

# AIR COMPRESSOR

## OPERATING INSTRUCTION AND PARTS LIST

**OIL-LESS TYPE**

IMPORTANT :

PLEASE READ CAREFULLY BEFORE STARTING OPERATIONS.  
THE CONTENTS ARE FOR GENERAL INFORMATION OF ALL THE  
SIMILAR MODELS.

Record these numbers in the space below and retain for future reference :

Power source : \_\_\_\_\_ V \_\_\_\_\_ Hz

Model No : \_\_\_\_\_

Serial No : \_\_\_\_\_

Purchased Date: \_\_\_\_\_

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## 1 : IMPORTANT SAFETY INSTRUCTION

IMPROPER OPERATION OR MAINTENANCE OF THIS PRODUCT COULD RESULT IN SERIOUS INJURY AND PROPERTY DAMAGE.



**WARNING**



READ AND UNDERSTAND ALL INSTRUCTIONS BEFORE INSTALLING OR USING YOUR AIR COMPRESSOR. KEEP THIS BOOKLET FOR FUTURE REFERENCE.

### 1-1 : RISK OF FIRE



- DO NOT SPRAY COMBUSTIBLE OR FLAMMABLE LIQUID IN A CONFINED AREA, SPRAY AREA MUST BE WELL VENTILATED.
- DO NOT SMOKE WHILE SPRAYING OR SPRAY WHERE SPARK OR FLAME IS PRESENT.
- KEEP COMPRESSOR AT LEAST 12 ~ 18 INCHES AWAY FROM SPRAYING AREA AND ALL EXPLOSIVE VAPORS.

### 1-2 : RISK OF ELECTRICAL SHOCK



- DISCONNECT COMPRESSOR FROM ELECTRICAL SUPPLY CIRCUIT BEFORE MAINTENANCE.
- DO NOT EXPOSE COMPRESSOR TO RAIN OR OPERATE IN A WET AREA.
- NEVER USE THE AIR COMPRESSOR WITHOUT CONNECTION TO A PROPERLY GROUNDED OUTLET WITH THE SPECIFIED VOLTAGE AND FUSE PROTECTION.
- IMPROPER GROUNDING CAN RESULT IN ELECTRICAL SHOCK.

### 1-3 : RISK OF EXPLOSION



- DRAIN TANK DAILY, CONDENSED WATER WILL CAUSE RUSTING AND RISK OF TANK RUPTURE OR EXPLOSION.
- DO NOT REPAIR · MODIFY OR WELD TANK, RETURN TO AUTHORIZED SERVICE CENTER IF REPLACEMENT IS REQUIRED.
- DO NOT ADJUST REGULATOR TO RESULT IN OUTPUT PRESSURE GREATER THAN MARKED MAX. PRESSURE OF ATTACHMENT.
- PRESSURE SWITCH IS SET AT THE FACTORY FOR OPTIMUM PERFORMANCE OF YOUR PARTICULAR MODEL, NEVER BYPASS OR REMOVE PRESSURE SWITCH AS SERIOUS DAMAGE TO EQUIPMENT OR PERSONAL INJURY COULD RESULT FROM IMPROPER PRESSURE SETTING.
- BEFORE STARTING COMPRESSOR, PULL PRESSURE RELIEF VALVE RING TO MAKE SURE THE VALVE MOVES FREELY. THE PRESSURE RELIEF VALVE IS FACTORY INSTALLED TO PREVENT THE AIR RECEIVER FROM DAMAGE SHOULD MALFUNCTION OCCUR IN THE PRESSURE SWITCH. IT IS FACTORY SET AT A SPECIFIC LIMIT FOR YOUR PARTICULAR MODEL. AND SHOULD NEVER BE TAMPERED WITH. ADJUSTMENT BY USER WILL AUTOMATICALLY VOID WARRANTY.

#### 1-4 : RISK OF BURNS



- HOT SURFACE CAN CAUSE SERIOUS INJURY. NEVER TOUCH ANY EXPLODED METAL PARTS ON COMPRESSOR DURING OR IMMEDIATELY AFTER OPERATION. TOUCHING THESE AREAS MAY CAUSE SEVERE BURNS.
- DO NOT REACH AROUND PROTECTIVE SHROUNDS OR ATTEMPT MAINTENANCE UNTIL UNIT HAS BEEN ALLOWED TO COOL.

#### 1-5 : RISK OF BREATHING



- USE RESPIRATORY PROTECTION IN A WELL VENTILED AREA WHEN SPRAYING.
- COMPRESSED AIR FROM THE UNIT MAY CONTAIN POISONOUS VAPOUR WHICH IS NOT SUITABLE FOR INHALEING AND COULD BE HARMFUL TO YOUR HEALTH.
- WORK IN AN AREA WITH GOOD VENTILATION.

#### 1-6 : RISK FROM MOVING PARTS



- UNIT STARTS AUTOMATICALLY, DO NOT OPERATE WITH BROKEN GUARDS OR COVERS REMOVED.
- ANY REPAIR REQUIRED ON THE PRODUCT SHOULD BE PERFORMED BY AUTHORIZED SERVICE CENTER PERSONNEL.
- DO NOT TOUCH MOVING PARTS.

#### 1-7 : RISK FROM FLYING OBJECTS



- ALWAYS WEAR ANSI Z87.1 APPROVED SAFETY GLASSES WITH SIDE SHIELDS WHEN USE THE AIR COMPRESSOR. ALWAYS WEAR PROPER SAFETY EQUIPMENT WHILE USING COMPRESSORED AIR.
- DO NOT DIRECT HIGH PRESSURE AIR STREAM TOWARD ANY PARTS OF THE BODY OR AT OTHER PEOPLE.
- UNPLUG POWER CORD AND DRAIN AIR FROM TANK BEFORE SERVICING AND WHENEVER YOU LEAVE FOR THE DAY.

#### 1-8 : RISK OF PROPERTY DAMAGE WHEN TRANSPORTING COMPRESSOR

- ALWAYS PLACED COMPRESSOR ON A PROTECTIVE MAT WHEN TRANSPORTING TO PROTECT AGAINST DAMAGE TO VEHICLE.
- ALWAYS OPERATE COMPRESSOR IN A STABLE POSITION TO PREVENT ACCIDENTAL MOVEMENT OF THE UNIT.

## 2 : GENERAL DESCRIPTION OF AIR COMPRESSOR

To compress air, the piston moves up and down in the cylinder. During the down-stroke, air is drawn in through the inlet valve, while the discharge valve remains closed. On the up-stroke of the piston, air is compressed. While the inlet valve remain closed, compressed air is forced out through the discharge valve, through the check valve, into air receiver tank. Working air is not available until the pressure in the air receiver built up. The air inlet filter openings must be kept clear of obstructions.

Your air compressor can be used for operating paint spray guns, caulking guns, grease guns, air brushes, spraying weed killer and insecticides, or inflating tires and plastic toys etc.. An air regulator is recommended for these application.

## 3 : ON RECEIPT INSPECTION

Each PUMA air compressor outfit is carefully factory tested and inspected before shipment. Every attempt is made to ensure safe and complete shipment of our products. Please inform the dealers if any deficiency was found.

## 4 : GENERAL REQUIREMENT

Please ensure air compressor is installed correctly. Maintain and service on a regular basis. Information included in this booklet describing the maintenance schedules and trouble shooting. It is important that you read this information and keep it for future reference.

## 5 : INSTALLATION

### 5.1 : MECHANICAL

Located the compressor in a clean, dry and well ventilated area. The compressor should be located 12 ~ 18 inches from a wall or any other obstruction that would interfere with the air flow. Place the air compressor on a firm and level surface. The air compressor is designed with heat dissipation fins that allow for proper cooling. Keep the fins and other parts clean. A clean compressor runs cooler and provides longer service. Allow room for easy access to the air compressor for maintenance and service work.



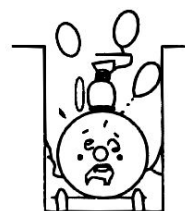
**DO NOT EXPOSE  
TO RAIN AREA**



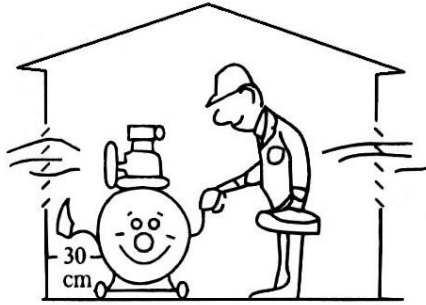
**DO NOT PLACE  
ON INCLINED PLANE**



**DO NOT PLACE  
IN A WET AREA**



**DO NOT PLACE IN A  
NARROW SPACE**



## **PLACE IN A CLEAN, DRY AND WELL VENTILATED AREA**

### **5.2 : ELECTRICAL**

Please ensure that the air compressor is electrically connected in a safe and correct manner. Any electrical work should be carried out by an electrician and installed in a way which meets all applicable codes and regulations.

Failure to connect the air compressor correctly to your buildings electrical services may result in serious personal injury or damage to the equipment.

Please note that under normal conditions, the air compressor will operate intermittently. Should it be necessary to service, ensure the power source has been shut down to prevent personal injury or damage to the unit.

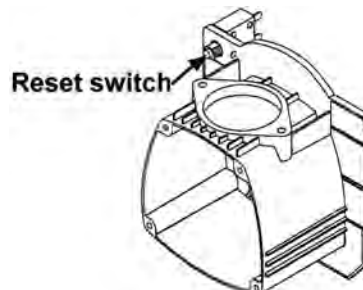
If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a qualified person in order to avoid a hazard.

### **5-2-1 : MOTOR**

Wiring must be done in a manner that full voltage nameplate  $\pm 10\%$  is available at the motor terminals during startup. Use of an incorrect power source will result in premature motor failure and is not covered by PUMA compressor or motor manufacture's warranty.

### **5-2-2 : THERMAL RELAY**

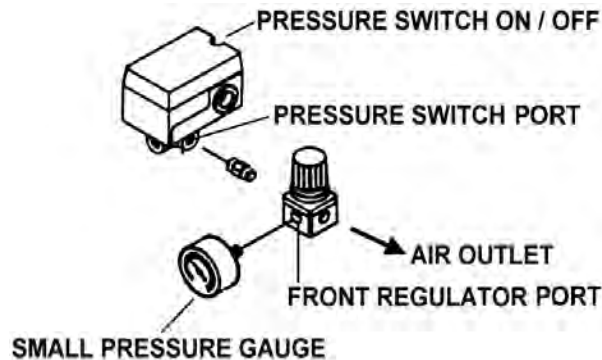
Ensure that all guards and shrouds are in place before pressing reset switch to restart the motor. If the motor shuts down because of overload, wait 10-15 minutes so the motor can cool down, then press the reset switch to restart motor. The reset switch button is located on the motor housing.



### **5-2-3 : PRESSURE SWITCH**

The pressure switch acts as a pilot device activating the motor. The pressure switch cut in/cut out has been preset at the factory, do not tamper with the settings. Never bypass or remove this switch, as serious damage to equipment or personal injury could result from improper pressure setting. Consult your local distributor or service center if the switch malfunction.

**5-2-3-1 :** This pressure switch control the on/off of the compressor, it can be turn off manually but when it is in the AUTO position, it allows the compressor to start or shut down automatically without warning upon air demand. Always set this switch to OFF when the compressor is not in use and before unplugging compressor.

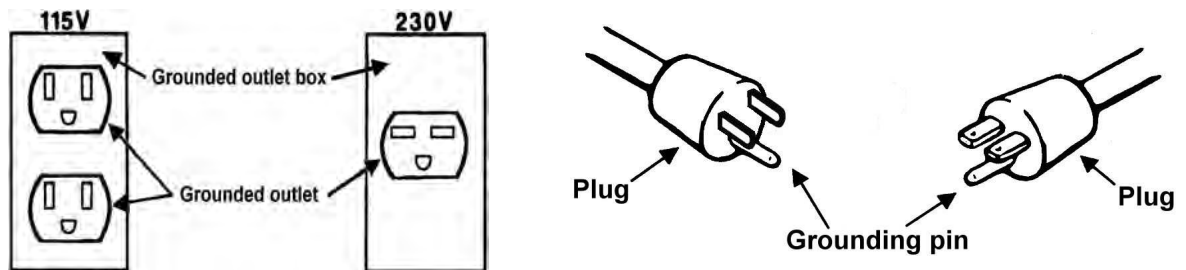


**5-2-4 : AIR PRESSURE REGULATOR**

The air pressure regulator allows operator to adjust line pressure for the tool in use. Never exceed maximum working pressure of the tool. To adjust, pull up the knob, turn clockwise to increase pressure or turn counterclockwise to decrease pressure.

**5-2-5 : GROUNDING INSTRUCTIONS**

Do not modify the plug that has been provided, if it does not fit the available outlet, the correct outlet should be installed by a qualified electrician. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes. If these grounding instructions are not completely understand or if in doubt as to whether the compressor is properly grounded, have the installation checked by a qualified electrician.



**5-2-5-1 :** This product is for use on a nominal 115 or 230 volt circuit. A cord with a grounding plug as shown here shall be used. Make sure that the product is connected to an outlet that matches the plug. No adapter should be used with this product.

(FOR AREA OTHER THAN USA, PLEASE CHECK THE LOCAL CODE.)

**5-2-6 : EXTENSION CORDS**

The use of any extension cord will cause some drop in voltage and loss of power. For optimum performance, plug the compressor power cord directly into a grounded wall socket. Do not use an extension cord unless absolutely necessary. It is better to use a long air hose to reach area where work is being performance. If use of an extension cord can not be avoided, refer to the following guidelines :

Use only 3-wire extension cord. Make sure your extension cord is in good condition. Be sure gauge is sufficient to carry the current the unit will draw. Note that the smaller the gauge the heavier the cord. Example: Gauge 10 is heavier than gauge 12.

## **6 : BEARING LUBRICATION**

The bearing in this unit are sealed bearings that contain sufficient lubricant to last their life. No other lubrication is required.

## **7 : START UP PROCEDURE**

- 7-1 :** Check to see that nuts and bolts are all snug, this must be done, as some fasteners may become loose in transit.
- 7-2 :** Check that compressor is on a strong, stable level base.
- 7-3 :** Check that air filter is clean.
- 7-4 :** Do not place any materials on or against the belt guard, or the compressor unit.  
Obstacle materials will limit the cooling effect and could lead to premature failure.
- 7-5:** Open the air receiver outlet valve and start the unit for no load operation. Allow the unit to operate for a minimum of twenty minutes in no load condition.
- 7-6 :** After running the compressor for twenty minutes, close the valve and allow the unit to reach maximum operating pressure. Ensure that the compressor shuts down at the preset maximum pressure and the head pressure is released through the pressure switch.
- 7-7 :** Check the air compressor and piping systems for leakages and correct as required.
- 7-8 :** Shut off all power to the air compressor before attempting any repair or maintenance.



## **8 : MAINTENANCE CHECK LIST**

### **⚠ WARNING**

Before doing any maintenance or adjustments to your air compressor, the following safety precautions should be taken.

**A : DISCONNECT ELECTRICAL POWER.**

**B : MAKE SURE NO AIR PRESSURE IN AIR RECEIVER.**

#### **8-1 : Daily checklist**

**8-1-2** : Drain condensation from air receiver tank.

**8-1-3** : Check for any unusual noise or vibration.

**8-1-4** : Be sure all nuts and bolts are tight.

#### **8-2 : Weekly checklist**

**8-2-1** : Clean air filter, replace if necessary.

#### **8-3 : Quarterly or 300 hour checklist**

**8-3-1** : Change filter element.

**8-3-2** : Check pressure relief valve.

**8-3-3** : Check pressure switch to ensure unloads whenever motor shuts down.

**8-3-4** : Clean and blow dust or dirt off pump fins and motor.

**8-3-5** : Inspect air system for leaks by applying soapy water to all joints. Fix it if leakages are observed.

## **9 : STORAGE : WHEN YOU HAVE FINISHED USING THE AIR COMPRESSOR :**

**9-1** : Set the switch to OFF and unplug the cord.

**9-2** : Be sure to drain the water from the air tank.

**9-3** : Protect the electrical cord and air hose from damage.

**9-4** : Store the air compressor in a clean and dry location.

## 10 : TROUBLE SHOOTING :

| CONDITION                                       | CAUSE   | CORRECTIVE  |
|---|---|---|
| Compressor won't start                          | 1 : Loose electrical connection<br>2 : Motor overheated   | 1 : Check wiring connection<br>2 : Press reset button or wait for automatic reset   |
| Low pressure                                    | 1 : Malfunction in valves<br>2 : Loose tube or fittings<br>3 : Restricted air filter<br>4 : Defective check valve   | 1 : Check inlet and exhaust valves<br>2 : Tighten fittings<br>3 : Clean or replace filter<br>4 : Replace check valve  |
| Pressure relief valve releasing                 | 1 : Defect pressure switch or improper adjustment<br>2 : Defective pressure relief valve  | 1 : Check for proper adjustment and if problem persists replace pressure switch<br>2 : Replace valve  |
| Excessive dust formation or appearance of water | 1 : Restricted air intake filter<br>2 : Worn valves<br>3 : Worn piston rings<br>4 : High ambient temperature and / or humidity<br>5 : Over usage of this compressor | 1 : Clean or replace filter<br>2 : Replace valve assembly<br>3 : Replace piston ring<br>4 : Install a moisture separator and/or dryer<br>5 : Check for air leakage. If no leaks are found, bigger compressor is needed. |
| Water in air receiver tank                      | 1 : Condensation in the air receiver °  | 1 : Drain daily or install an automatic drain °   |
| Excessive noise                                 | 1 : Loose valves<br>2 : Loose piping<br>3 : Unit not installed level<br>4 : Carbon or foreign material on piston<br>5 : Worn bearings                               | 1 : Inspect valve for damage<br>2 : Tighten as required<br>3 : Ensure that unit is mounted level<br>4 : Clean piston<br>Check cylinder walls for scoring<br>5 : Replace bearings  |

|  |  |   |
|--|--|---|
| Compressor over heated   | <p>1 : Undersized unit for air requirements</p> <p>2 : Compressor location</p> <p>3 : Air leaks in the system</p> <p>4 : Restricted air filter</p> <p>5 : Worn, damage, or carbon build up on valve</p> <p>6 : Carbon build up at after - cooler tube or check valve</p> | <p>1 : Contact PUMA compressor distributor</p> <p>2 : See installation section</p> <p>3 : Fix leaks</p> <p>4 : Clean or replace filter</p> <p>5 : Clean or replace valves</p> <p>6 : Clean or replace as needed</p> |
| Pressure switch does not unload or leak air when unit is not operating | <p>1 : Pressure switch unloading may be dirty or faulty</p> <p>2 : Check valve may be dirty or faulty</p>  | <p>1 : Clean, repair or replace pressure switch</p> <p>2 : Clean, repair or replace check valve</p>   |
| Air leaks at check valve   | <p>1 : Defective or dirty check valve</p>  | <p>1 : A defective check valve results in a constant air leak when there is pressure in the tank, remove and clean or replace valve.</p>  |
| Air leaks in air tank or at tank welds                                 | <p>1 : Defective air tank</p>  | <p>1 : Air tank must be replaced, do not repair the leak.</p>   |