

**LIMITED WARRANTY**

PERFORMANCE TOOL® extends only the following warranties, and only to original retail purchasers. These warranties give specific legal rights. Except where prohibited by local law, the law of the State of Washington governs all warranties and all exclusions and limitations of warranties and remedies. There may be other rights which vary from state to state.

PERFORMANCE TOOL® warrants the product to be free from defects in materials and workmanship under normal use and service. A defective product may be returned for a free replacement within 90 days from the date of purchase, provided that product is returned to place of purchase immediately after discovery of defect. After 90 days and up to one year from date of purchase, PERFORMANCE TOOL® will replace at no charge any parts which our examination shall disclose to be defective and under warranty.

These warranties exclude blades, bits, punches, dies, bulbs, fuses, hoses, and other consumables which must be replaced under normal use and service. These warranties shall not apply to any product or part which is used for a purpose for which it is not designed, or which has been repaired or altered in any way so as to affect adversely its performance or reliability, nor shall these warranties apply to any product or part which has been subject to misuse, neglect, accident or wear and tear incident to normal use and service.

PERFORMANCE TOOL® does not authorize any other person to make any warranty or to assume any liability in connection with its products.

Except for warranties of title and the limited express warranties set forth above, PERFORMANCE TOOL® makes no express or implied warranties of any kind with respect to its products. In particular, PERFORMANCE TOOL® makes no implied warranty of merchantability and no implied warranty of fitness for any particular purpose, except that for goods purchased primarily for personal, family or household use and not for commercial or business use, PERFORMANCE TOOL® makes an implied warranty of merchantability (and, if otherwise applicable, an implied warranty of fitness for a particular purpose), but only for the particular qualities or characteristics, and for the duration, expressly warranted above.

The laws on limitation of implied warranties may differ from state to state, so the above limitations may not apply in all cases.

PERFORMANCE TOOL® shall not be liable for consequential, incidental or special damages resulting from or in any manner related to any product, or to the design, use, or any inability to use the product. The sole and exclusive remedy for a defective product or part shall be the repair, or replacement thereof as provided above. The laws on limitation of remedies or on consequential, incidental or special damages may vary from state to state, so the above limitations may not apply in all cases.

# WINDSHIELD REMOVAL TOOL

Stock Number M664

## OWNER'S MANUAL

**SPECIFICATIONS:**

|  |        |
|--|--------|
| Oscillation Angle: . . . . .               | 3°     |
| Average air consumption (C.F.M.) . . . . . | 7      |
| Free speed (R.P.M.) . . . . .              | 20,000 |
| Air inlet (N.P.T.) . . . . .               | 1/4    |
| Length (IN.): . . . . .                    | 8      |
| Weight (LBS): . . . . .                    | 2.8    |

Specifications are subject to change without notice.



**WARNING!**  
*READ, UNDERSTAND AND FOLLOW ALL INSTRUCTIONS AND WARNINGS BEFORE OPERATING THIS TOOL. FAILURE TO DO SO MAY RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE AND WILL VOID WARRANTY.*

Some dust created by power sanding contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. An example of this type of chemical is lead from lead based paints. Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure: work in a well ventilated area and work with approved safety equipment, such as dusk masks that are specially designed to filter out microscopic particles.



## **IMPORTANT SAFETY INFORMATION**

### **WARNING!**

**READ, UNDERSTAND AND FOLLOW ALL INSTRUCTIONS AND WARNINGS BEFORE OPERATING THIS TOOL. FAILURE TO DO SO MAY RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE AND WILL VOID WARRANTY.**

1. Keep work area clean. Cluttered areas invite injuries.
2. Observe work area conditions. Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids. Do not bring combustible materials near the tools.
3. As with any tool, use common sense when operating. Do not wear loose clothing or jewelry that could become caught by moving parts, causing injury. Operate tool a safe distance from yourself and others in the work area.
4. Keep children away. Children must never be allowed in the work area. Do not let them handle machines, tools, hoses or extension cords.
5. Store idle equipment. When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children and other untrained persons. Switch off all unused electrical tools when stored. Tools are dangerous in the hands of untrained users.
6. Always wear approved eye protection when using tools. If raising dust, wear a suitable mask.
7. Work Safe. When wearing gloves to operate the tool, make sure that the gloves do not interfere with operating the Trigger. Test your gloves with the Trigger before attaching the unit to an air source. Keep your finger away from the Trigger until you are ready to work. Never start the tool unless you have a firm grip with both hands and you are positioned at your work piece or area. Before using the tool, know what is directly underneath the work area or work piece. The tool can quickly penetrate material. If working directly on the ground, make sure you are not directly above shallow cables, lines, or pipes. Keep your limbs and body clear of the tool. If an accessory or attachment breaks off, the tool tends to surge forward suddenly. Operate tool a safe distance from yourself and others in the work area. Make sure the immediate area is clear of other people or animals. Spectators must stay at a safe distance. Never point the tool or the air hose (not included) at anyone. Keep proper footing and balance at all times. Do not reach over or across running machines, hoses, etc.
8. Do not operate any tool if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate any tool.
9. Be sure air is in OFF position when connecting tool to air supply.
10. Use only those accessories that are designed for use with tools. For example, with impact wrenches do not use ordinary sockets. Use impact sockets for all air tools.
11. Be sure to disconnect tool from air supply before changing accessories, performing service on tool and when not in use.
12. Follow air source manufacturers' directions for connection of regulators, filters, and other accessories to air source. Do not install quick couplers directly on tool as they put unnecessary strain on the air inlet threads possibly causing them to wear out prematurely. Instead, install them on a short length of air hose attached to the tool.

## IMPORTANT SAFETY INFORMATION

13. Check for damaged parts. Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician.
14. Maintenance. For your safety, maintenance should be performed regularly by a qualified technician using original PERFORMANCE TOOLS® replacement parts. Failure to do so can lead to accidents for the operator. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Performance Tool®. Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool may become hazardous when used on another tool.

**WARNING:** Repetitive motions or exposure to vibration may be harmful to your hands and arms.

**WARNING:** This product and its packaging contain a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

**WARNING:** The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator. Read and understand all of the instructions provided in the instruction manual of this product, as well as, any other tool (s) used with this product.

## AIR SOURCE

Clean air of correct air pressure is recommended for the power supply for this tool. A maximum of 90 PSI at the tool is recommended for most air tools of this class. Check specifications section for recommended pressure. (Depending on length of air hose and other circumstances, air pressure at compressor may need to be increased to 100 PSI to ensure 90 PSI at the tool.)

Water in the air hose and compressor tank contributes to reduced performance and damage of the air tool. Drain the air tank and filters before each use and as necessary to keep the air supply dry.

Hose length over 25' causes loss in line pressure. Increase hose I.D. or increase compressor pressure to compensate for the pressure loss. Use an in-line pressure regulator with gauge if air inlet pressure is critical.

## VIBRATION PRECAUTIONS

This tool vibrates during use. Repeated or long-term exposure to vibration may cause temporary or permanent physical injury, particularly to the hands, arms and shoulders. To reduce the risk of vibration-related injury:

1. Anyone using vibrating tools regularly or for an extended period should first be examined by a doctor and then have regular medical check-ups to ensure medical problems are not being caused or worsened from use. Pregnant women or people who have impaired blood circulation to the hand, past hand injuries, nervous system disorders, diabetes, or Raynaud's Disease should not use this tool. If you feel any medical or physical symptoms related to vibration (such as tingling, numbness, and white or blue fingers), seek medical advice as soon as possible.
2. Do not smoke during use. Nicotine reduces the blood supply to the hands and fingers, increasing the risk of vibration-related injury.

## OPERATION

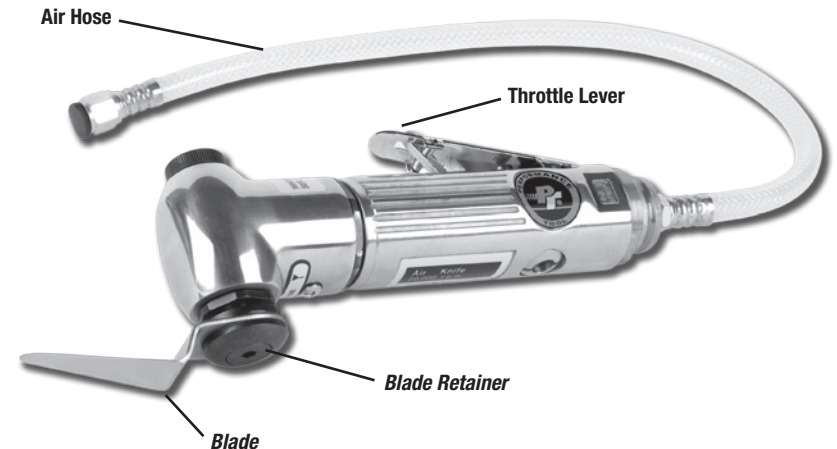
1. If an automatic oiler is not used, add a few drops of pneumatic tool oil to the airline connection before use. Add a few more drops after each hour of continual use.
2. While the air hose is disconnected from the tool, unscrew the Blade Retainer (9) and install the desired blade. Screw the Blade Retainer (9) back on, holding the blade and tighten securely.
3. Attach the air hose to the air source. While holding the air knife firmly in one hand and the other safely out of the way of the blade, turn the air source on.
4. To begin use, push the safety catch on the Throttle Lever (23) forward by pushing the top of the device forward. A stable two-handed grip on this tool is best.
5. Depress the Throttle Lever (23) to activate the air knife blade.
6. If the tool requires more force to accomplish the task, verify that the tool receives sufficient, unobstructed airflow (CFM) and increase the pressure (PSI) output of the regulator up to the maximum air pressure rating for this tool.

**CAUTION!** To prevent tool and accessory failure, resulting in injury:

- Do not exceed the tools maximum air pressure rating of 90 PSI.

If the tool still does not have sufficient force at maximum pressure and sufficient airflow, then a larger tool may be required.

7. To prevent accidents, turn off the tool by releasing the Throttle Lever (23), detach the air supply, safely discharge any residual air pressure in the tool after use. Clean external surfaces of the tool with clean, dry cloth, and apply a thin coat of tool oil. Then store the tool indoors out of children's reach.
8. Do not remove the safety catch. It has been included for your safety. Without it, the tool could activate when the tool is bumped against something, set down on its lever, or when someone picks up the tool, accidentally pressing on the Throttle Lever (23) activating the blade.



## CHANGING BLADES

1. Remove the Blade Retainer (9C) using the Hex Key Wrench (41). The blade can be mounted in 12 different positions at 30° increments.
2. Retighten the Blade Retainer (9C) and check all screws to ensure they are on tight and secure.

## LUBRICATION & MAINTENANCE

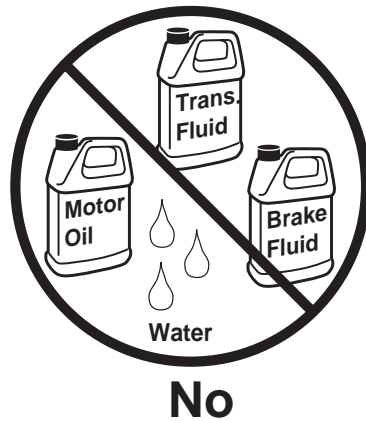
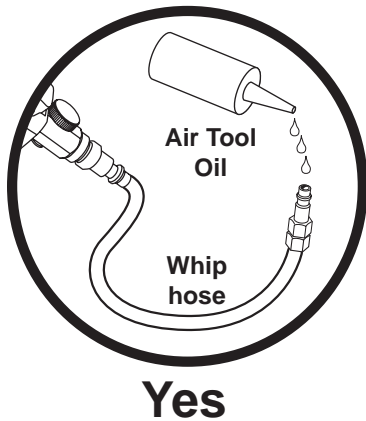
### Daily

**Air Supply Maintenance:** Every day, perform maintenance on the air supply according to the component manufacturers instructions. The lubricator's oil level needs to be maintained and the moisture filter must be regularly drained. Performing routine maintenance on the air supply will allow the tool to operate more safely and will also reduce wear on the tool.

### Weekly

**Grease Lubrication:** Lubricate the internal mechanism of the tool, using white lithium grease through the grease fittings. Access for lubrication is through the opening beneath the Oil Cover (39) screw.

**Disassembly, Cleaning, and Inspection:** Quarterly (every 3 months) have the internal mechanism cleaned, inspected, and lubricated by a qualified technician. If the Rotor Blades (18) need replacement, all blades should be replaced as a set.



## TROUBLESHOOTING

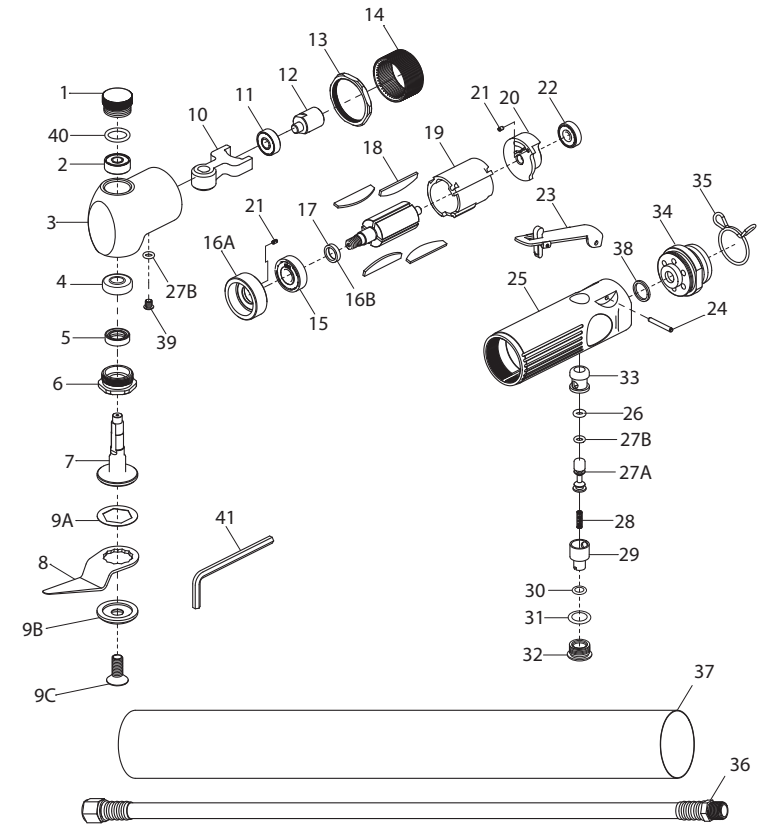
### INSUFFICIENT POWER:

#### Probable Cause

#### Solution

|                                    |  |
|------------------------------------|--|
| Dirty or clogged air passages..... | Flush and lubricate tool, drain air tank and supply line                                       |
| Insufficient air supply.....       | Increase line pressure, Make sure compressor matches tool's air pressure and consumption needs |
| Air leakage.....                   | Use PTFE tape at all fittings and joints. Check tool for worn or damaged O-rings & seals.      |
| Worn/damaged wear & tear parts...  | Replace as necessary.  |
| Tool matching .....                | Be sure you are using a tool suited for the torque requirements of the job at hand.            |

## PARTS LIST



### Ram Assembly Parts List

| #  | Description            | Qty. | #   | Description         | Qty. | #   | Description                | Qty. |
|----|------------------------|------|-----|---------------------|------|-----|----------------------------|------|
| 1  | Plug                   | 1    | 14  | Retainer            | 1    | 27B | O-Ring                     | 2    |
| 2  | Ball Bearing           | 1    | 15  | Ball Bearing        | 1    | 28  | Valve Spring               | 1    |
| 3  | Head                   | 1    | 16A | Front Plate         | 1    | 29  | Air Regulator              | 1    |
| 4  | Ball Bearing           | 1    | 16B | Washer              | 1    | 30  | O-Ring                     | 1    |
| 5  | Oil Seal               | 1    | 17  | Rotor               | 1    | 31  | O-Ring                     | 1    |
| 6  | Nut Clamp              | 1    | 18  | Rotor Blade         | 4    | 32  | Throttle Valve Plug        | 4    |
| 7  | Spindle Drive          | 1    | 19  | Cylinder            | 1    | 33  | Valve Bushing              | 2    |
| 8  | Blade 57mm (2-1/4 in.) | 1    | 20  | End Plate           | 1    | 34  | Exhaust Deflector          | 1    |
| 9A | Packing                | 1    | 21  | Pin (2.5 x 4)       | 2    | 35  | Stop Ring                  | 1    |
| 9B | Blade Retainer         | 1    | 22  | Ball Bearing        | 1    | 36  | Air Hose Assembly 1/4 in.1 |      |
| 9C | Screw (M8 x 20)        | 1    | 23  | Throttle Lever      | 1    | 37  | Exhaust Hose Assembly 1    |      |
| 10 | Fork Drive             | 1    | 24  | Lever Pin (M3 x 23) | 1    | 38  | Packing                    | 1    |
| 11 | Ball Bearing           | 1    | 25  | Housing             | 1    | 39  | Screw (M5 x 6)             | 1    |
| 12 | Shaft Crank            | 1    | 26  | O-Ring              | 1    | 40  | O-Ring                     | 1    |
| 13 | Nut                    | 1    | 27A | Valve Stem          | 1    | 41  | Hex Key Wrench             |      |