MODEL T23089
AIR CUT-OFF SAW
INSTRUCTION MANUAL

#JB14051 PRINTED IN CHINA

⚠ WARNING!

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

⚠ WARNING!

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, 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.

SECTION 1: SAFETY

⚠WARNING

For Your Own Safety Read Instruction Manual Before Operating This Equipment

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words which are intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.

⚠DANGER **Indicates an imminent hazardous situation which, if not avoided, WILL result in death or serious injury.**

⚠WARNING **Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.**

⚠CAUTION **Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.**

NOTICE **This symbol is used to alert the user to useful information about proper operation of the equipment.**

⚠WARNING

Safety Instructions For Pneumatic Tools

KEEP ALL SAFETY DEVICES IN PLACE and in working order.

REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before operation.

KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.

DO NOT USE IN DANGEROUS ENVIRONMENT. Do not use pneumatic tools in damp or wet locations, or where any flammable or noxious fumes may exist. Keep work area well lighted.

KEEP CHILDREN AND VISITORS AWAY. All children and visitors should be kept at a safe distance from work area.

MAKE WORKSHOP CHILD PROOF by locking your shop and shutting off air valves.

DO NOT FORCE TOOL. It will do the job better and safer at the rate for which it was designed.

USE THE RIGHT TOOL. Do not force tool or attachment to do a job for which it was not designed.

DO NOT USE UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.

⚠WARNING
Safety Instructions for Pneumatic Tools (continued)

USE PROPER AIR HOSE for the tool. Make sure your air hose is in good condition and is long enough to reach your work without stretching.

EXPLOSION HAZARD. Do not exceed the maximum pressure rating for the tool. Doing so could cause it to explode, causing serious personal injury. Inspect the tool before use for cracks or any other signs of damage. Replace if these are found.

ALWAYS USE SAFETY GLASSES. Also use a face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.

WEAR APPROVED HEARING PROTECTION. Air escaping from pneumatic tools can exceed safe exposure limits and may cause hearing damage with prolonged exposure.

SECURE WORK. Use clamps or a vise to hold work when practical. It is safer than using your hand and frees both hands to operate tool.

MAINTAIN TOOLS WITH CARE. Keep tools lubricated and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

WEAR PROPER APPAREL. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry that may get caught in moving parts. Non-slip footwear is recommended. Wear a protective hair covering to contain long hair.

REDUCE THE RISK OF UNINTENTIONAL USE. Do not carry tool with hand on trigger and always disconnect from air when not in use.

⚠WARNING

Like all machinery there is potential danger when operating this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

⚠CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment or poor work results.

⚠WARNING
Additional Safety Instructions for Air Cut-Off Saws

EYE PROTECTION. Cutting causes small particles to become airborne at a high rate of speed. ALWAYS wear safety goggles when using this tool.

CRACKED WHEEL. Cracked wheels may break and fly apart during operation. Inspect wheels for damage before each use and replace cracked wheels immediately!

WHEEL FLANGES. Only use the flanges included with the tool when mounting wheels. Other flanges may not properly secure the wheel and cause an accident.

SIDE GRINDING. Grinding on the side of wheels can cause them to break and fly apart—unless they are rated for side grinding.

WHEEL SPEED RATING. Wheels operated at a faster speed than rated for may break or fly apart. Before mounting a new wheel, be sure the wheel RPM rating is equal or higher than the speed of the tool.

LUNG PROTECTION. Abrasive cutting produces hazardous dust, which may cause long-term respiratory problems if breathed. Always wear a NIOSH approved dust mask or respirator when cutting or grinding.

TOOL STABILITY. Hold the tool with both hands and stabilize your hands and body against a fixed object. Free-cutting using one hand and no support can allow the tool to grab the workpiece and cause you to lose your grip, leading to serious personal injury.

HAND/WHEEL CONTACT. Cut-off wheels have the capability of making deep cuts quickly. Keep a firm grip on the tool and position yourself so that no body parts are in the path of the tool.

FIRE/EXPLOSION HAZARD. Cut-off saws are capable of creating sparks, which could ignite flammable materials. Make sure no flammables are in the path of sparks or the surrounding area.

IMPACT INJURIES. A cut-off saw is capable of propelling objects at a high rate of speed. Keep work area free of clutter and make sure workpieces are secure before use. Remove adjusting wrenches before connecting to air.

CORRECT WHEELS. Only use the cut-off wheels intended for use with this tool. Using the incorrect wheels can cause them to fail, leading to serious personal injuries.

ENTANGLEMENT HAZARD. Tools with rotating components can become entangled in hair, clothing, jewelry or other dangling objects, resulting in serious personal injury.

RISK OF ELECTRIC SHOCK. Cutting into workpieces with hidden wiring can result in shock or electrocution. Check for hidden wiring before making any cuts.

CHANGING WHEELS. Disconnect the tool from air whenever changing wheels to prevent abrasion/laceration injuries from accidental startup.

SECTION 2: INTRODUCTION

Foreword

We are proud to offer this manual with your new tool! We've made every effort to be exact with the instructions, specifications, drawings, and photographs of the tool we used when writing this manual. However, sometimes we still make an occasional mistake.

Also, owing to our policy of continuous improvement, your tool may not exactly match the manual. If you find this to be the case, and the difference between the manual and tool leaves you in doubt, check our website for the latest manual update or call technical support for help.

For your convenience, we post all available manuals and manual updates for free on our website at www.grizzly.com. Any updates to your model of machine will be reflected in these documents as soon as they are complete.

Specifications

No-Load Arbor Speed	20,000 RPM
Arbor Size	3/8"
Cut-off wheel Diameter	3"
Cut-off wheel Bore	3/8"
Air Inlet Port Size	1/4" NPT
Average Air Consumption	4.5 CFM
Working Air Pressure	90 PSI
Maximum Air Pressure	100 PSI
Minimum Supply Hose Inside Dia.	3/8"
Net Weight	1.7 Lbs

Contact Info

We stand behind our machines. If you have any service questions, parts requests or general questions about the machine, please call or write us at the location listed below.

Grizzly Industrial, Inc.
1203 Lycoming Mall Circle
Muncy, PA 17756
Phone: (570) 546-9663
E-Mail: techsupport@grizzly.com

We want your feedback on this manual. If you can take the time, please email or write to us at the address below and tell us how we did:

Grizzly Industrial, Inc.
C/O Technical Documentation Manager
P.O. Box 2069
Bellingham, WA 98227-2069
Email: manuals@grizzly.com

SECTION 3: SETUP

Inventory

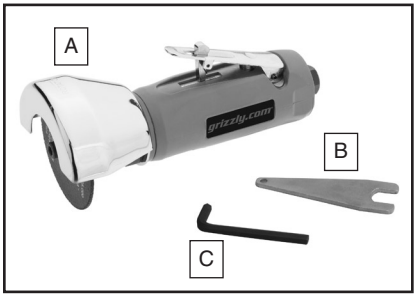


Figure 1. Model T23089 Inventory.

Description	Qty
A. Air Cut-Off Saw	1
B. Arbor Wrench 14mm	1
C. Hex Wrench 5mm	1

Assembly

A ¼" NPT quick-disconnect air fitting (not included) must be installed prior to use. Prepare the fitting by applying a Teflon-type sealer, remove the plastic protective cap from the air inlet, then install the air fitting into the inlet.

Air Connection

For periodic usage, place a few drops of oil into the air inlet then connect it to the air hose.

To ensure proper lubrication, reduce moisture contamination, and maximize tool life, we recommend that an in-line oiler be installed to the air supply for constant lubrication. See **Figure 2** for a detailed layout of this setup.

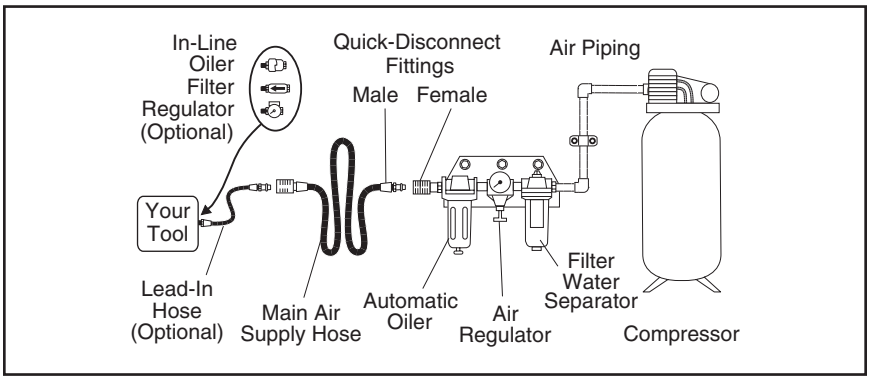
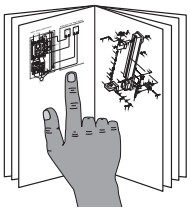


Figure 2. Typical air supply system.

SECTION 4: OPERATIONS

⚠WARNING

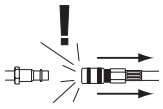
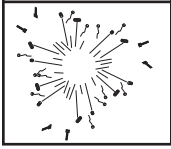


This tool presents serious injury hazards to untrained users. Read through this entire manual to become familiar with the controls and operations before using the tool!

⚠WARNING

EYE INJURY HAZARD!
Wear safety goggles with full eye protection from all sides when using this grinder.

⚠WARNING

	**LUNG/EAR INJURY HAZARD! Wear protective equipment when using this tool.**
	**ACCIDENTAL START HAZARD! Disconnect before service or tool changes.**
	**AIR PRESSURE HAZARD! Never exceed max PSI rating for tool.**

Using the Cut-Off Saw

Read and understand all safety instructions in this manual before starting.

Always test on a scrap piece of material similar to the workpiece. Trial and error is often the best way to determine the ideal setup.

To use the cut-off saw:

1. If the workpiece is not completely stable on its own, make sure it is securely held in a vise or a similar device that will ensure it does not move during operation.

2. Make sure the cut-off wheel is properly secured by tightening the arbor cap screw.

⚠WARNING

Never use this tool without the guard installed. DO NOT modify the guard in any way. Using this tool with a removed or modified guard greatly increases the risk of personal injury.

3. Attach the tool to an air supply that is set at 90 PSI.

4. Hold the tool securely with both hands, turn it ***ON*** by depressing the trigger, then ease the wheel against the workpiece with a light but steady pressure.

5. To turn the tool ***OFF***, release the trigger.

   Note: *To avoid accidental startup, disconnect the tool from the air supply when it is not in use.*

Changing Cut-Off Wheels

The Model T23089 uses 3" cut-off wheels with a ⅜" bore. See the Grizzly catalog or ***www.grizzly.com*** for a complete listing of available cut-off wheels.

WARNING

An incorrect size wheel or one not rated for at least 18,000 RPM will not work properly with this tool and could fly apart and cause operator injury. Always make sure to install only 3" cut-off wheels with a ⅜" bore on this tool.

To change the cut-off wheel:

1. DISCONNECT TOOL FROM AIR!

2. Position the arbor wrench on the flats behind the inner arbor flange (see **Figure 3**).

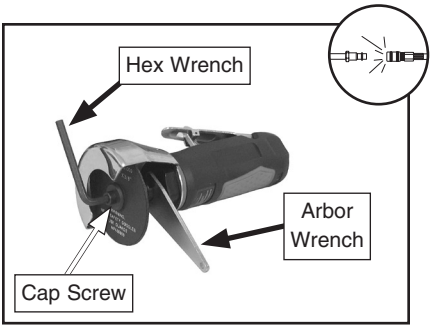


Figure 3. Loosening the outer arbor flange.

3. Remove the cap screw that secures the cut-off wheel, then remove the wheel.

4. Place the replacement cut-off wheel onto the arbor, then use the arbor wrench and hex wrench to fully tighten the flange, securing the new wheel.

SECTION 5: ACCESSORIES

T23890—3" Cut-Off Wheel
Replacement cut-off wheel for the T23089. 3" diameter, 1/16" thick, with a 3/8" bore.

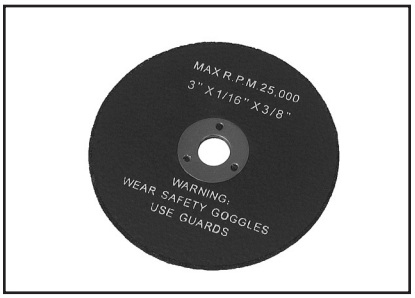


Figure 4. Replacement Cut-Off Wheel.

H7573—2" Mini Clamp Vise
This small vise mounts to any work surface up to 1 1/8" thick with its sturdy C-clamp mounting mechanism. Other features include V-groove jaws for holding tubing and round stock, 7/8" x 1 1/2" anvil face and alloy steel construction. Maximum jaw opening is 2".

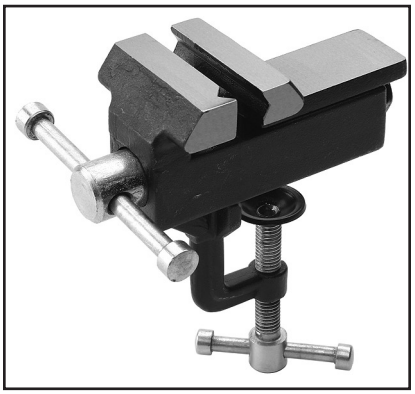


Figure 5. Mini clamp vise.

T20881—In-Line Lubricator 1/4" NPT
T20887—Pressure Regulator 1/4" NPT
G6261—Water Filter 1/4" NPT
Install an in-line lubricator to apply oil automatically. Install an air regulator right at the tool for precise air control. Install this filter in your air supply line to prevent water from traveling into your expensive air tools and ruining them.

Figure 6. In-line pneumatic accessories.

T20554—Compressor Oil 32 oz.
T20555—Tool Oil 8 oz.
This Porter Cable air compressor and tool oil offers outstanding heat displacement and friction reduction without eating away at O-rings and other rubber components like detergent motor oils.

Figure 7. Compressor and Tool Oils.

H0736—Shop Fox® Safety Glasses
H7194—Bifocal Safety Glasses 1.5
H7195—Bifocal Safety Glasses 2.0
H7196—Bifocal Safety Glasses 2.5
T20502—Face Shield Crown Protector
T20503—Face Shield Window
T20451—"Kirova" Clear Safety Glasses
T20452—"Kirova" Anti-Reflective Safety Glasses

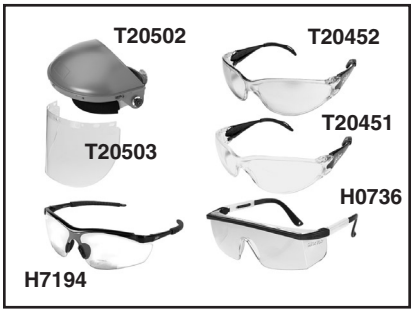


Figure 8. Eye protection assortment.

H4978—Deluxe Earmuffs - 27dB
H4979—Twin Cup Hearing Prot. - 29dB
T20446—Ear Plugs 200 Pair - 31dB
Protect your hearing before it's too late. Especially important if you or employees operate for hours at a time.

Figure 9. Hearing protection assortment.

T20928—Nuisance Dust Mask
T21767—Smart Mask
G7870—Half Mask Respirator: Oil / Organic Vapor
G7871—Particulate Filter
G7872—Filter Retainer
G7866—Particulate Respirator
G7867—Particulate Respirator w/Valve
These maintenance-free Half Mask Respirators come completely and permanently assembled with cartridges so they're ready to use. Each features a soft, lightweight elastomeric face piece, cradle suspension, easy-adjust head straps and low profile for greater field of vision with use of eyeglasses or goggles. The particulate respirators have custom-designed shapes, nosepieces and head straps for superior fit and have collapse resistant, double-shell construction. The T21767 smart mask is individually packaged and features a large 3D-cup shape for better fit and 40% less breathing resistance.

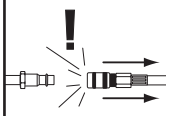
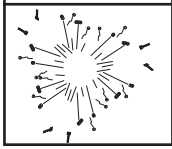
Figure 10. Personal air filtration.

SECTION 6: MAINTENANCE

⚠WARNING

EYE INJURY HAZARD!
Wear safety goggles with full eye protection from all sides when using or servicing this grinder.

⚠WARNING

	**ACCIDENTAL START HAZARD! Disconnect before service or tool changes.**
	**AIR PRESSURE HAZARD! Never exceed 100 PSI on this tool!**

Lubrication

Manual Lubrication: Place a few drops of air tool oil (not motor oil) in the air inlet fitting of the tool, and a drop of oil at all pivot points. Wrap a rag around the exhaust port at the rear of the handle, then hold the cut-off wheel safely away and press and hold the trigger for 30 seconds to completely circulate the oil through the tool and into the rag.

Automatic Lubrication: Adjust the automatic in-line oiler. Place a sheet of paper next to the exhaust port, run the tool at three or four 30-second intervals. When finished, the paper should show a slight oil stain. If no oil is seen or excessive oil drips from the paper, adjust the oiler and repeat this process until the adjustment is correct. See **Figure 2** for location.

Regular Maintenance

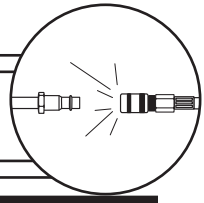
These procedures should be done before and after each use:

- Check for leaking or cracked air fittings; bubbled, cut, or worn hoses; and replace as required.
- Before and after use, place a few drops of air tool oil (not motor oil) in the air inlet fitting.
- Drain the air supply compressor tank and the water filter separator reservoirs.
- Make sure the trigger lock is operational and that the collet holds the tooling tightly. Verify that the collet nut and insert are free of cracks and wear.

These procedures should be done periodically:

- Remove the quick disconnect fitting and clean the filter screen.
- Wipe the housing and arbor with a lightly oiled cloth.
- Check and adjust the automatic in-line oiler.

SECTION 7: SERVICE



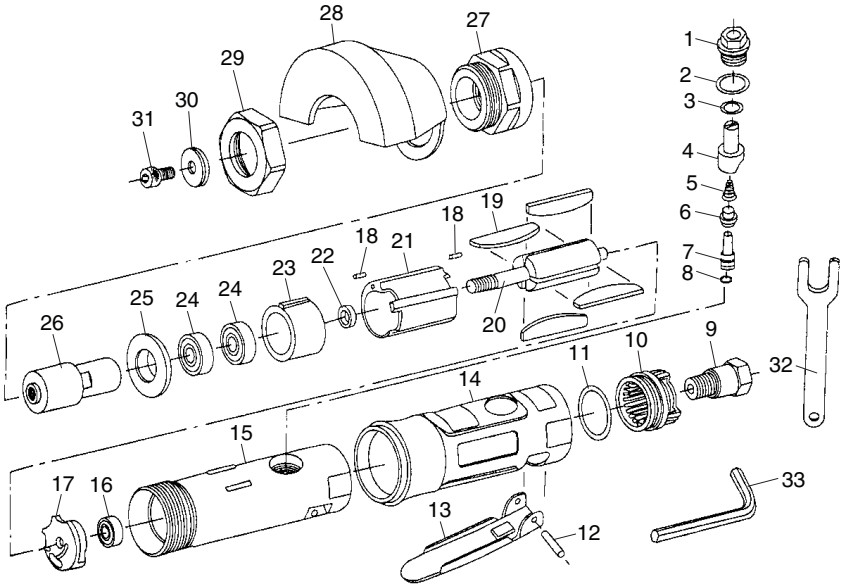
Troubleshooting

IMPORTANT: Air tool repairs must be completed by a qualified service person.

Symptom	Possible Cause	Solution
Tool runs at normal speed but bogs down when grinding, or tool runs slowly with little air exiting the exhaust.	**1.** Tool is being overloaded.	**1.** Reduce feed pressure; install a new or a smaller diameter bit.
	2. Trigger or lock is bent and binding the trigger.	**2.** Bend the trigger lock or trigger back into position so the trigger fully depresses the throttle valve.
	3. Intake filter screen is clogged.	**3.** Clean the filter screen behind the air supply fitting.
	4. Insufficient air supply volume or pressure.	**4.** Set the regulator to 90 PSI, or 100 PSI if the air hose is longer than 25 feet. Repair any leaking fittings, remove all restrictions and hose kinks. Ensure that all hoses and lines have an inside diameter of at least ⅜".
	5. Incorrect lubrication is affecting tool.	**5.** Make sure tool is lubricated correctly and does not run dry. Prevent oil from flooding the air tool by readjusting the automatic oiler,
	6. Water is entering tool air flow is restricted.	**6.** Service or reposition the air filter water separator as far as possible from the compressor. This allows for maximum air cooling and water condensation for the water separator.
	7. Air tool motor clogged with an oil-water sludge.	**7.** Clean or rebuild the air tool as required, and correct moisture or lubrication problem in the air supply system.

Symptom	Possible Cause	Solution
Tool does not operate when the trigger is pressed, but air runs freely from exhaust.	**1.** Motor is at fault.	**1.** Motor may be stuck in position from improper storage. Lubricate the air tool and rotate spindle by hand a few times. Next use the trigger to operate the air tool while re-oiling several times in the process to flush the tool.
Tool runs slowly, and only a small amount of air exits from the exhaust port.	**1.** Tool is not oiled properly. **2.** Air regulator adjustment is at fault. **3.** Trigger throttle valve is obstructed. **4.** Intake filter screen is clogged. **5.** Motor loaded with moisture or oil sludge. **6.** Leaks in air hose.	**1.** Oil tool according to the maintenance instructions. **2.** Adjust the air regulator to 90 PSI, or 100 PSI if the air hose is longer than 25 feet. Re-adjust the throttle valve screw to the fully open position. **3.** Disassemble the throttle valve and clean out sludge and contaminants. **4.** Clean the filter screen behind the air supply fitting. **5.** Disassemble air tool, clean, and relubricate. Lubricate air tool and rotate spindle by hand a few times. Next use the trigger to operate the air tool, re-oiling several times in the process to flush the system. **6.** Replace hose
Tool does not shut ***OFF*** when trigger is released.	**1.** Trigger bent or throttle valve at fault. **2.** Throttle valve stuck open.	**1.** Bend trigger back to its normal position so throttle valve is free to return to fully released or ***OFF*** position. **2.** Replace throttle valve spring or O-rings.
Air tool becomes hot or noisy during operation.	**1.** Air tool heats up from insufficient lubrication or a worn bearing.	**1.** Repair air tool, and correct in-line oiler lubrication adjustment, or follow manual lubrication requirements.
Air tool becomes too cold to hold, or ice crystals form at exhaust port.	**1.** The intake of moisture and the pressure drop is causing moisture to freeze in the tool.	**1.** Keep compressor tank drained, service, reposition, or add additional water separators in the supply system.

SECTION 8: PARTS



REF	PART #	DESCRIPTION
1	N/A	VALVE RETAINER
2	N/A	O-RING
3	N/A	O-RING
4	N/A	AIR REGULATOR
5	N/A	COMPRESION SPRING
6	N/A	VALVE STEM BUSHING
7	N/A	VALVE STEM
8	N/A	O-RING
9	N/A	AIR INLET
10	N/A	EXHAUST SLEEVE
11	N/A	O-RING
12	N/A	ROLL PIN
13	N/A	LEVER
14	N/A	OUTER CASE
15	N/A	MAIN HOUSING
16	N/A	BEARING
17	N/A	REAR PLATE

REF	PART #	DESCRIPTION
18	N/A	PIN
19	N/A	ROTOR BLADE
20	N/A	ROTOR
21	N/A	CYLINDER
22	N/A	SPACER
23	N/A	FRONT SLEEVE
24	N/A	BEARING
25	N/A	SPACER
26	N/A	DISC RETAINER
27	N/A	CLAMP NUT
28	N/A	GUARD
29	N/A	NUT
30	N/A	WASHER
31	N/A	SCREW
32	N/A	ARBOR WRENCH
33	XPAW05M	HEX WRENCH 5MM

Parts breakdown provided for reference only. Not all parts shown are available for purchase.