



Disassembly/Assembly Instructions

Disassembly Instructions – 0.7 hp. RA Disc Sander
Models: 54400, 54403, 54406, 54409, 54421, 54424, 54427, 54430

Disconnect tool from the air supply before servicing.

Motor Disassembly:

1. Secure the flats of the motor housing in a vise with aluminum or bronze jaws.
2. Use the **95262** 14 mm Open-End Wrench to remove the accessory from the tool spindle.
3. Use an adjustable wrench to remove the lock ring or the extension housing from the motor housing.
4. Remove the motor assembly from the housing.
5. Fasten the **96346** Bearing Separator (2") around the **01028** Cylinder.
6. Position the bearing separator on the table of the **96232** Arbor Press (#2) so that the motor spindle is pointing down.
7. Use a 1/4" diameter flat-end drive punch as a press tool to push the rotor out of the **02649** Bearing. Remove the **01185** Vanes.
8. Use the **96213** Bearing Removal Tool and the **96232** Arbor Press (#2) to remove the **02649** Bearing from the rear bearing plate.
9. Secure the **55021** Rotor in a vise with aluminum or bronze jaws.
10. Use an adjustable wrench to remove the nut or pinion gear. Turn counterclockwise.
11. Remove the front bearing plate, **01007** Bearing, Shims, and **01010** Spacer.

Motor Disassembly complete.

94535 Muffler Disassembly:

1. Secure the flats of the motor housing in a vise with aluminum or bronze jaws so that the **94535** Muffler Assembly is pointing up.
2. Use a 17 mm socket wrench to remove the **01578** Inlet Adapter. Turn counterclockwise.
3. Remove the **94535** Muffler Assembly.
4. Refer to the exploded view of the muffler for part identification and the order of disassembly.

94535 Muffler Disassembly Complete.

Valve Disassembly: Models 54400, 54403, 54406, and 54409

1. Once the **94535** Muffler Assembly is removed, remove the **01468** Spring, **01472** Tip-Valve and **01464** Seal.
2. Use a 2.5 mm drive punch to remove the **01017** Pin and throttle lever.
3. Remove the **01477** Valve Stem.
4. Use retaining ring pliers to remove the **01247** Regulator as required.

Valve Disassembly Complete.

Valve Disassembly: Models 54421, 54424, 54427, and 54430

1. Use a large slot-blade screwdriver to remove the **01026** Regulator Plug. Turn counterclockwise.
2. Remove all valve components.
3. Use a 2.5 mm drive punch to remove the **01017** Pin and throttle lever.

Valve Disassembly Complete.

Right-Angle Disassembly:

1. Use the **59071** Lock Ring Wrench to remove the **02035** Lock Nut. Turn counterclockwise.
2. Pull the spindle assembly out of the housing.
3. Fasten the **96346** Bearing Separator (2") between the bevel gear and the **54520** Bearing.

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4. Position the bearing separator on the table of the **96232** Arbor Press (#2) with the threaded end of the spindle pointing down. Push the spindle out of the gear. - Do the same to remove the bearing.
5. Remove the lubricant wicks.

Right-Angle Disassembly Complete.

Extension Disassembly: Models 54403, 54409, 54424, and 54430

1. Pull the **01547** Collar down onto the extension housing.
2. Secure the flats of the extension housing in a vise with aluminum or bronze jaws so that the right-angle housing is pointing up.
3. Use a HEAT GUN to soften the thread sealant on the **01461** Lock Ring.
4. Use an adjustable wrench to remove the lock ring from the extension housing. Turn counterclockwise.
5. Use the **95262**, 14 mm Open-End Wrench on the flats of the pinion gear, and a 9/16" deep-socket wrench on the **51969** Coupling Nut. Turn counterclockwise.
6. Remove the extension spindle, and bearings from the extension housing.

Important: Clean and inspect all parts before assembling.

Assembly Instructions – 0.7 hp. RA Disc Sander Models: 54400, 54403, 54406, 54409, 54421, 54424, 54427, 54430

Motor Assembly:

1. Secure the **55021** Rotor in a vise with aluminum or bronze jaws.
2. Install the **01010** Spacer onto the rotor.
3. Install .003" (0.08 mm) thick shim and the **01007** Bearing into the front bearing plate. Install bearing and plate onto the rotor.
4. Install the pinion or coupling nut onto the rotor. (Torque to 17 N·m/150 in. lbs.)
5. Check the clearance between the rotor and the bearing plate with a .001" (0.03 mm) thick feeler gauge. The clearance should be .001" (0.03 mm) to .0015" (0.04 mm). If it is necessary to adjust the clearance, repeat steps 3-5 adding or removing shims. Once the proper clearance is achieved, proceed with the motor assembly.
6. Lubricate the **01185** Vanes (4/pkg.) with the **95842** Dynabrade Air Lube 10W/NR (or equivalent). Install vanes into the rotor.
7. Install the **01028** Cylinder so that the air inlet passage will line-up with the air inlet passage in the rear bearing plate.
8. Use the RASIED OUTSIDE DIAMETER of the **96240** Bearing Press Tool and the **96232** Arbor Press (#2) to install the **02649** Bearing into the rear bearing plate.
9. Use the RAISED CENTER of the **96240** Bearing Press Tool and the arbor press to carefully press the bearing and rear plate onto the rotor until the plate just touches the cylinder. This will create a snug fit between the bearing plates and the cylinder.
10. Line-up the outside diameters of the front plate, cylinder, and rear plate. To install the motor assembly into the housing, follow instructions for specific models.

Notice: For Models **54400**, **54403**, **54406** and **54409**, line-up the rear bearing plate with the notch on the inside of the motor housing. Carefully slide the motor assembly into the housing.

Notice: For Models **54421**, **54424**, **54427** and **54430**, line-up the pin in the front bearing plate with the groove on the inside of the motor housing. Carefully slide the motor assembly into the housing.

Motor Assembly Complete.

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Disassembly/Assembly Instructions

Extension Assembly for Models 54403, 54409, 54424, and 54430:

1. Use the RAISED OUTSIDE DIAMETER of the **96240** Bearing Press Tool and the arbor press to install the **02649** Bearing into the extension housing.
2. Use the RAISED CENTER of the **96239** Bearing Press Tool and the arbor press to install the **54520** Bearing onto the extension spindle.
3. Apply a small amount of Loctite #243 (or equivalent) to the extension spindle threads. Install the **51969** Coupling Nut. (Torque to 17 N·m/150 in. lbs.)
4. Install the wave washer and extension spindle with the **54520** Bearing into the extension housing.
5. Use the **95262**, 14 mm Open-End Wrench on the flats of the pinion gear, and a 9/16" deep-socket wrench on the **51969** Coupling Nut. Turn clockwise. (Torque to 17 N·m/150 in. lbs.)
6. Secure the flats of the motor housing in a vise with aluminum or bronze jaws so that the rotor spindle is pointing up.
7. Apply a small amount of the Loctite #567 (or equivalent) to the threads of the motor housing, and install the **50902** Coupler, the spacer, and secure the extension housing to the motor housing. (Torque to 34 N·m/300 in. lbs.)

Extension Assembly Complete.

Join the Right-Angle Housing to the Extension or Motor Housings:

1. Secure the flats of the extension or motor housing in a vise with aluminum or bronze jaws so that the pinion gear is pointing up.
2. Apply a small amount of Loctite #243 to the threads of the lock ring and join the right-angle housing assembly to the extension or motor housing assemblies. (Torque to 34 N·m/300 in. lbs.)

Right-Angle Assembly:

1. Position the **96239** Bearing Press Tool on the tool plate of the arbor press, with the RAISED CENTER facing up. Place the **54520** Bearing on the press tool. Press the right-angle work spindle into the **54520** Bearing. Flip the right-angle work spindle and use the **96239** Bearing Press Tool to install the bevel gear.
2. Install the lubricant wicks.
3. Install the spindle assembly into of the housing.
4. Apply a small amount of Loctite #567 (or equivalent) to the threads of the **02035** Lock Nut.
5. Use the **59071** Lock Ring Wrench to install the **02035** Lock Nut. Turn clockwise. (Torque to 23 N·m/200 in. lbs.)

Right-Angle Assembly Complete.

Valve Assembly: Models 54400, 54403, 54406, and 54409

1. Install the **01247** Regulator and secure it in the housing with the **95558** Retaining Ring.
2. Install the **01477** Valve Stem.
3. Install the **01464** Seal. Use needle-nose pliers to install the **01472** Tip Valve. Make sure that the metal pin fits into the hole in the **01477** Valve Stem. Carefully install the **01468** Spring. Apply a small amount of the Loctite #567 to the threads of the **01548** Inlet Adapter and install the **94535** Muffler Assembly. (Torque to 23 N·m/200 in. lbs.)
4. Install the throttle lever and secure it to the housing with the **01017** Pin.

Valve Assembly Complete.

Valve Assembly: Models 54421, 54424, 54427, and 54430

1. Install the throttle lever and secure it with the **01017** Pin.
2. Install all valve parts.
3. Use a large slot-blade screwdriver or the **95900** Regulator Plug Wrench to secure the **01026** Regulator Plug. (Torque to 8.5 N·m/75 in. lbs.)

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Valve Assembly Complete.

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94535 Muffler Assembly:

1. For the order of assembly, use the exploded view of the **94535** Muffler parts that is shown on the parts page.
2. Apply a small amount of the Loctite #567 (or equivalent) to the external threads of the **01578** Inlet Adapter and install the **94535** Muffler Assembly. (Torque to 23 N·m/200 in. lbs.)
3. Hold the **01578** Inlet Adapter stationary with an adjustable wrench when installing the air connection fitting.

94535 Muffler Assembly Complete.

Tool Assembly Complete.

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