

Reversible Pistol Grip 0.5 hp. Drill

Model: 52772, 52774, 52775, 52777

Important: Use these instructions along with the tool manual.

Notice: To avoid damage, use the Special Repair Tools designed for disassembly and assembly.

- Disconnect tool from the air supply.
- Use 1/8" hex key to remove **96266** Screw from drill chuck. Left Hand Thread turn clockwise.
- Use a 17 mm open end wrench and a 7/32" flat-end drive punch to remove drill chuck. Turn chuck counterclockwise.

Motor Disassembly:



- 1. Place protective padding around housing. Fasten drill in vise with spindle pointing up.
 - Use a 1-9/16" (~40 mm) crowfoot or adjustable wrench to remove gear housing.
 - Turn counterclockwise. (See: Planetary Gear Disassembly)





2. Remove motor from housing:

- a) Carefully fasten 53339 Front Plate in vise with aluminum or bronze jaws.
- b) Notice: Motor is held by o-rings. Use *HEAT GUN* to warm and expand housing.





3. Pull up and wiggle housing to release motor. Remove motor from housing.





- 4. Fasten 96346 Bearing Separator (2") around 52046 Cylinder. Place separator and motor in 96232 Arbor Press (#2) with rotor spindle pointingdown.
 - Use a Ø 1/4" or 6 mm flat end drive punch to push rotor out of **02649** Bearing.





5. Use 96213 Bearing Removal Tool and arbor press to remove 02649 Bearing from 52044 Rear Plate.





6. Use arbor press and separator to remove rotor from front bearing and plate. Remove 02651 Bearing, 53339 Front Plate, shims, and 53337 Spacer.





7. Use 96214 Bearing Removal Tool to push 02651 Bearing and 96556 Wave Washer out of 53339 Front Plate. Remove shims from plate.





Motor disassembly completed.

Clean and inspect parts for wear or damage.



Motor Assembly:



- 1. Select .003" (~0.08 mm) shim thickness from **53397** Shim Pack.
 - Place shims into **53339** Front Plate.
 - Install 02651 Bearing.
 - Install 96556 Wave Washer.





- 2. Install 53337 Spacer onto rotor.
 - Use *RAISED INSIDE DIAMETER* of 96239 Bearing Press Tool and arbor press to install; 53339 Front Plate, shims and 02651 Bearing. Notice: Use a socket on top of 96239 to extend depth of press tool.





- **3.** By hand, move front plate forward, away from rotor.
 - Check clearance between rotor and front plate. Use a .001" (~0.03 mm) thick feeler gauge. Notice: Clearance should be .001"-.0015" (~0.03-0.04 mm).
 - If rotor/plate clearance needs further adjustment, repeat steps 1-3. Remove, or add shims as required.





4. Oil 01057 Vanes with 95842 Dynabrade Air Lube 10W/NR or equivalent and install in rotor.





5. Use RAISED INSIDE DIAMETER of 96239 Bearing Press Tool to support 02651 Bearing. Use RAISED INSIDE DIAMETER of 96240 Bearing Press Tool and arbor press to install 02649 Bearing. Notice: Press bearing and plate down until it just touches the cylinder. This will create a close fit between the cylinder and plates.





6. Install 96556 Wave Washer into 53339 Front Plate.





- 7. Install 96583 O-Rings (3) into housing.
 - Apply oil to O-Rings. Use **95842** Dynabrade Air Lube 10W/NR or equivalent.





8. Line-up motor pin with notch inside Housing. Install motor.





9. 53339 Front Bearing Plate should stand ~.080" (2.04 mm) beyond edge of housing.

Motor assembly completed.



Planetary Gear Disassembly:

NOTICE: Use these instructions along with the tool manual. Apply similar steps to double gear reduction models: 52772 and 52774.



1. Use a 2.5 mm hex key to remove 96467 Set Screw. Turn counterclockwise.





2. Use 96232 Arbor Press (#2) to push spindle with gear assembly out of housing.





2. a) By hand remove gear assembly components.





- 3. Use 96346 Bearing Separator and 96214 Bearing Removal Tool to remove the 02651, 01036 or 53330 Bearing from carrier. **IMPORTANT:** Always position flat side of carrier toward the ring gear and beveled side toward the bearing.
 - Remove gears form carrier. (See Photos Below)











4. To remove **55038** Nut, fasten carrier with spindle pointing up in vise with aluminum or bronze jaws. Use an adjustable wrench to remove nut. Turn counterclockwise.





5. Use arbor press to push carrier out of **01036** Bearing.





Planetary gear disassembly completed.

Clean and inspect parts for wear or damage.



Planetary Gear Assembly:



1. To install **01036** Bearing onto carrier spindle, use 15 mm deep-well socket as press tool and arbor press.





- 2. With spindle pointing up, fasten carrier in vise with aluminum or bronze jaws.
 - Apply a small amount of Loctite #271 or equivalent, to spindle thread closest to bearing.
 - Install **55038** Nut onto carrier.
 - Use a 19 mm crowfoot and torque wrench to tighten spindle nut.
 - Torque to 17 N•m/~150 lbs. in.





3. Apply 95542 Grease or equivalent to gears and bearings.





4. Install gears and **53182** Shafts into carrier.





5. To install 02651 Bearing onto carrier use arbor press and 96239 Bearing Press Tool.

To install **53330** or **01036** Bearing onto carrier use arbor press and **96240** Bearing Press Tool. Press bearing so that it just touches the ring gear. (See Photo Below)







6. Install ring gear so that openings line-up with set screw and lube fitting openings in gear housing.





7. Install 55031 Seal in gear housing.





 Install gear assembly in gear housing.
IMPORTANT: Models 52772 and 52774, install 53188 Spacer before installing second planetary assembly. (See Tool Manual)
IMPORTANT: Models 52774 and 52777 (with 53333 Bearing) install 53334 Spacer between planetary and motor assemblies. (See Tool Manual)





9. Use a small screwdriver to rotate and line-up ring gear openings with openings in gear housing.





10. Apply a small amount of #567 Loctite to thread of **96467** Set Screw. Use a 2.5 mm hex key to install set screw.

Planetary gear assembly completed.



Final Assembly:



1. Apply #243 Loctite or equivalent to threads on gear housing.





 Use protective padding around housing and fasten drill in vise with spindle pointing up. Use a 1-9/16" (~40 mm) crowfoot or adjustable wrench to fasten gear housing. Turn clockwise. Torque to 28 N•m/~250 lbs. in.

Initially, use **95541** Lubricant Gun to apply three plunges of **95542** Grease through **01041** Lube Fitting. **Notice:** After every 50 hours of use apply 3 plunges of grease. **Important:** Check operation of air motor. Refer to tool manual and follow directions for checking RPM before installing accessories.

Use a 17 mm open-end wrench and 7/32" flat-end drive punch to install drill chuck. Turn clockwise.

Apply Loctite 243 to **96266** Screw. Use 1/8" hex key to install screw and fasten drill chuck. Left Hand Thread turn counterclockwise. Torque to 8 N•m/~70 lbs. in. Final assembly completed.