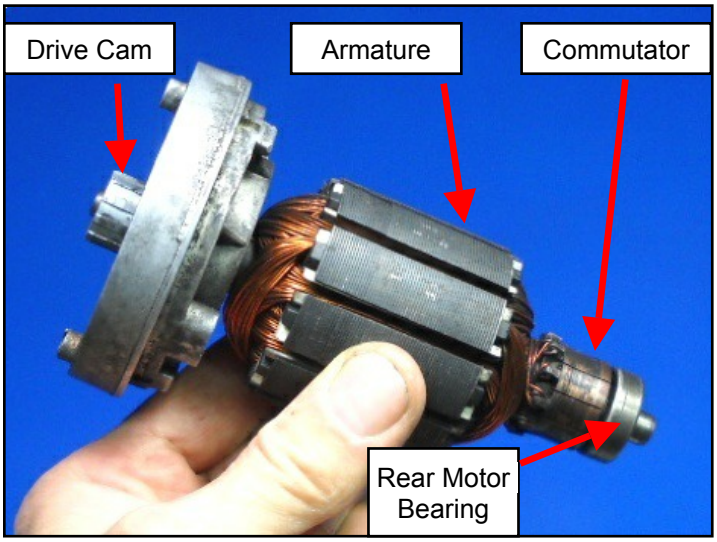
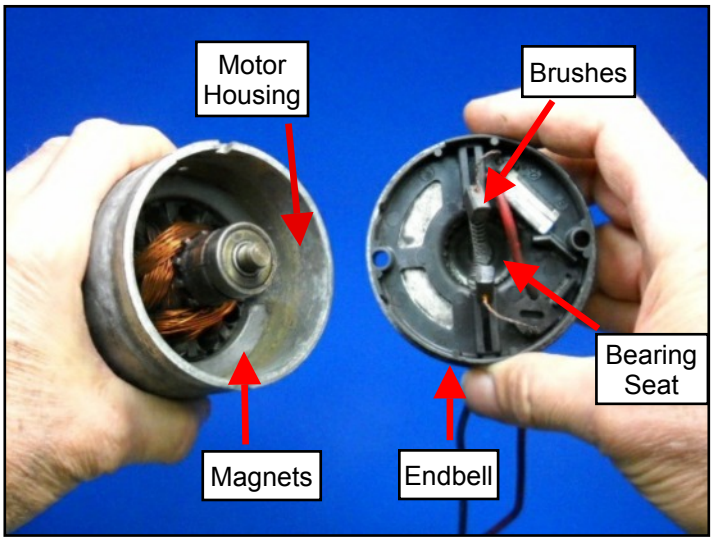
Shurflo 9300 Brush Kit 94-004-00 Installation Instructions

The Shurflo 9300 Solar Powered Well Pump is easy to repair with simple hand tools. The Motor Brushes are mounted on the Rear Endbell. The brushes are not available separately, you have to replace the whole endbell assembly, Shurflo part 94-004-00, HLPS # 75-5742. Motor brushes generally last for 4 or 5 years depending on how hard the pump is used. If the pump motor stops working, and you are sure there is electricity to the pump, it is probably time to replace the brushes.



In this case, the armature was stuck to the drive cam so it had to be pulled from the front of the motor case. The commutator looks OK, the dark area can be sanded bright with 300 grit sandpaper. The armature windings are Ok, bright copper colored.



Shurflo 9300 Motor Housing and Endbell. Note brushes about half worn. Rotate the rear bearing to check for roughness. These can be replaced using a bearing puller.

Procedure:

1. Disassemble the pump. See “Shurflo 9300 Solar Water Pump Disassembly”
2. Remove the two long motor assembly screws with a 5/16” socket wrench or nut driver.
3. Remove the rear end bell. When you pull the endbell off the rear motor bearing, springs may go flying as the brushes pop out of their holders, but you won’t need these old parts anyway. Sometimes the end bell will be stuck to the commutator rear end bearing. Then you may have to pull the armature and rear end bell out as a unit. The field magnets are very strong and will resist the pull, so be careful not to nick the armature wires when you are pulling it out of the case.
4. Other times the armature is stuck to the Drive Cam in the front of the motor. Then you have to remove the armature via the front of the motor housing. You can leave the armature and drive cam stuck together, just pull out the armature one way or another so you can inspect it.

1. Check the commutator and the armature. Look for burnt or blackened windings on the armature. They should not have a burnt odor. See “Shurflo 9300 - Check the Commutator and Rear Bearing”. If the armature is damaged or the commutator is excessively worn, you have to replace the whole motor because the armature isn’t sold separately for the Shurflo 9300.
2. The image of endbell shows brushes that are halfway worn down, but replace the endbell if any wear at all is showing on the brushes. If you are going to the trouble of pulling the pump from the well, you might as well replace the end bell.
3. If you have access to compressed air, blow the carbon dust from the brushes off all motor areas including the armature and housing. Do this with a fan or outdoors. The dust isn’t toxic but it’s irritating and you don’t want to breath it.
4. Reinstall the armature into the motor housing.
5. Install the endbell onto the armature by pushing the rear motor bearing into the endbell bearing support hole. Sometimes it’s easier to assemble the armature and endbell and slide them into the motor housing as a unit.
6. Again, be careful when installing the armature and endbell back into the motor housing. Push on the front armature axle to keep it from sliding into the housing too fast, which could cause the magnets to nick the armature wires.
7. Remove the brush retention clip so the brushes can seat on the commutator.
8. Align the endbell to the slots in the motor housing. You can rotate the endbell so it goes in the slots one way or 180° the other way. The motor will rotate in the opposite direction, but the pump will run just the same.
9. Install the motor assembly screws.
10. Test run the motor. You can use a 12 volt battery or your 24 volt solar array. Polarity doesn’t matter for the Shurflo 9300 Solar Powered Well Pump.
11. Reassemble the pump.

Be sure to use the correct Endbell kit, 94-004-00, for your Shurflo 9300. These are not interchangeable with Endbell/Brush Kits for pumps with sleeve bearings, such as most Shurflo 12 volt models, or for 120 VAC pumps.

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