

Quick-Change Pencil Grinder

With Turbine Brake and Hose Swivel

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

Model	RPM	Collet
60051	60,000	1/8"
60052	35,000	3/32"



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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 Code for Portable Air Tools – B186.1. For additional safety information, refer to Safety Requirements for the Use, Care and Protection of Abrasive Wheels – ANSI B7.1, Code of Federal Regulation – CFR 29 Part 1910, European Committee for Standards (EN) 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 SAFETY and OPERATING INSTRUCTIONS



Carefully Read and Understand the General and 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 Grinder Tools are ideal for engraving, light deburring, deflashing, surface preparation, cleaning and finishing using the proper abrasive stones, abrasive mounted wheels, points, molded abrasives, and carbide burrs.

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.
- **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 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):

- 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 **95542** 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.

- **O** 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.

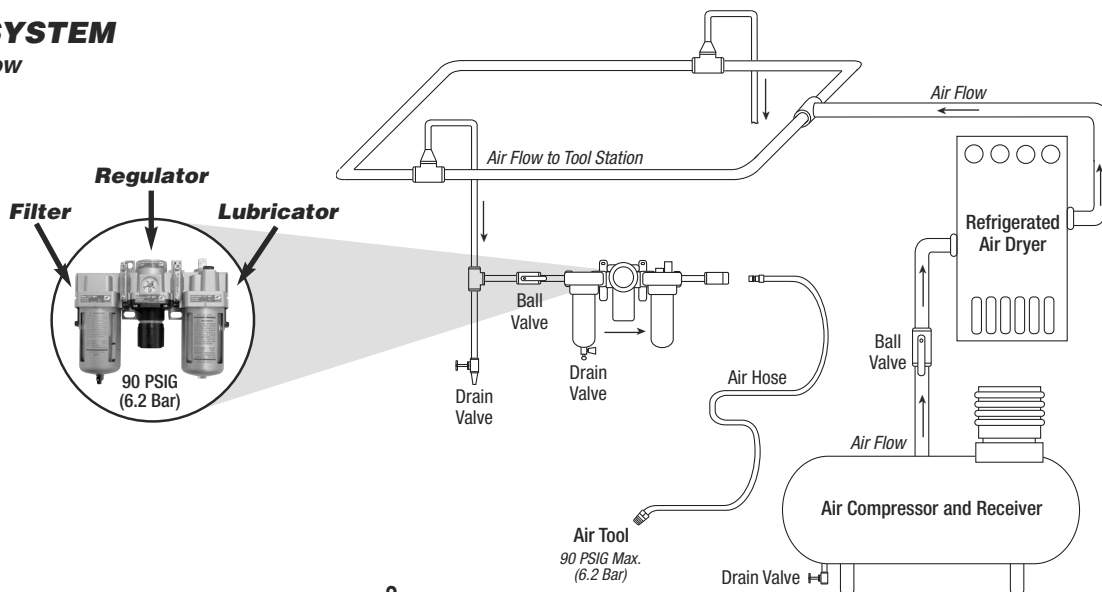
NOTICE

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.

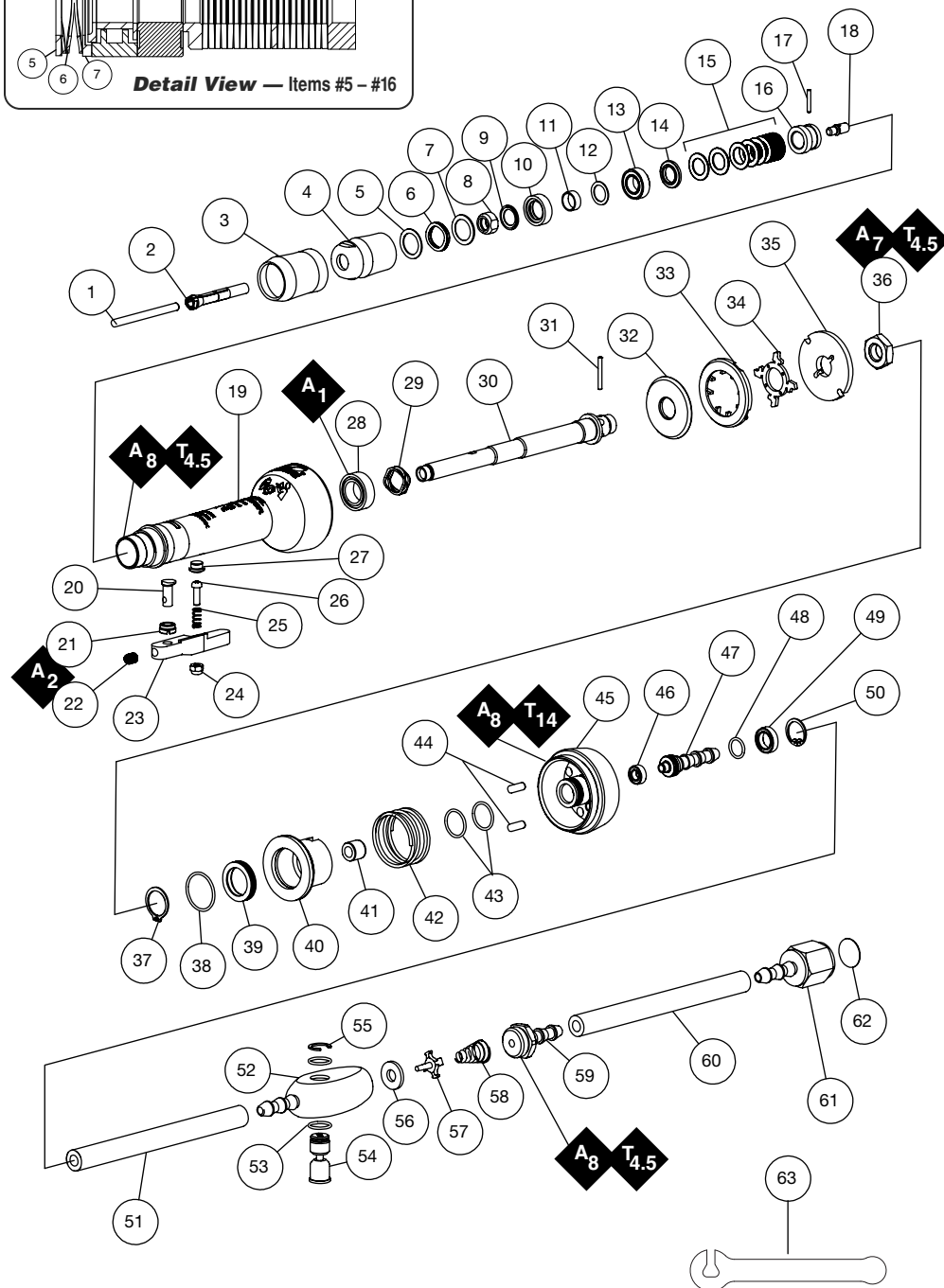
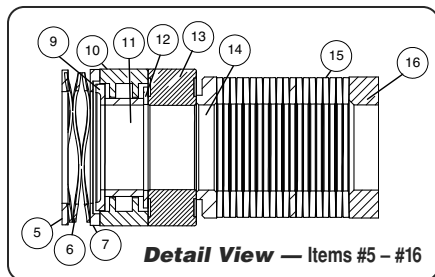


Lubricator Setting

1 Drop/Minute per 20 SCFM

Models
60051
60052

Quick-Change Pencil Grinder Complete Assembly



KEY

A Adhesive: A₂ = Loctite #271
A₇ = Loctite #222
A₈ = Loctite #567

T Torque: N•m x 8.85 = lb•in.

T_x X = Torque Value (N•m)

Always follow adhesive manufacturers
cleaning and priming recommendations.

ITEM	P/N	DESCRIPTION	QTY
1	94600 94601	PIN - 60051 PIN - 60052	1
2	60118 60119	1/8" COLLET - 60051 3/32" COLLET - 60052	1
3	60106	GRIP	1
4	60066	NOSE CONE	1
5	60081	WASHER	1
6	60094	SPRING	1
7	60087	SEAL WASHER	1
8	60077	BUMPER	1
9	60088	FRONT SEAL WASHER	1
10	60089	OUTER HOUSING SEAL	1
11	60090	INNER RACE SEAL	1
12	60092	REAR SEAL WASHER	1
13	60093	BEARING	1
14	60074	END SUPPORT	1
15	60073	SPRING	20
16	60078	SPRING WASHER	1
17	60091	PIN	1
18	60079	SCREW	1
19	60064 60065	HOUSING - 60051 HOUSING - 60052	1
20	60082	CAM	1
21	60080	CAM SUPPORT	1
22	60112	SET SCREW	1
23	60083	LEVER	1
24	60101	LOCK NUT	1
25	60085	SPRING	1
26	60084	PLUNGER	1
27	60096	DETENT GUIDE	1
28	51651	BEARING	1
29	60102	SPRING	1
30	60117	DRIVE SHAFT	1
31	60098	PIN	1
32	51656	TURBINE BASE	1
33	51678	TURBINE	1
34	51675 51691	GOVERNOR - 60051 GOVERNOR - 60052	1
35	60069	TOP BRAKE PLATE	1
36	60099	NUT	1
37	60103	RETAINING RING	1
38	60105	O-RING	1
39	60075	BACKING PLATE	1
40	60072	BRAKE ASSEMBLY	1
41	51662	BUSHING	1
42	60097	SPRING	1
43	60104	O-RING	2
44	60100	PIN	2
45	60111 60110	COVER - 60051 COVER - 60052	1
46	10967	BEARING	1
47	10966	SWIVEL BARB FITTING	1
48	10972	O-RING	1
49	10968	BEARING	1
50	95998	RETAINING RING	1
51	51276	HOSE (24"/609 mm)	1
52	51282	VALVE BODY	1
53	95730	O-RING	2
54	51665	VALVE	1
55	51669	RETAINING RING	1
56	51664	VALVE SEAT	1
57	51663	TIP VALVE	1
58	51676	SPRING	1
59	51271	BARB FITTING	1
60	51277	HOSE (42"/1066 mm)	1
61	51269	INLET FITTING	1
62	56022	INLET SCREEN	1
63	60116	WRENCH	1

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	Speed	Sound	Air Consumption	Collet Size	Weight	Length	Height
60051	60,000 RPM	77 db(A)	8 SCFM 227 (LPM)	1/8"	1 lb. (1.4 kg)	5.3" (136 mm)	1.5" (37 mm)
60052	35,000 RPM	65 db(A)	8 SCFM 227 (LPM)	3/32"	1 lb. (1.5 kg)	5.3" (136 mm)	1.5" (37 mm)

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

Sound Level is the pressure measurement according to the method outlined in ISO regulation ISO-15744

QUICK-CHANGE OPERATING INSTRUCTIONS

1. Always have something (dowel pin, accessory, etc.) in the collet when closing/locking lever, this will avoid collet distortion.
2. If an accessory seems to be stuck in the collet, lightly tap the accessory on the workbench. The slightest touch will release the accessory.

COLLET INSERT - CHANGE/REPLACEMENT INSTRUCTIONS

1. Rotate lever 90° to housing and unthread collet insert with fingers. If collet insert can not be removed by hand use provided 60116 Wrench.
2. Place new collet insert into tool and hand tighten until snug. Test fit collet insert and accessory by putting the lever into the lock position and making sure the accessory is properly retained within the collet insert. If the accessory is loose thread the insert deeper into the tool, repeat as necessary until accessory is properly retained.

OPTIONAL ACCESSORIES



Model 10677: 55 SCFM @ 145 PSIG
3/8" or 1/2" NPT Female ports.

- Filter-Regulator, provides accurate air pressure regulation and two stage filtration of water/contaminates.

Special Repair Tools

96418 Bearing Press Tool
(.623" O.D., .375" I.D.)

60113 Cam Support Wrench



Model 93351

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



Collet Insert

60120 3 MM

REFERENCE CONTACT INFORMATION

American National Standards Institute (ANSI)

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Compressed Air & Gas Institute

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

European Committee for Standardization

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International Organization of Standards

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