Disassembly Instructions - Vacuum Dynafines – 0.4 hp., 7° Rear Exhaust

Important: The Dynabrade Pneumatic Power Tool Lifetime Warranty Policy does NOT cover normally wearable parts and products. Before servicing this tool please contact Dynabrade Inc. or a Dynabrade Subsidiary for information regarding the Dynabrade Pneumatic Power Tool Lifetime Warranty Policy.

Tool Disassembly:
1. Disconnect tool from power source.
2. Use the 96461 Repair Collar to hold the 01546, 7° Housing in a vise.
3. Remove: 58045 Pad, 97934 Boot Clamp, 57975 Boot Assy. and 58016 Vacuum Shroud.
4. Use the 50971 Lock Ring Tool or an adjustable pinwrench to remove 57962 Exhaust Cover. Turn counterclockwise.
5. Carefully pull the motor from housing.
6. Position the tool in the vise so that the 94523 Inlet Adapter is pointing up.
7. Remove 94523 Inlet Adapter and muffler/vacuum assembly. Use needle nose pliers to remove spring and tip valve. Use a small slot blade screwdriver to remove the valve seal.
8. Use retaining ring pliers to remove the 95711 Retaining Ring. Refer to the exploded view to disassemble the muffler/vacuum assembly.
9. Use a 2.5 mm diameter drive punch to remove the 12132 Pin and throttle lever.
10. Remove 95558 Retaining Ring and push 01469 Speed Regulator out of the housing.

Tool Disassembly Complete.

Motor Disassembly:
1. Fasten the 96346 Bearing Separator (2") around the 01476 Cylinder. Place the separator and motor on the 96232 Arbor Press (#2). Use a 5/32" (4 mm) diameter flat-end drive punch to push the rotor out of the 02696 Bearing.
2. Remove the cylinder and vanes. By hand, use the flat-end drive to push the 02696 Bearing out of the 02673 Rear Bearing Plate. Note: If removal of the 02696 Bearing is difficult, use the 96210 Bearing Removal Tool and the arbor press.
3. Fasten the rotor in a vise with aluminum or bronze jaws so that the 58095 Cam Assembly is pointing up.
4. Use an adjustable wrench to remove the cam assembly. Turn counterclockwise. Remove the front bearing plate. Remove the 01479 Spacer from rotor. Note: 02649 Bearing is a slip fit into 02038 Front Bearing Plate. Remove the bearing and shims.

Motor Disassembly Complete.

Clean and inspect parts for wear or damage before assembling.

Assembly Instructions - Vacuum Dynafines – 0.4 hp., 7° Rear Exhaust

Motor Assembly:
1. Fasten the rotor in a vise with aluminum or bronze jaws so that the spindle is pointing up.
2. Install the 01479 Spacer onto the rotor.
3. Install .003" (0.08 mm) shim thickness into the 02038 Front Bearing Plate. Install the 02649 Bearing into the plate. Install bearing and bearing plate onto rotor.

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4. Apply a small amount of the Loctite #271 to the threads of the rotor. Install the 57962 Exhaust Cover over the rotor spindle. Install the 58095 Cam Assembly onto rotor. (Torque to 17 N•m/150 in. - lbs.)
5. Use a .001" (0.03 mm) feeler gauge to check clearance between the bearing plate and rotor. The clearance should be ~.001" – .0015" (0.03 – 0.04 mm). Repeat steps 1-5 to adjust clearance. Add or remove shims.
6. Use 95842 Dynabrade Air Lube 10W/NR (or equivalent) to oil the 01480 Vanes (4). Install vanes into rotor.
7. Install the cylinder. Notice: Make sure that the air inlet opening of the cylinder will line-up with the air inlet opening in the rear bearing plate.
8. Install the 02696 Bearing into 02673 Rear Bearing Plate. Notice: Use the RAISE OUTSIDE DIAMETER of the 96242 Bearing Press Tool, to install the bearing if there is a press-fit into the bearing plate.
9. Use the RAISED INSIDE DIAMETER of the 96242 Bearing Press Tool, to install the 02696 Bearing/Bearing Plate onto rotor. Press the bearing until the plate just touches the cylinder. Make sure to align the pin, slot, and air inlet openings.
   Important: Fit must be snug between bearing plates and cylinder. A loose fit will not achieve the proper preload of motor bearings. Too tight, and the rotor will not turn freely.
10. Carefully install motor assembly into housing. Use the 96461 Repair Collar to hold the 01546, 7° Housing in a vise with the cam assembly pointing up.
11. Apply a small amount of the Loctite #567 to the threads of the 01546 Housing. Use the 50971 Lock Ring Tool to install the 57962 Exhaust Cover onto the housing. (Torque to 28 N•m/250 in. - lbs.)
12. With the tool mounted in the vise, by hand, pull up on the end of the rotor (10-15 lbs. force) and rotate the rotor. It should turn freely without drag. If there is drag, then increase press on motor, or remove shim. Also, push down (10-15 lbs. force) on the end of the rotor and rotate, the rotor should turn freely without drag. If there is drag, decrease press on motor, or add shim.
13. Install: 97934 Boot Clamp, 58016 Vacuum Shroud and 57975 Boot Assembly.
14. Install 58045 Pad.

Motor Assembly Complete.

Valve Housing Assembly:

1. Install the 01469 Speed Regulator (with o-rings) into housing, and fasten it with the 95558 Retaining Ring. Install the 01449 Valve Stem.
2. Install 01464 Seal into housing. Use needle nose pliers to install the 01472 Tip Valve. Make sure that the pin is goes through the hole in the 01449 Valve Stem.
3. Use needle nose pliers to install the 01468 Spring with the small end of the spring against the back of the tip valve.
4. Refer to the exploded view of the tool to assemble the muffler/vacuum assembly. Install the 94523 Inlet Adapter through the assembly and fasten it with the 95711 Retaining Ring.
5. Apply a small amount of Loctite #567 (or equivalent) to the threads of inlet adapter and install muffler/vacuum assembly onto the housing. (Torque 23 N•m/200 in. lbs.)
6. Install the throttle lever and 12132 Pin.

Valve Housing Assembly Complete.

Allow 30 minutes for adhesives to cure before connecting the tool to the air supply.

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Important: Depress the throttle lever and add 2 to 3 drops of 95842 Dynabrade Air Lube 10W/NR (or equivalent) directly into tool inlet. Without abrasive installed onto tool, connect the tool to the air supply. Use a tachometer to check spindle speed of the tool with 90 PSIG (6.2 Bar) at tool inlet. – In accordance with EN 792 the no-load speed may not exceed the rated speed by more than 10%. If the motor does not operate properly or operates at a higher RPM than marked on the tool, the tool should be serviced to correct the cause before use.

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