

.7 Hp/Front Exhaust Router

Air Motor and Machine Parts

Models:

51330 — 20,000 RPM, 1/4" Collet

51331 — Router Kit

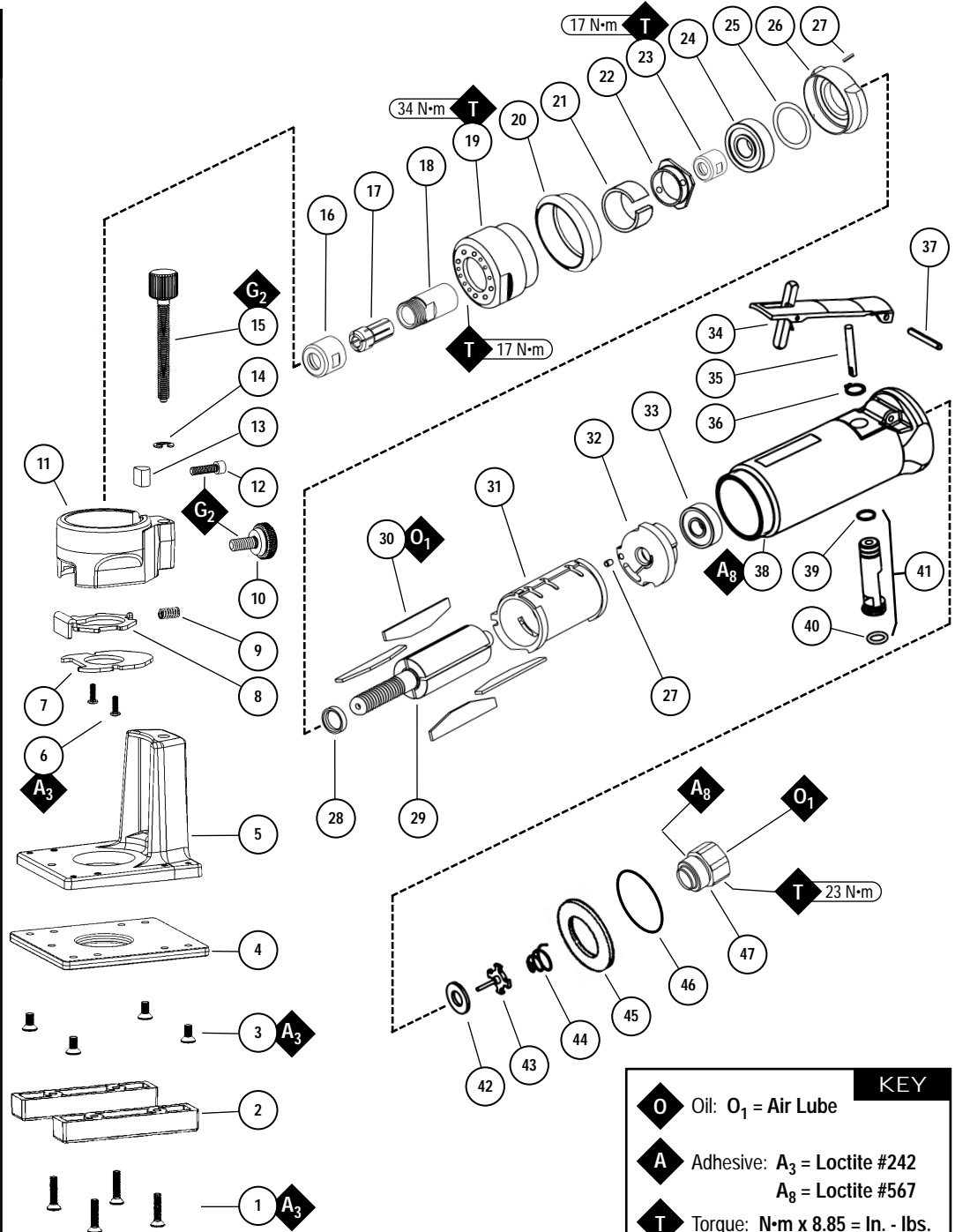
! WARNING

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.

Index Key

No. Part # Description

1	95162	Screw (4)
2	52084	Rail (2)
3	95128	Screw (4)
4	52083	Sub Base
5	52080	Base
6	95257	Screw (2)
7	52081	Cover Plate
8	52082	Spindle Lock
9	07145	Spring
10	52079	Lock Screw
11	52078	Collar
12	95311	Screw
13	40029	Motor Lock
14	12174	E-Clip
15	52077	Lead Screw
16	50012	Collet Cap
17	50013	Collet Insert
18	50011	Collet Body
19	01371	Lock Ring
20	53175	Rubber Collar
21	01727	Silencer
22	01726	Air Control Ring
23	01708	Rotor Nut
24	01007	Bearing
25	01121	Shim (3/pkg.)
26	01008	Front Bearing Plate
27	50767	Pin (2)
28	01010	Spacer
29	55025	Rotor
30	01185	Blades (4/pkg.)
31	01028	Cylinder
32	01722	Rear End Plate
33	02649	Bearing
34	01089	Safety Lock Lever
35	01477	Valve Stem
36	95558	Retaining Ring
37	01017	Pin
38	51337	Housing - 51330
39	95730	O-Ring
40	01024	O-Ring
41	01247	Speed Reg. Assy.
42	01464	Seal
43	01472	Tip Valve
44	01468	Spring
45	53190	Block Plate
46	96065	O-Ring
47	01494	Inlet Bushing



KEY	
O	Oil: O ₁ = Air Lube
A	Adhesive: A ₃ = Loctite #242 A ₈ = Loctite #567
T	Torque: N·m x 8.85 = In. - lbs.
G	Grease: G ₂ = Loctite #771

Please indicate:
Model #, Serial #, and RPM when
ordering replacement parts.

See inside for Important Operating, Maintenance and Safety Instructions.

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 Rotary Vane air tools must be used with a Filter-Regulator-Lubricator to maintain all warranties.

Operating Instructions:

Warning: Eye, face, respiratory, sound, 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. Install air fitting into inlet bushing of tool. **Important:** Secure inlet bushing of tool with a wrench before attempting to install the air fitting to avoid damaging valve body housing.
3. Connect power source to tool. Be careful **not** to depress throttle lever in the process.
4. 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:

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 Rotary Vane air motors should be lubricated. Dynabrade recommends one drop of air lube per minute for each 10 SCFM (example: if the tool specification states 40 SCFM, set the drip rate of your filter-lubricator at 4 drops per minute). Dynabrade Air Lube (P/N 95842: 1 pt. 473 ml.) is recommended.
4. An Air Line Filter-Regulator-Lubricator must be used with this air tool to maintain all warranties. Dynabrade recommends the following: **11405** Air Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and micro-mist lubrication of pneumatic components. Operates 40 SCFM @ 100 PSIG has 3/8" NPT female ports.
5. Use only genuine Dynabrade replacement parts. To reorder replacement parts, please specify the **Model #**, **Serial #** and **RPM** of your machine.
6. A Motor Tune-Up Kit (P/N 96529) is available which includes assorted parts to help maintain motor in peak operating condition.
7. Mineral spirits are recommended when cleaning the tool and parts. Do not clean tool or parts with any solvents or oils containing acids, esters, ketones, chlorinated hydrocarbons or nitro carbons.

Safety Instructions:

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



- **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 abrasive/accessory or making machine adjustments.
- Inspect abrasives/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.

Notice

All Dynabrade motors use the highest quality parts and metals available and are machined to exacting tolerances. The failure of quality pneumatic motors can most often be traced to an unclean air supply or the lack of lubrication. Air pressure easily forces dirt or water contained in the air supply into motor bearings causing early failure. It often scores the cylinder walls and the rotor blades resulting in limited efficiency and power. Our warranty obligation is contingent upon proper use of our tools and cannot apply to equipment which has been subjected to misuse such as unclean air, wet air or a lack of lubrication during the use of this tool.

One Year Warranty

Following the reasonable assumption that any inherent defect which might prevail in a product will become apparent to the user within one year from the date of purchase, all equipment of our manufacture is warranted against defects in workmanship and materials under normal use and service. We shall repair or replace at our factory, any equipment or part thereof which shall, within one year after delivery to the original purchaser, indicate upon our examination to have been defective. Our obligation is contingent upon proper use of Dynabrade tools in accordance with factory recommendations, instructions and safety practices. It shall not apply to equipment which has been subject to misuse, negligence, accident or tampering in any way so as to affect its normal performance. Normally wearable parts such as bearings, contact wheels, rotor blades, etc., are not covered under this warranty.

Model Number	Motor HP (W)	Motor RPM	Air Inlet Thread	Sound Level	Air Flow Rate CFM/SCFM (LPM)	Air Pressure PSIG (Bars)	Spindle Thread	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
All Models	.7 (522)	20,000	1/4" NPT	91 dB(A)	5/34 (963)	90 (6.2)	3/8"-24 male	1.7 (.8)	6 (152)	1-7/8 (48)

Additional Specifications: Hose I.D. Size 1/4" (8 mm)

Disassembly/Assembly Instructions - .7Hp/Front Exhaust

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

Notice: Please refer to parts breakdown for part identification. When installing and removing air fittings, use a wrench on the inlet adapter and a wrench on the air fitting to avoid loosening the inlet adapter from the housing or the housing from the lock nut.

To Disassemble:

1. Secure air tool in vise using flats provided on motor housing.
2. Remove collet cap and insert.
3. With an adjustable wrench remove **01371** Lock Ring by turning counter-clockwise. Remove air control ring, and muffler insert.
4. Pull motor assembly from housing.
5. Reposition motor housing in vise so inlet bushing is pointing upward.
6. Unscrew **01494** Inlet Bushing turning counter-clockwise.
7. Using needle nose pliers, remove **01468** Spring, **01472** Tip Valve and **01464** Seal.
8. Resecure housing in vise so throttle lever and **01017** Pin are accessible.
9. Using a 2.5 mm diameter drift pin and a hammer, remove **01017** Pin and throttle lever from housing.
10. Remove **95558** Retaining Ring and push **01469** Speed Regulator from housing.

Disassembly Complete.

Motor Disassembly:

1. Fasten a 2 in. bearing separator around the rear portion of the **01028** Cylinder, place the separator on the table of a #2 arbor press (Dynabrade Arbor Press P/N **96232**) so that the threaded rotor shaft is pointing down.
2. Use a 3/16" flat nose punch as a press tool and press the back end of the rotor out of the **02649** Rear Bearing. Set the loose parts aside.
3. Secure the rotor body in a soft (bronze or aluminum) jaw vise and remove the **50011** Collet Body turning it counter clockwise. Also, remove the **01708** Rotor Nut in the same manner.
4. Remove the **01008** Front Bearing Plate along with the front bearing. Push the **01007** Front Bearing out of the front bearing plate and remove the shims. Also, pull the spacer off the rotor shaft.
5. The **02649** Bearing can be removed from the rear bearing plate with the **96213** Bearing Removal Tool and an arbor press.

Motor Disassembly Complete.

Motor Assembly:

Important: Be sure parts are clean and in good repair before assembling.

1. Place **55025** Rotor in soft jaw (bronze or aluminum) vise with threaded spindle pointing upwards.
2. Slip **01010** Spacer onto rotor.
3. Place a .002" shim into **01008** Front Bearing Plate as an initial spacing (**Note:** **01121** Shim Pack contains .001" and .002" shims) and slip **01007** Bearing into plate.
4. Install bearing/bearing plate assembly onto rotor.
5. Tighten **01708** Nut onto rotor (torque to 17 N•m/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 lubricated **01185** 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 and that the pin in the front bearing plate aligns correctly with the pin-hole in the cylinder.
9. Press **02649** Rear Bearing into **01722** 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. A loose fit will not achieve the proper pre-load of motor bearings. 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.
10. Secure housing in vise using flats provided on motor housing.
11. Install motor assembly into housing. Be sure motor drops all the way into housing.
12. Assemble muffler insert and air control ring into **01371** Lock Ring and install onto motor housing (torque 17 N•m/150 in. - lbs.).
13. Motor adjustment can 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 pre-load 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 de-load or add shim.

Motor Assembly Complete.

Valve Body Assembly:

1. Insert **01247** Speed Regulator Assembly with **01477** Valve Stem into housing. Secure with **95558** Retaining Ring.
2. Insert **01464** Seal into housing.
3. Line-up the hole in the **01477** Valve Stem with the hole in the 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 first).

(continued on pg. 4)

Disassembly/Assembly Instructions - .7Hp/Front Exhaust (continued)

4. Apply Loctite® #567 PST Pipe Sealant (or equivalent) to threads of **01494** Inlet Adapter and install onto motor housing. (torque 23.0 N•m/200 in. - lbs.)
5. Install throttle lever and **01017** Pin. Remove from vise.

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

Important: Motor should now be tested for proper operation at 90 PSIG. 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.

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Optional Accessories



Dynaswivel®

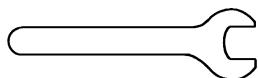
Swivels 360° at two locations which allows an air hose to drop straight to the floor, no matter how the tool is held.

- **94300** 1/4" NPT.



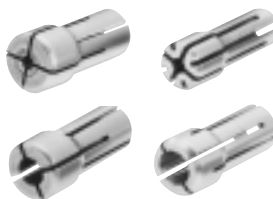
96529 Motor Tune-Up Kit

- Includes assorted parts to help maintain and repair motor.



Open-End Wrenches

- 95262** – 14 mm open-end.
- 95281** – 19 mm open-end.



Collet Inserts

- **01485** – 1/4"
- **01497** – 6 mm
- **01495** – 1/8"
- **01496** – 3 mm

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