# .7 hp Cut-Off Tool For Ø3" (76mm) Mounted Diamond Wheels

Air Tool Manual – Safety, Operation and Maintenance

SAVE THIS DOCUMENT, EDUCATE ALL PERSONNEL

# **Model:**

## 52417 - 20,000 RPM

- 3/8" Collet
- Accepts 3" Mounted **Diamond Wheels with** 3/8"Mandrel



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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.



Products offered by Dynabrade are not to be modified, converted or otherwise altered from the original design without expressed written consent from Dynabrade, Inc.

Tool Intent: .7 hp 3" Cut-Off Tool is ideal for trimming fiberglass parts.

Do Not use tool for anything other than its intended applications.

This power tool is not intended for use in potentially explosive atmospheres and is not insulated against contact with electrical power.

Training: Proper care, maintenance, and storage of your air tools will maximize their performance.

Employer's Responsibility - Provide .7 hp 3" Cut-Off Tool operators with safety instructions and training for safe use of tools and accessories.

#### Accessory Selection:

- · USE ONLY 3" Mounted Diamond Impregnated Steel Wheels with 3/8" diameter mandrel with 2 in. minimum length.
- DO NOT use router bits
- · Abrasive/accessory RPM (speed) rating MUST be approved for AT LEAST the tool RPM rating.
- · Before mounting an accessory, visually inspect for defects. Do not use defective accessories.
- · USE ONLY recommended accessories. Reference Dynabrade catalog and this tool manual.

#### SAFETY INSTRUCTIONS CONT.

- · Follow tool specifications before choosing size and type of accessory.
- · Only use recommended fittings and air line sizes. Air supply hoses and air hose accessories must have a minimum working pressure of 150 PSIG (10 Bars, g) or 150 percent of the maximum pressure produced in the system, whichever is higher. (See tool Machine Specifications table.)

#### **OPERATING INSTRUCTIONS**

Warning: Always wear personal protective equipment. Operator of tool is responsible for following: accepted eye, face, respiratory, hearing and body protection. Always use wheel shroud. Make sure it is positioned to best protect the operator and make sure it is securely fastened. Wheel shrouds that are worn, damaged or have been subject to a wheel breaking must be replaced.

- Caution: Hand, wrist and arm injury may result from repetitive work, motion and overexposure to vibration.
- · Keep hand and clothing away from working end of the air tool, working end of air tool has the potential of cutting and severing.
- · Keep slot width constant or increased.
- DO NOT side grind with cut-off wheels
- · If wheels get jammed in cut slot, shut off the cut-off tool, ease wheel from slot. Check that the wheel is still correctly secured and not damaged before continuing the operation.
- · Note the tool run down time. Control the tool as if the tool were under power.
- · Release the throttle lever in case of an interruption of the energy supply.

#### Operation: Be sure that any loose clothing, hair and all jewelry is properly restrained.

- · Secure inlet bushing on air tool with a wrench before attempting to install the air fitting to avoid damaging housing assembly.
- · BEFORE MOUNTING A WHEEL, after all tool repairs and whenever a cut-off tool is issued for use, check tool RPM (speed) with tachometer with air pressure set at 90 PSIG while the tool is running. If tool is operating at a higher speed than the RPM marked on the tool housing, or operating improperly, the tool must be serviced and corrected before use
- Caution: Tool RPM must never exceed abrasive/accessory RPM rating. Check accessory manufacturer for details on maximum operating speed or special mounting instructions.

#### **Diamond Impregnated Steel Wheel Mounting**

- · With power source disconnected from the air tool, mount recommended accessory into collet assembly.
- · The mandrel diameter of the abrasive/accessory must insert freely, but not loosely, all the way to the base of the collet body before tightening the collet cap. Use wrenches provided.

Caution: The mandrel shall be inserted to the full depth of the gripping jaws of the collet. At least 13mm of the mandrel length shall be inserted into the collet to prevent excessive overhang. DO NOT extend the mounted wheel below the shroud base plate. Refer to accessory manufacturer's instructions for proper overhang.

Warning: Sliding the accessory's mandrel out from the collet insert creates an "OVER HANG" condition. This practice is NOT recommended, reducing the free speed of the tool by reducing the air pressure must be done to avoid cutting tool breakage and serious injury. Improper mounting of an accessory may cause excessive vibration levels or damage to the accessory.

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

Caution: After installing the accessory, make sure that no one is in the unguarded plane of the wheel before starting the cut-off tool. IN A PROTECTED AREA, test run the wheel 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. Test wheel at its free speed (RPM) in a protected area for at least one minute before applying the wheel to the work.

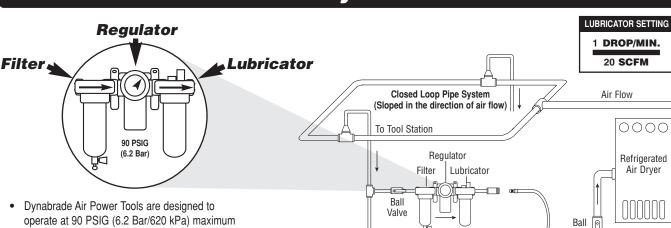
- · Make sure that work area is uncluttered, and visitors are at a safe range from the tools and debris.
- · Air tools are not intended for use in explosive atmospheres and are not insulated for contact with electric power sources.
- · Use a vise or clamping device to hold work piece firmly in place.
- · Do not apply excessive force on tool or apply "rough" treatment to it.
- · Always work with a firm footing, posture and proper lighting.
- · Ensure that sparks and debris resulting from work does not create a hazard.
- · This tool has rear exhaust. Exhaust may contain lubricants, vane material, bearing grease, and other materials flushed thru the tool.

Warning: Cutting certain materials can create explosive dust. It is the employers responsibility to notify the user of acceptable dust levels.

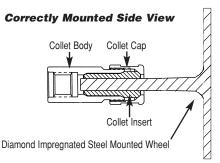
· Cutting can cause sparks which can cause fires or explosions. It is the users responsibility to make sure the work area is free of flammable materials.

Report to your supervisor any condition of the tool, accessories, or operation you consider unsafe.

Air Svstem



- Dynabrade Air Power Tools are designed to operate at 90 PSIG (6.2 Bar/620 kPa) 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 of 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.



20 SCFM

0000

Refrigerated

Air Drver

Air Flow

Valve

Air Flow

Air Compressor

and Receiver

Air Hose

Drain Valve 🕫 🗌

нQ

Drain

Valve

Drain

Valve

Air Tool

90 PSIG MAX

(6.2 Bar)

# **Maintenance Instructions**

Important: A Preventative Maintenance Program is recommended whenever portable power tools are used. The program should include inspection of air supply lines, air line pressure, proper lubrication and repair of tools. Refer to ANSI B186.1 for additional maintenance information.

- Use only genuine Dynabrade replacement parts to insure quality. To order replacement parts, specify Model#, Serial# and RPM of your air tool.
- All Dynabrade Rotary Vane air tools must be used with a Filter-Regulator-Lubricator to maintain all warranties. Dynabrade recommends the following: 11411 Air Filter-Regulator-Lubricator (FRL) – Provides accurate air pressure regulation and two stage filtration of water contaminants. Operates 55 SCFM/1,558 LPM @ 100 PSIG with 1/2" NPT female ports.
- 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: 1 pt 473 ml) is recommended.

#### **Routine Preventative Maintenance:**

- · Check free speed of tool regularly and after service using a tachometer without accessory mounted.
- Make a simple check of vibration level after each service.
- Periodically remove the collet insert and clean the inside diameter and slots from debris to keep accessories secure and reduce vibration.
- · Inspect collet regularly for nicks, cuts, sharp edges and runout. Replace damaged or worn inserts with genuine Dynabrade inserts.
- · Inspect shroud for wear or damage. Shrouds that are bent and severely worn or subject to a wheel breakage must be replaced.
- · Inspect diamond impregnated steel mounted wheel before mounting. Do not use mounted wheels that are damaged or warped.
- · Check diamond impregnated steel mounted wheel speed rating. Rating of wheel must be greater than the tool speed marked on the housing.
- If diamond impregnated steel mounted wheel damage occurs, investigate to determine the cause and correct before issuing tool for work.
- 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.
- <u>DO NOT</u> clean or maintain tools with chemicals that have a low flash point (example: WD-40<sup>®</sup>).
- A Motor Tune-Up Kit (P/N 96529) is available which includes high wear and medium wear motor parts.
- Air tool labels must be kept legible at all times, if not, reorder label(s) and replace. User is responsible for maintaining specification information i.e.: Model #, S/N, and RPM. (See Assembly Breakdown)
- · Blow air supply hose out prior to initial use.
- · Visually inspect air hoses and fittings for frays, visible damage and signs of deterioration. Replace damaged or worn components.
- Refer to Dynabrade's Warning/Safety Operating Instructions Tag (Reorder No. 95903) for safety information.

After maintenance is performed on tool, add a few drops of Dynabrade Air Lube (P/N 95842) to the air line and start the tool a few times to lubricate air motor. Check for tool vibration before mounting abrasive wheel accessory.

#### Handling and Storage:

- Use of tool rests and storage hangers are recommended.
- Protect tool inlet from debris (see Notice below).
- <u>DO NOT</u> carry tool by air hose or near the tool throttle lever.
- Protect diamond impregnated steel mounted wheel from exposure to water, solvents, freezing temperature and extreme temperature changes.
   See Manufacturer's Instructions –
- <u>DO NOT USE</u> diamond impregnated steel mounted wheels that have been dropped or show signs of warpage, cracks, nicks or other defects.
- · Store accessories in protective racks or compartments to prevent damage.

Machine Specifications									
Model Number	Motor hp (W)	Motor RPM	Sound Level	Maximum Air Flow SCFM (LPM)	Air Pressure PSIG (Bars)	Spindle Thread	Weight Pound (kg)	Length Inch (mm)	Height Inch (mm)
52417	.7 (522)	20,000	81 dB(A)	37 (1,048)	90 (6.2)	N/A	2.9 (1.3)	10-5/16 (263)	5-1/4 (133)

Additional Specifications: Air Inlet Thread 1/4" NPT • Hose Size 3/8" (10 mm) Sound Level is the pressure measurement according to the method outlined in ISO regulation ISO-15744

## 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.

# **One Year Warranty**

Following the reasonable assumption that any inherent defect which might prevail in a product will become apparent to the user within one year from the date of purchase, all equipment of our manufacture is warranted against defects in workmanship and materials under normal use and service. We shall repair or replace at our factory, any equipment or part thereof which shall, within one year after delivery to the original purchaser, indicate upon our examination to have been defective. Our obligation is contingent upon proper use of Dynabrade tools in accordance with factory recommendations, instructions and safety practices. It shall not apply to equipment which has been subject to misuse, negligence, accident or tampering in any way so as to affect its normal performance. Normally wearable parts such as bearings, contact wheels, rotor blades, etc., are not covered under this warranty.

Model: 52417

Oil: O <sub>1</sub> = Air Lube	KEY
A Adhesive: A <sub>8</sub> = Loctite	#567
Torque: N•m x 8.85 = I	n Ibs.

# Index Key

No.	Part #	Description
1	96272	Screw (3)
2	52617	Base
3	52616	Shroud
4	40029	Motor Lock
5	95168	Screw
6	50012	Collet Cap
7	50014	3/8" Collet Insert
8	50009	Collet Body
9	01371	Lock Ring
10	53175	Collar
11	01796	Block Plate
12	01007	Bearing
13	01121	Shim Pack (3/pkg.)
14	01008	Bearing Plate
15	50767	Pin (2)
16	01010	Rotor Spacer
17	01028	Cylinder
18	01185	Blade (4/pkg.)
19	55021	Rotor
20 21	01721 02649	Bearing Plate Bearing
22		sings Include:
22		g & Specification Labels
	<b>30496</b>	Housing – Model <b>52417</b>
23	01089	Safety Lock Lever
24	01017	Pin
25	95558	Retaining Ring
26	01477	Valve Stem
27	95730	O-Ring
28	01024	O-Ring
29	01247	Speed Regulator Assy.
30	01464	Seal
31	01472	Tip Valve
32	01468	Spring
33	01564	Air Control Ring
34	95711	Retaining Ring
35	95438	O-Ring
36	94521	Muffler Base
37	94524	Sintered Muffler
38	94525	Felt Muffler
39	94522	Muffler Cap
40	95375	O-Ring
41	94526	Spacer
42	94523	Inlet Adapter
43	94520	Muffler Assembly
44	94300	Dynaswivel

# Label Key Part # Description 96582Warning Label96119Specification Label

.7hp 3" Cut-Off Tool Complete Assembly
$\begin{array}{c} 13 \\ 13 \\ 16 \\ 17 \\ 10 \\ 10 \\ 14 \\ 15 \\ 11 \\ 15 \\ 15 \\ 21 \\ 15 \\ 15$
43
OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO

# Disassembly/Assembly Instructions – .7 hp 3" Cut-Off Tool

Important: The Manufacturing Warranty is void if the tool is disassembled before the warranty expires by anyone other than a Dynabrade<sup>®</sup> Approved Repair Technician. Notice: A 96529 Motor Tune-Up Kit is available. Also, the special repair tooling referred to in these instructions can be ordered through your Dynabrade<sup>®</sup> Distributor. Please refer to this tool manual for correct part number identification.

### Important: Always follow these steps before servicing any part of this air tool.

Shut off the air supply, and depress throttle lever to dissipate the remaining air. Carefully disconnect the tool from the air supply hose. **Note:** Use a wrench to hold the air tool inlet adapter stationary when removing the air supply connection.

# Motor Disassembly:

- 1. Disconnect the tool from the air supply.
- 2. Secure the air tool in a vise by holding on the flats of the motor housing.
- 3. Loosen 95168 Screw and remove 3" cut-off tool shroud assembly, then remove the collet cap and insert from the 50009 Collet Body.
- 4. Remove the 01371 Lock Ring with an adjustable wrench turning it counter-clockwise.
- 5. Pull the motor assembly from the housing.
- 6. Fasten a 2 in. bearing separator around the portion of the 01028 Cylinder nearest the 01721 Rear Bearing Plate.
- 7. Place the bearing separator and the air motor on the table of an arbor press so that the threaded shaft of the rotor is pointing toward the floor.
- 8. Use a 1/4" dia. drive punch as a press tool and push the rear rotor shaft out of the 02649 Rear Bearing.
- 9. The 02649 Bearing can be removed from the 01721 Rear Bearing Plate using 96213 Bearing Removal Tool (ordered separately) and an arbor press.
- 10. Secure the vane portion of the 55021 Rotor in a vise with aluminum or bronze jaws.
- 11. Use an adjustable wrench to remove the 50009 Collet Body turning it counterclockwise
- 12. The 01007 Bearing, 01008 Bearing Plate, 01121 Shim & 01010 Spacer can now be removed.

## Motor Disassembly Complete.

# Valve Disassembly:

- 1. Secure the valve body (housing) in a vise by holding on the flats so that the air inlet is pointing up.
- 2. Important: 94523 Air Inlet must be held stationary with a wrench while removing any air fitting from the air inlet.
- 3. Remove the 94523 Air Inlet.
- 4. Refer to the exploded view of the 94520 Muffler on the front of this parts page to identify specific parts and order of assembly.
- 5. Remove the air control ring, 01468 Spring, 01472 Tip Valve, and 01464 Seal.
- 6. To remove the throttle lever use a 2.5mm drive punch.
- 7. Pull the 01477 Valve Stem out of the speed regulator assembly.
- 8. Remove the 95558 Retaining Ring and push the 01247 Speed Regulator Assembly out of the valve body (housing).

Valve Disassembly Complete.

## Important: Clean and inspect all parts for wear before assembling. Note: Follow all lubrication, adhesive, and torque specifications.

# Valve Assembly:

- 1. Secure the valve body (housing) in a vise by holding on the flats so that the air inlet is pointing up.
- 2. Install the 01247 Speed Regulator Assembly (includes o-rings) and 01477 Valve Stem into the valve body (housing).
- Place the 01464 Seal into the valve body. Use needle nose pliers to install the 01472 Tip Valve so that its metal pin fits into the hole of the 01477 Valve Stem, and then place the smaller end of the 01468 Spring against the back of the tip valve.
- 4. Install the air control ring onto the threaded male end of the 94520 Muffler Assembly. Apply a small amount of Loctite<sup>®</sup> #567 (or equivalent) to the male threads of the 94523 Air Inlet and then install the 94520 Muffler Assembly (torque to 23 N•m/200 in. lbs.).
- 5. Fasten throttle lever assembly onto valve body with 01017 Pin.
- 6. Hold the 94523 Air Inlet with an adjustable wrench while installing the air fitting.

Valve Assembly Complete.

# Motor Assembly:

- 1. Secure the vane portion of the 55021 Rotor in a vise with aluminum or bronze jaws.
- 2. Install 01010 Spacer on the rotor.
- 3. Place a .002" and a .001" thick shim into the 01008 Front Bearing Plate and install the 01007 Bearing. Slide this assembly onto the rotor.

# Assembly Instructions – .7 hp 3" Cut-Off Tool (Cont.)

- 4. Install the 50009 Collet Body onto the rotor (torque to 17 N•m/150 in. lbs.).
- Check the clearance between the rotor and the bearing plate by using a .001" thick feeler gauge (clearance should be at .001" to .0015"). Adjust clearance by repeating steps 3-5 with different shimming if necessary. Once proper rotor/gap clearance is achieved proceed with the motor assembly.
- 6. Install lubricated (10W oil; 95842 Dynabrade Air Lube) 01185 Blades (4/pkg.).
- 7. Place 01028 Cylinder onto the assembly so that the air inlet opening will line up with the inlet holes in the 01721 Rear Bearing Plate.
- 8. Press 02649 Bearing into the 01721 Bearing Plate by using 96240 Bearing Press Tool (ordered separately) pushing against the outer race of the bearing.
- 9. Press the rear bearing/bearing plate assembly onto the rear shaft of the 55021 Rotor by using 96240 Bearing Press Tool (ordered separately) pushing against the inner race of the bearing. Important: Carefully press the bearing/bearing plate assembly onto the rotor so as to achieve a snug fit between the bearing plates and the cylinder. A snug fit will trap the cylinder while still allowing it to be shifted from side to side with a slight amount of finger pressure. A loose fit will not achieve the proper preload of the motor bearings.
- 10. With the outer diameters of the bearing plates and the cylinder aligned carefully slide the motor assembly into the housing so that the air passage node of the 01721 Rear Bearing Plate will fit into the air passage notch inside the motor housing. Be sure that the motor is positioned properly, all the way into the housing before installing the lock ring.
- 11. Secure the motor housing in a vise by holding on the flats of the housing so that the rotor shaft is pointing up.
- 12. Insert 01796 Block Plate into 01371 Lock Ring. Apply a small amount of Loctite #567 (or equivalent) to the threads of the lock ring and install these parts onto the motor housing (torque to 34 N•m/300 in. lbs.).
- 13. The motor can now be checked for proper adjustment. With the motor housing still mounted in the vise pull up on the end of the rotor shaft while turning it back and forth. (apply 10-15 lbs. force) Perform the same procedure while pushing down on the rotor shaft with the same amount of force. The rotor should turn freely without any drag, or rub being felt. If a pull rub is felt, increase preload or remove shims. If a push rub is felt, then deload or add shims.
- 14. Install collet assembly.
- 15. Place 3" cut-off shroud assembly over tool spindle and secure using 95168 Screw.

Motor Assembly Complete.

# **Throttle Positioning Procedure:**

- 1. Loosen the 95168 Screw to release tension on the 40029 Motor Lock.
- 2. Orient the shroud housing to the operators desired grip and positioning.
- 3. Tighten 95168 Screw.

## Throttle Positioning Procedure Complete.

# Please allow 30 minutes for adhesives to cure before operating tool.

#### Important: The motor should be tested for proper operation.

Before operating, place 3 drops of **95482** Dynabrade Air Lube 10W/NR (or equivalent) directly into inlet with throttle lever depressed. Carefully connect the tool to an air supply. Operate tool for 30 seconds to allow air lube to properly lubricate internal motor components. Motor should now be tested for proper operation at 90 PSIG max.(6.2 bar g). The tool should operate within 10% of the maximum rated RPM. If tool operates at a higher RPM than marked on the tool or if vibration and sound levels seem abnormal, the tool should be serviced to correct the cause before use.

#### **Tool Assembly Complete.**

# **Preventative Maintenance Schedule**

For All .7 hp 3" Cut-Off Tool

This service chart is published as a guide to expectant life of component parts. The replacement levels are based on average tool usage over one year. Dynabrade Inc. considers one year usage to be 1,000 hours.

Parts Common to all Models:

	LEGEND
Т	Included in Tune-up Kit
X	Type of wear, no other comments apply.
L	Easily lost. Care during assembly/disassembly.
D	Easily damaged during assembly/disassembly.



96529 – .7 hp Motor Tune-Up Kit

Index #	Part Number	Description	Number Required	High Wear 100%	Medium Wear 70%	Low Wear 30%	Non-Wear 10%
1	96272	Screw	3			Х	
2	52617	Base	1				X
3	52616	Shroud	1				X
4	40029	Motor Lock	1				X
5	95168	Screw	1				Х
6	50012	Collet Cap	1				Х
7	50014	3/8" Collet Insert	1			Х	
8	50009	Collet Body	1				Х
9	01371	Lock Ring	1				Х
10	53175	Collar	1				Х
11	01796	Block Plate	1				Х
12	01007	Bearing	1		Т		
13	01121	Shim Pack (3/pkg.)	1		Т		
14	01008	Bearing Plate	1			Х	
15	50767	Pin	2			Х	
16	01010	Rotor Spacer	1		Х		
17	01028	Cylinder	1			Х	
18	01185	Blade (4/pkg.)	1	Т			
19	55021	Rotor	1			Х	
20	01721	Bearing Plate	1			Х	
21	02649	Bearing	1		Т		
22	30496	Housing	1				Х
23	01089	Safety Lock Lever	1			Х	
24	01017	Pin	1		L		
25	95558	Retaining Ring	1		Т		
26	01477	Valve Stem	1		Т		
27	95730	O-Ring	1				D
28	01024	O-Ring	1				D
29	01247	Speed Regulator Assy.	1		Т		
30	01464	Seal	1		Т		
31	01472	Tip Valve	1		Т		
32	01468	Spring	1		Т		
33	01564	Air Control Ring	1				L
34	95711	Retaining Ring	1	Т			
35	95438	O-Ring	1				D
36	94521	Muffler Base	1			Х	
37	94524	Sintered Muffler	1	Т			
38	94525	Felt Muffler	1	Т			
39	94522	Muffler Cap	1			Х	
40	95375	O-Ring	1			L	
41	94526	Spacer	1			L	
42	94523	Inlet Adapter	1				Х
43	94300	Dynaswivel	1				X

# **Optional Accessories**



#### 3" Diamond Impregnated Mounted Wheels

Mounted Wheels have 2-1/4" mandrel.

93906 - Continuous Rim 93907 - Side Spoked



## 96529 Motor Tune-Up Kit:

 Includes assorted parts to help maintain and repair motor.



#### 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.
   95842: 1pt. (473 ml)
   95843: 1 gal. (3.8 L)

#### 96005 Male Plug

- Provides up to twice the air flow compared to standard plug design.
- Plug has "ported" design to prevent "starving" of the air tool.



#### 96213 Bearing Removal Tool

• This tool is designed to pass through the I.D. of the bearing plate and push against the I.D. of the bearing.



#### 96240 Bearing Press Tool

• This tool is designed to safely press a bearing into a bearing plate and onto a shaft.

#### Wrenches



95262 - 14mm Open-End 95281 - 19mm Open-End 95134 - 9/64" Hex Key

## **Reference Contact Information**

 American National Standards Institute – ANSI 25 West 43<sup>rd</sup> Street Forth Floor New York, NY 10036 Tel: 1 (212) 642-4900 Fax: 1 (212) 398-0023  European Committee for Standardization Rue de Stassart 36 B - 1050 Brussels, Belgium

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