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Pump Seal Upgrade Kit



72160 Pump Seal Upgrade Kit							
ltem	Part	Qty	Description	Item	Part	Qty	Description
1		1	Pump Slinger	11		1	5/16-24 x 1-1/8 Hex Flange
2		1	Pump Rear Bracket				Screw G8 SS
3		1	O-Ring -375	12		1	Flange Adapter 2" x 2" MPT Full Port
4		1	O-Ring Segment	13		2	Flange Gasket, 2" Full Port
5		4	O-Ring -011	14		1	Flange Tee, 2" Full Port x 2"
6		4	5/16-24 x 1-3/4 Hex Cap Screw SS	15		1	Flange Clamp, Worm Screw
7		4	5/16 Flat Washer SS	16		1	Level Switch Coupling
8		1	O-Ring -029	17		1	Float Switch, 1/2 NPT
9		1	Seal Assembly	ns	72157	1	Pull Start Engine Harness
10		1	Impeller Bolt Gasket				
ns = not shown G =				Grade			SS = Stainless Steel

Do not exceed GVWR or GAWR, including blade and ballast. The rating label is found on the driver-side vehicle door cornerpost.

A CAUTION

Read this document before installing the pump seal upgrade kit.

Use standard methods and practices when attaching snowplow and installing accessories, including proper personal protective safety equipment.

See your sales outlet/website for specific vehicle application recommendations before installation. The online selection system has specific vehicle and snowplow requirements.

INSTALLATION INSTRUCTIONS

- Park the vehicle on a smooth, level, hard surface, such as concrete. Turn the vehicle ignition to the "OFF" position and remove the key.
- 2. Drain the liquid tank.
- 3. Drain the pump housing and seal reservoir by removing the two drain plugs.



- 4. Remove the four bolts securing the engine to the pump platform. Save plugs and fasteners for later use.
- 5. Remove the two stainless steel band clamps connected to the pump inlet/outlet. Save band clamps and manifold gaskets for later use.



- 6. Carefully remove the pump unit from the assembly. Drain any remaining fluid from the pump by rotating it on its side.
- 7. Move the pump to a clean workbench for seal replacement.

PUMP SEAL REPLACEMENT

1. Remove the 10 body screws, lock washers, and nuts from the pump assembly. Remove the body from the pump assembly. Save all for later use.



2. Remove the check valve from the volute. Remove the one upper and two lower volute screws, and remove the volute. Save all for later use.



3. Remove the impeller bolt from the impeller and discard. Remove the impeller and key shaft carefully, using a pry bar if necessary. Save for later use.



4. Remove the four bracket screws, rear bracket washers, and screw head O-rings from the rear bracket using a 1/2" socket. Discard all hardware and O-rings.

5. With the four bracket screws removed, the rear bracket and reservoir can now be removed from the drive unit. Discard the rear bracket, reservoir, intermediate shaft, and all O-rings.



6. Polish the drive unit shaft to remove any corrosion that may have formed. Clean the engine mounting surface of any debris and polish if necessary.



Rémove 4 bracket screws, rear bracket washers, and screw head O-rings.



7. Install the pump slinger (Item #1 on page 1) on the drive unit shaft. The slinger should be slid all the way back on the shaft of the drive unit so that the slinger covers the step on the drive unit shaft as shown.



8. Place the seal O-ring (Item #8 on page 1) behind the lip of the spring half of the seal assembly (Item #9 on page 1). Install the seal assembly half into the rear bracket using a tool such as a 1-1/2" pipe nipple or arbor press to give even pressure on the metal flange of the seal housing during installation. Gently press the seal into position until it bottoms.



9. Place a flat washer and screw head O-ring on each of the four 5/16" x 1-3/4" cap screws. Install the rear bracket onto the engine using the bracket screw assemblies from the previous step. The handle of the rear bracket should be to the top of the drive unit. Tighten securely.



10. Install the ceramic seal half into the impeller rubber first, with the ceramic surface facing out. The seal half is pressed into the hub of the impeller by using an arbor press or similar tool that will provide a uniform press fit. The outside diameter of the rubber boot may be sparingly coated with silicone grease to ease installation. Be absolutely sure that the ceramic seal half is bottomed out and installed squarely. If the installation is not square, seal wobble will occur, leading to premature seal failure. Care must be used when handling the seal to not scratch the seal surface.



 Install the impeller key shaft and impeller onto the engine drive shaft. Secure the impeller to the drive unit shaft with the impeller bolt gasket and the 5/16" x 1-1/8" hex flange cap screw. Tighten the cap screw until snug.



12. Install the O-ring segment and O-ring -375. Lightly coat with silicon grease to secure.



13. Reinstall the volute onto the rear bracket using the three volute screws. Reinstall the check valve onto the snout of the volute. The drive unit should be turned over a few times to check for clearance between the impeller and volute. A small amount of drag between the impeller and volute will cause no problem; however, if the drive unit will not turn over because of the lack of clearance, a shim may have to be used.



14. Reinstall the pump body with the outlet flange facing up. Reinstall the 10 body screws, 10 lock washers, and 10 nuts to secure the pump body to the rear bracket. Tighten the cap screws securely all the way around.



Reinstall the 10 body screws and secure with 10 lock washers and 10 nuts.

15. The pump is now ready for operation.



FINAL INSTALLATION

1. Reinstall the 2" manifold fitting into the pump outlet. Install the 2" full port manifold provided into the pump inlet. Thread sealant should be applied to the manufacturer's specification.



2. Remove the elbow from the top of the suction side plumbing. Replace it with the provided tee fitting. Install the level switch coupling using the provided gasket and band clamp. The coupling should be oriented such that the threaded fitting is positioned at the bottom.



3. Place the pump in position aligning the inlet and outlet plumbing. Clamp in place using stainless steel band clamps and gaskets. Mark the four bolt holes in the engine on the pump platform. Remove the pump and drill four holes using a 7/16" drill bit. Reposition the pump aligning the inlet and outlet plumbing. Clamp the inlet and outlet fitting in place using band clamps and gaskets. Bolt the engine to the pump platform using the provided hardware.



4. Install the float switch noting the orientation. There is a mark at the base of the switch denoting the orientation of the switch, shown below. The switch should be installed so that it opens upwards, in line with the orientation groove on the coupling. Thread sealant should be applied to the manufacturer's specification.



- Connect the supplied harness to the float switch. Route along the engine toward the kill switch. Secure using the supplied zip ties.
- Locate the low oil shutoff wiring that runs from the oil alert sensor unit. Disconnect the black wire. Connect the new harness to the two ends of the now disconnected black wire. Remove one of the bolts from the base of the engine block and secure the ring terminal.



7. Refill the liquid tank and pull start the engine to verify functionality.

If engine will not start, it may be necessary to purge the air in the new tee fitting to ensure the float switch rises. Loosen the band clamp on the level switch coupler and separate until water begins to seep from the fitting. Secure the band clamp and start the engine.

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