

INSTRUCTION MANUAL FOR
MH32CN HIGH PRESSURE TRIPLEX PUMP

GENERAL OPERATING INSTRUCTIONS

1. Never run the pump dry.
2. Do not use rusty supply barrels.
3. Always keep suction strainer clean.
4. Maximum operating pressure is 1000 P.S.I.

FLOW RATES AND HORSE POWER REQUIREMENTS

The MH32CN pump is a positive displacement type; therefore the delivery is directly proportional to the speed regardless of pressure. In suiting the pump to your application refer to the performance table below:

R.P.M.	G.P.M.	ELECTRICAL HORSEPOWER AT P.S.I.				
		100	300	500	700	1000
200	1.50	.172	.395	.572	.750	-
300	2.25	.258	.593	.855	1.125	1.982
400	3.00	.344	.790	1.140	1.500	2.316
500	3.75	.430	.987	1.425	1.875	2.950
600	4.50	.510	1.185	1.710	2.250	3.500

LUBRICATION - OIL

New pumps are lubricated prior to testing and shipping but are shipped without oil. Prior to running fill crankcase with oil to halfway mark in guage window. Generally, the following instructions should be followed:

1. Change the oil in the crankcase as required.
2. Use only a non-foaming, non-detergent #1 compressor oil.
3. Do not use a detergent motor oil.

LUBRICATION - GREASE

Proper greasing is most important for piston and packing lubrication and maintenance of pressure. Use a good high temperature water pump grease.

PRIMING

The pump is self priming with suction heads up to 10 feet. For best operation it is recommended that the suction lift not exceed this height or that flooded suction be used.

If difficulty is experienced in priming remove the suction line and hold a water hose to the suction inlet for a moment so that the chamber receives some water. Once primed very little difficulty will be experienced.

PIPING

SUCTION PLUMBING MUST BE AIR TIGHT

The suction connection is located at the centre of the pump just beneath the pressure gauge. A suction strainer should always be used.

PRESSURE PIPING

There are 3 pressure outlets. The ones normally used are located on either side of the suction inlet and take a standard 3/8 inch male pipe thread. A good pipe dope or teflon tape should be used on all pressure piping.

High pressure connections to the pump should be made with high pressure hose and not rigid pipe so as to prevent vibrations from damaging the pump.

INLET AND OUTLET THREADS

All threads are N.P.T.

BY-PASS AND PRESSURE REGULATING VALVE

The pump comes equipped with a by-pass and pressure regulating valve (unless specifically ordered without it). This valve, located at the side of the suction chamber, can also be used to regulate the pump outlet pressure. The valve also acts as a by-pass valve and if desired the hose which is connected to this outlet may be returned to the supply tank so that excess fluids are reused.

NOTE: When using an optional unloader valve, bypass top should be turned down until water stops dripping. The pressure is then regulated by unloader valve.

REPACKING PUMP

The MH32CN Pump has BUNA-N V packings which are held under constant pressure by stainless steel springs (32CN60H). No additional adjustment of the gland nuts is required after correct installation.

To repack your pump head (32CN35) remove crankcase nuts (3227) and pull entire fluid end of pump forward over the pistons. With fluid end free, remove old packings and wash reusable parts thoroughly. Insert new packing set in proper order, tightening gland nuts up firmly. Replace head over pistons and work it into place by moving pistons back and forth, with a pulley on the crankshaft. Once in place tighten the crankcase nuts. It is a good idea to run grease over the pistons and packings before reassembling the head to the crankcase.

NOTE: At all times when replacing the V packings, check the condition of the pistons. If badly scratched or grooved they should be replaced, deeply grooved pistons will leak and cut the V packings.

MATERIALS HANDLED

As the pump has stainless steel pistons, stainless steel valves and an all bronze body it will normally handle a very wide range of abrasive, acidic or caustic materials. However, after running any material which might attack the above metals or the V packing the pump should be flushed immediately with clear water for 5 or 10 minutes.

PUMP DISASSEMBLY & REPAIR

REPLACEMENT OF PACKINGS

Remove crankcase nuts and washers and pull entire fluid end of pump forward over the pistons. With fluid end free, remove the old packings and wash the parts thoroughly. Insert new packings in proper order and screw gland nut into Piston Chamber firmly (but do not overtighten) to hold packings in place. Replace head over pistons and work it into place by moving pistons back and forth, with a pulley on the crankshaft. Once in place tighten the crankcase nuts and snug up the gland nut, but do not overtighten. It is a good idea to run grease over the pistons and packings before reassembling the head to the crankcase.

REPLACEMENT OF VALVES

Remove Chamber bolts and washers. Entire suction chamber can now be lifted off and the valves serviced.

NOTE: 3 back valves face downward
3 front valves are face upward

NOTE: It is essential that the proper size O rings be used in the 2 grooves on each valve. They must also be well seated in the grooves so that on tightening the piston chamber bolts, they are not squeezed out of the grooves.

REPAIR TO VALVES

The entire valve can be disassembled by tapping down on the valve disc and forcing the valve cover (3237B) off the valve seat. To reassemble, place parts in order and squeeze together gently in a vise or press.

NOTE: Do not hold valve seat (3237F) in a vise so as to burr or distort this part as sealing depends upon this part being free of all burrs and distortion.

REPAIR TO BY-PASS AND PRESSURE CONTROL VALVE

The entire valve can be disassembled for service by removing the 2 retaining bolts (3243F). Make sure all parts are placed back in the same order on reassembly.

DISASSEMBLY OF POWER END FOR REPLACEMENT OF BEARINGS, CRANKSHAFT,
CONNECTING RODS AND PISTONS

Remove back cover (32CN8) exposing connecting rods. Remove connecting rod bolts (3220) and push connecting rods forward through the oil seals so that the crankshaft is free. Do not mix the connecting rod caps as they must be replaced in the exact position they were removed from. Remove the bearing cover screws and tap crankshaft through oil seal at one end so entire crankshaft can be removed.

WINTER STORAGE

If the pump is to be exposed to freezing temperatures it should be either well drained or a mixture of anti freeze run through the pump.

IMPORTANT: TO OBTAIN MAXIMUM PERFORMANCE THE DRIVE BELTS MUST
BE TIGHT AT ALL TIMES

***** WARRANTY *****

Based on the logical assumption that manufacturing and material deficiencies will manifest themselves within 90 days time, all Magikist pumps are guaranteed for 90 days from date of purchase, by the original purchaser, against defective material and workmanship (but not against damage or wear caused by misuse, abrasion, negligence, accident, faulty installation or tampering in a manner to impair its normal operation) when the equipment is installed and operated in accordance with factory recommendations and instructions.

All such defective parts will be repaired or replaced free of charge if returned prepaid to the factory or authorized service depot. In all cases within the guarantee period, where examination indicates damage due to causes other than defectiveness, repairs will be made at a reasonable charge.

REPAIR PARTS - MH32CN PUMP

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<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. OF PARTS</u>
32CN1	Crankcase	1
322	Ball Bearing	2
323	Bearing Cover	2
323A	Gasket	2
324	Crankshaft Oil Seal	2
325	Oil Filler Cap	1
326	Oil Cap Gasket	1
32CN7	Piston Cover	1
32CN8	Back Cover	1
32CN9	Back Cover Gasket	1
3210	Back Cover Screw	6
3211	Oil Gauge Window	1
3212	Bearing Cover Screw	8
3213	Pulley Key	1
3214	9" Pulley	1
3215	Set Screw	1
3216	Pump Rail	2
3217	Bolt & Washer	4
3219	Crankshaft	1
3220	Connecting Rod Complete	3
3223	Piston Pin	3
3224	Piston	3
3226	Oil Plug & Washer	2
3227	Crankcase Nut & Washer	4
3229	Piston Seal	3
32CN30	Gland Nut	3
32CN35	Piston Chamber	1
3236	Grease Cup	3
3237	Complete Valve	6
3237A	Valve O-Ring	12
3237B	Valve Cover	6
3237C	Valve Spring Seat	6
3237D	Valve Spring	6
3237E	Valve Disc	6
3237F	Valve Seat	6
3238	Suction Chamber	1
3239	Cap & Packing	1
3241	Gauge 0 to 1500 P.S.I.	1
3242	Air Chamber	1
3242A	Air Chamber Gasket	1
3243	Complete Control Valve	1
32CN43A	Pressure Adjusting Cap	1
32CN43B	Upper Spring Seat	1
32CN43C	Spring	1
32CN43D	Lever	1
32CN43E	Lever Bolts	2
3243F	Retaining Bolts - S.S.	2

<u>PARTS NO.</u>	<u>DESCRIPTION</u>	<u>NO. OF PARTS</u>
32CN43G	Lower Spring Seat	1
32CN43H	Seat Pin	1
32CN43J	Spring Case	1
32CN43K	Control Spindle	1
3243L	Spindle Cage	1
3243M	Diaphragm	1
3243P	Control Ball	1
32CN43T	Seat O-Ring	1
3243U	Shield Packing	1
32CN43V	Control Seat	1
3243W	Diaphragm Shield	1
3243X	Control Seat Case	1
3243Z	Control Case O-Ring	1
3244L	Chamber Bolt & Washer (long)	4
3244S	Chamber Bolt & " (short)	4
3250	Crankcase Studs	4
3260	Packing Kit	1
3260D	Top Female Adaptor	6
3260C	Grease Ring	3
3260E	Buna-N Packing	12
32CN60G	Bottom Adaptor	3
32CN60H	Packing Spring	3
3271	NPT/Hose Adaptor	1
3272	3/8" - 90 Degree Elbow	1
3280	Needle Valve	1
3291	3/8" NPT Plug	1
3294	Packing Washer	3
32100	Crankshaft Protector	1
32010	Crankshaft Protector Screws	4

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