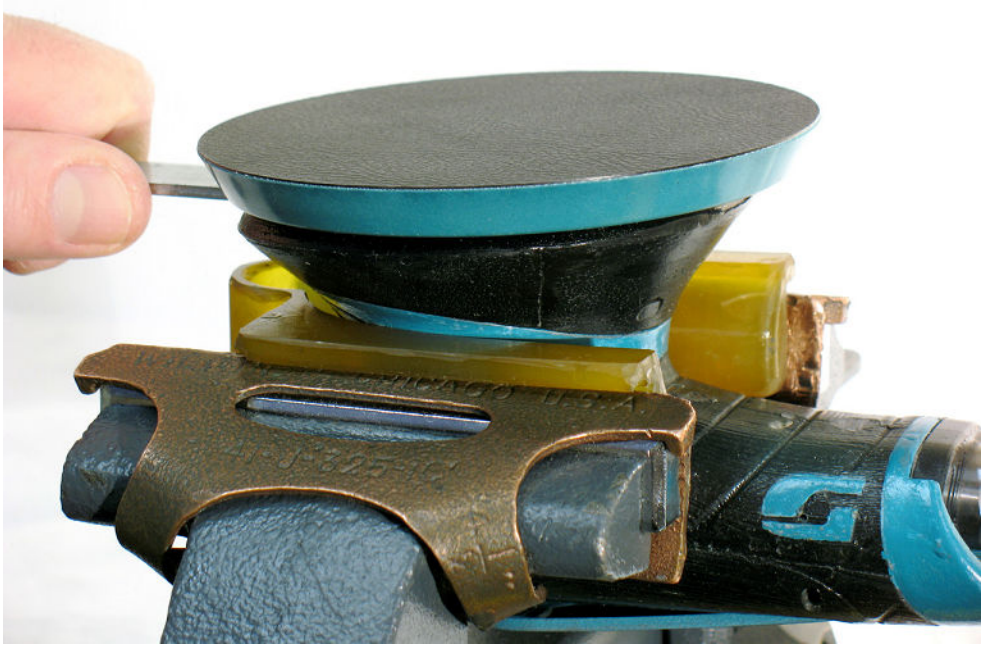
Disassembly Instructions - Dynorbital EXTREME

Models: All

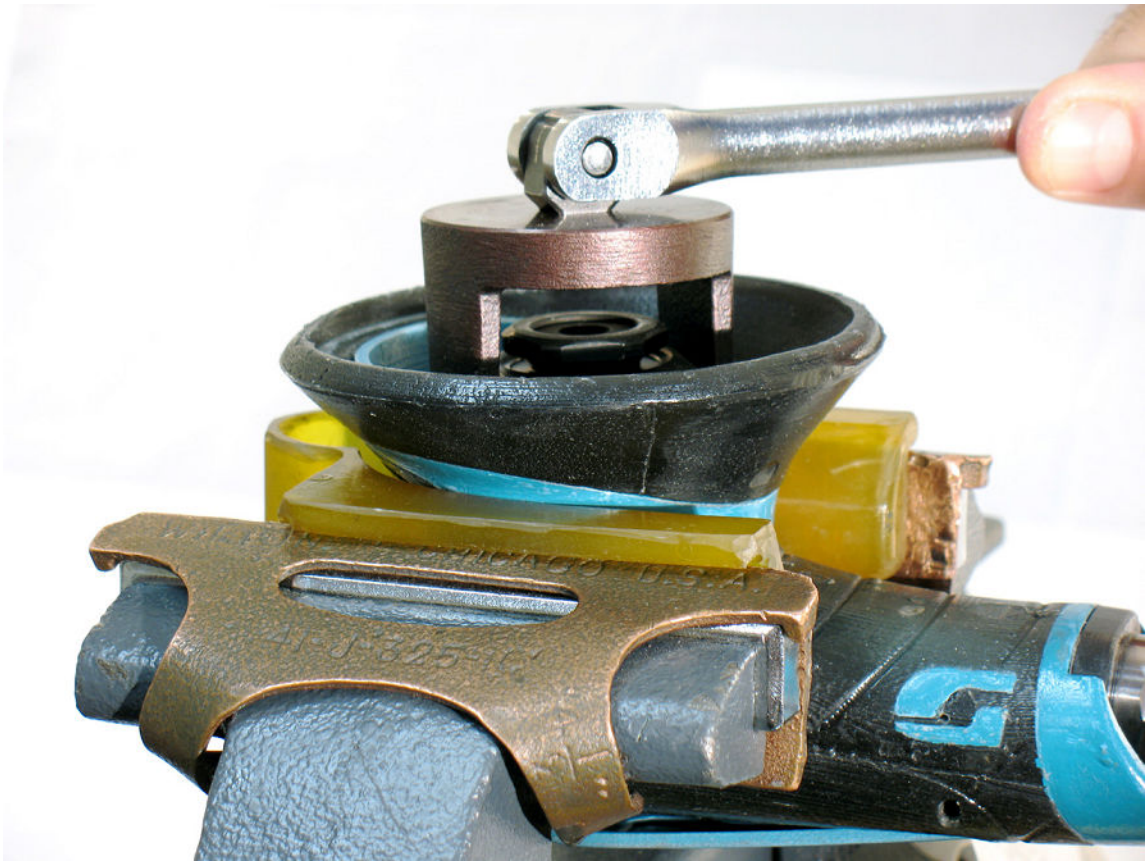
Important: Disconnect sander from the air supply.

Notice: Use these instructions along with the tool manual. To avoid damage, use the ***special repair tools*** designed for motor disassembly and assembly. Position ***57092 Repair Collar*** around the housing. Fasten sander in vise with sanding pad facing up. Do not over tighten sander in vise. Use ***50679 Wrench*** *(26 mm)* to hold the balancer shaft stationary.



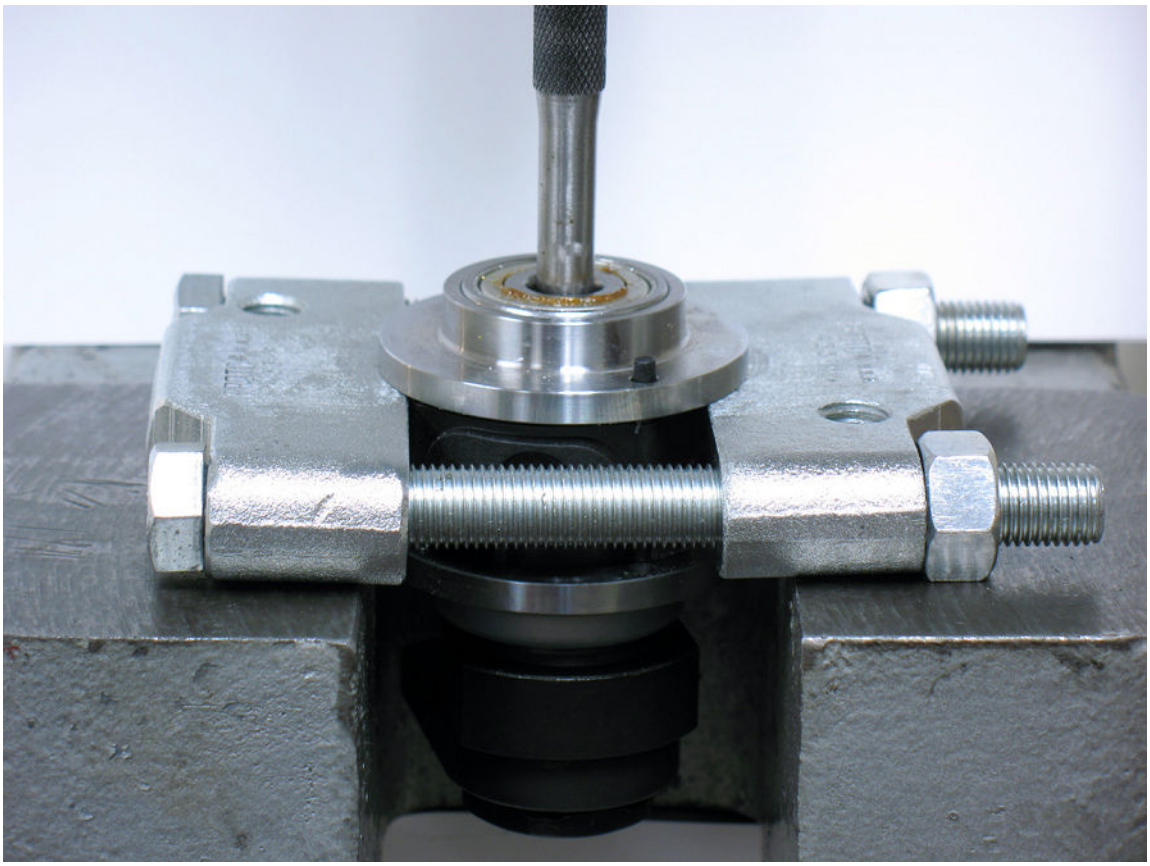
To remove sanding pad, turn counterclockwise.

Motor Disassembly:

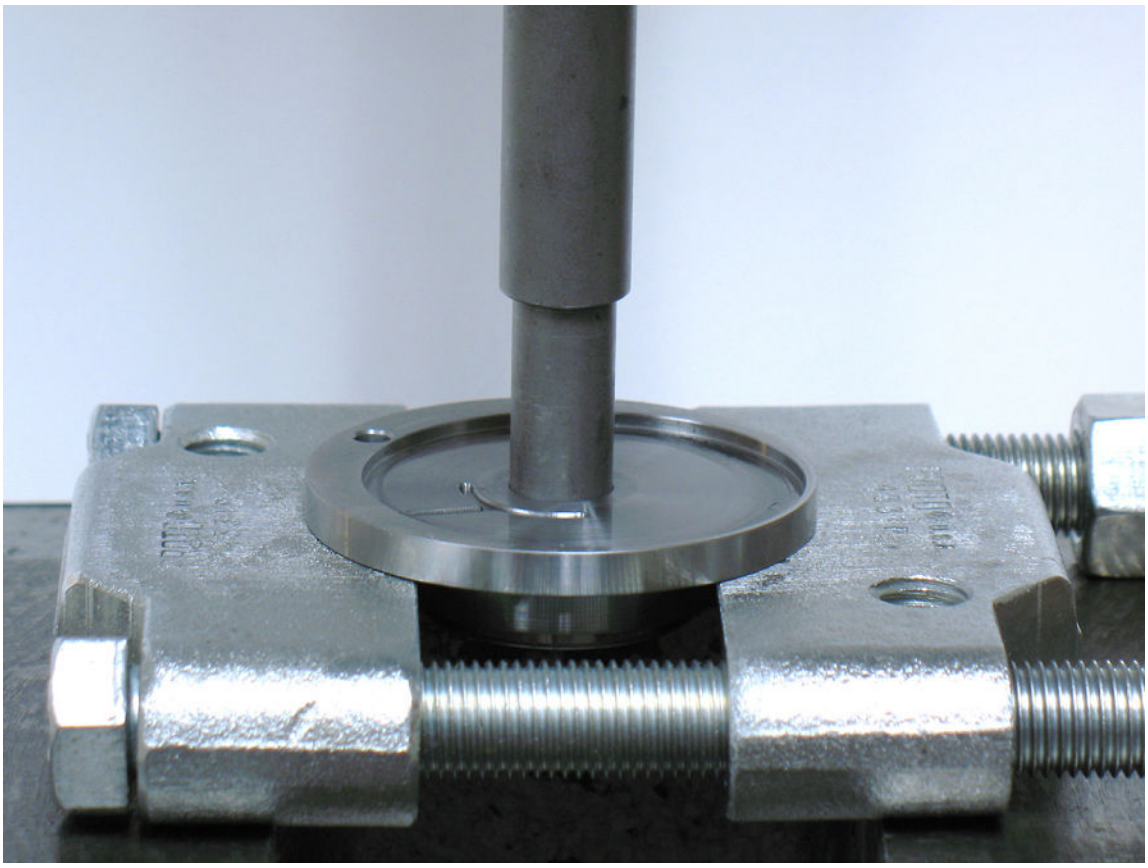


1. Use ***56058 Lock Ring Wrench*** to remove **59058** Lock Ring.
   - Turn counterclockwise.

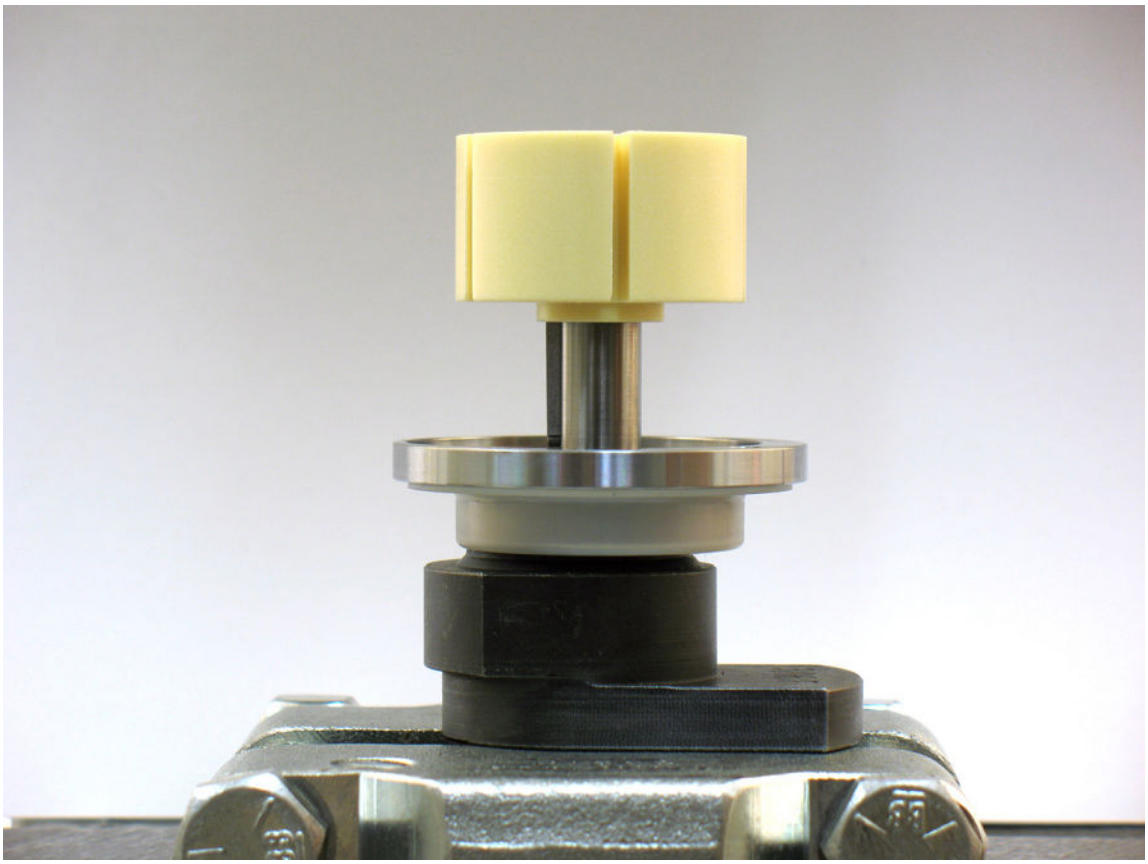
2. Remove motor from housing.
   - Remove **01024** O-Ring from **59133** Cylinder Sleeve Adapter.



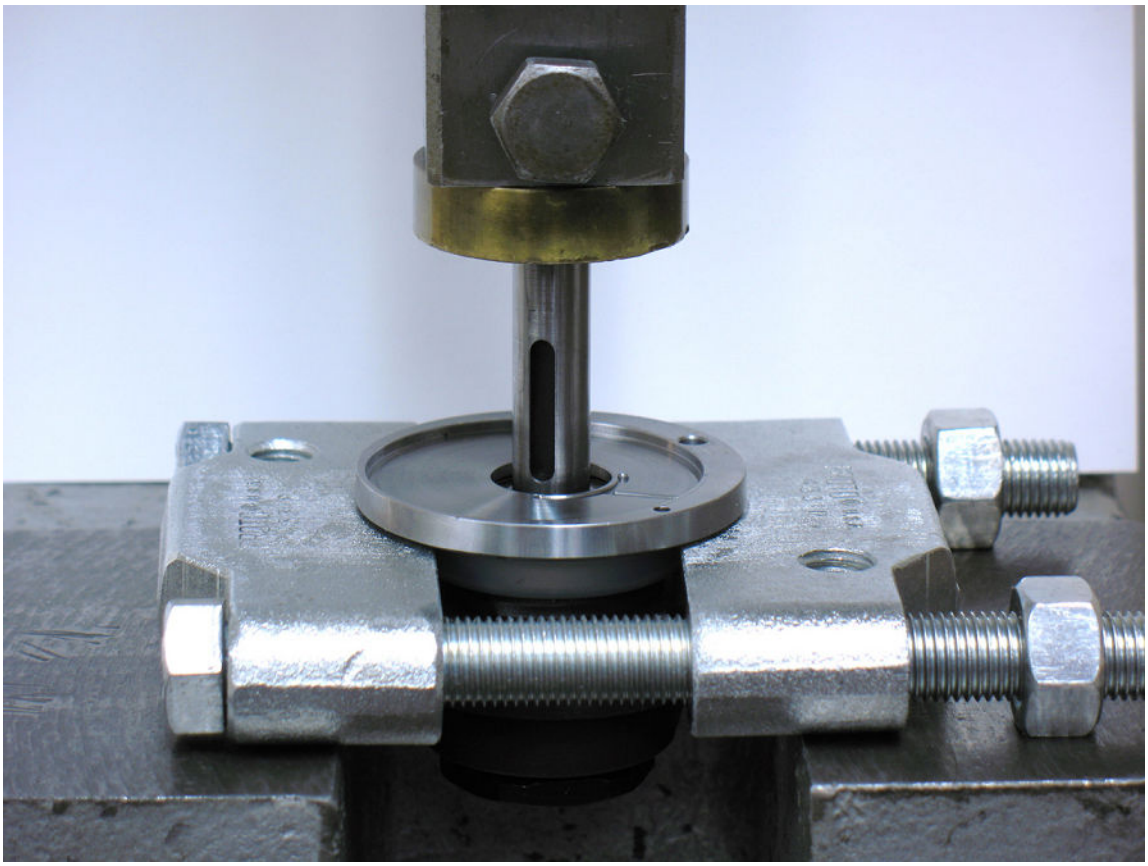
3. Fasten ***96346 Bearing Separator*** *(2")* around **59134** Cylinder Sleeve. Place bearing separator and motor in ***96232 Arbor Press*** *(#2)* with counterweight pointing down.
   - Use arbor press and 5/16" or 8 mm diameter flat-end drive punch to push shaft out of **58368** Bearing.



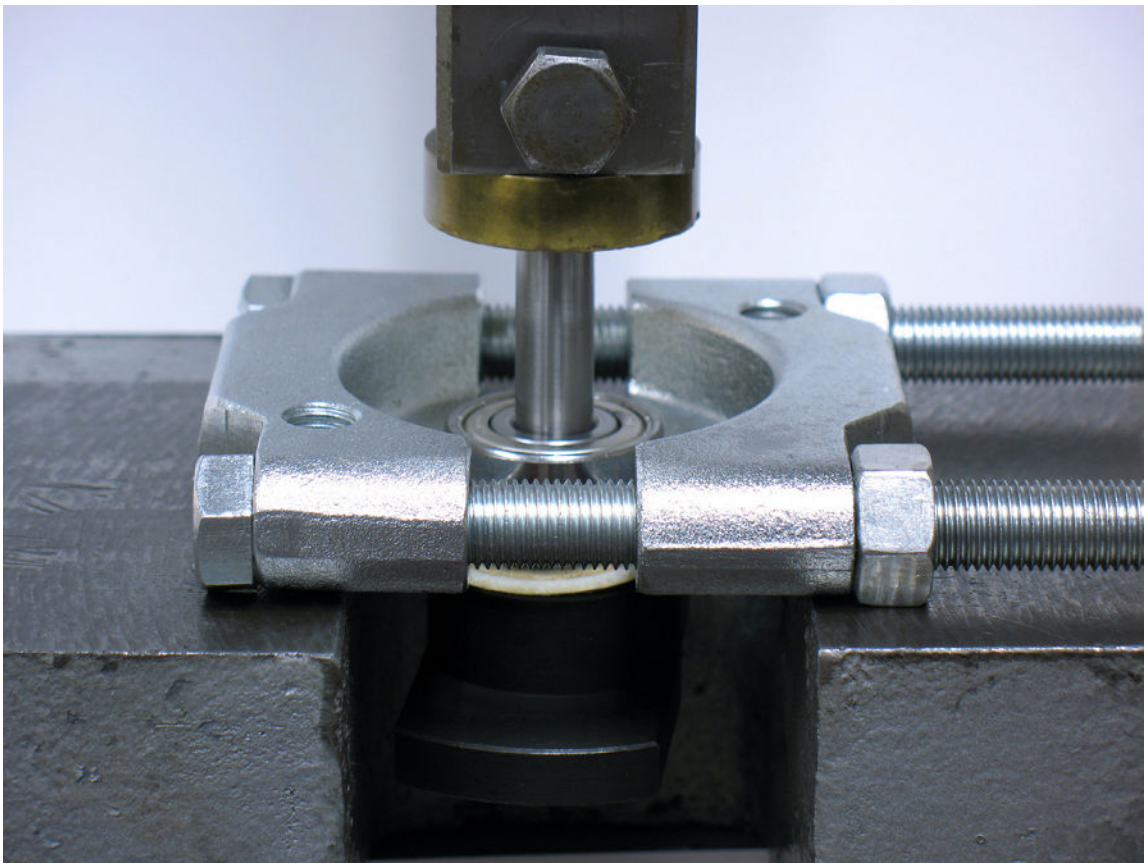
4. Use ***96214 Bearing Removal Tool*** to remove **58368** Bearing from **59332** Rear Bearing Plate.



5. Remove vanes, rotor and key.



6. Use bearing separator and arbor press to remove the front bearing plate and seal.

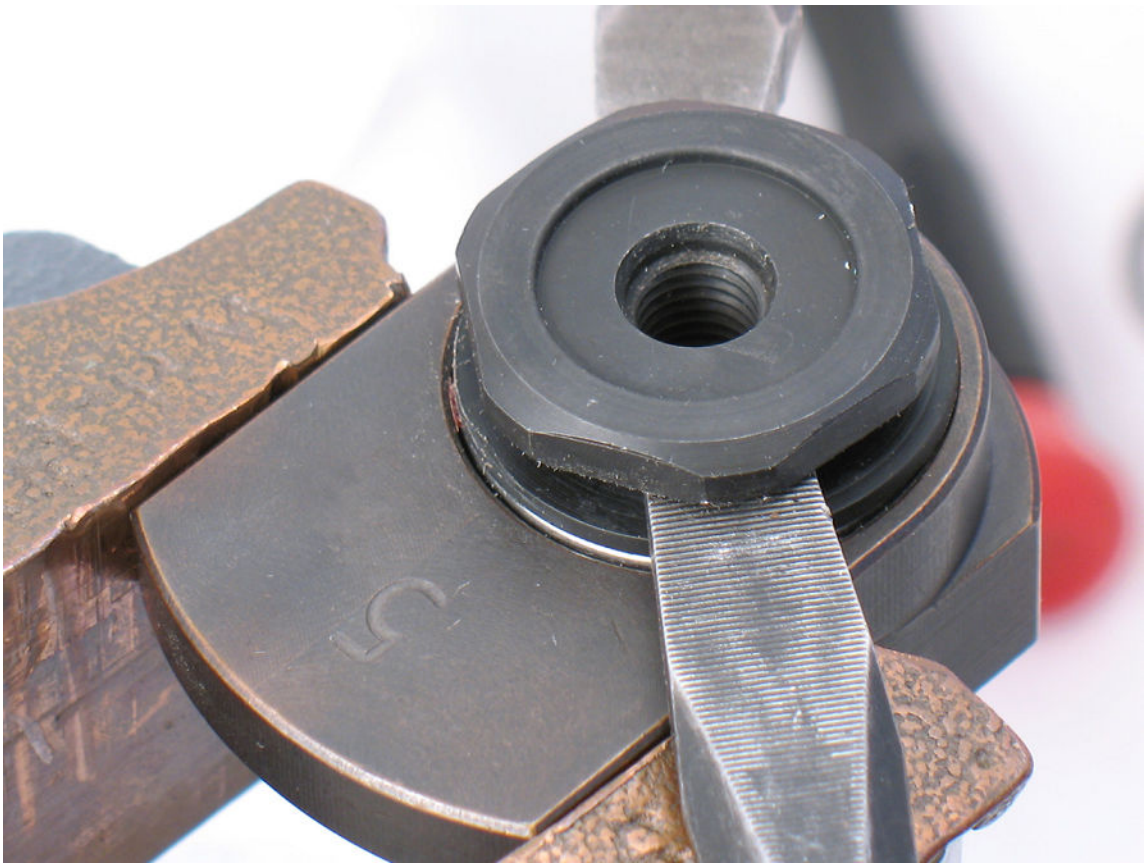


7. Fasten bearing separator between **58368** Bearing and the counterweight.
   - Place bearing separator in arbor press with counterweight pointing down.
   - Push shaft balancer from **58368** Bearing.

Motor disassembly completed.

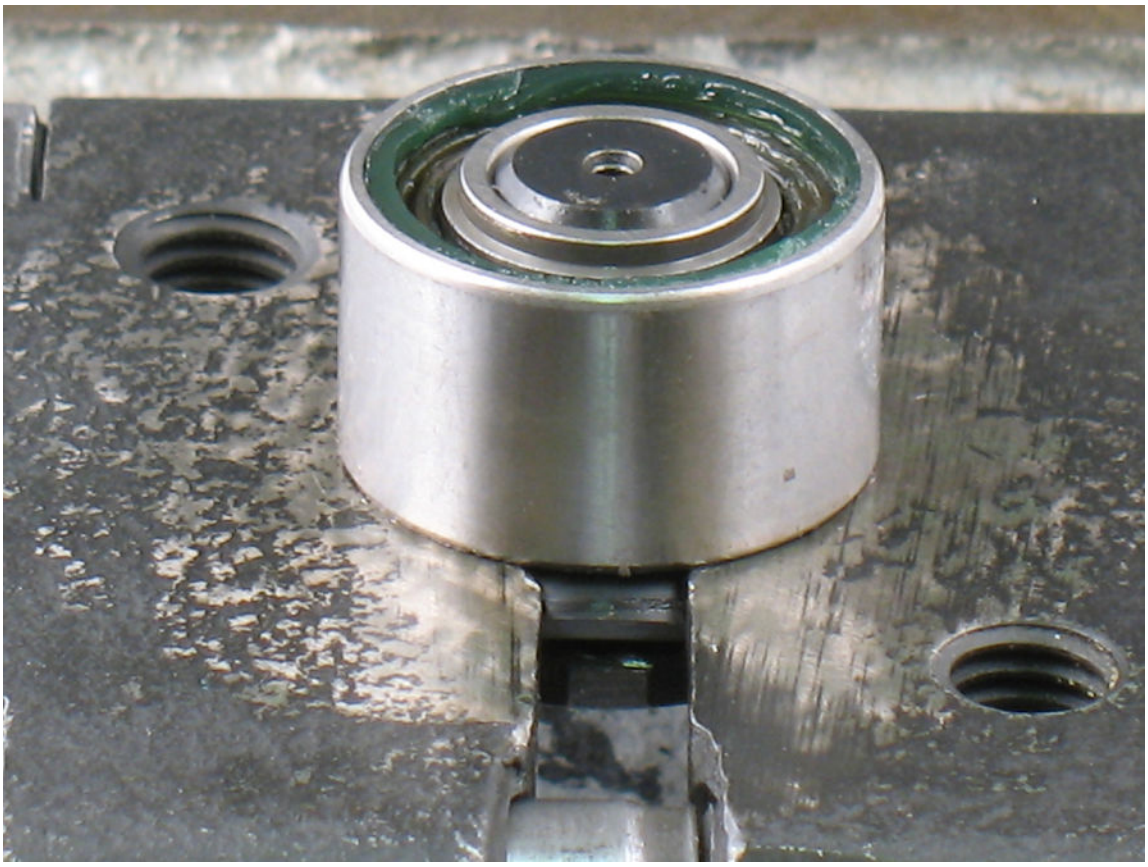
Balancer Shaft and Bearing Disassembly:

1. Fasten counterweight in vise with hex of **57069** Balancer Shaft pointing up.
   - Use a thin slot-blade screwdriver as a pick to remove **95630** Snap Ring. (Next three views.)

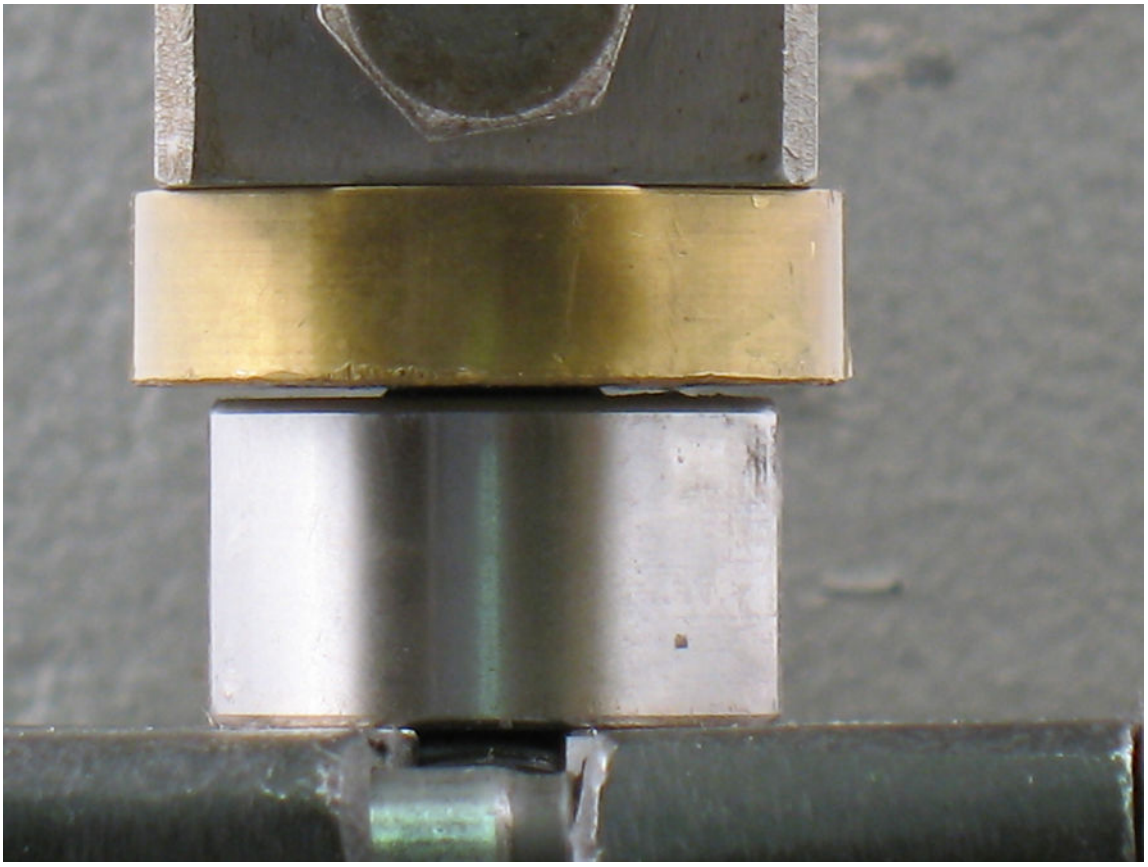


2. To break adhesive bond, use two, large slot-blade screwdrivers to pry out balancer shaft and bearing. **Notice:** If necessary, use a HEAT GUN to warm counterweight to soften adhesive.

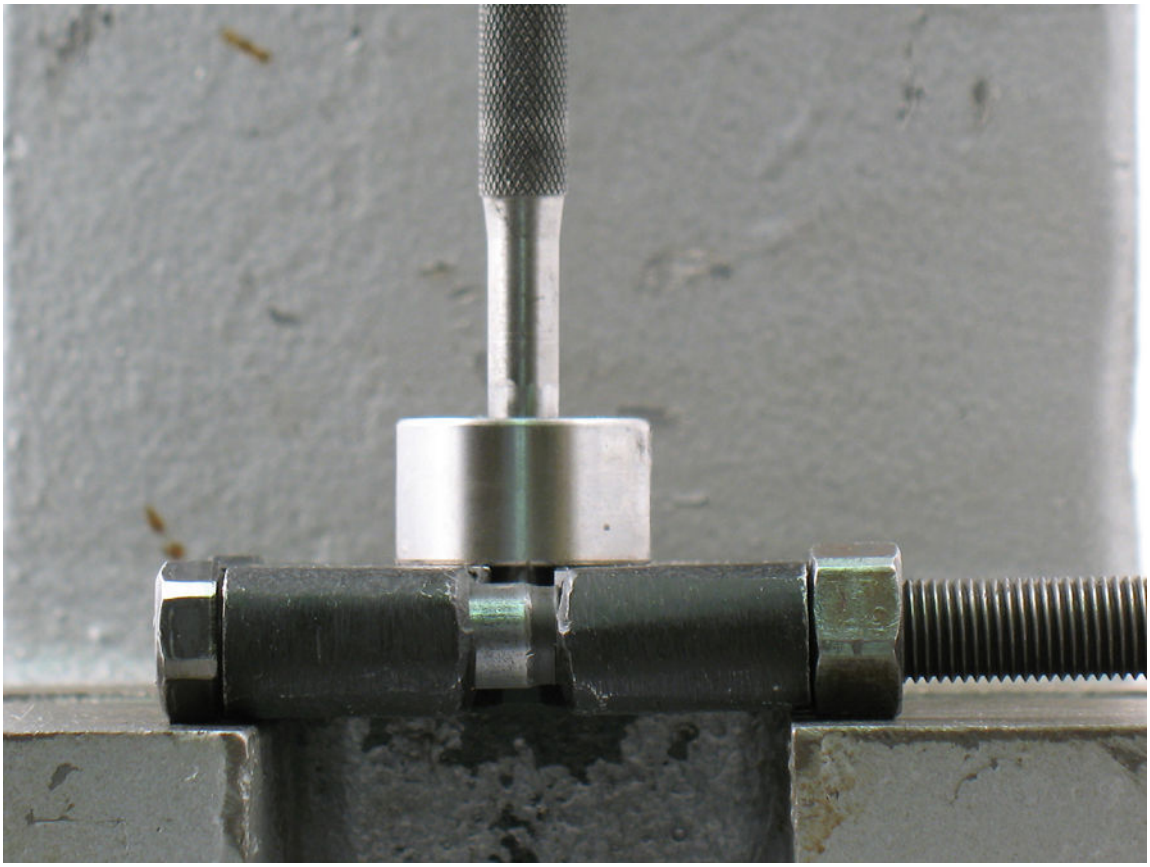
3. Use ***56056 Bearing Puller*** to remove balancer shaft and **56052** Bearing.



4. Fasten bearing separator between **56052** Bearing and hex end of balancer shaft.



5. Place bearing separator and balancer shaft in arbor press with hex end pointing down.
   - Use the arbor press to break the adhesive bond.



6. Use a 5/16" or 8 mm diameter flat-end drive punch as a press tool to push balancer shaft out of **56052** Bearing.

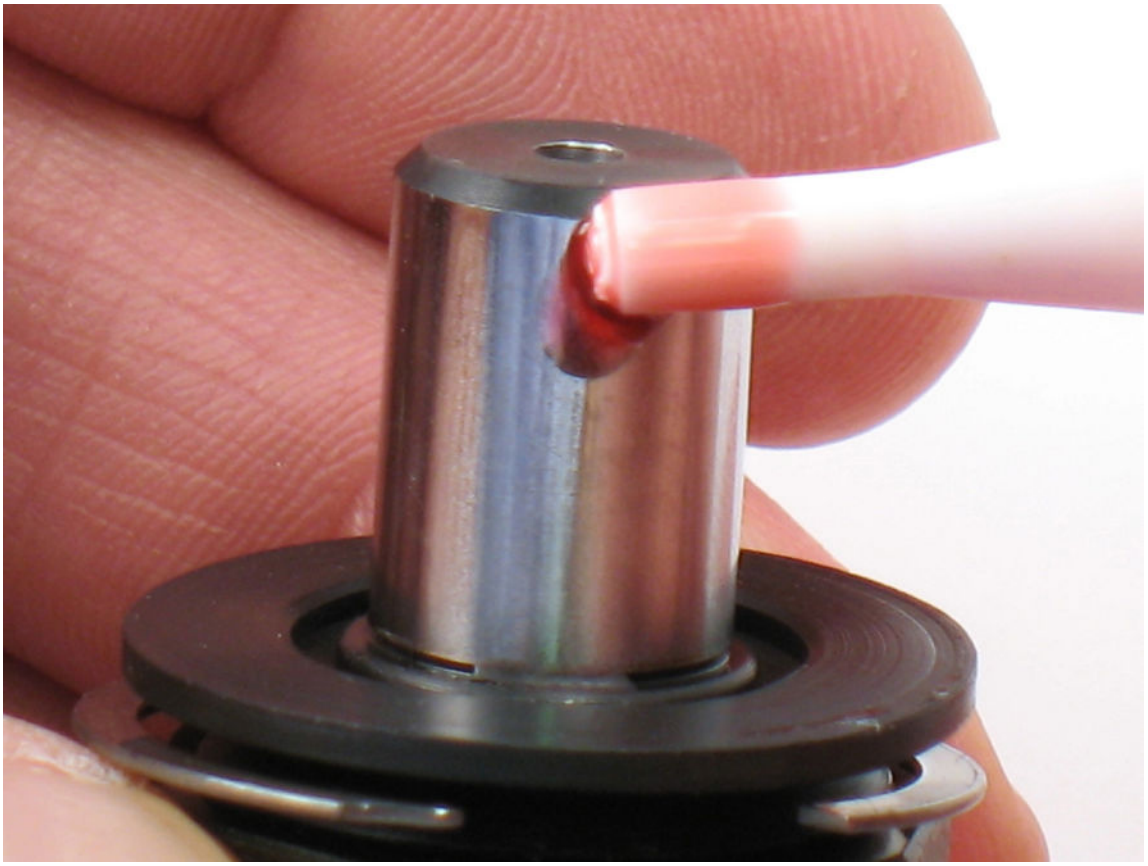
Balancer shaft and bearing disassembly completed.

Clean and inspect parts before assembling.

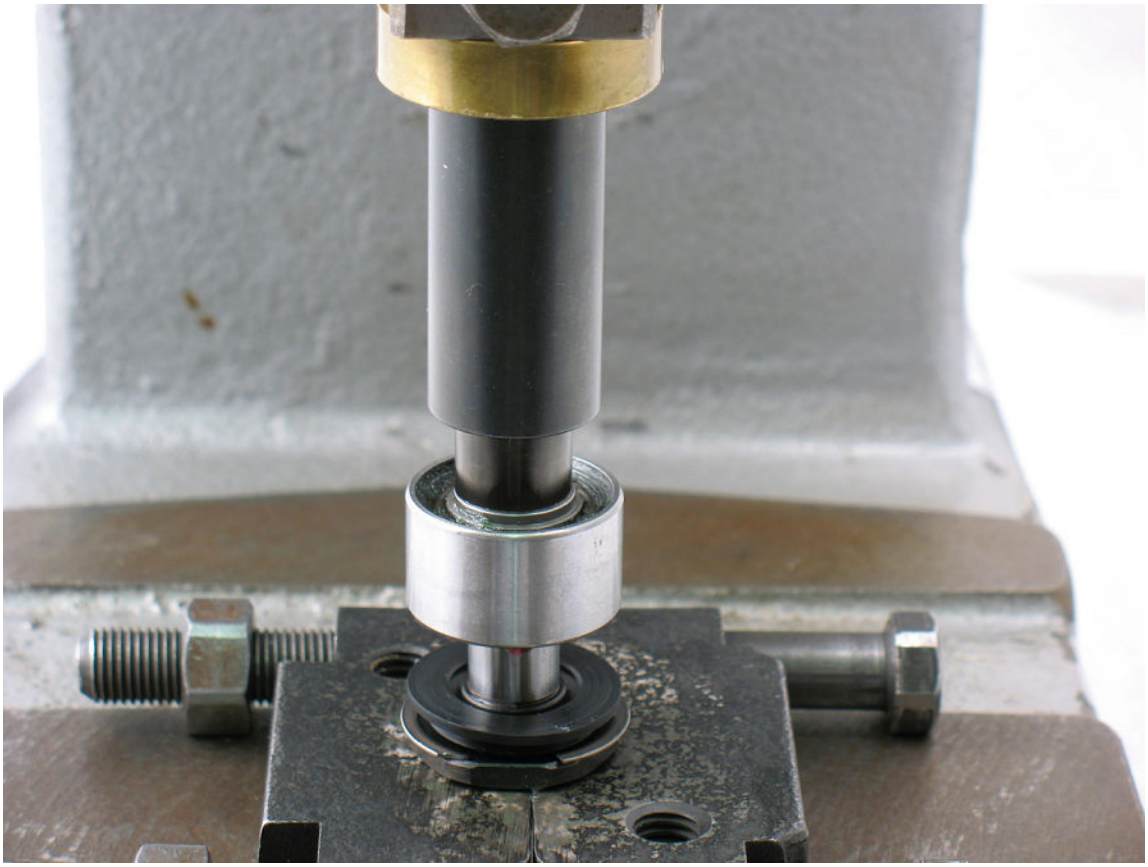
Assembly Instructions - Dynorbital EXTREME

Balancer Shaft and Bearing Assembly:

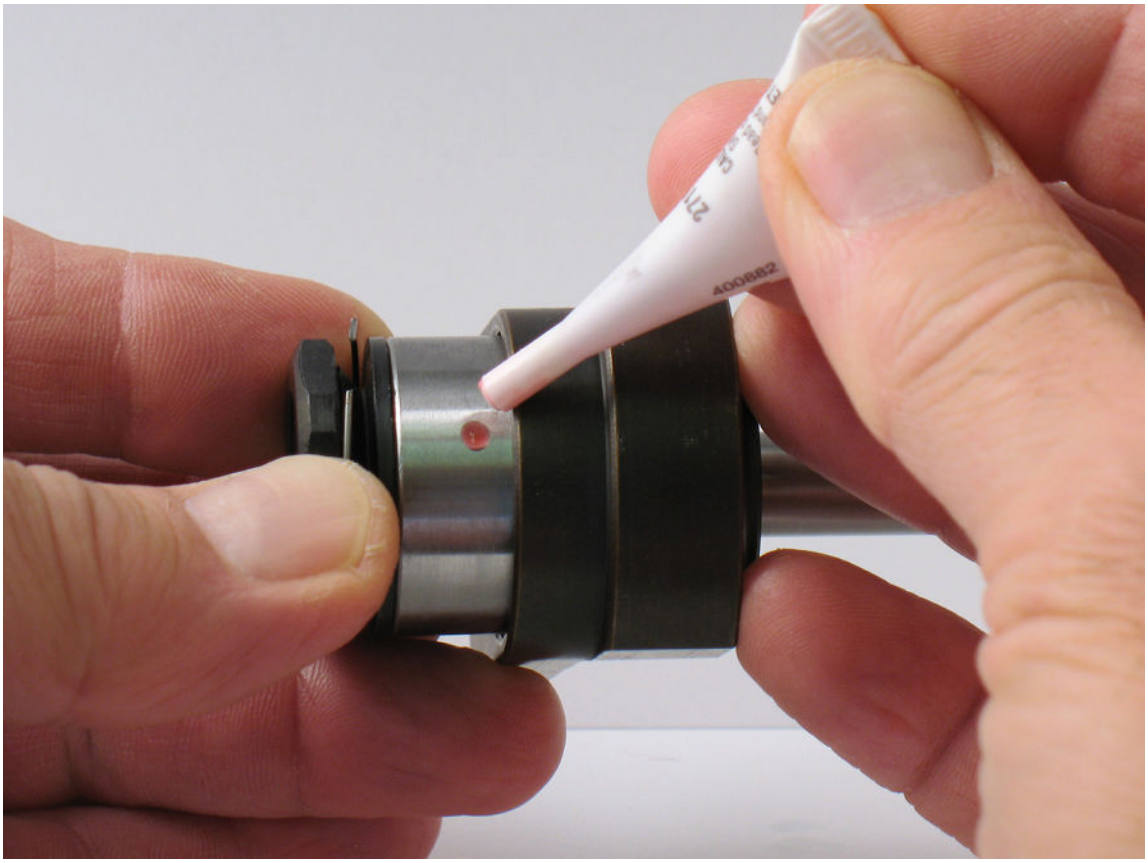
1. Install **95630** Snap Ring onto **59084** Seal.



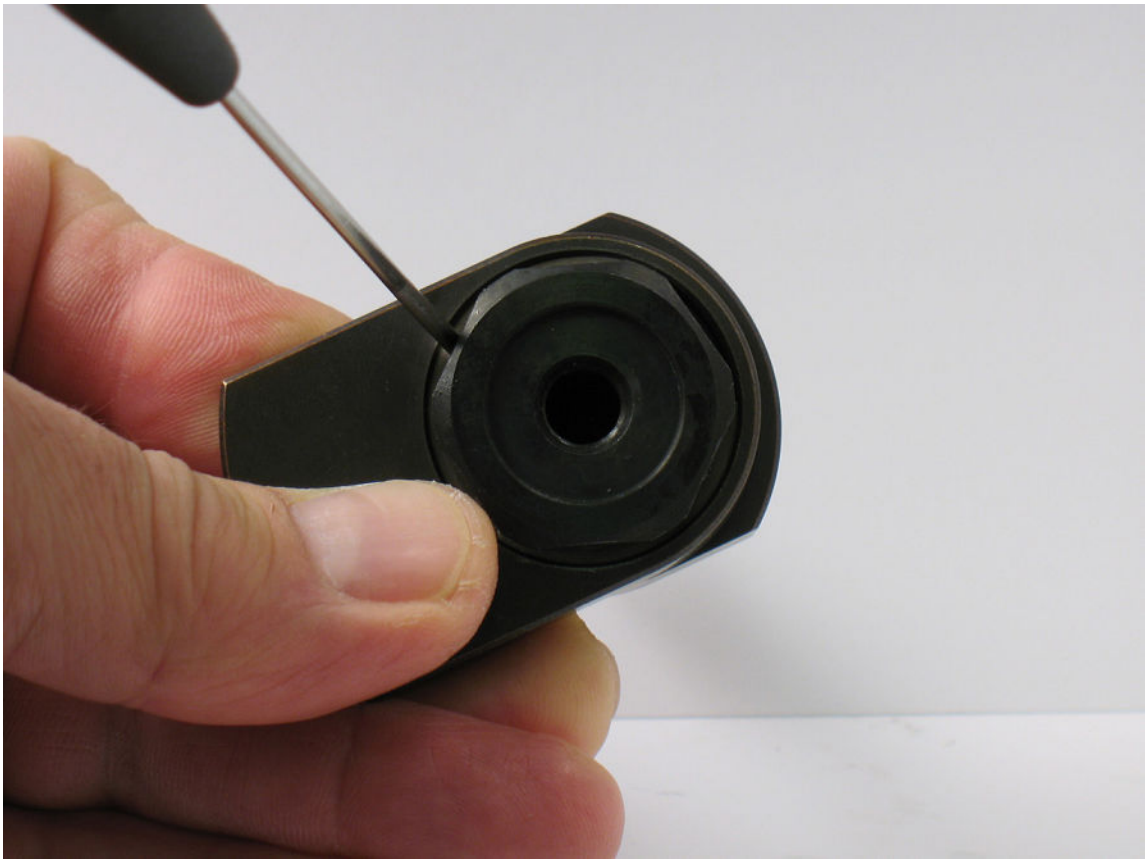
2. Install **59084** Seal and **95630** Snap Ring onto **57069** Balancer Shaft.
   Notice: Position flat side of seal toward **56052** Bearing.
   - Apply a small amount of Loctite #271 or equivalent to outside diameter of balancer shaft.



3. Use small diameter of ***57091 Bearing Press Tool*** and arbor press to install **56052** Bearing. **Notice:** Position sealed side of bearing toward **59084** Seal.
   - Press bearing to step on shaft.



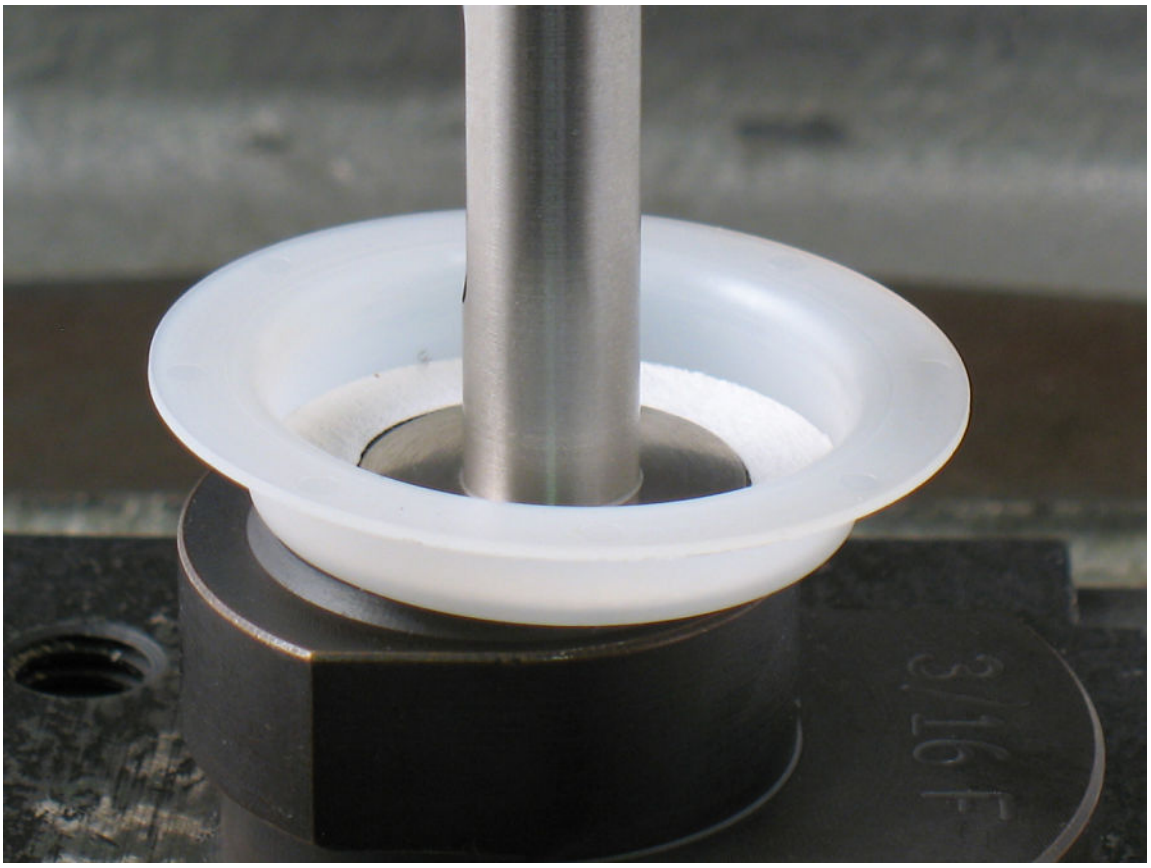
4. Apply a small amount of Loctite #271 or equivalent to outside diameter of **56052** Bearing.
   - Install balancer shaft with bearing into shaft balancer.



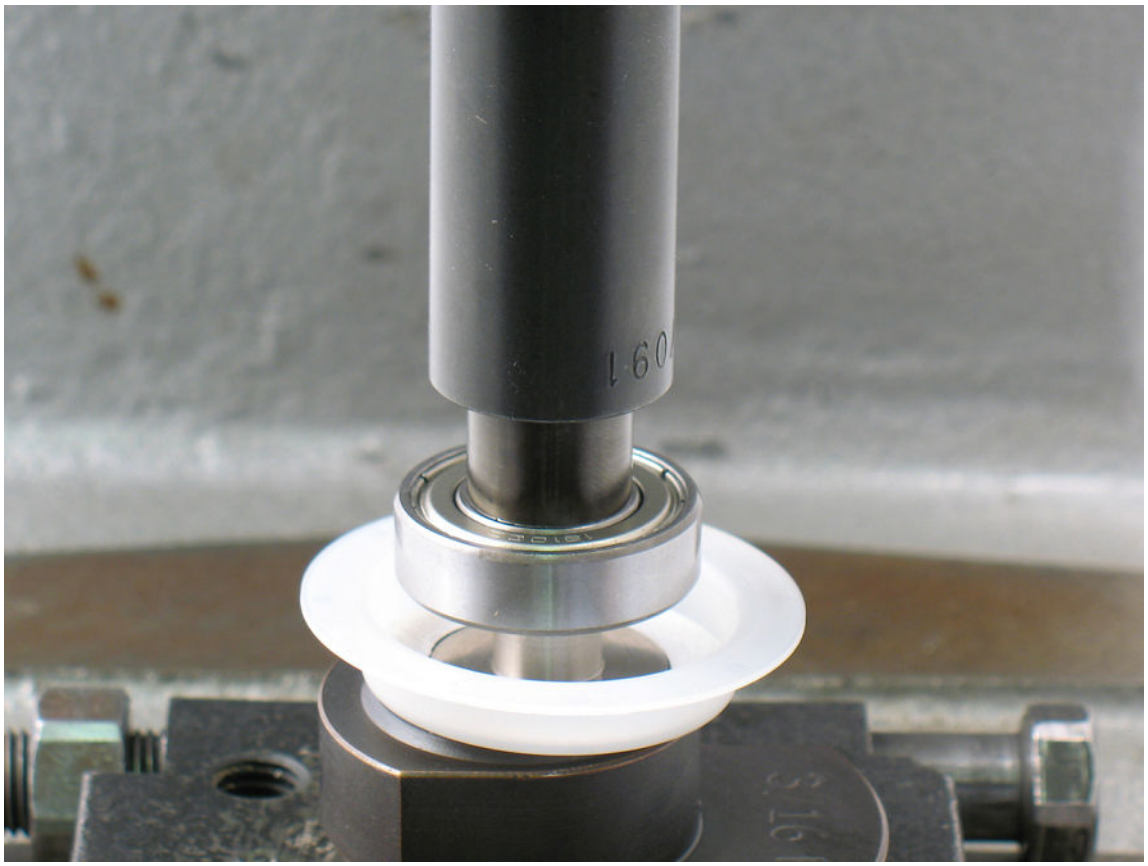
5. Use a thin slot-blade screwdriver to compress and install **95630** Snap Ring into groove of shaft balancer.

Balancer shaft and bearing assembly completed.

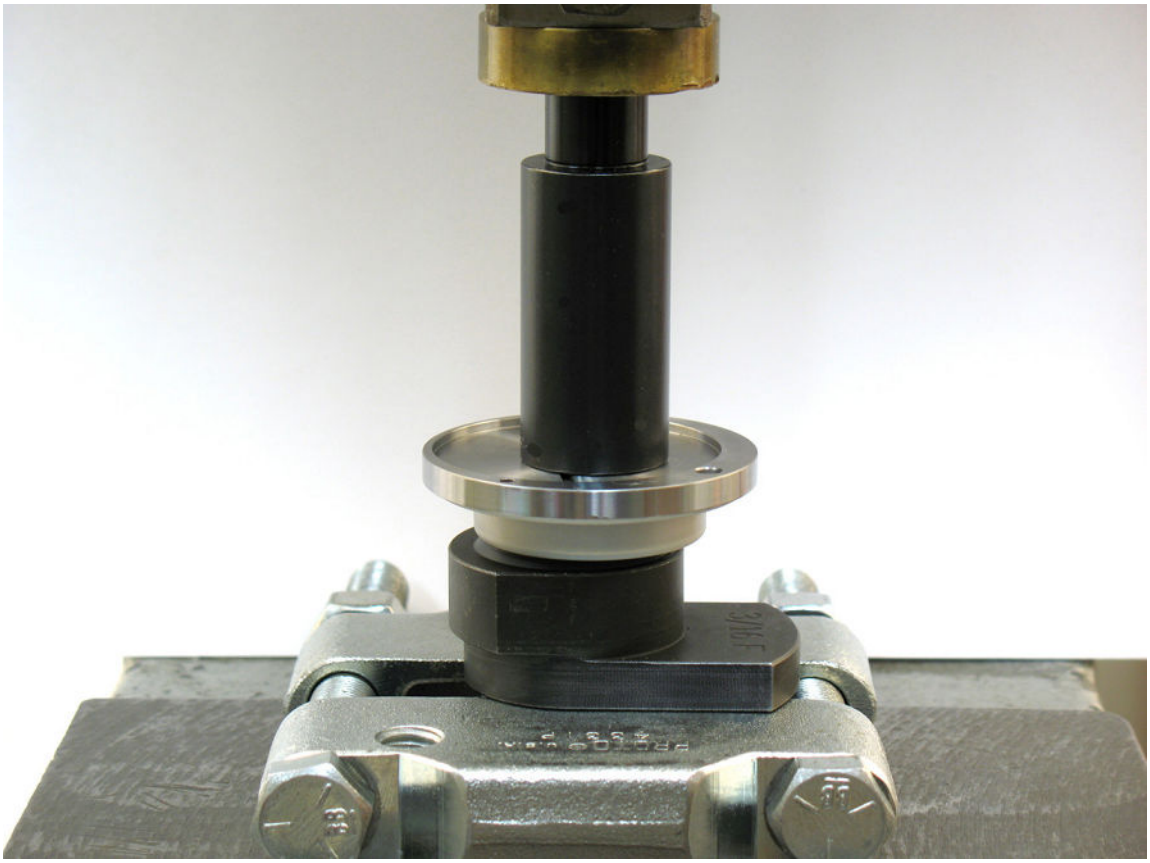
Motor Assembly:



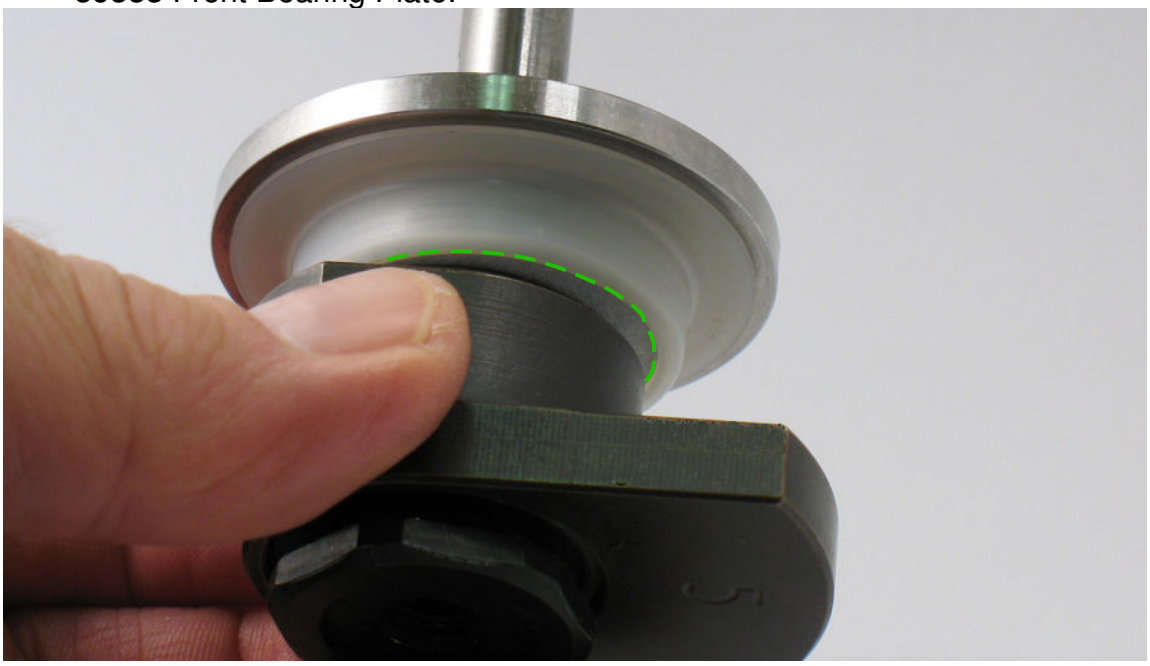
1. Install **59083** Felt Washer into **59057** Front Bearing Seal.
   - Install onto shaft balancer.



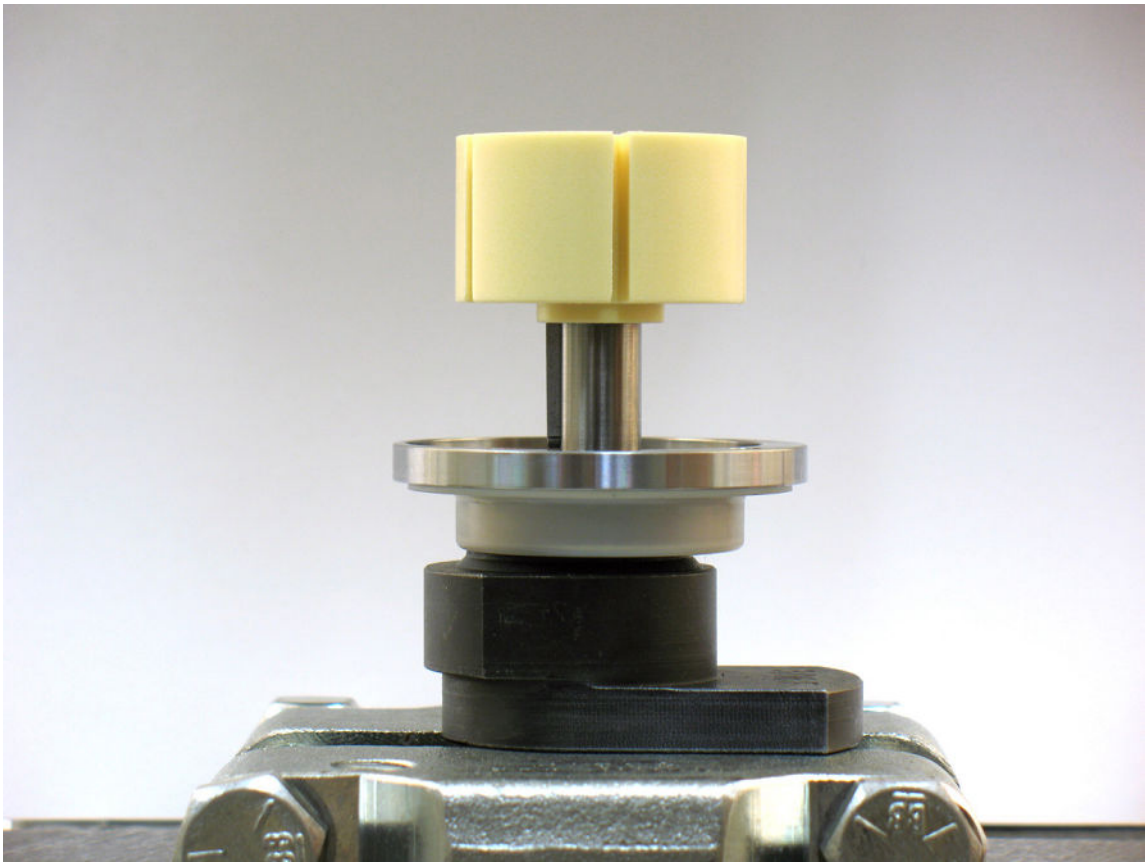
2. Use small diameter of ***57091 Bearing Press Tool*** and arbor press to install **58368** Bearing onto shaft balancer.



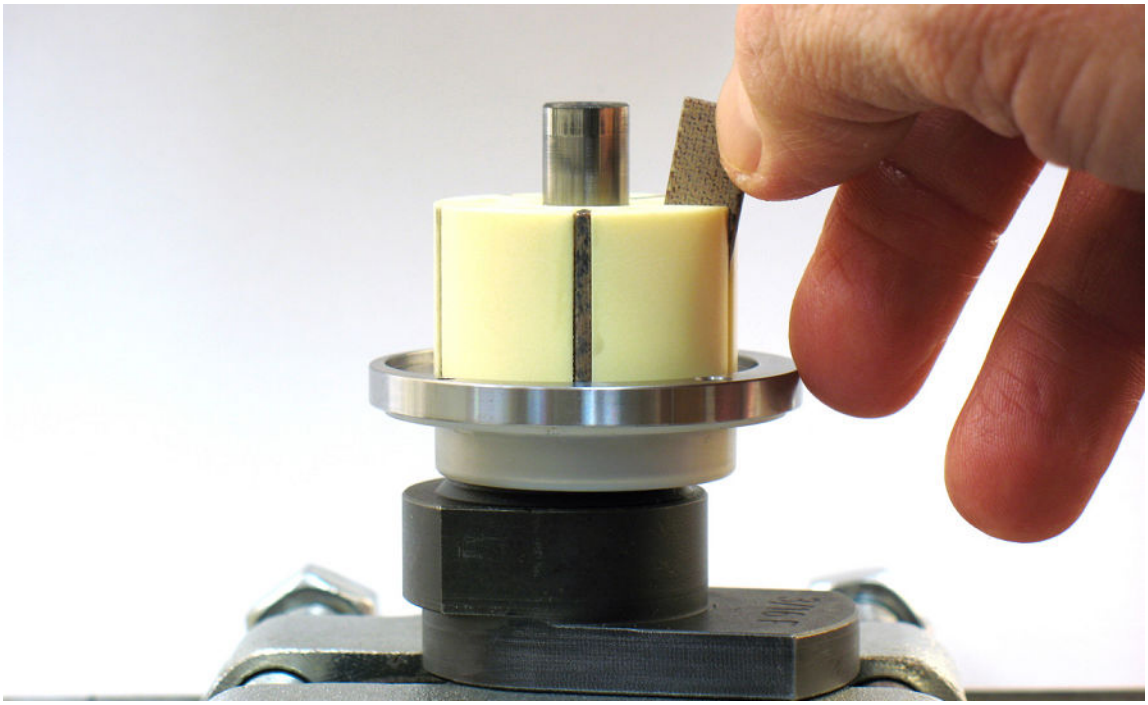
3. Use large diameter end of ***57091 Bearing Press Tool***, and arbor press to install **59333** Front Bearing Plate.



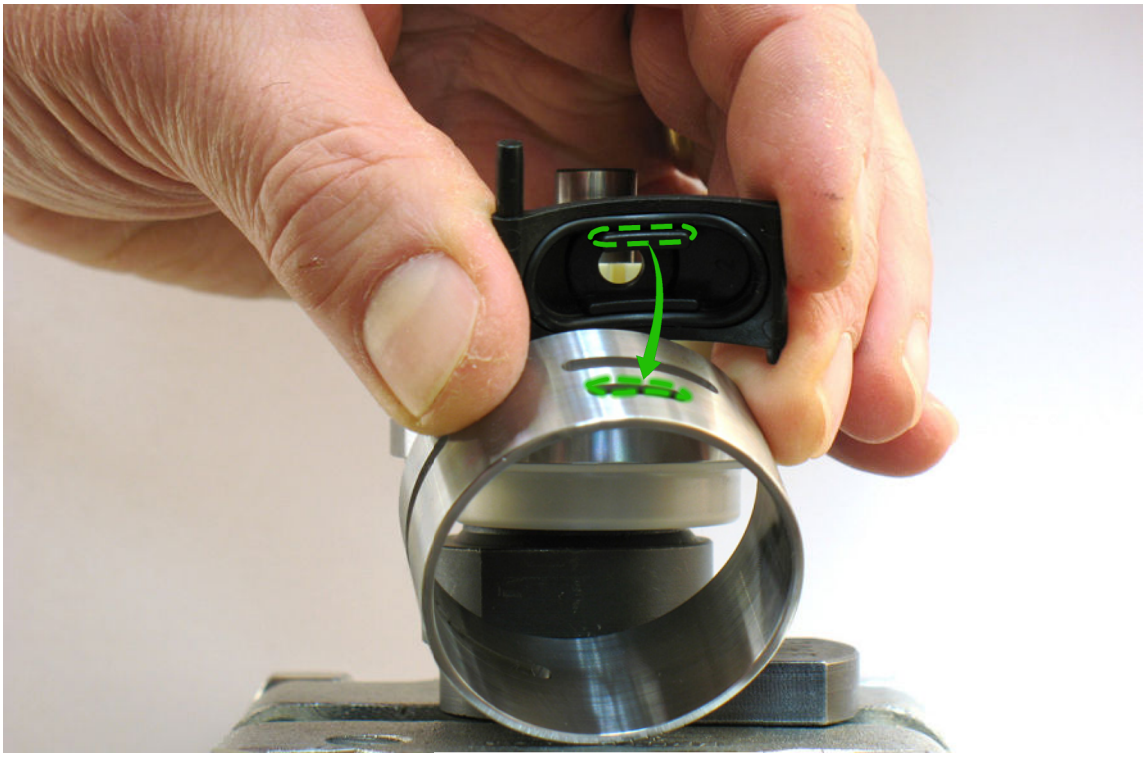
4. Carefully fit plate to the bearing, felt washer and front bearing seal. Notice: The felt washer should be completely retained in the front bearing seal.



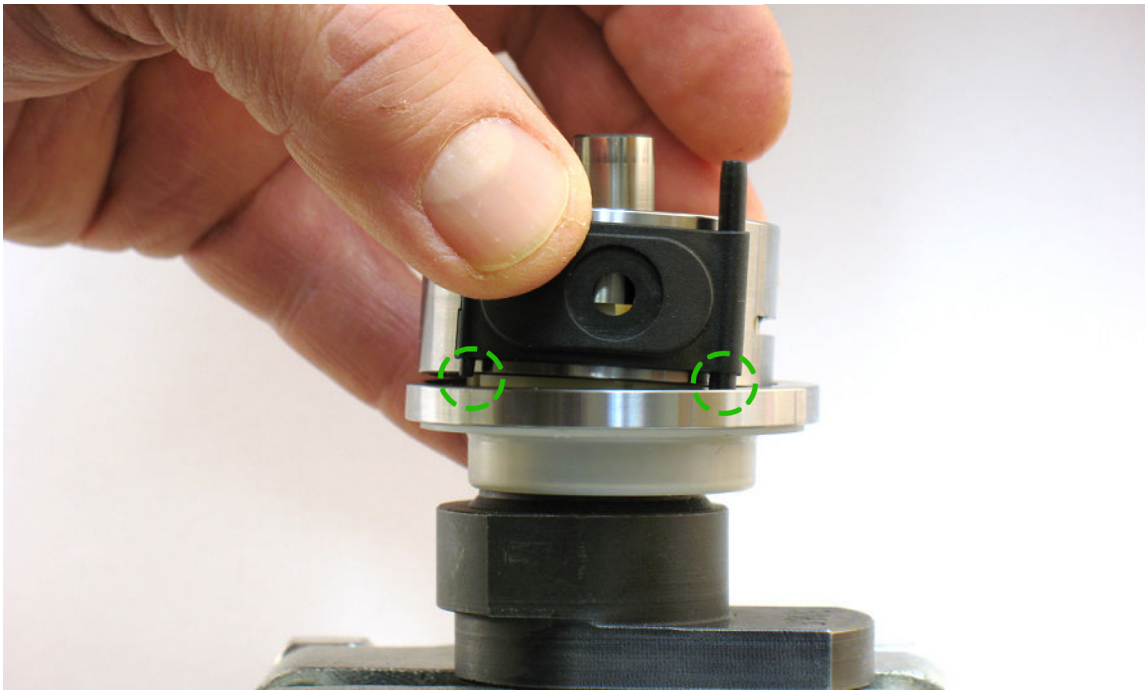
5. Install **56047** Key and rotor onto shaft balancer.



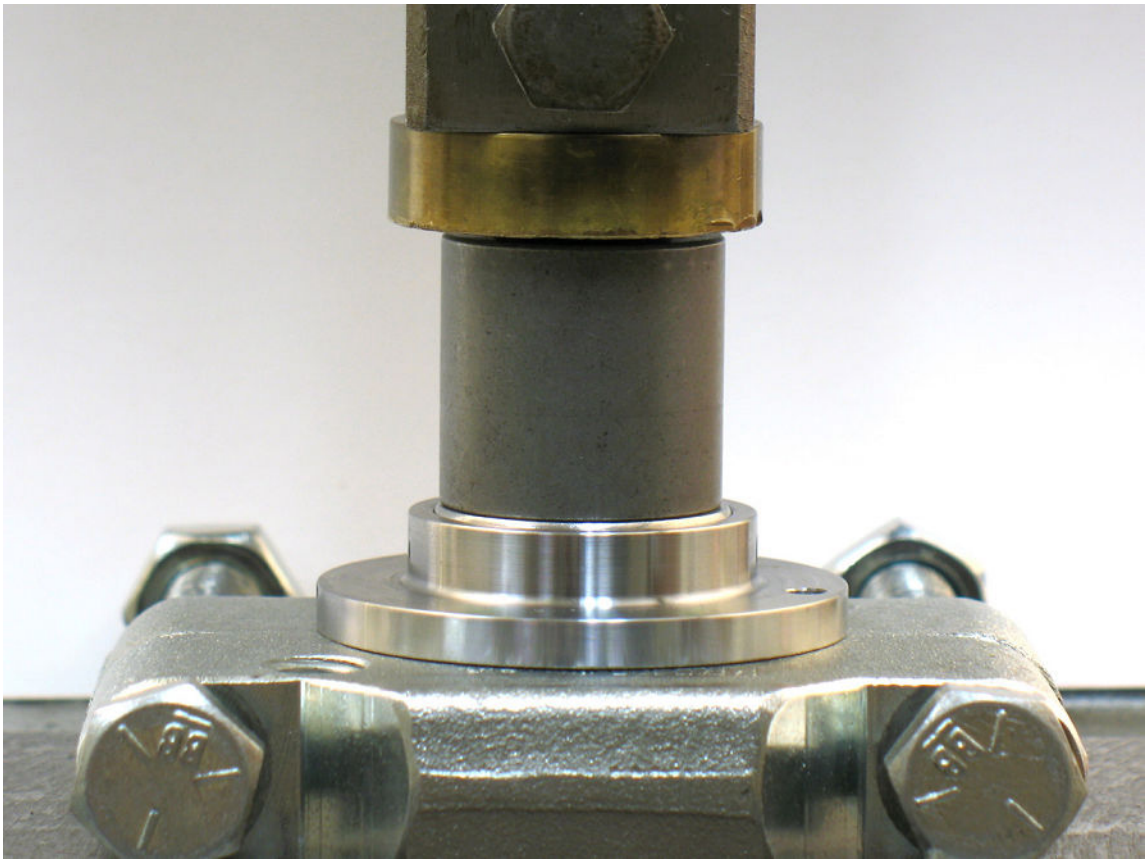
6. Apply **95842** Dynabrade Air Lube 10W/NR or equivalent to vanes and install.



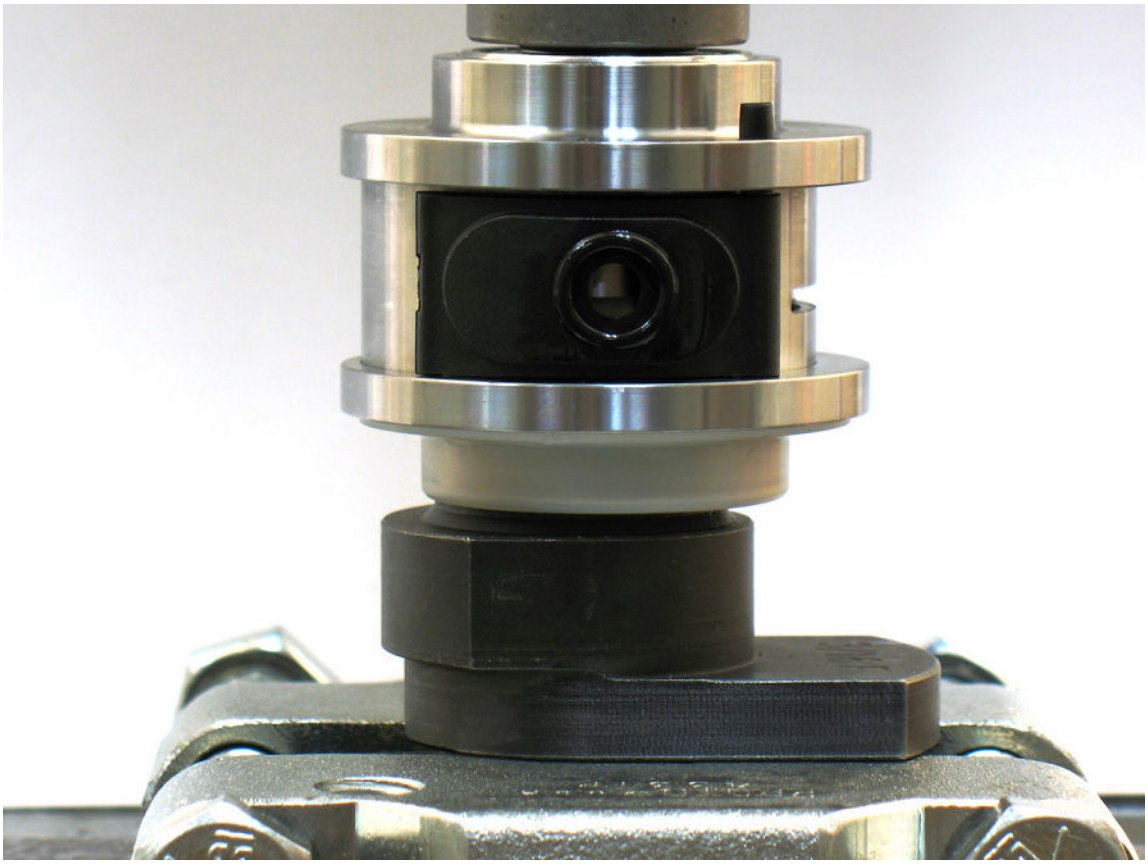
7. Install **95529** O-Ring into **59133** Cylinder Sleeve Adapter.
   - Line-up tab on cylinder sleeve adapter with small slot in **59134** Cylinder Sleeve.



8. Install **59134** Cylinder Sleeve and **59133** Cylinder Sleeve Adapter so that short pins fit into front bearing plate.



9. Use **RAISED OUTSIDE DIAMETER** of ***96239 Bearing Press Tool*** and arbor press to install **58368** Bearing into **59332** Rear Bearing Plate.



10. Use **RAISED INSIDE DIAMETER** of ***96239 Bearing Press Tool*** and arbor press to install bearing and plate onto shaft balancer.
    - **Notice:** Carefully press bearing/plate down until it **<u>just touches the cylinder</u>**. This will produce a close fit between the bearing plates and cylinder sleeve.
    - Apply oil to **01024** O-Ring and install into **59133** Cylinder Sleeve Adapter.

11. Install **59058** Lock Ring over counterweight.
    - Sight line-up pin with notch inside housing. Keep finger pressure against lock ring and install motor.

12. Place ***57092 Repair Collar*** around housing. Fasten sander in vise with counterweight pointing up. **Notice:** Do not over tighten sander in vise or it will be difficult to install **59058** Lock Ring.
    - Use **56058** Lock Ring Wrench to tighten lock ring. Turn clockwise.
    - Torque to 23 N•m/~200 lbs. in.

Motor assembly completed.

To install sanding pad, use ***50679 Wrench*** *(26 mm.)* to hold balancer shaft stationary. Turn pad clockwise.

IMPORTANT:
To verify the correct RPM and tool performance, follow instructions on page 2 of tool manual. Refer to: "Maintenance Schedule - Every 20 Hours/Once a Week - First Bullet:
• Measure RPM" and follow the instructions.

Vacuum & Exhaust Assemblies:
To identify vacuum and exhaust components, refer to exploded view and parts list found in tool manual.