

# **Disassembly/Assembly Instructions**

*For All 1 hp Cone or Plug Grinders*

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**Disconnect tool from power source before tool repair.**

## **Motor Disassembly:**

1. Secure front end of housing in a soft (aluminum or bronze jaw) vise, align the vise jaws with machined flat on the silver ring.
2. Using **50971** Pin Wrench (**order separately**) or an adjustable pin wrench, remove **51947** Housing Motor Cover.
3. Remove remaining assembly from vise.
4. Remove **96498** Wave Spring.
5. Pull Motor Assembly from housing assembly, and remove **53620** Motor Adapter with **95438** O-Ring.
6. Remove Governor Assembly by using a slotted screw driver. (**LEFT HAND** thread)
7. Secure **51925** Cylinder and place a 1/8" (3 mm) drift pin to the base of the internal thread and press the **51921** Rotor from the **02057** Rear Bearing.
8. Slide **02057** Rear Bearing from **51923** Rear Bearing Plate.
9. Remove **51925** Cylinder and **51926** Vanes.
10. Secure **51921** Rotor in a soft (aluminum or bronze jaw) vise and remove **53610** Adapter (twist counterclockwise).
11. Slide **51922** Front Bearing Plate and **51927** Rotor Spacer from **51921** Rotor.
12. Slide **54520** Bearing and shims from **51922** Front Bearing Plate.

**Motor Disassembly Complete.**

## **Motor Assembly:**

**Important:** Be sure parts are clean and in good repair before assembling. Follow grease, oil and torque specifications.

1. Place **51921** Rotor into a soft (aluminum or bronze jaw) vise with male thread facing upwards.
2. Slip **51927** Rotor Spacer over rotor shaft and down against rotor body face.
3. Press **96441** Coiled Pin into **51922** Front Bearing Plate. Make certain, coiled pin does not protrude beyond internal bearing surface.
4. Place a .002" Shim into the base of **51922** Front Bearing Plate as an initial spacing and slide **54520** Bearing to the front plate base.  
**Note:** **51951** Shim Pack contains .001" and .002" Shims.
5. Slip bearing/bearing plate assembly onto rotor, torque **53610** Adapter onto rotor shaft to 17 N•m (150 lb.-in.).
6. Check clearance between rotor and front bearing plate by using a .001" feeler gauge. Clearance should be between .001" - .0015". Adjust clearance by repeating steps 4 and 5 with different shims if necessary.
7. Once proper rotor gap clearance is achieved, install well lubricated **51926** Vanes (4) into Rotor Slots. Dynabrade recommends lubricating vanes with **95842** Air Lube. **Important:** Make certain beveled edge of blade follows rotor outside diameter.
8. Install **51925** Cylinder over rotor and front plate raised boss. Align coiled pin on front plate to cylinder slot.
9. Press **96441** Coiled Pin into blind hole on **51923** Rear Bearing Plate. Press (2) **96445** Coiled Pins into the back side of rear bearing plate.
10. Peel backing off **51924** Gasket and align it firmly in place onto **51923** Rear Bearing Plate.
11. Place **51923** Rear Bearing Plate over rotor mandrel and insert raised boss on rear bearing plate into cylinder diameter, while inserting short coiled pin into cylinder slot. Be sure inlet slot on rear bearing plate line up with inlet slot on cylinder. Flip cylinder end to end and repeat steps 8 & 9 for correct assembly.
12. Press **02057** Bearing onto rotor and into **51923** Rear Bearing Plate hole until it is seated.  
**Important:** While pressing **02057** Bearing, make certain to contact inner race of bearing only. Cylinder must fit snug between bearing plates. If too tight, rotor will not turn freely. Rotor must be lightly tapped at press fit end until rotor spins freely while still maintaining a snug fit. A loose fit will not achieve the proper preload on motor bearings.
13. Add one drop of Loctite® 243 (or equiv.) to governor assembly male thread and screw governor assembly into place (**LEFT HAND** thread) with a slotted screw head. Torque to 2 N•m (18 lb.-in.).
14. Install motor assembly into housing, making sure motor drops all the way into housing.  
**Note:** Align both **96445** Coiled Pins to slots in insert and against **51924** Gasket.
15. Install **95438** O-Ring onto **53620** Adapter and slide adapter into housing and over **54520** Bearing.
16. Place **96498** Wave Washer onto **53620** Adapter.
17. Apply a small amount of Loctite® 567 to housing thread, and install **51947** Housing Cover using **50971** Pin Wrench (**ordered separately**) or an adjustable pin wrench. Torque cover to 35 N•m (310 lb.-in.).

**Motor Assembly Complete.**