AIR COMPRESSOR

OPERATING INSTRUCTION AND PARTS LIST

BELT TYPE

IMPORTANT：

PLEASE MAKE CERTAIN THAT THE PERSON WHO IS TO USE THIS EQUIPMENT CAREFULLY READS AND UNDERSTANDS THESE INSTRUCTIONS BEFORE STARTING OPERATIONS

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

Type：_____

Model No：_____

Serial No：_____

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1：IMPORTANT SAFETY INSTRUCTION

⚠WARNING

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

⚠WARNING

READ AND UNDERSATND ALL INSTRUCTIONS BEFORE INSTALLING OR USING YOUR AIR COMPRESSOR UNIT，IT CONTAINS VALUABLE INFORMATION THAT WILL HELP YOU IN THE SAFETY INSTRUCTION RECEIVING、INSTALLATION、USE、AND MAINTENANCE OF THE UNIT，KEEP THIS BOOKLET IN A SAFE PLACE 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。
- ARC PARTS 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 SERVICING。
- 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。
- THE COMPRESSOR MUST BE LOCATED A MINIMUM OF 12 ~ 18 INCHES FROM ANY SOURCE OF POTENTIALLY EXPLOSIVE VAPOURS。
- 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 TOO HIGH OF PRESSURE。

- BEFORE STARTING COMPRESSOR，PULL SAFETY VALVE RING TO MAKE SURE THE VALVE MOVES FREELY。THE SAFETY 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 EXPLOSED METAL PARTS ON COMPRESSOR DURING OR IMMEDIATELY AFTER OPERATION，TOUCHING THESE AREAS MAY CAUSE SEVER BURNS。
- DO NOT REACH AROUND PROTECTIVE SHROUNDS OR ATTEMPT MAINTENANCE UNTIL UNIT HAS BEEN ALLOWED TO COOL。

1-5：RISK OF BREATHING

- DO NOT USE COMPRESSORED AIR FOR BREATHING，WHEN SPRAING USE RESPIRATORY PROTECTION IN A WELL VENTILED AREA。
- COMPRESSOR AIR FROM THE UNIT MAY CONTAIN POISONOUS VAPOURS WHICH IS NOT SUITABLE FOR INHALEING AND COULD BE HARMFUL TO YOUR HEALTH。
- WORK IN AN AREA WITH GOOD CROSS-VENTILATION。

1-6：RISK FROM MOVING PARTS

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

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 AIR STREAM TOWARD ANY PARTS OF THE BODY OR AT OTHER PEOPLE。
- UNPLUG POWER CORD AND DRAIN ALL AIR PRESSURE FROM TANK BEFORE SERVICING AND AFTER EACH USE。

1-8：RISK OF PROPERTY DAMAGE WHEN TRANSPORTING COMPRESSOR

- ALWAYS PLACED COMPRESSOR ON A PROTECTIVE MAT WHEN TRANSPORTING TO PROTECT AGAINST DAMAGE TO VEHICLE FROM LEAKS。
- NEVER OPERATE COMPRESSOR ON A ROOF OR OTHER ELEVATE POSITION。
- 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 move up and down in the cylinder，During the down-stroke，air is drawn in through the inlet valve，The discharge valve remains closed，On the up-stroke of the piston，air is compressed。The inlet valve closes and compressed air is forced out through the discharge valve、through the check valve and into air receiver tank。Working air is not available until the compressor has raised the air receiver pressure above that required at the air service connection。The air inlet filter openings must be kept clear of obstructions。Your air compressor can be used for operating paint spray guns、air tools、caulking guns、grease guns、air brushes、sandblaster、or inflating tires and plastic toys、spraying weed killer and insecticides、etc., An air regulator is usually necessary for most of 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。 It is the responsibility of the receiver of the goods to ensure the products has been shipped in full and arrival in suitable condition to avoid expenses being incurred to correct such problems。With improper handling，damage may result in transit and cause problems in compressor operation。

4：GENERAL REQUIREMENT

It is your responsibility to ensure air compressor is installed correctly，as well as maintained and serviced on a regular basis。Information has been included in this booklet outlining the suggested air compressor maintenance schedules and a trouble shooting guide， It is important that you read this information and keep it in a safe place for future reference。

5：INSTALLATION

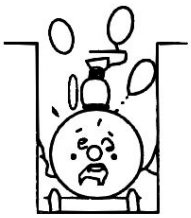
5.1：MECHANICAL

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 through the pump flywheel，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 that collect dust or dirt clean。 A clean compressor runs cooler and provides longer service。 Allow room for easy access to the air compressor for maintenance and service work。

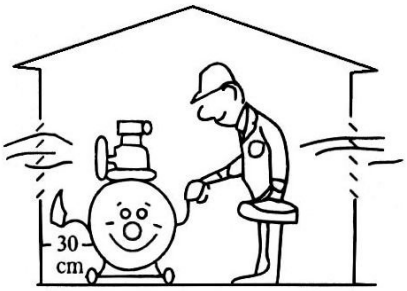
DO NOT EXPOSE TO RAIN AREA

DO NOT PLACE IN 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

5.1-1：For vertical type permanent installation，the compressor should be bolted to the floor through holes provided in the compressor feet。 Shims must be used to level the compressor before bolting it to the floor， Sever vibration will result when the compressor is bolted down tightly and the feet are not level， This can lead to welds cracking or fatigue of the air receiver。

5.2：ELECTRICAL

It is your responsibility to ensure that the air compressor is electrically connected in a safe and correct manner。 Any electrical work should be carried out by a competent electrician and installed in a way which meets all applicable codes and regulations。A magnetic start must be an integral parts of the air compressor except on contractor and professional series units。A magnetic starter may be supplied with your unit from the factory。

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 that air compressor ensure the power source has been shut down。 This must be 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 suitable qualified person in order to avoid a hazard.

5-2-1：MOTOR

Wiring must be down in a manner that full voltage nameplate ±10% is available at the motor terminals during startup。Use of an incorrect electrical motor for your particular building service will result in premature motor failure and is not covered by PUMA compressor or motor manufacture’s warranty。

5-2-2：PRESSURE SWITCH

The pressure switch located on the compressor unit acts as a pilot device activating the coil on the magnetic starter except on contractor and professional units where the pressure switch would act 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 too high of an air pressure。Consult your local distributor or service center should the switch not be operating properly。

5-2-3：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。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。

5-2-4：PUMP ROTATION

The compressor is to be wired in a manner that the rotation of the flywheel causes the air to be blown over the pump。This allows the pump to cool properly。Rotate the unit with an arrow on the belt guard or motor。

6：COMPRESSOR LUBRICATION

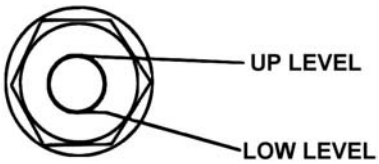
Do not add or change oil while the compressor is in operation，use the recommended SAE10-30W non-detergent oil only。

6-1：Filling the oil

6-1-1：Remove the oil filler plug。

6-1-2：Slowly pour the proper oil into the pump crankcase。

6-1-3：Always keep oil level between the marks “up” and “low” level on the oil stick or on the red circle on the sight glass。



6-2：CHANGE THE OIL

Change oil after the first 8 hours of compressor operation， then change oil after every 300 working hours or 3 months whichever comes first。

6-2-1：Remove the oil drain plug，allow oil to drain out。

6-2-2：Replace the oil drain plug，the use of a sealing compound or Teflon tape to avoid leakage is recommended。

6-2-3：Refill with the recommended oil to the proper level。

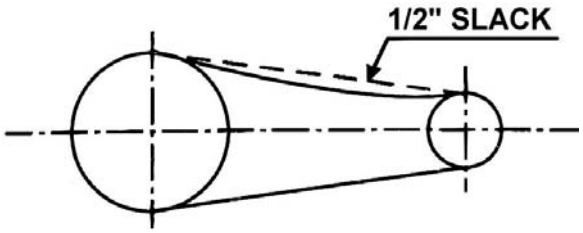
7：INITIAL START UP PROCEDURE

Do not attempt to operate the air compressor unit without first checking the oil level in the pump，add oil as required。Serious damage may result from use without oil。

7-1：Check to see that nuts and bolts are all snug，this must be down，as some fasteners may become loose in transit。

7-2：Check to see if the belt is installed properly，with proper tension。

7-3：Check belt tightness so that when pressure is applied at the center，there is 1/2” slack。



7-4：Check that proper type and level oil is correct，see page for proper compressor lubrication。

7-5：Check that compressor is fixed on a strong、stable level base。

7-6：Check that oil breather is clean。

7-7：Check that air filter is clean。

7-8：Do not place any materials on or against the belt guard，or the compressor unit itself。Placing materials there will limit the cooling of the air compressor and could lead to premature failure。

7-9：Turn the compressor “on” momentarily by positioning the fused disconnected in the “on” position。
Ensure that the flywheel is turning in the correct direction。On compressors with three phase power，adjust the wiring at the motor terminals if the rotation is incorrect。Refer to the wiring diagram on or in the motor terminal box。

7-10：Open the air receiver outlet ball valve and start the unit。Ensure air is escaping to atmosphere。
Allow the unit to operate for a minimum of twenty minutes in this no load condition to lubricate bearings and piston。

7-11：After running the compressor for twenty minutes，close the ball 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 pressure switch。

7-12：Check the air compressor and piping systems for leakages，and correct as required。

7-13：Shut off of all power to the air compressor before attempting any repair or maintenance，

7-14：Stop the compressor，and check the oil level in the crankcase。Add oil as required。

7-15：Your compressor is ready for use。

⚠WARNING

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

1：DISCONNECT ELECTRICAL POWER。

2：DRAIN AIR RECEIVER OF AIR PRESSURE。

8：MAINTENANCE CHECK LIST

8-1：Daily checklist

8-1-1：Check oil level。

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 by opening air filter cap。Replace air filter if necessary。

8-2-2：Check oil level and filling up if necessary。

8-3：Quarterly or 300 hour checklist

8-3-1：Change compressor oil and filter element。

8-3-2：Check condition and alignment of belt、flywheel and motor pulley。
Adjust belt tension if necessary or replace belt if worn。

8-3-3：Check safety valve。

8-3-4：Check pressure switch unloads to ensure compressor head unloads whenever motor shuts down。

8-3-5：Clean and blow off pump fins and motor。

8-3-6：Inspect air system for leaks by applying soapy water to all joints。Tighten joints if leakages are observed。

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

9-1：Set the “on/off” switch to “off” and unplug the cordially,

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 do not start	1：Fuse blown or circuit breaker tripped。 2：Loose electrical connection 3：Motor overheated	1：Check for cause of blown fuse or breaker and replace or reset。 2：Check wiring connection 3：Press reset button or wait for automatic reset。 Check belt tension
Low pressure	1：Air leak in safety valve。 2：Loose tube of fittings。 3：Restricted air filter。 4：V-belts loose。 5：Defective check valve。	1：Safety valve manually by pilling upward on ring。If condition persists replace valve。 2：Tighten fittings。 3：Clean or replace。 4：Adjust belts tension。 5：Replace check valve。
Safety valve releasing on air receiver tank	1：Defect pressure switch or improper adjustment 2：Defective safety valve。	1：Check for proper adjustment and if problem persists replace pressure switch。 2：Replace safety valve。
Oil discharge and excessive carbon formation or appearance of water and oil in the air lines。	1：Improper oil viscosity。 2：Overfilling the crankcase with oil。 3：Restricted air intake filter。 4：Carbon exhaust valves。 5：Worn valves。 6：Worn piston rings。 7：High ambient temperature and/or humidity。 8：High percentage of running time。	1：Replace oil with SAE10W-30 non-detergent compressor oil。 2：Drain oil and fill to proper level。 3：Clean or replace filter。 4：Clean or replace。 5：Replace valve assembly。 6：Replace piston ring。 7：Install a moisture separator and/or dryer follow by and oil filter。 8：Check for air leakage。If no leaks are found you may required an additional compressor unit as your air demand is too much for existing unit。
`V-belt roll off the flywheel or motor pulley	1：Flywheel and motor pulley not aligned properly。 2：Belts do not match flywheel groove。 3：A nick or tear on the edge of the belt， 4：Not a matched set(if two or more belts are used)。	1：Align using a straight edge。 2：Purchase new set of matched belts。 3：Purchase new set of matched belts。 4：Purchase new set of matched belts。

Water in air receiver tank	1：Condensation in the air receiver。	1：Drain daily or install an automatic drain。
Compressor over heating	1：Undersized unit for air requirements。 2：Compressor location。 3：Pump rotating the worn way。 4：Air leaks in the system 5：Restricted air filter。 6：Improper grade or level of oil。 7：Worn，damage，or carbon build up on valve。 8：Carbon build up at after-cooler tube check valve。	1：Contact PUMA compressor distributor。 2：See installation section。 3：See pump rotation。 4：Fix leaks。 5：Clean or replace filter。 6：Replace with SAE10W-30 non-detergent compressor oil。 7：Clean，repair or replace valves。 8：Clean or replace。
Excessive noise	1：Loose flywheel or motor pulley。 2：Loose valve。 3：Noisy only during start up，Check for loose belts。 4：Vibrating belt guard，piping or loose belt。 5：Unit not installed level。 6：Improper grade of oil in crankcase。 7：Carbon or foreign material on piston。 8：Worn bearings。	1：Tighten as required。 2：Inspect valve for damage replace as required。 3：Adjust for proper tension 4：Tighten as required。 5：Ensure that unit is mounted level。 6：Replace oil with SAE10W-30 non- detergent compressor oil。 7：Clean piston。Check cylinder walls for scoring。 8：Replace main bearings。
Pressure switch unloading does not function or leak air when unit is operating or not operating	1：Pressure switch unloading may be dirty or faulty。 2：Check valve may be dirty or faulty。	1：Clean，repair or replace pressure switch。 2：Clean，repair or replace check valve。
Oil leaks or appearance of oil on the compressor	1：Spillage of oil when filling。 2：Overfilling the crankcase。 3：Improper grade of oil。 4：Leak at oil filler plug。 5：Oil leak at gasket，cap screw，head，cylinder or crankcase。 6：Loose valve plugs。 7：Loose side or end plate 8：Oil seal leak。 9：Scratch or burn on the crankshaft。	1：Wipe unit clean。 2：Drain oil and fill to proper level。 3：Replace with proper SAE10W-30 non-detergent compressor oil。 4：Tighten or replace oil filler plug and/or “O” ring。 5：Replace gaskets as required。Use pipe dope or gasket compound on all cap screw threads。 6：Tighten valve plug。 7：Tighten plates。 8：Replace oil seal。 9：File or sand with emery cloth。