

SECTION 5D1

VACUUM BOOSTER SYSTEM

NOTICE: When fasteners are removed, always reinstall them at the same location from which they were removed. If a fastener needs to be replaced, use the correct part number fastener for that application. If the correct part number fastener is not available, a fastener of equal size and strength (or stronger) may be used. Fasteners that are not reused, and those requiring thread locking compound will be called out. The correct torque value must be used when installing fasteners that require it. If the above conditions are not followed, parts or system damage could result.

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Power Brake Booster			
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GENERAL DESCRIPTION

POWER BRAKE BOOSTER ASSEMBLY

The power brake booster assembly is a tandem vacuum suspended unit. In a normal operating mode, with the

service brakes in the released position, the tandem vacuum suspended booster assembly operates with vacuum on both sides of its diaphragms. When the brakes are applied, air at atmospheric pressure is admitted to one side of each diaphragm. The air is then drawn from the booster through the vacuum check valve to the vacuum source.

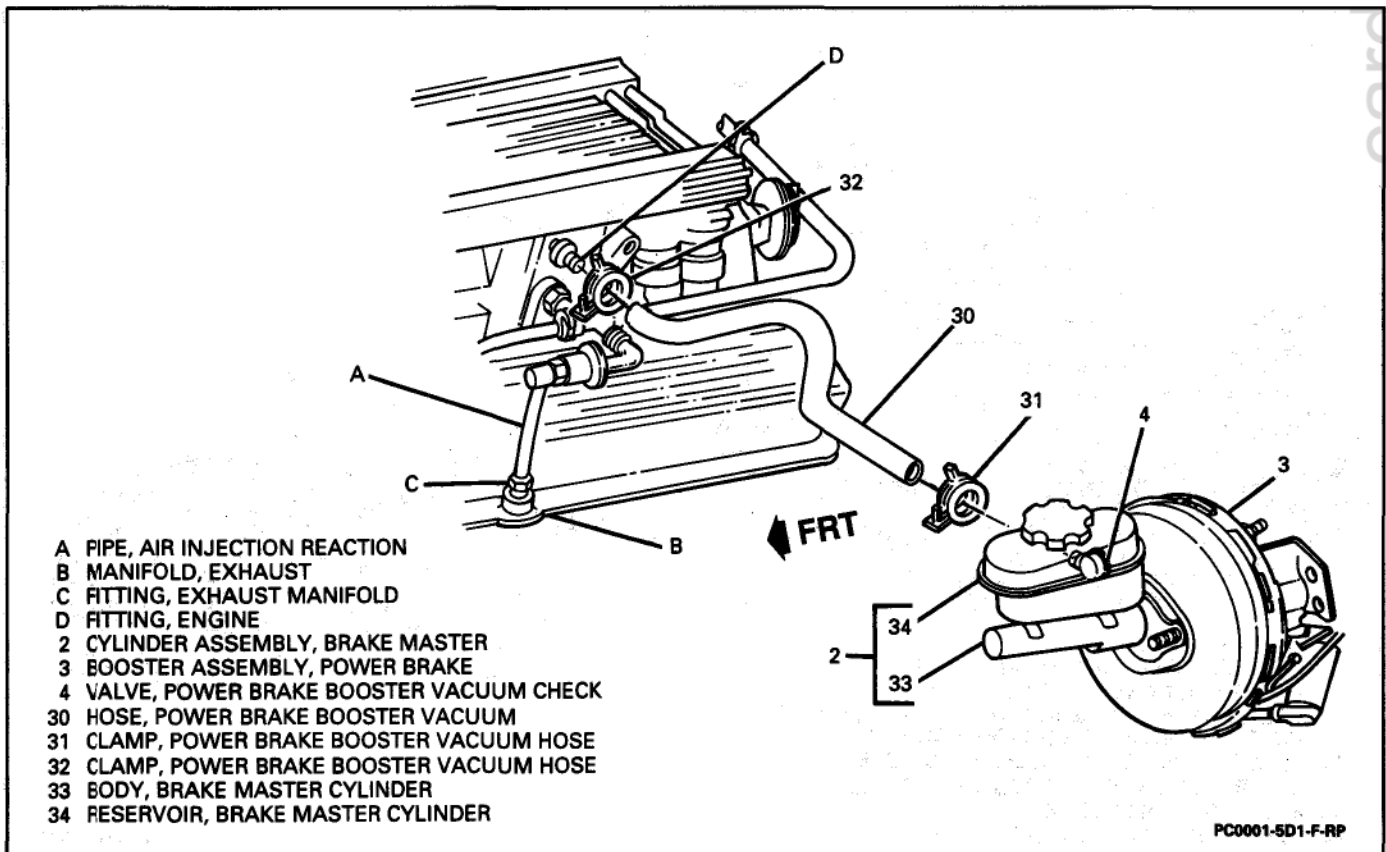


Figure 1 – Vacuum Booster Hose Routing (5.7L LT1 Engine)

NOTICE: Internal components of this booster are not serviceable. The housing must not be unstaked and separated. Separating the housing will cause permanent deformation, preventing the booster assembly from holding proper volume.

ON-VEHICLE SERVICE

NOTICE: Do not use lubricated shop air on brake parts as damage to rubber parts may result.

Important

- Replace all components included in repair kits used to service this booster assembly.
- Lubricate rubber parts with silicone grease to ease assembly.
- If any hydraulic component is removed or disconnected, it may be necessary to bleed all or part of the brake hydraulic system.
- The torque values specified are for dry, unlubricated fasteners.

POWER BRAKE BOOSTER ASSEMBLY

Figures 1 through 3

Remove or Disconnect

1. Secondary air injection system (AIR) pipe from fitting on exhaust manifold, if necessary.
 - Move AIR pipe out of the way.
2. Clamp (31) and vacuum hose (30) from check valve (4).

3. Nuts (1) attaching master cylinder assembly (2) to booster assembly (3).
4. Master cylinder assembly (2).
 - Move master cylinder assembly (2) forward and toward driver's side to provide clearance for booster assembly (3). This will flex brake pipe assemblies slightly. Take care not to bend or distort brake pipe assemblies.
5. Lower sound insulator assembly. Refer to SECTION 8C.
6. Nuts (5) attaching booster assembly (3) to brake pedal assembly (20).
7. Loosen nut (40).
8. On vehicle with manual transmission assembly, loosen nuts (41).
9. Pull back on brake pedal assembly (20) to access nuts (35).
10. Nuts (35) attaching booster assembly (3) to dash panel assembly.
 - Discard nuts (35) needed for production purposes only.
11. Pushrod (6) from brake pedal pin.
 - A. From inside vehicle, remove retainer (16) and washer (15).
 - B. Tilt entire booster assembly (3) slightly to work pushrod (6) off brake pedal pin without putting undue side pressure on pushrod (6).
12. Booster assembly (3) from vehicle.

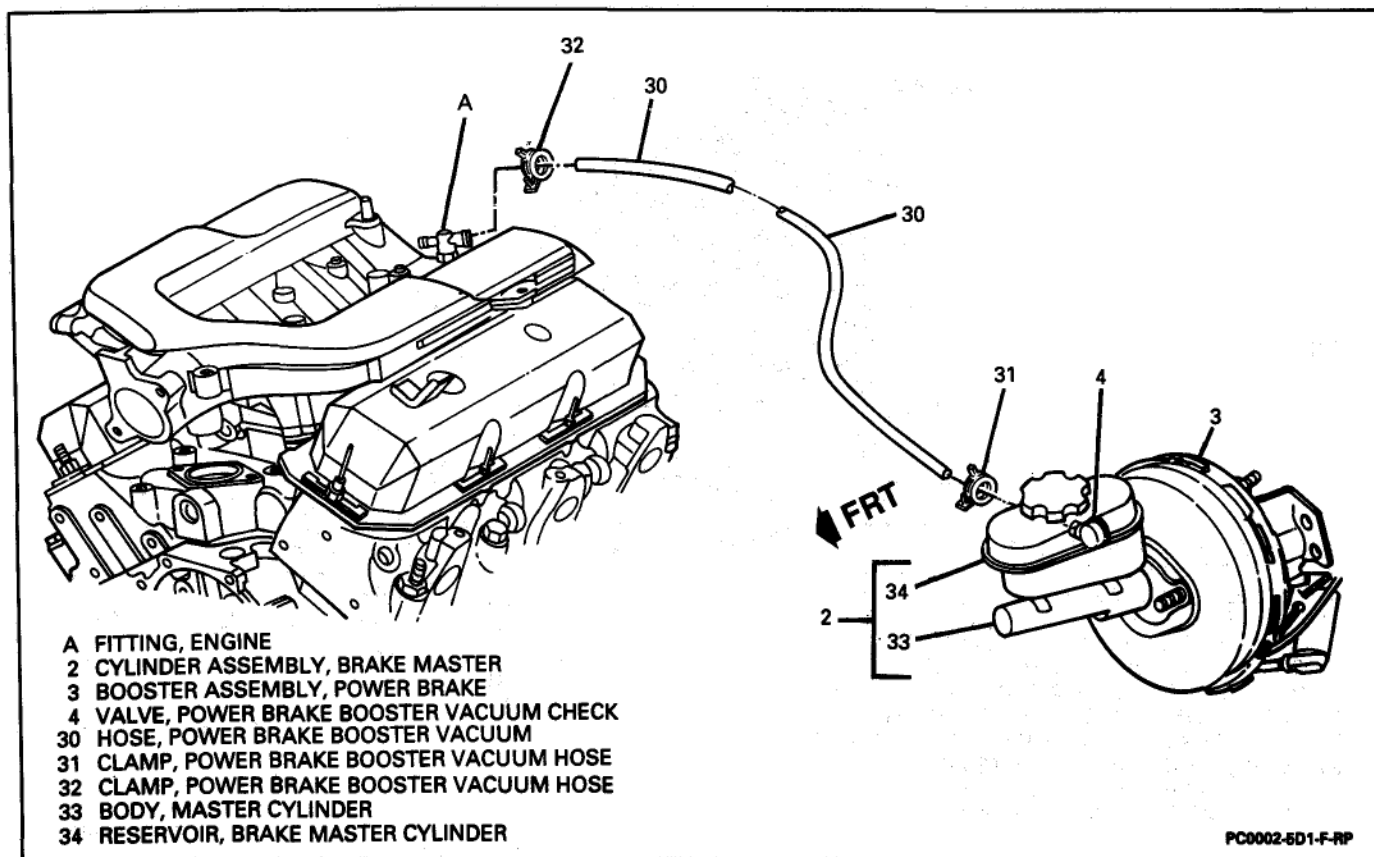


Figure 2 – Vacuum Booster Hose Routing (3.4L L32 Engine)



**Figure 3 – Removing and Installing Power Brake Booster Assembly
(Manual Transmission Shown – Automatic Transmission Similar)**

NOTICE: See “Notice” on page 5D1-1 of this section.

- 
- Tighten**

-  **Tighten**

- 
- Tighten**

- AIR pipe-to-exhaust manifold fitting to 34 N•m (25 lb. ft.).

POWER BRAKE BOOSTER VACUUM HOSE AND ROUTING

Figures 1 and 2

Refer to Figures 1 and 2 for routing of the vacuum hose (30).

VACUUM CHECK VALVE

Figure 4

Vacuum check valve and grommet can be inspected and/or serviced without removing booster assembly from vehicle.

Remove or Disconnect

1. Clamp (31) and vacuum hose (30) from check valve (4).
2. Check valve (4) and grommet (9).

Inspect

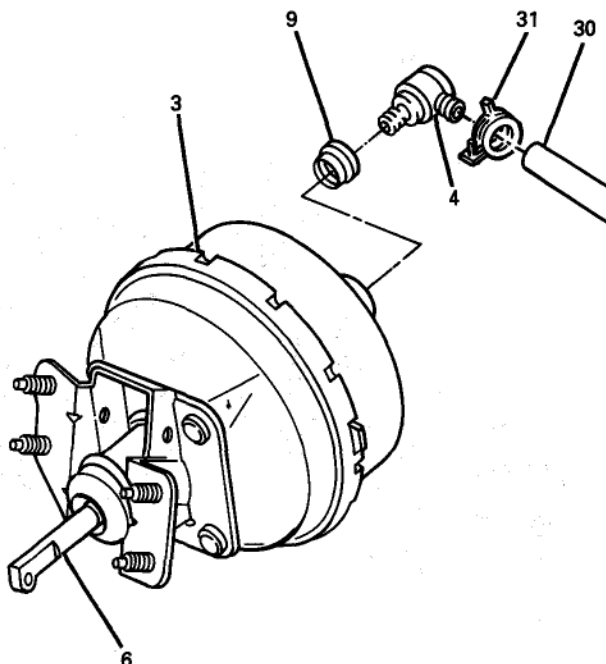
- Grommet (9) and vacuum hose (30) for cuts, nicks and excessive wear.
 - Replace grommet (9) or vacuum hose (30) if damaged.

Clean

1. All parts in denatured alcohol.
2. Dry with unlubricated compressed air.

Install or Connect

1. Lubricate inner and outer diameters of grommet (9) with thin layer of silicone grease GM P/N 12345579 or equivalent.
2. Grommet (9) and check valve (4).
3. Vacuum hose (30) and clamp (31) to vacuum check valve (4).



- 3 BOOSTER ASSEMBLY, POWER BRAKE
- 4 VALVE, POWER BRAKE BOOSTER VACUUM CHECK
- 6 PUSHROD, POWER BRAKE BOOSTER
- 9 GROMMET, POWER BRAKE BOOSTER VACUUM CHECK VALVE
- 30 HOSE, POWER BRAKE BOOSTER VACUUM
- 31 CLAMP, POWER BRAKE BOOSTER VACUUM HOSE

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Figure 4 – Vacuum Check Valve and Grommet

PUSHROD GAGING PROCEDURE

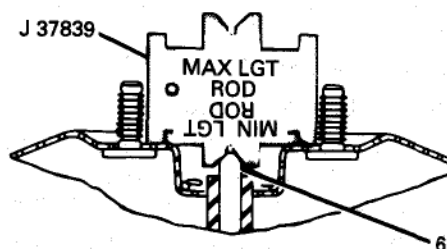
Figure 5

Tool Required:

J 37839 Pushrod Height Gage

Measure

1. Gage booster assembly with 85.0 kPa (25 in. Hg.) vacuum or maximum engine vacuum available.
 - Booster assembly can be gaged without being installed on vehicle, if a suitable vacuum source is available.
2. Position J 37839 over pushrod (6).
 - Check both maximum and minimum rod length.
3. If pushrod (6) length does not fall between maximum and minimum dimensions, use a service-adjustable pushrod to obtain correct length.



- 6 PUSHROD, POWER BRAKE BOOSTER

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Figure 5 – Gaging Power Brake Booster Pushrod

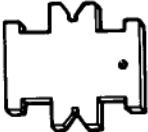
SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Brake Master Cylinder Nut	43 N•m (32 lb. ft.)
Brake Pedal Bracket Nut	25 N•m (18 lb. ft.)
Brake Pedal Nut	25 N•m (18 lb. ft.)
Clutch Master Cylinder Nut	27 N•m (20 lb. ft.)
Secondary Air Injection System (AIR) Pipe-to-Exhaust Manifold Fitting	34 N•m (25 lb. ft.)

SPECIAL TOOLS

1.



J 37839

1. PUSHROD HEIGHT GAGE

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