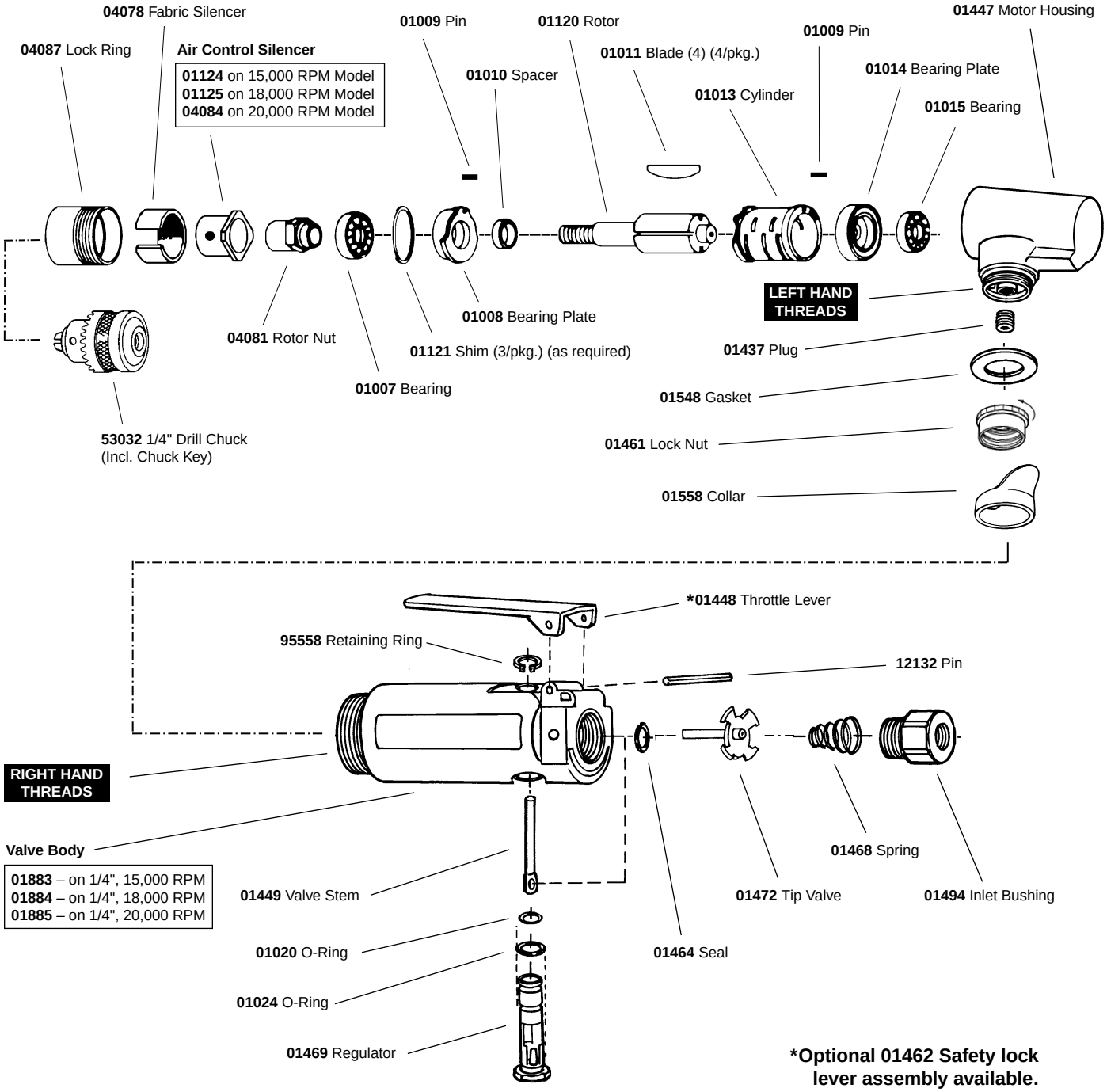
Parts Page Reorder No. PD94•42
Effective June, 1994

.5 Hp/Standard Duty
1/4" Drill

Model:
52600 – 15,000 RPM
52601 – 18,000 RPM
52602 – 20,000 RPM

Air Motor and Machine Parts

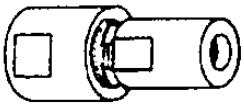
⚠WARNING **Always operate, inspect and maintain this tool in accordance with the Safety Code for portable air tools (ANSI B186.1) and any other applicable safety codes and regulations. Please refer to Dynabrade's Warning/Safety Operating Instructions for more complete safety information.**



***Optional 01462 Safety lock lever assembly available.**

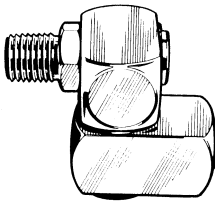
See inside for Accessories and Important Operating Instructions.

Optional Accessories



Collet Assembly:

50061 Collet Includes:
50062 Collet Body
50063 Collet Cap
50064 1/4" Collet Insert



Dynaswivel®

Swivels 360° at two locations which allows an air hose to drop straight to the floor, no matter how the tool is held.

- 95460 1/4" NPT



96039 Motor Tune-Up Kit:

- Includes assorted parts to help maintain motor in tip-top shape.

Also Available:
52996 Repair Collar

- Specially designed collar for use in vise to prevent damage to valve body housing during repair.

Important Operating, Maintenance and Safety Instructions

Carefully read all instructions before operating or servicing any Dynabrade® Abrasive Power Tool.
Warning: Hand, wrist and arm injury may result from repetitive work motion and overexposure to vibration.
Important: All Dynabrade air tools must be used with a Filter-Regulator-Lubricator to maintain all warranties.

Operating Instructions:

Warning: Eye, face and body protection must be worn while operating power tools. Failure to do so may result in serious injury or death. Follow safety procedures posted in workplace.

1. With power source disconnected from tool, securely fasten abrasive/accessory on tool.
2. Connect power source to tool. Be careful **not** to depress throttle lever in the process.
3. Check tool speed with tachometer. If tool is operating at a higher speed than the RPM marked on the tool or operating improperly, the tool should be serviced to correct the cause before use.

Maintenance Instructions:

Products offered by Dynabrade should not be converted or otherwise altered from original design without expressed written consent from Dynabrade, Inc.

1. Check tool speed regularly with a tachometer. If tool is operating at a higher speed than the RPM marked on the tool, the tool should be serviced to correct the cause before use.
2. Some silencers on air tools may clog with use. Clean and replace as required.
3. All Dynabrade air motors should be lubricated with two drops of Dynabrade Air Lube (P/N 95842: 1pt. 473ml.) every four hours of use.
4. An air line filter-regulator-lubricator must be used with this air tool to maintain all warranties. Dynabrade recommends the following:
   11289 Air Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and micro-mist lubrication of pneumatic components. Operates 28 CFM @ 90 PSI has 3/8" NPT female ports.

Safety Instructions:

- **Important:** User of tool is responsible for following accepted safety codes such as those published by the American National Standards Institute (ANSI).
- Operate machine for one minute before application to workpiece to determine if machine is working properly and safely before work begins.
- Always disconnect power supply before changing accessory or making machine adjustments.
- Inspect accessories for damage or defects prior to installation on tools.
- Please refer to Dynabrade's Warning/Safety Operating Instructions Tag (Reorder No. 95903) for more complete safety information.
- **Warning:** Hand, wrist and arm injury may result from repetitive work, motion and overexposure to vibration.

Service /Repair Instructions — .5 Hp/7°/Standard Duty/1/4" Drill

Please refer to parts breakdown for part identification.

Important: Manufactures warranty is void if tool is disassembled before warranty expires.

To Disassemble:

1. Secure air tool in vise using **52996** Repair Collar or padded jaws.
2. Remove **53032** 1/4" Drill Chuck.
3. With an adjustable pin wrench, remove **04087** Lock Ring by turning counter-clockwise. Remove air control silencer and fabric silencer.
4. Pull motor assembly from housing.
5. Reposition motor housing in vise so inlet bushing is facing upwards.
6. Unscrew **01494** Inlet Bushing turning counter-clockwise.
7. Using needle nose pliers, remove **01448** Spring, **01472** Tip Valve and **01464** Seal.
8. Resecure housing in vise so throttle lever and **12132** Pin are accessible.
9. Using a 2.5mm diameter drift pin and a hammer, tap **12132** Pin out from housing and remove throttle lever.
10. Remove **95558** Retaining Ring and push **01469** Speed Regulator from Housing.

Optional: To disassemble valve body from motor housing, peel back **01558** Collar to expose **01462** Lock Nut. Unscrew lock nut/valve body from housing (left hand threads).

Motor Disassembly:

1. Remove **04081** Rotor Nut from rotor shaft by inserting 3/16" hex wrench through rotor nut and into rotor shaft. Twist rotor nut from shaft.
2. Remove **01008** Front Bearing Plate, cylinder, blades (4) and **01010** Spacer from rotor. **Note: 01007** Bearing,**01008** Front Bearing Plate and **01010** Spacer are a slip fit onto rotor.
3. Press rotor from **01014** Rear Bearing Plate. Press **01015** Bearing from bearing plate.

Motor disassembly is complete.

Motor Reassembly (Be sure parts are clean and in good repair before reassembly):

1. Place rotor in padded vise with threaded spindle facing upwards.
2. Slip **01010** Spacer onto rotor.
3. Place a .002" shim into **01008** Front Bearing Plate as an initial spacing (**Note: 01121** Shim Pak contains .001" and .002" shims) and slip **01007** Bearing into plate.
4. Install Bearing/Bearing Plate assembly onto rotor.
5. Tighten **04081** Rotor Nut onto rotor (torque to 150 in. lbs.).
6. Check clearance between rotor and bearing plate by using a .001" feeler gauge. Clearance should be at .001" to .0015". Adjust clearance by repeating steps 1-5 with different shim if necessary.
7. Once proper rotor/gap clearance is achieved, install well lubricated **01011** Blades (4) into rotor slots. Dynabrade air lube P/N **95842** is recommended for lubrication.
8. Install cylinder over rotor. Be sure air inlet holes of cylinder face away from bearing plate.
9. Press **01015** Rear Bearing into **01014** Rear Bearing Plate. Press bearing/bearing plate assembly onto rotor. Be sure that pin and air inlet holes line-up with pin slot and air inlet holes in cylinder. **Important:** Fit must be snug between bearing plates and cylinder. If too tight, rotor will not turn freely. Rotor must then be lightly tapped at press fit end so it will turn freely while still maintaining a snug fit. A loose fit will not achieve the proper preload of motor bearings.
10. Secure motor housing in padded vise so motor cavity faces upwards.
11. Install motor assembly into housing. Be sure motor drops all the way into housing.
12. Insert air control silencer and fabric silencer into **04087** Lock Ring and install onto motor housing (torque 150 in. lbs.).
13. Motor adjustment must now be checked. With motor housing still mounted in vise, 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 or remove shim. Also, push end of rotor and twist (10-15 lbs. force), rotor should turn freely without drag. If drag or rub is felt, then deload or add shim.

Valve Stem/Body Reassembly:

1. Insert **01469** Speed Regulator Assembly into valve body. Secure with **95558** Retaining Ring.
2. Secure valve body in vise using **52996** Repair Collar or padded jaws with air inlet facing upwards and throttle lever accessible.
3. Insert **01464** Seal into housing.
4. Line-up the hole in the **01449** Valve Stem with the hole in the housing (looking past brass bushing). Using needle nose pliers, insert **01472** Tip Valve so that the metal pin passes through the hole in the valve stem.
5. Install **01468** Spring (small end first).
6. Apply 1 drop of #271 Loctite (or equivalent) to threads of **01494** Inlet Bushing and install into valve body (torque 34.0 N•m 300 lbs. in.).
7. Install throttle lever and **12132** Pin. Remove valve body from vise.

Tool Assembly is complete. Please allow 30 minutes for adhesives to cure before operating tool.

Important: Motor should now be tested for proper operation at 90 PSI. If 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.
Note: Throttle lever is preset at the factory at an 11:00 o'clock position.

Loctite is a registered trademark of 3M Company.



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