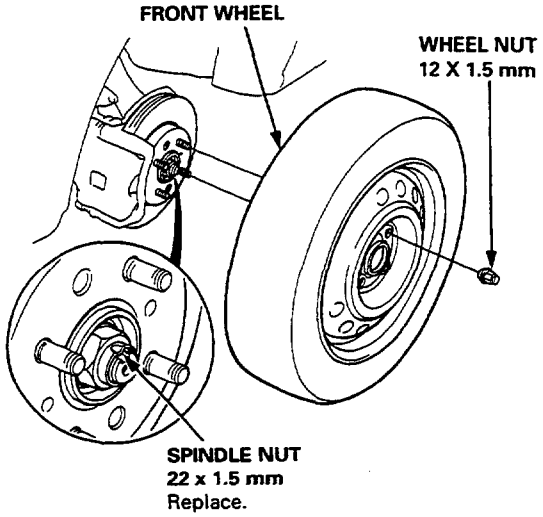
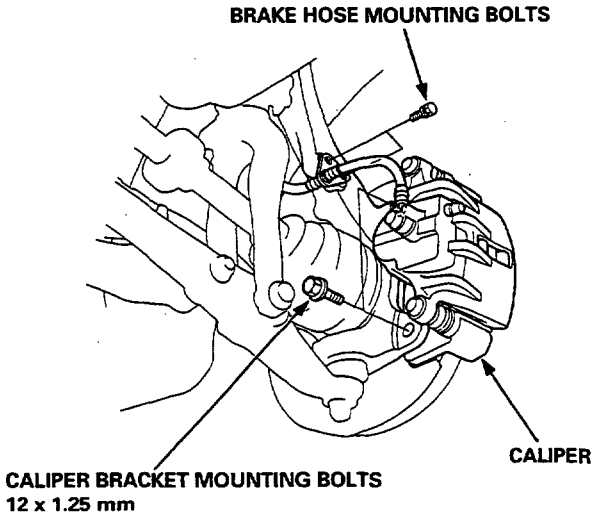
Knuckle Removal

1. Loosen the wheel nuts slightly.
2. Raise the front of car, and support it with safety stands in the proper locations (see section 1).
3. Remove the wheel nuts and front wheel.
4. Raise the locking tab on the spindle nut, then remove the nut.



5. Remove the brake hose mounting bolts.
6. Remove the caliper bracket mounting bolts, and hang the caliper to one side.

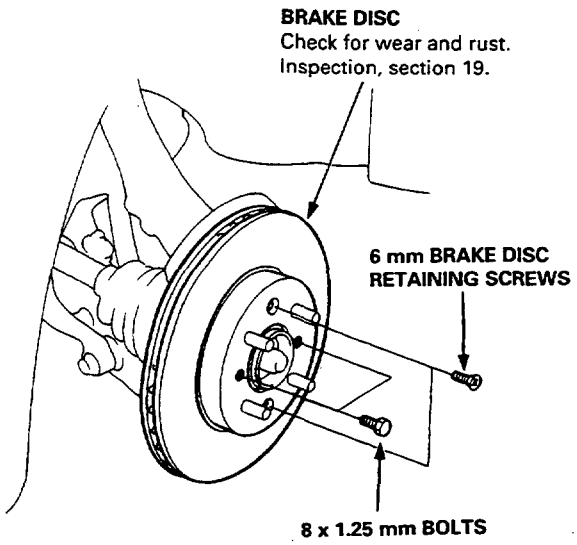
CAUTION: To prevent accidental damage to the caliper or brake hose, use a short piece of wire to hang the caliper from the undercarriage.



7. Remove the 6 mm brake disc retaining screws.
8. Screw the two 8 x 1.25 mm bolts into the disc to push it away from the hub.

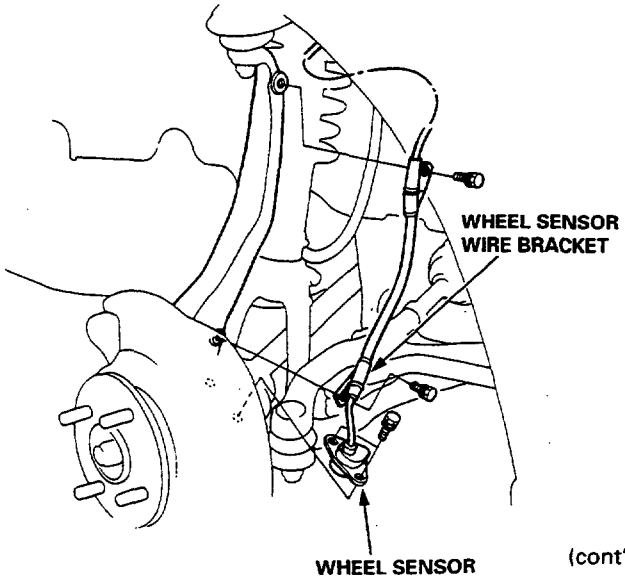
   NOTE: Turn each bolt two turns at a time to prevent cocking the disc excessively.

9. Remove the brake disc from the knuckle.
10. Check the front hub for damage or cracks.



11. Remove the wheel sensor wire bracket, then remove the wheel sensor from the knuckle (for cars with ABS).

    NOTE: *Do not disconnect the wheel sensor connector.*



(cont'd)

Knuckle/Hub (cont'd)

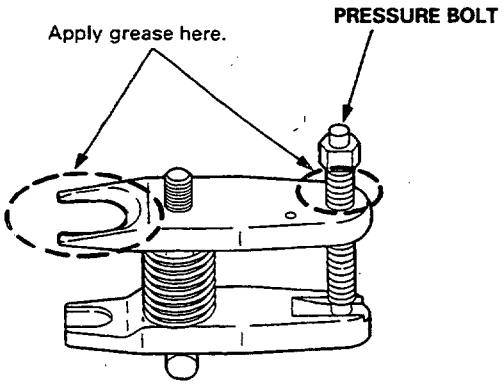
NOTE: Use ball joint remover, 28 mm, to separate the ball joints from the suspension or tie-rod end.

CAUTION: Be careful not to damage the ball joint boot.

12. Clean any dirt or grease off the ball joint.

13. Remove the cotter pin from the tie-rod end ball joint castle nut, and remove the nut.

14. Apply grease to the special tool on the areas shown. This will ease installation of the tool and prevent damage to the pressure bolt threads.

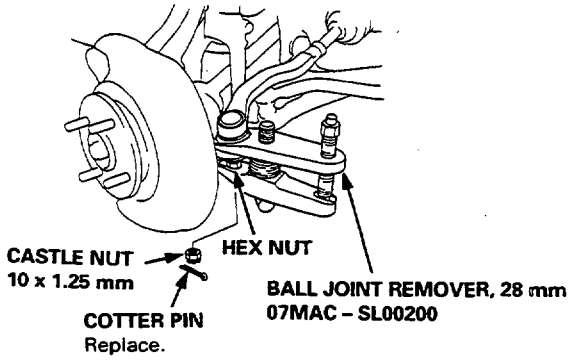


15. Install a 10 mm hex nut on the ball joint. Be sure that the hex nut is flush with the ball joint pin end to prevent damage to the threaded end of the ball joint.

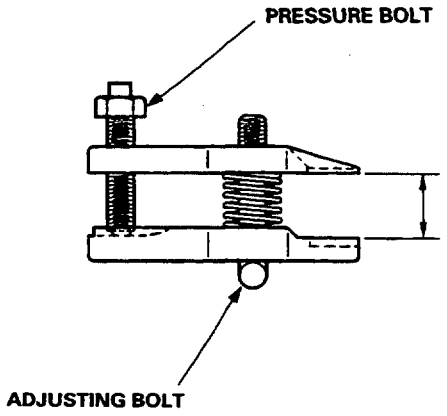
16. Use the ball joint remover, 28 mm, as shown. Insert the jaws carefully, making sure you do not damage the ball joint boot.

17. Adjust the jaw spacing by turning the pressure bolt.

    NOTE: If necessary, apply penetrating type lubricant to loosen the ball joint.



18. Once the tool is in place, turn the adjusting bolt as necessary to make the jaws parallel. Then hand-tighten the pressure bolt and recheck the jaws to make sure they are still parallel.



19. With a wrench, tighten the pressure bolt until the ball joint shaft pops loose from the steering arm.

    ⚠ WARNING Wear eye protection. The ball joint can break loose suddenly and scatter dirt or other debris in your eyes.

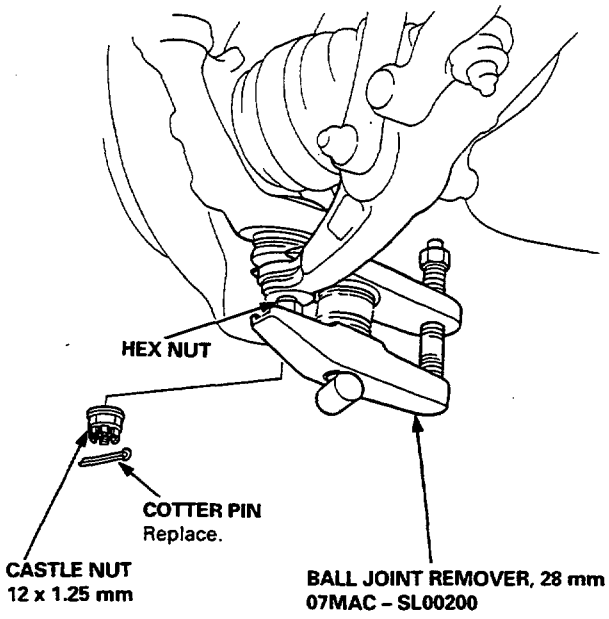
20. Remove the tool, then remove the nut from the end of the ball joint and pull the ball joint out of the steering/suspension arm. Inspect the ball joint boot and replace it if damaged.

21. Remove the cotter pin from the lower arm ball joint castle nut, and remove the nut.

22. Install a 12 mm hex nut on the ball joint. Be sure that the hex nut is flush with the ball joint pin end, or the threaded section of the ball joint pin might be damaged by the ball joint remover.

23. Use the special tool as shown on page 18-12 to separate the ball joint and lower arm.

    NOTE: If necessary, apply penetrating type lubricant to loosen the ball joint.

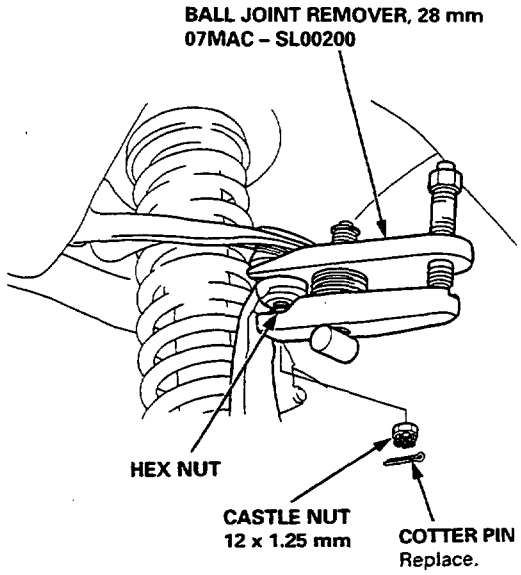


24. Remove the cotter pin from the upper ball joint castle nut, and remove the nut.

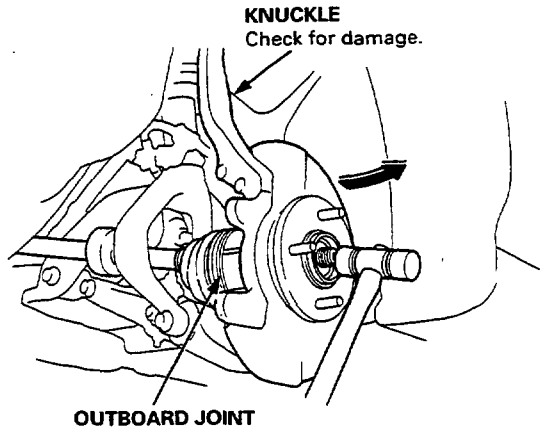
25. Install the 12 mm hex nut on the ball joint.
    Be sure that the hex nut is flush with the ball joint pin end, or the threaded section of the ball joint pin might be damaged by the ball joint remover.

26. Use the special tool as shown on page 18-12 to separate the ball joint and knuckle.

    NOTE: If necessary, apply penetrating type lubricant to loosen the ball joint.



27. Pull the knuckle outward and remove the driveshaft outboard joint from the knuckle using a plastic hammer, then remove the knuckle.



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