PD21-06R
September, 2022

Dynabrade Nitro Series™

Mini-Orbital, Denibber, 8,500 RPM
Lubricant Free

Safety, Operation and Maintenance – Save This Document and Educate All Personnel

Model	Pad Dia.	RPM	Orbit
DN1	1-1/4" (32 mm)	8,500	1/8" (3 mm)

SANDER/POLISHER

Find The Most Current Offering of Support Documents and Accessories at www.Dynabrade.com

⚠ WARNING

Read and understand this tool manual before operating your air tool. Follow all safety rules for the protection of operating personnel as well as adjacent areas. Always operate, inspect and maintain this tool in accordance with the American National Standards Institute (ANSI). Safety Requirements for the Use, Care and Protection of Abrasive Wheels – ANSI B7.1, and Safety Requirements for Abrading Materials with Coated Abrasive Systems – ANSI B7.7, Compressed Air and Gas Institute (CAGI) Safety Code for Portable Air Tools – B186.1, Code of Federal Regulation – CFR 29 Part 1910, International Organization for Standardization (ISO) Hand Held Non-Electric Power Tools – Safety Requirements ISO 11148 series and applicable State and Local Regulations.

Read and understand tool manual before work starts to reduce risk of injury to operator, visitors, and tool.

Eye protection must be worn at all times, eye protection to conform to ANSI Z87.1.

Ear protection to be worn when exposure to sound, exceeds the limits of applicable Federal, State or local statues, ordinances and/or regulations.

Practice safety requirements. Work alert, have proper attire, and do not operate tools under the influence of alcohol or drugs.

Respiratory protection to be used when exposed to contaminants that exceed the applicable threshold limit values required by law.

Air line hazard, pressurized supply lines and flexible hoses can cause serious injury. Do not use damaged, frayed or deteriorated air hoses and fittings.

Some dust created by sanding, grinding, drilling, and other construction activities contain chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints
- Crystalline silica from bricks and cement and other masonry products
- Arsenic and chromium from chemically treated lumber

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

SAFETY and OPERATING INSTRUCTIONS

Carefully Read and Understand the General and Sander sections found in Tool Safety and Operating Guidelines (PN00001676) Before Handling or Using Tool.

Carefully Read all instructions before operating or servicing any Dynabrade® Abrasive Power Tool. Products offered by Dynabrade are not to be modified, converted or otherwise altered from the original design.

Tool Intent: Denibbers are intended to be used by professional operators for sanding and finishing a variety of materials including paint and clear coat, wood, metal, plastic, fiberglass, solid surfaces, composites, rubber, glass and stone. Use in any other manner or with other accessories could lead to unsafe operating conditions. Using optional pressure sensitive adhesive type abrasive sanding discs that are 1-1/4" (32 mm) diameter. This tool should use filtered and regulated air, but does not require lubricated air. Lubricated air is not detrimental to tool life. **No motor lubricant required.**

DO NOT USE Tool for Anything Other Than Its Intended Applications.

Training: Proper care, maintenance, and storage of your air tool will maximize tools performance and reduce chance for accident.

Employer's Responsibility: Provide operators with safety instructions and training for safe use of tools and accessories.

Report to Your Supervisor any Condition of the Tool, Accessories or Operation you Consider Unsafe.

MAINTENANCE INSTRUCTIONS

Important: To keep tool safe, a Preventative Maintenance Program is recommended. The program should include inspection of the tool and all related accessories and consumables, including air lines, and pressure regulators, etc. (refer to CAGI B186.1 for additional maintenance information). If accessory or tool breakage occurs, investigate failure to determine the cause and correct before issuing tool for work. Use the following schedule as a starting point in developing a Preventative Maintenance Program. If tool does not operate properly (RPM, vibration, start/stop) after these scheduled checks or at any time, the tool must be repaired and corrected before returning tool to use.

INSTALLATION

- To ensure long life and dependable service, use a Closed Loop Air System and Filter-Regulator (FR) as diagramed below.
- Each tool should have its own dedicated hose connected to an air supply FR. Quick disconnects should be installed at the FR in an effort to reduce contamination into the tool. Securely affix all fittings and hose assemblies.
- It is strongly recommended that all Dynabrade rotary vane air tools be used with a Filter-Regulator to minimize the possibility of misuse due to unclean air or wet air. Dynabrade recommends the following: **10688** Air Line Filter-Regulator — Provides accurate air pressure regulation and two-stage filtration of water contaminants.

MAINTENANCE SCHEDULE

Maintenance schedules depend on the type and style of tool. Refer to page 3 to reference symbols associated with specific maintenance items/areas. Match maintenance schedules accordingly. See page 4 for any additional maintenance information.

Note: *Turbine style air motors do not require oil.*

Daily (every 8 hours):

- Inspect tool and accessories for damage or broken parts. Replace items as necessary to ensure proper operation and safety.
- Check air line pressure with a gage. (MAX. 90 PSIG or 6.2 Bar operating pressure at the air inlet of the tool.)

W — Lubricate wick system and right angle gears through gear case fitting. Apply 3 plunges of **95848** Gear Oil. Use **95541** Lubricant Gun (Prime lubricant gun before use).

- Check tool for proper operation: If operating improperly or demonstrates unusual vibration, the tool must be serviced and problem corrected before further use.

Every 20 Hours/Once a Week (which ever comes first):

G — For tools without "wick system", lubricate right angle gears through lubricant fitting. Apply 1 plunge of **95544** Grease. Use **95541** Lubricant Gun. (Prime lubricant gun before use).

- Measure RPM (speed) by setting air pressure to 90 PSIG (6.2 Bar) at tool inlet, without accessory mounted, while the tool is running. Using tachometer, check spindle speed of the tool. Unless otherwise stated the no-load speed may not exceed the rated speed. If tool speed exceeds maximum rated RPM, service as required and correct before use.
- If tool is running too fast: look for worn, damaged or missing governor, air control rings and silencer(s). Service as required.
- If tool is running too slow: look for malfunctioning governor, clogged inlet screen, silencer(s) or air stream. Service as required.

Note: *Special care must be taken when servicing governors. Refer to specific tool manual for governor instructions and/or speed control devices. Governor assemblies made from molded plastic components are non-serviceable and must be replaced.*

Every 50 Hours:

G — Lubricate planetary gears through gear case fitting with 3 plunges of **95544** Grease. Use **95541** Lubricant Gun. (Prime lubricant gun before use).

REPAIR

- Use only genuine Dynabrade replacement parts to ensure quality. To order replacement parts, specify Model#, Serial# and RPM of your air tool.
- 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.
- Air tool markings must be kept legible at all times, if not, reorder housing and replace. User is responsible for maintaining specification information.

HANDLING & STORAGE

- Use of tool rests, hangers and/or balancers is recommended.
- Protect tool inlet from debris (see Notice below).
- **Do Not** carry tool by air hose or near the tool throttle lever.
- Store accessories in protective racks or compartments to prevent damage.
- Follow the handling instructions outlined in the operating instructions when carrying the tool and when changing accessories.
- Protect accessories from exposure to water, solvents, high humidity, freezing temperature and extreme temperature changes.

END OF USE/DISPOSAL

When tool has reached its end of useful service, disassemble tool into its primary components (i.e. steel, aluminum and plastic) and recycle or discard per local, state and/or federal regulations as to not harm the environment.

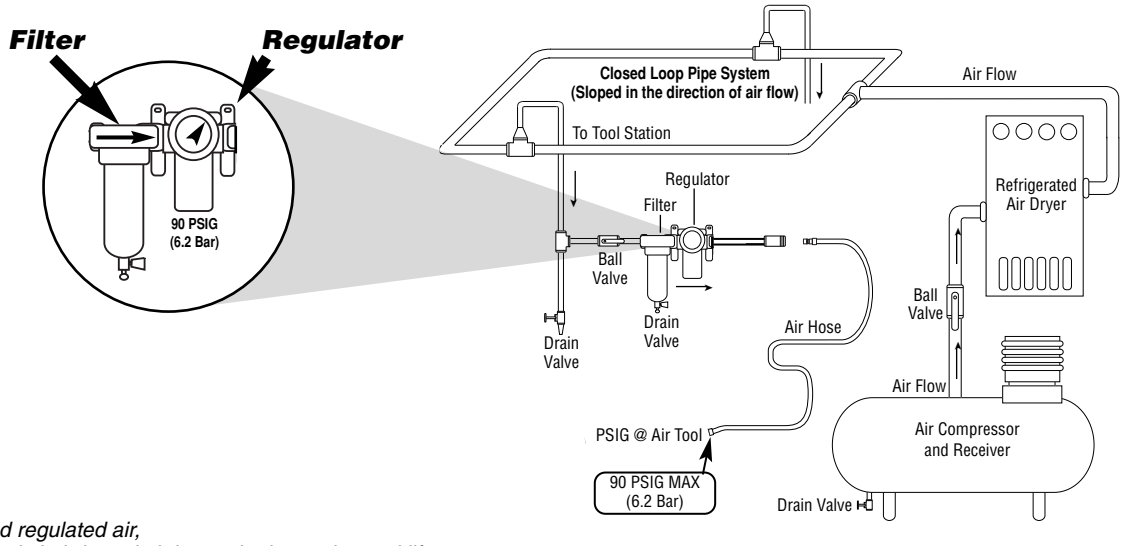
NOTICE

All Dynabrade air motors use the highest quality parts available and are manufactured to exacting tolerances. Air motor failures are often traced to unclean air supply. Compressed air can force dirt and other contaminants into motor bearings causing early failure. Contaminants can score cylinder wall and vanes resulting in reduced efficiency and power. Our warranty obligation is contingent upon proper use of our tools. Air motors which have been subjected to misuse, contaminated air will void warranty.

CLOSED LOOP AIR SYSTEM

Sloped in Direction of Air Flow

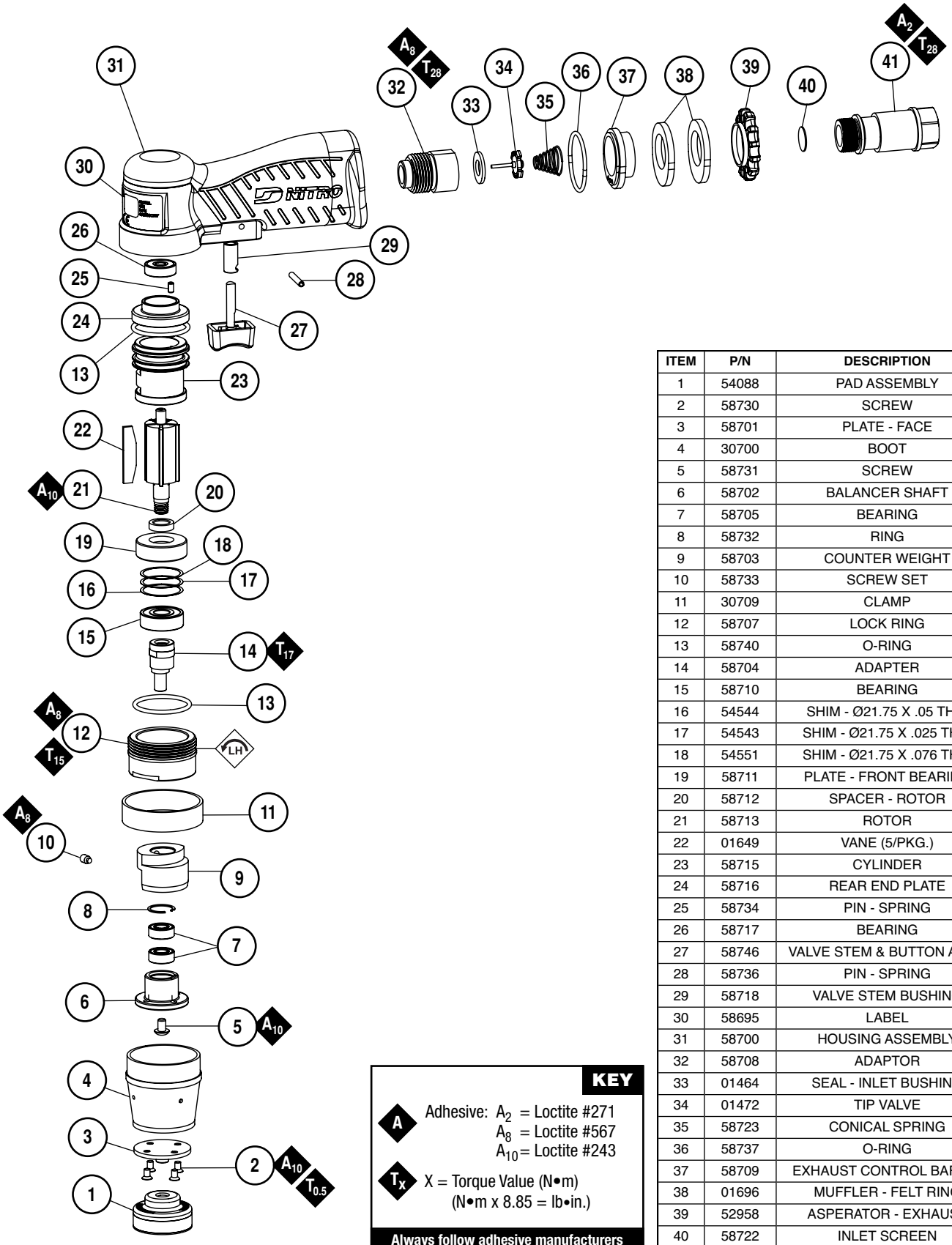
- Dynabrade Air Power Tools are designed to operate at 90 PSIG (6.2 Bar) maximum air pressure at the tool inlet, when the tool is running. Use recommended regulator to control air pressure.
- Ideally the air supply should be free from moisture. To facilitate removing moisture from air supply, the installation of a refrigerated air dryer after the compressor and the use of drain valves at each tool station is recommended.
- **No motor lubricant required.**



This tool should use filtered and regulated air,
but does not require lubricated air. Lubricated air is not detrimental to tool life.

Model
DN1 - *1-1/4 Dia.*

Dynabrade Nitro Series™
Mini-Orbital, Denibber, 8,500 RPM
Complete Assembly



ITEM	P/N	DESCRIPTION	QTY.
1	54088	PAD ASSEMBLY	1
2	58730	SCREW	4
3	58701	PLATE - FACE	1
4	30700	BOOT	1
5	58731	SCREW	1
6	58702	BALANCER SHAFT	1
7	58705	BEARING	2
8	58732	RING	1
9	58703	COUNTER WEIGHT	1
10	58733	SCREW SET	1
11	30709	CLAMP	1
12	58707	LOCK RING	1
13	58740	O-RING	2
14	58704	ADAPTER	1
15	58710	BEARING	1
16	54544	SHIM - Ø21.75 X .05 THK.	A/R
17	54543	SHIM - Ø21.75 X .025 THK.	A/R
18	54551	SHIM - Ø21.75 X .076 THK.	A/R
19	58711	PLATE - FRONT BEARING	1
20	58712	SPACER - ROTOR	1
21	58713	ROTOR	1
22	01649	VANE (5/PKG.)	1
23	58715	CYLINDER	1
24	58716	REAR END PLATE	1
25	58734	PIN - SPRING	1
26	58717	BEARING	1
27	58746	VALVE STEM & BUTTON ASSY.	1
28	58736	PIN - SPRING	1
29	58718	VALVE STEM BUSHING	1
30	58695	LABEL	1
31	58700	HOUSING ASSEMBLY	1
32	58708	ADAPTOR	1
33	01464	SEAL - INLET BUSHING	1
34	01472	TIP VALVE	1
35	58723	CONICAL SPRING	2
36	58737	O-RING	1
37	58709	EXHAUST CONTROL BAFFLE	1
38	01696	MUFFLER - FELT RING	2
39	52958	ASPERATOR - EXHAUST	1
40	58722	INLET SCREEN	1
41	58721	INLET BUSHING	1

KEY

A — Adhesive: A_2 = Loctite #271
A_8 = Loctite #567
A_{10} = Loctite #243

T_X — X = Torque Value (N•m)
(N•m x 8.85 = lb•in.)

Always follow adhesive manufacturers cleaning and priming recommendations.

AR – "As Required"

ONE YEAR WARRANTY

To validate Dynabrade One Year Warranty, you must register each tool at: www.dynabrade.com. Registration of each tool at website is required. Dynabrade will not honor One Year Warranty on unregistered tools. Please view the entire One Year Warranty Policy at www.dynabrade.com.

MACHINE SPECIFICATIONS

Model	Speed	Power	Air Consumption	Pad Diameter	Weight	Length	Height
DN1	8,500 RPM	.02 hp (14.9 W)	6.4 SCFM (181 LPM)	1-1/4" (32 mm)	1 lb. (0.45 kg)	5.2" (132 mm)	4.1" (104 mm)

Additional Specifications: Air Inlet Thread 1/4" NPT • Hose I.D. 1/4" (6 mm) • Pad Thread 1/4"-20 Male Spindle Threaded

Visit dynabrade.com for your model's current vibration and sound data.

OPTIONAL ACCESSORIES

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.

Part No. 95842: 1 pt. (473 ml)
Part No. 95843: 1 gal. (3.8 L)
Part No. 95841: 4 oz. (118.3 ml)

Speed Control Lever

- 1/4 NPT.

Part No. 95756

54018

54084/54086/54088

Filter-Regulator

- Up to 55SCFM @ 1145 PSIG
- 1/2" NPT Female ports, includes 3/8" NPT reducer.
- Filter-Regulator provides accurate air pressure regulation and two stage filtration of water/contaminates.

Part No. 10688

1-1/4" (32 mm) Dia. Sanding Pads

Part No.	Rated Speed	Material	Density	Face	Thread
54018	12,000 RPM	Foam	Medium	Rubber	1/4" - 20 Female
54084	15,000 RPM	Urethane	Soft	Vinyl	
54086	12,000 RPM	Foam	Very Soft	Vinyl	
54088	15,000 RPM	Foam	Soft	Vinyl	

REFERENCE CONTACT INFORMATION

American National Standards Institute (ANSI)
www.ansi.org

Compressed Air & Gas Institute (CAGI)
www.cagi.org

European Committee for Standardization (PNEUROP)
www.pneurop.org

International Organization of Standards (ISO)
www.iso.org

U.S. Government Publishing Office (GPO)
www.gpo.gov

DYNABRADE, INC. **www.dynabrade.com**

8989 Sheridan Drive • Clarence, NY 14031-1419 • Phone: (716) 631-0100 • Fax: 716-631-2073 • International Fax: 716-631-2524

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