



Tools Required for Installation

- Oetiker Low profile Pincers (Pliers)
- 8mm Socket (1/4-inch drive)
- 10mm Socket (1/4-inch drive)
- 1/4 inch Drive ratchet
- 1/4 inch Drive Extension
- (3inch)10mm Combination Wrench
- 13mm Socket (3/8-inch drive)
- 17mm Socket
- 3/8 inch Drive Ratchet
- 3/8 inch Drive Extension
- (8inch)Bench Vise (or Large Adjustable Wrench)
- 1/2 inch Drive Break-Over Bar
- 13/16-inch Socket (1/2-inch Drive)
- Skat-Trak/Sea-Doo Impeller Tool
- 3/16-inch Allen Wrench
- 3/8-inch Drive Torque Wrench (with -inch drive adapter)
- Ratio Rite (or plastic tub)

Supplies Required for Installation

- Contact Cleaner
- Shop Rags
- High-TemperatureWaterproof Grease
- Loctite 242 (Removable thread locking agent)
- Loctite 518 (gasket eliminator) or Threebond 1211
- Loctite 271 or anti-seize Compound
- WD-40
- Sea-Doo Synthetic Jet Pump Oil

Instructions

1. Disconnect the ground cable from your craft's battery. Use a 10mm socket and a 1/4 inch drive ratchet to do so.
2. (Optional, but recommended) Remove the plastic PTO cover at the rear of the engine. The cover is held in place by two plastic wing nuts that easily unscrew by hand.
3. (Optional, but recommended) Slide the the coupler boot and floating collar on the driveshaft rearward so that the O-ring on the driveshaft is exposed. Once you can see the O-ring, pop it out of its groove on the driveshaft and slide it toward the engine.
4. (Optional, but recommended) Remove the Oetiker stepless low-profile clamp from the rubber sleeve on the PTO. Use a pair of Oetiker low-profile pincers.
5. If applicable, disconnect the reverse systems control cable from the reverse gate (bucket). Use a 10mm combination wrench, 10mm socket and 1/4 inch drive ratchet with the system in the reverse position. Pull the two springs off.
6. With the reverse systems control cable disconnected, the reverse bucket will automatically hang in the down (reverse) position. This will allow you to disconnect the steering cable from the steering nozzle.
7. Use a 10mm socket and ratchet to remove the 6mm bolt, and lock nut.
8. Using a 13mm socket on an eight-inch extension with a 3/8 inch drive ratchet, remove the four 8mm bolts that mount the reduction nozzle to the pump housing. This will allow you to remove the reduction nozzle, steering nozzle and reverse gate assembly.
9. On some models, remove the hose clamps and hose lines to the three bilge and cooling inlets to the pump from inside the engine compartment down low at the rear. Some of the newer models do not require this step.
10. Remove the pump housing from the bulkhead/jet-pump support. Use a 3/8 inch drive ratchet, a 17mm socket, and an eight-inch extension to remove the four 10mm nuts that hold it in place.
11. With the four pump nuts removed, slide the pump housing out by pulling it rearward. If you removed the Oetiker clamp on the PTO boot and removed the O-ring on the driveshaft from its groove, more than likely, the driveshaft will come out with the pump. If not, once the pump is out, pull the shaft out. Although the removal of the driveshaft, Oetiker clamp and O-ring on the driveshaft is not necessary for changing the impeller, it makes reinstalling the pump assembly much easier.
12. If you did all of the previous steps, locate the Oetiker clamp, the floating collar and the driveshaft O-ring inside the hull and remove them all for visual inspection. (Pay close attention to the condition of the internal O-ring in the floating collar.
13. If the driveshaft came out with the pump assembly, remove it from the impeller by pulling.
14. Using an 8mm socket on a 1/4 inch drive ratchet, remove the three 5mm bolts that mount the flow cone to the pump-but do not yet remove the cone.
15. Over a ratio rite or tub, twist the flow cone to loosen it's seal, pull it off allowing the oil within it and the pump to drain.
16. Place the pump unit in a bench vise with the impeller facing up. Clamp the impeller shaft in the jaws of the vise. With the impeller nose boot removed, place the splined end of the impeller wrench into the hub of the stock impeller. Using a inch drive 13/16-inch socket on a inch breakover bar, remove the stock impeller turning counter-clockwise.
17. Wipe the pump housing out with a rag and contact cleaner, and visually inspect it for any damage. (Replace if necessary). Then make sure that the thrust washer and bearing are properly seated in the stator seat at the rear of the pump and then coat the impeller shaft threads with anti-seize compound.

18. Lube the wear-ring of the pump housing with a coat of WD-40 and install the new impeller. Screw the impeller in by hand in a clockwise rotation, making sure it glides on freely. Once the impeller has bottomed out, torque it to 90 ft.-lbs. Using the impeller tool.
19. Once the impeller is installed, remove the pump from the vise and place the impeller tool in the vise with the splines facing up. Now place the pump on the impeller tool and fill the stator seat of the pump with Sea-Doo jet pump synthetic oil. (Do not overfill).
20. Apply a small bead of threebond 1211 sealant around the flow cone flange on the pump. Wipe down the flow cone and O-ring and inspect for any damage. Place a thin coat of grease on the O-ring and install it and the flow cone. (Make sure the O-ring is properly seated against the pump and that the filler plug on the flow cone faces up-toward the bilge fittings). Use loctite 242 on the three bolts and secure them evenly.
21. Remove the pump from the vise, and lay it flat on a work bench with the filler plug facing up. Remove the filler plug from the flow cone and slowly fill the reservoir until the oil level is level with the bottom of the filler hole. (The total capacity of the reservoir is 2.4 ounces).
22. Inspect the O-rings at the front top of the pump housing that seal the bilge and cooling line passages. (If necessary replace them with new #10 O-rings).
23. Apply a coat of high-temperature waterproof grease to the splines of the impeller. It is very important to make sure the rubber stops on both ends of the driveshaft are in place, and in good shape. Insert the nose boot or O-ring into the impeller.
24. Inspect the pump ring gasket for damage, and replace if necessary. (On older models, you will need to apply a thin coat of non-hardening silicone the pump ring and around the bilge and cooling fittings upon installation).
25. With a friend's help, install the pump to the hull. The helper will slide the floating collar and o-ring onto the shaft from the inside of the hull as you feed the pump and driveshaft in.
26. Install the flat washers, lockwashers and nuts to hold the pump in place.) We recommend using loctite 242 on the nuts and torquing them to 24 ft.-lbs. Using a cross pattern.
27. With the pump now securely in place, clean off the reduction nozzle flange on the pump housing using a rag and contact cleaner. Make sure the two O-rings are in good condition, and apply a small film of grease on both.
28. Apply a small bead of threebond 1211 to the flange and reinstall the reduction nozzle/steering nozzle/reverse-bucket assembly. Use loctite 242 on the four bolts and torque them to 18 ft.-lbs. In a cross pattern.
29. Reconnect the steering system control cable. (It is crucial that these cables are connected correctly).
30. After inspecting the pump components for proper installation, slide the floating collar on the driveline back and reinstall the driveshaft O-ring into its groove.
31. Using the Oetiker pliers, reinstall the Oetiker clamp around the driveshaft/PTO boot and guard.
32. Reconnect the battery ground cable.
33. Start the motor in the water with the seat off to make sure that you do not have any leaks. Also, check the bypass fitting at the rear of the craft to make sure the cooling system is working, and the steering system works properly.