

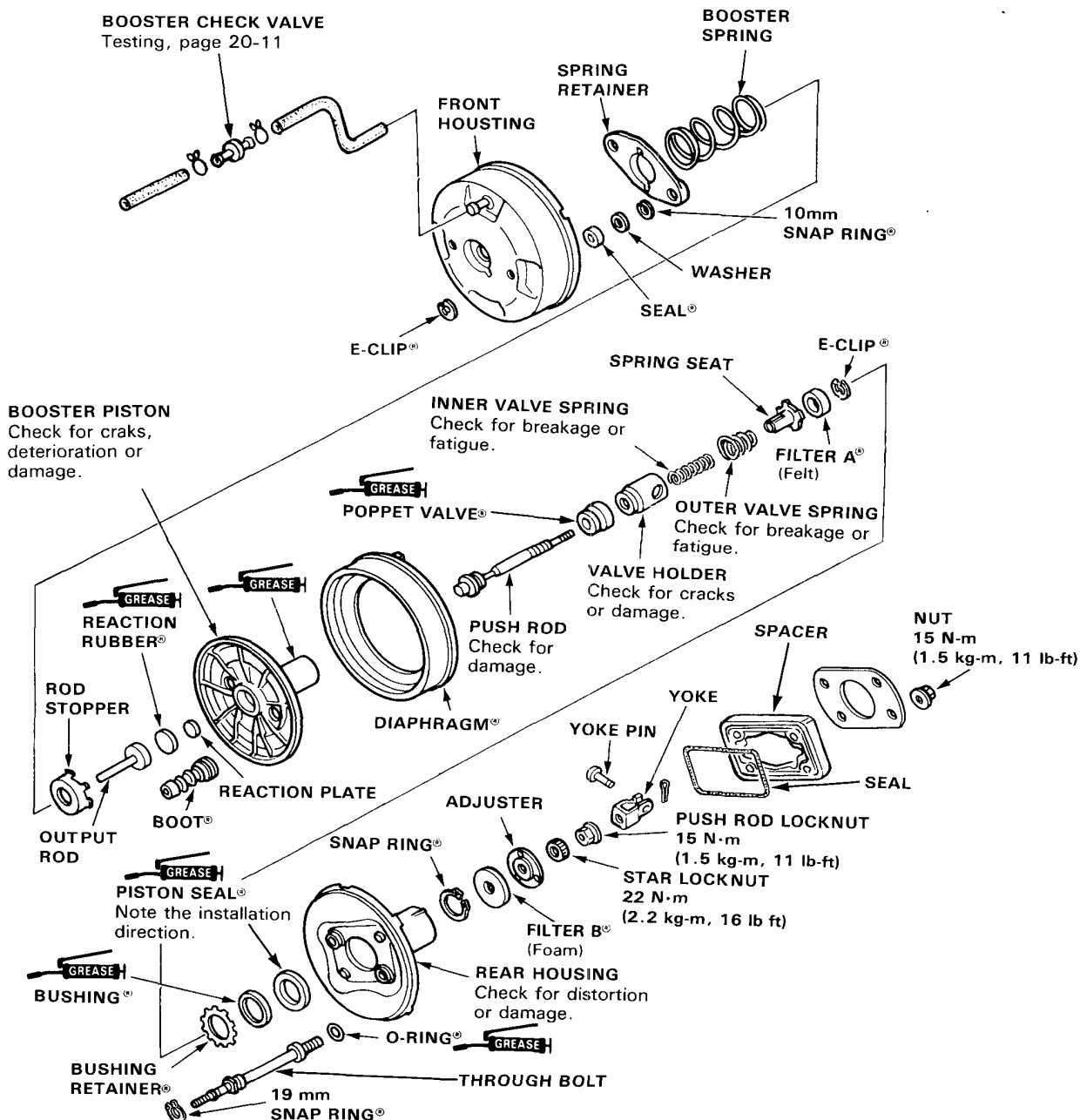
Brake Booster

Index and Inspection

Booster testing is on the page 21-11.

NOTE:

- On left hand car, to remove the brake booster, remove the master cylinder first. Remove the A.C.G. bracket, then remove the brake booster. After installing the brake booster, adjust the A.C.G. belt tension.
- Parts marked® are available with rebuild kit and must be replaced whenever disassembled.
- **GREASE** on this page refers to silicone grease.
- Scribe an aligning mark across the front and rear housings so you can reassemble in their original positions.





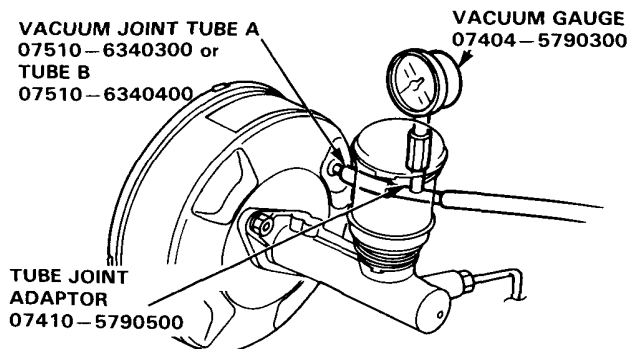
Booster Test

Leak Test

1. Install the Brake Power Kit (07504-6340100) as shown.
2. Start the engine, adjust the engine speed with the accelerator pedal so that the vacuum gauge readings show 300–500 mmHg, then stop the engine.
3. Read the vacuum gauge.

If the vacuum readings decreases 20 mmHg or more after 30 seconds, check following parts for leaks.

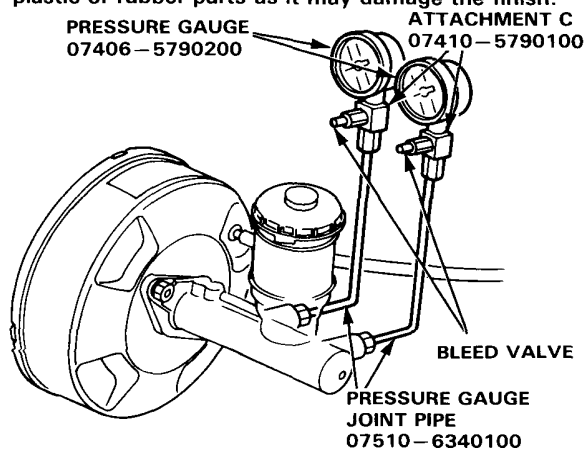
- Check valve
- Vacuum hose
- Seals
- Diaphragm
- Master cylinder rod seal and secondary cup



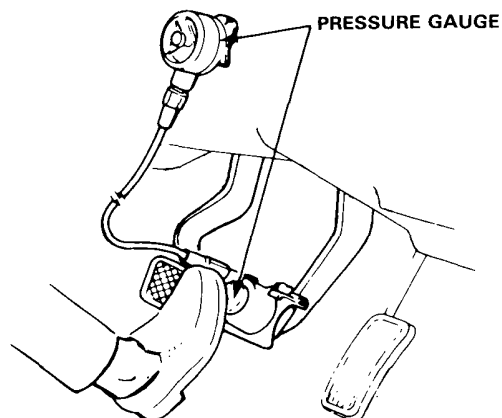
Function Test

1. Install the vacuum gauge as same the leak test.
2. Connect the oil pressure gauges to the master cylinder using the attachments as shown.
3. Bleed air through the valves.

CAUTION: Avoid spilling brake fluid on painted, plastic or rubber parts as it may damage the finish.



4. Start the engine.
5. Depress the brake pedal with a 200 N (20 kg, 44 lbs) of pressure. The following pressures should be observed at the pressure gauges in each vacuum.

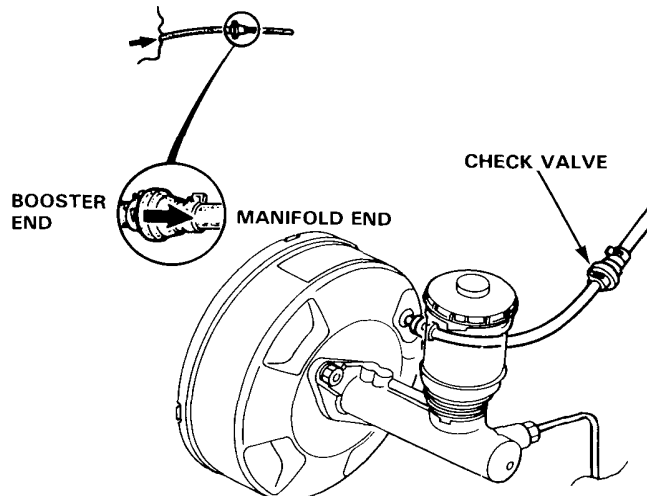


Vacuum mmHg	Line pressure kPa (kg/cm, psi)
0	1,470 (15, 213) Min.
300	4,606 (47, 668) Min.
500	6,566 (67, 953) Min.

6. Inspect the master cylinder pistons and cups in the readings do not fall within the limits shown above.

Check Valve Test

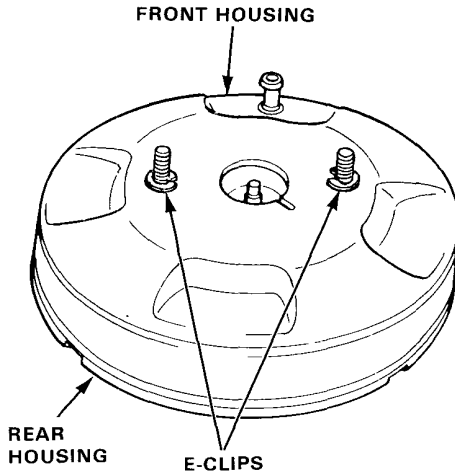
1. Remove the check valve, blow on one end of the hose and then the other; if you can blow through the booster end, but not through the manifold end, the check valve is OK.



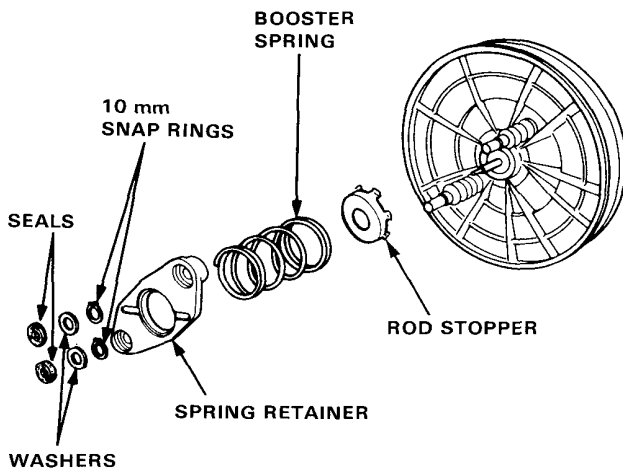
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Disassembly

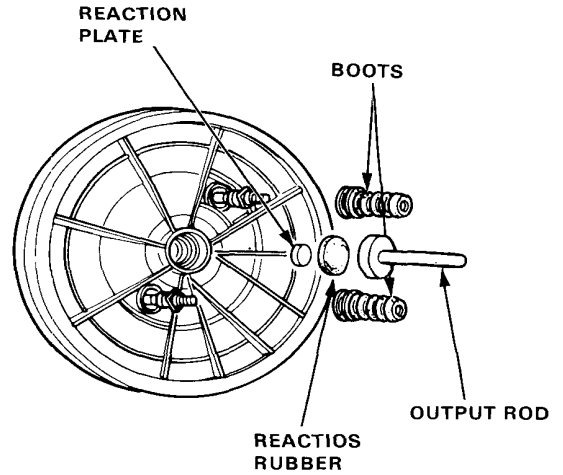
1. Scribe an aligning mark across the front and rear booster housings to ensure proper positioning of parts on reassembly.
2. Remove the E-clips, and separate the front booster housing and the rear booster housing.



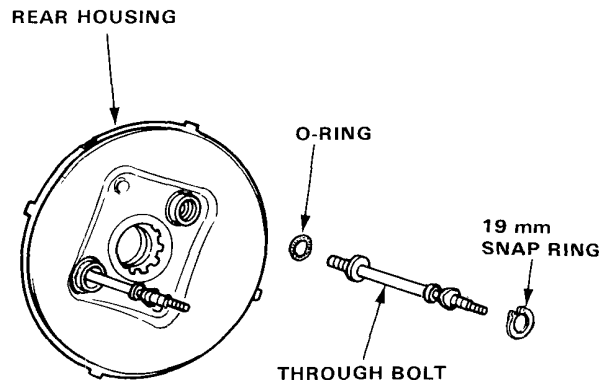
3. Remove the seals and washers from the spring retainer, then remove the spring retainer, booster spring and rod stopper by removing the 10 mm snap rings.



4. Remove the output rod, reaction rubber and reaction plate.
5. Remove the boots.

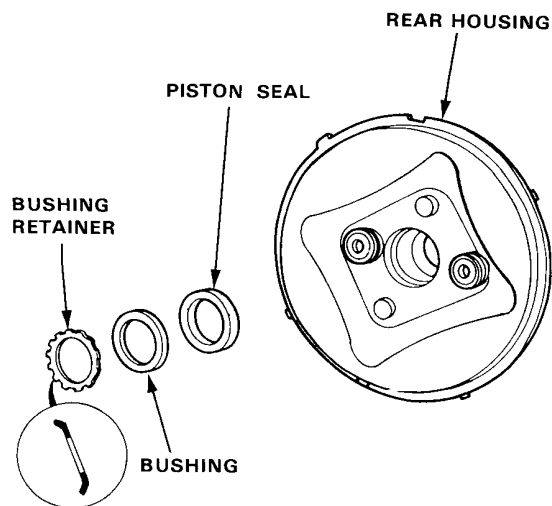


6. Separate the booster piston from the housing.
7. Remove the 19 mm snap ring and remove the through bolt with O-ring from the rear housing.

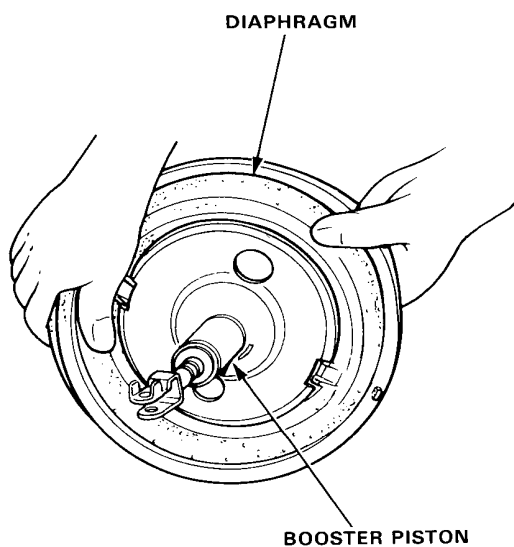




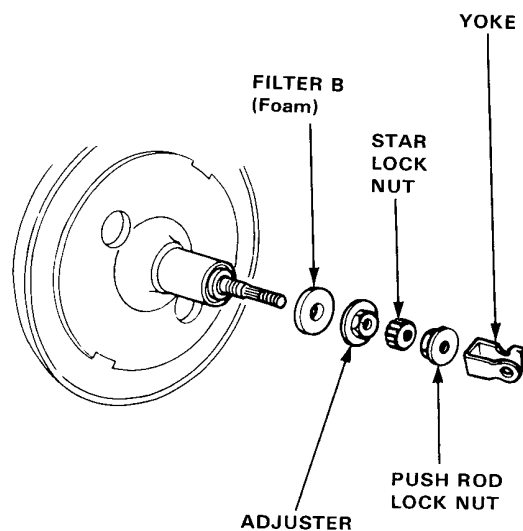
8. Remove the bushing retainer, bushing and piston seal from the rear housing.



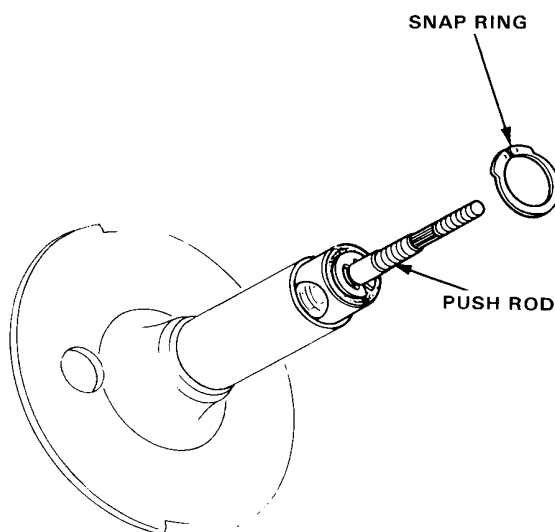
9. Remove the diaphragm from the booster piston.



10. Remove the push rod yoke, push rod lock nut, star lock nut, adjuster and filter B (foam) from the booster piston.



11. Remove the push rod by removing the snap ring.

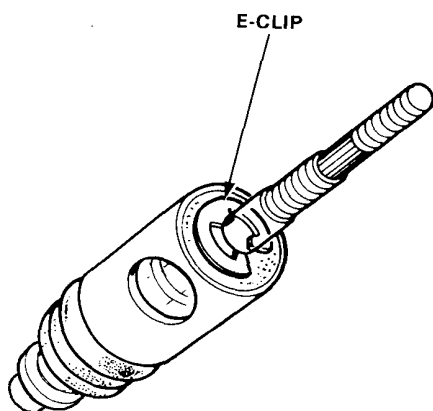


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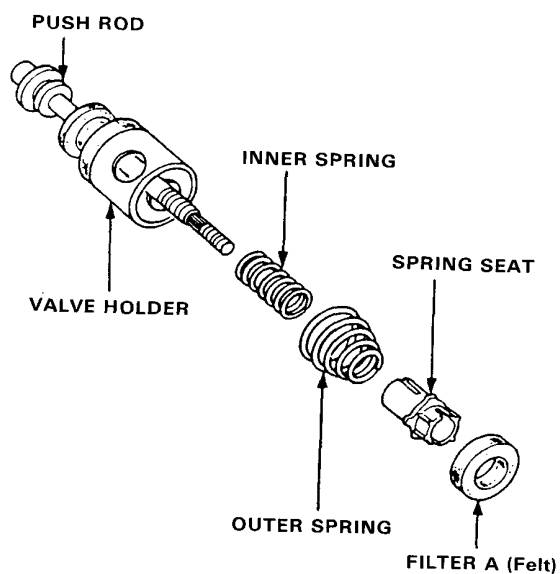
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Disassembly (cont'd)

12. Remove the E-clip from the push rod.



13. Remove filter A (Felt), spring seat, outer valve spring, inner valve spring, valve holder, poppet valve and push rod.



Rebuild Kit

E-CLIP

SEAL

10 mm SNAP RING

REACTION RUBBER

BOOT

DIAPHRAGM

POPPET VALVE

FILTER A (Felt)

E-CLIP

FILTER B (Foam)

SNAP RING

BUSHING RETAINER

BUSHING

PISTON SEAL

19 mm SNAP RING

O-RING

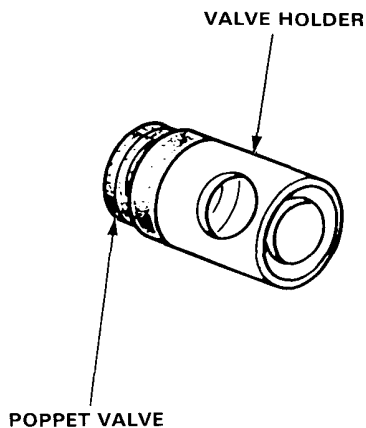
SILICONE GREASE



Reassembly

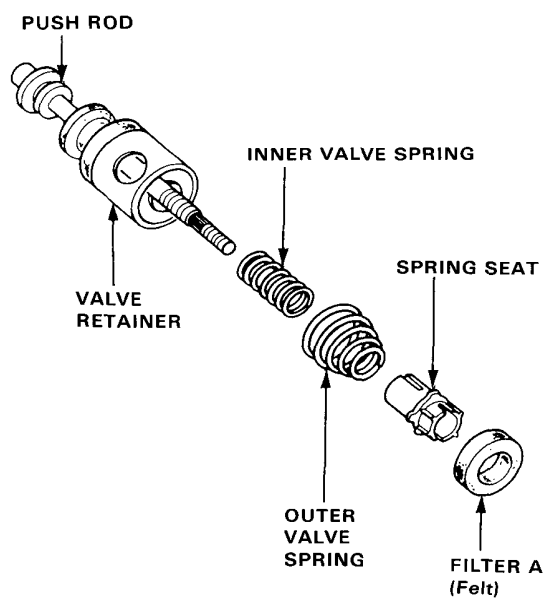
NOTE: Clean all parts before reassembly.

1. Install the poppet valve on the valve holder.

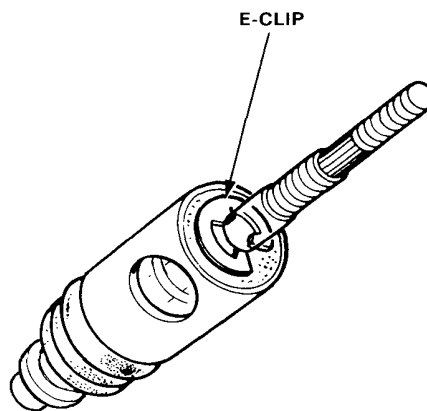


2. Install the valve holder, inner valve spring, outer valve spring and spring seat on the push rod.

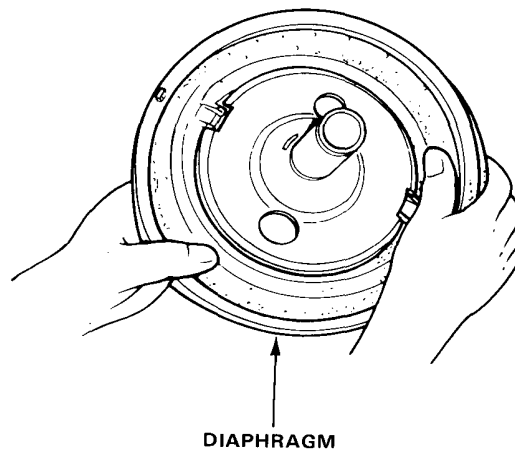
NOTE: Install the spring seat with its short end facing the filter side.



3. Install a new filter A (felt) on the push rod and secure with a new E-clip.



4. Install the diaphragm on the booster piston.

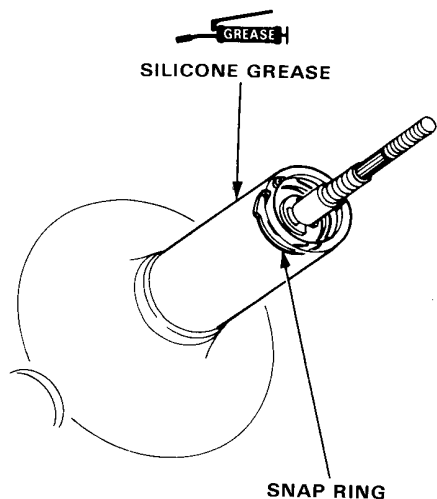


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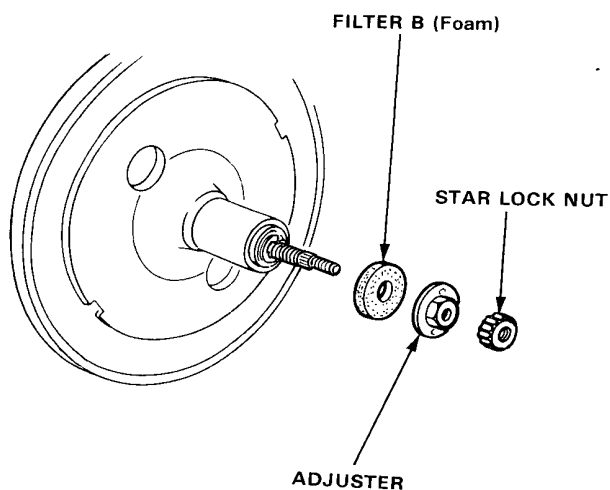
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Reassembly (cont'd)

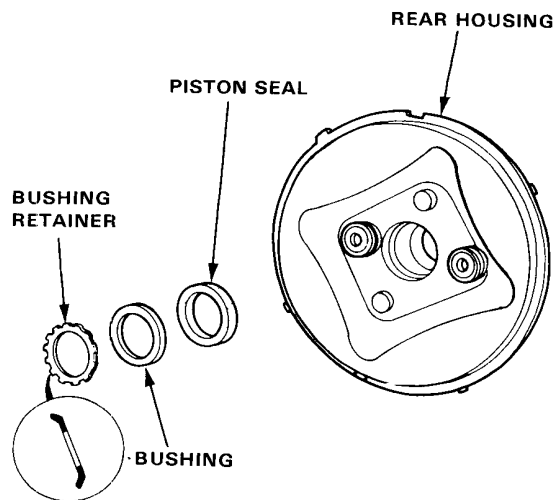
5. Apply silicone grease to the inner and outer surface of the booster piston tube.
6. Install the push rod assembly and secure with the snap ring.



7. Install filter B (foam) on the push rod, then loosely install the adjuster and start lock nut.



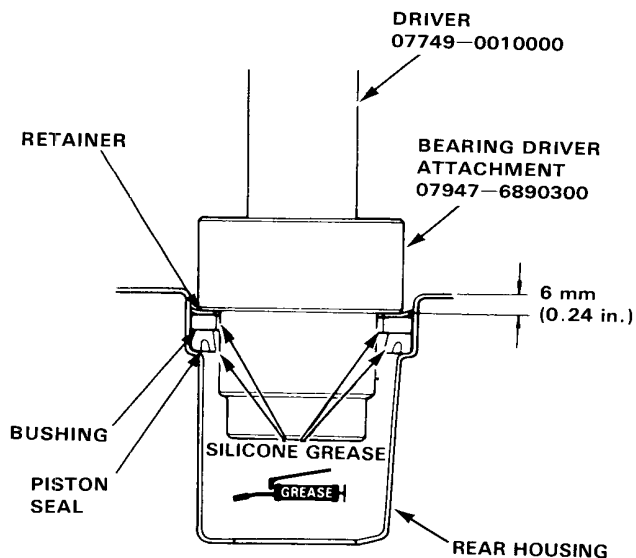
8. Apply silicone grease to the piston seal.
9. Position the piston seal, bushing and bushing retainer on the rear housing.



NOTE: Make sure the lip of the seal is facing in, as shown in drawing below.

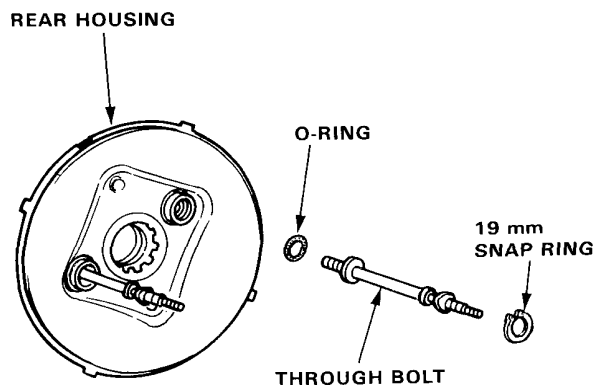
10. Drive the bushing retainer in until it is 6 mm below the edge of the rear housing.

CAUTION: If you drive the retainer more than 6 mm, the piston seal may distort.

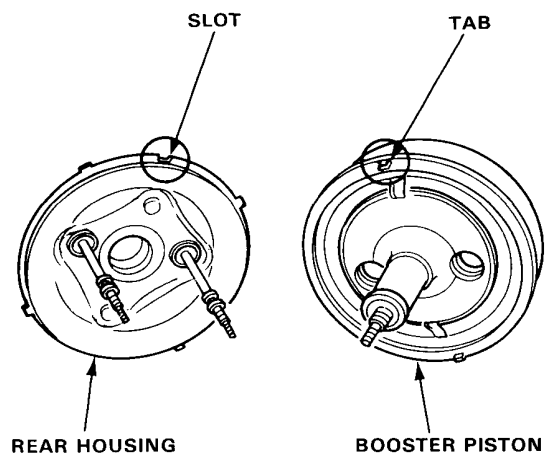




11. Install the O-rings and through bolts on the rear housing and secure with 19 mm snap ring.

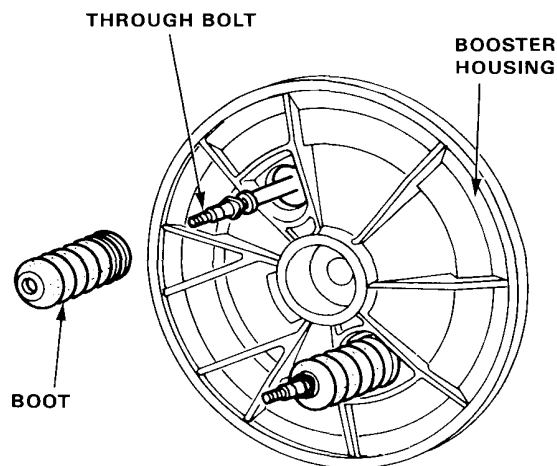


12. Install the booster piston on the rear housing aligning their tabs and slots.



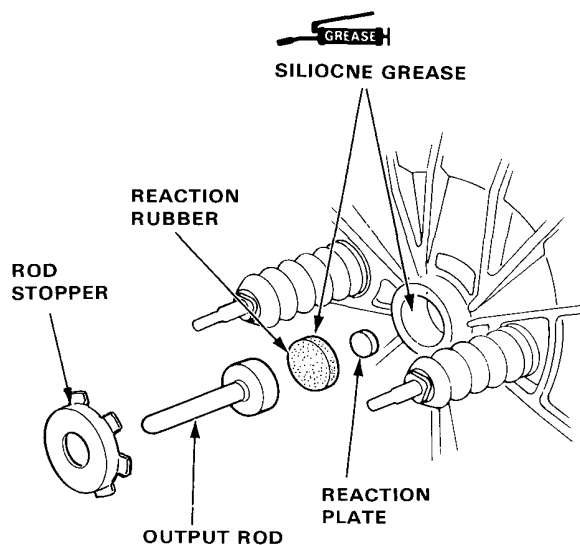
13. Install the boots on the through bolts.

NOTE: Make sure not to damage the boots when installing.



14. Apply silicone grease to the bore of the booster piston and reaction rubber.

15. Install the reaction plate, reaction rubber, output rod and rod stopper on the booster piston.

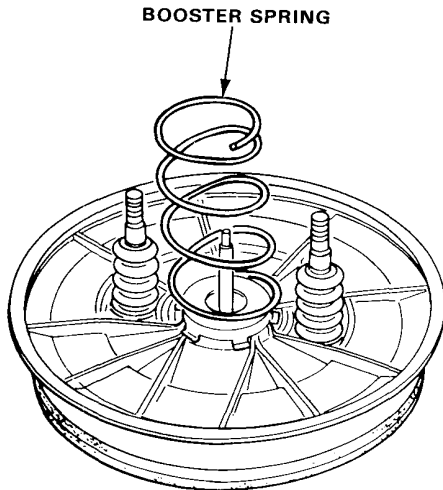


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Brake Booster

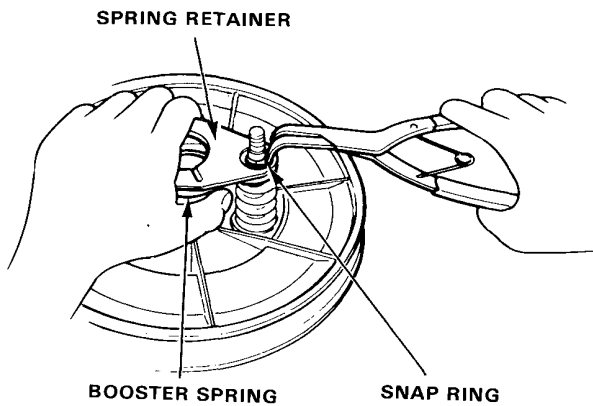
Reassembly (cont'd)

16. Install the booster spring.



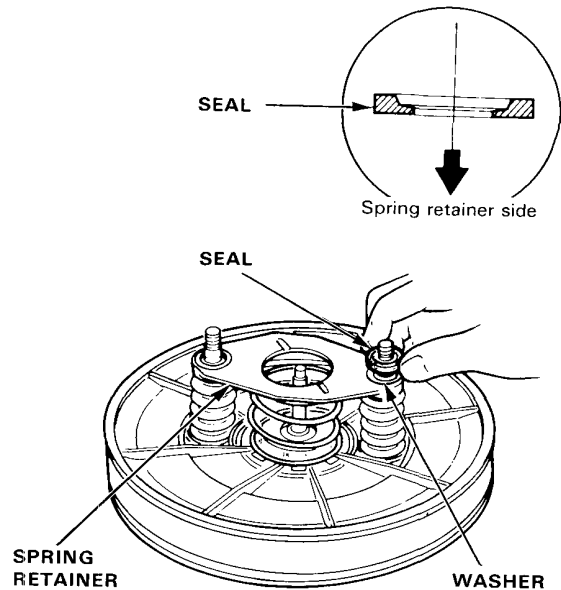
17. Install the spring retainer on the through bolts aligning the square portions of the bolts and retainer.

18. Compress the booster spring, then install the 10 mm snap ring on the through bolts.

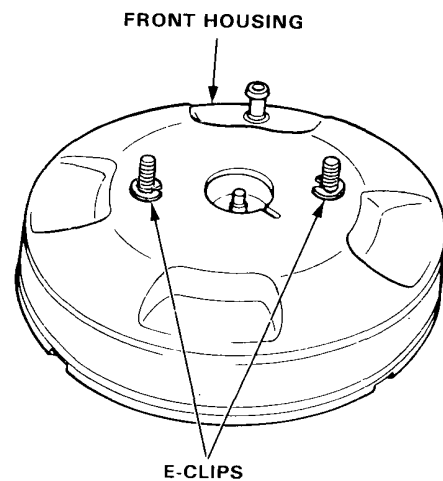


19. Install the washers and seals on the through bolts.

NOTE: Install the seals with the flat sides facing the spring retainer side as shown.



20. Install the front housing and secure with E-clips.

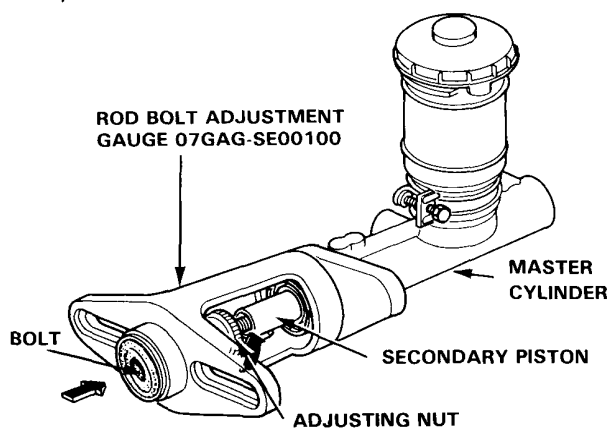




Pushrod Clearance Adjustment

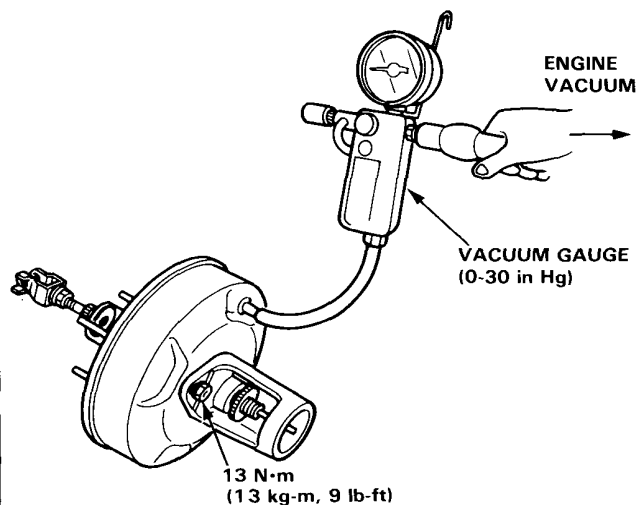
NOTE: Master cylinder pushrod-to-piston clearance must be checked and adjustments made, if necessary, before installing master cylinder.

1. Using the Rod Bolt Adjustment Gauge, adjust bolt so the top of it is flush with end of master cylinder piston.

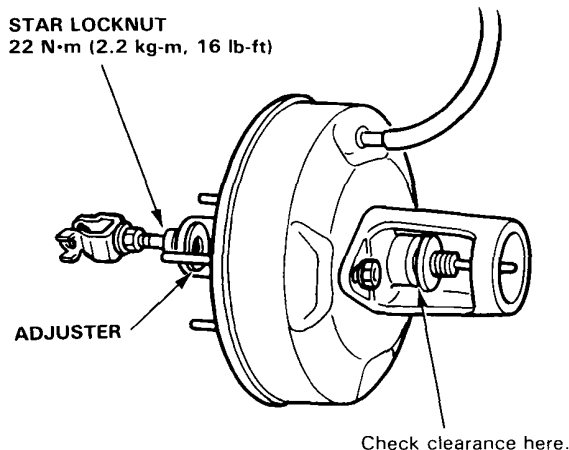


2. Without disturbing the adjusting bolt's position, install the master cylinder rod seal on the adjustment gauge and put the gauge upside down on the booster.
3. Install the master cylinder nuts and tighten to the specified torque.
4. Connect the booster in-line with a vacuum gauge (0–30 in Hg) to the booster's engine vacuum supply, and maintain an engine speed that will deliver 500 mm Hg (20 in Hg) vacuum.
5. With a feeler gauge, measure the clearance between the gauge body and the adjusting nut as shown.

CLEARANCE: 0–0.4 mm (0–0.016 in.)



6. If clearance is incorrect, loosen star locknut and turn adjuster in or out to adjust.
7. Tighten locknut securely.

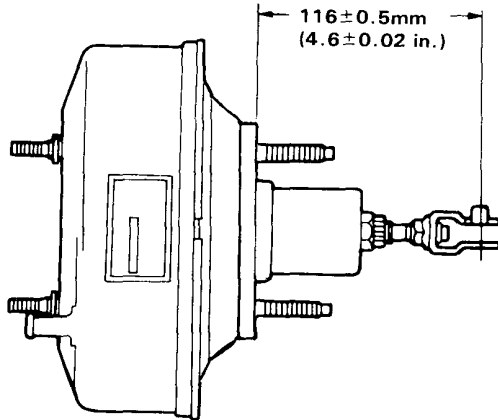


NOTE: If the clearance between the gauge body and the adjusting nut is 0 mm, the push rod-to-piston clearance is adjusted to 0.4 mm. If the clearance is 0.4 mm, the push rod-to-piston clearance is adjusted to 0 mm.

Brake Booster

Pushrod Adjustment

Install the locknut and pushrod yoke on the pushrod, adjust the pushrod length as shown.



NOTE: Adjust the brake pedal height after installing the brake booster.