TRADING
BOBCOR
QUALITY RELIABILITY SERVICE

Rocket 4000 AR S

Operation & Maintenance Guide

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Rocket 4000 AR S

Parts List

Illustration No	Part No	Description	Bin No	Qty/Tool
1	381 2108	Front Head Bolt	J0306	2
2	381 2109	Anvil Block Bushing	J0201	1
3	381 2110	Anvil Block	M0205	1
4	381 0102	Front Head 1 1/4"	J0504	1
5	381 5123	Buffer Spring	M0206	2
6	381 0206	Yoke Retainer	J0202	1
7	382 5036	Nut Front Head Bolt	Q0301	2
8	381 5124	Retainer Spring	J0205	1
9	381 2111	Back Head Bolt	0	2
10	381 0103	Cylinder	M0601	1
11	381 2112	Piston	J0302	1
12	381 0104	Spacer	J0602	1
13	381 2113	Distributor Valve	P0201	1
14	382 5138	Spring Throttle Valve	R0104	1
15	381 5020	Back Head Bolt Nut	P0301	2
16	381 5021	Back Head Bolt Nut	T0504	1
17	381 0105	Back Head	J0501	1
18	381 4018	Handle Grip	J0403	2
19	382 5031	Lever Pin	R0103	2
20	381 2514	Oil Regulating Plug	S0103	1
21	382 0307	Throttle Lever	0	1
22	381 5032	Oil Plug	P0205	1
23	381 2115	Inside Valve Bushing	T0503	1
24	381 2116	Valve Stem	S0104	1
25	381 2117	Throttle Valve	0	1
26	382 4026	"O" Ring Throttle	S0106	1
27	382 5137	Retainer Ring	P0105	1
28	382 2323	Air Inlet Swivel Nut	Q0306	1
29	382 4028	"O" Ring Air Inlet	T0103	1
30	382 3224AR	Swivel Pipe	N0401	1
31	382 4029	"O" Ring Swivel Pipe	T0203	1
32	381 2134 / 031-	Air Restrictor	#N/A	1
-	381 4019	Muffler	0	1

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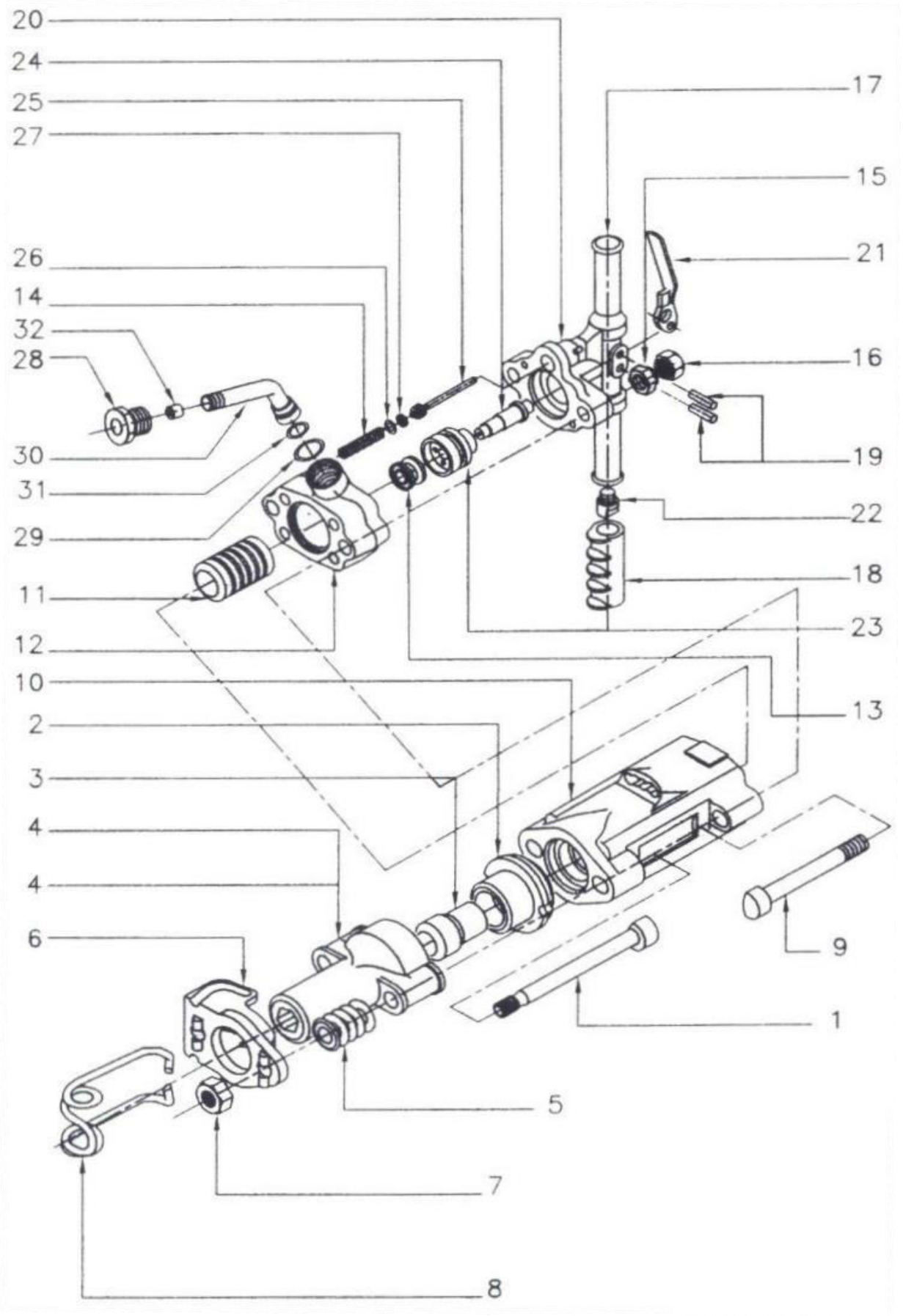

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PNEUMATIC PAVING BREAKERS
80LBS CLASS
Rocket 4000AR 1-1/4"
Rocket 4001AR 1-1/8"

Operating Pressure
Air pressure should be between 90 to 100 PSIG (620 to 689kPa) at the tool operation. Use at higher pressures will increase recoil to the operator, decrease performance and output, and may cause damage to the tool. Lower pressure will also reduce tool performance.
It is important to realize that the use of long lead hoses, manifolds and worn hose connections in the air line leading up to the tool will cause a pressure drop. Use couplings and fittings of maximum inner diameter for the size of hose being used. (Refer to the specifications chart for this data).
Reducers will restrict the air and therefore result in less pressure at the tool.

Compressed Air Supply
Use an air compressor with sufficient CFM (Cubic Feet per Minute) delivery to operate the tool(s) at a pressure of 90 to 100 PSI (pounds per square inch). (620 to 689kPa).
Refer to the specification chart for CFM requirements.

Air Hose Connection
Inspect air hoses, fittings and gaskets for cuts, abrasions and wear. Check that fittings, both in the tool and on the hose, are secure. Use safety wire or chain to secure the couplings at the tool so as to prevent hose whipping, should the hose become detached while pressurized. Clear hoses of debris and excess water valve before attaching them to the tool. Tool hoses in excess of ½"inside diameter install a proper flow limiting valve per OSHA standards.

Recommended Lubrication Procedure
The Pneumatic Paving Breakers require minimal lubrication under normal operating conditions. Oil carry-over from the compressor, combined with moisture in the air, will not normally suffice to provide sufficient lubrication to this series of tools. The use of an external line lubricator in the air line between the compressed air source and the tool is recommended. Use Castrol RD Compound Light line oiler for this application. A slight mist of moisture/oil should be present at the tool exhaust and on the shank of the steel. This is a sign of adequate tool lubrication. The Pneumatic Paving Breaker series of tools have an inbuilt oil chamber which has a 4 hour capacity. A drill rod coupling lubricant should be applied to the shank of steel. Please refer to the table on Lubrication for recommended lubricants.

Lubricants

	ABOVE 27^0 C (80^0F)	5^0C-27^0 C (40^0F-80^0F)	BELOW 5^0 C (40^0F)
SHELL	Toona R. 72	Toona R. 41	Toona R. 27
MOBIL	Almo 529	Almo 527	Almo 525
ESSO		Arox EP 45	Arox EP 45
CALTEX	Rando Oil 150	Rando Oil 100	Rando Oil 46
CP			Airolene Tool Oil
TEXACO	Regal Oil F (R&O)	Regal Oil PE (R&O)	Regal Oil PE (R&O)
DALTRON	Silkolene 881	Silkolene 548/T	Silkolene 773
BURMAH CASTROL	Castrol RD Oil 3	Castrol RD Oil Light	Magna SPX
BP POWER PETROLEUM	RD220 HP60-C	RD150 HP20-C	RD80 HP10-C
DUCKHAM	Garnet 7	Garnet 6	Zero Fio 5
STERNOL	Merlin 87	Merlin 71	Merlin 54
PETROFINA	Purifoc 53	Purifoc 46	Purifoc 32
CHEVRON	Vistac Oil 18X	Vistac Oil 19X	Vistac Oil 9X
IOC	Servoneum 100	----	----
HP	Numatic 100	----	----

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TECHNICAL DATA

Recommended Air Supply Pressure	:	80 - 90 PSIG
		Do not exceed 100 PSIG at the tool
Retainer Type	:	Spring (Rockit 4001 & 4000)
Valve Type	:	Spool
Throttle Level Position	:	On the Back Head, Trigger
Lubrication	:	In built (4 hr Capacity)

Rocket 4000 & 4001

Model	Net Weight		Overall Length		Shank		Piston dia	
	kg	lbs	mm	in	mm	in	mm	in
4000 1-1/4"	42.0	83.6	710	27 15/16	32 X 160	1 1/4 X 6	57.15	2 1/4
4001 1 1/8"	42.0	83.6	710	27 15/16	32 X 160	1 1/4 X 6	57.15	2 1/4

Rocket 4000 & 4001

Model	Stroke		Frequency	Air Consumption		Hose Size	
	mm	in	b.p.m	m^3/min	cfm	mm	in
4000 1-1/4"	165	6 1/2	1200	2.50	88.50	19	3/4
4001 1 1/8"	165	6 1/2	1200	2.50	88.50	19	3/4

Safety Instructions
Always wear suitable protection, eye goggles, earmuffs, safety shoes etc to safe guard against possibility of flying particles.

Never operate the tool over the rated 7 bar pressure , check that all bolts and other fasteners are tightened correctly to the specified torque. Inspect retainer for wear. Do not exert excessive pressure against the work surface. Keep hoses in good condition. Check hoses for wear and ensure that fittings are secure. Accidental disconnection while tool is in use can make the hose whip and can be safety hazard. Inspect steel/accessories for proper sharpness and conditions (dull edges, nicks, cracks).

Air Supply
Compressed air at 90 to 100 PSI, free from moisture and having an oil mist is essential. Install a FRL unit as close to the tool as operation will allow.

Tightening Torques Recommended

Air Inlet	-	80 100 ft. Lbs.
Oil Plug	-	40 45 ft. Lbs.
Latch Bolt Nut	-	13 15 ft. Lbs.
Back Head Bolt	-	20 25 ft. Lbs.
Muffler	-	20 25 ft. Lbs. (Only for silenced model)

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Unpacking

1. Visually inspect the tool for any signs of damage during shipment.
2. Compare the Serial Number that is stamped on the tool packing list or invoice.
3. Fill out and mail the warranty registration card.

Before Start Up and Before Each Use

1. Check all threaded fasteners and fittings for tightness. Tighten all these to the recommended torque where specified.
2. The tool is shipped with a heavy rust preventive oil to prevent corrosion during extended storage and transit. This should be flushed out prior to start up using a suitable cleaning solvent (Paraffin/Kerosene) in the air inlet and operating the tool at reduced throttle for a few seconds till the rust preventive is flushed out. After this, disconnect the tool from the hose, add one tablespoonful of recommended lubricant (see lubrication chart), reconnect hose to the tool and begin work.
3. Install Steel
   - F Select steel with same shank type as tool and with a proper collar suitable for the retainer being used.
   - F Check steel shank for wear. The end should be flat (square). A worn shank or an uneven end may result in damage to the tool or steel breakage.
   - F Check cutting edge of bit for sharpness. Inspect steel for nicks or cracks which could cause breakage. (Use only sharp. Properly dressed steels).
4. Connect Air Hose
   - F Use only air hose with a rated capacity equal to a minimum of 150% of the power source (air compressor) and with couplings secured by approved clamps.
   - F Clean hose(s) to remove any dirt and accumulation of excess water and oil.
   - F Check rubber gaskets or washers in hose couplings for wear or cracks.
   - F Join couplings together tightly and secure with approved safety clips.
   - F The use of suitable whip hose of convenient length may increase operator convenience and prolong hose life.

Starting & Operating

1. DO NOT run the tool without a steel installed in the tool and a retainer locked in place.
2. DO NOT run the tool without the cutting edge (point) firmly against the work surface.
3. Always apply sufficient down pressure to keep the tool from bouncing. The proper amount of down pressure will vary depending on the material being worked, the type of cutting edge, and the weight of the tool this can only be learnt through experience. DO NOT allow the tool to bounce on the steel as this may damage the tool and steel.

Tips to keep the tool at optimum efficiency

1. Use only steel with sharp cutting edges.
2. Select a cutting edge most suited to the material being worked.
3. Begin near enough to the open end of the work surface so that the natural wedge effect of the blade or point will cause the material being worked to break or flake off. Working from the broken edge back to center will eliminate the need to pry with the tool and help prevent the steel from becoming stuck.
4. Use proper down pressure to keep the cutting edge working into material.
5. Ensure that the tool is receiving adequate air flow (CFM) and the proper air pressure (PSIG). (RE: Specification Chart).

Care after use

1. Disconnect air hose. DO NOT allow dirt or water to enter air inlet of tool.
2. Pour a little recommended oil (1 ounce approximately) into the air inlet and chuck end of the tool.
3. Store well oiled in a safe dry place. By following these steps, you insure your tool gives the type of service for which it was designed. Should you have any question concerning this information, or if you would like additional information, please contact us via email at sales@bobcor.co.za or by Tel at +27 (0) 11-943-3876.

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PROBLEMS AND PROBABLE CAUSES & SOLUTIONS.

TROUBLE SHOOTING

PROBLEMS	PROBABLE CAUSES	SOLUTION
Tool Runs sluggishly	Low air pressure at tool	Increase pressure to 90-100 PSI (620 to 689kPa)
	Insufficient air flow (CFM)	Check hoses, etc. for leaks
	Automatic valve clogged	Flush tool with mixture of oil and diesel fuel.
	Insufficient lubrication of air	Add a small amount of light-weight Non-detergent oil into hose. Alternatively use a line oiler (Castrol RD Compound Lighter). See chart on lubrication for oil selection
	Excessive moisture in air	Install adequately sized moisture separator in air line between tool and compressed air tank. Drain air tanks and air piping regularly.
Tool Runs Erratically	Valve tripping	Inspect valve for proper sizing.
	Foreign material in tool inlet.	Remove foreign material.
	Improper tightening of handle to cylinder	Check handle bolts are equally and correctly torqued to the recommended 200 ft. lbs.
	Automatic valve sticking.	Flush tool with mixture of oil and diesel fuel. Reduce amount of oil/moisture to tool.
	Front bushing or steel shank worn.	Check for wear in steel bushing on hammer (in nose) or on steel shank and replace if necessary.
Tool Will Not Run (Air Blows Thru Exhaust)	Automatic valve stuck	Flush tool with mixture of oil and diesel fuel.
Tool Continues to Run (Does Not Shut Off)	Throttle valve stuck	Flush tool with mixture of oil and diesel fuel.
	Damaged throttle valve or "O" rings or missing "O" rings.	Replace defective or missing parts.
Excessive Recoil	Air pressure too high at tool.	Reduce pressure to 90-100 PSI (620 to 589kPa).
	Dull cutting edge on steel.	Replace with sharp steel.
Excessive Breakage of Retainer Latch	Collar of steel striking retainer.	Exert sufficient down pressure to keep point against work surface.
	Air pressure tool high at tool.	Reduce pressure to 90-100 PSI (620 to 689kPa).
Rapid Wearing of Retainer	Collar of steel striking retainer.	Exert sufficient down pressure to keep point against work surface.
Steel Will not Fit Bushing	Steel shank does not match bushing.	Use steel with correct shank.
Steel Will not Fit Retainer	Steel shank does not match bushing.	Use steel with correct shank.
If the suggested remedies fail to correct problem, disassembly and inspection must be performed to determine cause.		

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Assembly Cautions:

Reasonable care must be taken during assembly and disassembly of the 4000/4001 series of Demolition Tools, to avoid burning, scoring or distortion of closely fitting precision built parts. In addition, observe the following specific cautions:

1. Check all metal surfaces for nicks and burns before and during assembly.

2. Before re-assembly lubricate all "O" Rings and coat all moving parts of the tool with recommended lubricants. Be sure that oil regulator plug (20) is installed in the back head. (17)

3. During assembly, use care to keep dirt out of the tool, particularly between mating surfaces.

4. Thru-Bolt nuts (7) should be drawn up so that springs (5) are evenly compressed from1/8" to 3/16" but not compressed so tightly that coils touch. This will give the springs (5) an assembled length of 55.5mm (2 3/16") to 54.0mm (2 1/8").

5. Install air inlet (28) and tighten to 42-50 Nm (125-159 ft. lbs.) Torque.

6. When assembly is complete, fill oil chamber and tighten oil plug (22) 27-23 Nm (80-100 ft. lbs) torque. Pour about ½ oz oil as recommended into the air inlet (30) and operate the tool on reduced throttle for 10-15 seconds.

7. If it is necessary to operate the tool on the floor, do so at reduced throttle to avoid damage to the piston (11), anvil block (3) and front head (4).

8. When assembling I.V. Bushing (23) onto valve stem (24) use a mechanical press and ensure proper fitment. Then install assembly into back head (17) again a mechanical or hydraulic press.

9. Pull up back head bolts (9) evenly by alternating from one to the other to distribute the load and minimize bolt failure. Tighten to 34-41 Nm (100-125 ft. lbs) torque. Then assemble the B/H Bolt Nut (F) (16) and lock onto the B/H Nut (M) (15).

10. Install air inlet swivel (30) and tighten nut (28) to 42-50 Nm (125-150 ft. lbs) torque. Be sure "O" rings (29 & 31) are in position. When assembly is complete fill oil chamber and tighten oil plug (22) to 27-33 Nm (80-100 fr. lbs) torque. Pour about ½ oz oil as recommended by Lubrication Chart into air inlet swivel (30) and operate tool on reduced throttle for 10-15 seconds. If it is necessary to operate the tool on the floor, do so at reduced throttle to avoid damage to piston, anvil block and front head.

11. On 4000/4001 models, tighten screws on Muffler (32) to 34-41 Nm (20-25 ft. Lbs) torque. Do not omit any screws.

12. On 83B models, fit taper bushing (31) on to bolt (32), fit bush (29) inside latch (28) and position in slot on front head (25) after inserting spring (26) & plunger (27) into hole on front head (25). Insert bolt (32) into the front head (25) tapered hole so that square edge of bolt locates milled tang on front head. Insert the other taper bush (31) onto the bolt (32). Thread on nut (33) and tighten to a torque of 22-25 Nm (65-75 ft. Lbs).

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SAFETY INSTRUCTIONS

Operating Cautions:

1. Keep spectators at a safe distance from the work area.
2. Wear proper clothing. Loose fitting clothes or jewellery can become caught in moving parts or on operating tools.
3. Wear eye and face protection when operating tools.
4. Wear safety shoes with steel toes when operating tools. Never rest a tool on your foot.
5. Wear safety hats when operating tools or when working in immediate area.
6. Wear ear protection when operating tools or when working in immediate area.
7. Thoroughly inspect tools conditions before operating to:
   - Check all bolts and other fasteners for proper tightness.
   - Inspect retainer for wear which could cause the tool or steel to be propelled from the tool.
   - Inspect air hose fittings for cracks, worn threads or loose couplings that could permit detachment during operation.
   - Inspect tools and/or steels for proper sharpness and conditions (dull edge, nicks, cracks).
8. Secure air hose to tool with a safety wire or chain to prevent whipping if it becomes detached from the tool.
9. When using hose with internal dimension of ½"or greater diameter install a proper flow limiting "OSHA valve" or "velocity fuse".
10. DO NOT lay an idle tool in dust or dirt unless all ports are covered with clean material.
11. Disconnect tools from the air supply when not in use to prevent accidental actuation.
12. Operate the tool from a position that permits proper footing and balance.
13. DO NOT operate the tool without a steel or tool security installed in the retainer.
14. DO NOT operate the tool without a steel or tool against the surface.
15. Do not use the tool as a lever wedge or a paving instrument.
16. Operate the tool with firm and steady pressure. DO NOT force the tool.
17. Limit air pressure at the tool not to exceed the tool's rated operating pressure.
18. Inspect air hoses for cuts and abrasions prior to use.
19. Never point a tool or an air hose at a person or indulge in horseplay with air tools and hose.
20. Blow out all air lines and hoses prior to use.
21. Follow OSHA standards and regulations where they apply.
22. The operator should keep his hands off the trigger or throttle until he is ready to start the tool.
23. The operator should keep both feet on the ground and maintain balance at all times.
24. The operator should ensure that his face is never too close to the tool.
25. Safety glasses should be worn.
26. The tool or accessory should never be rested on the operator's toes.
27. The tool should never be started when laying on the ground.
28. The operator should never use his body to control the tool while it is in operation.
29. Both hands of the operator should be kept on the handle of the tool while it is in operation.
30. The lubricant should comply with our recommendation.
31. When the tool is not in use remove the accessory unless it is retained in a positive manner.

A percussion tool should not be operated unless the chisel, rivet set or other tool is in position in the tool and is in contact with the workplace. Tools shall not be used in such a manner that ejection of an accessory might endanger adjacent personnel.

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READ BEFORE USE

Operating Cautions:

BEFORE PLACING THIS TOOL IN OPERATION READ THE FOLLOWING SAFETY SECTIONS EXCERPTED FROM THE COMPRESSED AIR AND GAS INSTITUTE SAFETY CODE FOR PORTABLE AIR TOOLS (APRIL 1974)

2.6.2 Eye Protection
Eye and face protection shall be required where there is a reasonable probability of injury that can be prevented bu such protection, suitable eye protector shall be provided where machines or operations present the hazard of flying objects. Eye protection should be worn at all times when operating power tools.

7.3 Retainers
A retainer shall be integral with or installed on a percussion tool, which without such a retainer, can eject the chisel, rivet set, punch or such equipment when the tool is operated off a work surface. EXCEPTION: Retainers are not required when proper barriers have been erected to protect persons in surrounding or lower areas from possible ejected tools.

7.4 Quick Disconnect Couplings
If a quick disconnect coupling is used on a percussion tool, it shall be separated from the tool by a whip hose.

7.5 Operator Instructions
A percussion tool shall not be operated unless the chisel, rivet set, scaling or other tool, is in position in the tool and the tool is on contact with the work piece. The tool shall not be used in such a manner that the ejection of an accessory might endanger adjacent personnel.

7.6 Remove Tools
When percussion tools are not in use, the dies and accessories shall be removed unless they are retained in a positive manner.

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We support all new products being supplied to our customers with this comprehensive operators manual. This manual clearly defines mandatory instructions on the operation, safe usage and maintenance of the product.

It is the responsibility of the owner or hirer of these products to ensure that operators are provided with the manual and also that they are suitably instructed regarding the purpose of this manual and the instructions herein. Operators should also be trained suitably and adequately in the use of the product.

Departure from any of the instructions/ recommendations contained in this manual will invalidate any warranty.

These tools are precision engineered products. They have been carefully designed and built to withstand severe conditions of service.

They will function efficiently and remain trouble free for extended periods of use. Provided a system of routine inspection and preventive maintenance is implemented.

WARRANTY

Bobcor Trading makes every effort to ensure that its products are of high quality, and warrants all new products it sells to be free from defects in material and workmanship for a period of ninety (90) days from the date of original purchase. This warranty shall not apply to defects due to directly or indirectly, to abuse, misuse, negligence, normal wear and tear or improper maintenance, nor shall it apply to any product which has been repaired or altered outside of our facilities. Should any product fail to provide satisfactory service, return the complete product requiring warranty service to **Bobcor Trading**. For examination, which transportation charges prepaid, together with an explanation of the complaint and proof of purchase. **Bobcor Trading** guarantees to repair or replace any product found upon our inspection to be so defective. **Bobcor Trading** makes no other warranty, expressed and/or implied. **Bobcor Trading** shall in no event be liable for death, injuries to persons or property, or for incidental, consequential, indirect or special damages of any nature arising from the sale or use of the products, excepting only the cost or expense of repair and replacement as described above. This warranty gives the customer specific legal rights. Other legal rights may vary.