Power Brake Units

DELCO-MORAINE SINGLE DIAPHRAGM

Chevrolet, GMC, Jeep

DESCRIPTION

A combined vacuum-hydraulic unit which uses a combinatin of intake manifold vacuum and atmospheric pressure to provide power assist. Reserve vacuum supply and vacuum check valve allow several vacuum-assisted brake applications after engine has stopped. Unit is composed of two main sections: Vacuum power cylinder and dual master cylinder. Vacuum power cylinder contains power piston assembly, which houses control valve, reaction mechanism, and power piston return spring.

REMOVAL & INSTALLATION

POWER BRAKE UNIT

Disconnect push rod from brake pedal. Disconnect vacuum hose from vacuum check valve. Remove nuts holding master cylinder to power unit and move master cylinder aside. DO NOT disconnect brake lines. Remove nuts holding power unit to dash panel. On Jeep "CJ" and Scrambler models, remove nuts holding bell crank to dash panel. On all models, remove power unit from vehicle. On Jeep "CJ" and Scrambler models, power unit and bellcrank are removed as an assembly. To install, reverse removal procedure.

OVERHAUL

POWER BRAKE UNIT

NOTE: Jeep Corp. does not recommend overhaul of this unit. It is serviced as an assembly.

Disassembly

1) Scribe marks on housings for reassembly reference and remove boot, front housng seal, vacuum check valve and grommet.

2) Attach power unit front housing to holding fixture base (J-22805-1) and clamp base in vise with power section up.

3) Place a spanner wrench (J-9504) on studs of rear housng. Press down and turn counterclockwise to unlock housings.

NOTE: Do not put pressure on plastic power piston extension.

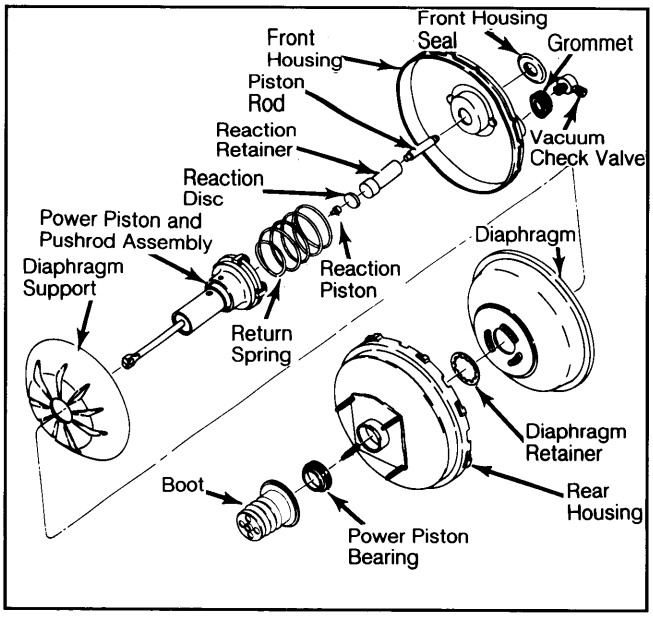
4) Remove power piston bearing, return spring and power piston group. Remove piston rod and reaction retainer.

CAUTION: Use care not to damage power piston assembly when removing reaction disc. Reaction disc must be replaced.

5) Use awl or ice pick to remove reaction disc. Remove reaction piston. Grasp assembly at outside edge of diaphragm support and diaphragm. Hold pushrod down against a hard surface. Use a slight force or impact to dislodge diaphragm retainer.

NOTE: Do not disassemble power pushrod assembly.

Fig. 1: Exploded View of Typical Delco-Moraine Single Diaphragm Power Brake Unit



Clean parts with alcohol only.

Cleaning & Inspection

Clean all metal, plastic, and rubber parts in denatured alcohol. Blow out all passages, orifices, and valve holes with clean, dry air. Air dry all parts. Slight rust on inside of housings can be polished with crocus or emery cloth. There should be no nicks or cuts in any rubber part. Replace any damaged parts.

Reassembly

1) Lubricate inside diameter of diaphragm lip with silicon lubricant and fit in diaphragm support.

2) Install diaphragm and support over power piston and pushrod assembly, support side first. Install new diaphragm retainer and seat using seating tool (J-28458) and a plastic hammer.

3) Install reaction piston, new reaction disc, reaction retainer and piston rod.

4) Attach holding fixture to front housing and place in vise. Install power piston return spring with white end to front housing.

5) Insert power piston pushrod end through rear housing and place on front housing and return spring.

6) Align scribe marks with spanner on studs of rear housng. Press down and turn clockwise to lock housings.

NOTE: Assembly can be aided by connecting a vacuum source to booster.

7) Stake 2 housing tabs into sockets with chisel. Stake at 2 tabs 180° apart.

8) Lubricate inside and outside diameters of grommet and front housing seal. Install seal, grommet, vacuum check valve and boot.

ADJUSTMENT

PUSH ROD ADJUSTMENT

NOTE: Chevrolet and GMC production push rod is not adjustable. If production rod is reused,

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gauging is to check proper assembly. If adjustable service push rod is used to replace production rod, gauging is to set correct rod length.

Chevrolet & GMC

Place suitable gauge (J-22647) over push rod in a position which will allow gauge to be slipped to left or right without contacting studs. Center section of gauge has two levels. Push rod should always contact longer section (lower level), and never contact shorter section (higher lever). Any variation beyond these two limits would require replacement of production rod or adjustment of service push rod.

Jeep

Push rod of replacement units is preset at factory and requires no field adjustment.

Fig. 2: Checking Push Rod Height