub>2</sub>S) sensor and remove the front exhaust pipe.
4. Properly support the engine.
5. Remove both roll stopper mounting bolts and the four center member installation bolts. Remove the center member.
6. Remove the center member.

► **Matchmark the pinion input shaft of the rack to the lower steering column joint for installation purposes.**

7. Remove the pinch bolt holding the lower steering column joint to the rack and pinion input shaft.
8. Remove the cotter pins and disconnect the tie rod ends from the steering knuckle.
9. Disconnect the power steering fluid pressure pipe and return hose from the rack fittings.
10. Remove the rack and pinion steering assembly and its rubber mounts from the right side of the vehicle.

**To install:**

11. Align the matchmarks of the input shaft and install the rack to the vehicle.
12. Secure the rack using the retainer clamps and bolts. Tighten the bolts to 51 ft. lbs. (70 Nm).
13. Tighten the steering column pinch bolt to 13 ft. lbs. (18 Nm).
14. Using new O-rings, connect the power steering fluid lines to the rack fittings.
15. Install the center member.
16. Install the front exhaust pipe.
17. Connect the HO<sub>2</sub>S sensor.
18. Connect the tie rod ends to the steering knuckles and tighten the castle nuts to 25 ft. lbs. (34 Nm). Install new cotter pins.
19. Install the wheels and connect the negative battery cable.
20. Refill the reservoir and bleed the system.
21. Have a front end alignment performed.

2. Disconnect the battery negative cable.
3. Remove the pressure switch connector from the side of the pump.
4. If the alternator is located under the oil pump, cover it with a shop towel to protect it from oil.
5. Disconnect the pressure line.
6. Remove the steering pump drive belt and the water pump pulley drive belt.
7. Remove the water pump pulley.
8. Remove the bolts that secure the oil pump, then remove the pump from its bracket.

**To install:**

9. Install the power steering pump and tighten the mounting bolts to specifications.
10. Install the water pump pulley and tighten the mounting bolts 14 ft. lbs. (19 Nm).
11. Install and adjust the drive belts.
12. Replace the O-rings and connect the pressure line. Connect the pressure line so the notch in the fitting aligns and contacts the pump's guide bracket. Tighten the nut that secures the pressure line to 13 ft. lbs. (18 Nm).
13. Connect the return line.
14. Attach the pressure switch connector.
15. Refill the reservoir and bleed the system.

**Power Steering Pump**

**REMOVAL AND INSTALLATION**

**Mirage**

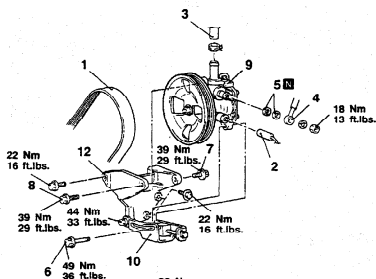
1. Drain the power steering system as follows:
  - a. Disconnect the return hose at the reservoir and place into a suitable container.
  - b. Disable the ignition system. While cranking the engine, turn the wheels several times, until system has been drained.

**1990-93 Galant**

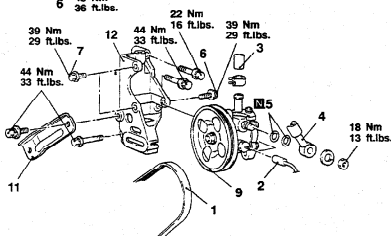
**FRONT**

1. Disconnect the battery negative cable.
2. Remove the pressure switch connector from the side of the pump.

<1.5L Engine>



<1.8L Engine>



**Removal steps**

1. Drive belt
2. Pressure switch connector
3. Suction hose
4. Pressure hose
5. O-ring
6. Bolt
7. Bolt
8. Bolt
9. Oil pump
10. Oil pump brace
11. Oil pump bracket stay
12. Oil pump bracket

**Exploded view of the power steering pump—Mirage**

931589g1

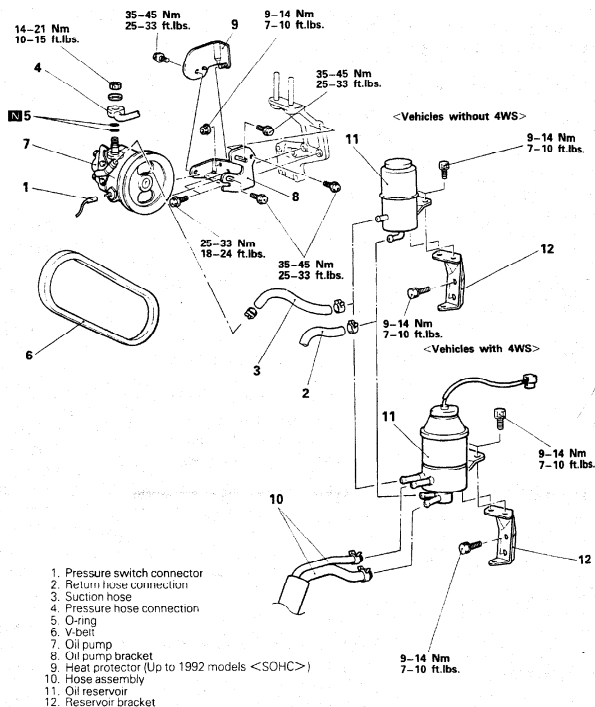
3. If the alternator is located under the oil pump, cover it with a shop towel to protect it from oil.
4. Disconnect the return fluid line.
5. Remove the reservoir cap and allow the return line to drain the fluid from the reservoir. If the fluid is contaminated, disconnect the ignition high tension cable and crank the engine several times to drain the fluid from the gearbox.
6. Disconnect the pressure line.
7. Remove the pump drive belt.
8. Remove the pump mounting bolts and remove the pump from the engine.

**To install:**

9. Install the pump, wrap the belt around the pulley and loosely tighten the mounting bolts.
10. Replace the O-rings and connect the pressure line. Connect the pressure line so the notch in the fitting aligns and contacts the pump's guide bracket.
11. Connect the return line. Attach the pressure switch connector.
12. Adjust the belt tension and tighten the adjusting bolts to 25–33 ft. lbs. (35–45 Nm).
13. Refill the reservoir and bleed the system.

**REAR**

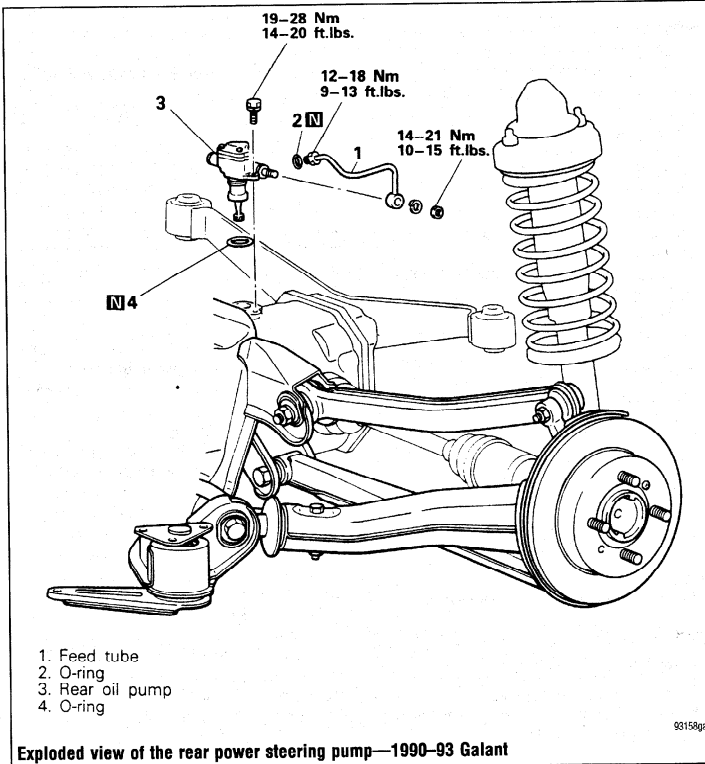
1. Raise the vehicle and support safely.
2. Drain the differential gear oil.
3. Matchmark and remove the rear driveshaft.
4. Remove the rear halfshafts.
5. Remove the center exhaust pipe and muffler assembly, as required.



1. Pressure switch connector
2. Return hose connection
3. Suction hose
4. Pressure hose connection
5. O-ring
6. V-belt
7. Oil pump
8. Oil pump bracket
9. Heat protector (Up to 1992 models <SOHC>)
10. Hose assembly
11. Oil reservoir
12. Reservoir bracket

**Exploded view of the front power steering pump—1990-93 Galant**

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**Exploded view of the rear power steering pump—1990-93 Galant**

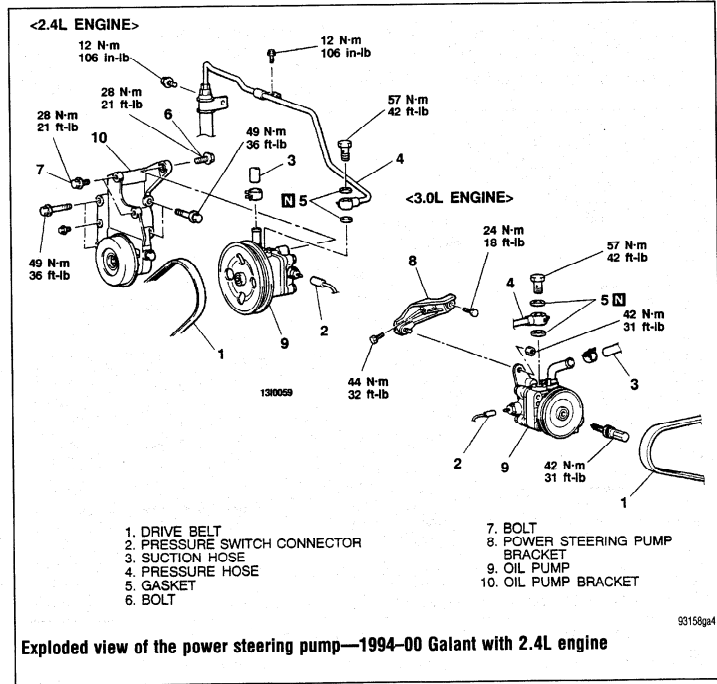
6. Disconnect the pressure and suction hoses from the fittings on the pump.
  7. The large mounting bolts that hold the differential carrier support plate to the underbody may use self-locking nuts. Before removing them, support the rear axle assembly in the middle with a transaxle jack. Remove the nuts, then remove the support plate(s) and the square dynamic damper from the rear of the carrier.
  8. Lower the differential carrier and remove from the vehicle.
  9. Remove the pump retaining bolt and remove the pump from the rear differential assembly.
- To install:**
10. Install the pump and tighten the mounting bolt to 14-20 ft. lbs. (19-28 Nm).
  11. Raise the rear differential carrier into position and install support member bolts. Replace all self-locking nuts. Tighten all mounting nuts and bolts as follows:
    - Upper support plate to carrier bolts: 72-87 ft. lbs. (100-120 Nm)
    - Support member/dynamic damper to carrier bolts: 58-72 ft. lbs. (80-100 Nm)
    - Differential support member mounting bolt nuts: 80-94 ft. lbs. (110-130 Nm)
  12. Connect the pressure and suction lines to the pump.
  13. Install new circlips on both rear driveshafes and install.
  14. Install the propeller shaft and tighten the mounting hardware to 22-25 ft. lbs. (30-35 Nm).
  15. Install the center exhaust pipe and muffler.

16. Lower the vehicle. With the vehicle level, fill the rear differential.
17. Fill the power steering system and properly bleed.

**1994-00 Galant**

**2.4L ENGINE**

1. Disconnect the battery negative cable.
  2. Loosen and remove the power steering pump drive belt.
  3. Remove the pressure switch connector from the side of the pump.
- ➔ **If the alternator is located under the oil pump, cover it with a shop towel to protect it from oil.**
4. Disconnect the return fluid line. Remove the reservoir cap and allow the return line to drain the fluid from the reservoir. If the fluid is contaminated disconnect the ignition high tension cable and crank the engine several times to drain the fluid from the gearbox.
  5. Disconnect the pressure line.
  6. Unbolt and remove the pump from the mounting bracket.
- To install:**
7. Install the pump, wrap the belt around the pulley and lightly tighten the mounting bolts.
  8. Replace the O-rings and connect the pressure line. Connect the pressure line so the notch in the fitting aligns and contacts the pump's guide bracket. Tighten the fitting to 13 ft. lbs. (18 Nm).
  9. Connect the return line and secure with the clamp.
  10. Attach the pressure switch connector.



**Exploded view of the power steering pump—1994-00 Galant with 2.4L engine**

# 8-38 SUSPENSION AND STEERING

11. Adjust the power steering belt for proper tension and tighten the adjusting bolts.
12. Reconnect the negative battery cable.
13. Refill the reservoir and bleed the system.

## 3.0L ENGINE

1. Disconnect the battery negative cable.
2. Disconnect the return fluid line. Remove the reservoir cap and allow the return line to drain the fluid from the reservoir. If the fluid is contaminated, disconnect the ignition high tension cable and crank the engine several times to drain the fluid from the gearbox.
3. Remove the power steering pump drive belt.
4. Remove the pressure switch connector from the side of the pump.
5. If the alternator is located under the oil pump, cover it with a shop towel to protect it from oil.
6. Disconnect the high pressure hose and the return hose from the pump.
7. Remove the pump drive belt and unbolt the pump from its bracket and remove the pump.

### To install:

8. Install the pump, wrap the belt around the pulley and tighten the bolts that secure the pump to 17 ft. lbs. (24 Nm).
9. Replace the O-rings and connect the high pressure hose. Connect the pressure line so the notch in the fitting aligns and contacts the pump's guide bracket. Tighten the mounting nut with lock-washer to 17 ft. lbs. (24 Nm).
10. Using a new hose clamp, connect the return line.
11. Attach the pressure switch connector.
12. Adjust the belt tension and tighten the adjusting bolts.
13. Refill the reservoir and bleed the system.

## Diamante

### FRONT

1. Disconnect the battery negative cable.

2. Disconnect the return fluid line. Remove the reservoir cap and allow the return line to drain the fluid from the reservoir. If the fluid is contaminated, disconnect the ignition high tension cable and crank the engine several times to drain the fluid from the gearbox.
3. Remove the power steering pump drive belt.
4. Remove the pressure switch connector from the side of the pump.
5. If the alternator is located under the oil pump, cover it with a shop towel to protect it from oil.
6. Disconnect the high pressure hose and the return hose from the pump.
7. Remove the pump drive belt and unbolt the pump from its bracket and remove the pump.

### To install:

8. Install the pump, wrap the belt around the pulley and tighten the bolts that secure the pump to 17 ft. lbs. (24 Nm).
9. Replace the O-rings and connect the high pressure hose. Connect the pressure line so the notch in the fitting aligns and contacts the pump's guide bracket. Tighten the mounting nut with lock-washer to 17 ft. lbs. (24 Nm).
10. Using a new hose clamp, connect the return line.
11. Attach the pressure switch connector.
12. Adjust the belt tension and tighten the adjusting bolts.
13. Refill the reservoir and bleed the system.

## REAR

1. Disconnect the negative battery cable.
2. Drain the power steering fluid.
3. Remove the rear power steering pump heat protector, located on the engine side of the differential on the transaxle.
4. Disconnect the pressure line from the pump.
5. Disconnect the suction hose from the pump.
6. Remove the mounting bolts and remove the pump from the transaxle.

7. The installation is the reverse of the removal procedure. Tighten the mounting bolts to 17 ft. lbs. (24 Nm).
8. Refill the reservoir and bleed the system.

## \*\*\* CAUTION \*\*\*

**Extreme caution should be taken when testing the rear steering pump. Ensure that the vehicle is supported safely and that all components are torqued to specification prior to testing.**

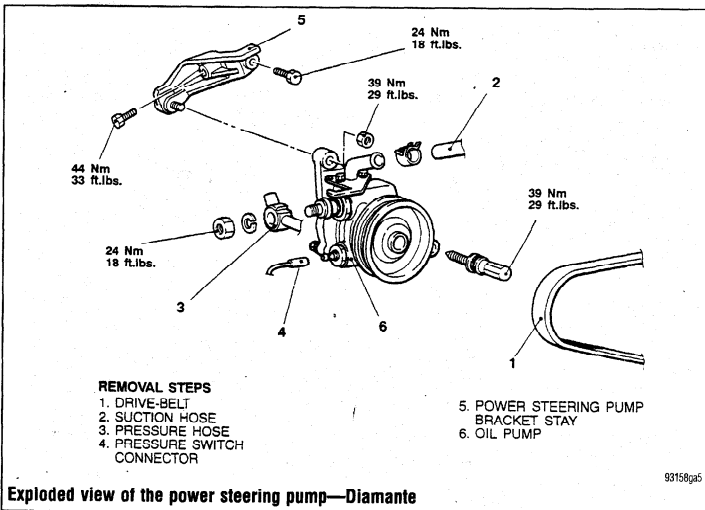
## SYSTEM BLEEDING

### Front

1. Raise the vehicle and support safely.
2. Manually turn the pump pulley a few times.
3. Turn the steering wheel all the way to the left and to the right 5 or 6 times.
4. Disconnect the ignition high tension cable and, while operating the starter motor intermittently, turn the steering wheel all the way to the left and right 5-6 times for 15-20 seconds. During bleeding, make sure the fluid in the reservoir never falls below the lower position of the filter. If bleeding is attempted with the engine running, the air will be absorbed in the fluid. Bleed only while cranking.
5. Connect ignition high tension cable, start engine and allow to idle.
6. Turn the steering wheel left and right until there are no air bubbles in the reservoir. Confirm that the fluid is not milky and the level is up to the specified position on the gauge. Confirm that there is very little change in the fluid level when the steering wheel is turned. If the fluid level changes more than 0.2 in. (5mm), the air has not been completely bled. Repeat the process.

### Rear

1. Bleed the front steering system.
2. Start the engine and let it idle.
3. Loosen the bleeder screw on the left side of the control valve and install special tool MB991230 to the bleeder.
4. Turn the steering wheel all the way to the left, then immediately turn it halfway back. Confirm that air has discharged with the fluid.
5. Repeat Step 4 two or three times as required, to remove all air from the rear system. Stop the engine.
6. Loosen the power cylinder (rear steering gear) bleeder screw about 1/8 turn and install the same special tool with the rotation prevention metal fixtures to prevent the bleeder from opening more.
7. Start the engine and run to 50 mph to circulate the fluid.
8. Maintain a speed of 20 mph and turn the steering wheel back and forth. Air should be discharged through the tube of the special tool and into the oil reservoir.
9. Repeat until all air is removed from the power cylinder.



Exploded view of the power steering pump—Diamante

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## TORQUE SPECIFICATIONS

Components	English	Metric
Air bag retaining screws	48 inch lbs.	5 Nm
Front Suspension		
Damper fork-to-lateral arm (1994-98 Galant)	64 ft. lbs.	88 Nm
Hub and bearing assembly-to-steering knuckle bolts	65 ft. lbs.	88 Nm
Lower ball joint-to-steering knuckle		
All	43-52 ft. lbs.	60-72 Nm
Lower control arm		
Diamante, 1990-93 Galant, and 1999-00 Galant		
Rear mount clamp retaining bolts	72-87 ft. lbs.	100-120 Nm
Rear mount clamp retaining nuts	29 ft. lbs.	40 Nm
Frame mount through bolt	75-90 ft. lbs.	102-122 Nm
1994-98 Galant		
Lateral arm rear bolt	71-85 ft. lbs.	98-118 Nm
Compression arm retaining bolt	60 ft. lbs.	83 Nm
Mirage		
Front mount	65 ft. lbs.	90 Nm
Rear mount	78 ft. lbs.	108 Nm
Shock absorber and coil spring-to-body nuts		
1994-98 Galant	32 ft. lbs.	44 Nm
Shock absorber and coil spring-to-damper fork through bolt		
1994-98 Galant	65 ft. lbs.	88 Nm
Shock absorber and coil spring-to-damper fork pinch bolt		
Mirage	76 ft. lbs.	103 Nm
Strut-to-body mounting bolts/nuts		
Diamante, 1990-93 Galant, and 1999-00 Galant	33 ft. lbs.	45 Nm
Mirage	29 ft. lbs.	40 Nm
Strut-to-steering knuckle mounting bolts		
Diamante, 1990-93 Galant, and 1999-00 Galant	70-76 ft. lbs.	90-105 Nm
Mirage	80-94 ft. lbs.	110-130 Nm
Sway bar mount retaining bolts		
1994-00 Galant	28 ft. lbs.	39 Nm
Diamante	32 ft. lbs.	44 Nm
Mirage	16 ft. lbs.	22 Nm
Sway bar links-to-damper fork (1994-98 Galant)	29 ft. lbs.	40 Nm
Tie-rod end-to-steering knuckle nuts		
Mirage	25 ft. lbs.	34 Nm
Galant and Diamante	21 ft. lbs.	29 Nm
Tie rod end jam nut		
Mirage	30 ft. lbs.	42 Nm
Galant and Diamante	36-39 ft. lbs.	49-53 Nm
Upper ball joint-to-steering knuckle nut (1994-98 galant)	20 ft. lbs.	28 Nm
Upper control arm-to-shaft through bolts (1994-98 Galant)	41 ft. lbs.	57 Nm
Upper control arm-to-body nuts (1994-98 Galant)	62 ft. lbs.	86 Nm
Wheel hub retaining nut	145-188 ft. lbs.	200-260 Nm
Manual rack and pinion		
Steering shaft upper pinch bolt	13 ft. lbs.	18 Nm
Rack retainer bolts	51 ft. lbs.	70 Nm
Power rack and pinion		
Front		
Inner tie rod-to-rack and pinion	65 ft. lbs.	88 Nm
Steering shaft upper pinch bolt		
Diamante	21 ft. lbs.	29 Nm
Except Diamante	13 ft. lbs.	18 Nm
Rack retainer bolts		
Diamante	51 ft. lbs.	70 Nm
1990-93 Galant	43-58 ft. lbs.	60-80 Nm
1994-00 Galant	51 ft. lbs.	70 Nm
Mirage	51 ft. lbs.	70 Nm



# 8-40 SUSPENSION AND STEERING

## TORQUE SPECIFICATIONS

Components	English	Metric
Rear		
Rack retainer bolts		
Diamante	51 ft. lbs.	70 Nm
Power steering pump		
Hose fittings	13 ft. lbs.	18 Nm
Front pump retaining bolts		
Mirage	14 ft. lbs.	19 Nm
1990-93 Galant	25-33 ft. lbs.	35-45 Nm
1994-00 Galant	17 ft. lbs.	24 Nm
Diamante	17 ft. lbs.	24 Nm
Rear pump retaining bolts		
1990-93 Galant	25-33 ft. lbs.	35-45 Nm
Diamante	17 ft. lbs.	24 Nm
Rear suspension		
Axle retaining nut		
1990-92 Mirage	108-145 ft. lbs.	150-200 Nm
1993-00 Mirage	130 ft. lbs.	180 Nm
1990-93 Galant w/drum brakes	20 ft. lbs.	27 Nm
1990-93 Disc brakes	145-188 ft. lbs.	200-260 Nm
Lower control arm		
Diamante		
Control arm-to-trailing arm nut	54-61 ft. lbs.	75-89 Nm
Control arm-to-crossmember	54-61 ft. lbs.	75-89 Nm
Galant		
Rear mount	72 ft. lbs.	100 Nm
Ball joint-to-knuckle	43-52 ft. lbs.	60-72 Nm
Strut		
Upper mounting nuts		
Diamante	33 ft. lbs.	45 Nm
1990-93 Galant	29 ft. lbs.	40 Nm
1994-00 Galant	32 ft. lbs.	44 Nm
Mirage	20 ft. lbs.	28 Nm
Lower strut mounting bolt		
All models	71 ft. lbs.	98 Nm
Sway bar mount retaining bolts		
Diamante and 1994-00 Galant	28 ft. lbs.	39 Nm
1990-93 Galant	33 ft. lbs.	45 Nm
Trailing arm-to-body through bolt		
1990-93 Galant	72-87 ft. lbs.	100-120 Nm
1993-00 Mirage	72-87 ft. lbs.	100-120 Nm
1994-00 Galant and 1997-00 Diamante	99-114 ft. lbs.	137-157 Nm
1992-96 Diamante	101-116 ft. lbs.	140-160 Nm
Upper ball joint retaining nut		
1990-93 Galant	52 ft. lbs.	72 Nm
1994-98 Galant	71 ft. lbs.	98 Nm
Upper control arm retaining bolts		
1990-93 Galant	116 ft. lbs.	160 Nm
1994-98 Galant	28 ft. lbs.	39 Nm
Diamante	54-61 ft. lbs.	75-89 Nm
Wheel hub mounting bolts	54-65 ft. lbs.	74-88 Nm
Steering wheel retaining nut		
1990-93 Galant	25-33 ft. lbs.	35-45 Nm
1994-00 Diamante	33 ft. lbs.	45 Nm
All other models	29 ft. lbs.	40 Nm
Wheel lug nuts	65-80 ft. lbs.	90-110 Nm