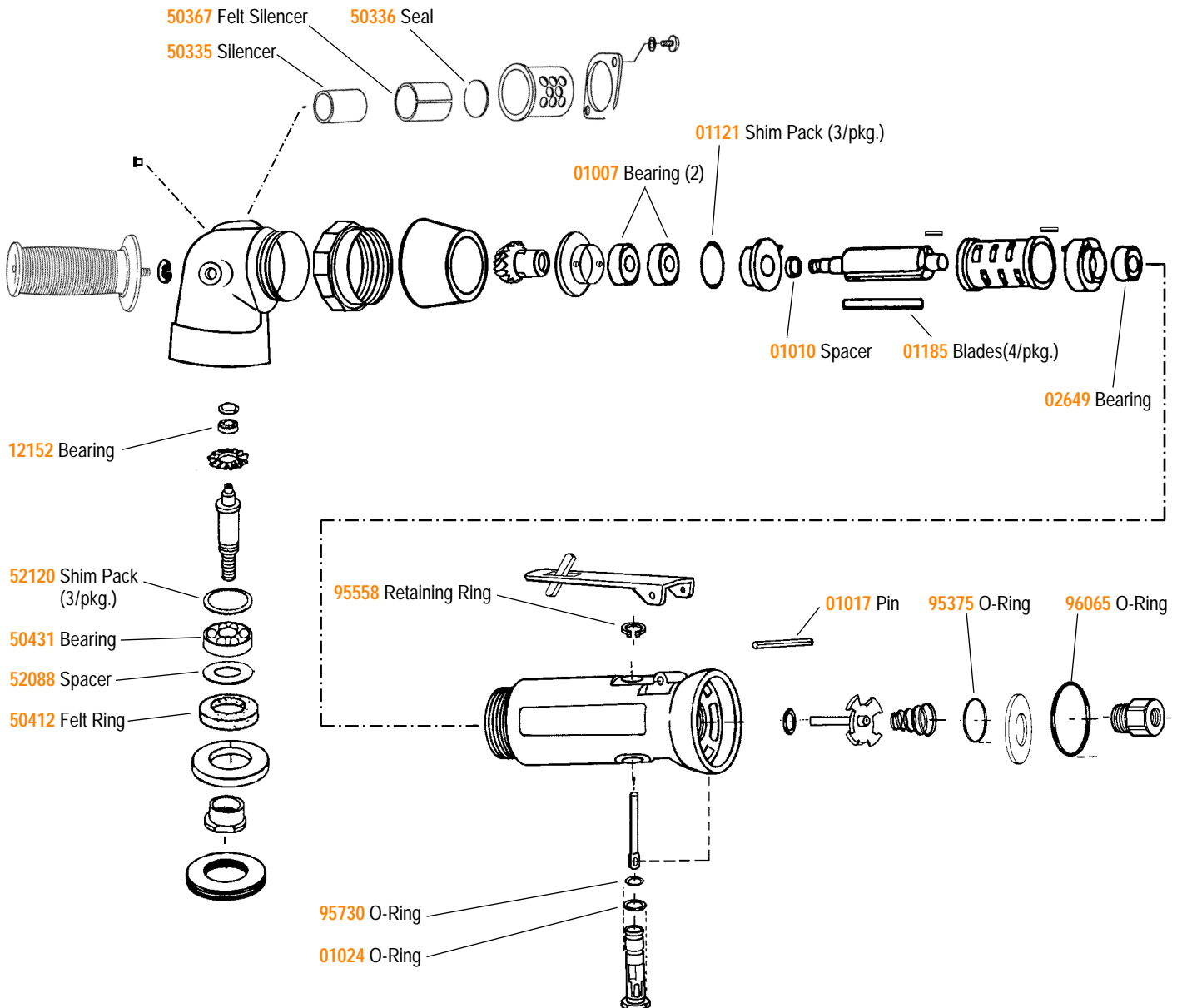


For use with:
4" Right Angle Tools.

96184 Tune-Up Kit

Please refer to appropriate parts pages for parts breakdown and assembly/disassembly instructions.

Important: Please indicate Model #, Serial #, and RPM when ordering replacement parts. See reverse side for disassembly/assembly instructions.



Disassembly/Assembly Instructions

Important: Manufacturer's warranty is void if tool is disassembled before warranty expires.

Notice: Dynabrade strongly recommends the use of their 52296 Repair Collar (sold separately) during assembly/disassembly activities. Failure to use this collar will highly increase the risk of damage to the valve body of this tool. Please refer to parts breakdown for part identification.

Angle-head Disassembly:

1. Disconnect tool from power source. Remove abrasives from tool. Insert tool into padded vise with spindle facing upward.
2. Remove 50384 Spindle Bearing Cover with a pin wrench (left hand threads). Pull spindle assembly from housing.
3. Remove 52089 Washer, 52088 Spacer and 52120 Shim from spindle assembly.
4. Grip onto bevel gear and remove spindle nut (right hand threads). Remove 50412 Felt Ring and 50431 Bearing. Press gear from spindle.
5. Press 50424 Bearing Washer and 12152 Bearing from angle housing by using a push pin thru access hole in top of angle housing.
6. Remove 50511 Screws (2) from housing and 07149 Clamp. Disassemble muffler assembly.
7. Reposition angle housing in vise so motor housing is facing upwards.
8. Slide back 50383 Collar to expose 50381 Lock Nut.
9. Loosen lock nut from angle housing (left hand threads). Separate 01295 Valve Body/Motor Housing from angle housing.

Motor Disassembly:

1. Remove 50381 Lock Nut from 01295 Valve Body/Motor Housing (right hand threads). Pull motor assembly from valve body.
2. Press 50379 Rotor from 02649 Rear Bearing and 01722 Rear Bearing Plate. Remove cylinder and blades.
3. Clamp 50379 Rotor in padded vise with 50363 Pinion facing up and unscrew pinion from rotor.
4. Remove 50332 Pinion Spacer, 01007 Bearings (2), 50368 Bearing Plate and 01010 Spacer from rotor.

Valve Body Disassembly:

1. Position valve body in padded vise with air inlet facing up.
2. Remove air fitting by securing 01494 Inlet Adapter with a wrench and twist air fitting from inlet adapter.
Important: 01494 Inlet Adapter must be secured before attempting to remove air fitting to avoid damaging valve body housing.
3. Remove 53190 Block Plate and 95375 O-ring.
4. Using needle nose pliers, remove 01468 Spring, 01472 Tip Valve and seal.
5. Using a 2.5mm drift pin, tap 01017 Pin from housing and remove throttle lever. Remove 95558 Retaining Ring using retaining ring pliers.
6. Push 01247 Regulator from valve body housing and remove o-rings.

Disassembly complete.

Valve Body Reassembly:

1. Insert 01247 Speed Regulator Assembly with O-rings into valve body. Secure with 95558 Retaining Ring.
2. Secure valve body in padded vise with air inlet facing upwards. Insert 01464 Seal into housing.
3. Line up hole in valve stem with hole in housing (looking past brass bushing). Insert 01472 Tip Valve so that the metal pin passes through the hole in the valve stem. Install 01468 Spring (small end towards tip valve).
4. Lubricate 95375 O-ring with a slight amount of air-tool oil and install into 53190 Block Plate. Install 53190 Block Plate (O-ring side first) into housing.
5. Apply Heron #940 PST Pipe Sealant to threads of 01494 Inlet Adapter and install valve body (torque 34 N·m/200 in. - lbs.). Install 53176 Throttle Lever and 01017 Pin.

Motor Reassembly:

1. Place 50379 Rotor in padded vise with threaded spindle facing upward. Slip 01010 Spacer onto rotor shaft.
2. Place a .002" Shim into 50368 Bearing Plate as an initial spacing (**Note: 01121 Shim Pack contains .001" and .002" Shims**). Slip 01007 Bearings (2) into bearing plate.
3. Slip bearings and bearing plate onto rotor shaft. Place 50332 Pinion Spacer onto outer race of bearing.
4. Tighten pinion thru pinion spacer onto rotor shaft (torque 17 N·m/150 in. - lbs.).
5. Check clearance between rotor and bearing plate using a .001" feeler gauge. Clearance should be at .001" to .0015". Adjust clearance by repeating steps 1-5 with different shims if necessary. Remove rotor from vise.
6. Once proper rotor gap clearance is achieved, install well lubricated 01185 Blades (4) into rotor slots. Dynabrade recommends using their 95842 Dynabrade Air Lube.
7. Install cylinder over rotor. Be sure air inlet holes of cylinder face away from 50368 Bearing Plate.
8. Press 02649 Bearing into 01722 Bearing Plate. Press bearing plate and bearing onto rotor. Be sure that pin in bearing plate lines up with pin slot in cylinder. **Important: Fit must be snug between bearing plates and cylinder. If too tight rotor will not turn freely. In this case, rotor must be lightly tapped at press fit end so it will turn freely while still maintaining a snug fit. A loose fit will not achieve a proper preload of motor bearings and may cause premature wear and failure of motor.**
9. Motor adjustment must now be checked. Pull end of rotor and twist (10-15 lbs. force). Rotor should turn freely without drag. If drag or rub is felt, then increase preload by removing shim. Also, push end of rotor and twist (10-15 lbs. force). If drag or rub is felt, then deload by adding shim.
10. Position valve body in padded vise with motor cavity facing up. Install motor assembly into housing. Make sure motor drops all the way into housing by aligning air passage.
11. Install 50383 Collar and 50381 Lock Nut onto valve body housing (left hand threads). Apply Heron #940 PST Pipe Sealant (or equivalent) to threads of valve body.
12. Install valve body/motor housing onto angle housing. Apply Heron #940 PST Pipe Sealant (or equivalent) to threads of angle housing. Tightening 50381 Lock Nut onto housing (left hand threads) (torque 45 N·m/400 in. - lbs.).

Note: Throttle lever must be in desired position before securing 50381 Lock Nut.

Angle-head Reassembly:

1. Position angle housing assembly in padded vise with angle cavity facing up. Install 50424 Bearing Washer into recessed cavity in angle housing.
2. Press 12152 Bearing into recessed cavity against 50424 Bearing Washer. Press bevel gear onto spindle with gear teeth facing up. Press down to shaft step.
3. Slip 50431 Bearing onto spindle until it rests against opposite side of shaft step.
4. Install felt ring over spindle nut. Grip onto bevel gear and install spindle nut (Torque 34 N·m/300 in - lbs.).
5. Place 52088 Spacer over felt ring so that felt ring protrudes thru inner diameter of spacer. Spacer should seat evenly on bearing.
6. Install angle gear assembly into motor housing. Motor should drop completely down in angle housing so the end of the spindle seats into inner diameter of 12152 Bearing. Make sure bevel gear and pinion teeth line up correctly. Push down on the spindle to insure proper seating while rotating 360°. Install shims from 52120 Shim pack to adjust for backlash or slight clearance from the gear to pinion teeth.
7. Install 52089 Washer into angle housing and over felt ring and spacer. Larger inside diameter of washer goes over felt ring.
8. Install 50384 Spindle Bearing Cover (left hand threads) (Torque 34 N·m/300 in - lbs.).
9. Reassemble muffler assembly as shown on parts breakdown and secure with 50511 Screws (torque 4.5 N·m/40 in - lbs.).

Tool Reassembly Complete.