

## **REBUILDING THE SUNTEC PUMP**

A pump “rebuild” may be necessary for either of two conditions:

- The pump shaft has a groove worn into it by the seal.
- The pump internal pressure regulator is sticking.

As long as you have the pump apart to correct one condition, you should also check the other. A pump “rebuild kit” is available from INOV8. They contain the shaft, seal and cork cover gasket.

Replacing pump the shaft and seal:

1. Remove the pump from the burner in the following way:
2. Disconnect the oil inlet line from the pump and plug the inlet hole.
3. Disconnect the pump hose from the module fitting and plug it.
4. Remove the copper “U” bend from the top of the pump.
5. Remove the 2 bolts that hold the pump in. (3/8” socket)
6. Slide the pump out of the burner housing.
7. **Note:** the pump coupling may or may not come out with the pump. If it didn’t reach in and pull it out; you’ll need it later. Insure the shaft is properly aligned with the coupling when reassembling.
8. Drain the oil out of the pump as best you can.
9. Remove the 4 cover bolts, cover and screen.
10. Remove the 3 gear set bolts and the gear set pieces notating te position of the plates. Don’t lose the moon-shaped piece.
11. Remove the shaft (with gear).
12. Remove the seal-retaining clip. (C-clip)
13. Stick something like a large Phillips screwdriver into the seal and pry it out. Don’t stick the tool in any further than necessary to catch the seal, as it will nick the area where the seal seats if you do.
14. Clean all the pump parts with solvent. (Carb cleaner will melt the paint.)
15. Inspect the pump base to see if the shaft gear has worn into it significantly. If you can catch the groove readily with your fingernail, the pump is near the end of its life. It’s hard to say how much wear is too much; if you’re drawing oil from far away or up quite a few feet, or if you’re burning something thin like diesel fuel then a small amount of wear might be too much. Call if you want to run your situation by us.
16. Lubricate the new seal and press it in.
17. Replace the fiber washer (if there was one) and retaining clip.
18. Oil the new shaft and place it in the pump.
19. Oil the 3 pieces of the gear set, put them back together, and bolt them back on the pump base.

**Note:** You can’t put these together wrong – if you try, the bolt holes won’t line up. Tighten the bolts a little at a time, all the while turning the shaft with the pump coupling. The shaft should turn freely when the bolts are tight. If it binds (or “clicks”), loosen the bolts, wiggle the gear set and try again.

- Using the new cork gasket, reinstall the strainer and cover.
- Replace the pump on the burner.

### ***CLEANING THE PUMP INTERNAL PRESSURE REGULATOR***

1. Perform the 1<sup>st</sup> 2 steps of “Replacing the pump shaft and seal” above.
2. Remove the 11/16-inch “nut” from the back of the pump.
3. Remove the 11/16-inch “nut” from the front of the pump. (The pressure adjusting screw will come out with the nut.)
4. Remove the spring centering device – noting its orientation.
5. Remove the spring.
6. Remove the piston. It can be removed out the front or back – whichever is easier. You’ll probably have to push it out with something (dull)
7. Clean all the parts. If the piston was stuck you’ll need to scrub out the passage with something. A gun cleaning brush on an air drill works well. \*\*\*Don’t use anything that could mar the walls of the passage.
8. Oil the parts and put them back together. Be aware that there was an aluminum washer under each “nut” – as they may have fallen off during cleaning.
9. Replace the pump on the burner.