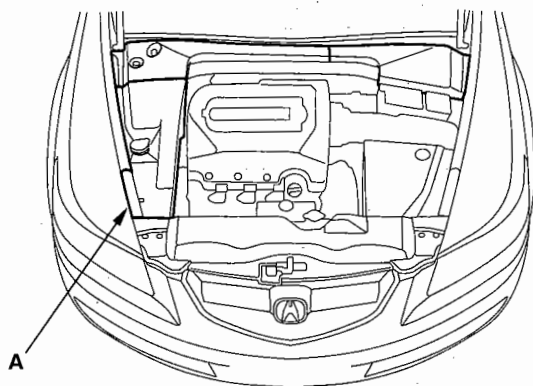


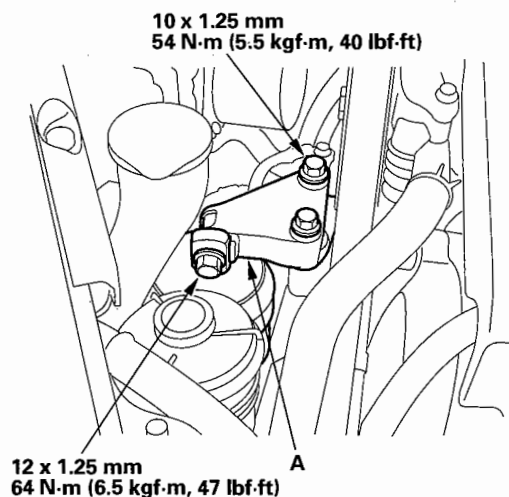
# Power Steering

## Pump Replacement

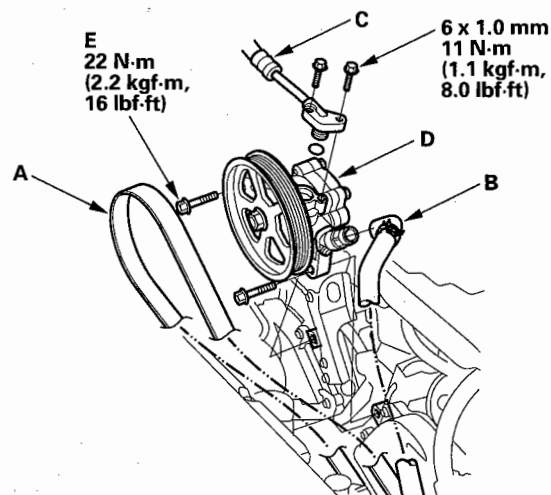
1. Place a suitable container under the vehicle.
2. Remove the right side engine component cover (A).



3. Drain the power steering fluid from the reservoir.
4. Remove the side engine mount bracket (A).



5. Remove the drive belt (A) from the pump pulley (see page 4-29).



6. Cover the auto-tensioner, alternator, and A/C compressor with several shop towels to protect them from spilled power steering fluid. Disconnect the pump inlet hose (B) and pump outlet hose (C) from the pump (D), and plug them. Take care not to spill the fluid on the body or parts. Wipe off any spilled fluid at once. Do not turn the steering wheel with the pump removed.
7. Remove the pump mounting bolts (E).
8. Cover the opening of the pump with a piece of tape to prevent foreign material from entering the pump.
9. Connect the pump inlet hose and pump outlet hose onto the new pump.
10. Loosely install the pump in the pump bracket with the mounting bolts, then tighten the pump fittings securely.

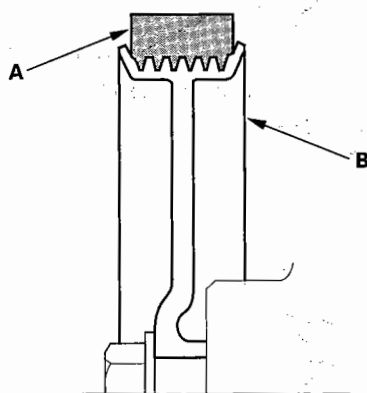


11. Tighten the pump mounting bolts to the specified torque.

12. Install the drive belt (A).

Note these items during belt installation:

- Make sure that the belt is properly positioned on the pulleys (B).
- Do not get power steering fluid or grease on the auto-tensioner, alternator, A/C compressor, and drive belt or pulley faces. Clean off any fluid or grease before installation.



13. Install the side engine mount bracket. Tighten the bolts to the specified torque.

14. Fill the reservoir to the upper level line (see page 17-12).

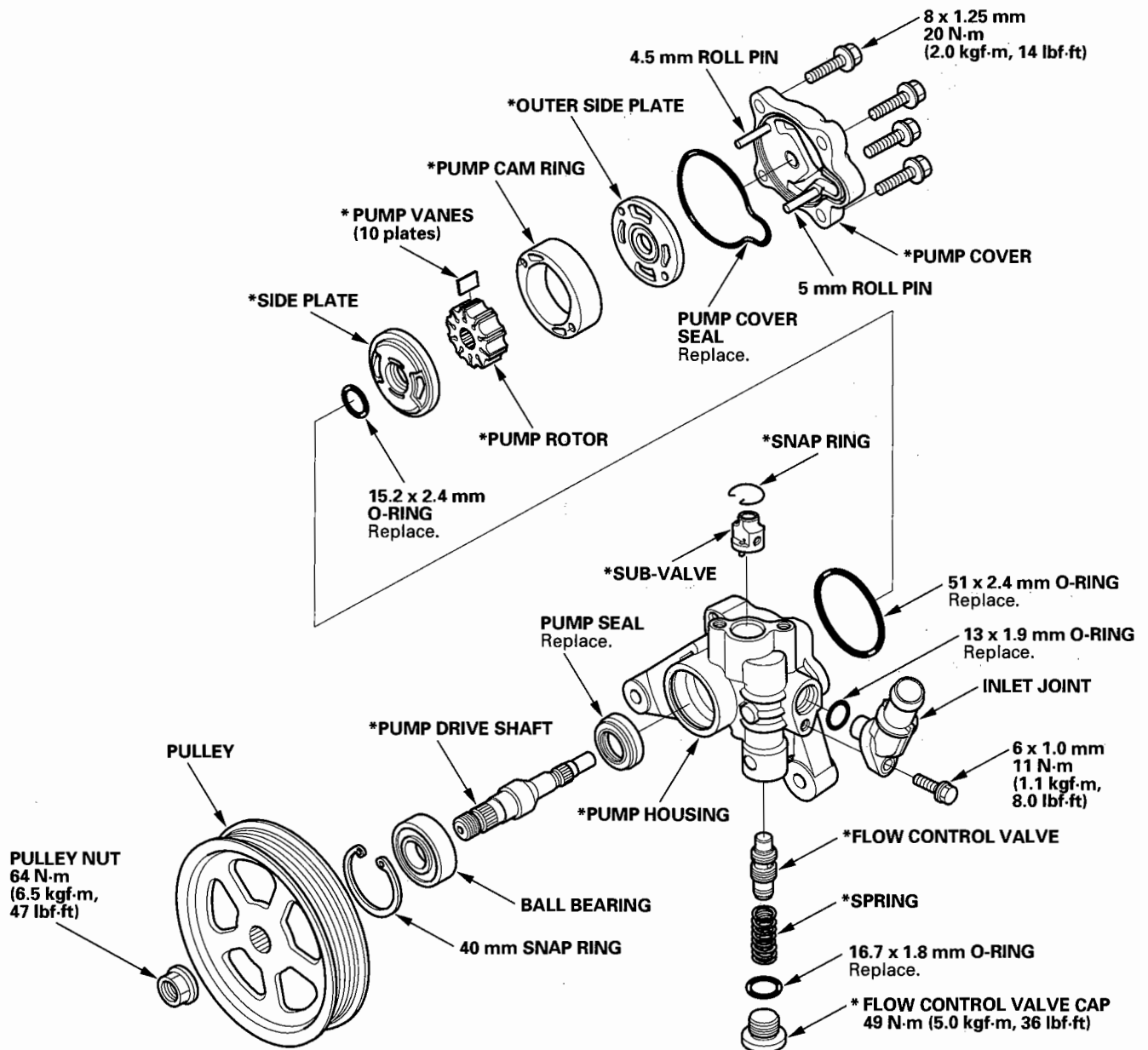
15. Install the right side engine component cover.

# Power Steering

## Pump Overhaul

### Exploded View

Replace the pump as an assembly if the parts indicated with asterisk (\*) are worn or damaged.





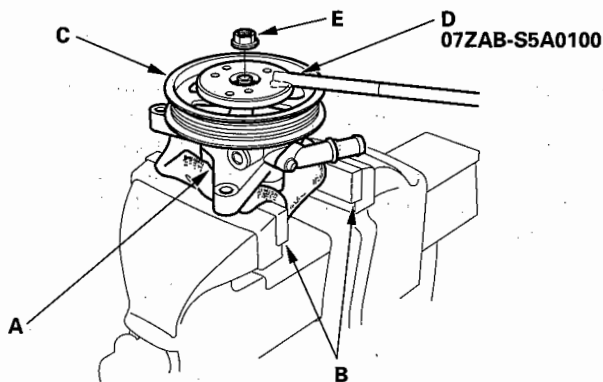
### Special Tools Required

Pulley holder 07ZAB-S5A0100

### Disassembly

NOTE: Refer to the Exploded View as needed during the following procedure.

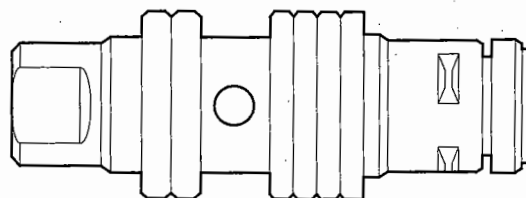
1. Drain the fluid from the pump.
2. Remove the power steering pump (see page 17-14).
3. Hold the power steering pump (A) in a vise with soft jaws (B), then hold the pulley (C) with the special tool (D), and remove the pulley nut (E) and pulley. Be careful not to damage the pump housing with the jaws of the vise.



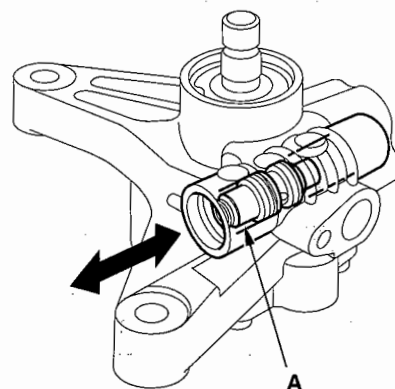
4. Remove the inlet joint and O-ring.
5. Loosen the flow control valve cap with a hex wrench, and remove it and the O-ring, the flow control valve and spring.
6. Remove the pump cover and pump cover seal.
7. Remove the outer side plate, cam ring, rotor, vanes, side plate and O-rings.
8. Remove the snap ring, then remove the sub-valve from the pump housing.
9. Remove the snap ring, then remove the pump drive shaft by tapping the shaft end with the plastic hammer.
10. Remove the seal from the pump housing.

### Inspection

11. Check the flow control valve for wear, burrs, and other damage to the edges of the grooves in the valve.



12. Inspect the bore of the flow control valve on the pump housing for scratches and wear.
13. Slip the flow control valve back in the pump housing, and check that it moves in and out smoothly. If OK, go to step 14; if not, replace the pump as an assembly. The flow control valve (A) is not available separately.



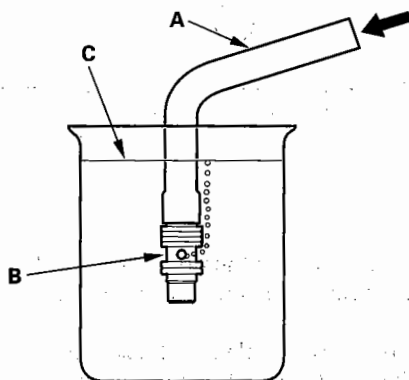
(cont'd)

# Power Steering

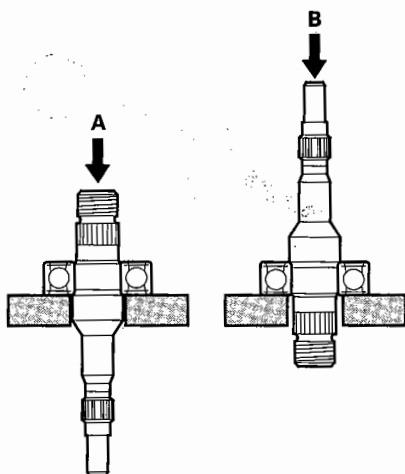
## Pump Overhaul (cont'd)

14. Attach a hose (A) to the end of the flow control valve (B) as shown. Then submerge the flow control valve in a container of power steering fluid or solvent (C), and blow in the hose.

- If air bubbles leak through the valve at less than 98 kPa (1.0 kgf/cm<sup>2</sup>, 14.2 psi), replace the pump as an assembly. The flow control valve is not available separately.
- If the flow control valve OK, set it aside for reassembly later.



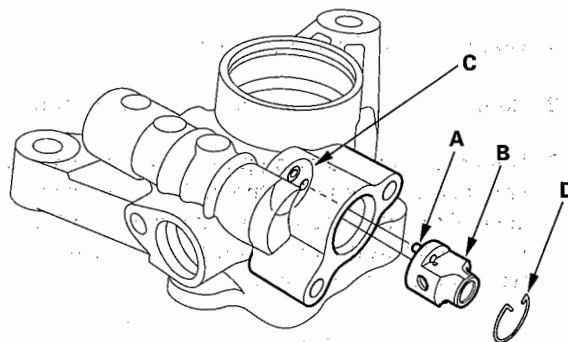
15. Inspect the ball bearing by rotating the outer race slowly. If you feel any play (axial or radial) or roughness remove the faulty ball bearing (A), and install a new one (B).



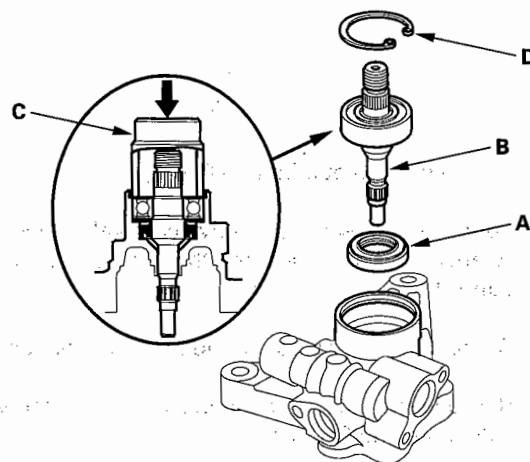
16. Inspect each part shown with an asterisk in the Exploded View. If any of them are worn or damaged, replace the pump as an assembly.

## Reassembly

17. Align the pin (A) of the sub-valve (B) with the oil passage (C) in the pump housing, and push the sub-valve into place, then install the snap ring (D).



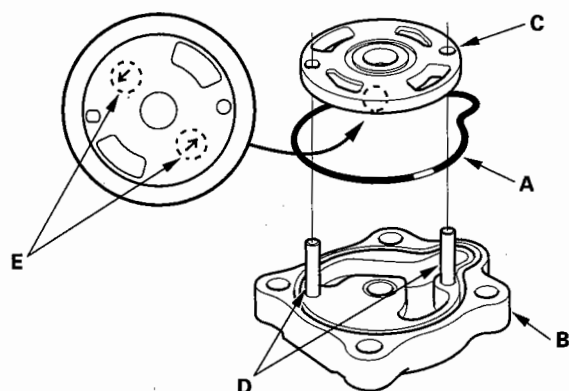
18. Install the new pump seal (A) (with its grooved side facing in) into the pump housing by hand first, then position the pump drive shaft (B) in the pump housing. Press the pump drive shaft and pump seal with the appropriate size socket wrench (C) as shown.



19. Install the 40 mm snap ring (D) with its radiused edge facing out.

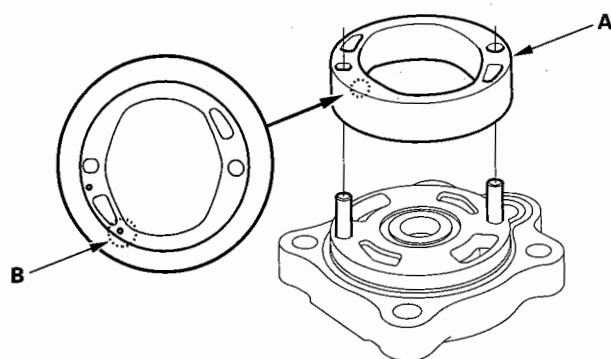


20. Coat the new pump cover seal (A) with power steering fluid, and install it into the groove in the pump cover (B).

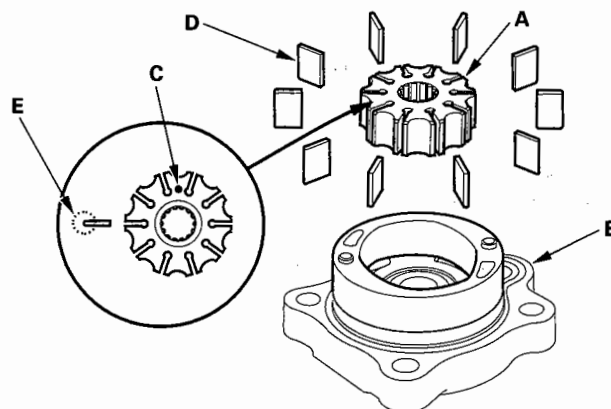


21. Install the outer side plate (C) over the two roll pins (D) with its arrow marks stamped (E) facing down.

22. Set the pump cam ring (A) over the two roll pins (D) with its "•" mark (B) facing down.

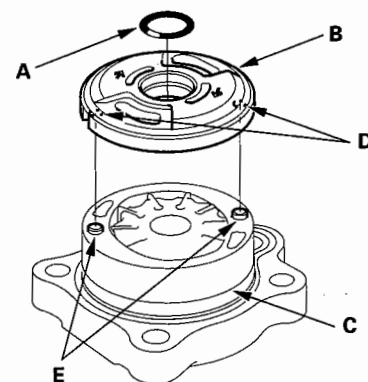


23. Assemble pump rotor (A) to the pump cover (B) with its "•" mark (C) facing up.



24. Set the 10 vanes (D) in the grooves in the rotor. Make sure that the round ends (E) of the vanes are in contact with the sliding surface of the cam ring.

25. Coat the new 15.2 mm O-ring (A) with power steering fluid, and install it into the groove in the side plate (B).



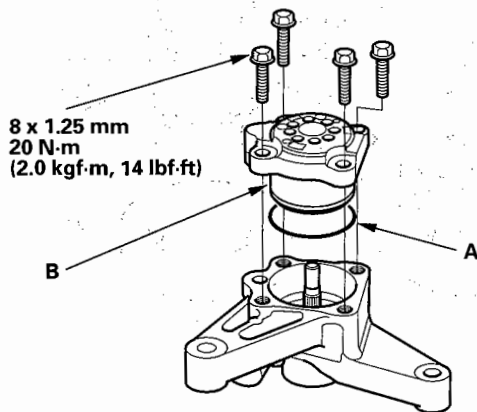
26. Install the side plate on the cam ring (C) by aligning the roll pin set holes (D) in the side plate with the roll pins (E).

(cont'd)

# Power Steering

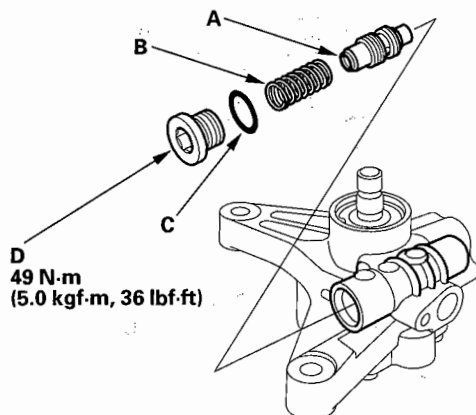
## Pump Overhaul (cont'd)

27. Coat the new 51 mm O-ring (A) with power steering fluid, and position it in the bottom of the pump housing.



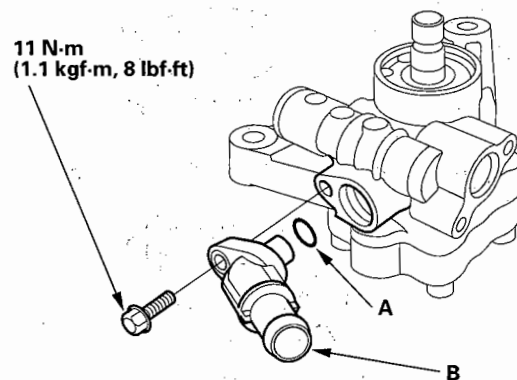
28. Install the pump cover assembly (B) in the pump housing. Tighten the bolts to the specified torque.

29. Coat the flow control valve (A) with power steering fluid, then install it and the spring (B) in the pump housing.

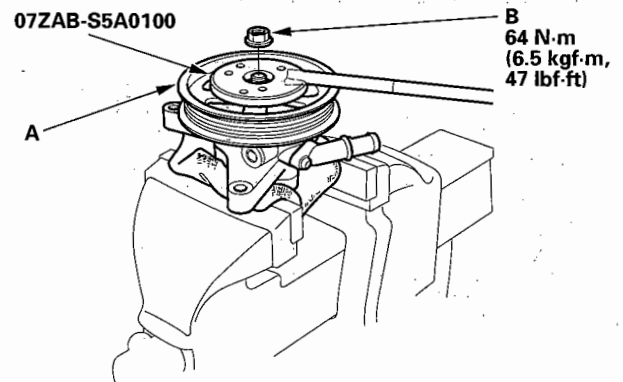


30. Coat the new 16.7 mm O-ring (C) with power steering fluid, and install it on the flow control valve cap (D), then install the cap on the pump housing, and tighten it to the specified torque.

31. Coat the new 13 mm O-ring (A) with power steering fluid, and install it on the inlet joint (B). Install the inlet joint on the pump housing.



32. Install the pulley (A), then loosely install the pulley nut (B). Hold the steering pump in a vise with soft jaws. Be careful not to damage the pump housing with the jaws of the vise.



33. Hold the pulley with the special tool, and tighten the pulley nut to the specified torque.

34. Check that the pump turns smoothly by turning the pulley by hand. If it turns hard, loosen the four flange bolts on the cover, then retighten them in same manner as in step 28. Turn the pump again by hand.