

### **Disassembly Instructions - 1 hp. Straight**

**Important:** Use these instructions along with the tool parts page or manual.

**Notice:** To avoid damage to the motor housing, use the Special Repair Tools designed for the disassembly and assembly of this motor.

Disconnect the tool from the air supply. Use the appropriate wrenches to hold the work spindle stationary and remove the accessory.

#### **Motor Disassembly:**



1. Position the **51989** Repair Collar around the motor housing. Fasten the tool in a vise so that the work spindle is pointing up. Use a HEAT GUN to warm the Housing Cover: **51947**, **51962**, **51972** and soften the thread adhesive.



## Disassembly/Assembly Instructions



- Use the **50971** Lock Ring Wrench or an adjustable pin wrench to remove the Housing Cover: **51947**, **51962**, **51972**. Turn counterclockwise.

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2. Pull-up on the work spindle to remove the motor with the **96498** Wave Spring, and the **53620** Motor Adapter from the housing.

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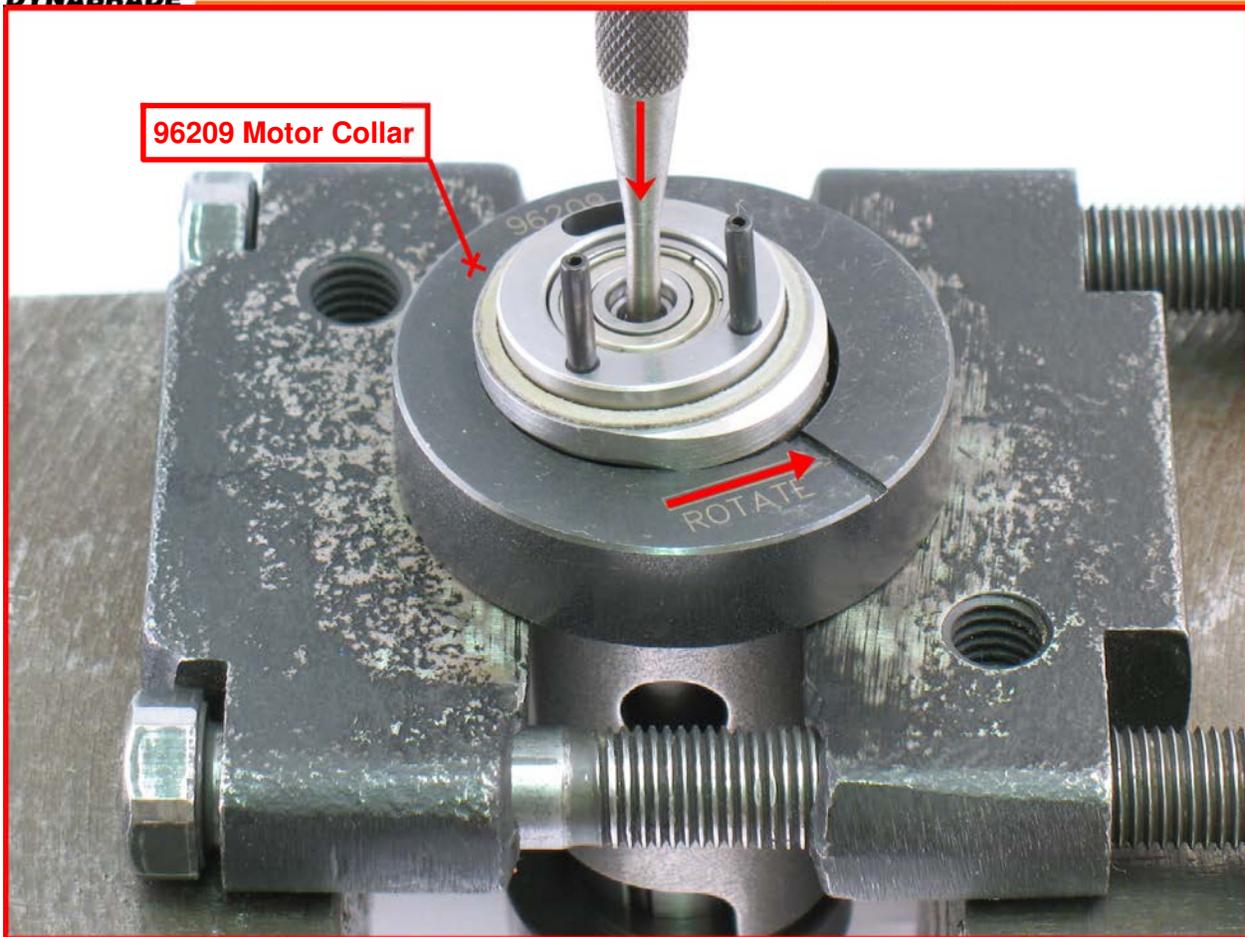
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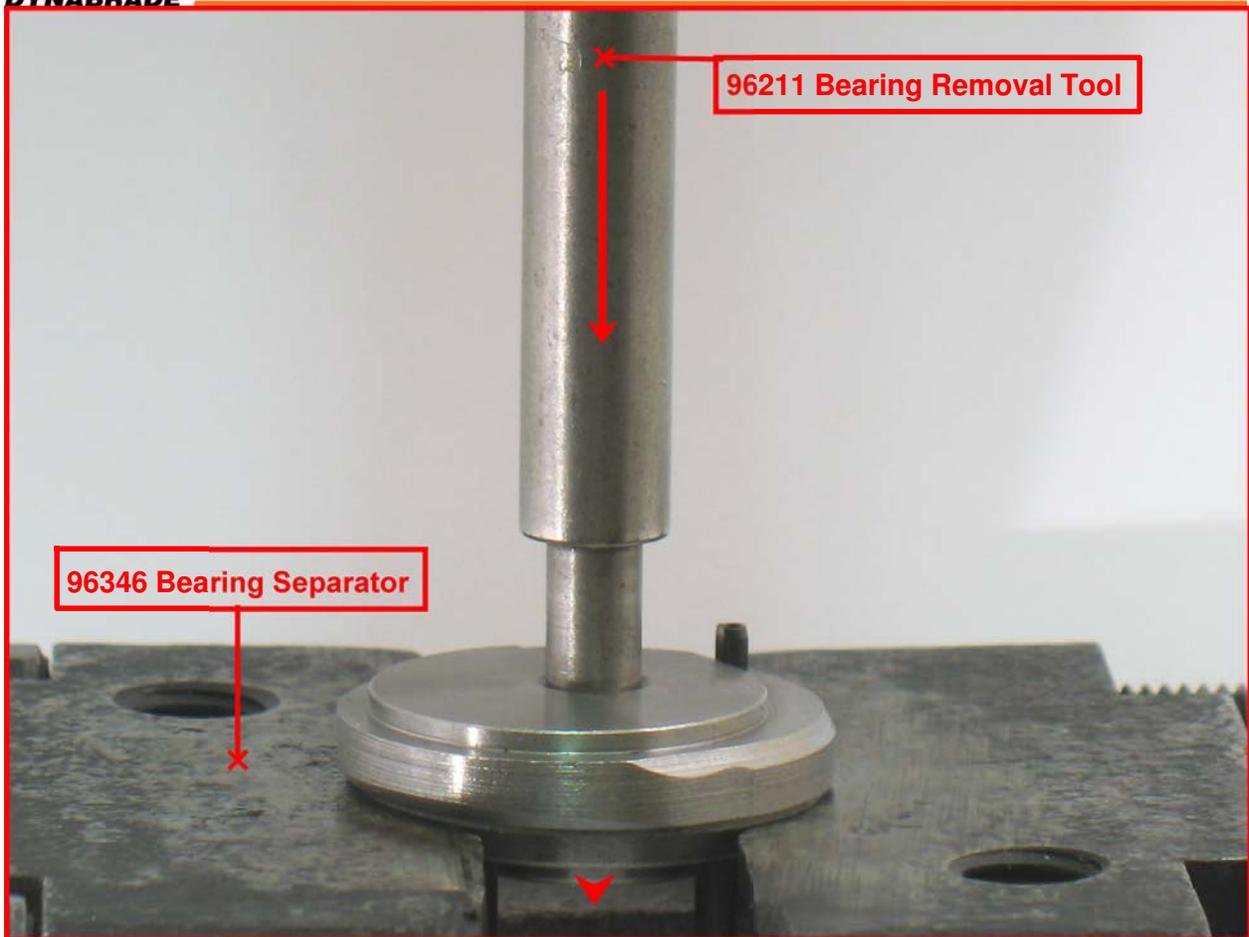
- Carefully fasten the work spindle in a vise with aluminum or bronze jaws so that the governor is pointing up.
  - Use a flat-blade screwdriver to remove the governor. **Left Hand Thread** Turn clockwise.
  - Inspect **51924** Gasket. Remove if damaged. **Notice: SEE Motor Assembly Step #4.**



4. Fasten the **96209** Motor Collar around the cylinder, near the rear bearing plate.

**Notice:** Rotate the motor collar to lock-in under the rear bearing plate.

- Position the motor and collar in the **96232** Arbor Press (#2). Use a 1/8" or 3 mm flat-end drive punch as a press tool to push the rotor out of the **02057** Bearing.



5. Use the **96346** Bearing Separator (2"), the arbor press and the **96211** Bearing Removal Tool to remove the **02057** Bearing from the rear bearing plate.



6. Fasten the rotor in the vise with aluminum or bronze jaws so that the work spindle is pointing up. Use an adjustable wrench to remove the collet body. Turn counterclockwise.

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7. By hand, use a press tool to remove the **54520** Bearing from the front bearing plate.
  - Remove the shims from the front bearing plate.

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## Disassembly/Assembly Instructions



8. Remove the 51927 Spacer from the rotor.  
**Motor Disassembly Completed.**

**Clean and inspect parts before assembling.**

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### Assembly Instructions - 1 hp. Straight



#### Motor Assembly:

1. Fasten the rotor in a vise with aluminum or bronze jaws so that the work spindle is pointing up.
  - Install the **51927** Spacer onto the rotor.

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2. Select .003" (~0.08 mm) shim thickness from the **51951** Shim Pack.
  - Install shims into the **51922** Front Bearing Plate.
  - Install the **54520** Bearing.

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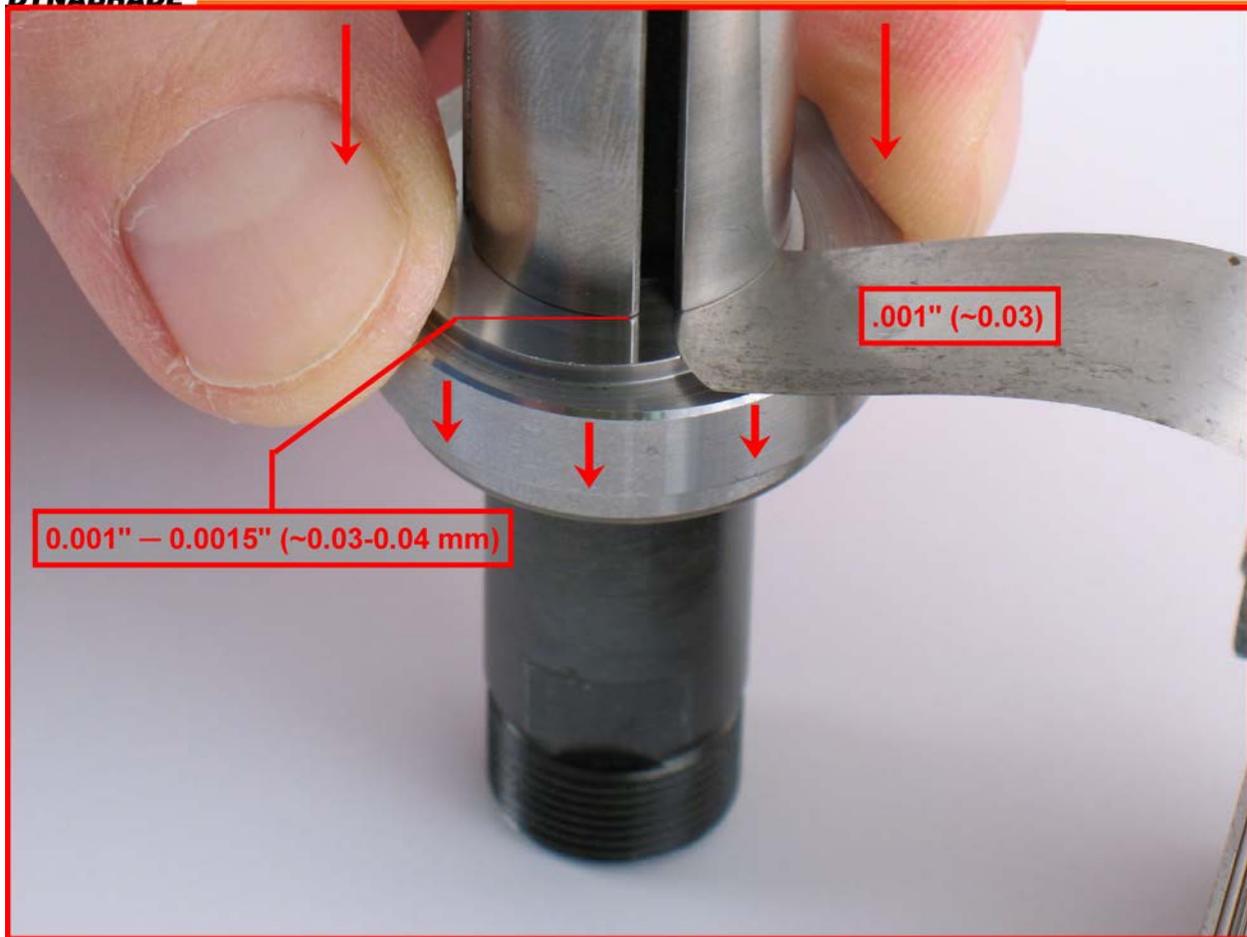
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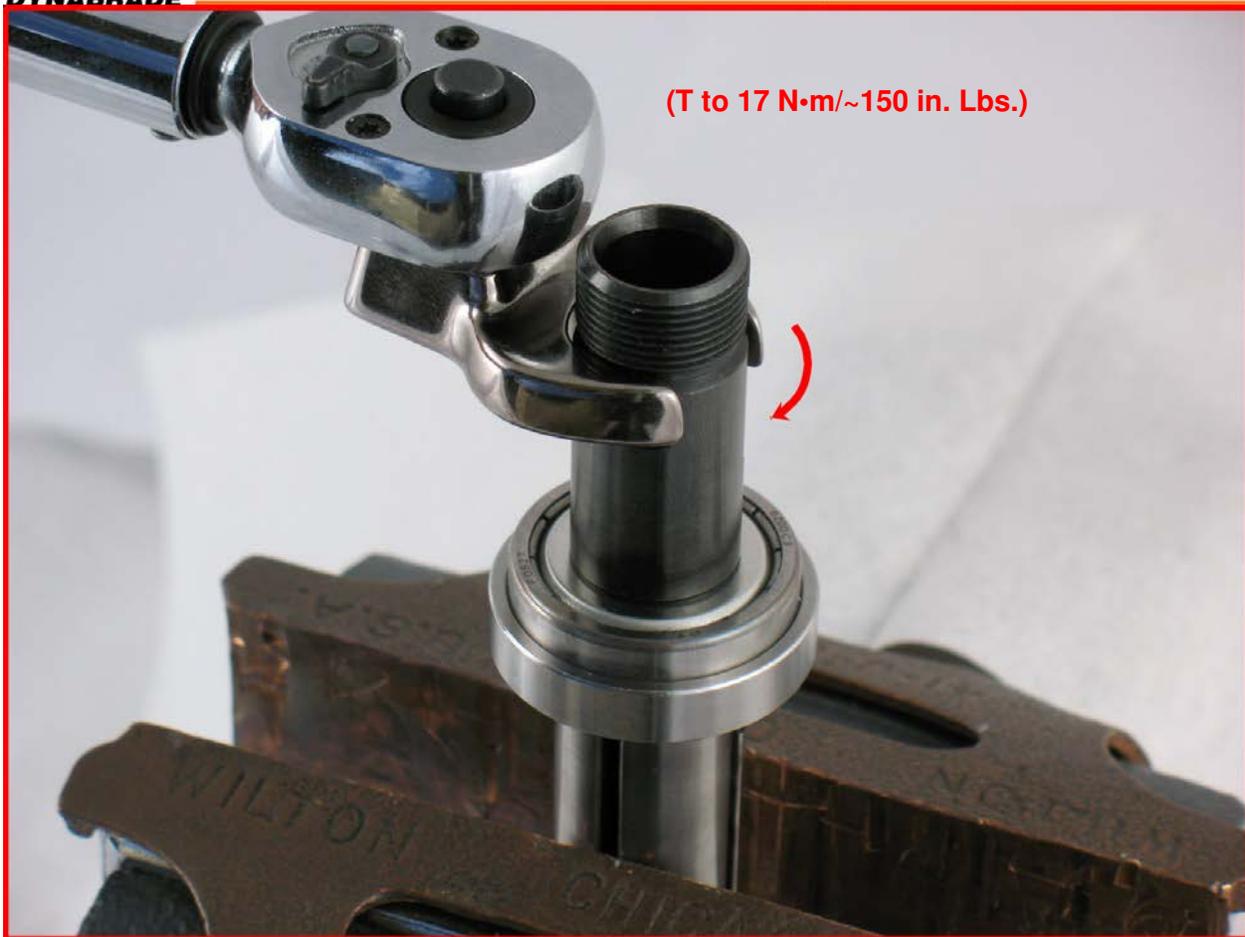
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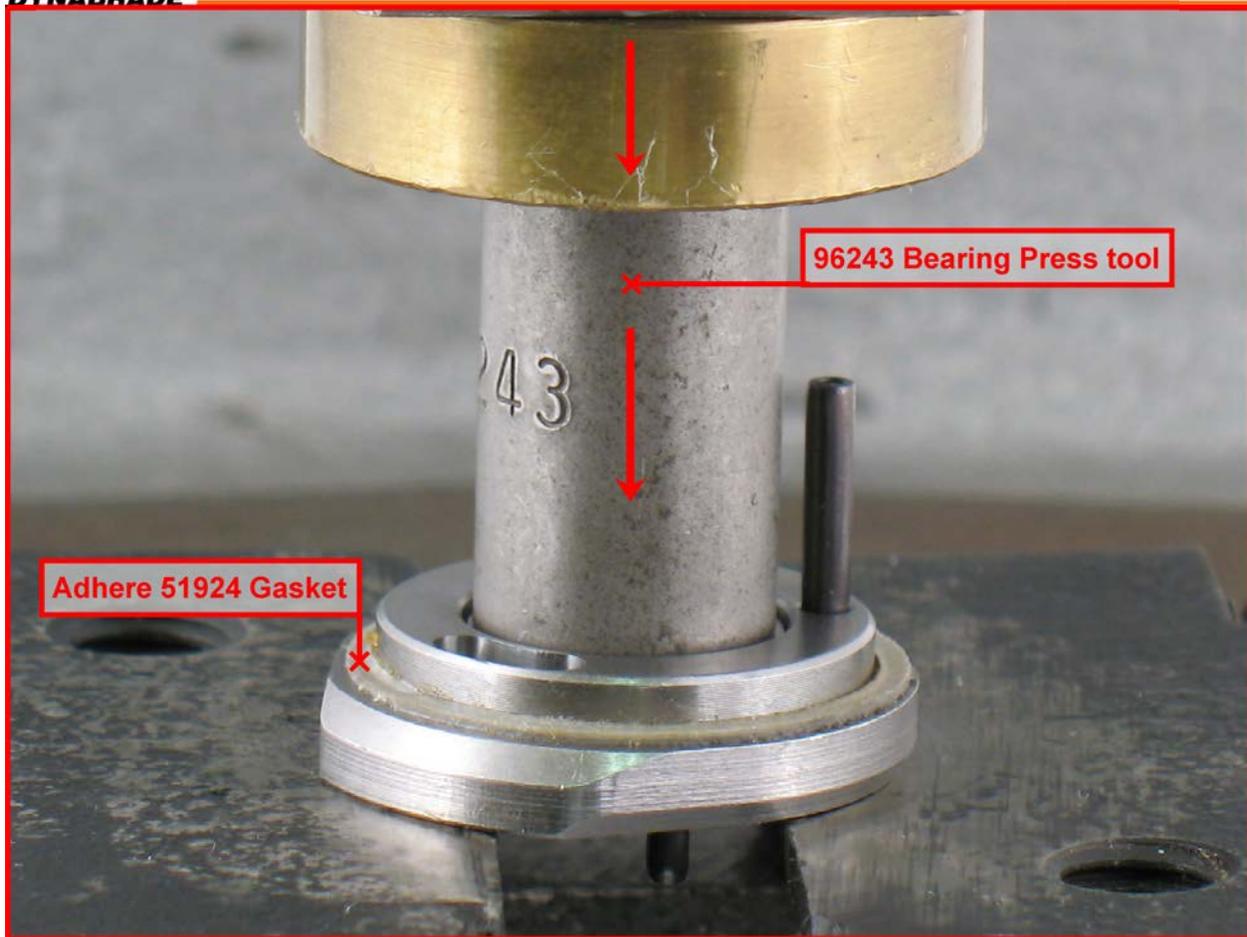
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3. Install the **51922** Front Bearing Plate and bearing onto the rotor.
  - By hand, install the **50011** Collet Body onto the rotor.
  - Use a  $.001''$  ( $\sim 0.03$  mm) feeler gauge to check the gap between the rotor and the front bearing plate. The correct gap should be  $.001'' - .0015''$  ( $\sim 0.03$  mm -  $\sim 0.04$  mm).  
**Notice:** Add or remove shim thickness to set the correct gap.



- Use a 14 mm crowfoot and torque wrench to fasten the **50011** Collet Body onto the rotor. (T to 17 N•m/~150 in. Lbs.)



4. Use solvent to remove all oil from **51923** Rear Bearing Plate. Peel backing from **51924** Gasket and adhere adhesive side to the bearing plate.
  - Use the **RAISED OUTSIDE DIAMETER** of the **96243** Bearing Press tool and the **96232** Arbor Press (#2) to fully install the **02057** Bearing into the **51923** Rear Bearing Plate.



5. Apply the **95842** Dynabrade Air Lube or equivalent to the **51926** Vanes and install them into the rotor.

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6. Install the **51925** Cylinder so that the air inlet opening in the **51923** Rear Bearing Plate will line-up with the air inlet in the cylinder.
7. Use the **RAISED INSIDE DIAMETER** of the **96243** Bearing Press tool and the arbor press to install the **02057** Bearing and rear bearing plate onto the rotor.
  - Carefully press the bearing and plate down until the plate **just touches the cylinder**. This will establish a close fit between the bearing plates and the cylinder.



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8. Fasten the **50011** Collet Body in the vise with aluminum or bronze jaws so that the back end of the motor is pointing up.
  - Apply a small amount of Loctite #243 to the thread of the governor.
  - Use a torque driver to install the governor onto the rotor. **Left Hand Thread** Turn counterclockwise. (T to 2 N•m/~18 in. Lbs.)



9. Use the **51989** Repair Collar to hold the motor housing in a vise so that the opening of the housing is pointing up.
  - Line-up the **96445** Pins with the notches on the inside of the housing and install the motor.

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- Install the **53620** Motor Adapter with o-ring, and the **96498** Wave Spring.
- Apply Loctite Primer #7649 or equivalent to the housing thread.

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- Apply a small amount of Loctite #567 to housing thread.

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(T to 35 N•m/~300 in. lbs.)

50971 Lock Ring Wrench

- Use the **50971** Lock Ring Wrench and torque wrench to install housing cover. (T to 35 N•m/~300 in. lbs.)

### 10. Install collet insert and **50012** Collet Cap. Motor Assembly Completed.

**Notice:** Refer to the parts page or tool manual, and follow the exploded view instructions to disassemble and assemble the muffler and valve components.

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