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Power steering pump, reservoir and hydraulic fluid circuit

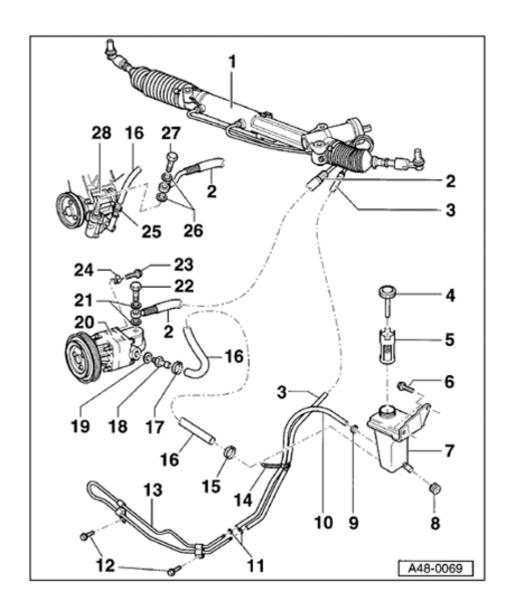
Notes:

- Power steering pumps cannot be repaired. If problems in the pump are suspected carry out pressure and leakage tests. Replace the pump if it is malfunctioning.
- Check steering system for leaks if the fluid level in the reservoir is low.
- If there are leaks at the line connections first tighten connections, wipe dry and then re-check for leaks.
- Checking the hydraulic fluid level ⇒ page 48-22.
- ◆ Bleeding the steering system ⇒ page 48-24.
- ◆ Checking the steering system for leaks ⇒ page 48-25.
- ◆ Type of hydraulic fluid: G 002 000

♦ Hydraulic system fluid capacity: 0.7-0.9 Liters (12-15 oz.)

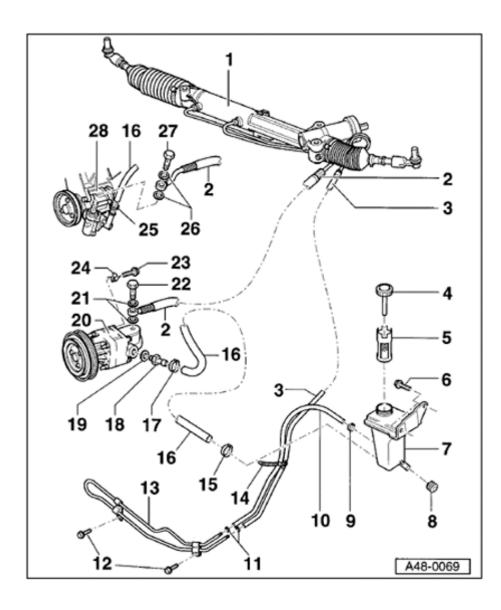
CAUTION!

- Pumps supplied as replacement parts are not filled with fluid. Therefore it is essential to fill the pump with hydraulic fluid G 002 000 and to rotate pump several times by hand.
 Otherwise the pump may be damaged or be noisy during operation.
- Part numbers are listed here for reference only. Always check with your Parts department for the latest information.



Power steering hydraulic circuit (4-cyl. engine), overview

- 1 Power steering gear
- 2 Pressure line
- 3 Return hose
- 4 Cap with dipstick
 - ◆ Checking fluid level ⇒ page 48-22
- 5 Strainer
 - ◆ Integrated into reservoir
- 6 Bolt
 - 9 Nm (80 in. lb)
- 7 Reservoir
- 8 Rubber mount
- 9 Clamp
 - ♦ Use VAG1275 to tighten



10 - Return hose

- Between reservoir and cooling line
- ◆ Not on 4-cyl. TDI without towing hitch

11 - Clamps

◆ Use VAG1275 to tighten

12 - Bolts

♦ 10 Nm (7 ft lb)

13 - Cooling line

◆ Not on 4-cyl. TDI without towing hitch

14 - Cable strap

15 - Clamp

◆ Use VAG1275 to tighten

16 - Suction hose

17 - Clamp

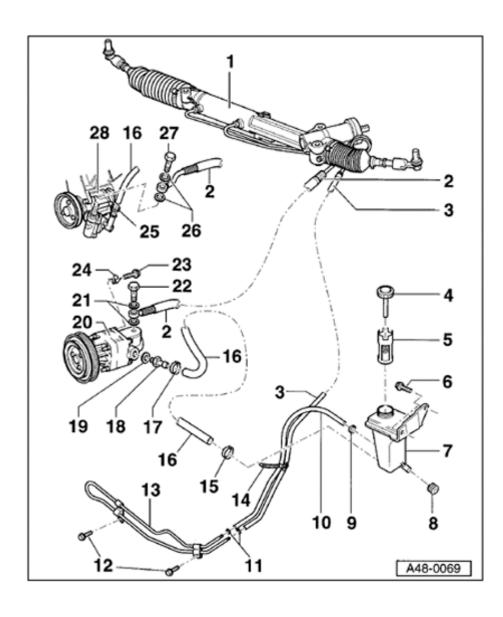
◆ Use VAG1275 to tighten

18 - Hose fitting

◆ 50 Nm (37 ft lb)

19 - Seals 18 x 24

Always replace



20 - Power steering pump

◆ Fill with fluid before installing ⇒ <u>CAUTION</u>, page 48-27

21 - Seals 16 x 22

Always replace

22 - Banjo bolt

♦ 50 Nm (37 ft lb)

23 - Bolt

◆ 18 Nm (13 ft lb)

24 - Fastener

25 - Clamp

- ♦ Always replace
- ◆ Use VAG1275 to tighten

26 - Seals 16 x 22

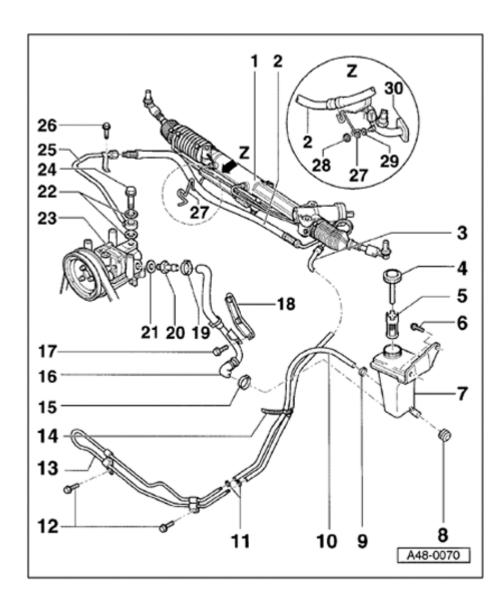
◆ Always replace

27 - Banjo bolt

◆ 50 Nm (37 ft lb)

28 - Power steering pump

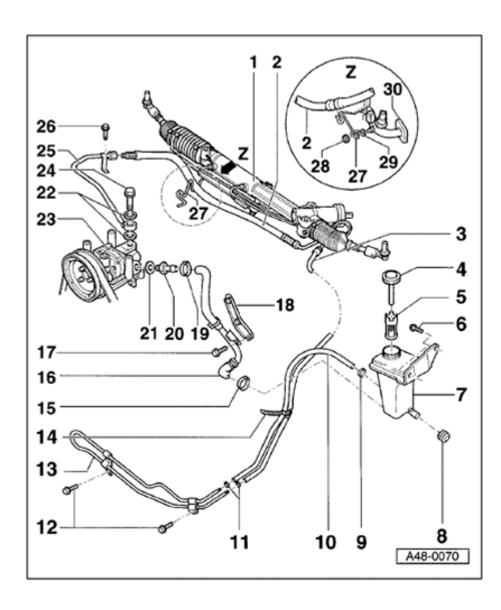
- Fill with fluid before installing ⇒ <u>CAUTION</u>, page 48-27
- ◆ Installed on all 4-cyl. engines m.y. 98 ➤



Power steering hydraulic circuit (6-cyl. 2V engine), overview

- 1 Power steering gear
- 2 Flexible hose
- 3 Return hose
- 4 Cap with dipstick
 - Checking hydraulic fluid level ⇒ page 48-22
- 5 Strainer for expansion tank
 - Integrated into reservoir
- 6 Bolt
 - ♦ 9 Nm (80 in. lb)
- 7 Expansion tank
 - Refill with hydraulic fluid, Part No. G 002 000
 - ◆ Capacity: 0.7 liters (12 oz.)
 - Checking hydraulic fluid level ⇒ page 48-22
- 8 Rubber mount
- 9 Clamp
 - Always replace

♦ Use VAG1275 to tighten



10 - Return hose

Between expansion tank and oil cooler

11 - Clamps

- ◆ Always replace
- ♦ Use VAG1275 to tighten

12 - Bolt w/washer assembly

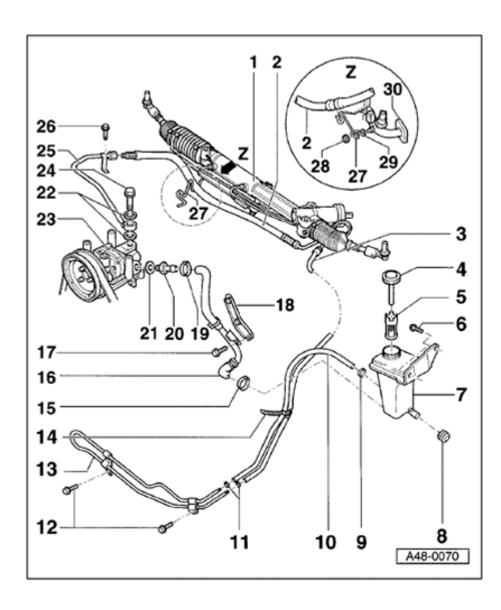
- ◆ 10 Nm (7 ft lb)
- 13 Cooling line
- 14 Cable strap
- 15 Clamp
 - ◆ Always replace
 - ◆ Use VAG1275 to tighten
- 16 Suction hose
- 17 Bolt w/washer assembly
 - ♦ 8 Nm (71 in. lb)
- 18 Bracket
 - Bolted to cylinder head

19 - Clamp

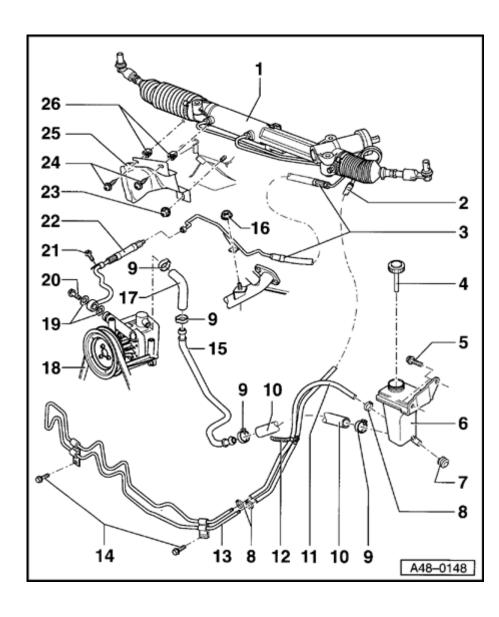
- Always replace
- ♦ Use VAG1275 to tighten

20 - Hose fitting

◆ 50 Nm (37 ft lb)



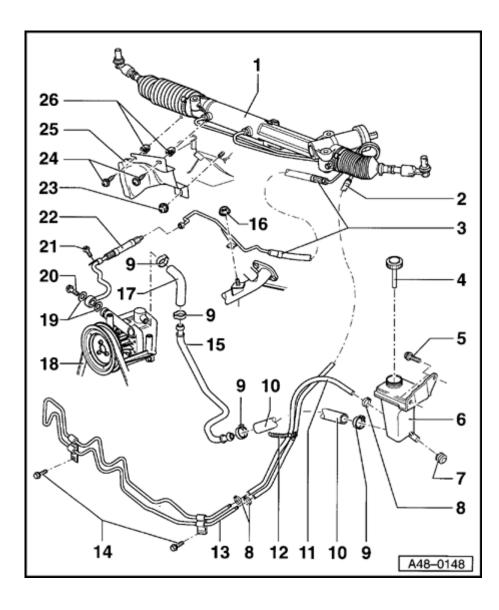
- 21 Seal 18 x 24
 - ◆ Always replace
- 22 Seal 16 x 22
 - Always replace
- 23 Power steering pump
 - Fill with fluid before installing ⇒ <u>CAUTION</u>, page 48-27
- 24 Banjo bolt
 - ♦ 50 Nm (37 ft lb)
- 25 Supply line
 - ♦ 40 Nm (30 ft lb)
 - Counter-hold at hex on flexible hose when tightening fitting
 - ♦ Mounted to intake manifold with bolt 26 -
- 26 Bolt
 - ♦ 8 Nm (71 in. lb)
- 27 Clip
- 28 Nut
 - ◆ 20 Nm (15 ft lb)
- 29 Washer
- 30 Coolant line



Power steering hydraulic circuit (6-cyl. 5V engine), overview

Power steering pump model 4 (FP-4)

- 1 Power steering gear
- 2 Return hose
- 3 Pressure hose
- 4 Cap with dipstick
 - Checking hydraulic fluid level ⇒ page 48-22
- 5 Bolt
 - ♦ 9 Nm (80 in. lb)
- 6 Reservoir
- 7 Rubber mount
- 8 Clamp
 - ♦ Use VAG1275 to tighten
- 9 Clamp
 - Use VAG1275 to tighten
- 10 Suction hose
 - ◆ Fitting location ⇒ Fig. 2
 - Marks must align



11 - Return hose

- Between reservoir and cooling line
- 12 Cable strap
- 13 Cooling line
- 14 Torx ® bolts (T-30)
 - ♦ 9 Nm (80 in. lb)

15 - Line

 Marks must align with mark on suction hose

16 - Nut

- ◆ 20 Nm (15 ft lb)
- For attaching pressure hose to cooling line

17 - Suction hose

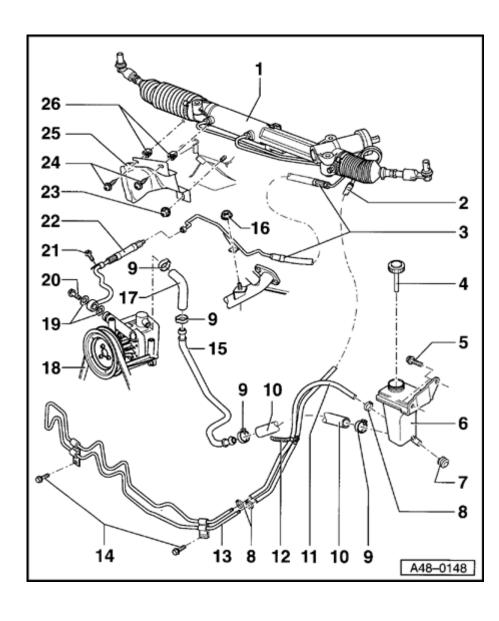
Marking -P- faces pump

18 - Ribbed belt

Mark running direction before removing

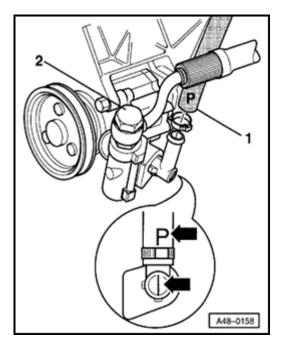
CAUTION!

Mark the running direction before removing. Reinstalling a used belt in reversed running direction could damage the belt.

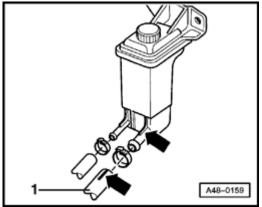


- 19 Seal 16 x 22
 - ◆ Always replace
- 20 Banjo bolt
 - ♦ 50 Nm (37 ft lb)
- 21 Bolt
 - ♦ 6 Nm (53 in. lb)
- 22 Pressure hose
- 23 Speed nut
- 24 Combi-bolt
- 25 Guard plate
- 26 Expanding nuts

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- Fig. 1 Fitting location of suction hose at power steering pump (4-cyl. and V6 TDI engines)
 - Mark -P- on suction hose must align with seam on pump



- Fig. 2 Fitting location of suction hose at reservoir (all engines)
 - Mark -1- on suction hose must align with seam on reservoir