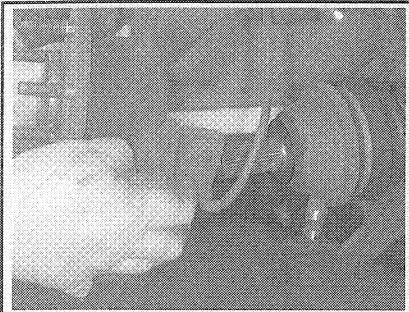
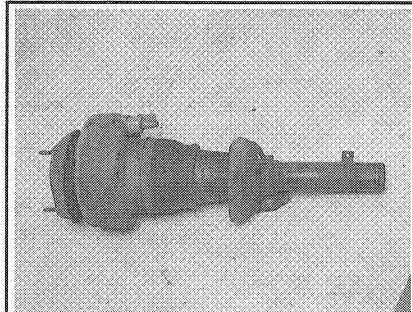


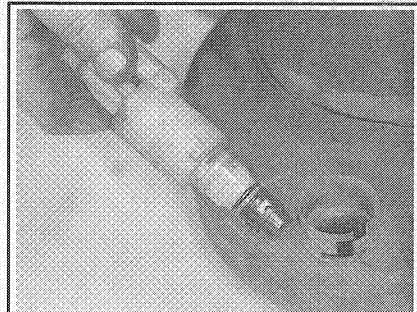
## 8-8 SUSPENSION AND STEERING



**Fig. 45** Slide the axle shaft out of the spindle/hub assembly. Be sure to support the axle. Don't let it hang!



**Fig. 46** The air spring removed from the car



**Fig. 47** Check the solenoid and air spring to make sure you haven't lost the sealing O-rings

7. Remove the tire and wheel assembly.

8. Remove the brake caliper, then support it on a wire, out of the way. Remove the rotor.

9. At the tie rod end, remove the cotter pin and the castle nut. Discard the cotter pin and nut, and replace with new ones during installation.

10. Using a tie rod end remover tool and the tie rod remover adapter tool, separate the tie rod from the steering knuckle.

### \*\*\* WARNING

**Use extreme care not to damage the link ball joint boot seal.**

11. Unfasten the stabilizer bar link nut, then remove the stabilizer bar link from the strut.

12. Remove the lower arm-to-steering knuckle pinch bolt and nut; it may be necessary to use a drift punch to remove the bolt. Using a suitable tool, spread the knuckle-to-lower arm pinch joint, then remove the lower arm from the steering knuckle. Discard the pinch nut/bolt and replace with a new one during installation.

13. Remove the halfshaft from the hub and support it with a wire to maintain a level position.

**When removing the halfshaft, do not allow it to move outward as the internal parts of the tripod CV-joint could separate, causing failure of the joint.**

14. Remove the strut-to-steering knuckle pinch bolt. Using a small prybar, spread the pinch bolt joint and separate the strut from the steering knuckle. Remove the steering knuckle/hub assembly from the strut.

15. Remove the 3 top mount-to-air spring tower nuts, then remove the air spring from the vehicle.

#### To install:

16. Install the air spring assembly and the three top mount-to-air spring tower nuts.

17. Install the steering knuckle and hub assembly to the strut.

18. Install a new strut-to-steering knuckle pinch bolt. Tighten the bolt to 73–97 ft. lbs. (98–132 Nm).

19. Install the halfshaft into the hub.

20. Install the lower arm to the steering knuckle, making sure the ball stud groove is properly positioned. Be very careful not to damage the ball joint seal. Fasten using a new pinch bolt and nut. Tighten to 40–53 ft. lbs. (54–72 Nm).

**The letters "Top LH" and "Top RH" are molded into the stabilizer bar link for correct assembly to the strut.**

21. Install the stabilizer link to the strut, making sure the link is positioned properly, then install a new stabilizer bar link nut. Tighten to 57–75 ft. lbs. (77–102 Nm).

22. Using a new castle/slotted nut, install the tie rod end onto the knuckle. Tighten the nut to 23–35 ft. lbs. (31–47 Nm).

23. Install the disc brake rotor, caliper, and tire/wheel assembly. Tighten the wheel lug nuts to 85–105 ft. lbs. (115–142 Nm).

24. Tighten the three top mount-to-air spring tower nuts to 23–29 ft. lbs. (31–40 Nm).

25. Lower the vehicle partially.

26. Turn on the air suspension switch and fill the air spring as follows:

- Place the air suspension service switch in the **ON** position.
- Turn the ignition switch **OFF**.
- Connect a battery charger to reduce the battery drain.
- Open the access door in the left-hand luggage compartment trim panel to plug the Super Star II tester or an equivalent scan tool, into the air suspension diagnostics wiring harness connector.
- Set the tester to EEC-IV/MCU mode. Also set the tester to FAST mode. Release the tester button to the HOLD (up) position and turn the tester **ON**.
- Depress the tester button to TEST (down) position. A Code 10 will be displayed. Within 2 minutes, a Code 13 will be displayed. After Code 13 is displayed, release the tester button to HOLD (up) position, wait 5 seconds, and depress the tester button to TEST (down) position. Ignore any codes displayed.
- Release the tester button to the HOLD (up) position. Wait at least 20 seconds, then depress the tester button to TEST (down) position. Within 10 seconds, the codes will be displayed in the order shown.
- Within 4 seconds after Code 24/25 is displayed, release the tester button to the HOLD (up) position. Waiting longer than 4 seconds may result in Functional Test 31 being entered. The compressor will fill the air springs with air as long as the tester button is in the HOLD (up) position. To

stop filling the air springs, depress the tester button to the TEST (down) position.

**It is possible to overheat the compressor during this operation. If the compressor overheats, the self-resetting circuit breaker in the compressor will open and remain open for about 15 minutes. This allows the compressor to cool down.**

- To exit Functional Test 24/25, disconnect the tester and turn the ignition switch OFF.
27. Lower the vehicle.
28. Then tighten the hub nut to 170–203 ft. lbs. (230–275 Nm).
29. Depress the brake pedal a few times before moving the vehicle.

### Upper Ball Joint

#### INSPECTION

See Figure 48

1. Raise the vehicle and place floor jacks beneath the lower control arms.
2. Make sure the front wheel bearings are properly adjusted.
3. Inspect the lower ball joint and replace the lower control arm assembly, if required.
4. Have an assistant grasp the bottom of the tire and move the wheel in and out.
5. As the wheel is being moved, observe the upper control arm where the spindle attaches to it. Any movement between the upper part of the spindle and the upper control arm indicates a bad ball joint, which must be replaced.

#### REMOVAL & INSTALLATION

##### 1988–91 Vehicles

**Ford Motor Company recommends replacement of the upper control arm and ball joint as an assembly. However, aftermarket replacement parts are available, which can be installed using the following procedure.**

1. Raise the vehicle and support it on the frame points so the front wheels fall to their full down position. Remove the wheel and tire assembly.
2. Drill a 1/8 in. hole completely through each ball joint attaching rivet.