Parts Page Reorder No. PD01•40
Effective April, 2001
Supersedes PD98•17

Models:

13400 – 3,400 RPM
13410 – 3,400 Versatility Kit
13411 – 3,400 Versatility Kit

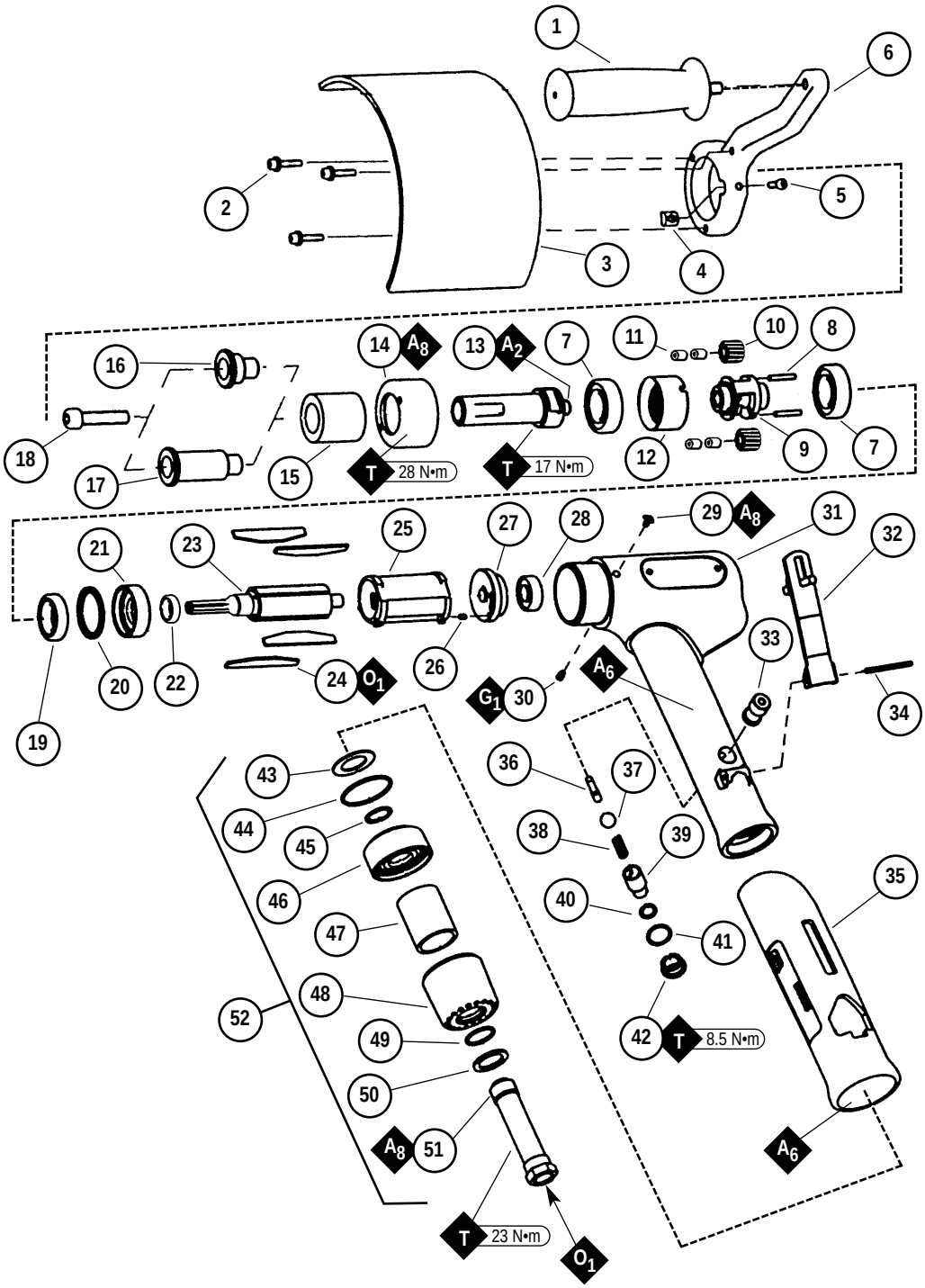
.7 Hp Dynisher

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.**

Index Key

No.	Part #	Description
1	**53163**	Handle Assembly
2	**96278**	Screw Assembly (3)
3	**13442**	Shroud
4	**40029**	Cam Lock
5	**01678**	Screw
6	**53167**	Handle Support
7	**02552**	Bearing (2)
8	**53182**	Gear Shaft (2)
9	**53180**	Planetary Carrier
10	**53193**	Gear (2)
11	**04026**	Bearing (4)
12	**53191**	Ring Gear
13	**13433**	Arbor Adapter
14	**13432**	Spindle Cover
15	**50750**	Spacer
16	**13434**	Flange
17	**13441**	Flange
18	**96264**	Screw
19	**01007**	Bearing
20	**01121**	Shim Pack
21	**53183**	Front End Plate
22	**01010**	Spacer
23	**04017**	Rotor
24	**01185**	Blades (4/pkg.)
25	**01028**	Cylinder
26	**50767**	Pin
27	**13440**	Rear End Plate
28	**02649**	Bearing
29	**04014**	Screw
30	**01041**	Grease Fitting
31	**13430**	Housing Assy. (includes **13436** Bushing & **01041** Grease Fitting)
32	**01089**	Safety Throttle Lever
33	**13436**	Bushing
34	**01017**	Pin
35	**13438**	Handle Grip
36	**13435**	Valve Stem
37	**13439**	Ball
38	**07145**	Spring
39	**13437**	Speed Regulator
40	**01024**	O-Ring
41	**13428**	Packing
42	**13427**	Regulator Plug
43	**01565**	Air Control Ring
44	**95438**	O-Ring
45	**95711**	Retaining Ring
46	**94521**	Muffler Base
47	**94528**	Muffler
48	**94522**	Muffler Cap
49	**95375**	O-Ring
50	**94526**	Spacer
51	**94523**	Inlet Adapter
52	**94519**	Muffler Assembly



KEY

- A — Adhesive: **A_2 = Loctite #271**, **A_6 = Loctite #380**, **A_8 = Loctite #567**
- O — Oil: **O_1 = Air Lube**
- G — Grease: **G_1 = Lubriplate 630AA**
- T — Torque: **N•m x 8.85 = In. - lbs.**

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 specifications state 40 SCFM, set the drip rate of your filter-lubricator at 4 drops per minute).
   Dynabrade Air Lube (P/N **95842**: 1pt. 473ml.) is recommended.
4. It is strongly recommended that all Dynabrade rotary vane air tools be used with a Filter-Regulator-Lubricator to minimize the possibility of misuse due to unclean air, wet air or insufficient lubrication. Dynabrade recommends the following: **11299** Air Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and micro-mist lubrication of pneumatic components.
   Operates up to 100 CFM @ 100 PSIG has 1/2" NPT female ports.
5. Lubricate planetary gears through the gear casing grease fitting with 2-3 plunges for every 50 hours of use, to achieve maximum gear life (order **95542** Grease and **95541** Gun).
6. Use only genuine Dynabrade replacement parts. To reorder replacement parts, specify the **Model #**, **Serial #** and **RPM** of your machine.
7. A Motor Tune-Up Kit (P/N **96234**) is available which includes assorted parts to help maintain motor in peek operating condition. Please refer to Dynabrade's Preventative Maintenance Schedule for a guide to expectant life of component parts.
8. Mineral spirits are recommended when cleaning the tool and parts. Do not clean tool or parts with any solvents or oils containing acids, esters, keytones, 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)	Machine Dia. Inch (mm)	Wheel Arbor Dia. Inch (mm)	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
13400	.70 (522)	3,400	1/4" NPT	88 dB(A)	6/44 (1,246)	1-13/16 (46mm)	3/4 (19mm)	4.6 (2)	10-3/4 (274)	9 (229)

Additional Specifications: Hose I.D. Size 3/8" (10mm) • Max. SFPM 4450 (SMPM 1350) • 90 PSIG (6.2 Bars)

Disassembly/Assembly Instructions - Dynisher

Important: Manufacturer's warranty is void if tool is disassembled before warranty expires.
Please refer to parts breakdown for part identification.

Motor Disassembly:

1. Disconnect tool from power source. Remove pneumatic wheel or accessory from spindle.
2. Loosen **01678** Lock Screw and remove handle assembly. Remove flange and spacer from motor shaft.
3. Secure motor housing using padded vise with motor spindle facing upwards.
4. Using an adjustable pin wrench, remove **13432** Spindle Cover.
5. Remove **04014** Set Screw from housing.
6. Pull **13433** Arbor Adapter and planetary carrier assembly from housing.
7. Press planetary carrier assembly from rear **02552** Bearing. Remove ring gear and gears from **53180** Planetary Carrier.
8. Secure planetary carrier in vise and remove **13433** Arbor Adapter. Press carrier from front **02552** Bearing.
9. Grab onto **04017** Rotor/Pinion and pull motor assembly from motor housing.
10. Press **04017** Rotor/Pinion from **13440** Rear Bearing Plate. Press **02649** Rear Bearing from rear bearing plate.
11. Remove **01028** Cylinder and **01185** Rotor Blades from rotor.
12. Press rotor pinion assembly through **01007** Front Bearing and **53183** Front Bearing Plate.

Motor Disassembly Complete.

Housing Disassembly:

1. Position housing in padded vise with air inlet facing up.
2. Remove air fitting by securing **94523** Inlet Adapter with a wrench and twist air fitting from inlet adapter.
   Important: 94523 Inlet Adapter must be secured before attempting to remove air fitting to avoid damaging valve body housing.
3. Remove **94523** Inlet Adapter.
4. Remove **95711** Retaining Ring from inlet adapter and separate **94521** Muffler Base from **94522** Muffler Cap. Remove **94528** Felt Muffler.
5. Remove **01565** Air Control Ring from housing.
6. Using a 2.5mm drift pin, tap **01017** Pin from housing and remove throttle lever assembly.
7. Remove **13427** Plug. Pull **13437** Speed Regulator from housing and remove **01024** O-Rings, **07145** Spring, **13439** Ball, and **13435** Valve Stem.

Disassembly Complete.

Motor Assembly:

Important: Be sure parts are clean and in good repair before assembly**.** Follow all grease, oil, and torque specifications.

1. Place **04017** Rotor in padded vise with threaded spindle facing upwards.
2. Slip **01010** Spacer onto **04017** Rotor.
3. Place a .002" shim into **53183** Front Bearing Plate as an initial spacing and slip **01007** Bearing into plate. **Note: 01121** Shim Pack contains .001" and .002" shims.
4. Press bearing/bearing plate assembly onto rotor.
5. 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 2-4 with different shim if necessary.
6. Once proper rotor gap clearance is achieved, install well lubricated **01185** Blades (4) into rotor slots. Dynabrade recommends using their **95842** Air Lube.
7. Install cylinder over rotor/pinion. Be sure air inlet holes of cylinder face away from **53183** Front Bearing Plate.
8. Press **02649** Rear Bearing into **13440** 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. Install motor assembly into housing. Be sure motor inlet is facing the handle and it drops all the way into housing.
11. Press front **02552** Bearing onto front end of **53180** Planetary Carrier.
12. Apply #271 Loctite® to **13433** Arbor Adapter and install onto **53180** Planetary Carrier (torque 17.0 N•m/150 in. - lbs.).
13. Install **53193** Gears, **04026** Bearings and **53182** Gear Shafts onto planetary carrier.
14. Slip **53191** Ring Gear over gears and press rear **02552** Bearing onto planetary carrier.
15. Apply two drops of #271 Loctite® to threads of **13432** Spindle Cover.
16. Install **13432** Spindle Cover onto housing to secure motor (torque 28 N•m/250 in. - lbs.).

Motor Assembly Complete.

Housing Assembly:

1. Install **13438** Handle Grip.
2. Insert **13435** Valve Stem through housing and into hole in **13436** Bushing.
3. Insert **13439** Ball, **07145** Spring, **13437** Speed Regulator with **01024** O-Ring in place.
4. Install **13428** Packing onto **13427** Regulator Plug. Secure plug in place torque 8.5 N•m/75 in. - lbs.
5. Insert **94528** Muffler into **94522** Muffler Cap. Install **94521** Muffler Base onto muffler cap.
6. Install **94538** O-Ring into groove on muffler base. Place **95375** O-Ring and **94526** Spacer into recessed area of muffler cap.

(continued on next page)

Disassembly/Assembly Instructions (continued)

7. Slip **94523** Inlet Adapter through muffler assembly and install **95711** Retainer Ring into groove on inlet adapter.
8. Install **01565** Air Control Ring into housing.
9. Apply Loctite® #567 to threads of **94523** Inlet Adapter and install entire muffler assembly onto housing inlet (torque 23.0 N•m/200 in. - lbs.).
10. Replace air fitting. Secure inlet adapter with a wrench before tightening air fitting.
11. Install throttle lever and **01017** Pin.

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 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. Before operating, place 2-3 drops of Dynabrade Air Lube (P/N **95842**) directly into air inlet with throttle lever depressed. Operate tool for 30 seconds to determine if tool is operating properly and to allow lubricating oils to properly penetrate motor.

Loctite® is a registered trademark of Loctite Corp.

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.

Note: For proper connection to a 1/4" NPT thread a reducing bushing is required.

- **95461** 3/8" NPT.

96234 Motor Tune-Up Kit

- Includes assorted parts to help maintain and repair motor.

94473 Dynacushion® Pneumatic Wheel

- Easily regulate hardness by air pressure.
- 5" Diameter x 3-1/2" Wide.
- Inflates to 20 PSIG maximum.
- 3-1/2" wide x 15-1/2" long belt size.

94465 Wheel Inflation Tool

- Controlled inflation/deflation of pneumatic wheel.
- Has 1/4" female thread; fits 1/4" air hose.
- **95633** Nozzle Replacement available.

95542 Grease 10 oz.

- Multi-purpose grease for all types of bearings, cams, gears.
- High film strength; excellent resistance to water, steam, etc.
- Workable range 0˚ F to 300˚ F.

95541 Push-type Grease Gun

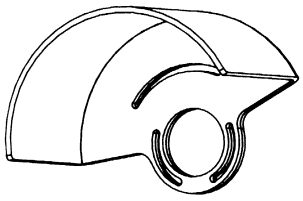
- One-hand operation

Dynabrade Air Lube

- Formulated for pneumatic equipment.
- Absorbs up to 10% of its weight in water.
- Prevents rust and formation of sludge.
- Keeps pneumatic tools operating longer with greater power and less down time.

95842: 1pt. (473 ml)

95843: 1gal. (3.8L)



53159 Shroud Assembly

- Extended length to enclose 4 inch wide abrasive accessories.

Visit Our Web Site: www.dynabrade.com **Email:** Customer.Service@Dynabrade.com

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