

Pistol Grip Drill

Central Vacuum

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

Model	Chuck	RPM	Vac Port
53103	3/8"	3,400	1-1/4"
53104	3/8"	4,500	1-1/4"
53105	3/8"	950	1-1/4"
53106	1/2"	950	1-1/4"









DRILL



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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 the Use, Care and Protection of Abrasive Wheels – 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 – 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.
-  Respiratory protection to be used when exposed to contaminants that exceed the applicable threshold limit values required by law.
-  Practice safety requirements. Work alert, have proper attire, and do not operate tools under the influence of alcohol or drugs.
-  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 Drill 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:** Pistol Grip Drills can be used to drill wood, ceramics, plastics, fiberglass, laminates, hard and soft materials. An appropriate external vacuum source is required that is suitable for material being processed.

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 as diagramed below.
- Each tool should have its own dedicated hose connected to an air supply manifold. Quick disconnects should be installed at the manifold in an effort to reduce contamination into the tool.
- 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 one 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) Dynabrade Air Lube (P/N **95842**: 1pt/473ml) is recommended.

MAINTENANCE SCHEDULE

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 Dynabrade Air Lube (P/N **95842**: 1pt/473ml) 10W/NR. (1 Drop per 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.)
- Right angled gear and wick system through gear case grease fitting with 3 plunges of gear oil (P/N **95848**) and grease gun (P/N **95541**). (Prime grease gun prior to greasing.)
- 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 or Once a Week Which Ever Comes First:

- Check free speed of tool without the abrasive accessory mounted. Measure RPM (speed) with tachometer and with air pressure set at 90 PSIG while the tool is running. If a governed tool is operating at a higher speed than the RPM marked on the tool housing, the tool must be serviced and corrected before use. 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 fast look for worn, damaged or missing governors, air control rings and silencers. Special care must be taken when servicing

governors and speed control devices. Injection molded governor assemblies are non-serviceable and must be replaced.

- If tool is running slow look for clogged inlet screen, air stream, silencer(s) or a malfunctioning governor (see concerns for servicing governors). Service as required.

Every 50 Hours:

- Lubricate planetary gears through gear case grease fitting with 3 plunges of grease (P/N **95542**) and grease gun (P/N **95541**). (Prime grease gun prior to greasing.)

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.
- DO NOT clean or maintain tools with chemicals that have a low flash point (example: WD-40®).
- Motor Tune-Up Kit are available (when applicable) 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 Dynabrade Air Lube (P/N **95842**) 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).
- 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

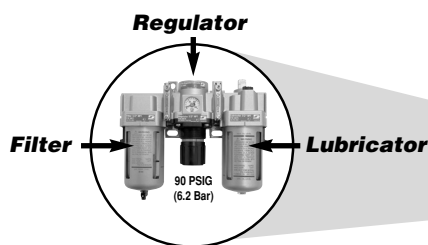
When tool has reached its end of useful service, disassemble tool into its primary components (i.e. steel, aluminum and plastic part) and recycle or discard per local, state and/or federal regulations as to not harm the environment.

NOTICE

All Dynabrade motors use the highest quality parts and metals available and are machined to exacting tolerances. The failure of quality pneumatic motors can most often be traced to an unclean air supply or the lack of lubrication. Air pressure easily forces dirt or water contained in the air supply into motor bearings causing early failure. It often scores the cylinder walls and the rotor blades resulting in limited efficiency and power. Our warranty obligation is contingent upon proper use of our tools and cannot apply to equipment which has been subjected to misuse such as unclean air, wet air or a lack of lubrication during the use of this tool.

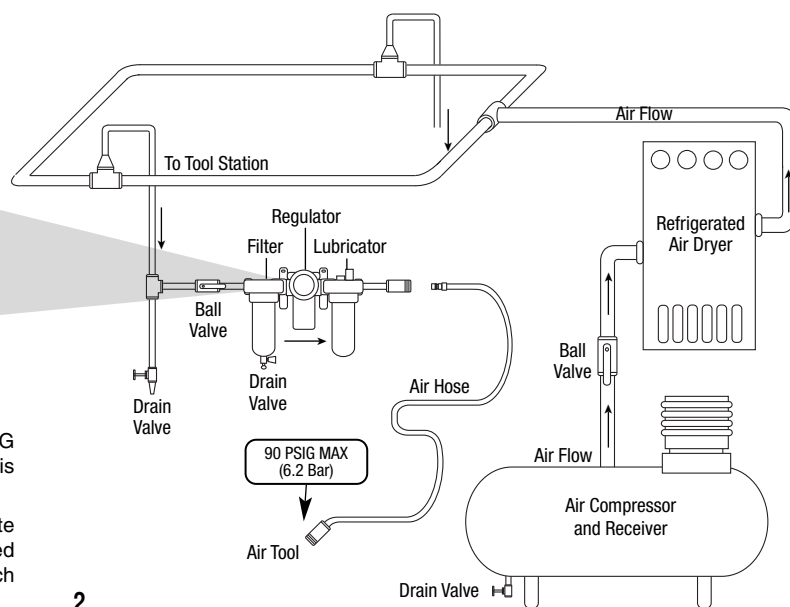
AIR SYSTEM

Closed Loop Pipe System, Sloped in Direction of Air Flow



LUBRICATOR SETTING
1 DROP/MIN.
20 SCFM

- 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

53103 – 3,400 RPM, 3/8" Chuck

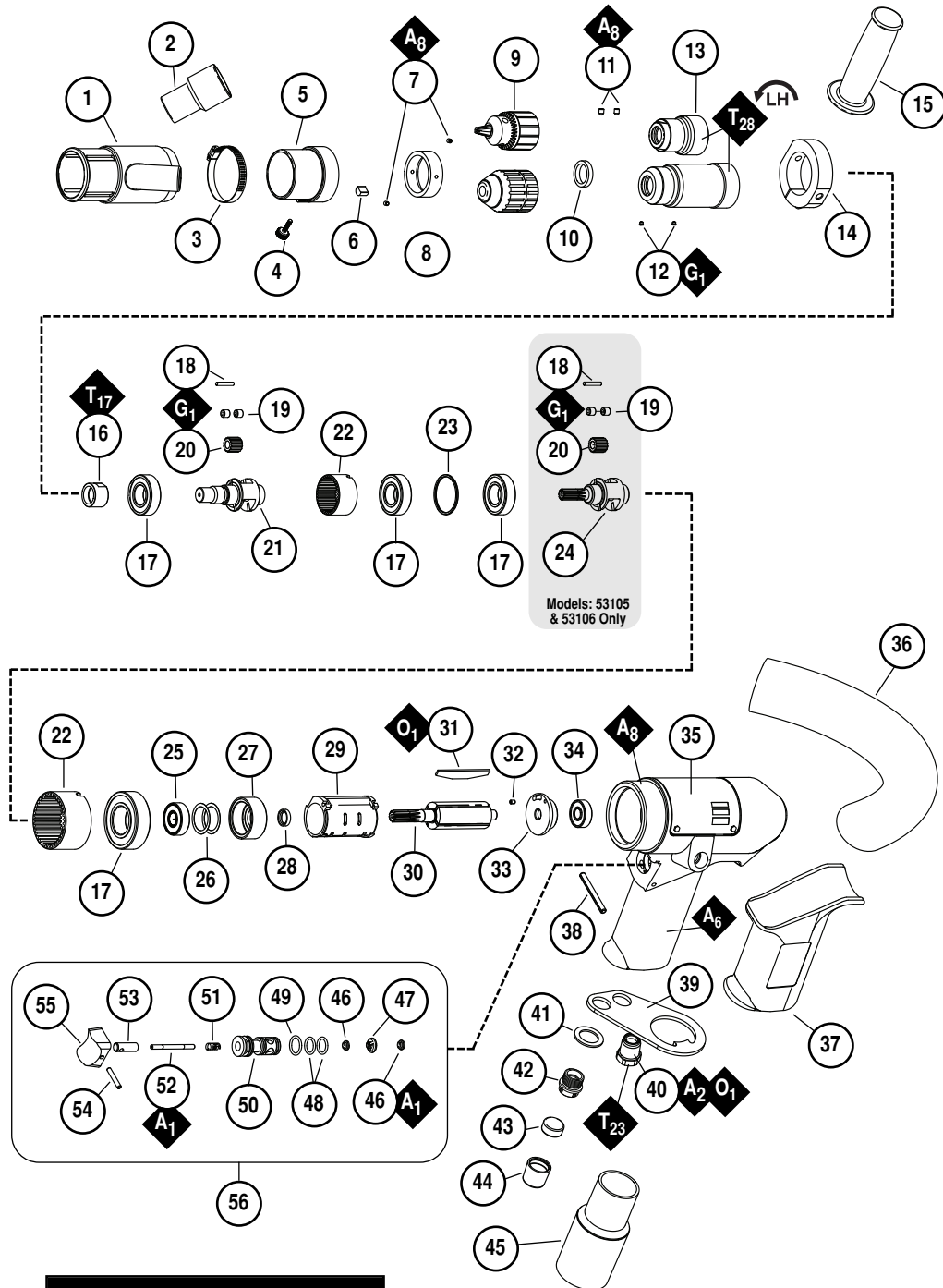
53104 – 4,500 RPM, 3/8" Chuck

53105 – 950 RPM, 3/8" Chuck

53106 – 950 RPM, 1/2" Chuck

**Pistol Grip Drill
Complete Assembly**

ITEM	P/N	DESCRIPTION	QTY.
1	52753	VACUUM SHROUD	1
2	31900	HOSE CUFF	1
3	97029	CLAMP	1
4	53219	LOCKING KNOB	1
5	02276	SHROUD BASE	1
6	40029	MOTOR LOCK	1
7	02275	SCREW	2
8	02272	SLEEVE	1
9	96526 53034	3/8" KEYLESS CHUCK 1/2" CHUCK - 53106	1
10	55031	FELT SEAL	1
11	04014	SCREW - 53103/53104 SCREW - 53105/53106	1 2
12	01041	FITTING - 53103/53104 FITTING - 53105/53106	1 2
13	53185 55030	COVER - 53105/53106 COVER - 53103/53104	1
14	53199	COLLAR - 53105/53106	1
15	53163	HANDLE ASSEMBLY	1
16	04114	SPINDLE NUT	1
17	02552	BEARING - 53103/53104 BEARING - 53105/53106	2 4
18	53182	SHAFT - 53103/53104 SHAFT - 53105/53106	2 4
19	04026	BEARING - 53103/53104 BEARING - 53105/53106	4 8
20	53195 53193	GEAR PLANET - 53104 (2) 53105/06 (4) GEAR PLANET - 53103 (2)	AR
21	02270 53165	CARRIER - 53103/53104/53105 CARRIER - 53106	1
22	53191	RING GEAR - 53103/53104 RING GEAR - 53105/53106	1 2
23	53188	SPACER - 53105/53106	1
24	53164	CARRIER - 53105/53106	1
25	01007	BEARING	1
26	01121	SHIM PACK (3/PKG)	1
27	53183	FRONT BEARING PLATE	1
28	01010	SPACER	1
29	01028	CYLINDER	1
30	04009 04017	ROTOR - 53104/53105/53106 ROTOR - 53106	1
31	01185	VANES (4/PKG)	1
32	50767	PIN SPRING	1
33	55027	REAR BEARING PLATE	1
34	02649	BEARING	1
35	53112 53113 53114 53115	HOUSING - 53103 HOUSING - 53104 HOUSING - 53105 HOUSING - 53106	1
36	31926	VACUUM HOSE	1
37	55024	GRIP	1
38	96025	PIN	1
39	02271	VACUUM HOSE HOLDER	1
40	56023	INLET BUSHING	1
41	02274	WASHER	1
42	57066	MUFFLER BODY	1
43	56027	MUFFLER INSERT	1
44	56028	MUFFLER CAP	1
45	31905	SWIVEL CUFF	1
46	55051	VALVE STOP	2
47	55041	VALVE	1
48	02027	O-RING	2
49	50939	O-RING	1
50	55039	BUSHING	1
51	96069	SPRING	1
52	55052	VALVE STEM	1
53	55043	TRIGGER POST	1
54	50936	PIN	1
55	55035	TRIGGER	1
56	55058	TRIGGER ASSEMBLY	1
57	95281	19 MM OPEN END WRENCH	1
58	53054	1/2" CHUCK KEY - 53106	1



**Always follow adhesive manufacturers
cleaning and priming recommendations.**

KEY

- O** Oil: O₁ = Air Lube
- G** Grease: G₁ = Lubriplate 630 AA
- A** Adhesive: A₁ = Loctite #609
A₂ = Loctite #271
A₆ = Loctite #380
A₈ = Loctite #567
- T_x** X = Torque Value (N•m)
- T** Torque: N•m x 8.85 = lb•in.

AR – "As Required"

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	Power	Sound	Air Consumption	Chuck	Weight	Length	Height
53103	3,400 RPM	.7 hp (522 W)	84 db(A)	40 SCFM 1130 (LPM)	3/8"	4 lb. (1.8 kg)	10.4" (264 mm)	5.9" (149 mm)
53104	4,500 RPM	.7 hp (522 W)	84 db(A)	40 SCFM 1130 (LPM)	3/8"	4 lb. (1.8 kg)	10.4" (264 mm)	5.9" (149 mm)
53105	950 RPM	.7 hp (522 W)	84 db(A)	40 SCFM 1130 (LPM)	3/8"	4.4 lb. (2 kg)	12.3" (310 mm)	5.9" (149 mm)
53106	950 RPM	.7 hp (522 W)	84 db(A)	40 SCFM 1130 (LPM)	1/2"	4.4 lb. (2 kg)	12.3" (310 mm)	5.9" (149 mm)

Additional Specifications: Air Inlet Thread 1/4" NPT • Hose I.D. 3/8" (10 mm)

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

DRILL ACCESSORY MOUNTING INSTRUCTIONS

Warning: Disconnect power source before removing inserted tool

- Open chuck jaws wide enough to install bit. Be sure the bit shank and chuck jaws are clean. Dirt particles may prevent the bit from lining up properly.
- Insert the bit into the chuck. Center the bit in the chuck jaws and lift it about 1/16" off the bottom. Tighten the chuck jaws by the hand to align the bit.
- Place the chuck key in each of the three holes in the chuck, turning it clockwise. Tighten securely.

Caution: Remove adjusting keys or wrenches before turning the tool on. A wrench or a key is left attached to a rotating part of the tool may result in personal injury.

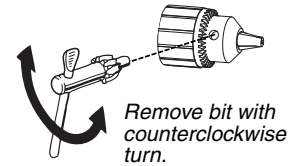
- Connect air tool to power source. Be careful NOT to depress throttle in the process.
- Do not expose air tool to inlet pressure above 90 PSIG or (6.2 Bars).

Caution: After installing the accessory, before testing or use and/or after assembling tool, the Pistol Grip Drill must be started at a reduced speed to check for good balance. Gradually increase tool speed. DO NOT USE if tool vibration is excessive. Correct cause, and retest to insure safe operation.

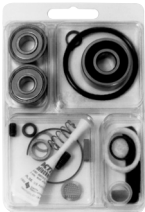
- To remove the bit, insert the chuck key into the holes in the chuck and turn counterclockwise.

Bit Selection:

- Use sharp bits. Sharp bits are less likely to bind when drilling. Use the proper bit for the job.
- Check the information on the bit's packaging for proper usage. Do not use bits larger than the rated capacity of the drill.



OPTIONAL ACCESSORIES



Motor Tune-Up Kit

- Includes assorted parts to help maintain and repair motor.

Part No. 96047



Dynamswivel®

- Swivels 360° AT TWO PIVOT POINTS allowing the air hose to drop directly to the floor while providing superb tool handling.

Part No. 94300 – 1/4" NPT



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)



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. 95542: 10oz. Grease Tube

Part No. 95541: Push-Type Lubricant Gun

- One-hand operation.

REFERENCE CONTACT INFORMATION

American National Standards Institute (ANSI)

1899 L Street, NW, 11th Floor • Washington, DC 20036
Tel: 1 (202) 293-8020

Compressed Air & Gas Institute (CAGI)

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

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International Organization of Standards (ISO)

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