

Pencil Die Grinder

100,000 RPM, Twin Turbine

PD19.19
March, 2019

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

Model	Collet Insert
55500	1/8"
55501	3 mm

DIE GRINDER

LIMITED
LIFETIME
WARRANTY



55500

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, Compressed Air and Gas Institute (CAGI) Safety Code for Portable Air Tools – CAGI B186.1, Code of Federal Regulation – CFR 29 Part 1910, International Organization for Standardization (ISO) Hand Held Non-Electric Power Tools – ISO 11148, 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 Die Grinder 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: Pencil Grinders are intended to be used by professional operators for light deburring, deflashing, surface preparation, cleaning and finishing using 1/8" or 3 mm mandrel accessories. Do not use inappropriate accessories such as grinding wheels, router bits, cut-off wheels, saws, etc. on a pencil grinder.

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 (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 turbine pencil die grinder tools be used with a Filter-Regulator to minimize the possibility of misuse due to unclean or wet air. Dynabrade recommends the following: **10677** 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.
- **O** 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 gauge. (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.

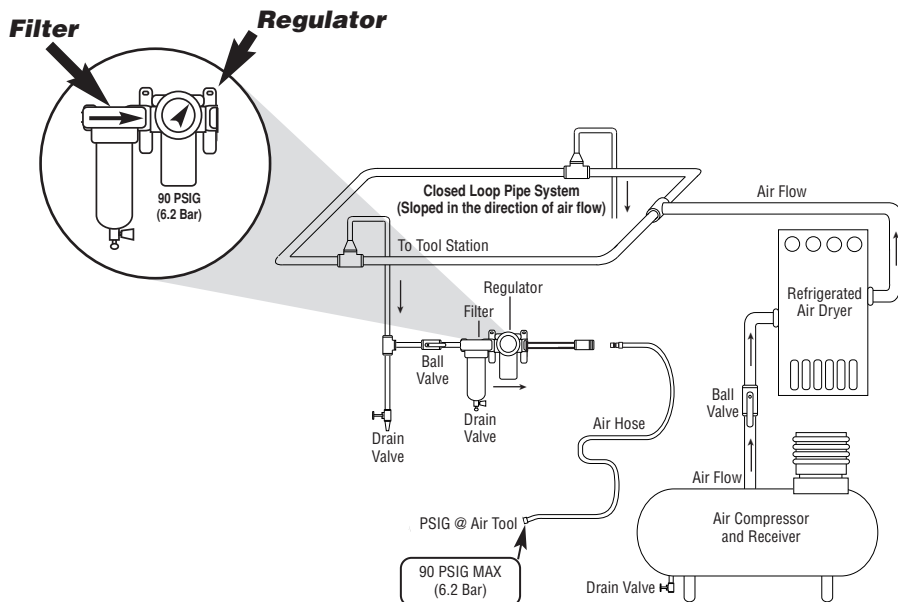
NOTICE

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



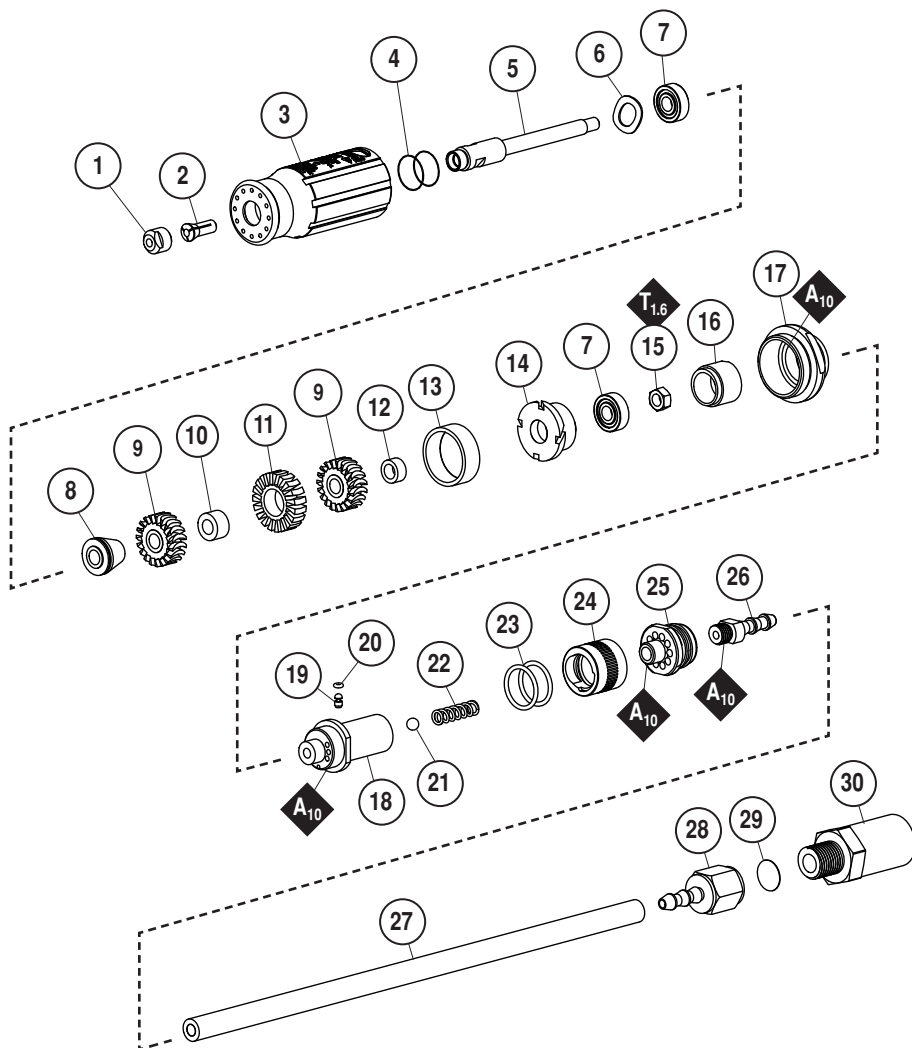
Models

55500 – 1/8" Collet

55501 – 3 mm Collet

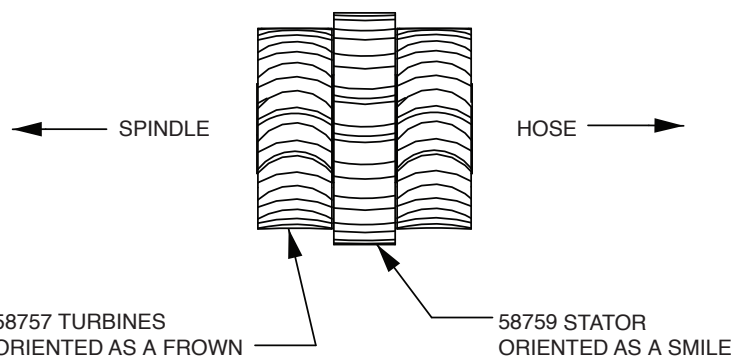
Pencil Grinder

Complete Assembly



ITEM	P/N	DESCRIPTION	QTY.
1	58750	COLLET CAP	1
2	58751, 58780	COLLET INSERT, 1/8" COLLET INSERT, 3 mm	1
3	58752	HOUSING	1
4	58775	O-RING	2
5	58753	SPINDLE	1
6	58754	WAVE WASHER	1
7	58755	BEARING	2
8	58756	AIR BARRIER	1
9	58757	TURBINE	2
10	58758	STATOR SPACER	1
11	58759	STATOR	1
12	58760	REAR SPACER	1
13	58761	LARGE SPACER	1
14	58762	REAR END PLATE	1
15	58763	NUT, SPINDLE	1
16	58764	AIR DEFLECTOR	1
17	58765	REAR HOUSING	1
18	58767	THROTTLE BODY	1
19	58768	THROTTLE PIN	1
20	58769	O-RING, ROLL VALVE	1
21	58770	THROTTLE BALL	1
22	58771	THROTTLE SPRING	1
23	96422	O-RING	2
24	58773	ROLL VALVE	1
25	58774	REAR VALVE BODY	1
26	58778	TWIN TURBINE HOSE BARB	1
27	53589	HOSE	1
28	51269	FITTING, 1/4" NPT	1
29	56022	SCREEN-INLET	1
30	58779	AIR FILTER, IN-LINE	1
-	58776	OPEN END WRENCH - 7MM	2

TURBINE ORIENTATION



KEY

A Adhesive: A₁₀ = Loctite #243

T_x X = Torque Value (N•m)

T Torque: N•m x 8.85 = lb•in.

Always follow adhesive manufacturers
cleaning and priming recommendations.

LIMITED LIFETIME WARRANTY

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

LIMITED
LIFETIME
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MACHINE SPECIFICATIONS

Model	Max. Speed	Power	Air Consumption	Collet Insert	Weight W/Out Hose	Length W/Out Hose
55500	100,000 RPM	0.1 hp (75 W)	10 SCFM (283 LPM)	1/8"	.48 lb. (.216 kg)	5.6" (144 mm)
55501				3 mm		

Specifications: Air Inlet Thread 1/4" NPT • Hose I.D. 3/16" (4.8 mm)

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

OPERATING INSTRUCTIONS

See Pneumatic Tool Safety & Operating Guidelines supplied with tool and located at Dynabrade.com for additional safety and operating instructions.

Activate tool ON/OFF by following associated directional arrows shown on valve and twisting until the valve stops. "O" indicates off, "1" indicates on.



CAUTION!

Caution: Prior to use, after installing an accessory, and/or after assembling tool, test tool for excessive vibration. Test by first ensuring no one is in the unguarded plane of the accessory, then by running tool for 1 minute at operating speed in a protected area. DO NOT USE if tool vibration is excessive. If tool vibration is found to be excessive correct cause and retest to ensure safe operation.

OPTIONAL ACCESSORIES



Filter-Regulator

- Accurate air pressure regulation, two stage filtration of water/contaminates and adjustable oil drop.
- 1/2" NPT air inlet thread, also includes two bushings for easy conversion to 3/8" NPT.

Part No. 10677



Carbide Burr Kit

- 1/8" Carbide Burr Kit, Includes 12 burrs for grinding, deburring, and finishing metal.

Part No. 96602



Repair Collar

- Used to protect housings when placed in a vise.

Part No. 96767

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

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