ROTOVAC 360
GEAR SET INSTALLATION GUIDE

Tools Required: 5/16” Nut Driver, 3/8” Nut Driver, 7/16” Wrench, 7/8” Wrench, Flat Head Screwdriver, Phillips Screwdriver, Rubber Mallet, 11/16” Socket, Teflon Tape.

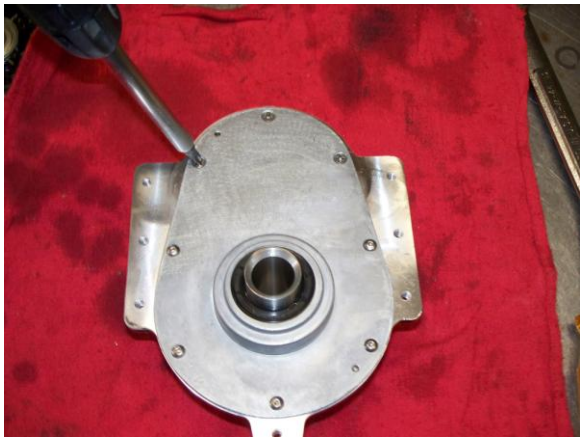
1) Place Snap Ring P/N: S-024, and Drive Key P/N: K-025, onto Female Shaft P/N: B-2330AL, then slide on Large Gear P/N: B-2313, so that the drive key inserts into the groove on the inside of the large gear, making sure that the snap ring is on the flat side of the gear.


2) Place Female Shaft on end so that Large Gear is on top, and slide the Upper Gearbox Housing P/N: D-2324 down onto it until firmly in place, being careful that the spring in the Drive Shaft Seal P/N: S-028, does not fall out as the shaft is pushed through.

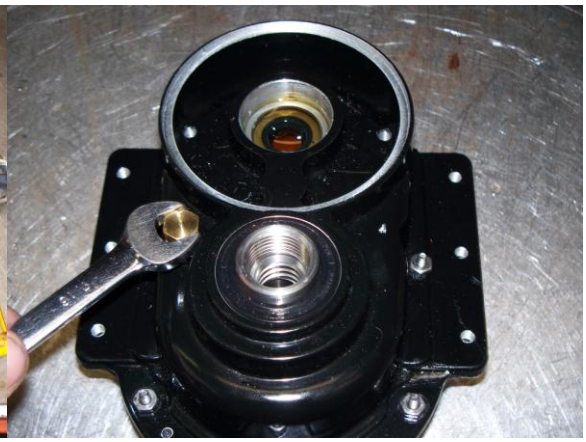

3) Place Upper Gearbox Housing upside down and install Gearbox Spacer P/N: D-2322 (On female shaft) Intermediate Gear P/N: B-2314 (onto Large Dowel Pin P/N: D-043 in center of gearbox), and the O-Ring Oil Seal P/N: O-111 (in groove around outside of gearbox housing). Note: Be sure that the rubber O-Ring stays in its channel during the assembly process.

4) Slide Bottom Plate P/N: D-2319 onto Female Shaft. Note: It may be necessary to grease the inside of the large bearing and work the Bottom plate back and forth to walk it down the shaft. **** IMPORTANT – BEFORE BOTTOM PLATE IS SEALED DOUBLE CHECK THAT THE O-RING OIL SEAL HAS NOT MOVED OUT OF PLACE, AS THIS MAY CAUSE OIL LEAKS WHEN REPAIR IS COMPLETE.****

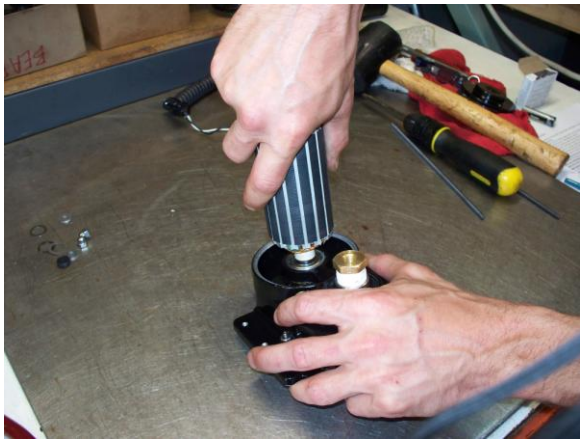
5) Use Phillips Screwdriver to fasten bottom plate screws P/N: S-053, to bottom plate. ****IMPORTANT – IF REPAIR IS BEING DONE WITHOUT A VACUUM CHAMBER IT WILL BE NECESSARY TO USE 5 SCREWS WITH NUTS ATTATCHED WHERE THE GEARBOX IS NORMALLY ATTACHED TO THE VACUUM CHAMBER. THIS WILL PREVENT OIL LEAKS WHILE MOTOR IS IN TRANSIT. ****



6) Fill Gearbox with 65cc's of 90 weight synthetic gear oil, and use 7/16" wrench to install oil plug P/N: B-009. Check the oil level with a toothpick and there should a ½" of oil at the deepest point.



7) Place Armature P/N: RP-233 into gearbox and rotate left and right with downward force until fully seated into gearbox**.** Note: Do not use a hammer or strike the top of the armature as this may cause damage to the gears. It may be necessary to cautiously use a press to install armature to appropriate depth. If the armature base bearing P/N: B-002, is still attached to the armature and is preventing installation, it may be necessary to grease the outside of the bearing or remove it from the armature and install it in the gearbox first.



8) Wrap Reducer Bushing P/N: B-010, with Teflon Tape and hand tighten into female shaft. Wearing a heavy glove, grasp Armature firmly and use 7/8" wrench to fully tighten Reducer Bushing.

9) Install all-thread motor screws P/N: RV-434, three to four turns.

10) Slide Motor Tube P/N: RP-201(kit), down over armature, ensuring that the white field wire is routed on the outside of the all thread motor screws. Note: Be sure

armature remains firmly seated throughout this process, as the magnets in the motor field may lift it out of place. It may be necessary to reach down through top of motor tube to hold armature in place during this process. ****IMPORTANT – DO NOT PLACE HANDS AROUND BOTTOM OF MOTOR TUBE OR TOP OF GEARBOX, AS POWERFULL MAGANANTS MAY CAUSE THE MOTOR FIELD TO SLAM DOWN AND CAUSE INJURY. ****

11) Install shim washers P/N: RP-231, spring washer P/N: RP-232, and top bearing P/N: RP-230 (which may be inside motor cap. Install motor cap P/N: RP-201(kit). Note: It is acceptable to install bearing onto armature first, or install motor cap with bearing mounted to cap.

12) Install Motor Mount Washers P/N: RV-457 and Acorn Nuts P/N: S-048, using 3/8" Nut driver, being sure to tighten each side with equal force to ensure a balanced rotation of the armature.

13) Install Carbon Brushes P/N: RP-228, and Carbon Brush Caps P/N: RP-229. Note: Be sure that curvature of carbon brushes matches the rotation of the armature, or premature wear of the carbon brushes may occur.