



Replacement Instructions for Deep Vacuum Pump Cartridge

The cartridge kit contains 2 new o-rings, 1 cover gasket and shaft seal. Before replacing cartridge, be thoroughly familiar with **Replacing Pump Cartridge** procedures.

You will need the following tools:

- Hammer
- Medium Screwdriver
- 5/32" and/or 1/8" and 3/16" Allen Wrench
- 11/16" Socket Head
- 3/8" or 7/16" Wrench or socket
- Thread sealant
- Vaseline or grease

**NOTE: Instructions pertain to all pump series.
Pump styles may vary from illustrations.**

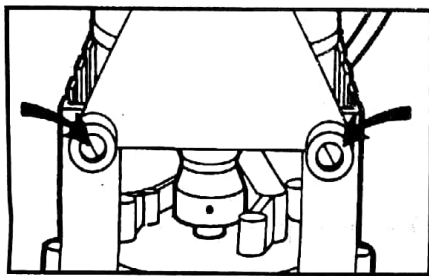


FIG. 1 (Models w/Foot Mounting Bracket Only)

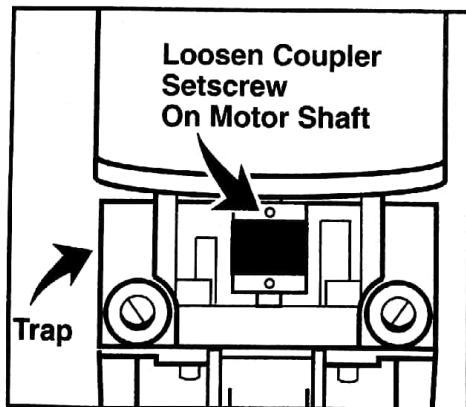


FIG. 2

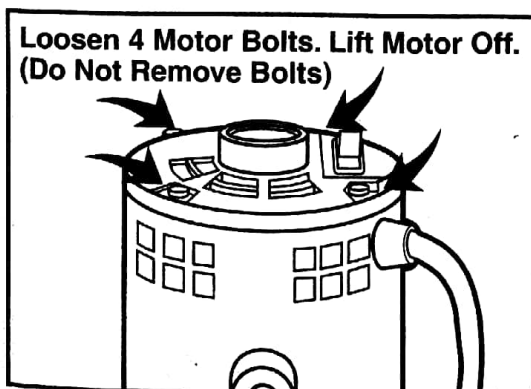


FIG. 3

DRAINING OIL AND REMOVING MOTOR

1. Stand pump on oil cover. If pumps has foot mounting bracket, remove unit by loosening foot screws (**FIG. 1**).
2. Turn coupler until set screws are facing you. With 5/32" or 1/8" Allen wrench (depending on model) loosen set screw on motor shaft (**FIG. 2**). Loosen four motor thru bolts (**FIG. 3**). Remove motor. **DO NOT REMOVE BOLTS FROM MOTOR AT ANY TIME.**
If old cartridge is frozen, i.e. coupler will not turn, remove oil cover (**FIG. 4**) and four cartridge bolts (**FIG. 5**). By turning cartridge, coupler will rotate into position.
3. Loosen set screws on coupler and remove coupling (**FIG. 2**).

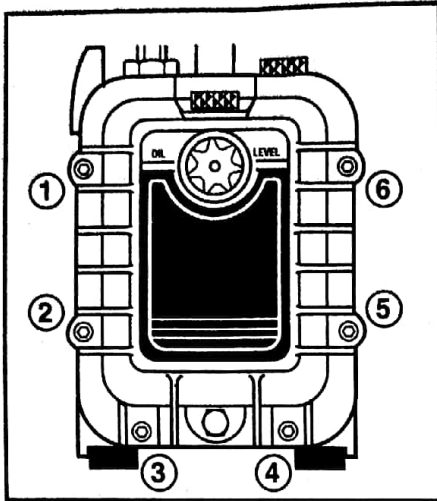


FIG. 4

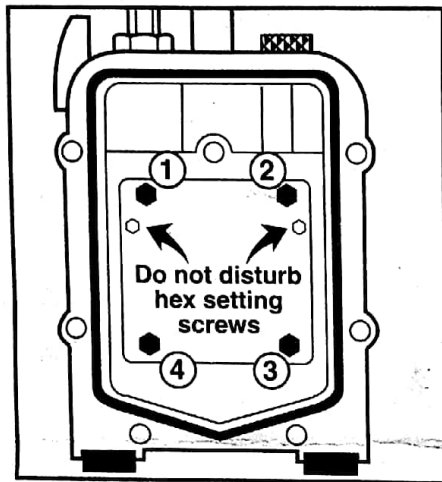


FIG. 5

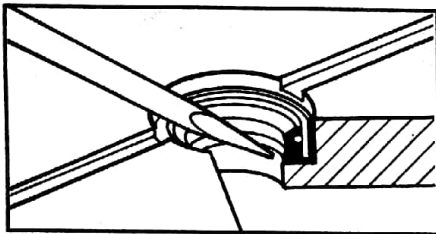


FIG. 6

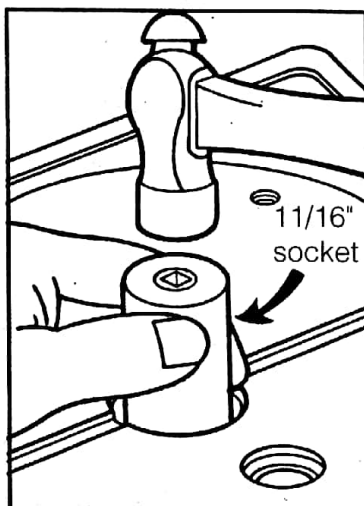
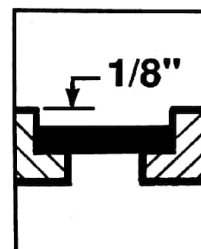
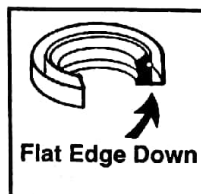


FIG. 7



REMOVING OIL COVER

1. Using 3/16" Allen wrench remove 6 socket head cap screws from oil cover (**FIG. 4**).

REMOVING CARTRIDGE

1. Remove 4 cartridge screws with 7/16" or 3/8" wrench (**FIG. 5**). Discard old gasket seal and 2 O-rings along with cartridge and bolts.

REPLACING SHAFT SEAL AND O-RINGS

1. Insert screwdriver blade under shaft seal and pry the seal from the housing being careful not to damage the walls or face of the trap (**FIG. 6**).
2. With clean rag, remove all oil and residue from inside hole and front and back of trap.
3. Lay trap on flat surface with handle toward you. Press new shaft seal with flat side down into opening by hand. To seat, tap seal with 11/16" socket. Seal is properly seated 1/8" down from top edge (**FIG. 7**). Apply vaseline or grease to inside edges of seal.
4. Insert intake and gas ballast O-rings in trap (**FIG. 8**). Gasket replaced after cartridge is installed.

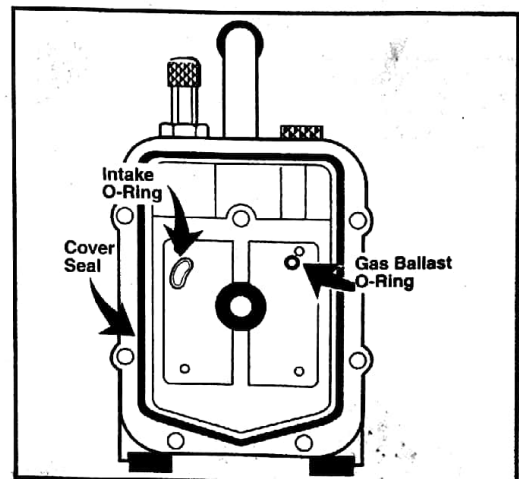


FIG. 8

Align
Gas Ballast
Holes

If new intake plate on
cartridge differs from the
old intake plate, use the
old intake plate.

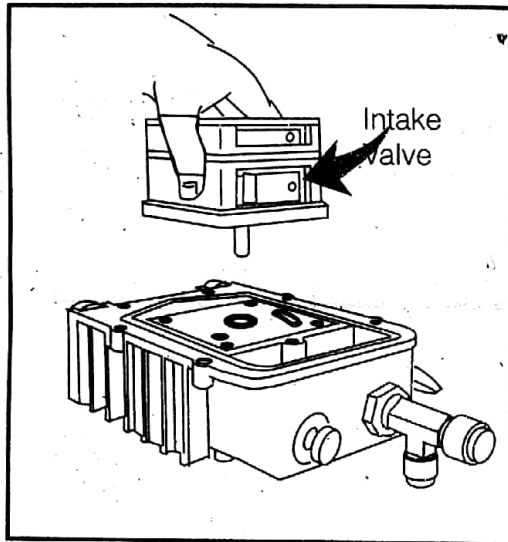
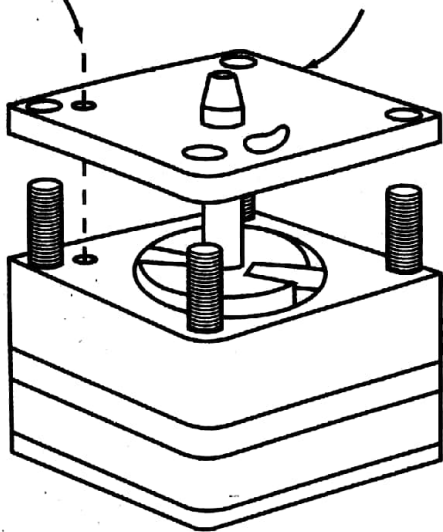


FIG. 9

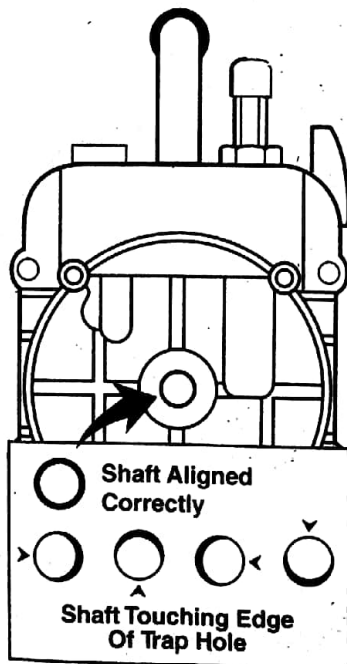


FIG. 10

REPLACING PUMP CARTRIDGE

Read section carefully before attempting replacement.

1. Keep trap flat on bench. **Remove holding nuts from cartridge, keeping all parts in alignment. (Four nuts can be discarded.)**

Cartridge is held with shaft down and flutter valves facing intake fitting. Center shaft with seal opening (**FIG. 9**). Align with threaded holes and place in position. Hand tighten four bolts. Cross tighten with 7/16" wrench.

2. Check alignment by rotating shaft with coupler. If shaft moves freely continue assembly. If shaft binds, loosen bolts and turn shaft until shaft rotates freely. Retighten bolts. Shaft should be concentric with shaft hole when viewed from backside (**FIG. 10**).

3. Replace gasket (**FIG. 8**) and re-install oil cover to trap (**FIG. 4**).

4. Remove set screws on coupler. **Coat set screw threads with thread sealant.** Re-install coupling to pump cartridge with set screw facing flat side of shaft. Tighten screw so coupler slides on shaft but stops at bottom of flat. Tighten until screw head is flush with coupler. Coupler should be approximately 1/8" off trap surface (**FIG. 11**).

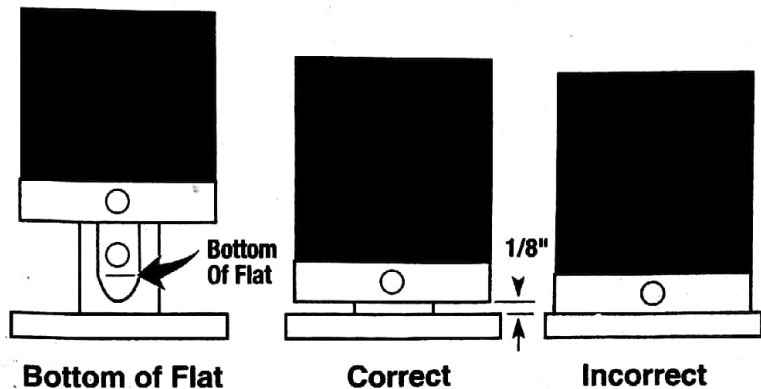


FIG. 11 (Coupler styles may vary from illustration.)

REPLACING MOTOR

1. With pump standing on oil cover, rotate coupling so set screws are facing trap assembly opening. Re-install motor while aligning flat side of motor shaft with set screw.

IMPORTANT ASSEMBLE IN THIS ORDER

- a. Tighten four motor screws
 - b. Tightened coupler set screw on motor shaft.
2. Re-install foot mounting bracket and rubber feet.

BEFORE OPERATING

1. Be sure pump switch is in "Off" position and plug in.
2. Open oil drain and intake cap. While pump is running, immediately place 2 or 3 ounces of fresh oil into intake and run pump for 3 or 4 seconds. Repeat procedure at least 2 times. Allow oil to drain out.
3. Close oil drain and replace intake cap.
4. Fill with new JB Black Gold Vacuum Pump oil to top edge of oil level line. For those pumps without line, the correct level is 1/8" below top of sight glass. Replace oil fill plug.
5. Run Vacuum Test.

PART NO.	REPLACEMENT PART FOR
PR-302	DV-42N & DV-85N cartridge w/O-rings & cover seal
PR-303	DV-142N cartridge w/O-rings and cover seal
PR-304	DV-200N cartridge w/O-rings and cover seal
PR-314	DV-285N cartridge w/O-rings and cover seal
PR-403	DV-3E Cartridge Complete With O-Rings & Cover Seal
PR-404	DV-4E Cartridge Complete With O-Rings & Cover Seal
PR-406	DV-6E Cartridge Complete With O-Rings & Cover Seal
PR-18	Cartridge Valve Repair Kit (Includes DV-285N As Of 2007 Models)
PR-52	DV-285N Cartridge Valve Repair-Kit Prior To 2007 Models
PR-45	Pump Repair Kit: PR-1, PR-2, PR-4(2), PR-42, PR-208

For further assistance, please call our toll free
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