

BearCat Pumps

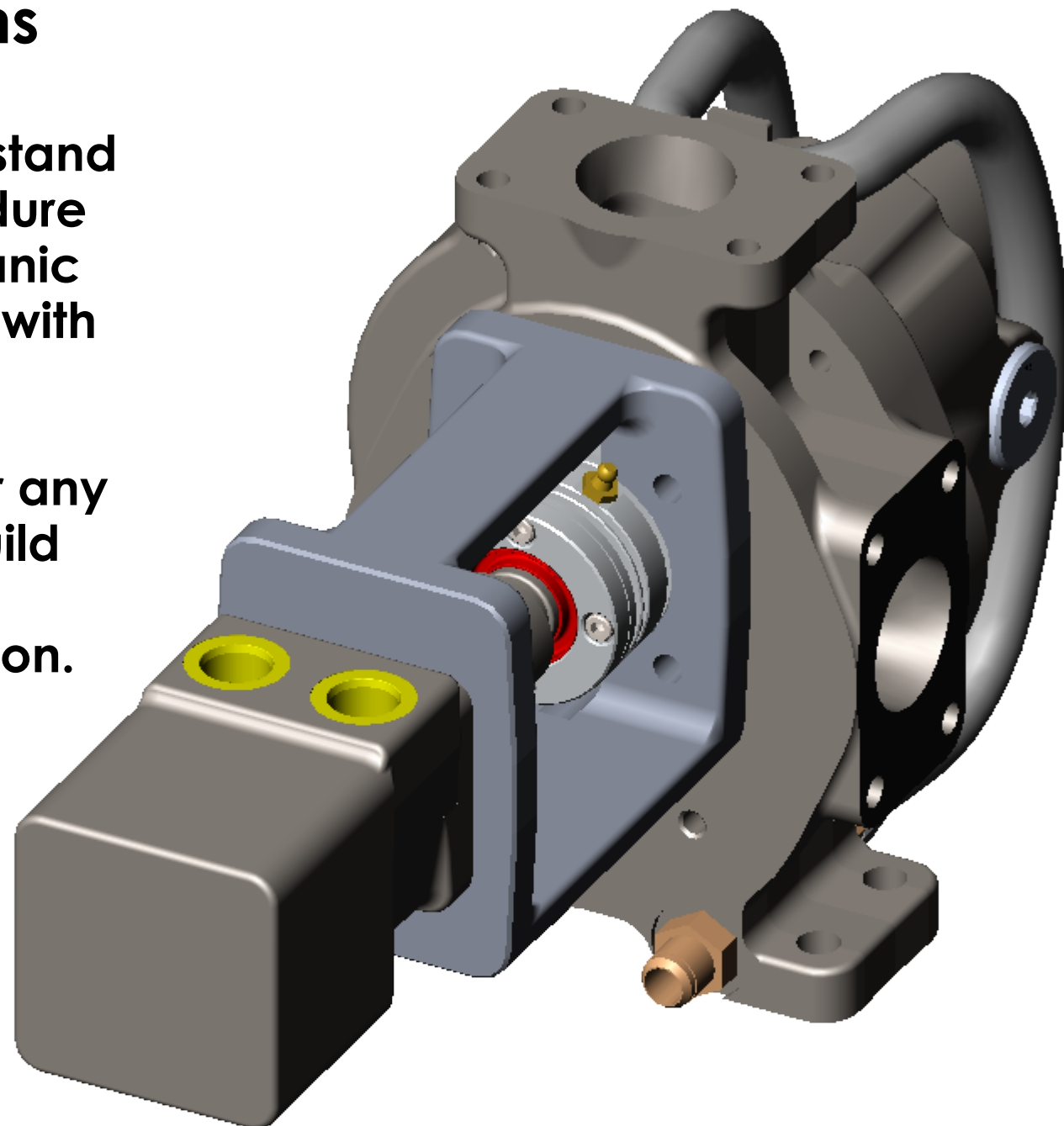
Delta Pump

Delta Pump rebuild instructions

WARNING! Please read through and understand instructions before proceeding. This procedure should be performed by a qualified mechanic familiar with all safety protocols in working with hot asphalt equipment.

BearCat Pumps has a rebuild program if for any reason you do not wish to perform the rebuild on your own. Please ask your sales representative, or call us for more information.

BearCat Pumps
623-587-1350



If replacing an existing Delta Body please start below. If replacing a traditional pump, Installation of the Shaft Plate assembly, and some modifications to your machine may be necessary. Please refer to addendum at the end of this manual.

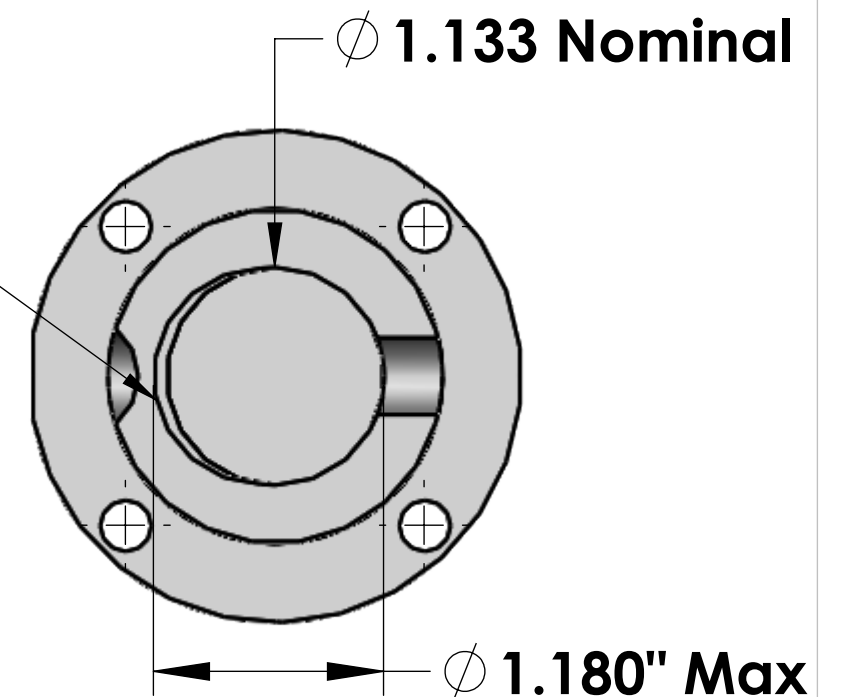
Tools needed;

1. SAE Allen wrenches (preferably with ball end)
2. 9/16" wrench
3. 7/16" wrench
4. Pry bar or dead blow hammer
5. Rags and solvent
6. Grease gun with Hi-temp grease
7. Sawzall (Crafco models)
8. Flat scraper (for cleaning surfaces)

Inspection

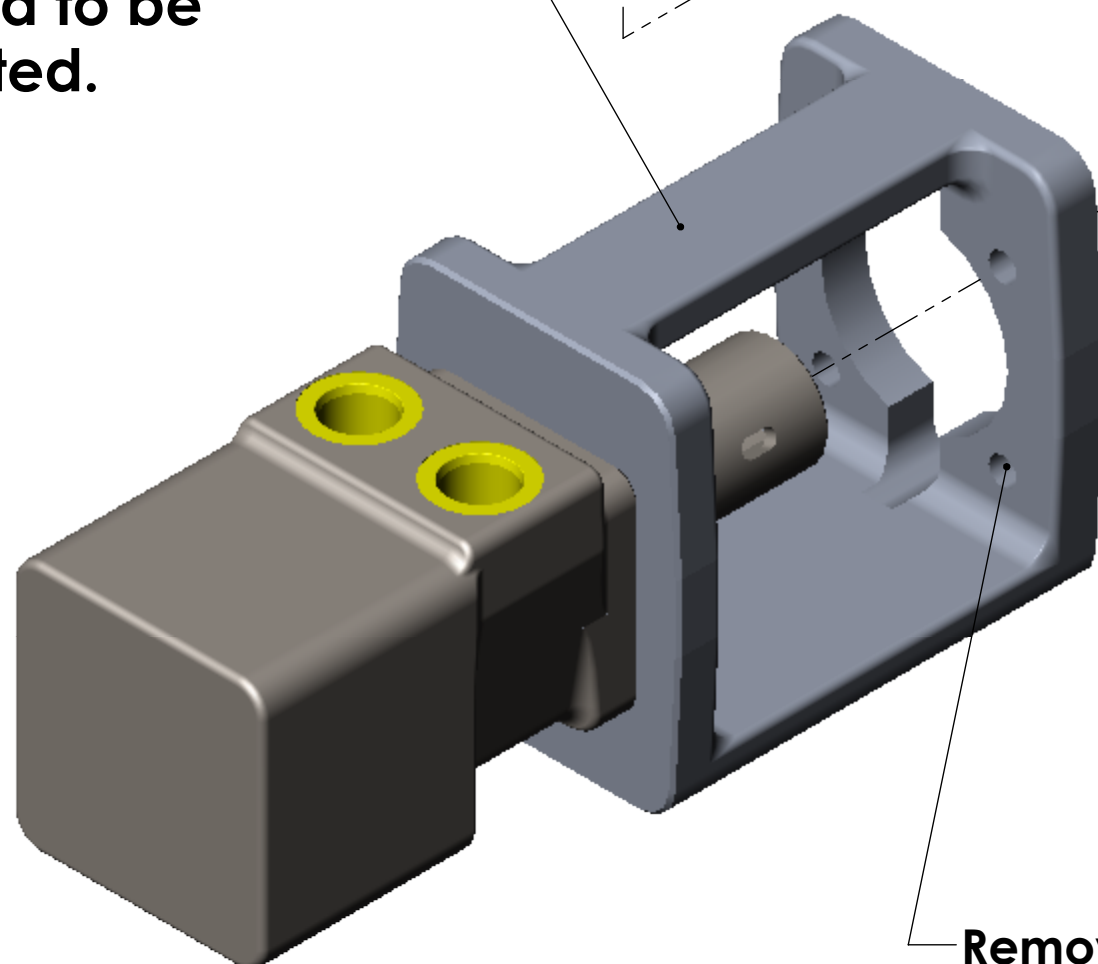
Inspect the following before proceeding.

- **Bushing wear.** Remove the rear bushing on the idler shaft. Wear in the bore ID exceeding 1.18" ..
- **Relief Valve:** Remove the relief valve and inspect. You are looking for anything caught under the poppet, or a spring that may be broken or deformed. Simply removing and replacing the RV can often fix the problem.



Step 1

Remove hydraulic mount assembly. Hydraulic hoses do not need to be disconnected.



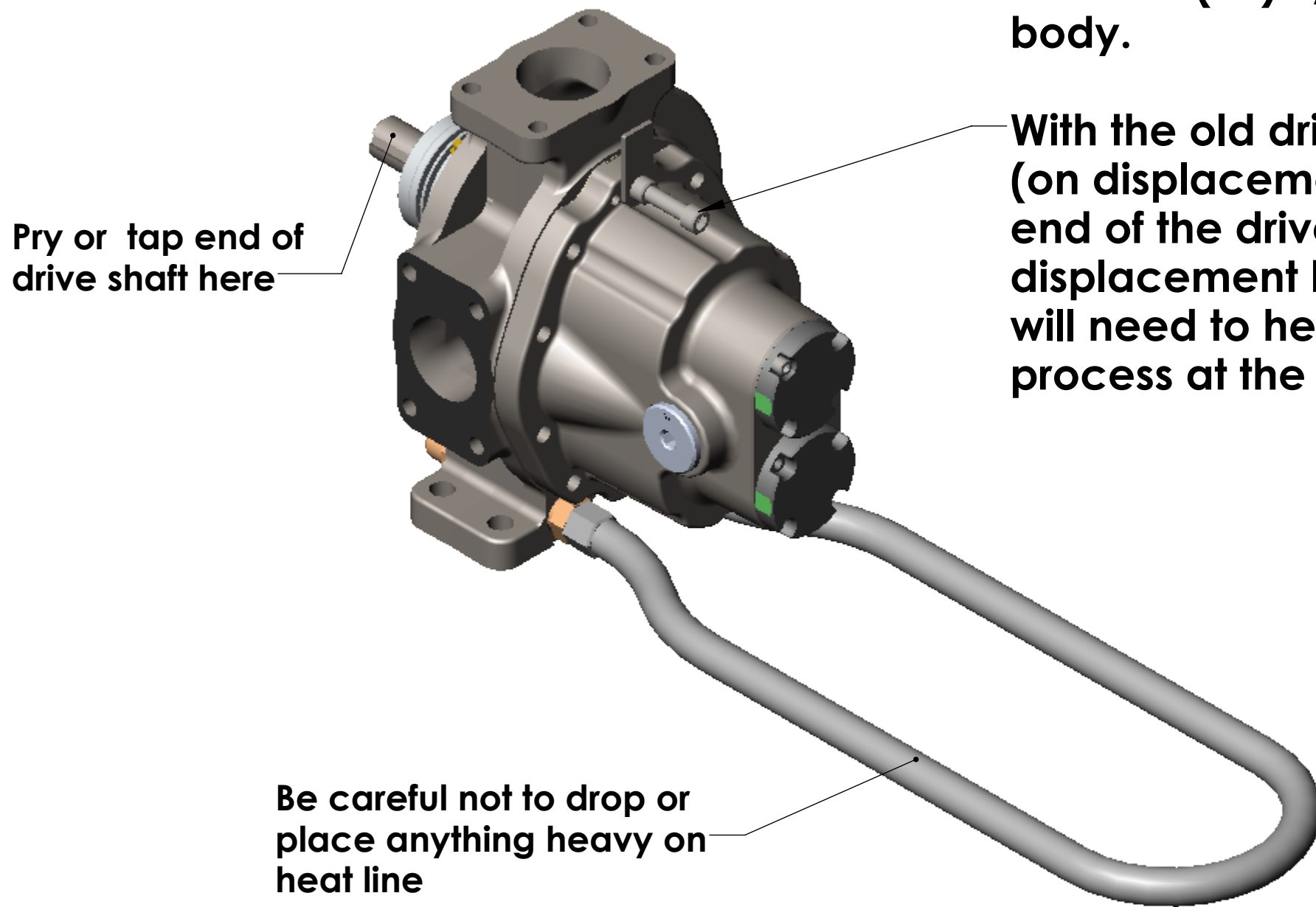
Step 2

Remove seal assembly. (4) 1/4 Allen bolts.

Remove the (4) 3/8 bolts and rotate the body to clear the grease zerks.

Step 3

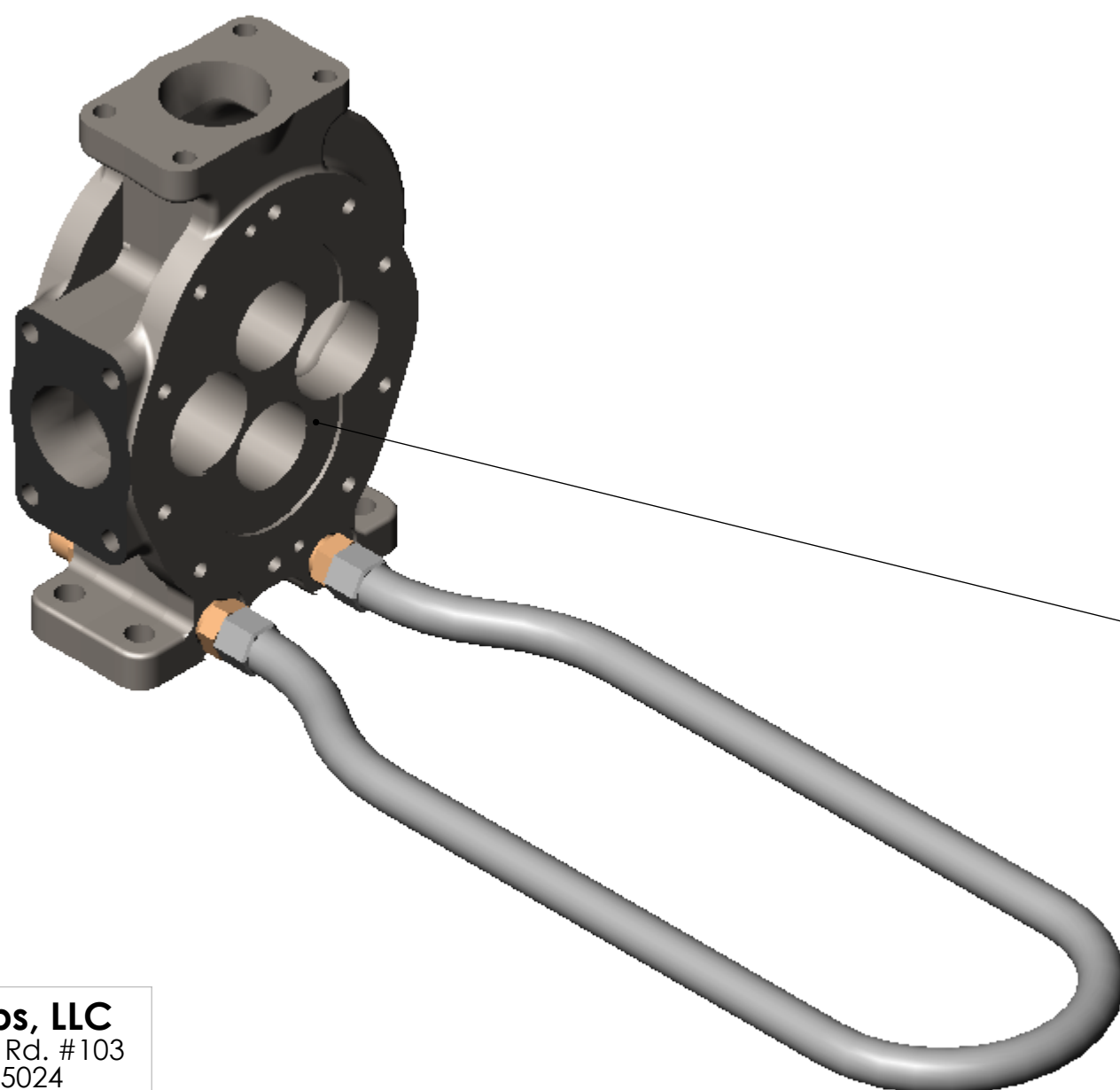
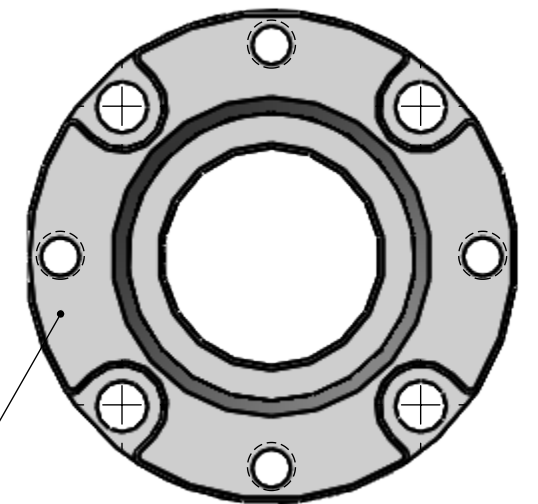
Remove (10) 3/8 Allen bolts on back displacement body.



Step 4

Remove both the drive and idler bushings from the shaft plate. Each are secured with (4) 1/4 Allen bolts.

Note: There are two 1/4 tapped holes which may be used as jacking screws in order to free the bushings from their bores.



Step 5

Clean all surfaces thoroughly!

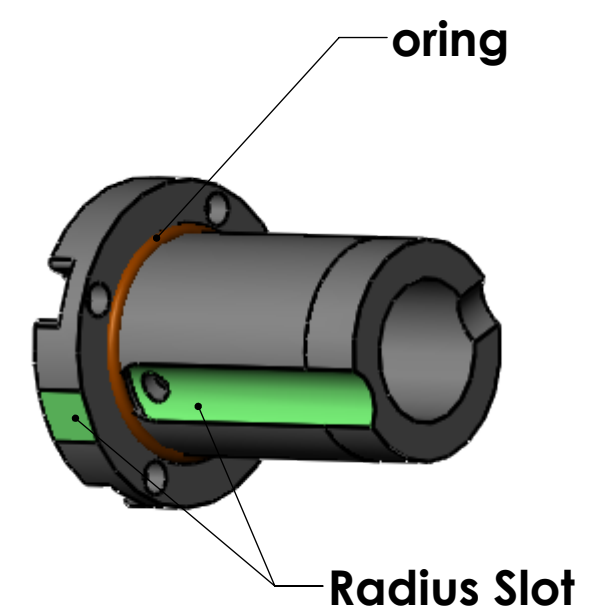
Any debris left behind can cause binding or leakage

Step 6

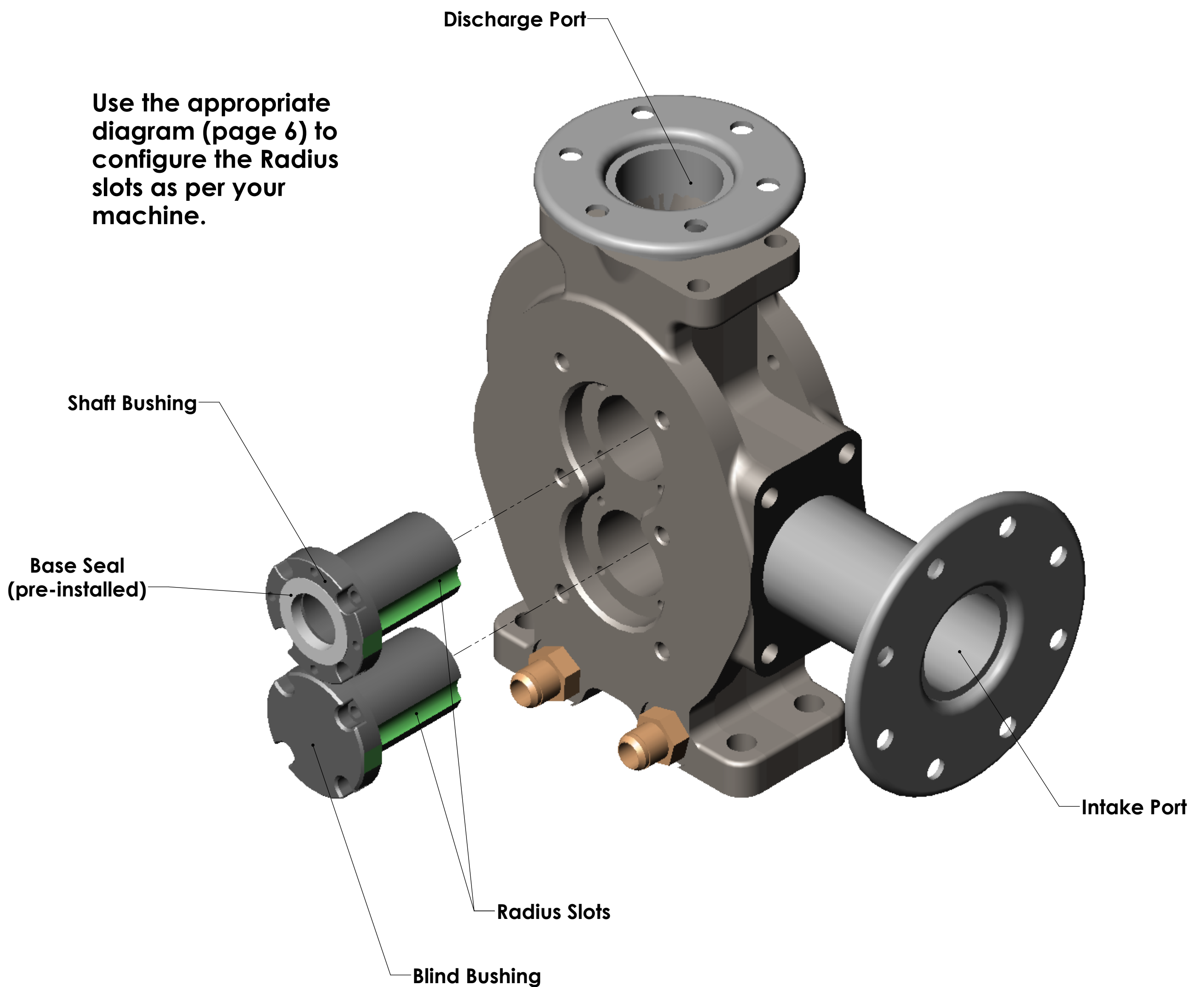
Install Bushings in Shaft Plate

Important: The radius slot must face the intake side of the pump.

Torque Spec 1/4-20" Bolts: 8-10 ft/lb



Use the appropriate diagram (page 6) to configure the Radius slots as per your machine.

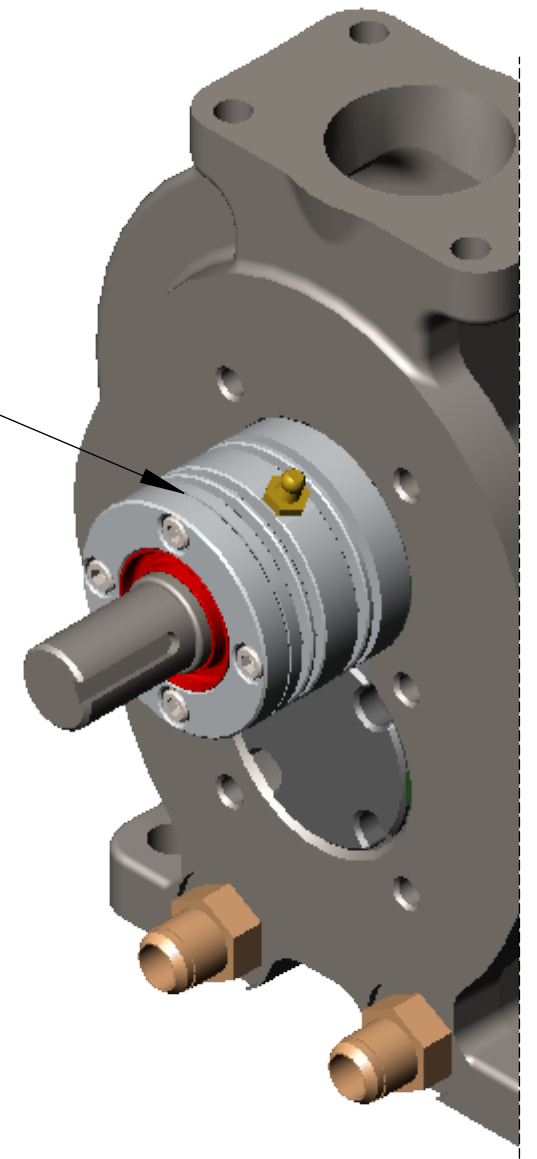


Step 7

Install seal assembly as shown.

The base seal should already be installed on the shaft bushing. Slide the seal assembly and clock as per your specified configuration.

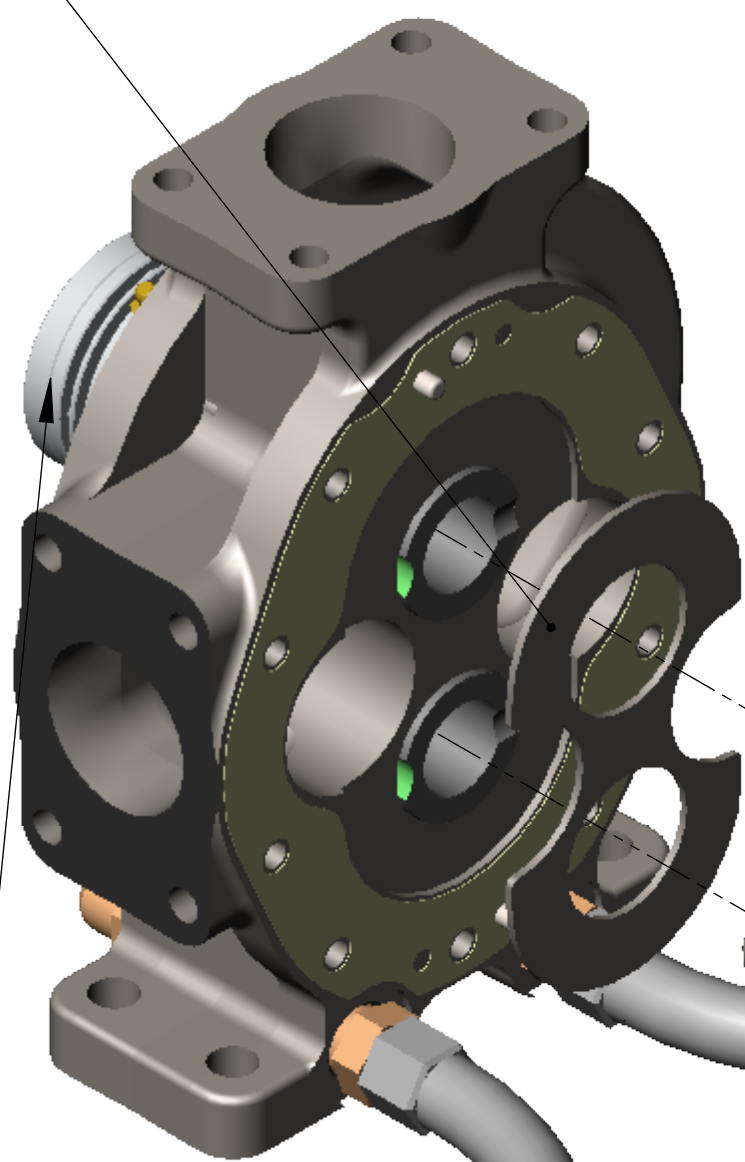
Tighten (4) 1/4-20 bolts evenly in star pattern. Leave the bolts slightly loose, they will be tightened after drive shaft is installed.



Step 8

Install Wear Plate

Note: A dab of grease can help hold plate in position while installing subsequent components.



Step 9

Install the drive shaft/gear assembly into the pump. The helix angle of the Drive gear insures that thrust force goes towards the wear plate.

- Crafcoc: Right helix as Drive gear
- BearCat: Left helix as Drive gear

Be careful pushing the shaft through the seal assembly.

Repeat this process for the idler gear and shaft.

Idler Assembly
(Left Helix
angle shown)

Drive Assembly
(Right Helix angle
shown)

Step 10

With drive shaft in place. Tighten the (4) 1/4 bolts securing seal housing to 7-8ft/lbs (use a star pattern when tightening bolts)

Step 11

Grease SLOWLY until grease comes out of opposite side relief fitting.

Grease weekly at end of operation but while pump is still hot.

Use Mystic JT-6 or equivalent.

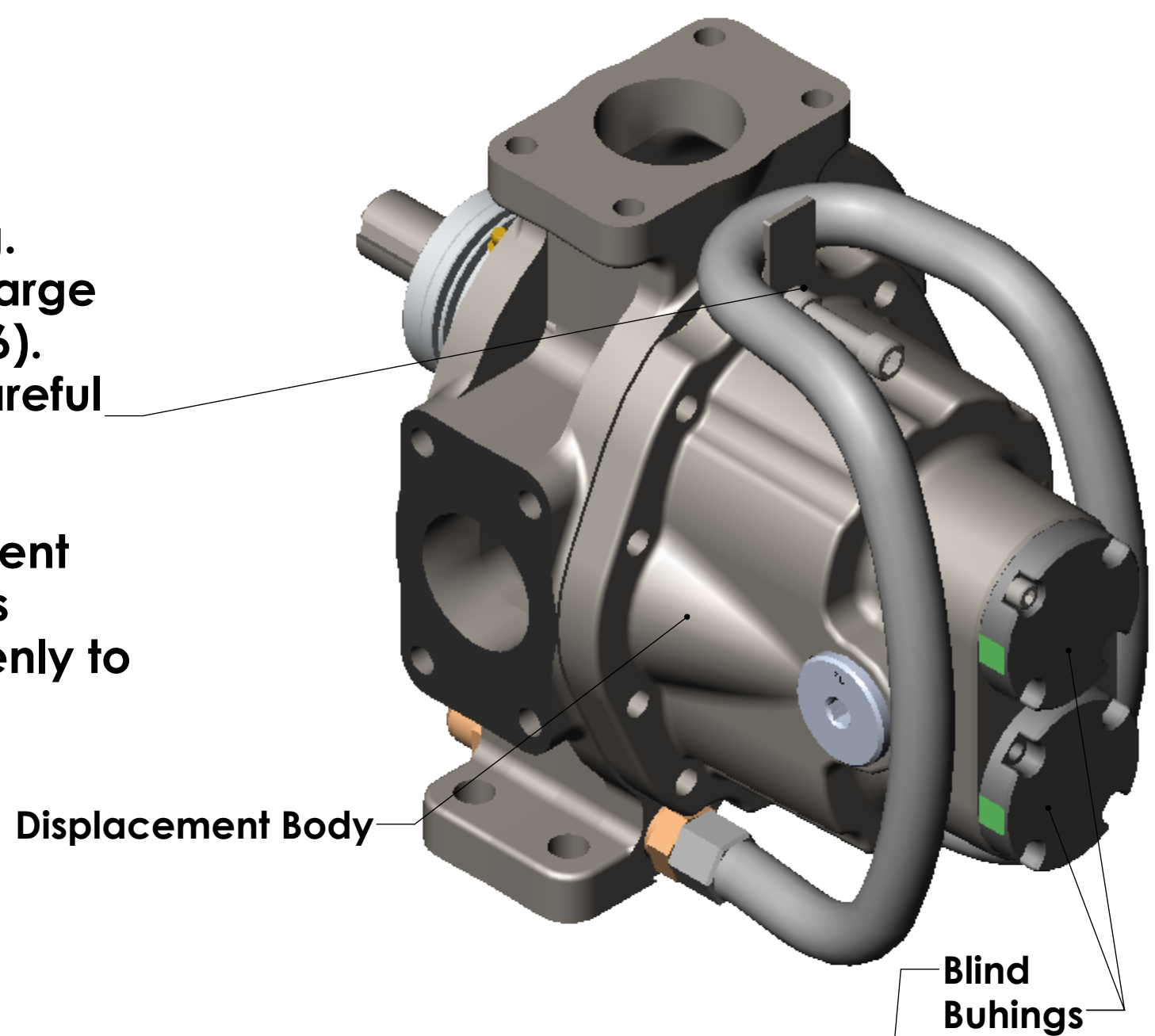
Step 12

Install the gasket provided in the envelope.

Pump 3-4 pumps of grease into each bushing.
Orient the Relief Valve in relation to the discharge port as per your configuration (shown in Step 6).
Slide the body over the gear assembly. Be careful not to damage gasket.

Install (10) 3/8 Allen bolts on back displacement body. Place hose tab and secure flex hose as shown. Use a star pattern to pull the body evenly to the shaft plate.

Torque Spec 3/8-16" Bolts: 45 ft/lb

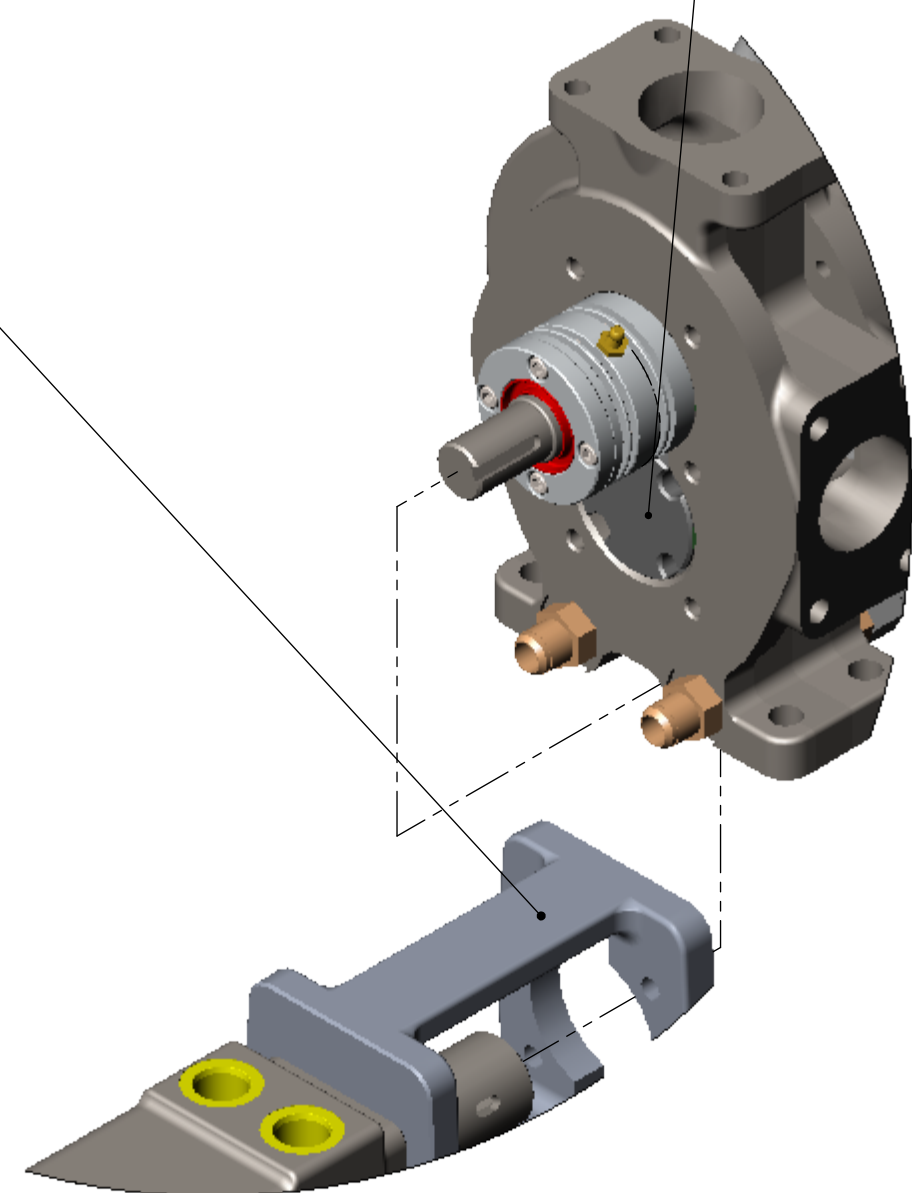


Step 13

Attach the coupler and 1/4 square key to the hydraulic motor. Align slots of motor assembly to slide past grease zerk. Torque 3/8 bolts to 35 Ft/lbs.

Inspect the remaining contents of the bin. If you have remaining parts such as O-rings, keys, etc., you may have missed a step!

You are ready to start the pump. Start SLOWLY. Be sure it rotates freely. Then, as it primes, watch for signs of leakage and/or binding. Gradually increase to normal production speed.

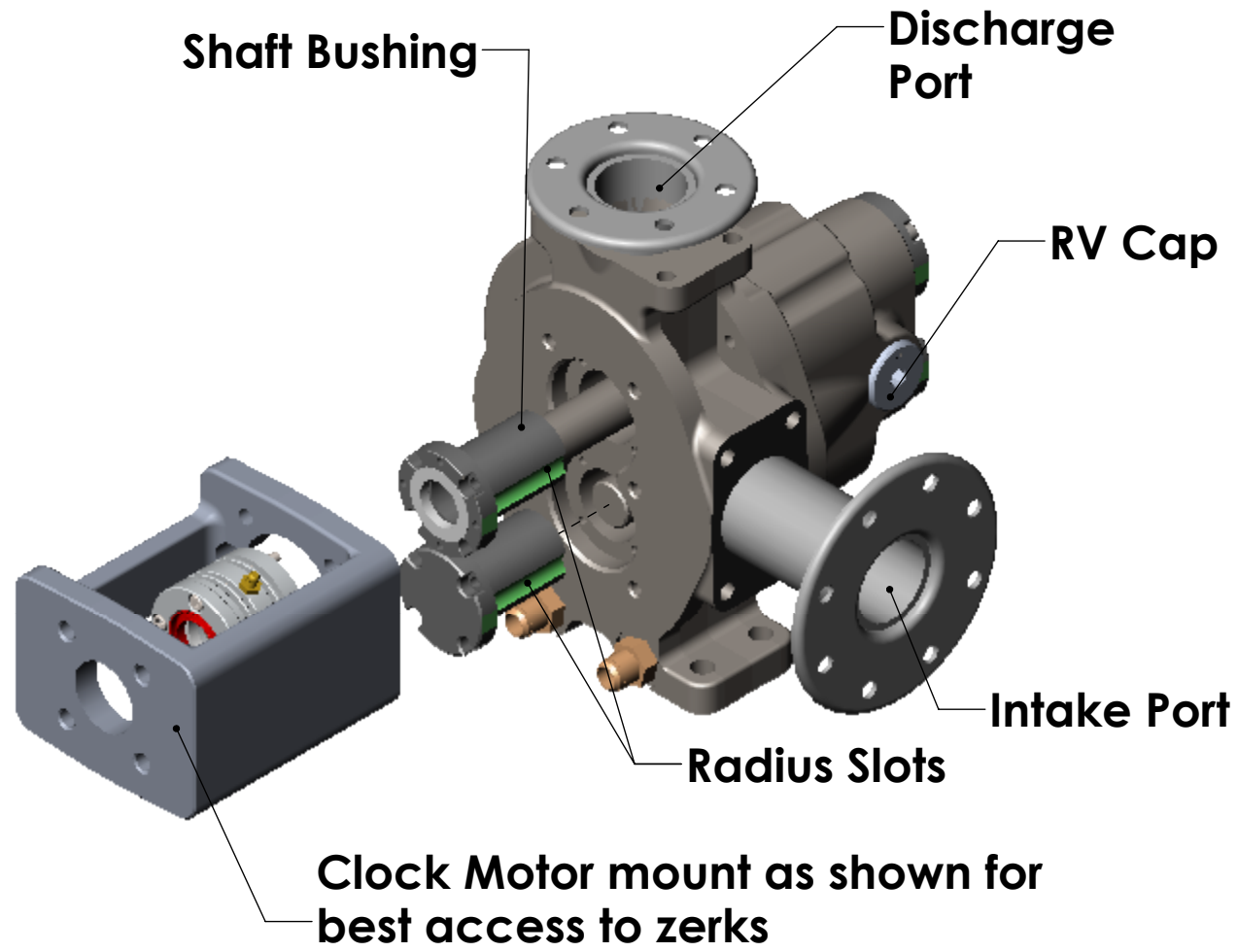


Tips for maximum pump life:

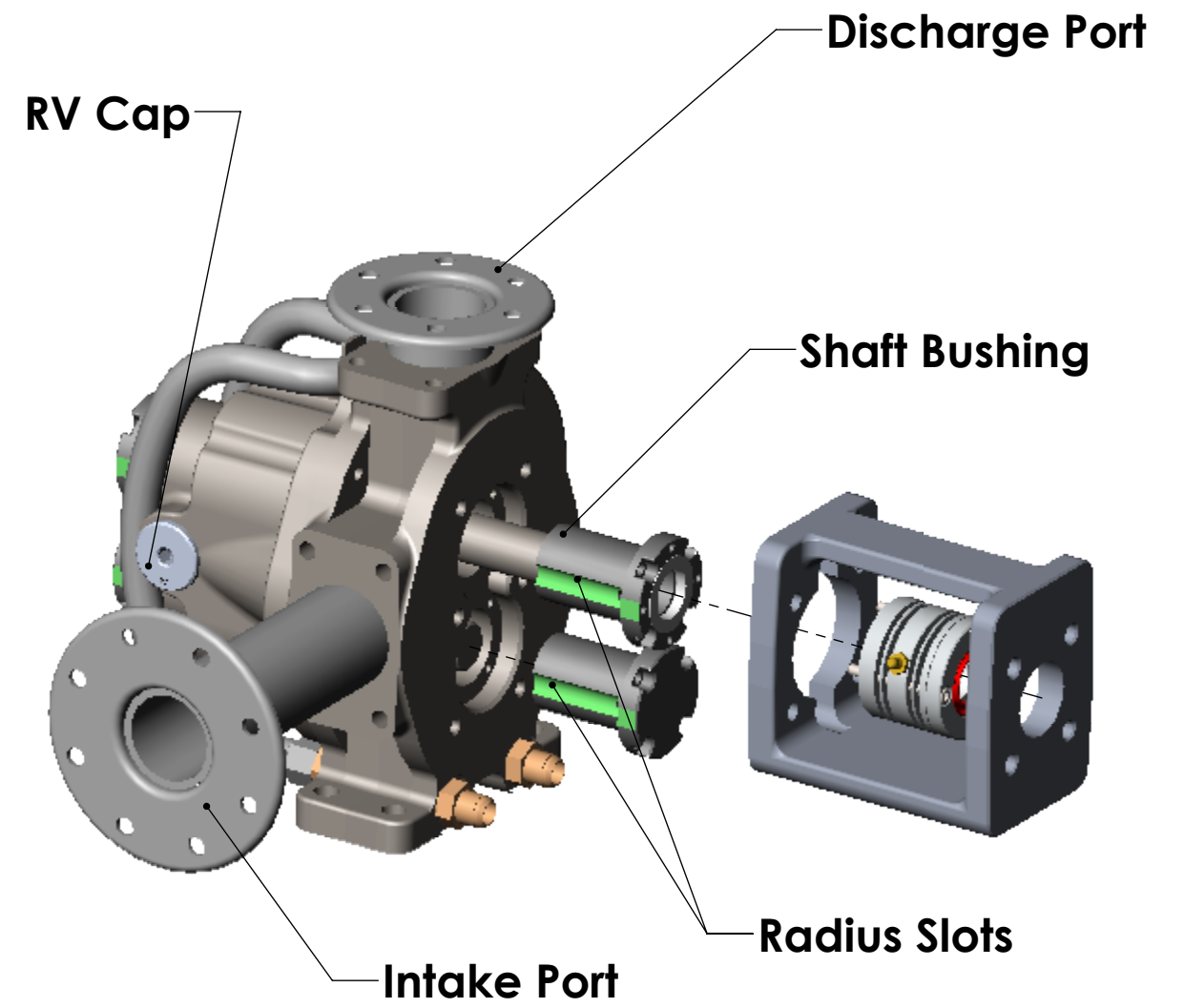
- Allow ample time for your pump to heat up before starting. Impatience accounts for a significant amount of damage or wear!
- Keep your pump hot! A cold pump, hose or plumbing can lead to rapid wear.
- Adjust your flow control valve to the lowest setting for acceptable flow. A lower setting can significantly improve pump life and machine longevity.

Crafco - Config 1
(EZ Line/Pour Passenger Side)

Note: The Crafco models will require cutting the cabinet above the hydraulic motor for hose clearance. It is best to use a reciprocating saw such as a Sawzall.

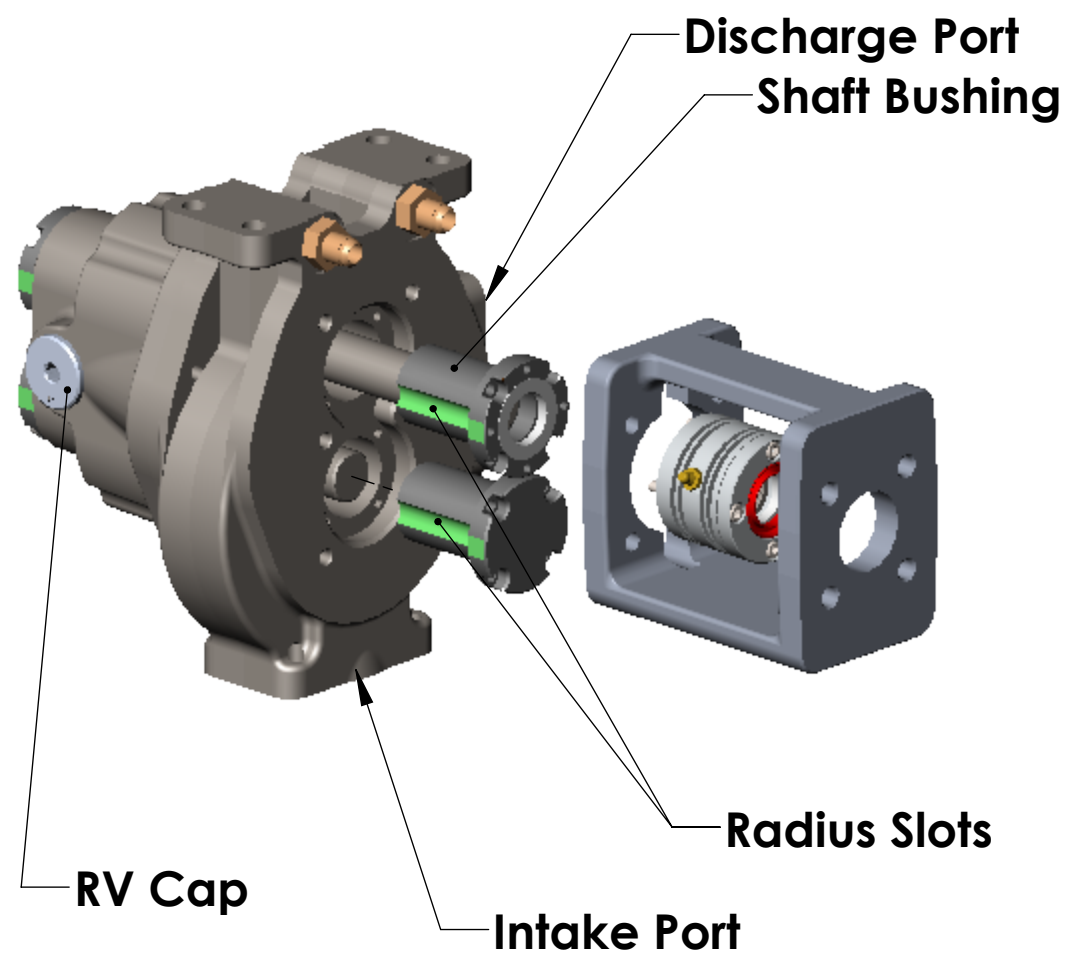


Crafco - Config 2
(EZ Pour Driver Side)

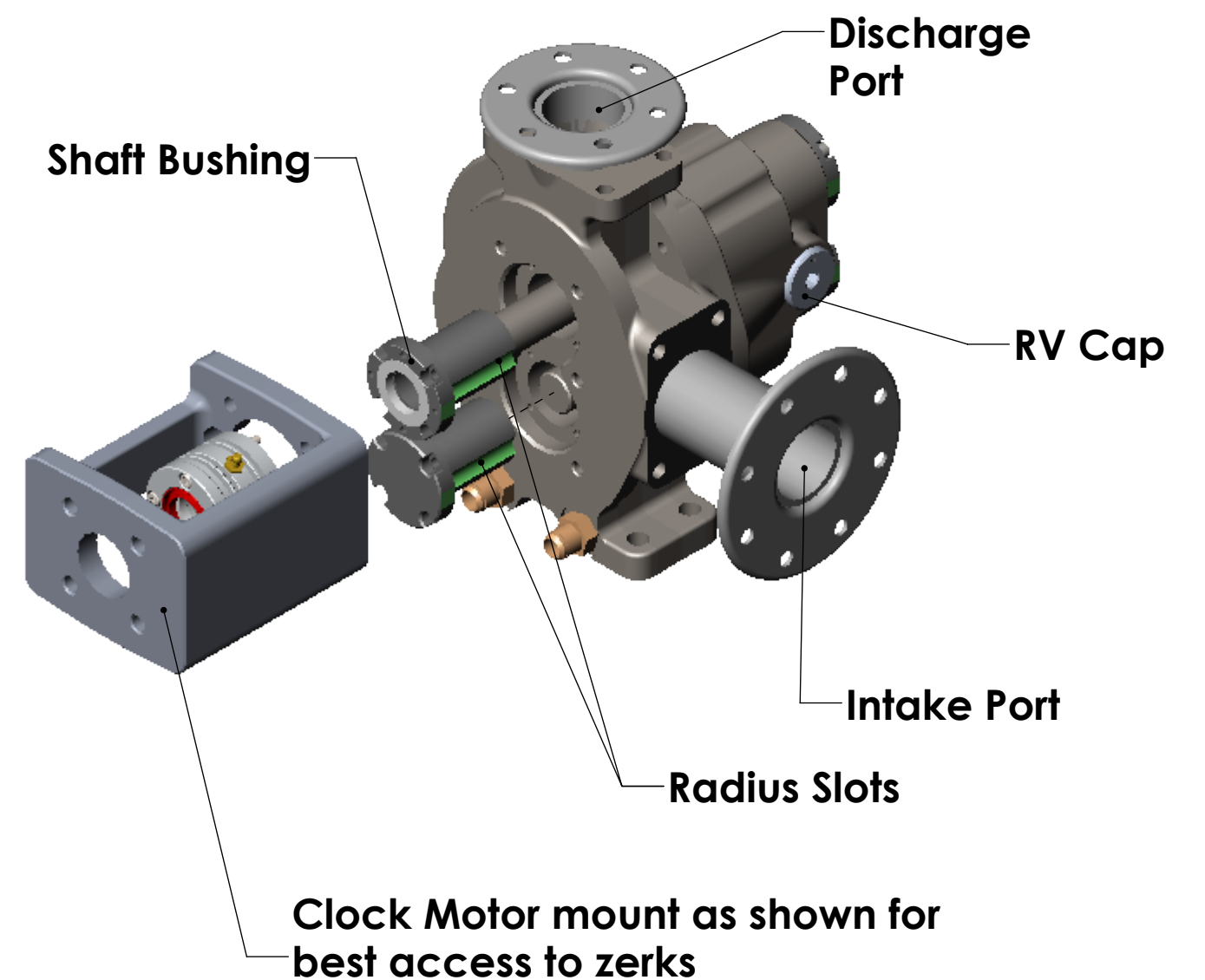


BearCat Mfg
(All models)

Note: The BearCat model is an upside down mount. For the Delta pump to operate in the optimal flow configuration, we recommend swapping from the traditional low mount drive, to a high drive configuration as shown. In addition, you will need to also to reverse the hydraulic hoses in order to match forward and reverse settings.



Cimeline
(All models)

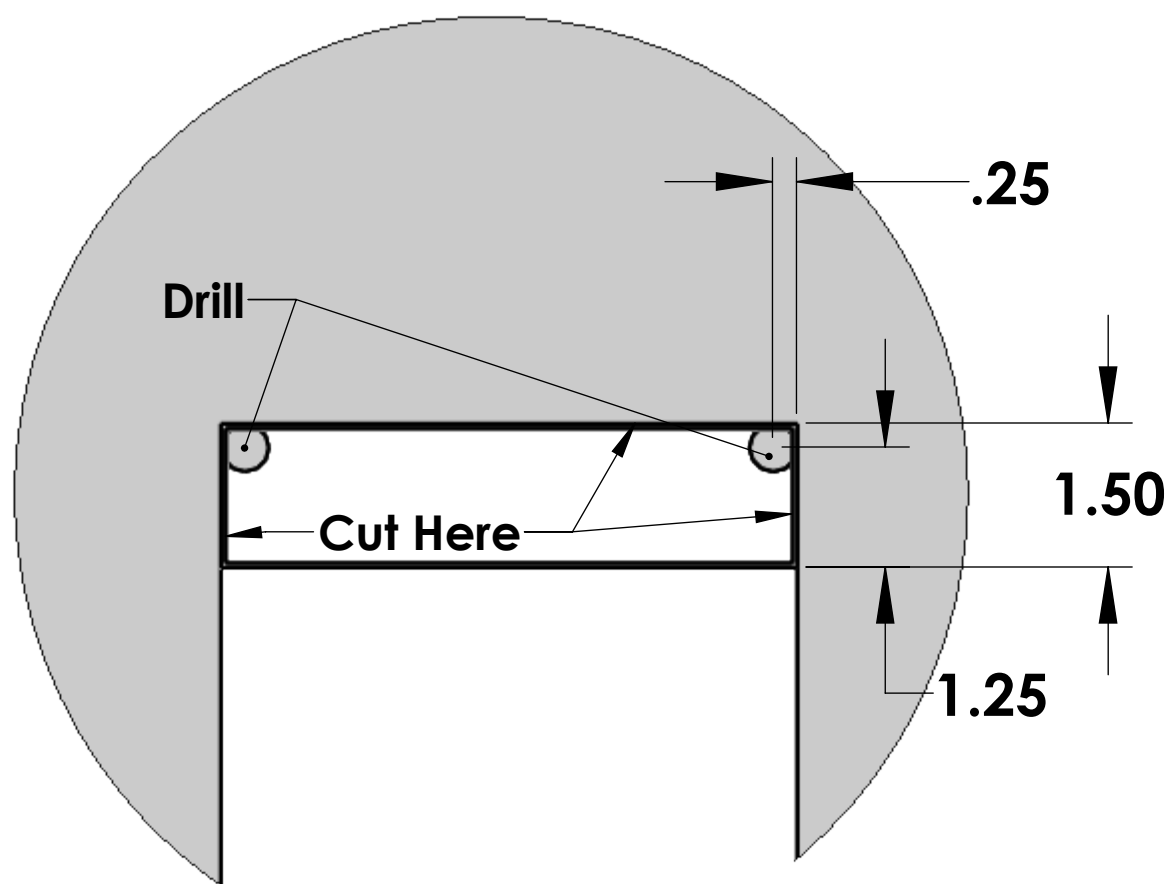


Crafco Addendum

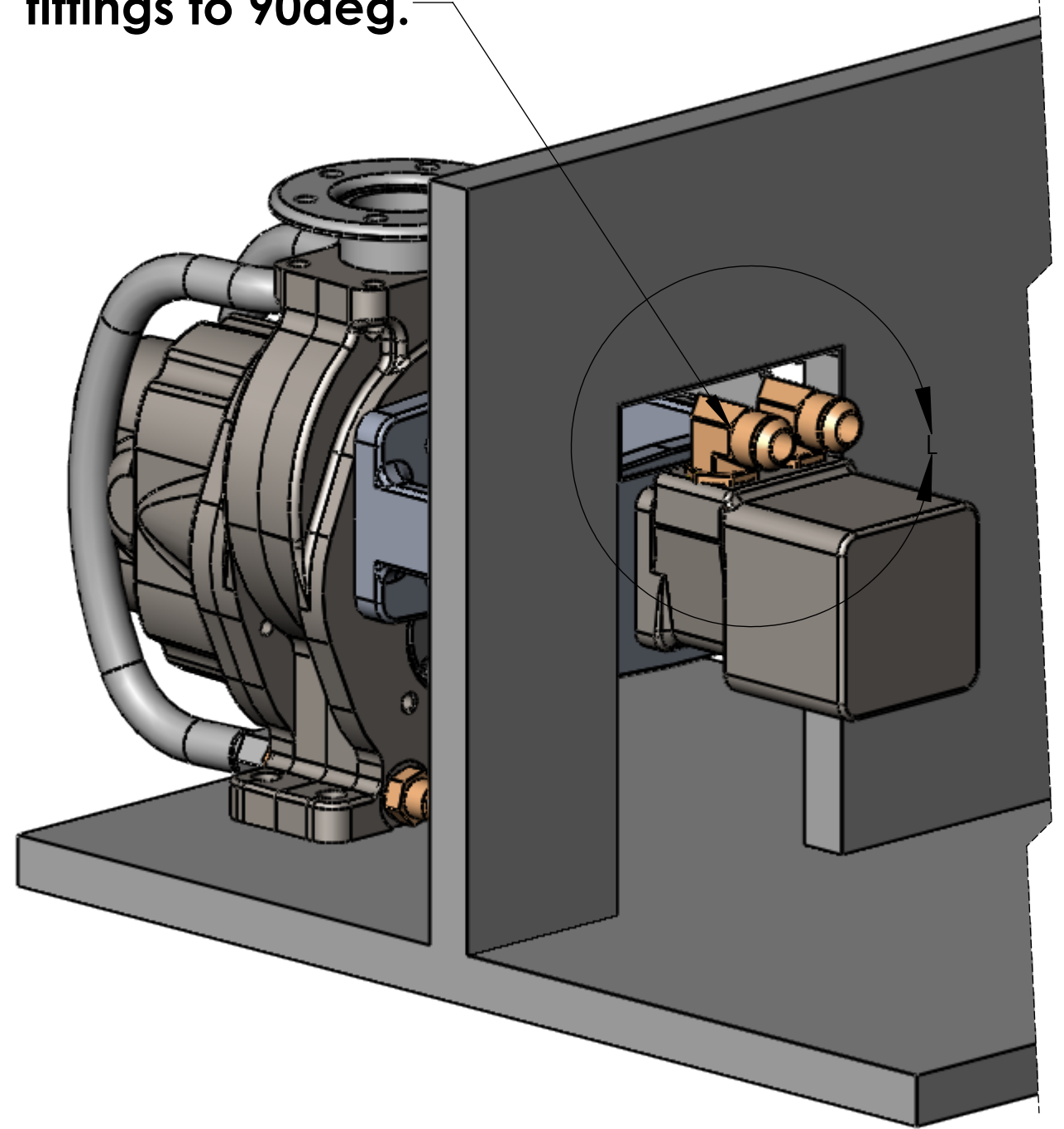
Cabinet Modification

Installing a Delta Pump on a Crafco EZ Line machine will require a few modifications in order to make clearance for the hydraulic fittings.

- Change hydraulic fittings to 90deg.
- Cut opening in hose cabinet



Change straight hydraulic fittings to 90deg.



Port Fittings

The port fittings can be extremely difficult to remove. You may wish to purchase new fittings for the first time installation of the Delta Pump. In subsequent rebuilds, these fittings, and the shaft plate they are attached to will not need to be replaced.

If ordering fittings, please provide us the A and B measurements as different models have different lengths.

