

Dynabrade Nitro Series™ Nitrozip Surface Preparation Tool

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

Model	RPM	Power
NZ1	3,500	0.5 hp (373 W)

GRINDER



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⚠ 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 abrading materials with coated abrasive systems – ANSI B7.1, 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 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 statutes, 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, Grinder and Power Brush 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: Dynabrade Nitro Series™ Nitrozip is intended to be used by professional operators for and is ideal for removing decal material and double sided adhesive molding tape when equipped with a rubber eraser wheel or removing rust and seam sealers when equipped with a wire wheel.

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, pressure regulators, filters, oilers, 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-Lubricator (FRL) as diagramed below.
- Each tool should have its own dedicated hose connected to an air supply FRL. Quick disconnects should be installed at the FRL 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-Lubricator to minimize the possibility of misuse due to unclean air, wet air or insufficient lubrication. Dynabrade recommends the following: **10690** Air Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and micro-mist lubrication of pneumatic components.
- Dynabrade recommends 1 drop of air lube per minute for each 20 SCFM (example: if the tool specification states 40 SCFM, set the drip rate on the filter-lubricator to 2 drops per minute). **95842** Dynabrade Air Lube is recommended.

MAINTENANCE SCHEDULE

Maintenance schedules depend on the type and style of tool. Refer to page 4 to reference symbols associated with specific maintenance items/areas. Match maintenance schedules accordingly. See page 5 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.
-  Lubricate motor as recommended. Use **95842** Dynabrade Air Lube (10W/NR). Apply 1 drop/minute of air lube per 20 SCFM.
- Check air line pressure with a gage. (MAX. 90 PSIG or 6.2 Bar operating pressure at the air inlet of the tool.)
-  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):

-  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. A non-governed tool may exceed the RPM marked on the tool by 10% when operated at free speed with no accessories.
- 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 1000 Hours (every time tool is rebuilt):

-  Gears are greased for the life of the tool. Replace if grease is hard packed or full of debris. Lubricate planetary gears 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.

-  After maintenance is performed on tool, add a few drops of **95842** Dynabrade Air Lube to the tool inlet and start the tool a few times to lubricate air motor. Verify RPM (per 20 hr maintenance schedule), vibration and operation.

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.

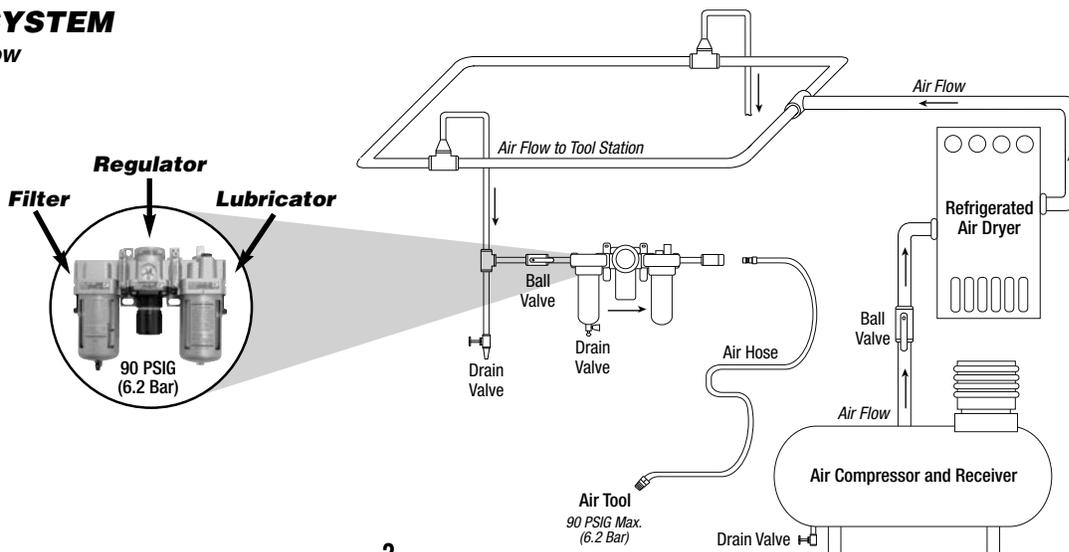
NOTICE

All Dynabrade air motors use the highest quality parts available and are manufactured to exacting tolerances. Air motor failures are often traced to lack of lubrication or 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 or lack of lubrication 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.



Lubricator Setting

1 Drop/Minute per 20 SCFM

NITROZIP WIRE WHEEL MOUNTING, CARE AND OPERATION INSTRUCTIONS

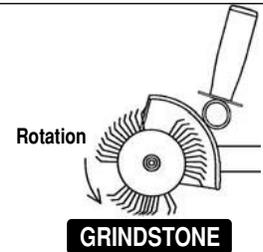
IMPORTANT: READ OPERATORS MANUAL IN ENTIRETY BEFORE USING THE NITROZIP TOOL AND ACCESSORIES.

Wire Wheel Mounting Instructions:

1. Disconnect the tool from the air supply.
2. Install the hex socket side of the hub so that it fits onto the male hex portion of the 55817 Spindle.
3. Install the accessory. Orient the medium and coarse wire wheels so that the ends of the wires point in the direction of rotation.
4. Install the second half of the hub. (Ensure the 3 pockets line up with the 3 tabs of the 1st half of the hub.)
5. Hold the hub and accessory stationary and install the star washer along with the socket head cap screw.

Sharpening of Wire Wheel

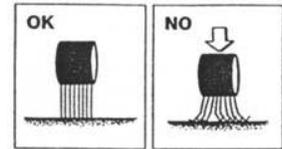
After using Wire Wheels for a certain period of time the tips of the bristles become round and the "brushing" effect is reduced. To recover the Wire Wheel performance on the Coarse or Medium brush, simply run the brushes in REVERSE DIRECTION on stone or concrete flooring for 10-20 seconds. To do this, **DISCONNECT TOOL FROM THE AIR SUPPLY**, then assemble the Wire Wheel upside down to provide reverse spinning to the brush. Reconnect the tool to air supply and spin the brush on the grinding stone applying light pressure. Then assemble the Wire Wheel in the correct spinning direction again. For Fine and straight brushes just REVERSE THE DIRECTION of the brush. No sharpening is necessary.



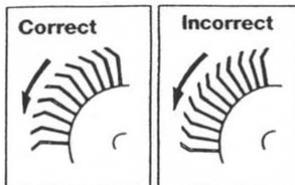
NitroZip Wire Wheel Recommendations:

- Wire Wheels work efficiently with minimum force applied to the wheel.
- The Wire Wheel will be effected if too much pressure is used. Trying to compensate for decreased efficiency by applying more pressure will only result in bent, dull and lost needles.
- If wheel is fatigued, sharpen the bristles using the method mentioned on next page. This will place bristles back into the proper position and give a sharp point to the bristles.

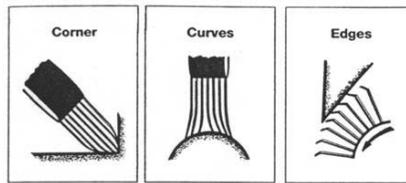
Do Not bear down excessively



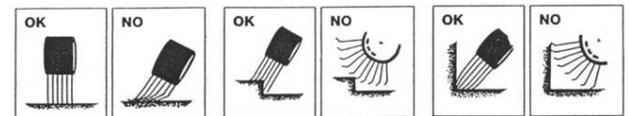
Active Rotation



Special Uses



Correct Working Positions



NITROZIP ERASER DECAL REMOVAL WHEEL MOUNTING, CARE AND OPERATING INSTRUCTIONS

Eraser Decal Removal Wheel Mounting Instructions:

1. Disconnect the tool from the air supply.
2. Install the hex socket side of the hub so that it fits onto the male hex portion of the 55817 Spindle.
3. Install the eraser wheel. Firmly press eraser wheel onto hub until 3 tabs are visible.
4. Hold the hub and accessory stationary and install the star washer along with the socket head cap screw.

Note: The eraser fits loosely between the hub halves.

Eraser Decal Removal Wheel: (Decal and Pinstripe Removal Wheel - Max RPM 3,500)

- The rubber Eraser Decal Removal Wheel is available to remove pinstriping, stickers, decals, adhesive tapes and glue from metal, glass, fiberglass and wood surfaces without damaging the sub-surface.

When using Eraser Decal Removal Wheel, work **INWARD** from the edge and from side to side. Never tilt or move forward & backwards across a solid surface.

- The notched wheel vents and cools surface.
- No jumping, No vibration. Easy to handle.

92255 Red-Tred®
Eraser Wheel

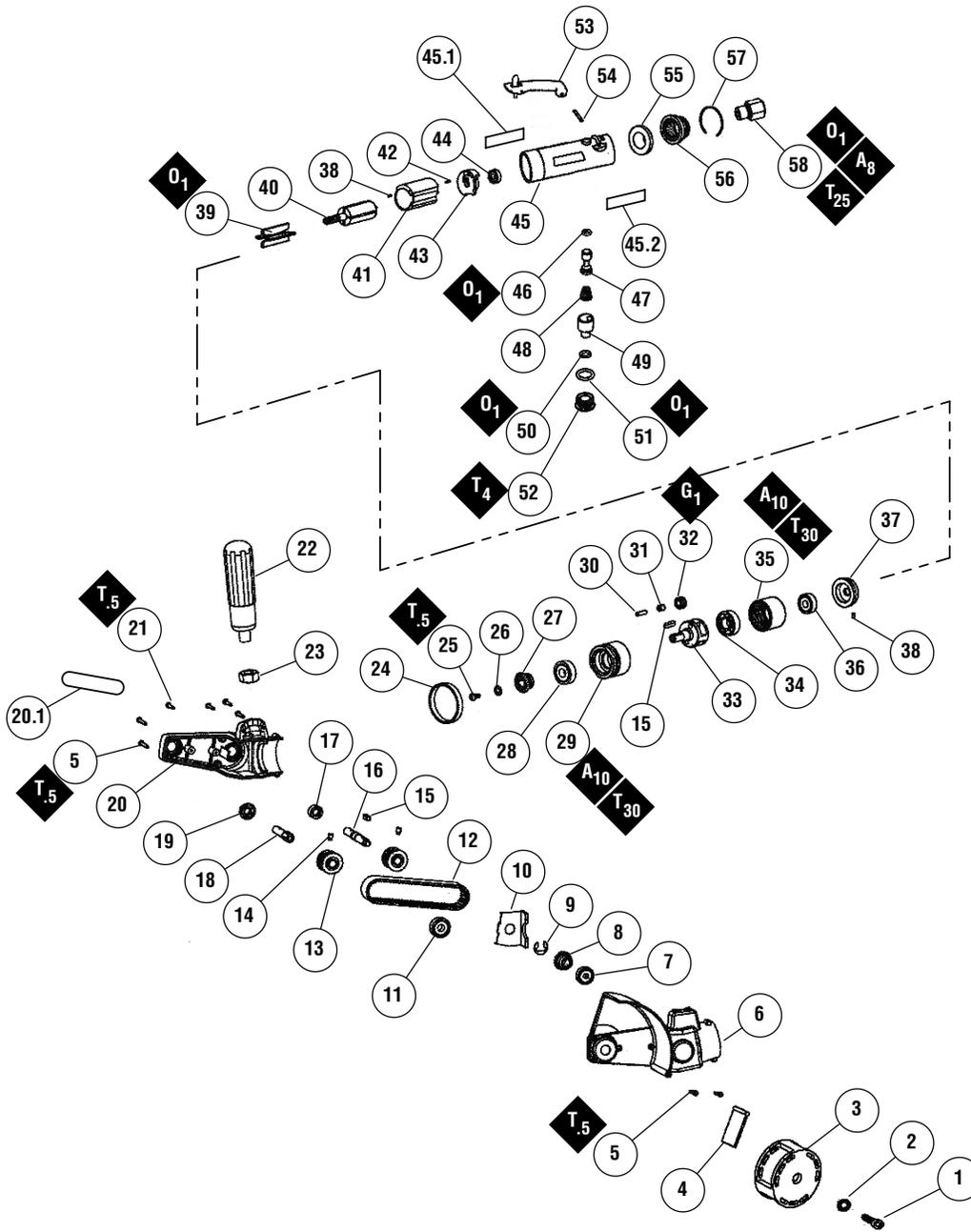


92240 Beige
Eraser Wheel



SPECIAL OPERATING INSTRUCTIONS

Never run the tool unless the accessory is applied to the workpiece.



ITEM	P/N	DESCRIPTION	QTY.
1	55801	SCREW	1
2	55802	LOCK WASHER	1
3	92239	HUB	1
4	55803	DUST FLAP	1
5	55804	SCREW	4
6	55805	HOUSING - GUARD HALF, MARKED	1
7	55806	BEARING	1
8	55807	GEAR	1
9	55808	RETAINING RING	1
10	55809	BELT HOUSING INNER WALL	1
11	55810	BEARING	1
12	55811	BELT	1
13	55812	BELT PULLEY	2
14	55813	SET SCREW	2
15	55814	KEY	2
16	55815	BELT DRIVE SHAFT	1
17	55816	BEARING	1
18	55817	SPINDLE	1
19	55818	BEARING	1
20	55819	HOUSING ASSY. - BELT HALF, W/ LABEL	1
20.1	55820	LABEL - PRODUCT SPECS.	1
21	55821	SCREW	8
22	55822	SIDE HANDLE	1
23	55823	NUT	1
24	55824	COLLAR	1
25	55825	SCREW	1
26	55826	LOCK WASHER	1
27	55827	PINION GEAR	1
28	55828	BEARING	1
29	55829	LOCK RING	1
30	55830	PIN	2
31	55831	BUSHING	2
32	55832	GEAR	2
33	55833	PLANETARY CARRIER	1
34	55834	BEARING	1
35	55835	RING GEAR	1
36	55836	BEARING	1
37	55837	FRONT END PLATE	1
38	55838	PIN	2
39	55839	VANE	4
40	55840	ROTOR	1
41	55841	CYLINDER	1
42	55842	PIN	1
43	55843	REAR END PLATE	1
44	55844	BEARING	1
45	55845	MOTOR HOUSING ASSY.	1
45.1	55846	LABEL - BRANDING, LEFT	1
45.2	55847	LABEL - BRANDING, RIGHT	1
46	55848	O-RING	1
47	55849	VALVE STEM	1
48	55850	VALVE SPRING	1
49	55851	SPEED REGULATOR	1
50	55852	O-RING	1
51	55853	O-RING	1
52	55854	REGULATOR CAP	1
53	55855	LEVER ASSY.	1
54	55856	PIN	1
55	55857	MUFFLER	1
56	55858	EXHAUST COVER	1
57	55859	SNAP RING	1
58	55860	INLET BUSHING	1
	92255	ERASER WHEEL	1
	55861	HEX KEY	1

KEY

- O** Oil: O₁ = Air Lube
- A** Adhesive: A₈ = Loctite #567
A₁₀ = Loctite #243
- G** Grease: G₁ = Gear Grease
- T_x** X = Torque Value (N•m)
(N•m x 8.85 = lb•in.)

Always follow adhesive manufacturers cleaning and priming recommendations.

51	55853	O-RING	1
52	55854	REGULATOR CAP	1
53	55855	LEVER ASSY.	1
54	55856	PIN	1
55	55857	MUFFLER	1
56	55858	EXHAUST COVER	1
57	55859	SNAP RING	1
58	55860	INLET BUSHING	1
	92255	ERASER WHEEL	1
	55861	HEX KEY	1

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	Weight	Length	Height
NZ1	3,500 RPM	.5 hp (373 W)	28 SCFM (792 LPM)	2.6 lb. (1.2 kg)	11.7" (298 mm)	4.4" (113 mm)

Additional Specifications: Air Inlet Thread 1/4" NPT • Hose I.D. 3/8" (10 mm) • Air Pressure 90 PSIG (6.2 Bar)
 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: 1pt. (473 ml)

Part No. 95843: 1 gal. (3.8 L)



Gear Grease

- 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

Part No. 95541: Push-type grease gun

Part No. 95544: 2.5 oz. (74 ml) tube

Wire and Eraser Wheels

Part Number	Size	Grade	Tip Type	Use
92245	4" dia. x 3/4" wide	Coarse	Bent	Sealants
92246	4" dia. x 3/4" wide	Medium	Bent	Rust
92247	4" dia. x 3/4" wide	Fine	Straight	Paint Removal
92248	4" dia. x 1/2" wide	Coarse	Bent	Sealants
92255	4" dia. x 1-1/4" wide	Aggressive Removal	—	Decals/Adhesive
92240	4" dia. x 1-1/4" wide	Light Removal	—	Decals/Adhesive



Hub

92252: For 1/2" wide wire wheels

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