



# Technical Bulletin

## 25F Paper Roll Clamp and 30E Rotator Dowty Drive Motor Service Kits 206419 and 206421

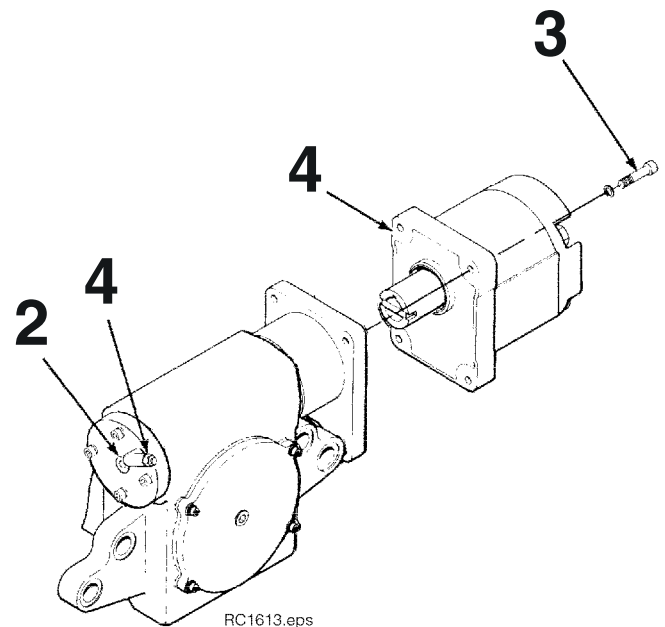
This sheet describes procedures to install Dowty drive motor service kit 206419 and shaft seal kit 206421. Both kits include an improved shaft seal and a shaft seal loader.

### Drive Motor Removal



**WARNING:** Before removing any hoses, relieve pressure in the hydraulic system. Turn the truck off, then open the auxiliary control valve(s) several times in both directions.

- 1 25F Roll Clamps** - Remove the attachment from the truck, then remove the drive group as described in Service Manual 681466.  
**30E Rotators** - Remove the attachment from the truck, then remove the drive group as described in Service Manual 684597.
- 2** Remove the center plug from the end cap and drain oil from the drive group.
- 3** Remove the four capscrews fastening the drive motor to the motor adapter.
- 4** For reassembly, reverse the above procedures except as follows:
  - Install the motor and tighten the capscrews to torque of 60-80 in.-lbs. (7-9 Nm).
  - After the drive group has been installed, check the oil level in the drive assembly. The oil level must be up to the end cover center plug. To add oil, remove the breather cap (on the 90° fitting). Fill through the 90° fitting with Cascade Gear Lube 656300 or equivalent SAE 90 wt. lube (AGMA "mild" 6 EP Gear Oil) until lube begins to run from the end cap center hole.



**NOTE:** This information should not be interpreted as the basis for warranty claims unless so designated.

Part No. 201818-R3

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Call: 1-800-227-2233 Fax: 1-888-329-8207  
Internet: [www.cascorp.com](http://www.cascorp.com)  
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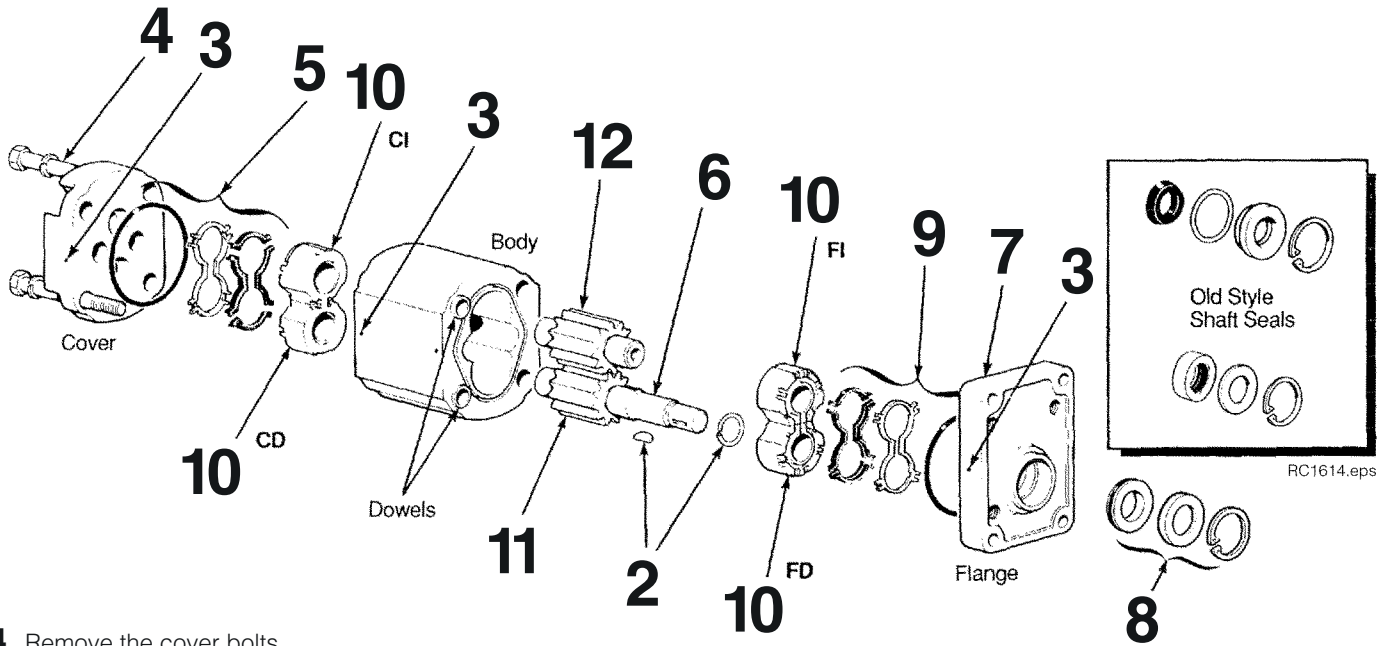
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# Drive Motor Disassembly

**IMPORTANT:** Service the drive motor in a clean work area.

- 1 Drain oil from the drive motor by rotating the shaft. Plug the ports. Wash the outside of the drive motor with solvent and blow dry.
- 2 Remove the key and circlip from the shaft. **Discard the circlip.**
- 3 Mark the cover, body and flange with a punch for reassembly.



- 4 Remove the cover bolts.
- 5 Remove the cover and lift off the back-up seal, bushing seals and body O-ring.
- 6 Remove any burrs from the shaft.
- 7 Tap the flange to disengage it from the dowels in the body. Slide the flange squarely off the shaft.
- 8 Remove the internal snap ring from the mounting flange. Push the shaft oil seal squarely out of the mounting flange. Do not damage any sealing surfaces.
- 9 Remove the back-up seal, bushing seals and body O-ring.
- 10 Before removing the internal components, each of the bushings must be marked to identify its position in the body. On the surface of the bushing (which will not affect unit sealing), lightly mark:

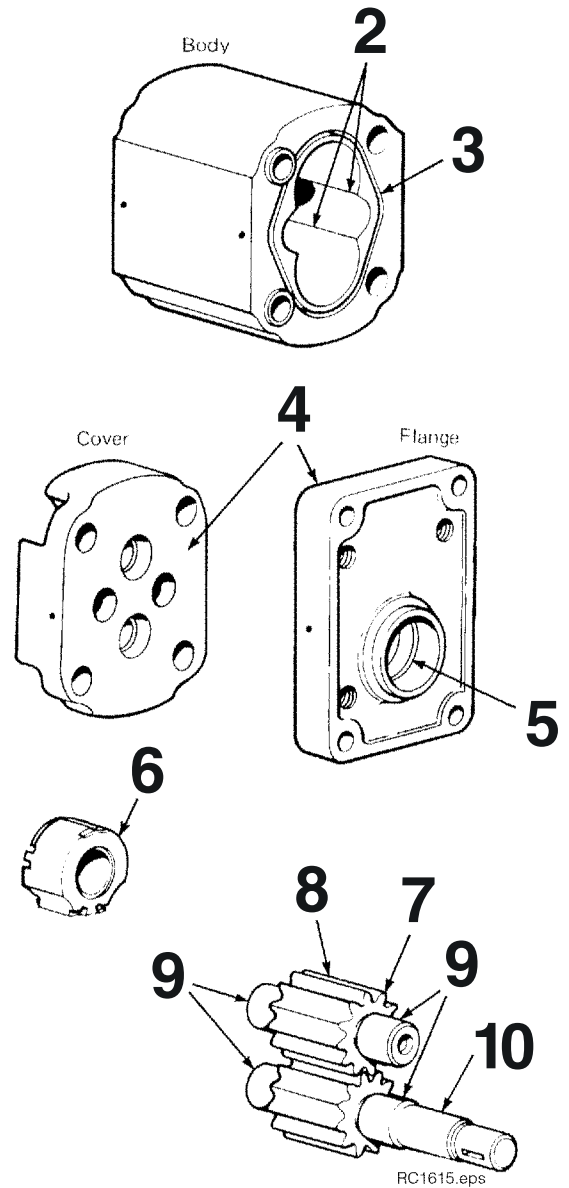
**FD** = Flange Drive Shaft Bushing  
**FI** = Flange Idler Gear Bushing  
**CI** = Cover Idler Gear Bushing  
**CD** = Cover Drive Shaft Bushing

- 11 Lay the unit on its side. Pull the drive shaft squarely out of the body with the bushings.
- 12 Remove the idler gear and two remaining bushings.

# Drive Motor Inspection

- 1 Clean all parts with solvent and blow dry. **Do not use paper or cloth towels.**
- 2 Inspect the body bore where the two gears wipe into the body. The body can be reused if the "cut-in" is bright and polished and the depth does not exceed .003 in. The body should be replaced if the tips of the gears have dug into the surface material.
- 3 Inspect the body O-ring seal areas for defects that could cause leakage.
- 4 Inspect the flange and cover for wear or scoring in the body O-ring, bushing seal and back-up seal areas that could cause leakage.
- 5 Check the shaft seal seat for scoring or damage that could cause leakage.
- 6 The bushing side faces that are adjacent to the gears should be perfectly flat with no signs of scoring or steps. These surfaces should be brightly polished from the side loading of the gears. This is a critical sealing surface and must be completely flat to the gear side face.  
The bushing bores should not be scored or show other signs of damage.
- 7 Check for scoring or a wear step on the gear side faces. If scoring or a step can be felt, replace the gear.
- 8 Check the gear teeth for signs of pitting or scoring.
- 9 The gear bearing journal surfaces should be completely free of scoring.
- 10 Check the area where the shaft lip seal runs on the drive shaft. If a noticeable groove can be felt, the shaft should be replaced.

**IMPORTANT:** If either of the gears are damaged, they must be replaced as a matched pair.



# Drive Motor Reassembly

When a drive motor has been disassembled, all seals should be replaced. Components must be clean prior to assembly.

- 1 Place the cover against the body and position the assembly so that the dowels are uppermost.
- 2 Install the drive shaft and idler gear into the body.
- 3 Install the flange drive shaft bushing **FD** and flange idler gear bushing **FI** into their original bores.
- 4 Install new seals and back-up seal to the bushings. The flat side of the back-up seals must be toward the flange. Install the body O-ring.
- 5 Install the flange (without shaft seal). Align squarely to the body dowels.
- 6 Turn the assembly over and remove the cover.
- 7 Install the cover drive shaft bushing **CD** and cover idler gear bushing **CI** into their original bores.
- 8 Install new seals and back-up seal to the bushings. The flat side of the back-up seal must be toward the cover. Install the body O-ring.
- 9 Install the cover and capscrews. Tighten the capscrews to a torque of 32-38 ft.-lbs. (43-51 Nm).
- 10 Pour a small amount of oil into the port and check for easy shaft rotation.
- 11 Make sure the flange seat is clean. Remove sharp edges on the shaft shoulder with emery cloth if necessary. Lubricate the shaft seal inner lip and seal loader with petroleum jelly.
- 12 Insert the seal loader tapered end through the shaft seal. Position the O-ring side of the seal 1/4 in. (6 mm) from the end of the loader.
- 13 Slide the loader over the shaft up to the shaft shoulder. Push against the end of the loader with one hand while using the other hand to slide the seal off the loader into the flange seat. Push the seal to the bottom of the flange seat with your fingers.
- 14 Install the washer and snap ring to the flange. Make sure the snap ring is fully seated in the groove.

