

## ***Replacing the Pump rotor and stator***

Procedure for Waterboy 3 inch and 4 inch helical rotor pumps is the same but 3 inch pumps have 3 bolts on the top of the pump housing and on the pump body while the 4 inch pumps have 4 bolts.



**Always ensure the solar panels are disconnected from the controller prior to any work being carried out.**

## **Dismantling the worn pump assembly**

Procedure:

- Remove the bolts from the top of the pump housing and set aside.
- Lift the top end off the pump and slide along the cable out of the way.
- Remove the stator.
- Remove the bolts from the body and slide up off the rotor out of the way.



- Remove the grub screw from the bottom of the flexi-shaft and set aside.



- Remove the grub screw from the top of the flexi-shaft and set aside.



- The motor shaft, flexi-coupling and rotor utilise a **Left Hand Thread**.
- Using a spanner to hold the motor output shaft, unscrew (clockwise) the rotor and flexi-shaft from the motor.



### Inspection of parts

Inspect the rotor and stator for wear and tear and note any scoring on the rotor that may indicate excessive solids in your water.

## Fitting the new pump assembly

The installation of the new rotor and stator is simply the reverse of the disassembly.

**NOTE: always use a medium strength locking compound to secure the body and top end bolts from vibrating loose during operation.**

Always replace the rotor, stator and flexi-shaft at the same time.

The grub screws in the flexi-shaft are to help prevent the rotor unthreading in the event that the pump is run backwards. If the pump is run with the correct rotation, the rotor self-tightens and the grub screws are not necessary. For that reason, replacement rotor/stator assemblies come without grub screws. If the pump has been running for some time, it must be running with the correct rotation or it would not have been pumping. You can reuse your existing grub screws if available.

Procedure:

- Screw (anti-clockwise) the flexi-shaft onto the motor shaft and hand-tighten.
- Insert the grub screw into the bottom thread and tighten.
- Ensure the rotor is tightened into the flexi-shaft.
- Insert the grub screw into the top thread and tighten.
- Slide the pump body over the rotor ensuring no damage to the new rotor.
- Using thread locker, insert and tighten the body screws.
- Place the rubber stator over the rotor and push down until meets the body.
- Place the top back over the stator.
- Using thread locker, insert and tighten the top screws.
- Check that you can turn the rotor by hand.
- Recheck all bolts and screws to ensure fitting and return the pump to the water.