

# *Grizzly* **Industrial, Inc.**®

## **MODEL T21888 2.5 HP, 6.3 GALLON COMPRESSOR INSTRUCTION MANUAL**



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**WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE  
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FOR MODELS MANUFACTURED SINCE 02/10 #CR12612 PRINTED IN CHINA



## **WARNING!**

**This manual provides critical safety instructions on the proper setup, operation, maintenance and service of this machine/equipment.**

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

**The owner of this machine/equipment 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, blade/cutter 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.**

# Table of Contents

<b>INTRODUCTION</b> .....	<b>2</b>
Foreword .....	2
Specifications .....	2
Additional Safety Instructions for Air Compressors .....	5
<b>SECTION 1: CIRCUIT REQUIREMENTS</b> .....	<b>6</b>
110V Operation .....	6
<b>SECTION 2: SET UP</b> .....	<b>8</b>
Unpacking .....	8
Assembly .....	8
Placement .....	8
Test Run & Break In .....	9
<b>SECTION 3: OPERATIONS</b> .....	<b>10</b>
Pressure Regulator Use .....	10
Operation .....	11
Accessories .....	12
<b>SECTION 4: MAINTENANCE</b> .....	<b>13</b>
Schedule .....	13
Draining Tank .....	14
Pressure Relief Valve Test .....	14
<b>SECTION 5: SERVICE</b> .....	<b>15</b>
Troubleshooting .....	15
Changing Oil .....	18
Check Valve .....	18
Fixing Air Leaks .....	19
Pressure Switch .....	20
Storage .....	21
Parts Breakdown .....	22
Parts List .....	23
Warranty .....	24

# INTRODUCTION

## Foreword

The specifications, details, and photographs in this manual represent the Model T21888 as supplied when the manual was prepared. However, owing to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly.

If you have any comments regarding this manual, please write to us at the following address:

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Most importantly, we stand behind our tools. If you have any service questions or parts requests, please call or write us at the location listed below.

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## Specifications

Motor HP .....	2½ HP
Motor Voltage/Cycle .....	110V/60Hz
Motor Amperage.....	15A
Power Cord .....	15A
Tank Size .....	6.34 Gal
Length.....	22"
Width .....	13¾"
Height .....	22"
SCFM at 40 PSI .....	4.9 CFM
SCFM at 90 PSI .....	4 CFM
Max. Air Pressure.....	115 PSI
Cut-In Air Pressure.....	85 PSI
Cut-Out Air Pressure.....	115 PSI
Pressure Relief Valve.....	130 PSI
Shipping Weight .....	63 lbs
Machine Weight.....	55 lbs

### CAUTION

**No list of safety guidelines is complete, because every work environment is different. Always consider safety first and use common sense. Failure to use this tool with caution and respect could result in serious personal injury.**

# 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.



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



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



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**

- 1. READ THIS MANUAL.** This tool may cause personal injury if used incorrectly. This manual contains proper safety and operating instructions that must be followed to reduce this risk.
- 2. WEAR EYE PROTECTION.** This tool may throw small fragments during operation, which may cause serious eye injury. Always wear ANSI approved safety glasses or face shield to reduce your risk from this hazard.
- 3. WEAR A RESPIRATOR.** This tool may produce fine dust during operation, which can cause respiratory injury if inhaled. Always wear a respirator NIOSH approved for the type of material being processed.
- 4. WEAR HEARING PROTECTION.** Operating this tool for prolonged time periods may damage your hearing. Your risk depends on length and frequency of use. To reduce your risk of this hazard, wear hearing protection.
- 5. MAINTAIN SAFETY GUARDS.** Your tool may be equipped with safety guards or other structural components designed to reduce the risk of injury during operation. Never modify or operate this tool with any guards or components removed or damaged.
- 6. KEEP CHILDREN AWAY.** Prevent children from injury by keeping them away from this tool. Disconnect and lock the tool away when not in use.

- 7. AVOID ENTANGLEMENTS.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry, which may get caught in moving parts, when operating this tool. Wear a protective hair covering to contain long hair.
- 8. USE CORRECT AIR PRESSURE.** Exceeding the maximum PSI rating of this tool may cause unpredictable operation or bursting.
- 9. DISCONNECT AIR PRESSURE** before servicing, changing accessories, or moving to another location. Never leave this tool unattended when connected to air.
- 10. SECURE TOOLING.** Always verify tooling is secure before operation.
- 11. SHARP SURFACES.** DO NOT place hands near the tooling surfaces when in operation.
- 12. REMOVE ADJUSTING KEYS AND WRENCHES AFTER USE.** These tools become dangerous projectiles if left on the tool when it is started.
- 13. AVOID FLAMMABLES.** Do not use this tool around any flammables that may be ignited by sparks.
- 14. 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.
- 15. MAINTAIN TOOLS WITH CARE.** Keep tools lubricated and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
- 16. DO NOT FORCE TOOL.** It will do the job better and safer at the rate for which it was designed.
- 17. CHECK FOR DAMAGED PARTS BEFORE USING.** Check for binding and alignment of parts, broken parts, part mounting, loose bolts, and any other conditions that may affect operation. Repair or replace damaged parts before operating.
- 18. USE GOOD LIGHTING.** Keep work area well lighted. Dark work areas increase risk of accidental injury.
- 19. AVOID UNINTENTIONAL OPERATION.** Always disconnect air when not in use, and do not carry tool with hand on trigger.
- 20. USE THE RECOMMENDED ACCESSORIES.** Consult owner's manual for recommended accessories. Using improper accessories may increase the risk of injury.
- 21. NEVER ALLOW UNTRAINED USERS TO USE THIS TOOL WHILE UNSUPERVISED.**
- 22. IF YOU ARE UNSURE OF THE INTENDED OPERATION, STOP USING TOOL.** Seek formal training or research books or magazines that specialize in pneumatic tools.
- 23. BE AWARE OF HOSE LOCATION.** Hoses can easily become a tripping hazard when laid across the floor in a disorganized fashion.
- 24. DO NOT USE UNDER THE INFLUENCE OF DRUGS OR ALCOHOL, OR WHEN TIRED.**

# **WARNING**

## **Additional Safety Instructions for Air Compressors**

- 1. TANK SAFETY.** Metal from exploding air tanks can kill or severely maim you or bystanders. Drain the tank after each use to prevent corrosion and possible tank rupture. Inspect the tank for unsafe conditions such as rust, pin holes and cracks. NEVER weld or drill new ports in an air tank. NEVER adjust safety valve or pressure switch to allow the compressor to build higher PSI than rated. Keep pressure relief valve free of paint and dirt, and manually test it often.
- 2. COMPRESSED AIR USE.** Using air from this compressor can be poisonous if used for breathing or for filling diving tanks, or if used for pharmaceutical, food, or health applications. Only use this compressor to operate shop or construction air tools.
- 3. AVOID BURNS.** The motor and air supply pipe get hot and can cause burns if touched. DO NOT touch these compressor parts if the unit has been running within the last 30 minutes.
- 4. AIR LINE AND POWER CORD SAFETY.** Ruptured air lines or severed electrical cords can blind or electrocute you. Make sure your air hose has a PSI rating that exceeds the maximum PSI of your compressor, is in good condition, and is long enough to reach your work without stretching. Make sure the power cord does not come in contact with sharp or abrasive objects.
- 5. AIR NOZZLE.** Compressed air can break the skin, or enter the bloodstream through soft tissue, and cause a stroke or death. Never aim an air nozzle directly at yourself or others.
- 6. UNPLUG COMPRESSOR.** Storing or leaving a compressor while it is plugged in can cause fire. If a leak develops, the compressor may run continuously until it overheats and catches fire. Always disconnect a compressor from power, drain the tank air, and disconnect the air hose.

## **WARNING**

There is danger associated with the use of air compressors. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this air compressor 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 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.

# SECTION 1: CIRCUIT REQUIREMENTS

## 110V Operation

### **!WARNING**

Serious personal injury could occur if you connect the machine to the power source before you have completed the set up process. **DO NOT** connect the machine to the power source until instructed to do so.

### Amperage Draw

The motor on your air compressor will draw the following amps:

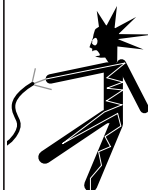
Motor Draw..... 15 Amps

### Circuit Requirements

The power supply circuit for your machine **MUST** be grounded and rated for the amperage given below. Never replace a circuit breaker on an existing circuit with one of higher amperage without consulting a qualified electrician to ensure compliance with wiring codes. If you are unsure about the wiring codes in your area or you plan to connect your machine to a shared circuit, consult a qualified electrician.

Minimum Circuit Requirement..... 20 Amp

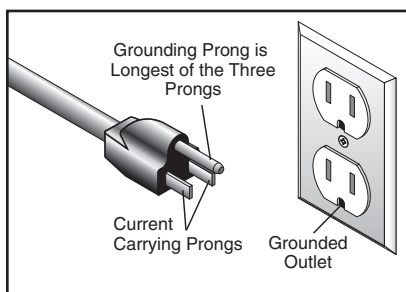
### **!WARNING**



Electrocution or fire could result if this machine is not grounded correctly or if your electrical configuration does not comply with local and state codes. Ensure compliance by checking with a qualified electrician!

### Plug/Receptacle Type

Plug Type ..... NEMA 5-15 (Figure 1)



**Figure 1.** Typical type 5-15 plug and receptacle.

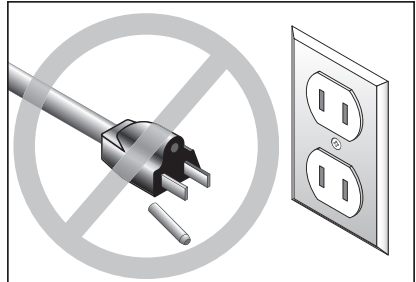


## Grounding

In the event of an electrical short, grounding reduces the risk of electric shock. The grounding wire in the power cord must be properly connected to the grounding prong on the plug; likewise, the outlet must be properly installed and grounded. All electrical connections must be made in accordance with local codes and ordinances.

## Extension Cords

To reach the work area, use additional air hoses instead of extension cords. The use of extension cord with a compressor can cause the cords to overheat, catch fire, or reduce power to the compressor motor, and cause the compressor motor to overheat and fail. Locate the air compressor where it can be plugged into an outlet without the use of an extension cord.



## CAUTION

**This machine must have a ground prong in the plug to help ensure that it is grounded. DO NOT remove ground prong from plug to fit into a two-pronged outlet! If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician.**

# SECTION 2: SET UP

## Unpacking

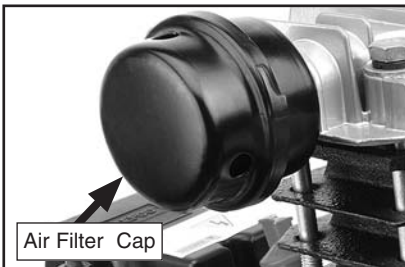
Your air compressor left our warehouse carefully packed. If you discover the air compressor is damaged after you have signed for delivery, *please immediately call Customer Service at (570) 546-9663 for advice.*

Save the container and packing materials for possible inspection by the carrier or its agent. Otherwise, filing a freight claim can be difficult.

## Assembly

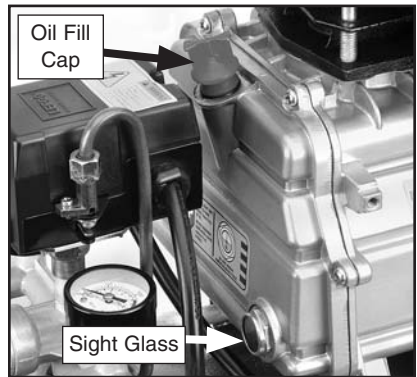
### To assemble the air compressor:

1. Remove all packing materials and any protective plastic bags and tags from the compressor.
2. Rotate the air filter cap clockwise to make sure the air filter is attached to the cylinder head, as shown in **Figure 2**.



**Figure 2.** Air filter attached to cylinder head.

3. Remove the oil fill cap (**Figure 3**) on top of the crankcase and add air compressor oil into the hole. When full, the oil level should be in the center of the sight glass.



**Figure 3.** Oil cap and sight glass location.

## Placement

Place the compressor on a stable and level surface in a clear and well ventilated area to prevent the motor from overheating. When using the compressor at a job site or any other location, make sure that an adequate and properly fused power supply is available for this machine. Do not use extension cords with this machine.

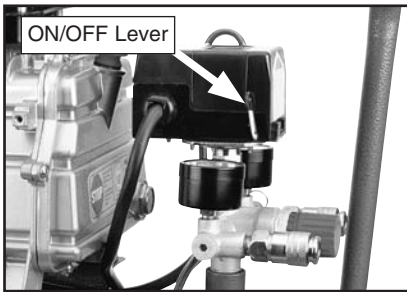
### **WARNING**

The contacts of the compressor pressure switch spark when cycling the compressor motor ON and OFF. If any flammable gases are near the switch, ignition and explosion may occur, resulting in severe burns or death. NEVER place the compressor next to flammable liquids, gases, or in a paint spraying or gluing booth.

# Test Run & Break In

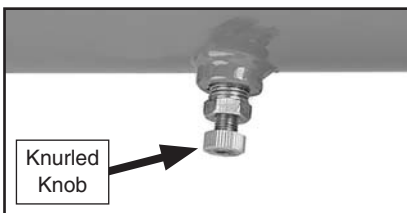
## To test run and break in the air compressor:

1. Put on safety goggles, and place the compressor on a solid, level surface.
2. Make sure the **ON/OFF** lever is in the up or the **OFF** position, as shown in **Figure 4**.



**Figure 4.** ON/OFF lever.

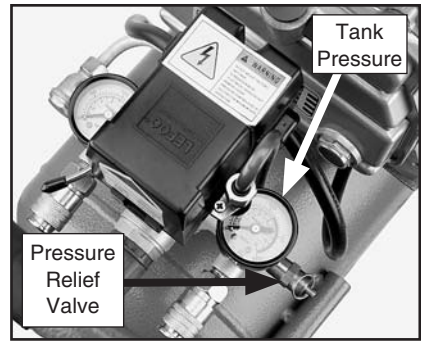
3. Double check the oil level sight glass to make sure the crankcase oil is at the full mark.
4. Connect the compressor to the power supply.
5. Leave the drain valve (**Figure 5**) open, push the switch to the down position or the **ON** position, and allow the compressor to free-run for 15 minutes for a no-load break in before closing the drain valve and allowing it to build air pressure.



**Figure 5.** Drain valve.

6. Observe the tank pressure gauge (**Figure 6**) to verify that the tank pressure climbs to approximately 105-110 PSI. When the tank reaches this pressure, the motor will automatically shut **OFF**.

**Note:** If the compressor reaches 115-120 PSI, and does not automatically shut **OFF**, lift the **ON/OFF** lever up to shut the motor **OFF** before the pressure climbs any higher. Adjust the pressure switch as outlined on **Page 20**.

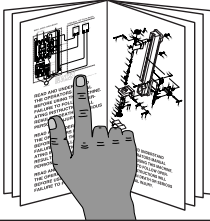


**Figure 6.** Tank pressure relief valve and tank pressure gauge.

7. Put on your hearing protection, and make sure that you are still wearing your safety goggles and complete the **Pressure Relief Valve Test** on **Page 14**.
8. For the final load break in, use the compressor as normal, but after approximately 30 minutes of actual use (not including the cool-down times), change the compressor oil, as outlined in **Changing Oil** on **Page 18**.

# SECTION 3: OPERATIONS

## ⚠️ WARNING

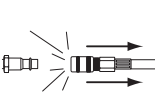


Read the manual before operation. Become familiar with this tool, its safety instructions, and its operation before beginning any work. Serious personal injury may result if safety or operational information is not understood or followed.

## ⚠️ WARNING



**EYE/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.

## ⚠️ CAUTION

Draining the air from the tank will be extremely loud and debris may be blown into your eyes from the floor. Wear safety glasses and ear protection when draining the tank.

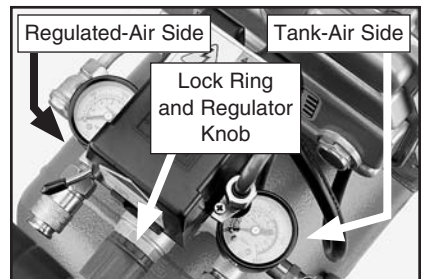
## Pressure Regulator Use

The tank pressure is displayed on the pressure gauge that is closest to the pressure relief valve shown in **Figure 6**, and the air to be delivered to the tool is displayed on the pressure gauge adjacent to the ON/OFF lever.

The air tool that you attach to the air compressor may have a maximum pressure rating. If a PSI limit is required, adjust the air regulator to meet this requirement.

To control the air supply to your tool:

1. Adjust the regulator knob, shown in **Figure 7**, to set the PSI that will be delivered to your tool. Turn the knob clockwise to increase the pressure or counterclockwise to decrease the pressure.



**Figure 7.** Regulator controls.

2. Rotate the lock ring shown in **Figure 7** against the bottom of the air regulator knob to prevent compressor vibration from changing the knob position and air pressure setting.

# Operation

## **! WARNING**

Leaving a compressor while it is plugged in can cause fire. If a leak develops, the compressor may run continuously until it overheats and catches fire. When not in use, always disconnect the compressor from power, and drain the air tank.

Before connecting an air tool to this air compressor, have a general idea as to what the CFM (Cubic Feet Per Minute) air requirement is for your tool. If the tool has a CFM requirement higher than what the compressor can supply, the tool will operate poorly. Additionally the compressor will likely run continuously to keep up with the demand and overheat possibly causing damage. However, the model T21888 is equipped with a thermal overload. When the core temperature of the motor reaches an unsafe level, the thermal overload will trip open and cut power to the motor.

If the thermal overload trips, the compressor must be allowed to cool for 30 minutes, then you can push the reset button shown in **Figure 8**, and resume operations.

In the future, do not allow the compressor to constantly run and overheat.



**Figure 8.** Thermal overload reset.

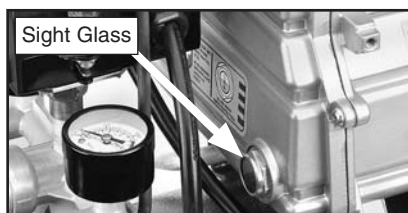
### To use your air compressor:

1. Put on safety glasses.
2. Make sure the compressor lever is in the down or the **OFF** position, as shown in **Figure 9**.



**Figure 9.** ON/OFF lever.

3. Close the tank drain valve.
4. Double check the oil level sight glass shown in **Figure 10** to make sure the crankcase oil is at the full mark.



**Figure 10.** Sight glass location.

5. Connect the compressor to the power supply.
6. Connect the tool air hose to the compressor.

The right-hand connection point provides full tank pressure with minimum air restrictions. The gauge above the fitting shows full tank pressure.

The left-hand connection point provides regulated air pressure. The gauge above the fitting shows the pressure level being delivered to the tool.

# Accessories

## G6261—Campbell Hausfeld™ Water Filter

Filtering out water and oil before it reaches the spray gun is critical for high quality spraying results. This filter is rated at 150 PSI maximum air pressure, and has a 1/4" NPT air inlet.



Figure 11. G6261 Campbell Hausfeld™ water filter.

## G8114—3/8" x 25 Ft. Air Hose

## G8115—3/8" x 50 Ft. Air Hose

## G8116—3/8" x 100 Ft. Air Hose

We recommend dedicating an air hose for spraying use only, keeping it clean and free of water and oil by using a filter on the incoming end. Multi-purpose red rubber air hose is flexible and abrasion resistant. Features 200 PSI rating, 800 PSI bursting strength, and 1/4" NPT ends.



Figure 12. Red rubber air hose.

## H7274—Campbell Hausfeld™ Pressure Regulator

Since PSI drops through lengths of air hose, attaching a regulator directly to the spray gun ensures accurate air regulation for the best results possible. Provides regulated output pressure of 0 to 125 PSI for proper tool operation. Locking pressure knob prevents accidental adjustments. 15 SCFM flow capacity @ 90 PSI. 1/4" NPT.



Figure 13. H7274 Campbell Hausfeld™ pressure regulator.

## H3275—1/4" NPT x 25' Recoil Hose

## H3276—1/4" NPT x 50' Recoil Hose

These recoil hoses are great dedicated air hoses because they are extremely light weight and maneuverable, which makes hours of spraying less tiring on wrists and arms.

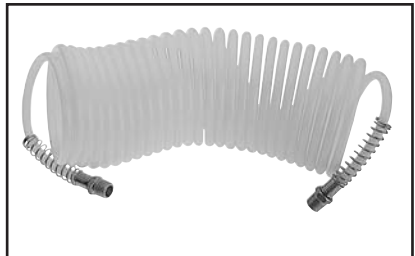


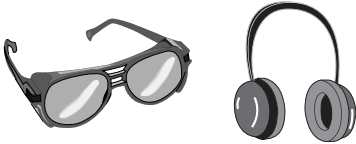
Figure 14. H3275 Coil Hose.

**Call 1-800-523-4777 To Order**

# SECTION 4: MAINTENANCE

## Schedule

### **WARNING**



Operating this equipment has the potential to cause eye injury and hearing loss. Always wear eye and ear protection when operating an air compressor. Be certain the safety protection you wear meet the appropriate standards of the American National Standards Institute (ANSI).

### Daily

Daily before use, perform the following checks:

1. Look at the sight glass on the crankcase and make sure it is filled with oil to the correct level.
2. Check for worn or damaged electrical cords and plugs. Inspect air hose for abrasions and evidence of pending hose burst.
3. Drain the condensation from the tank when finished using the air compressor, and leave the drain valve open until the next use. For details refer to **Draining Tank** on **Page 14**.
4. Inspect and correct any other unsafe condition.

### Weekly

If used daily, perform the following compressor checks each week, otherwise check these items once a month:

1. Remove and blow out the air filter (Figure 15) from the inside out, then re-install.



Figure 15. Air filter element.

2. Check for loose bolts or fittings.
3. Clean off all dirt and dust from the cylinder head, motor, fan, air lines, exhaust pipe, couplers and frame.
4. Check air lines and connectors to make sure they are in good condition.
5. Pull the pressure relief valve ring to make sure the valve is not stuck closed. Refer to **Draining Tank** on **Page 14** for details.

### **WARNING**

The air compressor will turn **ON** automatically when it is set on **AUTO**. When performing maintenance make sure the **AUTO/OFF** lever is in the **OFF** position, the compressor is unplugged, and the air pressure has been bled out of the tank.

## Quarterly

After every approximately 300 run-time hours, or 3 months, perform the following maintenance:

1. Change the oil in the air compressor pump as described in **Changing Oil** on Page 18.
2. Check for air leaks and correct as needed.

## Draining Tank

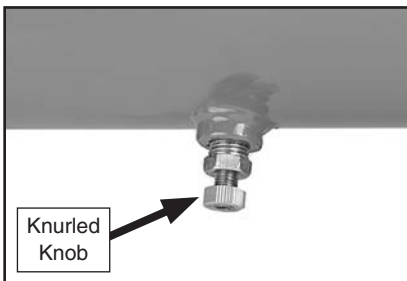
Water will accumulate in the tank depending on usage and humidity. Drain water from the tank daily to increase the lifespan of the compressor and air tools.

### **CAUTION**

Draining the air from the tank will be extremely loud and debris may be blown into your eyes from the floor. Wear safety glasses and ear protection when draining the tank.

To drain water from the tank:

1. Put on safety goggles and hearing protection.
2. Leave the tank pressurized and turn the knurled knob shown in **Figure 16** counterclockwise to drain the water.



**Figure 16.** Tank drain valve.

## Pressure Relief Valve Test

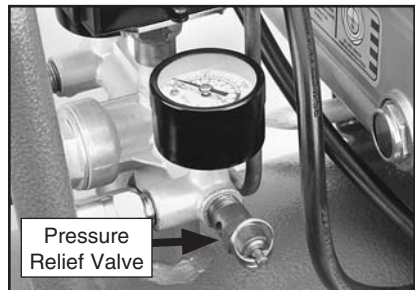
The pressure relief valve prevents the air tank from exploding should the compressor keep building air pressure and not shut off automatically. The safety valve is preset at the factory and must not be tampered with.

### **CAUTION**

Unseating the pressure relief valve will be extremely loud and debris may be blown into your eyes from the floor or the valve. Wear safety glasses and ear protection when draining the tank.

To check the pressure relief valve:

1. Clean any dirt or dust from the pressure relief valve shown in **Figure 17**.
2. Allow the air compressor to build full pressure.



**Figure 17.** Pressure safety valve.

3. Pull and release the metal ring on top of the safety valve to unseat the valve and to ensure the valve will release air. The pressure safety valve must be replaced if it cannot be pulled, or if it leaks after releasing pressure.



# SECTION 5: SERVICE

This section is provided for your convenience—it is not a substitute for the Grizzly Service Department. If you need help troubleshooting, replacing parts, or you are unsure of how to perform the procedures in this section, then feel free to call our Technical Support at (570) 546-9663.

## Troubleshooting



Symptom	Possible Cause	Possible Solution
Motor will not start.	<ol style="list-style-type: none"> <li>1. Tank already pressurized.</li> <li>2. Thermal overload switch has tripped.</li> <li>3. Start capacitor is at fault.</li> <li>4. Short circuit in motor or cord, or loose connections.</li> <li>5. Pressure switch is bad.</li> <li>6. Thermal overload tripped.</li> <li>7. Motor is at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Motor will not start if tank is fully pressurized.</li> <li>2. Wait 30 minutes for motor to cool, then push reset.</li> <li>3. Replace start capacitor.</li> <li>4. Inspect and repair all connections on motor for loose or shorted terminals or worn insulation.</li> <li>5. Replace or adjust the pressure switch (<b>Page 20</b>).</li> <li>6. Push in reset button.</li> <li>7. Replace motor.</li> </ol>
Motor overheats and thermal overload turns motor <b>OFF</b> .	<ol style="list-style-type: none"> <li>1. Compressor and motor have restricted air flow.</li> <li>2. Air filter clogged.</li> <li>3. Thermal overload switch has tripped.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean cylinder fins, motor fan, and vent area.</li> <li>2. Inspect and clean air filter.</li> <li>3. Reduce load on compressor and allow longer cool down periods.</li> </ol>
Loud repetitious noise coming from air compressor.	<ol style="list-style-type: none"> <li>1. Motor fan is hitting the cover.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust fan cover mounting position, tighten fan, or shim fan cover.</li> </ol>
Compressor knocking.	<ol style="list-style-type: none"> <li>1. Improper oil level.</li> <li>2. Air filter clogged.</li> <li>3. Piston assembly loose.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check oil level and add oil (<b>Page 20</b>).</li> <li>2. Inspect and clean air filter.</li> <li>3. Inspect and repair piston and connecting rod.</li> </ol>

Symptom	Possible Cause	Possible Solution
Air leaks from pressure switch.	<ol style="list-style-type: none"> <li>1. Faulty check valve.</li> <li>2. Faulty pressure switch.</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair the check valve (<b>Page 18</b>).</li> <li>2. Replace pressure switch.</li> </ol>
Low pressure at the tank, or tank pressure drops after compressor is turned <b>OFF</b> .	<ol style="list-style-type: none"> <li>1. Air leaks in tanks or delivery pipes.</li> <li>2. Drain valve open.</li> <li>3. Air filter clogged.</li> <li>4. Pressure switch turns the motor <b>OFF</b> too soon.</li> <li>5. Leaking check valve.</li> <li>6. Pressure relief valve releasing below 110 PSI.</li> <li>7. Gaskets leaking.</li> <li>8. Worn rings.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check air tank, pipes and all connections for leaks.</li> <li>2. Close drain valve.</li> <li>3. Inspect and clean air filter.</li> <li>4. Adjust the pressure switch (<b>Page 20</b>).</li> <li>5. Repair the check valve (<b>Page 18</b>).</li> <li>6. Replace pressure relief valve.</li> <li>7. Check gaskets on cylinder head assembly, repair or replace as needed.</li> <li>8. Inspect and replace pump piston rings.</li> </ol>
Pressure relief valve stays open and motor won't stop running.	<ol style="list-style-type: none"> <li>1. Pressure switch adjusted too high.</li> <li>2. Faulty pressure switch, unit is trying to overpressure the tank.</li> <li>3. Faulty pressure relief valve.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust the pressure switch (<b>Page 20</b>)</li> <li>2. Turn compressor OFF, unplug from power supply, and empty tank. DO NOT USE until switch is replaced.</li> <li>3. Relief valve is relieving pressure too early. Replace pressure relief valve.</li> </ol>
Air tool has low supply pressure but compressor has sufficient air pressure.	<ol style="list-style-type: none"> <li>1. In-line filter is damaged or clogged (if used).</li> <li>2. In-line water separator is full (if used).</li> <li>3. Pressure regulator.</li> <li>4. Air leaks in hoses.</li> <li>5. Pressure gauge bad.</li> <li>6. Pressure switch turns the motor <b>OFF</b> too soon.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace filter or in-line filter assembly.</li> <li>2. Drain water separator.</li> <li>3. Adjust pressure regulator, if no improvement, inspect regulator for leaks or replace.</li> <li>4. Check air hoses and all connections for leaks .</li> <li>5. Replace the pressure gauge.</li> <li>6. Adjust the pressure switch (<b>Page 20</b>).</li> </ol>

Symptom	Possible Cause	Possible Solution
Air is dirty or has excessive moisture.	<ol style="list-style-type: none"> <li>1. Tank is not drained.</li> <li>2. Delivery pipes are dirty.</li> </ol>	<ol style="list-style-type: none"> <li>1. Open drain valve and make certain all the water is drained out.</li> <li>2. Remove delivery pipes, clean out and replace.</li> </ol>
Air tools have oily discharge.	<ol style="list-style-type: none"> <li>1. Compressor tank need draining.</li> <li>2. Compressor crankcase is over full with oil.</li> <li>3. In-line oiler is out of adjustment (if used).</li> <li>4. In-line filter is damaged or missing (if used).</li> <li>5. Incorrect viscosity of oil in the crankcase.</li> <li>6. Compressor is at fault.</li> </ol>	<ol style="list-style-type: none"> <li>1. Drain compressor tank (<b>Page 14</b>).</li> <li>2. Drain and return oil level to normal (<b>Page 8</b>).</li> <li>3. Adjust in-line oiler drip ratio or use correct viscosity oil for in-line oiler.</li> <li>4. Replace filter or in-line filter assembly.</li> <li>5. Crankcase oil is too light, replace with actual compressor oil.</li> <li>6. Worn compressor piston, rings, or valves. Rebuild or replace compressor.</li> </ol>
Air tools have watery discharge or get cold and freeze up with ice during use.	<ol style="list-style-type: none"> <li>1. Compressor tank needs draining.</li> <li>2. Ambient environment has too much humidity.</li> <li>3. In-line water separator is full (if used).</li> </ol>	<ol style="list-style-type: none"> <li>1. Drain compressor tank (<b>Page 14</b>).</li> <li>2. Install in-line air dryer and water separator.</li> <li>3. Drain water separator.</li> </ol>
Compressor does not build air pressure, or does not reach full pressure.	<ol style="list-style-type: none"> <li>1. Air leaks in tanks or delivery pipes.</li> <li>2. Drain valve open.</li> <li>3. Air filter clogged.</li> <li>4. Leaking check valve.</li> <li>5. Reed valves not sealing.</li> <li>6. Head gasket or valve body gasket leaking.</li> <li>7. Worn rings.</li> <li>8. Broken crank shaft or connecting rod.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check air tanks, pipes and all connections for leaks.</li> <li>2. Close drain valve.</li> <li>3. Inspect and clean air filter.</li> <li>4. Repair the check valve (<b>Page 18</b>).</li> <li>5. Remove cylinder head and replace reed valves.</li> <li>6. Remove head and replace gaskets.</li> <li>7. Inspect and replace piston rings.</li> <li>8. Replace or rebuild compressor.</li> </ol>

# Changing Oil

Change the oil in the air compressor pump after the initial 50 hours, or 30 days of use; and every 300 hours, or 3 months after the first oil change. Use any quality air compressor oil.

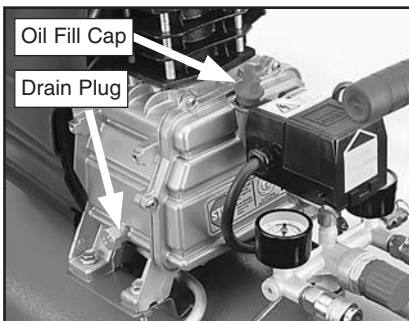
## To change the oil:

1. DISCONNECT THE COMPRESSOR FROM POWER, AND DRAIN ALL AIR FROM THE TANK.
2. Place a container to catch the oil under the oil sight glass.

## ⚠ CAUTION

Hot crankcase oil can scald your hands or fingers. Before draining the oil, allow the compressor to cool 15 minutes before removing the drain plug.

3. Using a 19mm wrench, remove the drain plug shown in **Figure 18**.



**Figure 18.** Drain plug and oil fill cap.

4. Tip the compressor to drain all of the oil from the crankcase.

5. Reinstall the drain plug, and remove the oil fill cap shown in **Figure 18**.
6. Fill the crankcase with oil until the oil level is in the center of the sight glass, then replace the oil fill cap.

## NOTICE

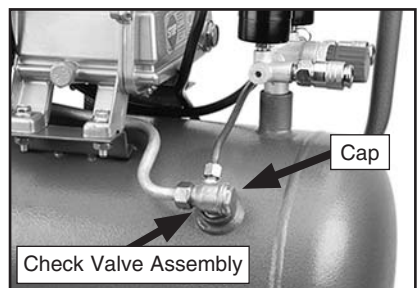
The oil fill cap releases crankcase pressure through a small hole in the top of the cap. Keep this hole unclogged, or the crankcase may pressurize, causing seals and gaskets to leak leading to compressor bearing failure.

# Check Valve

The diaphragm and seal in the check valve can become damaged, twisted, or dirty and cause the valve to leak or prevent the compressor from building air.

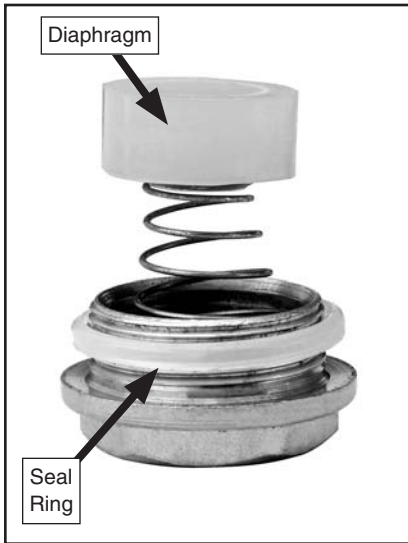
## To fix the check valve:

1. DISCONNECT THE COMPRESSOR FROM POWER, AND DRAIN ALL AIR FROM THE TANK.
2. Using a 19mm wrench remove the cap shown in **Figure 19** from the check valve.



**Figure 19.** Check valve assembly.

3. Inspect the seal ring and diaphragm (**Figure 20**) for damage and dirt.



**Figure 20.** Check valve assembly.

4. Replace any damaged parts and clean any dirt off of the diaphragm and seal ring.
5. Re-assemble the check valve. Do not add thread sealant or Teflon tape to the cap threads, as the seal ring is the seal.
6. Make sure the diaphragm presses squarely against the air supply tube opening.

## Fixing Air Leaks

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### To find air leaks:

1. Allow the compressor to build air pressure to the rated pressure.
2. DISCONNECT THE COMPRESSOR FROM POWER.
3. Listen for the sound of air to find fittings that may be leaking.
4. Spray the suspected air leak with a soap and water solution. If you see air bubbles, you have found your leak.

### To fix air leaking around fitting threads:

1. DISCONNECT THE COMPRESSOR FROM POWER, AND DRAIN ALL AIR FROM THE TANK.
2. Unscrew the fitting that is leaking.
3. Clean and apply Teflon tape or liquid thread sealant to the fitting threads.
4. Clean and chase the threads with the appropriate thread tap.
5. Re-install the fitting to the compressor.

# Pressure Switch

The pressure switch ensures the compressor will turn **ON** (cut-in) when the tank pressure drops to approximately to 85 PSI. The compressor will shut **OFF** (cut-out) when the air tank reaches maximum of 115 PSI. Should the cut-out switch fail, the pressure relief valve will open at 130 PSI, preventing tank explosion.

## NOTICE

The cut-in and cut-out settings have been factory set at the proper PSI range. Only adjust the pressure switch if your air compressor is cutting-in or cutting-out at the incorrect pressures.

### To adjust the pressure switch:

1. Operate compressor and record compressor cut-in and cut-out pressures.
2. DISCONNECT THE COMPRESSOR FROM POWER, AND DRAIN ALL AIR FROM THE TANK.
3. Make sure the compressor switch is in the OFF position.
4. Using a #2 Phillips screwdriver, remove the switch cover shown in **Figure 21** and hinge back the cover and set it aside.

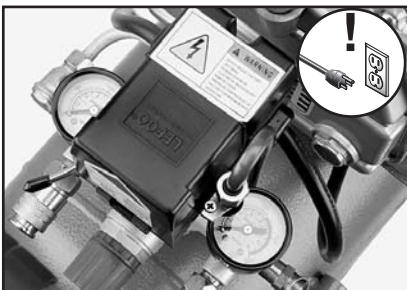


Figure 21. Pressure switch cover.

If only the maximum tank pressure needs to be adjusted, then turn the cut-out adjustment screw (**Figure 22**) a half turn clockwise to increase the tank pressure, or a half turn counterclockwise to decrease the tank pressure. The cut-in setting will remain unchanged. However, keep in mind that the allowable pressure differential between the cut-in pressure and cut-out pressure must be kept between 30-40 PSI. Exceeding this range can cause the compressor to overheat.

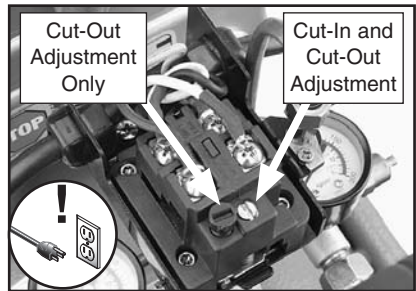


Figure 22. Pressure adjustment screws.

5. Reinstall the cover, connect the compressor to the power supply, and start the compressor. Cycle the compressor through the cut-in and cut out pressures. If the compressor does not automatically turn **OFF** at 115 PSI, flip the ON/OFF switch to OFF before the pressure reaches 120 PSI. If the tank pressure is too high, or any settings are out of specification, readjust the pressure switch until all are correct.

# Storage

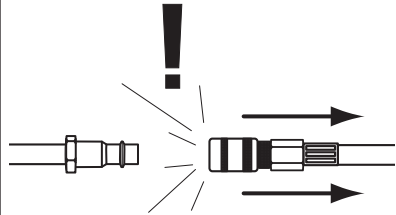
When storing your air compressor, follow these guidelines:

1. Push the compressor ON/OFF lever down to the OFF position.
2. Disconnect the compressor from power.
3. Unplug the compressor.
4. Run the air tool to relieve the air pressure in the hose, then remove the air hose and the tool.
5. Drain water from the tank as instructed in **Draining Tank** on **Page 14**. Leave the valve open until the next usage.
6. Store the air compressor in its normal operating position in a dry and protected area.

## WARNING

Water will condense in the air compressor tank when the compressor is in operation. Water left in the tank can cause the tank to weaken and corrode, increasing the risk of tank rupture.

## WARNING

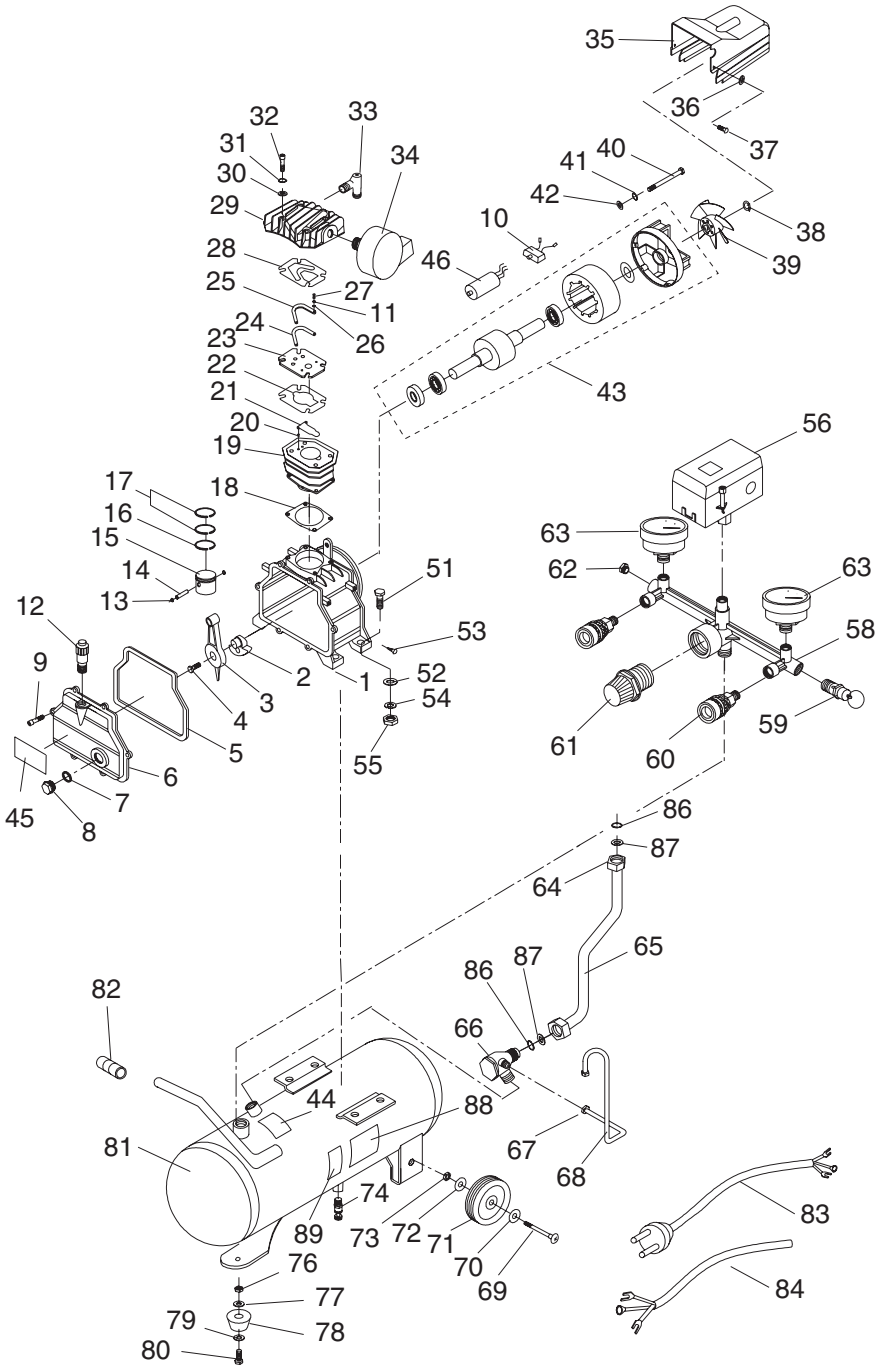


Always disconnect the air hose from tools whenever not in use or while servicing! During maintenance, a tool connected to air may operate accidentally, causing serious personal injury!

## CAUTION

Failure to unplug the air compressor before storage may result in the compressor running continuously, causing overheating, damage to the compressor, and possibly a fire.

# Parts Breakdown





# Parts List

REF	PART #	DESCRIPTION
1	PT21888001	CRANKCASE
2	PT21888002	CRANKSHAFT
3	PT21888003	CONNECTING ROD
4	PT21888004	CONNECTING ROD BOLT
5	PT21888005	COVER GASKET
6	PT21888006	CRANKCASE COVER
7	PT21888007	GASKET
8	PT21888008	SIGHT GLASS
9	PS02M	PHLP HD SCR M4-.7 X 12
10	PT21888010	THERMAL OVERLOAD 15A
11	PLW02M	LOCK WASHER 4MM
12	PT21888012	VENTED FILL CAP
13	PT21888013	WRIST PIN RETAINER
14	PT21888014	WRIST PIN
15	PT21888015	PISTON
16	PT21888016	WIPER RING
17	PT21888017	COMPRESSION RING SET
18	PT21888018	CYLINDER GASKET
19	PT21888019	CYLINDER BODY
20	PT21888020	DOWEL PIN 2.94 X 6.56MM
21	PT21888021	INPUT REED VALVE
22	PT21888022	VALVE GASKET
23	PT21888023	VALVE BODY
24	PT21888024	OUTPUT REED VALVE
25	PT21888025	VALVE STOP
26	PW05M	FLAT WASHER 4MM
27	PS07M	PHLP HD SCR M4-.7 X 8
28	PT21888028	HEAD GASKET
29	PT21888029	CYLINDER HEAD
30	PW01M	FLAT WASHER 8MM
31	PLW04M	LOCK WASHER 8MM
32	PT21888032	HEX BOLT M8-1.25 X 155 C8.8
33	PT21888033	EXHAUST ELBOW VALVE
34	PT21888034	PLEATED PAPER AIR FILTER
35	PT21888035	MOTOR COVER
36	PT21888036	FLAT WASHER 1/4"
37	PS01	PHLP HD SCR #10-24 X 1/2"
38	PR02M	EXT RETAINING RING 14MM
39	PT21888039	FAN
40	PT21888040	HEX BOLT M5-.8 X 95
41	PLW01M	LOCK WASHER 5MM

REF	PART #	DESCRIPTION
42	PW02M	FLAT WASHER 5MM
43	PT21888043	MOTOR 110V
44	PT21888044	HOT PIPE WARNING LABEL
45	PT21888045	LUBRICATION LABEL
46	PT21888046	S CAPACITOR 110M 250V W/STUD
51	PFB30M	FLANGE BOLT M8-1.25 X 30
52	PW01M	FLAT WASHER 8MM
53	PS21	PHLP HD SCR 8-32 X 3/4
54	PLW04M	LOCK WASHER 8MM
55	PN03M	HEX NUT M8-1.25
56	PT21888056	PRESSURE SWITCH LF10-1H
58	PT21888058	MANIFOLD
59	PT21888059	PRESSURE RELIEF VALVE 130 PSI
60	PT21888060	QUICK DISCONNECT 1/4" NPT
61	PT21888061	AIR REGULATOR
62	PT21888062	PLASTIC PLUG
63	PT21888063	AIR PRESSURE GAUGE
64	PT21888064	FITTING NUT
65	PT21888065	STEEL EXHAUST PIPE
66	PT21888066	CHECK VALVE
67	PT21888067	FITTING NUT
68	PT21888068	COPPER UNLOADING PIPE
69	PT21888069	AXLE
70	PW04M	FLAT WASHER 10MM
71	PT21888071	WHEEL
72	PW04M	FLAT WASHER 10MM
73	PN02M	HEX NUT M10-1.5
74	PT21888074	DRAIN VALVE
76	PN03M	HEX NUT M8-1.25
77	PW01M	FLAT WASHER 8MM
78	PT21888078	RUBBER FOOT
79	PW01M	FLAT WASHER 8MM
80	PB26M	HEX BOLT M8-1.25 X 30
81	PT21888081	TANK 6.34 GALLON
82	PT21888082	RUBBER GRIP
83	PT21888083	POWER CORD 110V
84	PT21888084	MOTOR CORD 110V
86	PT21888086	RUBBER SEAL
87	PT21888087	COPPER SEAL
88	PT21888088	MACHINE DATA LABEL
89	PT21888089	AIR DRAIN LABEL

# WARRANTY

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Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

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Please feel free to write or call us if you have any questions about the machine or the manual.

**Grizzly Industrial, Inc.**  
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**Muncy, PA 17756**  
**Phone: (570) 546-9663**  
**Fax: (800) 438-5901**

**E-Mail:**  
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4. What is your age group?

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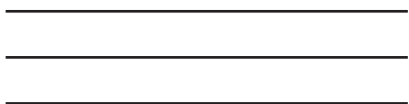
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