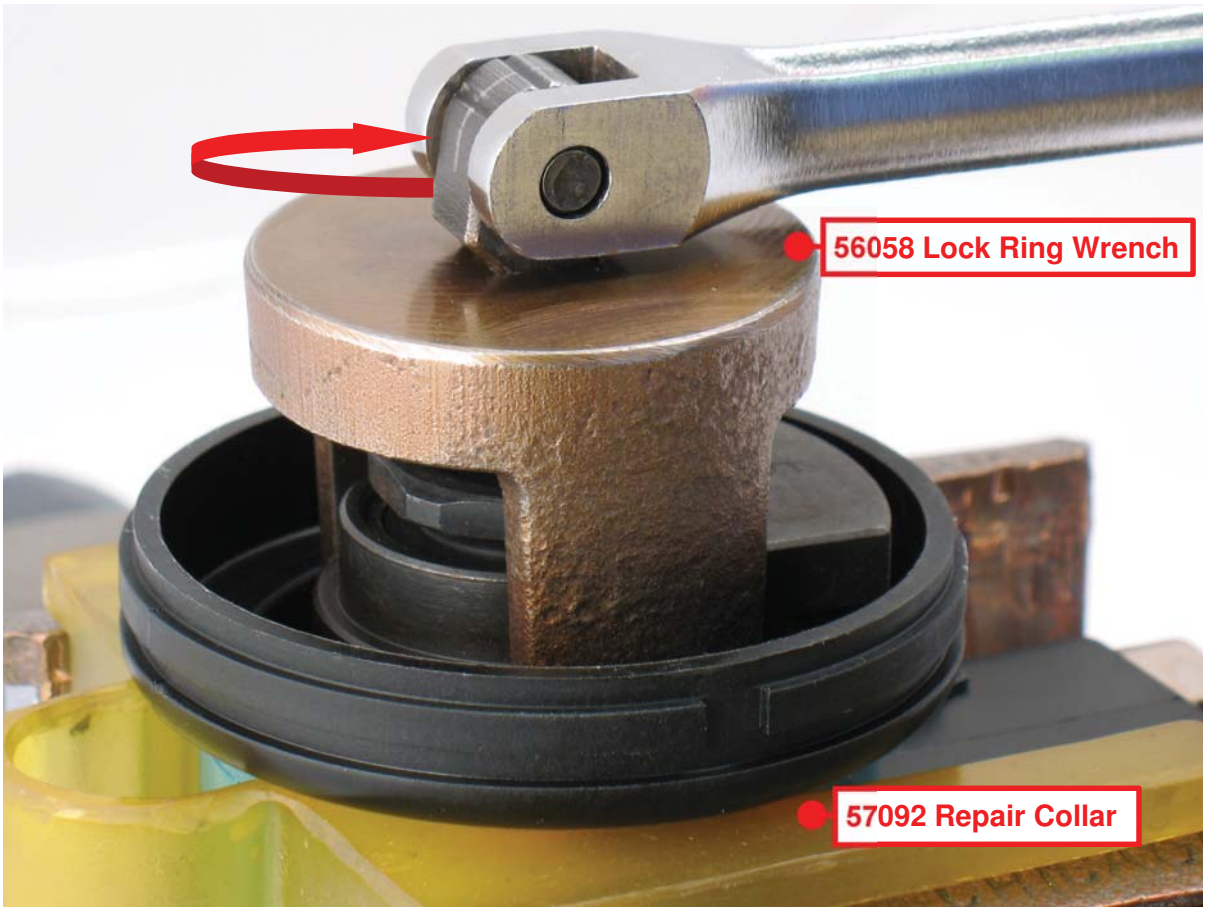
Disassembly Instructions - Dynorbital Spirit (H) Sander 2014

Important: Use these instructions along with the tool manual.
Notice: To avoid damage, use the Special Repair Tools designed for motor disassembly and assembly.
Disconnect tool from the air supply. Use **50679** Wrench (26 mm) to hold the balancer shaft stationary. Remove sanding pad and shroud.

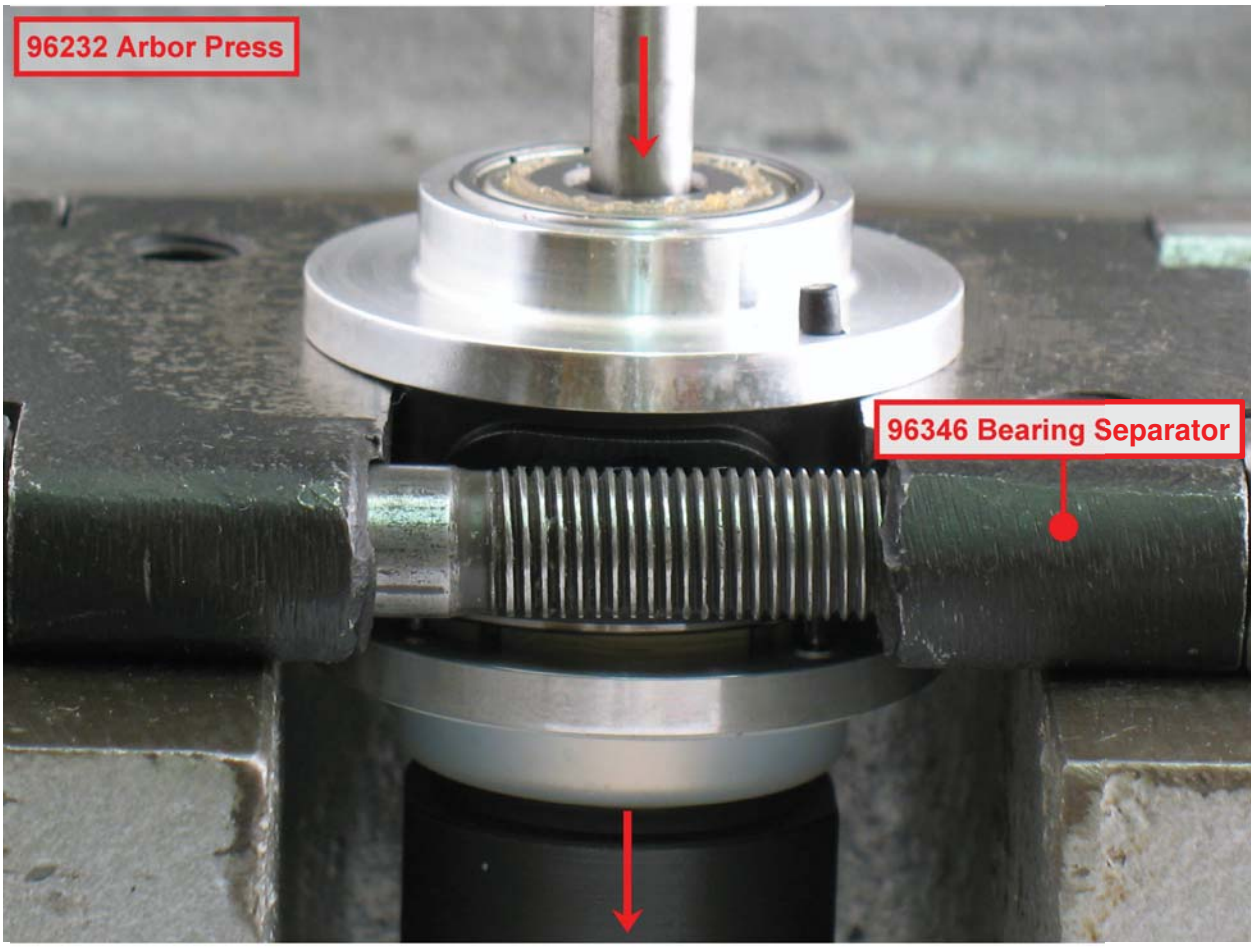
Motor Disassembly:



1. Invert sander and position **57092** Repair Collar around the housing. Fasten sander in a vise with balancer shaft pointing up. **Notice:** Do not over tighten sander in vise. Over tightening will make removal of lock ring difficult.

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

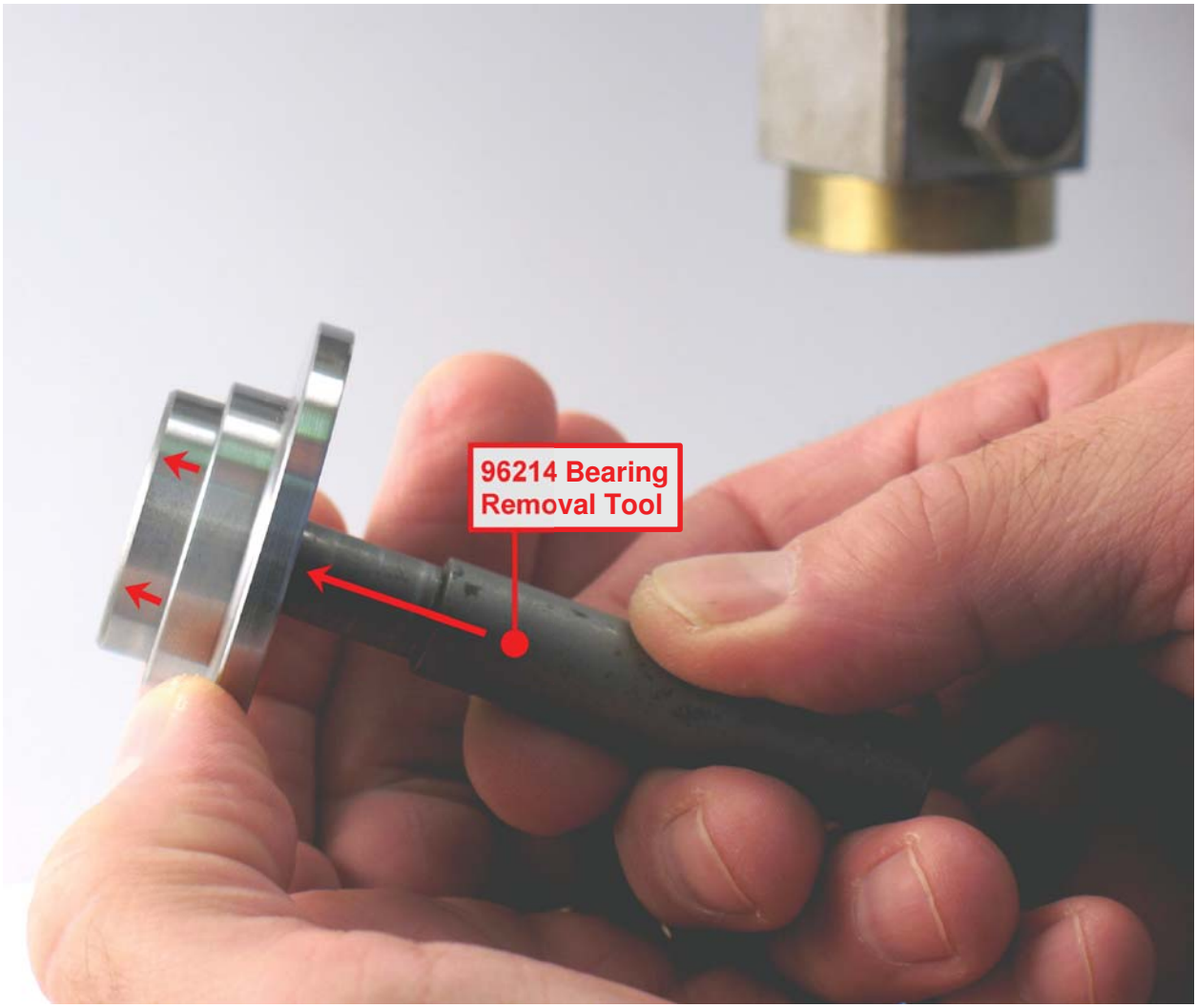
3. Remove motor from housing.
- Remove **01024** O-Ring from **59133** Cylinder Sleeve Adapter.



4. Fasten **96346** Bearing Separator (2") around **59134** Cylinder.
- 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.

5. Remove rear plate, bearing, cylinder, **59133** Cylinder Sleeve Adapter with **95529** O-Ring, rotor, vanes, and key.

- Use bearing separator and arbor press to remove front plate with **59057** Seal, bearing and felt.

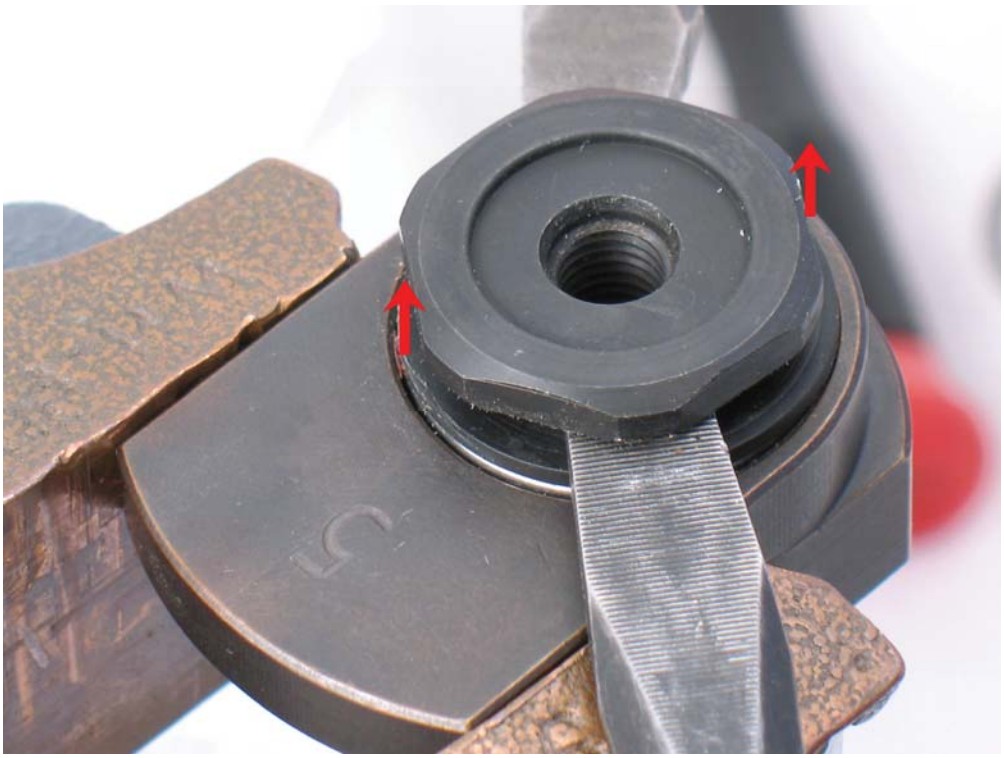


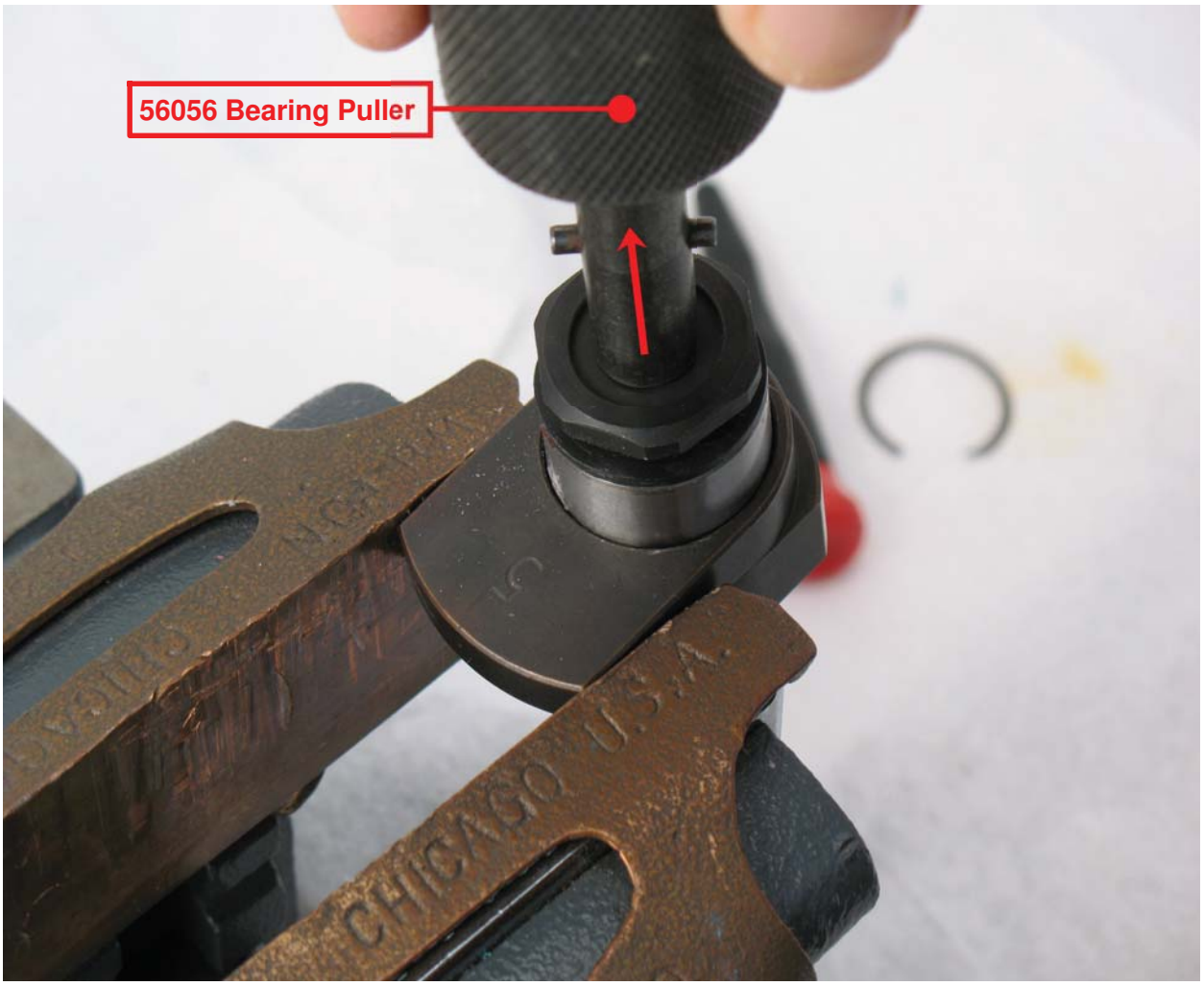
6. By hand, or with arbor press, use **96214** Bearing Removal Tool to remove **58368** Bearing from **59138** Rear Plate.

7. Balancer Bearing and Shaft Disassembly:

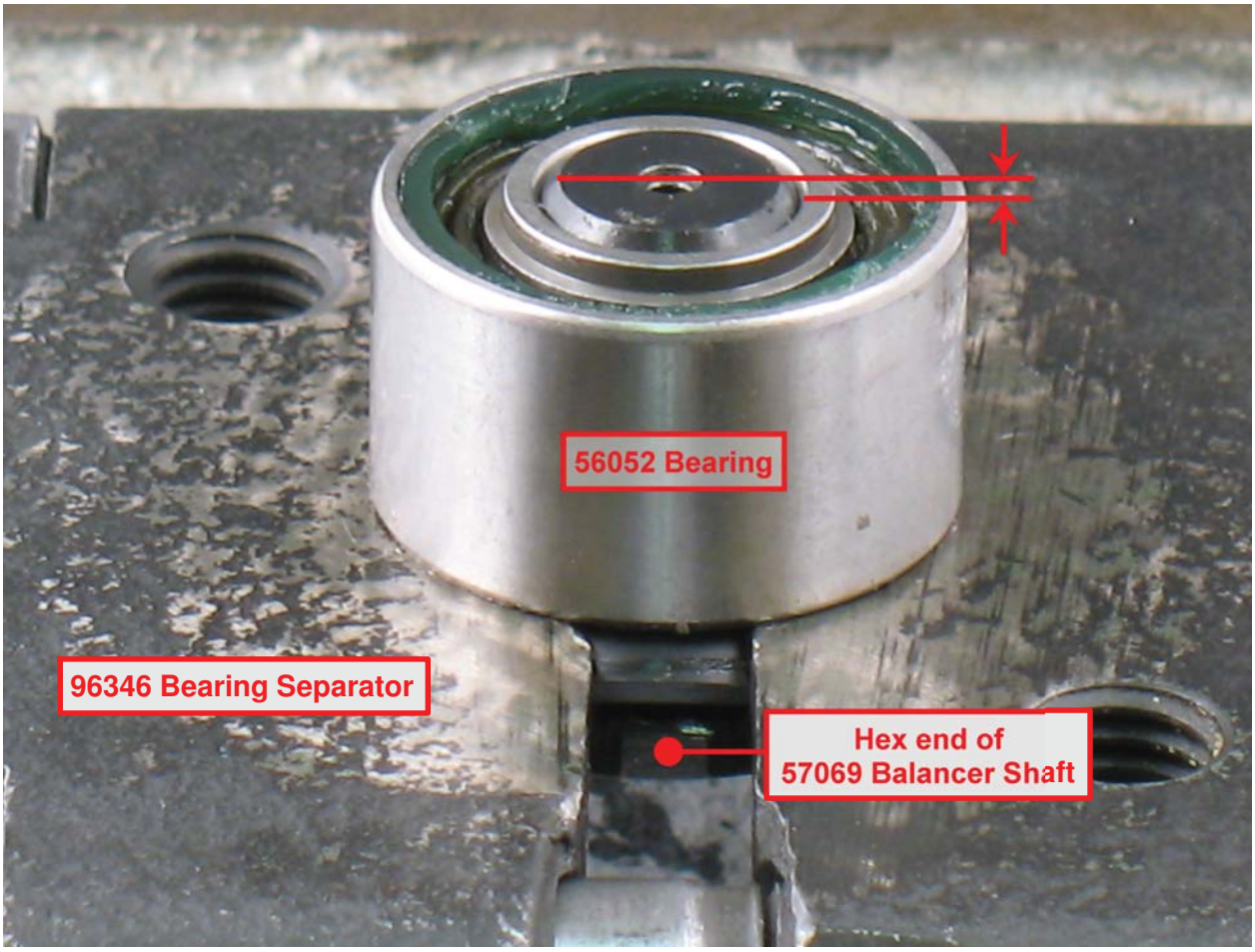
- With hex of **57069** Balancer Shaft pointing up, fasten counterweight in a vise with aluminum or bronze jaws.
- Use a thin slot-blade screwdriver to remove **95630** Snap Ring from motor shaft balancer.

- 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 and soften adhesive.

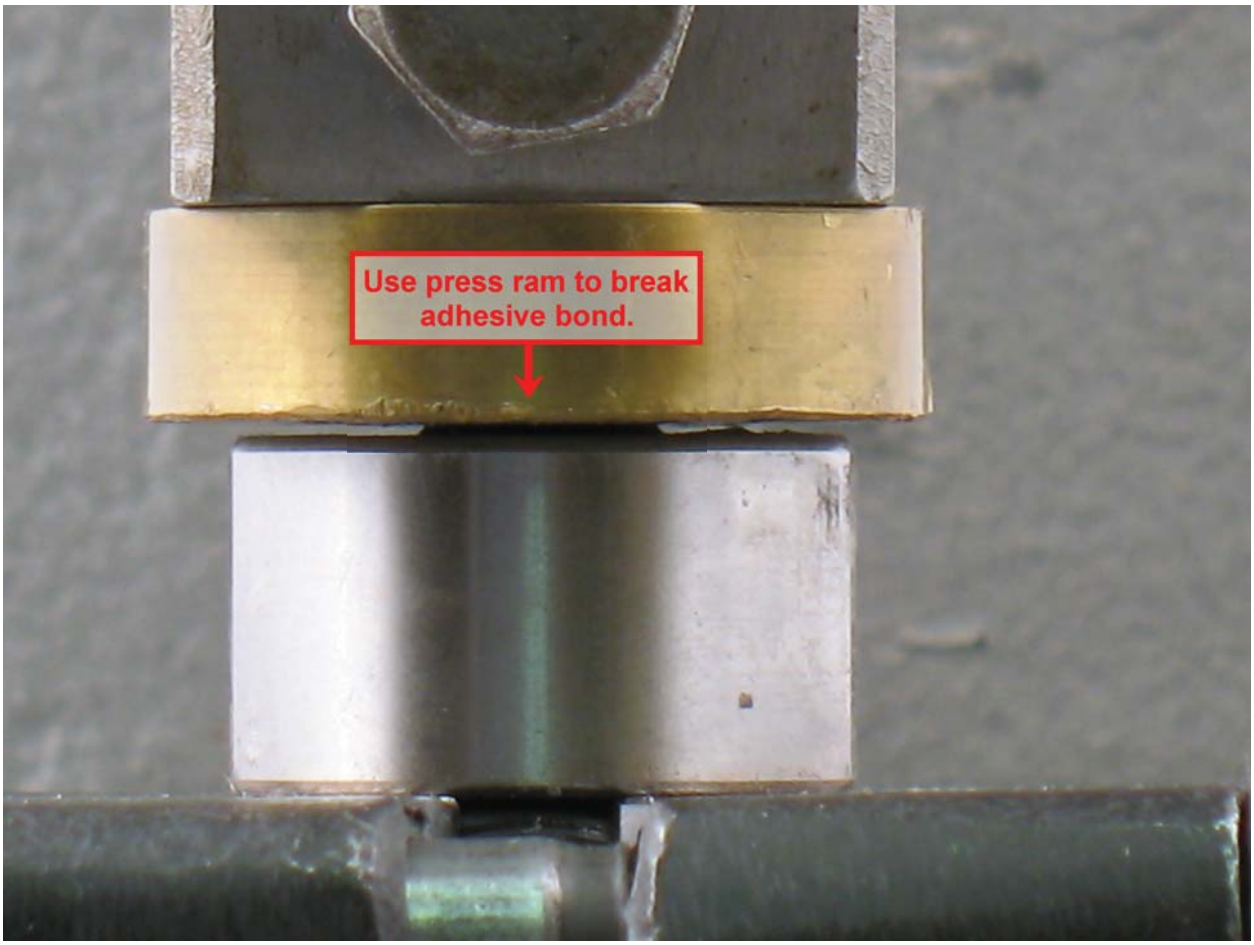




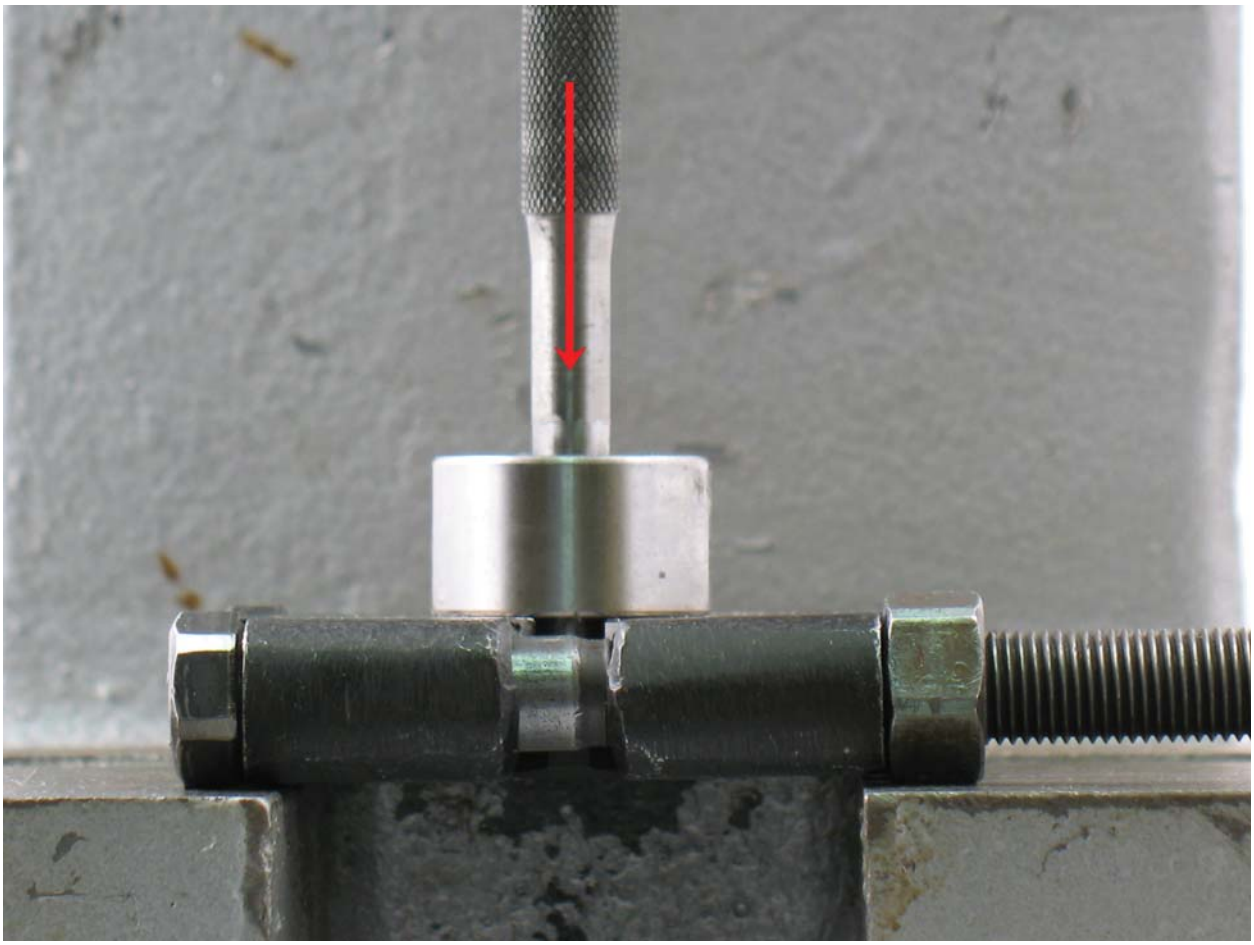
- Use **56056** Bearing Puller to remove balancer shaft and bearing.



- Fasten bearing separator between **56052** Bearing and hex end of **57069** Balancer Shaft.



- With hex end of balancer shaft pointing down, place bearing separator with shaft and bearing in arbor press.
- Use press ram to break adhesive bond.



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

- Remove the **59084** V-Seal.

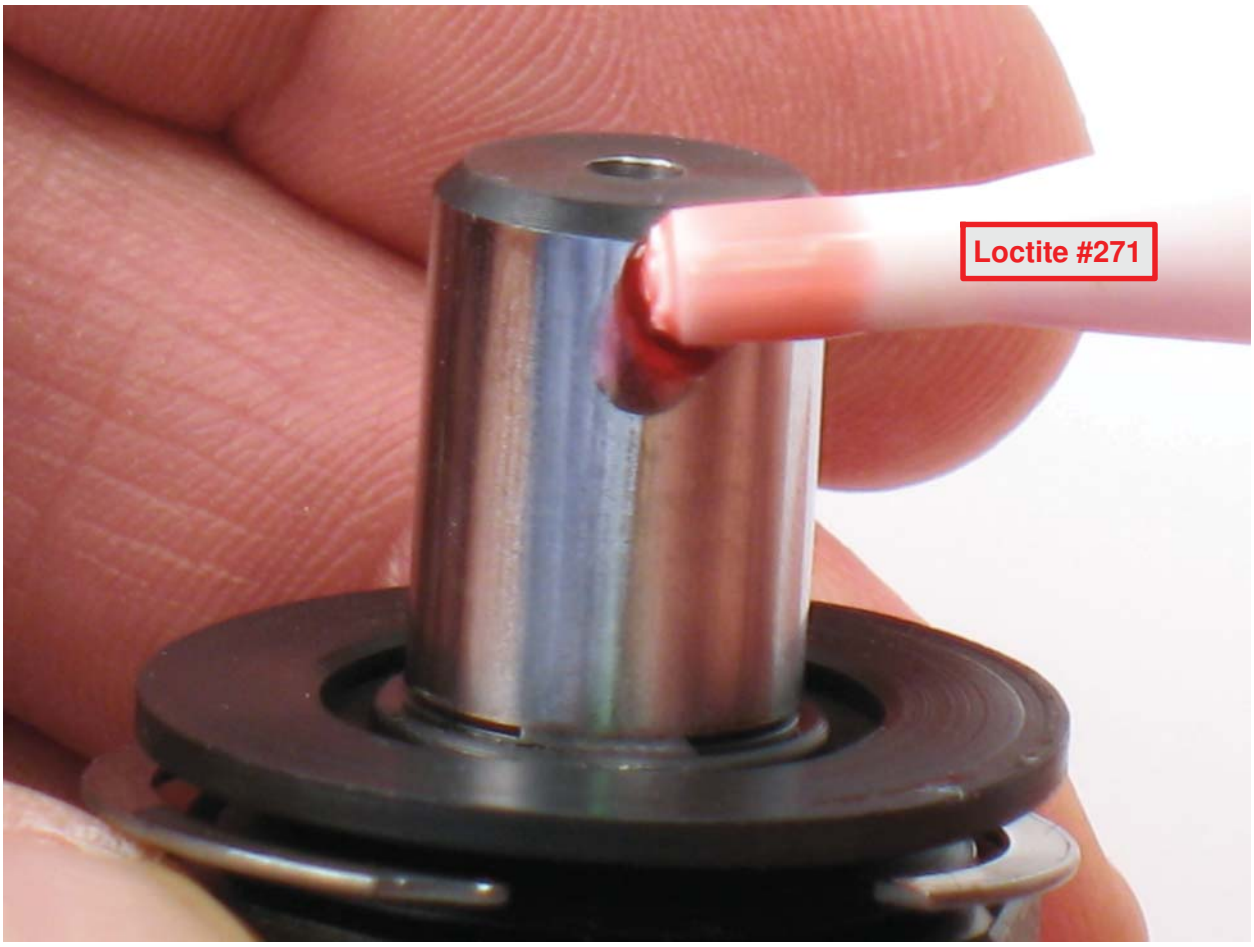
Motor Disassembly Completed.

Clean and inspect parts before assembling.

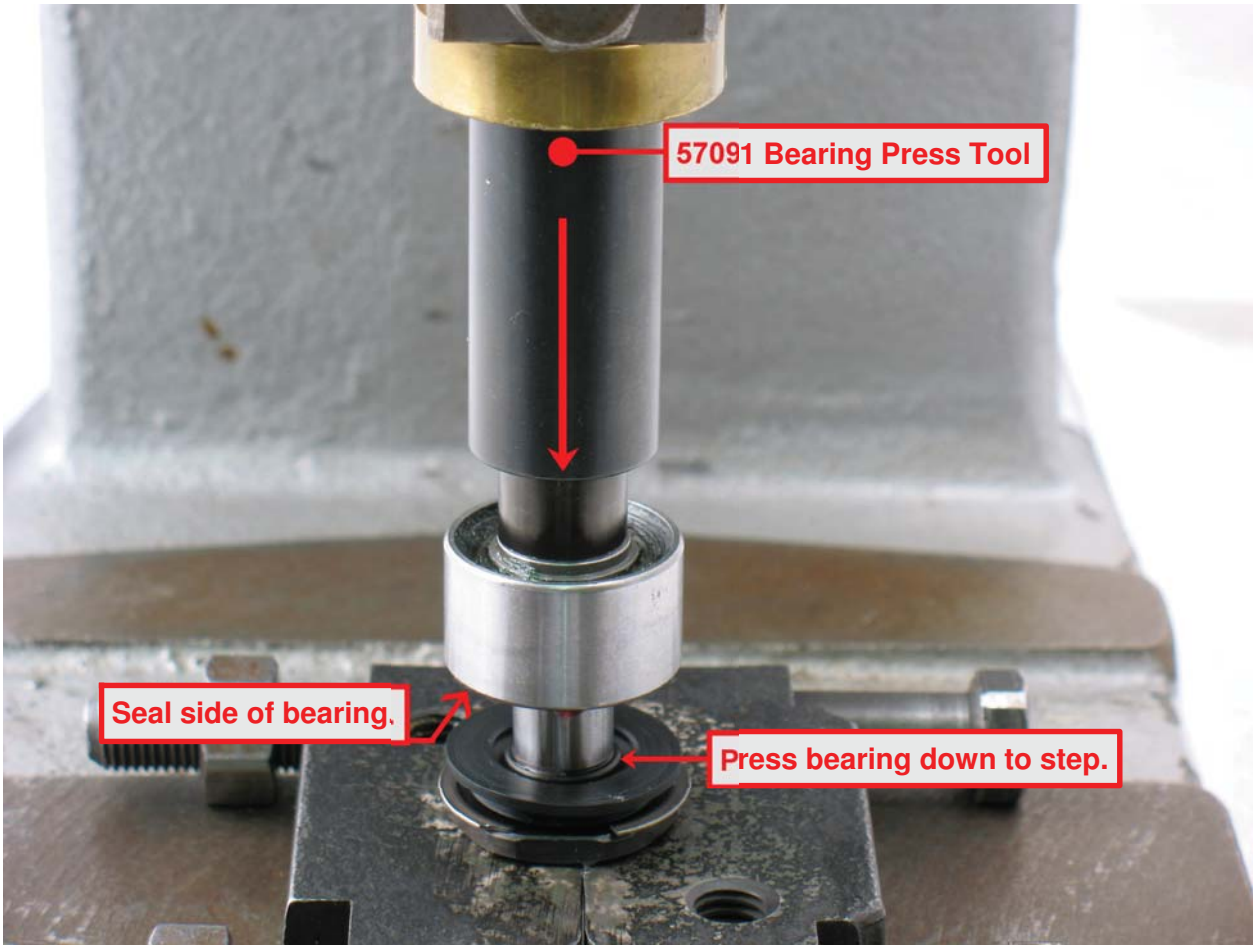
Assembly Instructions – Dynorbital Spirit Sander

Motor Assembly:

1. **Balancer Shaft and Bearing Assembly:**
   - Install the **95630** Snap Ring onto **59084** V-Seal.

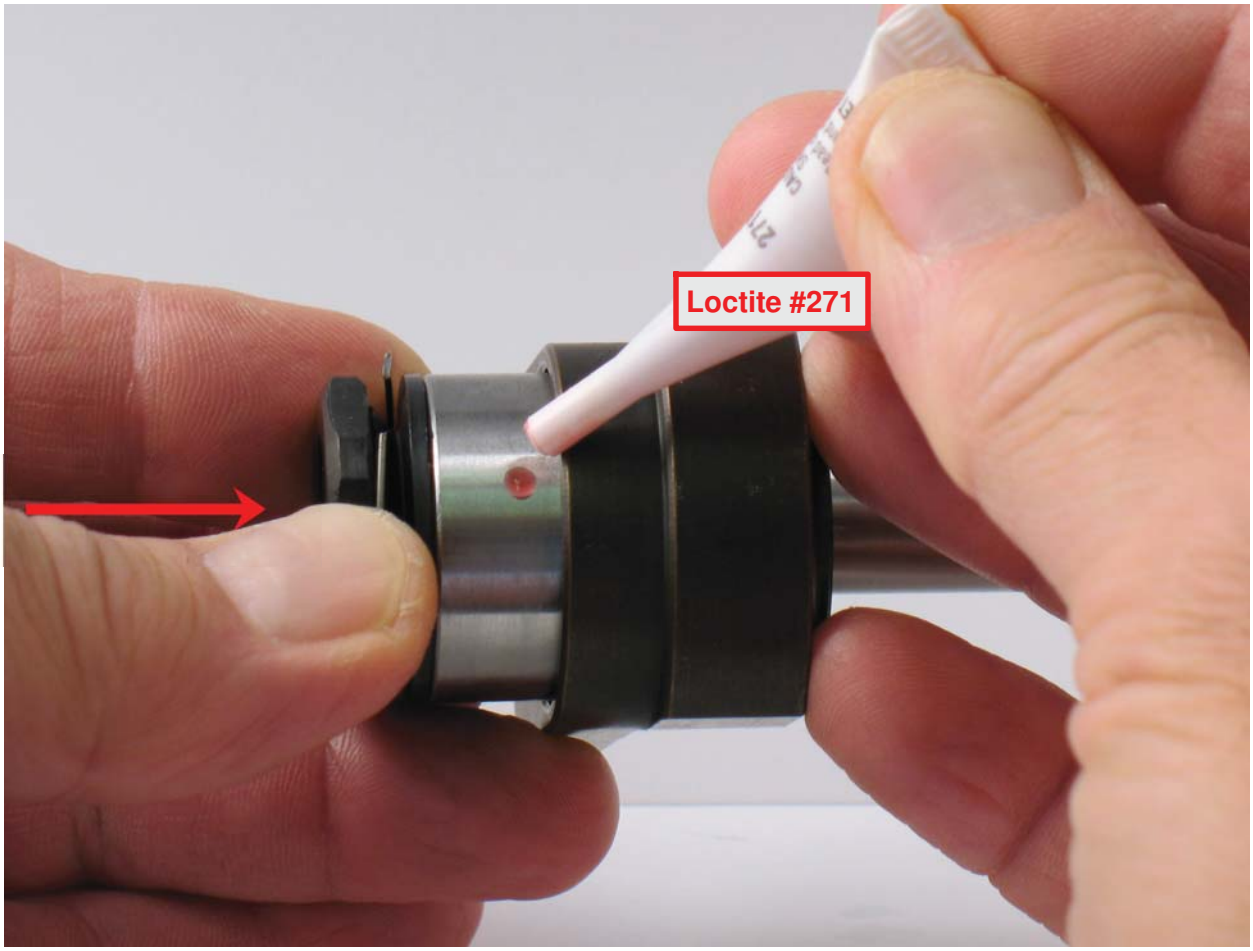


- Install **59084** V-Seal and **95630** Snap Ring onto **57069** Balancer Shaft.
- Place lip of seal toward hex end of balancer shaft and flat side toward **56052** Bearing.
- Apply a small amount of Loctite #271 or equivalent to outside diameter of **57069** Balancer Shaft.



- Use small diameter of **57091** Bearing Press Tool and **96232** Arbor Press (#2) to install **56052** Bearing (seal side of bearing toward hex).
- Press bearing so that it sits tight on step of shaft.

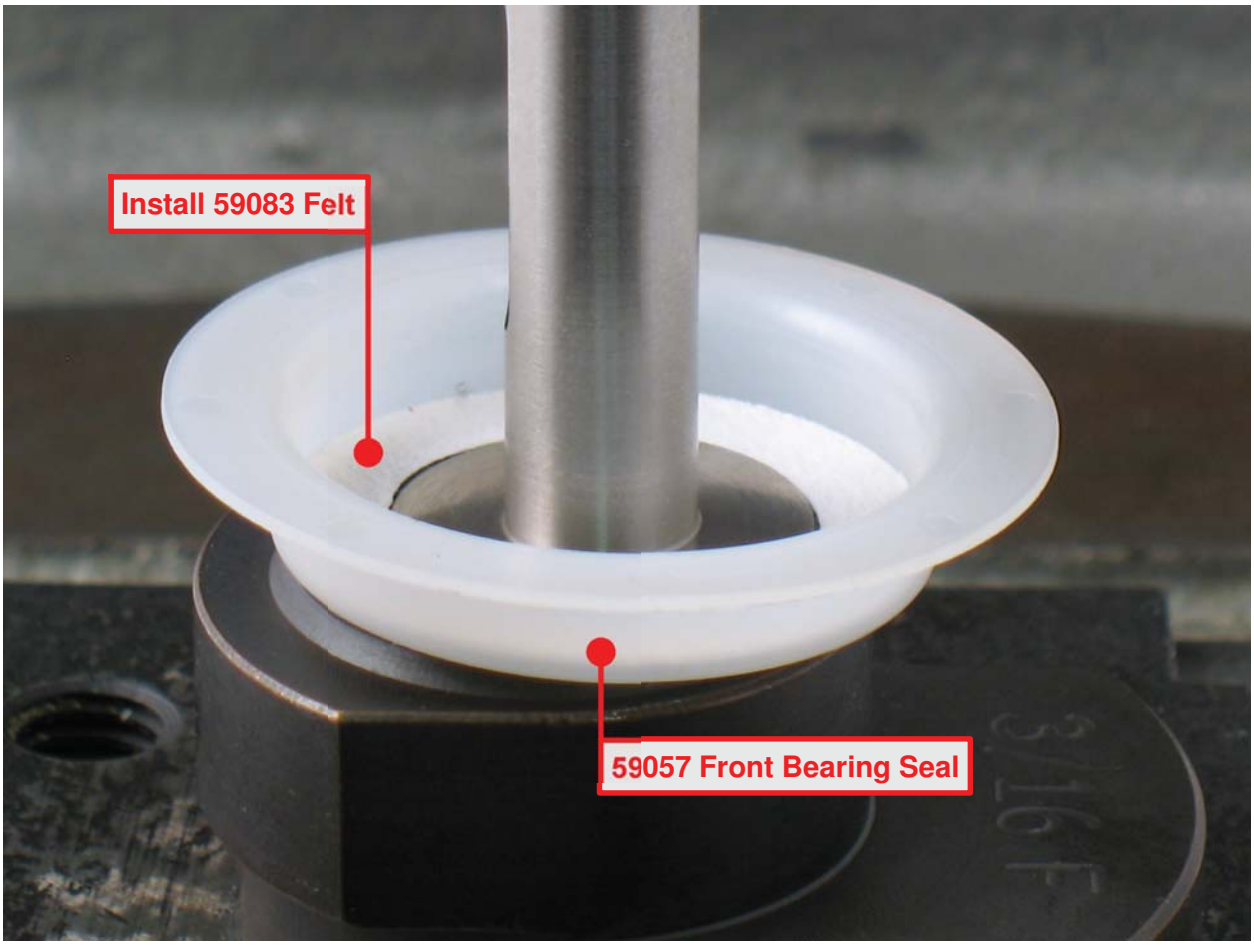
Balancer Shaft and Bearing Assembly Completed.



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

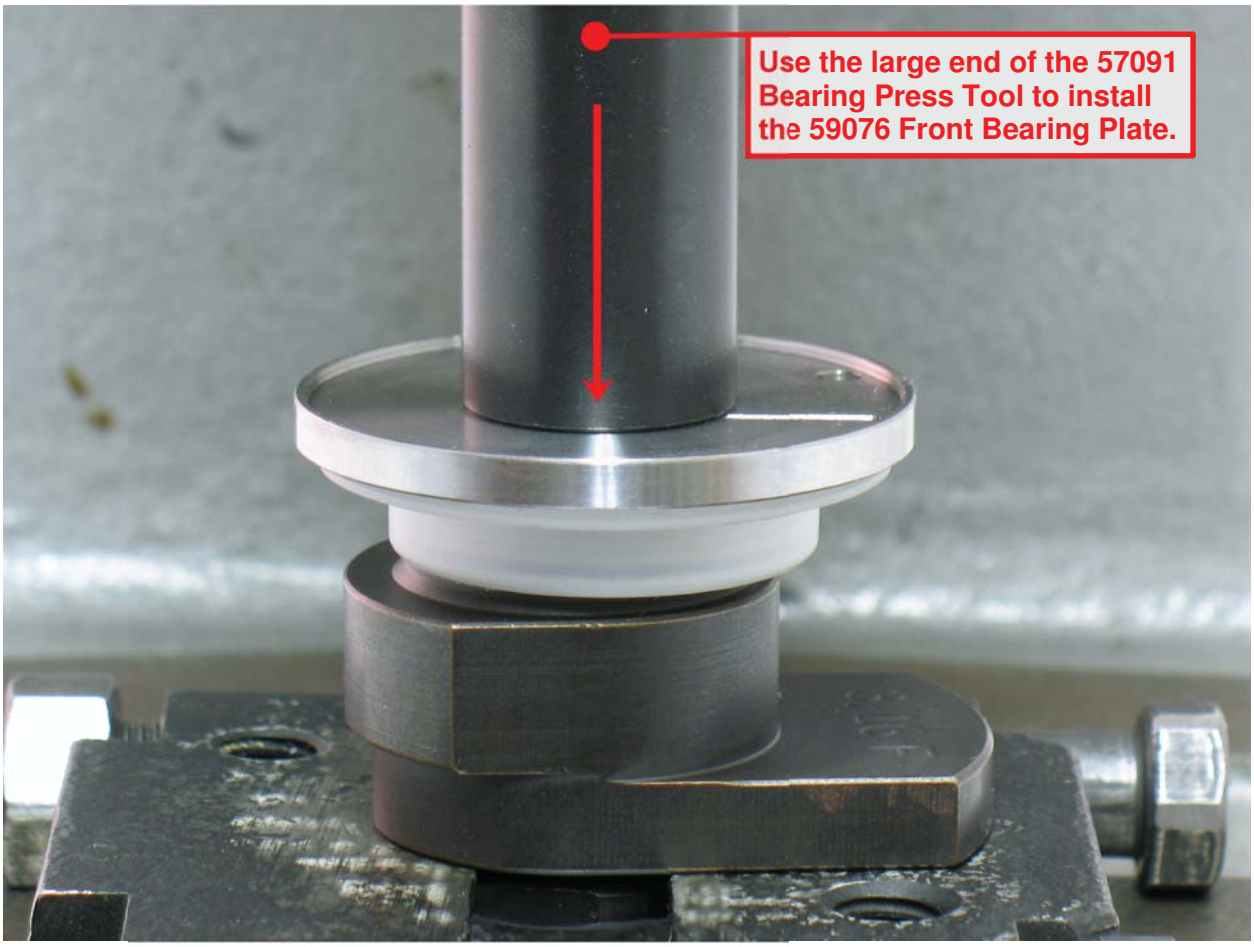
3. Compress and install **95630** Snap Ring in groove of motor shaft balancer.

IMPORTANT: For all 3/8" (~10 mm) orbit models, the **59058** Lock Ring must be installed onto the motor shaft balancer at this point. — For all other models, install lock ring at step #11.

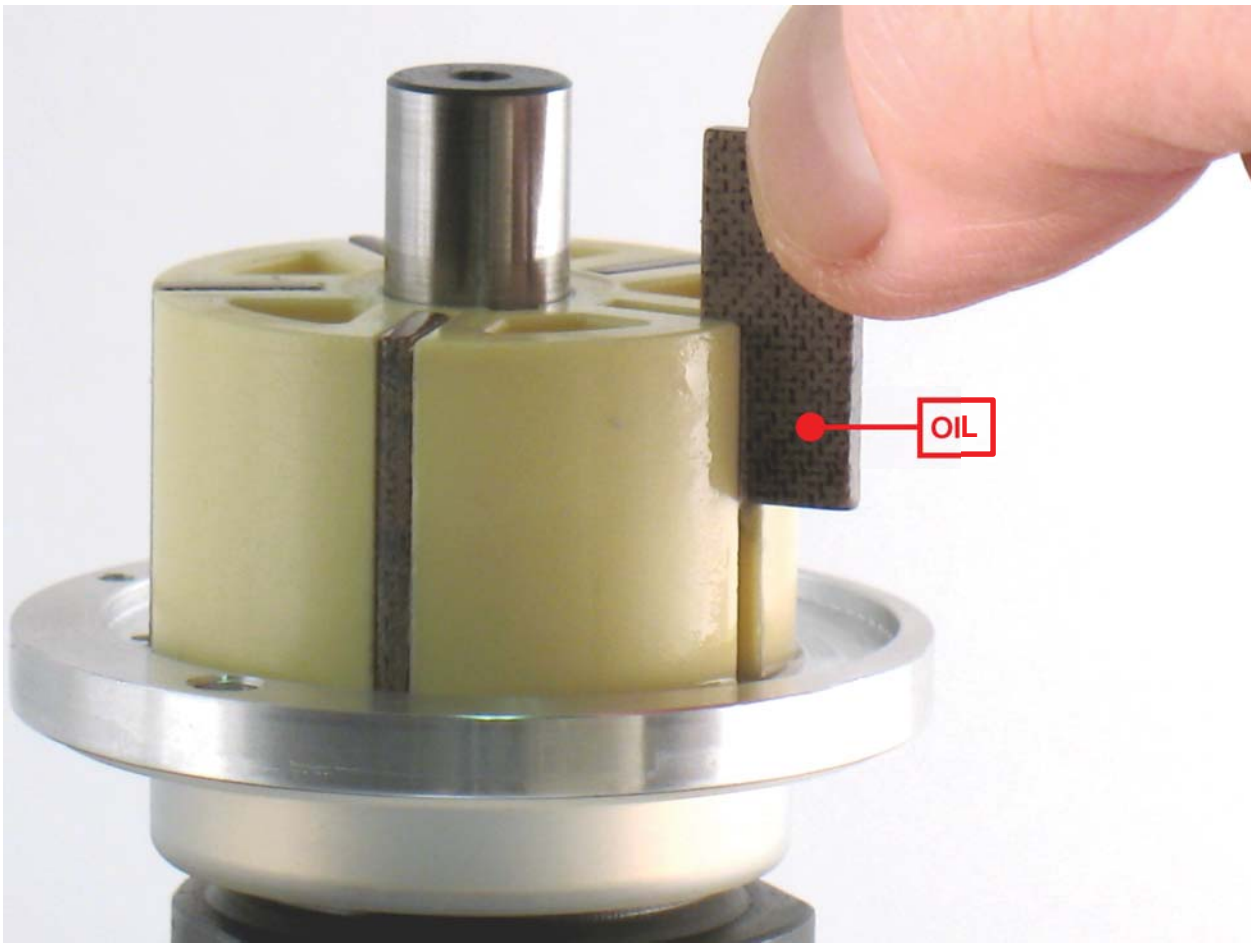


4. Install **59083** Felt in **59057** Front Bearing Seal.
   - Install onto motor shaft balancer.

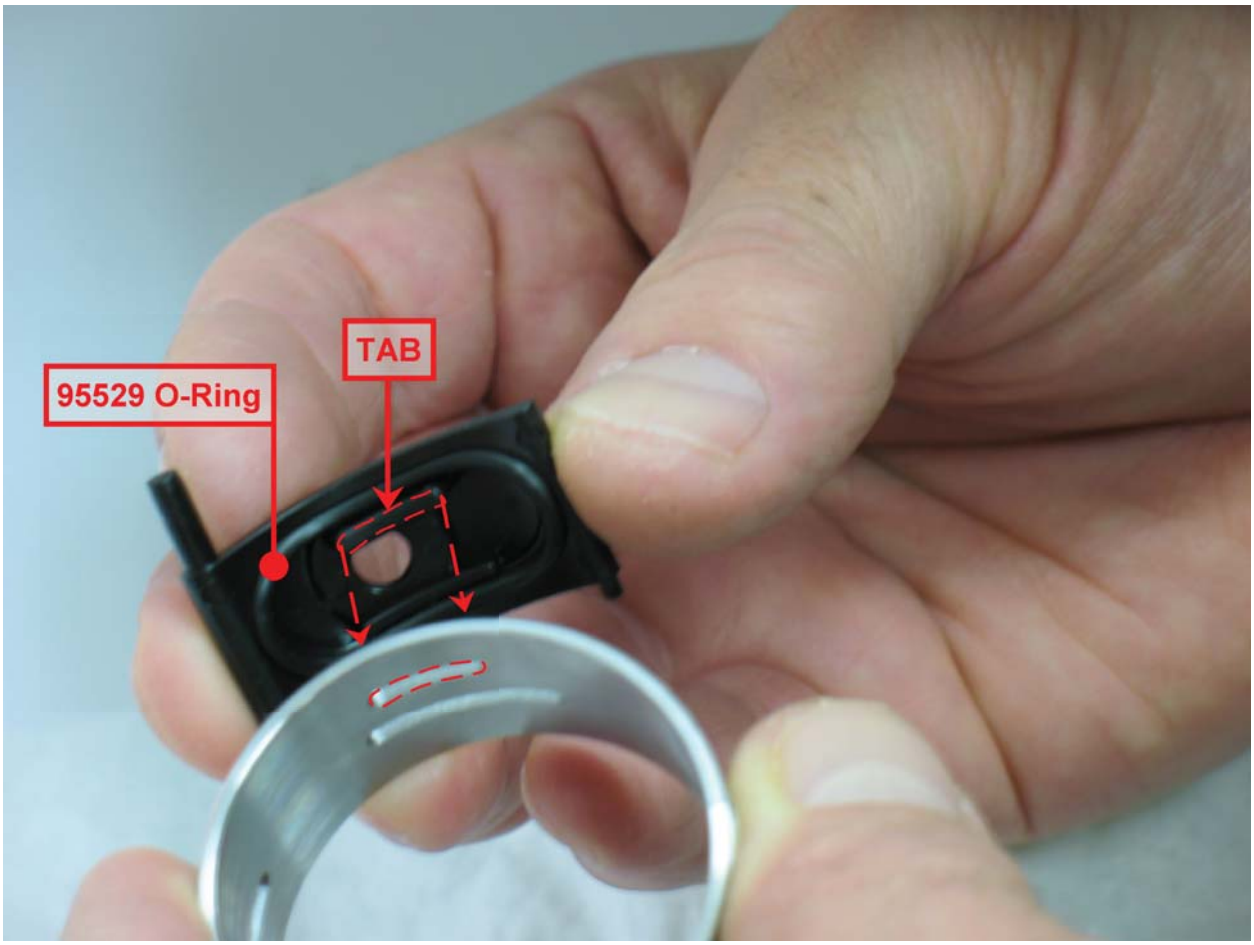
5. Use small diameter of **57091** Bearing Press Tool and arbor press to install **58368** Bearing onto motor shaft balancer.



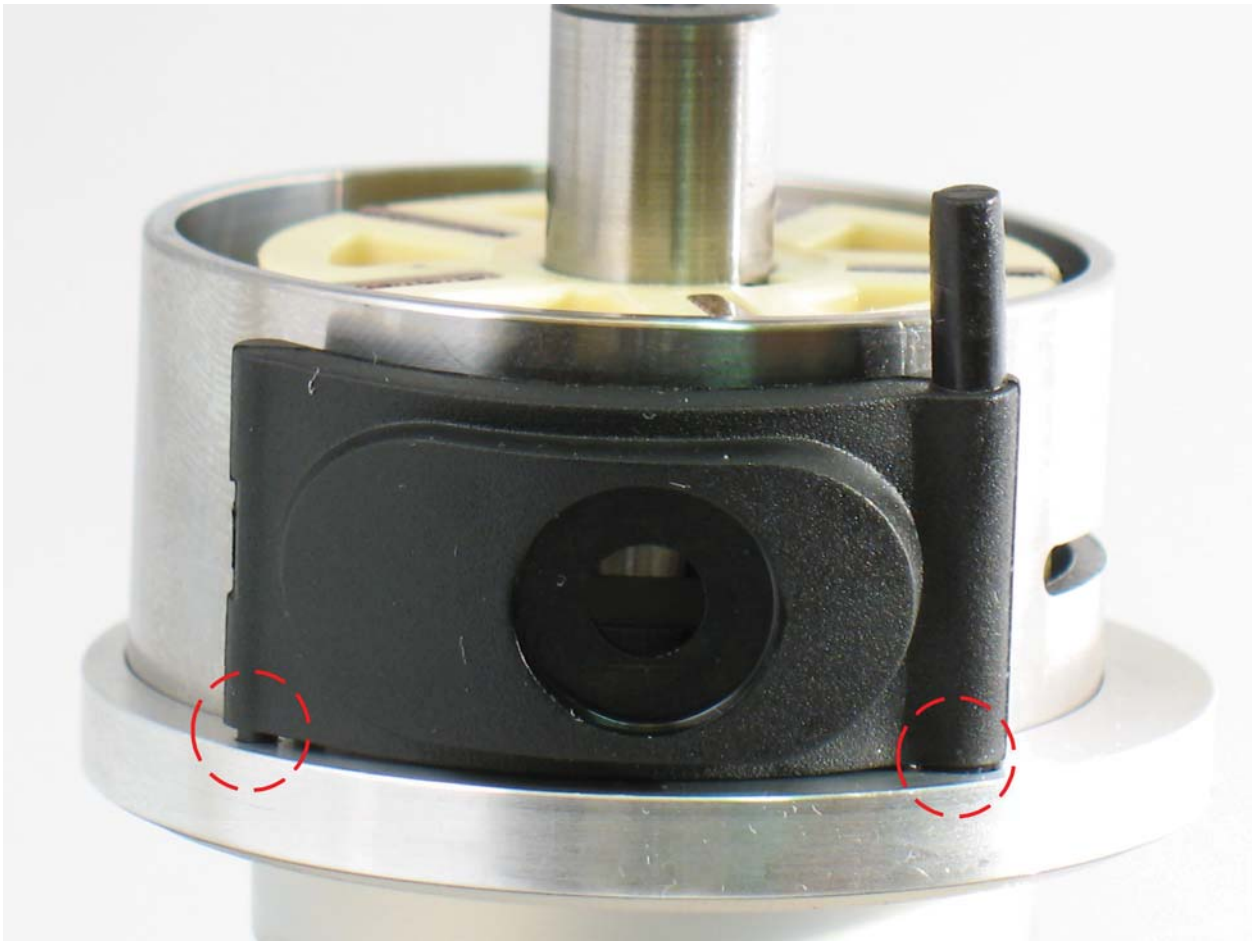
6. Use large diameter end of **57091** Bearing Press Tool, and the arbor press to install **59137** Front Bearing Plate.



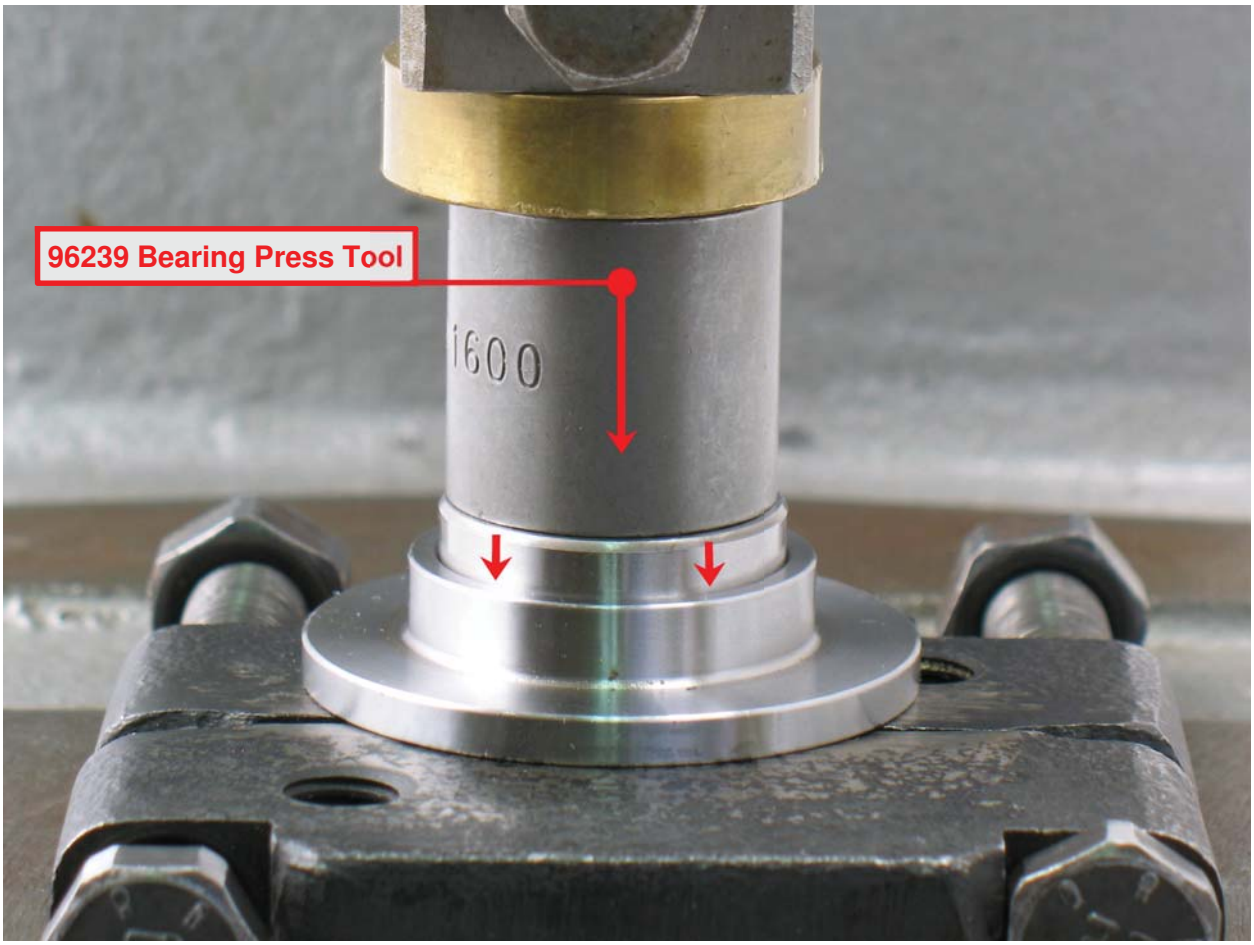
7. Install **56047** Key and rotor onto motor shaft balancer.
- Apply **95842** Dynabrade Air Lube 10W/NR or equivalent to vanes and install.



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



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



10. Use **RAISED OUTSIDE DIAMETER** of **96239** Bearing Press Tool and arbor press to install **58368** Bearing into **59138** Rear Bearing Plate.

11. Use small diameter end of **57091** Bearing Press Tool and arbor press to install bearing and plate onto motor shaft balancer. **Notice:** Carefully press bearing and plate down until it **just touches the cylinder**. This will produce a close fit between the bearing plates and cylinder.

12. Apply oil to **01024** O-Ring and install in cylinder sleeve adapter.

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

13. Invert sander and 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.
- (**T** to 23 N•m/~200 in. lbs.)

14. Install shroud.
- Use **50679** Wrench to hold balancer shaft stationary.
- Install sanding pad. Turn pad clockwise.

Motor Assembly Completed.

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

Tool Assembly Completed.