

INSTRUCTIONS FOR DISASSEMBLY AND ASSEMBLY OF T & E PUMPS 4000 & 2000 SERIES PUMPS

DISASSEMBLY

1. Remove grease nipple adaptor from both bushing caps on back of pump (fig 1).
2. Remove endplate bolts (fig 2).

Fig 1

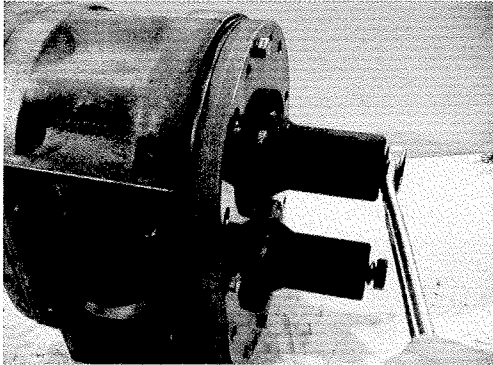
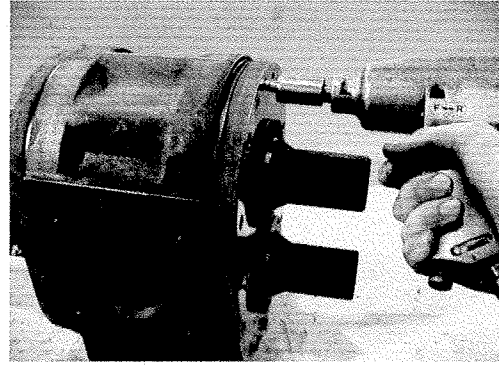


Fig 2



3. Screw in 5/8 NC all thread (about 6" in length) into grease nipple adaptor holes (fig 3). By screwing these in at an even rate, they will push on the ends of the shafts and pull the endplate off of the dowel pins. If wearplates do not come off with the endplates use a screw driver to pry off. Slide endplates of shaft rest of the way by hand.

Fig 3

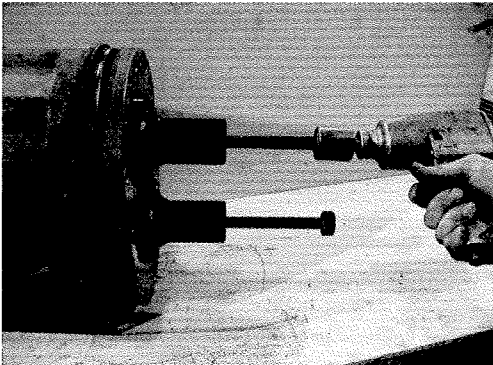
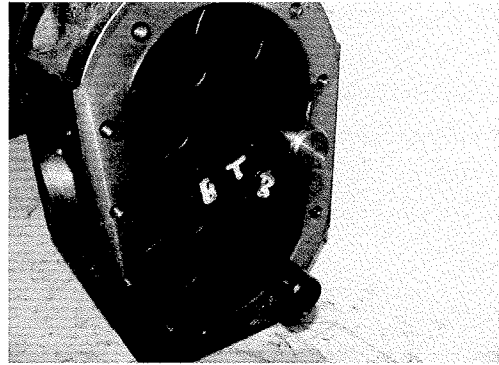


Fig 4



4. Once endplates are off, mark gears with marker, 2 teeth on one gear and 1 on second gear, also mark top and bottom (fig 4). By doing so you can replace the gears (if they are reusable) into the same wear pattern, thereby keeping timing and reducing noise.
5. Slide gears off shafts.
6. Remove keys from shafts, using screw driver if they don't slide out easily.
7. Loosen front combo cap end with a pipe wrench (fig 5).

Fig 5

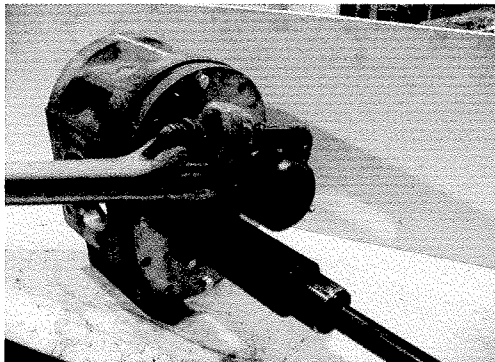
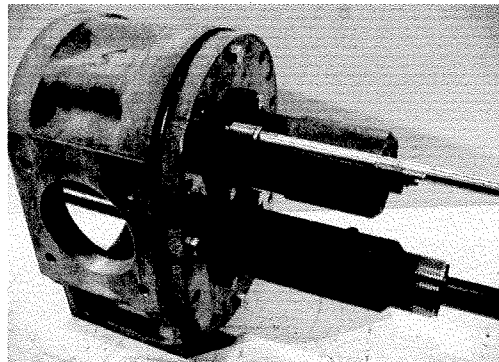


Fig 6



8. Remove 5/16 bolts from hold down rings on idler & input shaft on front end on pump (Fig 6).
9. Remove shafts (Fig 7).

Fig 7

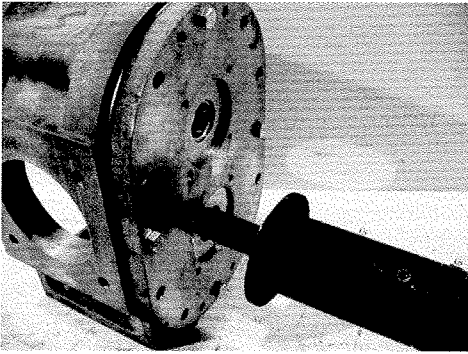
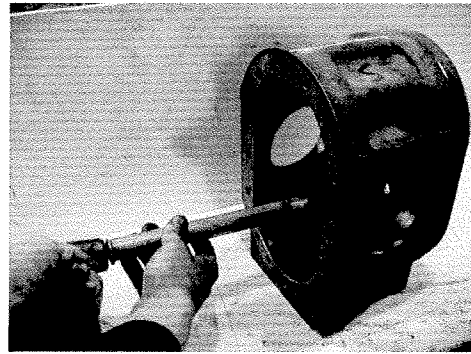


Fig 8



10. Remove front endplate bolts. Tap front endplate and wear plate off of pump from the back side using a bar or block of wood as a punch along with a hammer (using wood will minimize the damage to wearplate) Fig 8.
11. To remove the bushing caps from the back endplate, loosen and remove 5/16 bolt from hold down ring and tap bushing cap loose with a rubber hammer (Fig 9).
12. Remove endplate gasket from housing and clean the surface of the housing (fig 10)

Fig 9

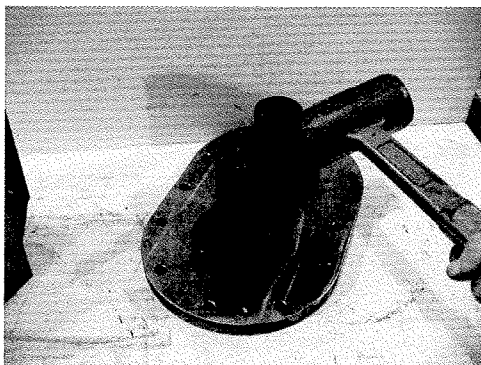


Fig 10



13. Remove cap gaskets (fig 11) and clean off the surface of both endplates with a wire brush or gasket scraper. There should be no residual gasket or silicone. You may also need to remove the dowel pin from the endplate (fig 12).

Fig 11



Fig 12



This is as far as you need to go if you have received a repair kit from T & E Pumps. Please return your bushing caps and input & idler shaft assemblies for a refund or credit. If you are replacing your own bushings and seals please see that section for further instruction.

If replacing your own bushings and seals

1. Take the combo cap ends off combo caps.
2. For both bushing and combo caps, remove seal. To do this hold the cap in a vise and pop out seal with a screw driver (fig 1).
3. Check to see if the bushings inside the combo caps are worn. The inner diameter of these bushings should be 1.33" (fig 2). You will not need to remove them if the diameter is still 1.33".

Fig 1

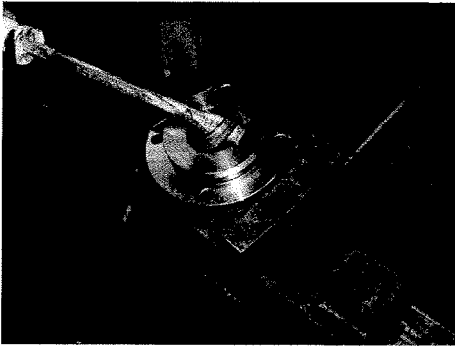
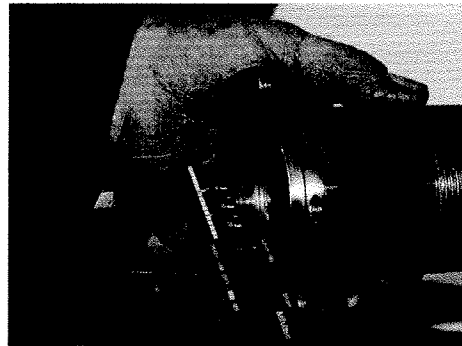


Fig 2



4. For combo caps, remove bearing from combo cap with a punch and hammer. Use caution when doing this. If ID of bushing still measures 1.33", can be reused and do not want to damage it with the punch. If the bushing is worn out you can use a press and press both the bushing and bearing out of the combo cap together. (be sure to press on the bushing when doing this).
5. Repeat the above step for the remaining two combo caps.
6. If required, press a new 2.5" bushing into the combo and bushing caps.
7. Replace seals. We replace seals with the tool pictures below. This is just a piece of 1-1/8" shafting and the lock collar of a bearing. Use this to press seals into place one at a time.



8. The bearing in the combo cap is replaced after the combo cap is bolted onto the endplate during reassembly.

ASSEMBLY

The following directions assume you have received a repair kit from us. You can find directions for replacing your own bushing and seals in the previous section.

1. If necessary grease the end of a dowel pin and slide into the housing.
2. Slide an endplate gasket onto dowel pin on front end of pump.
3. Place wearplate onto dowel pin.
4. Place the wearplate gasket on dowel pins (Fig 1).

Fig 1

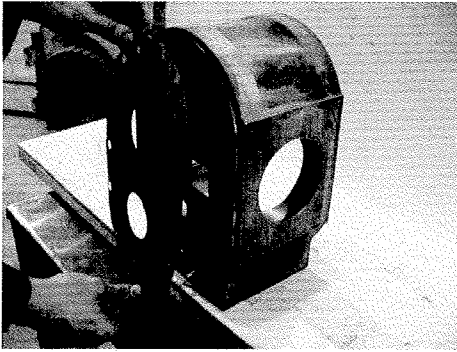


Fig 2



5. Apply silicone to rim of the endplate insert, place endplate insert into outside of endplate (fig 2&3, if you do not have inserts skip to step 6).
6. Flip endplate over and place innerplate bushings (Fig 4), slide endplate into place on dowel pins.

Fig 3

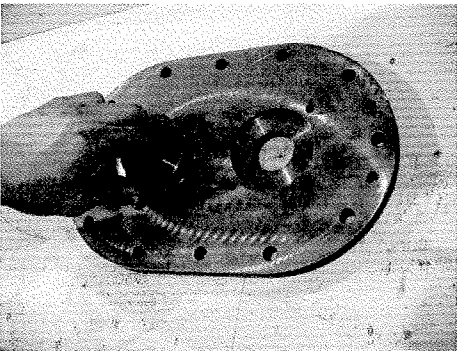
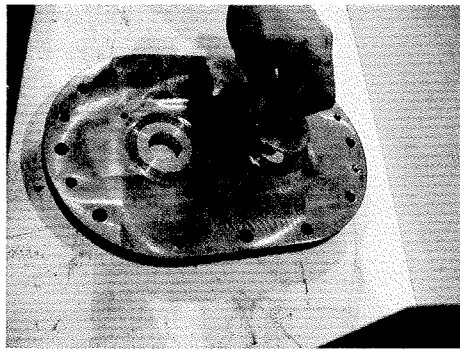


Fig 4



7. Replace and tighten endplate bolts.
8. Place cap gaskets (Fig 5).

Fig 5

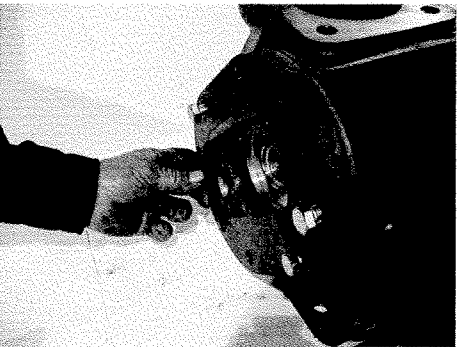


Fig 6



9. Re-silicon back of hold down ring on input & idler shafts and slide new shaft assemblies into place (Fig 6).
10. Tighten hold down ring bolts immediately.

11. Replace the keys in the shafts (fig 7)
12. Slide gears onto shafts. If reusing gears be sure your markings line up. Place gears onto opposite shafts. This allows gears to wear on opposite sides when pumping off under pressure.
13. Place dowel pins into holes on back end of pump.
14. Slide endplate gaskets onto dowel pins on back end of pump.

Fig 7

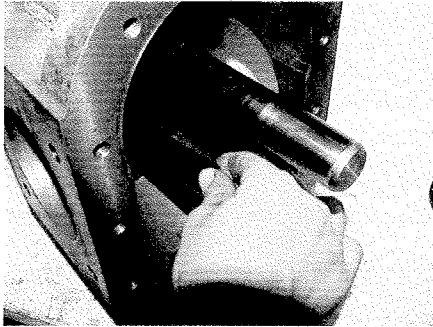
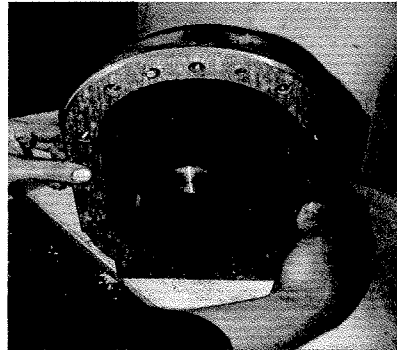


Fig 8



15. Hold straight edge across gasket. You should have between 5 and 10 thou. clearance between gear and straight edge, if not add another gasket (Fig 8).
16. Slide wearplate onto dowel pins.
17. Place wearplate gasket .
18. Slide innerplate bushing onto shaft (fig9).

Fig 9

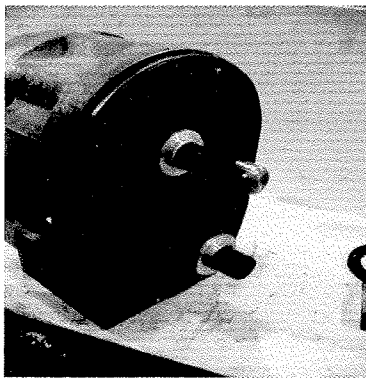
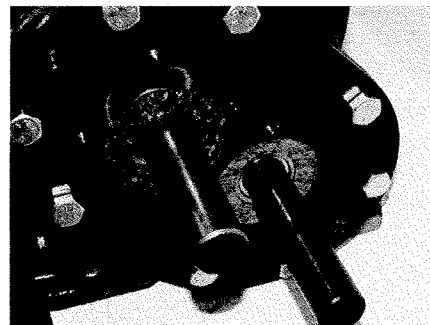


Fig 10

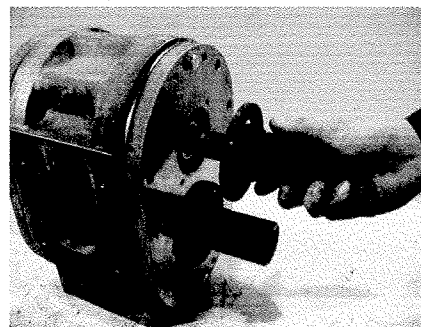


19. Repeat step 5, and slide endplates onto shafts
20. Place bolts for the endplate and tighten. At this point you should be able to turn the pump by hand. If not remove the endplate and wearplate and add another gasket. Repeat until you can turn pump by hand.
21. Slide cap gasket into place (Fig 10). Be sure that the gasket is completely seated in the end plate.
22. Slide the hold down ring over the bushing cap (fig 11), silicon back of hold down ring & slide onto shafts (fig 12). Replace bolts immediately.

Fig 11



Fig 12



23. Place and tighten grease nipple adaptors with the washer on. Reattach grease lines. Be sure to review greasing procedures at the bottom of this page.

If you have not purchased replacement kits from T & E Pumps, the following instructions are for replacing the combo cap end on the front of the pump.

1. Replace O-ring and re-tape the combo cap threads using Teflon tape (fig 1).
2. Spread anti seize compound onto Teflon tape. We use copper compound.
3. Replace combo caps being sure to re-silicon back of hold down ring. Tighten hold down ring bolts immediately.
4. Replace bearing. Make sure bearing is completely seated in combo cap (fig 2)

Fig 1

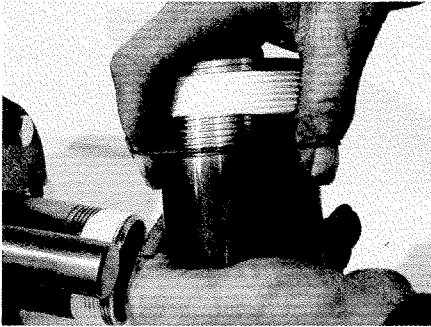
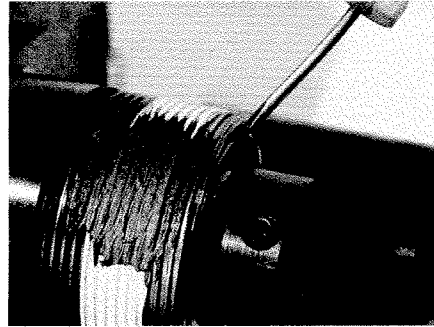


Fig 2



5. Remove seal from bearing (remove only the seal facing the grease nipple and adaptor) and tighten lock collar (use set screw to tighten clockwise) fig 3, ensure that bearing stays seated.

Fig 3

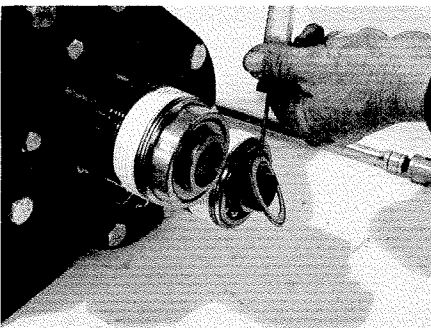
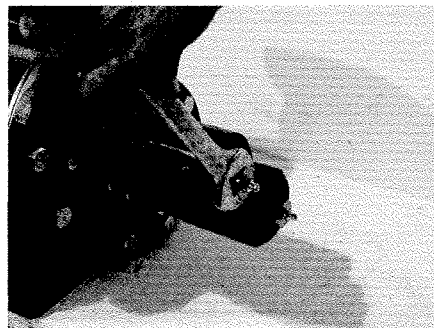


Fig 4



6. Replace combo cap end and tighten with a pipe wrench.
7. Replace and tighten washer, grease nipple adaptor and grease nipple (fig 4)

Greasing procedure to follow pump repair

The front end of the input and idler assemblies are pre greased when they leave our shop. Give the grease nipples on the front end of the pump a couple of shots of grease after the pump is assembled to ensure the grease line is filled. After the caps and grease line are replace on the back of the pump, each cap will need about 75-85 shots of grease from a grease gun or 9 shots from a pail grease gun per cap to fill. You should feel a change when full of grease. DO NOT use an air grease gun as you can't feel the change and you can push the shaft out of the lock collar.