



Disassembly Instructions – Pistol Grip Drills, Central Vacuum

Disconnect the tool from the air supply.

Shroud Disassembly:

1. Remove the 31926 Vacuum Hose. Loosen the 53219 Locking Knob and remove the 02276 Shroud Base.
2. Loosen the 97029 Hose Clamp, and remove 52753 Vacuum Shroud. Remove the 31900 Hose Cuff.

Shroud Disassembly Complete.

Tool Disassembly:

1. Remove the drill chuck and 53163 Side Handle.
2. Place padding around the grip portion of the tool housing and carefully fasten it in a vise with the spindle pointing up. Do not over tighten the vise.
3. Remove the 53185/55030 Cover. Turn clockwise. LEFTHAND THREAD
4. Pull the motor out of the housing.
5. Remove the 69272 Muffler Assembly.

Motor Disassembly:

1. Fasten the 96346 Bearing Separator (2") around the cylinder. Place the separator with the motor on the table of the 96232 Arbor Press (#2) so that the spindle is pointing down.
2. Use a 5/32" (4 mm) diameter flat-end drive punch as a press tool to push the rotor out of the 02649 Bearing.
3. Use the 96213 Bearing Removal Tool and the arbor press to remove the 02649 Bearing from the rear bearing plate.
4. Use the bearing separator and the arbor press to remove the front bearing and plate from the 04009/04017 Rotor. Push the pinion end of the rotor out of the 01007 Bearing.
5. Remove the 01010 Spacer.

Motor Disassembly Complete.

Planetary Gear Disassembly: (Models: 53103, 53104, 53105 and 53106)

1. Remove the 04014 Set Screw(s) from the 53185/55030 Cover.
2. Use the arbor press to push the planetary assembly(ies) out of the 53185/55030 Cover.
3. Fasten the flat side of the bearing separator facing the ring gear and the sloped side facing the 02552 Bearing. Place the separator with planetary assembly on the table of the arbor press so that the spindle/pinion points down. Use the large end of the 96214 Bearing Removal Tool to push the planetary carrier(s) out of the 02552 Bearing.
4. Remove the shafts and gears from the planetary carrier(s).
5. Use the bearing separator to remove the front 02552 Bearing from the 53164 Planetary Carrier.
6. Carefully fasten the 53165 Planetary Carrier in an aluminum or bronze jaw vise so that the spindle is pointing up. Use an adjustable wrench to remove the 04114 Spindle Nut. Turn counterclockwise.

7. Fasten the bearing separator between the 02552 Bearing and the 53165 planetary Carrier. With the spindle pointing up, use the arbor press to push the planetary carrier out of the bearing.

8. Remove the 55031 Felt Seal from the cover.

Planetary Gear Disassembly Complete.

Valve Disassembly:

1. Use a 2.5 mm diameter, flat-end drive punch to remove the 96025 Pin from the housing. Remove the trigger assembly.
2. Use a small separator an a 2.5 mm diameter, flat-end drive punch to remove the 55051 Valve Stop.
3. Push 55052 Valve Stem through the second 55051 Valve Stop.

Valve Disassembly Complete.

Clean and inspect parts for wear or damage before assembling.

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Disassembly/Assembly Instructions

Assembly Instructions – Pistol Grip Drills, Central Vacuum

Valve Assembly:

1. Install the 96069 Spring and slide 55039 Bushing (with o-rings) onto valve stem/trigger assembly.
2. Apply a small amount of Loctite #609 (or equivalent) to the 55052 Valve Stem. Press the first 55051 Valve Stop with the large end facing away from the 55039 Bushing.
3. Apply a small amount of Loctite #609 (or equivalent) to the 55052 Valve Stem. Press the second 55051 Valve Stop onto the valve stem. Important: Press the second valve stop onto the valve stem just until the valve stop is flush with the end of the valve stem.
4. Install the valve assembly into the housing and secure it with the 96055 Pin.

Motor Assembly:

1. Install the 01010 Spacer on the rotor.
2. Install .003" (0.08 mm) shim thickness into the 53183/55026 Front Bearing Plate. Install 01007 Bearing.
3. Use the RAISED INSIDE DIAMETER of the 96244 Bearing Press Tool and the arbor press to install the 53183 Front Bearing Plate with the 01007 Bearing onto the 04009/04017 Rotor.
4. Use a .001" (0.03 mm) feeler gauge to check clearance between the rotor and the front bearing plate. Clearance should be .001" - .0015" (0.03 - 0.04 mm). If necessary, adjust the clearance by increasing or decreasing the shim thickness.
5. Apply Dynabrade Air Lube 95842, 10W/NR (or equivalent) to the 01185 Vanes and install into rotor.
6. Install the 01028 Cylinder so that the air inlet lines-up with the rear bearing plate air inlet.
7. Use the RAISED OUTSIDE DIAMETER of the 96240 Bearing Press Tool and arbor press to install the 02649 Bearing into the 55027 Rear Bearing Plate.
8. Use the RAISED INSIDE DIAMETER of the 96240 Bearing Press Tool and arbor press to install the rear bearing/plate onto the 04009 Rotor.

Important: Press the rear bearing and plate until it just touches the cylinder. This will create a snug fit between the bearing plates and the cylinder.
Motor Assembly Complete.

Planetary Gear Assembly: (Models: 53103, 53104, 53105 and 53106)

1. Press the 02552 Bearing onto the front of the 53164/53165 Planetary Carrier.
2. Install the 04114 Spindle Nut onto the 53165 Planetary Carrier.
(Torque to 17 N•m/150 in.-lbs.)
3. Apply the 95542 Grease to the planet gears, needle bearings, and shafts. Install these into the planetary carrier(s).
4. Install the 53191 Ring Gear over the planetary carrier(s) so that the setscrew and lube fitting openings will line-up with the 53185/55030 Cover.
5. Use a ~20 mm diameter tool and the arbor press to install the 02552 Bearing onto the planetary carrier until it just touches the ring gear. Important: The fit should be snug between the bearings and the ring gear.
6. Install the 55031 Felt Seal into the 53185/55030/55029 Cover.
7. Install the planetary carrier assembly(ies) into the 53185/55030 Cover so that the notches in the ring gear(s) line-up with the setscrew and lube fitting openings in the cover.
Important: For models 53105 and 53106 install the 53188 Spacer between the planetary carrier assemblies.
8. Apply a small amount of Loctite #567 (or equivalent) to the 04114 Set Screw(s) and install into the 53185/55030 Cover.
9. Initially use the 95541 Lubricant Gun to apply 3 plunges of the 95542 Grease to the planet gears through the lube fitting(s). After every 50-hour interval of use, apply 1 plunge of grease.

Tool Assembly:

1. Place padding around the grip portion of the tool housing and carefully fasten it in a vise with the motor opening in the housing facing up. Do not over tighten the vise.
2. Install the air motor assembly into the housing.
3. Carefully align the cover and the planetary gear assembly(ies) to the housing and the air motor assembly. LEFTHAND THREAD (Torque to 28 N•m/250 in.-Lbs.)
4. Use a 19 mm socket wrench to install the 69272 Muffler Assembly into the housing.
5. Install the drill chuck and the 53163 Handle.

Tool Assembly Complete.

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Disassembly/Assembly Instructions

Allow 30 minutes for adhesives to cure before operating tool.

Initially place 3 drops of Dynabrade Air Lube 95842, 10W/NR (or equivalent) directly into air inlet with throttle lever depressed.

Important: Test motor for proper operation. Supply operating air pressure of 90 PSIG (6.2 Bar) maximum at the air inlet of the tool. To ensure that the drill does not exceed the rated speed, use a tachometer to check the spindle speed with 90 PSIG (6.2 Bar) at the air inlet without an accessory mounted. In accordance with EN 792 the no-load speed may not exceed the rated speed by more than 10%. If motor does not operate properly or operates at a higher RPM than marked on the tool, the tool must be serviced to correct the problem before it is put into use.

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