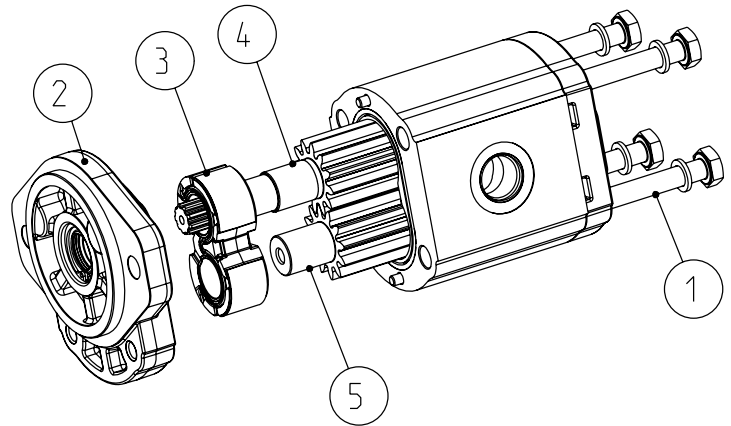


CHANGING ROTATION

Example of changing rotation: from PLP20 pump clockwise to counterclockwise

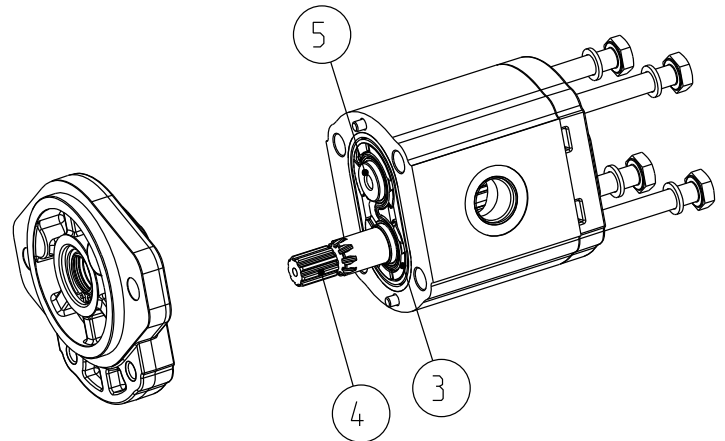
To change rotation of Polaris unidirectional pumps and motors it is necessary to operate in the following way:

1. Clean the pump externally with care.
2. Loosen, and remove, the clamp bolts (1).
3. Coat the sharp edges of the drive shaft (4) with adhesive tape and smear a layer of clean grease on the shaft end extension to avoid damaging the lip of the shaft seal when removing the mounting flange.
4. Remove the mounting flange (2), taking care to keep the flange as straight as possible during removal. If the flange is stuck, tap around the edge with a fibre or rubber mallet in order to break away from the body. Ensure that while removing the front mounting flange, the drive shaft and other components remain in position.



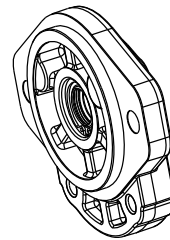
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5. Ease the drive gear (4) up to facilitate removal the front plate (3), taking care that the precision ground surfaces do not become damaged, and remove the drive gear.
6. Remove the driven gear (5) without overturning. The rear plate has not to be removed.



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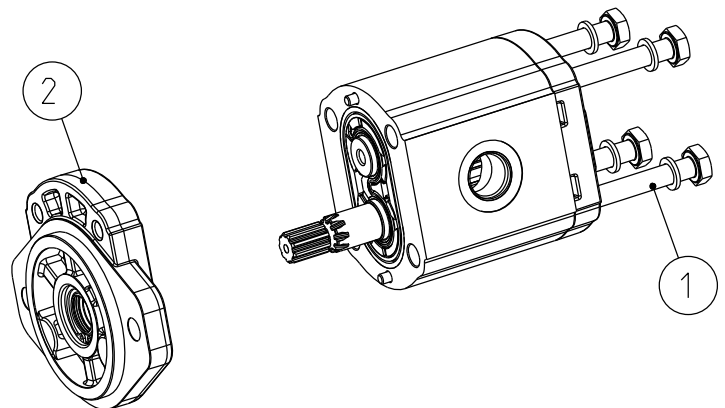
7. Re-locate the driven gear (5) in the position previously occupied by the drive gear (4)
8. Re-locate the drive gear (4) in the position previously occupied by the driven gear (5).
9. Replace the front plate (3) in its original position.



10. Gently wipe the machined surface of the mounting flange (2) and the body with a flat hand stone.

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11. Refit the front mounting flange (2) turned 180° from its original position.
12. Refit the clamp bolts (1) with the washers and tighten in a crisscross pattern with the following torque value:
70 ⁺⁵ Nm (620 ÷ 664 lbf in) with cast iron cover.
45 ⁺⁵ Nm (398 ÷ 443 lbf in) with one or both cover in aluminium.



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13. Check that the pump rotates freely when the drive shaft (4) is turned by hand. If not a pressure plate seal may be pinched.
14. The pump is ready for installation with the original rotation reversed.