

300 Series Sanders

Dual Pad, Dual Piston Sander

PD17.12
April, 2017

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

Model	Stroke
300	3/4" Long
300CE*	
300A	1/2" Long
300ACE*	

*CE Certified Models

SANDER / POLISHER



**LIFETIME
WARRANTY**

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 Abrading Materials with Coated Abrasive System – 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 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 and Sander/Polisher sections found in Tool Safety and Operating Guidelines (PN00001676) Before Handling or Using Tool.

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

Tool Intent: 300 Series models are ideal for sanding, wet sanding, rubbing/polishing and finish blending surfaces. Models are equipped with rubber pads with a clip attachment system to accept coated abrasives and non-woven nylon. Other pad options: felt, neoprene and hook faced.

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: **10681** 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 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.
-  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):


- 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:

-  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.
 - A Motor Tune-Up Kit is available which includes high wear and medium wear motor parts.
 - 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.

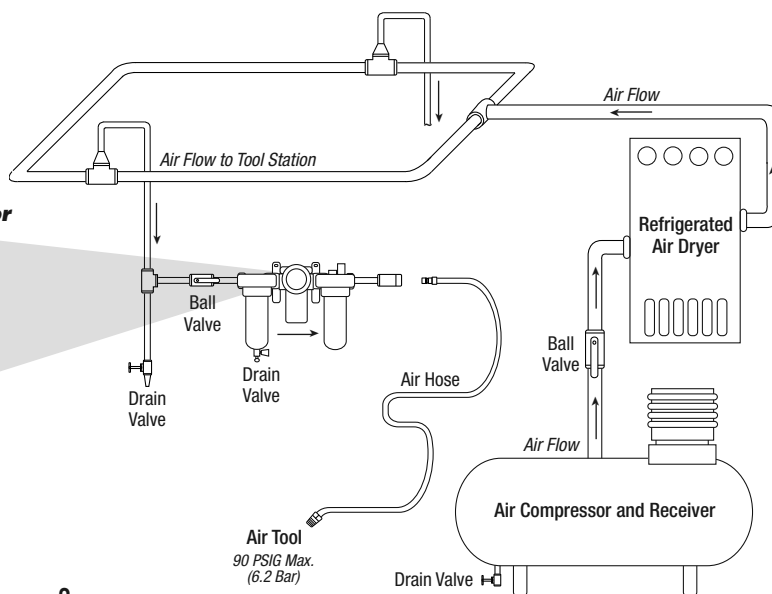
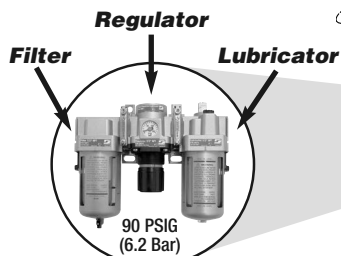
NOTICE

All NationalDetroit/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.



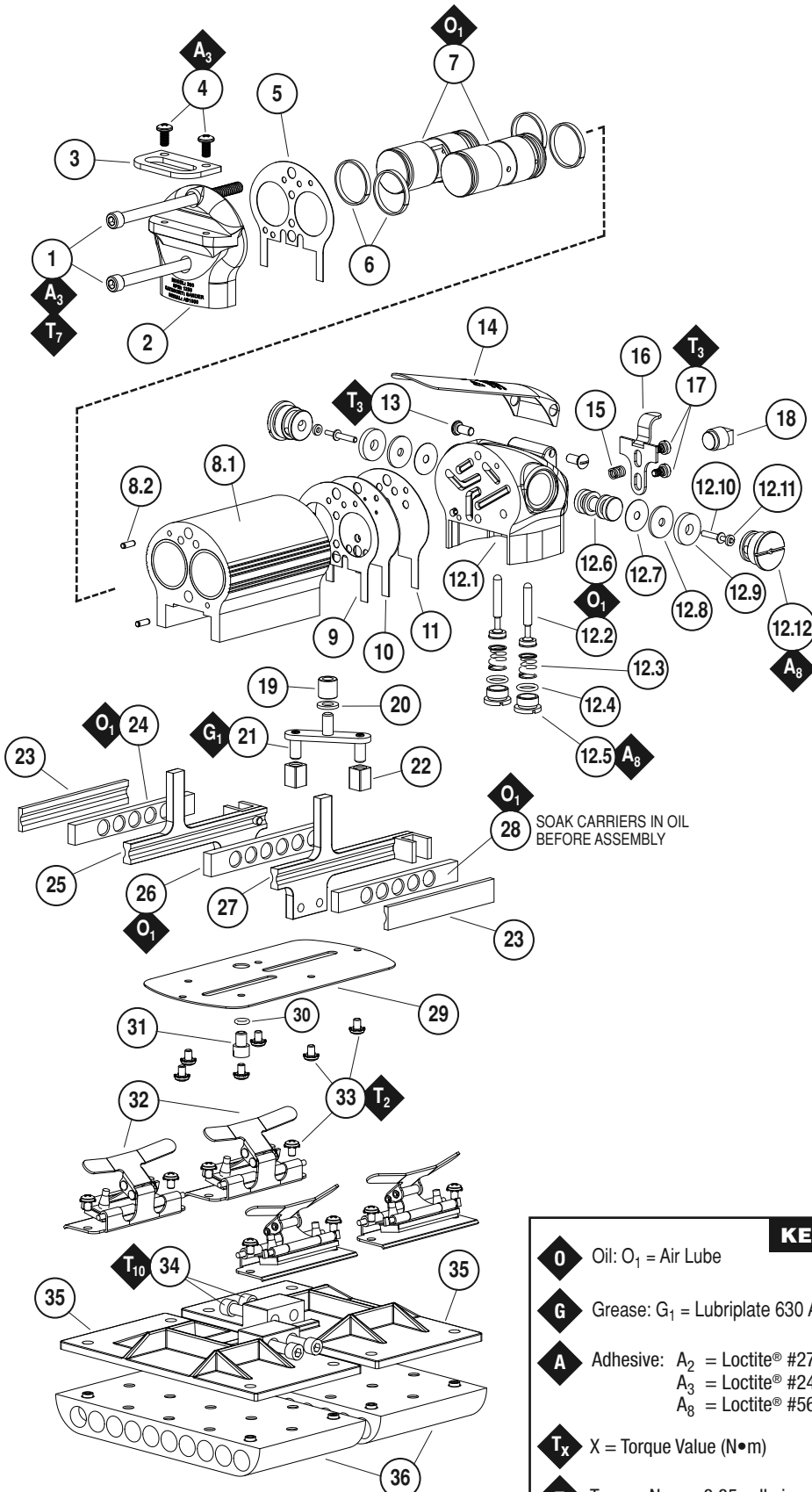
Lubricator Setting

1 Drop/Minute per 20 SCFM

300 Series

Complete Assembly

Models
300/300CE 3/4" L Stroke
300A/300ACE 1/2" L Stroke



KEY	
O	Oil: O ₁ = Air Lube
G	Grease: G ₁ = Lubriplate 630 AA
A	Adhesive: A ₂ = Loctite® #271 A ₃ = Loctite® #242 A ₈ = Loctite® #567
T_x	X = Torque Value (N•m)
T	Torque: N•m x 8.85 = lb•in.

Always follow adhesive manufacturers cleaning and priming recommendations.

ITEM	P/N	DESCRIPTION	QTY.
1	33154	ASSEMBLY BOLT	2
2	33185 33203 33201 33204	END CAP – 300 END CAP – 300CE END CAP – 300A END CAP – 300ACE	1
3	33161	HANGER	
4	33130	SCREW	2
5	33152	GASKET	2
6	33155	PISTON RING	4
7	33141 33166	PISTON ASSEMBLY – 300/300CE PISTON ASSEMBLY – 300A/300ACE	2
8	33126 33202	HOUSING ASSEMBLY – 300/CE HOUSING ASSEMBLY – 300A/300ACE	1
8.1	33123 33125	CYLINDER ASSEMBLY – 300/300CE CYLINDER ASSEMBLY – 300A/300ACE	1
8.2	21434	DOWEL	4
9	33152	GASKET	1
10	33143	SPACER PLATE	1
11	33151	GASKET	1
12	33124	VALVE HEAD ASSEMBLY	1
12.1	33124-02	VALVE HEAD SUB-ASSEMBLY	1
12.2	33146	VALVE STEM ASSEMBLY	2
12.3	33137	VALVE STEM SPRING	2
12.4	01025	O-RING	2
12.5	33138	VALVE STEM SPRG. RET. PLUG	2
12.6	33133	SHUTTLE VALVE	1
12.7	33165	SHUTTLE VALVE GASKET	2
12.8	33134	SHUTTLE VALVE WASHER	2
12.9	33135	SHUTTLE VALVE RUBBER WASHER	2
12.10	33136	VALVE PUSH PIN	2
12.11	33158	VALVE PUSH PIN SEAL	2
12.12	33131	SHUTTLE VALVE PLUG	2
13	33150	TRIGGER SCREW	2
14	33145 33197	TRIGGER – 300/300A TRIGGER – 300CE/300ACE	1
15*	33142	TRIGGER LATCH SPRING – 300/300A	1
16*	33159	TRIGGER LATCH – 300/300A	1
17*	33160	TRIGGER LATCH SCREW – 300/300A	2
18	33174	PLUG	1
19	33140	NEEDLE BEARING	1
20	33139	EQUALIZER BEARING SPACER	1
21	33122	EQUALIZER SUB ASSEMBLY	1
22	33144	EQUALIZER SLIDING BLOCK	2
23	33147	OUTER BALL RACE	2
24	33153	BALL	16
25	33121	RH SLIDE SUB ASSEMBLY	1
26	33149	CENTER BEARING RETAINER	1
27	33120	LH SLIDE SUB ASSEMBLY	1
28	33148	SIDE BEARING RETAINER	2
29	33162	BOTTOM COVER PLATE	1
30	01020	O-RING	1
31	33157	WATER FITTING	1
32	33186	PAPER HOLDER	4
33	21674	SCREW	14
34	95239	SCREW	4
35	33178	SHOE PAD	2
36	21682	PAD	2

*Does not apply to CE certified models.

LIFETIME WARRANTY

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

MACHINE SPECIFICATIONS

Model No.	Stroke Length	Stroke	Air Consumption	Weight	Length	Height
300	3/4" (19 mm)	1,916 SPM	9 SCFM (243 LPM)	6.5 lb. (2.9 kg)	6.8" (171 mm)	5.6" (143 mm)
300CE						
300A	1/2" (13 mm)					
300ACE						

Additional Specifications: Air Inlet Thread 1/4" NPT • Hose I.D. 1/4" (6 mm)
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 1gal. (3.8 L)

Sanding Pads

- 3-3/8" Wide x 7-1/4" Long
- Four types of material to choose from.
- Tool requires two pads for operation.

Pad Material	Part No.
Rubber	21682
Felt	21681
Neoprene	21680
Hook-Face	21677



Dynaswivel®

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

Part No. 95460 1/4" NPT

REPAIR PROGRAM FOR NORTH AMERICA

Flat Rate Repair Program

- Charges include labor and all necessary parts needed to restore the tool to approved factory performance levels.

Contact Dynabrade for Pricing



REFERENCE CONTACT INFORMATION

American National Standards Institute (ANSI)

25 West 43 Rd St., 14th Floor • New York, NY 10036 • Tel: 1 (202) 293-8020

Compressed Air & Gas Institute

1300 Sumner Ave. • Cleveland, OH 44115-2851
Tel: 1 (216) 241-7333 • Fax: (216) 241-0105

European Committee for Standardization

Rue de Stassart 36 • B - 1050 Brussels, Belgium

International Organization of Standards

Case postale 56 • CH-1211 Geneva 20
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Government Printing Office

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