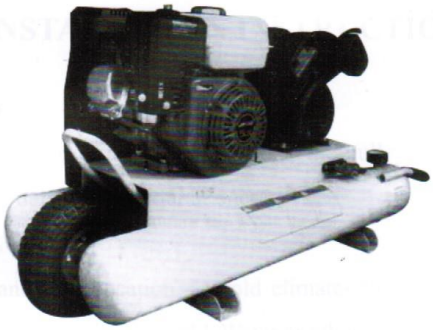
AIR COMPRESSOR



ASSEMBLY

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INTRODUCTION

In order to rcccive maximum performancc and long life from your Compressor. the following instructions should bc carefully read and all points regarding installation and opcration of the unit should be noted and obscrved A careful reading of this manual.prior to connccting anything to the motor or compressor.will pay dividends in terms of trouble-free operation.

INSTALLATION INSTRUCTIONS

1. INSPECTION

Check for possible damage in transit and see that the pulley turns freely by hand Report any damage to delivering carrier at once.

1. INSPECTION

Select a clean. dry. and light location. In cold climates the compressor should be installed in a heated building. Insulate cold. Water or other low temperature pipes that pass overhead to avoid the possible collection and dripping of condensate onto the compressor and motor which would cause rusting and/or motor shoring.Do not install the compressor in a boiler room. Paint spray room or area where sandblasting is carried on.If the air in the area where the compressor is to be installed is acid-laden.or dust laden.The compressor intake should be piped to the outside.This intake pipe should be increased one pipe size for every twenty(20)feet of run and the intake tiltes should be installed at the end of the pipes with a hood to protect them from the clements.

If the compressor has to be located where the motor will be exposed to appreeiable quantities of water .oil. dirt. acid or alkaline fumes the mentor must be of special construction to avoid rapid deterioration.

Bolt the unit securely any to a level base .Unless base is exactly level.shins will

probably be required. Any space between base and foot should be shimmed rather than drawing foot down thus placing train on unit.When unit is properly shimmed vibration will be at a minimum.

Allow sufficient space around compressor so that it is accessible from all side for maintenance.Mount unit with pulley side toward the wall.But at least sit (6)inches from it.

3. POWER SUPPLY AND WIRING

Be sure that your power supply and internal wiring are adequate and that the available frequency and voltage corresponds to that on the motor nameplate.

The wiring should be done by a licensed electrician who is familiar with the requirements of the local inspectors.Consult your local electrical contractor and electrical codes for recommended wire sizes.For proper wiring.consult the manufacturer of electrical starting equipment.or the electrical diagrams. furnished with the compressor.

4. STARTING

A.compressors are shipped without oil in the crankcase.Before starting.fill crankcase to the high level mark on the oil fill hole with a good grade of compressor oil meeting the following specifications.

NOTE:For operation in damp or humid locations. addition of rust inhibitor is recommended.

B.Turn compressor over a few revolutions by hand to make sure that everything is free and in running condition.

C.Check tension of the belts.

D.Remove tools,rags and any other objects from the vicinity of the compressor.

E.Never put hands on the belts of idle units. Unless main motor switch is off.

F.Note direction of arrow on flywheel and be sure direction of rotation is correct when machine is started.Air should be drawn through interlayer onto the cylinders.

For maximum cooling.

AMBIENTOR ROOM TEMP ° F	VISCOSRRY AT 100° F S.S.U	FLASH POINT °F(Min)	POUR POINT °F(Min)	CARBON RESIDUE %(Max)	PREGERRED BASE
55to120	490to600	430	+20	0.15	Naphthenic
32t055	290to350	390	+5	0.10	Naphthenic
0to32	160to230	350	-10	0.05	Naphthenic
Above120 Or below0	CONDULT FACTORY				

5. PIPING

The compressors are regularly equippcd with intake filterrs requiring no piping. Diseharge piping should be as short and as straight as possible and as large or larger than the connection to the compressor.

CAUTION

A. Never install a shut-off valve .such as a globe or gate valve ,between the compressor discharge opening and the receiver unless a safety valve is installed in the line between this valve and the compressor.

B. Never operate pump at pressures or speeds in excess of those recommended by the factory.

OPERATION AND CARE

6. BELT ADJUSTMENT

ALL WAYS PULL THE MOTOR DISCONNECT SWITCH BEFOE WORKING ON BELTS SO THE MOTOR CANNOT STARS UP UNEXPECTEDLY.

When installing new belts it is necessary that the motor bolts be loosened and the motor be moved toward the compressor.The new belts can then be

installed without damage or strain. As belts will stretch it is recommended that all belts be changed at the same time.

When belt tension is adjusted properly the belts can be depressed. At a point midway between the mortar pulley and the flywheel. Approximately one half of an inch. Loose belts will slip on the motor pulley and cause undue heating and wear. A belt that is too tight will overload the bearings. Adjustments can be made by sliding the motor along its base.

7. DALLY CARE

Check oil level in crankcase and if necessary, add sufficient oil to bring level to(but not above)the full mark on the oil fill hole.

Drain air receiver, drop legs. etc.

Stop.look.and listen a moment for any unusual noise,failure to compress. overheating. vibration or belt slippage and correct before serious damage can develop.

8. MONTHLU CARE

Check and tighten all bolts. Check air connections and joint for leaks. Check all unloading lines for leaks. Air leaks in the unloaging lines will cause the unloaders to chatter as well as cause short cycling.If main air supply is not clean of oil and moisture-free. A strainer mounted ahead of the pilot valve is recommended. Check"V" belts for any possible misalignment and tightness.

MAINTENANCT～TROUBLE SHOOTING～REPAIRS

9.SLOW PUMPING OR INSUFFICIENT ORESSURE CANBE CAUSED BY

A.Clogged inlet filter～(Disassemble and cleam thoroughly)

B.Leaks in air lines, valves, fittings.etc. ～(Loeate using soapy water if necessary: replace or tighten threaded parts.)

C.Compreessor too small for equipment being operated～(Check air

requirements and add to compressor capacity～consult dealer.)

D. Leaking head valves～(Remove covers and remove valves for examination. Repair or replace faulty valves.)

10.EXCESSIVE OIL CONSUMPTION

"Oil Pumping" usually results from using the wrong type or an inferior grade of oil. Replacing worn or stuck piston rings will help correct this condition but contrary to popular belief. worn rings do not affeet pumping efficiency appreciably.

11.NOISY OPERATION CAN BE CAUSED BY

A. Loose parts-extremal-(tighten loose bolts. Particularly the flywheel pulley to the crankshaft.)

B. Foreign matter such as carbon. metal chips. ect. on pistons striking head at top of stroke(Remove head and clean).

C. Piston extending above cylinder at top of stroke and hitting head. (Remove cylinder and add base gasket. Not upper cylinder gasket.)

D.End play in crankshaft-(Remove end cover. take out one end cover gasket or shim and replace. Do not remove too many shims or binding may result.)

E.Loose valves-hex head cap screws are not tight enough.(tighten screws)

F.Loose or worm parts-lnternal.e.g.pistons. connecting rods. wrist pins.Valves -(Pump should be overhauled-preferably in distributors service department.or factory. Loose rod bolts can be tightened.but if bearings are worm or scored. New insert bearings must be installed.)

12.OIL LEAK

At base or end cover gastket-(Disassemble at point of leak. shellac or perma-gasket on both sides and reassemble .Maintain correct oil level).

13.VIBRATION

Characteristic of all reciprocating machines.Can be held to a minimum by keeping the compressor securely fastened to a solid level foundation. maintainig proper

belt alignment and keeping nuts and blots tight.

14.OVERSATING

Compress on of air generates heat. Much of which is dissipated as air passes over the intercooler. Overheating can be caused by.

A.Pump running backwards-(reverse diection.) Proper rotation is counterclockwise facing flywheel.

B.One or more head valves failing to seat properly-(Remove cover. Valve. clean reseat or replace valves.)

C. Blown cylinder head gasket-(Rcpmace after cleaning all traces of old gasket from head and cylinder.)

D. Restriction in head. intercoolcr or check valve if used-(Remove and clean.)

E.Lack of oil-(check oil level .If necessary)

F.Dirt in intercooler fins or cylinder fins-(blow out with air.)

G.Poor ventilation and high room temperature-(if compressor cannot be moved, check possibility of piping intake to cooler location).

15.DISASSEMBLING PUMP

Bcfore dismantling a pump for overhauling it is advisable to obtain a set of valve parts . piston rings. and gaskets in addition to other required parts.

A. Losses motor, side toward pump and rcmove belts. Drain oil from crankcase and if desired. remove complete pump from platform.

B. Remove flywheel bolt and remove pullcy using a wedge or wheel puller if required. Remove key.File edges of key way smooth to remove sharp edges which could cut oil seal during removal.

C. Remove intercoclers and after cooler from cylinder heads.Remove inlet and discharge manifold.

D. Remove cylinder heads from cylinders by removing capscrews.

E.Before removing cylinders mark top of pistons nearest flywheel, so that they can be reinstalled in same position. Remove cylinders by removing bolts cylinders can

be removed easily by twisting slightly back and forth while pulling upward.Care should be taken that connecting rod and piston does not become damaged from striking metal when cylinder is removed. The condition fo cylinders. Pistons. rings and bearing tits can then be checked.

F. Remove side plates to remove connecting rods and piston assembly. remove rod bolts. Keep rods and caps in matched sets. Noting position of the identification marks on one side of each so that connecting rod can be replaced in the same position it originally occupied.

G. Remove end cover and slide crankshaft out of base being careful not to damage the oil feeder ring.

H. To remove pistons. Remove retainers and push out wrist pins.

I. Drive oil seal out of base(only if replaccment is nccessary) with evenly spaced blows from inside.

J. To dismantle head and valves.

16. FITTING AND REASSEMBLING

Clean all parts thoroughly before assembling.

A.Crankshaft-----Base

Be sure base is cleaned to remove all metal chips and dirt.Insert crankshaft only into base. Assemble end cover and tighten end cover bolts evenly/End.

B. Piston-Cylinder

Check fit before assembling pistons to connecting rods. Pistons without rings should slide through the cylinder of their own weight and holding the skin of the piston with two thumbs there should be no appreciable side motion at any point of piston travel. Scored cylinders or pistions should be replaced.

C. Wrist Pins

Should be"tap" fit by hammer.

D. Connecting Rod-Cylinder-Crankshaft. Insert piston and rod assembly into cylinder bore being careful to comrpess the rings so that the ends cannot catch and

score the cylinder or break the ring. Assemble cylinder to base gasket. Assemble cylinder and piston rod assembly to base and crandshaft assembly. Tighten base bolts with lock washers in place.Coat the bearing journals of the crankshaft with a heavy oil. and with crankshaft installed in base.install the connecting rod and piston assemblies to the crankshaft. during installation the connecting rod bolts. with lock washers in place should be tightened. The cap should then be tapped lightly to help align the bearing. The bolts should then be drawn up tight. Never file the rod or cap and never use shims to adjust the bearing clenrance.

E.If oil seal is to be replaced slide over the crankshaft and press into place in the base.the lip or seal side toward the crankcase. Do not hammer directly on the seal.

F. Head Assembly

Install seat gasket. valve assemblies.

G. Install key and pulley after cylinder heads.manifolds intercoolers. and after cooler are connected.

H. Be sure base is filled to proper level with oil before operating or"running in"

I.Turn pulley over by hand several times to insure that no interference of any kind exists.

J. "Running in " for a few hours without the head assembly is recommended if a pump has been completely overhauled-especially if new pistons and/or cylinders have been installed.

17.VALVES

Valves are generally considered to be maintenance items and require care by the user. They are the most important part of the compressor and the importance of proper care and maintenance cannot be over-emphasized.

All valves should be removed from the cylinder head at the end of the first two or

three months of operation and examined for cleanliness and carbon formation.

Clean with safely solvent and blow off with compressed air.Depending on what is found at this inspection.the next inspection should not be more than 4 to 6 months later. These2 inspeclions will guide you in scheduling periodic cleaning times which will pay off many times over in providing trouble free service and reduced down time.

18.INTERSTAGE SAFETY VALVES

The interstage safety valve is set to relieve at60 PSIG.

A"Popping"interstage safety valve is an indication of excessive interstage pressure.

Shut off the compressor and determine the cause. Check high persuade inlet valves and valve gaskets for leaks and/or breakage.

DO NOT set interstage relief valve to a higher pressure as this will permanently damage the and void the warranty.

PERFORMANCE					
Model	Motor HP	Air Tank L	Discharge PressBAR	Delivery CFM	Pump RPM
PMA-2025	2	25	8	4.2	2800
PMA-2025	2	50	8	4.2	2800
PMP-2025	2	50	8	6.0	850
PMP20-100	2	100	8	6.0	850
PMP30-100	3	100	8	8.8	850
PMP30-150	3	150	8	8.8	850
PMP30-200	3	200	8	8.8	850
PMT100-300	10	300	12	28.3	730

M	HP	L	Press AIR	CFM	RPM
JDP30-150	3	40	8	8.8	950
JDP7040G	7	150	8	10.5	1080
JDP55-200	5.5	200	8	16.9	800
JDP55-40G	5.5	150	8	16.8	780
JDG40-100	4	100	8	11.7	1050
JDG55-120	5.5	120	8	16	1000
JDG100-150	10	150	8	29	950
HZ4007	0.75	40	8	1.5	860
HZE6015	1.5	60	8	4.5	900
HZGA60	5.5	60	8	6	1060
HZGA40	5.5	40	8	8.8	950
HZ12055	5.5	120	8	16.8	900
HZG5508	5.5	40	8	8.8	950
HZGA40H	6.5	40	8	11.7	950
DP5520	5.5	75	8	11.7	900
HZGA36	5.5	36	8	8.8	950
HZDA36	7	36	8	11.7	950
HZEA16	1.5	16	8	4	3400