

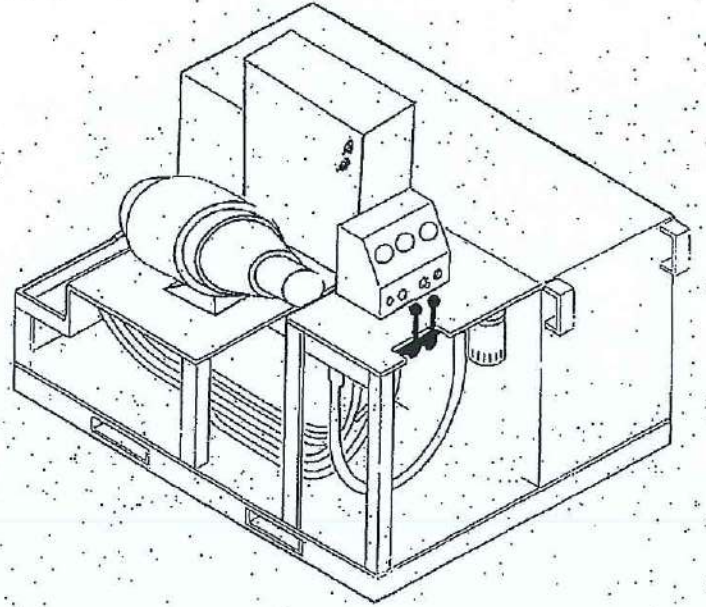


4 POINT LIFT SYSTEMS

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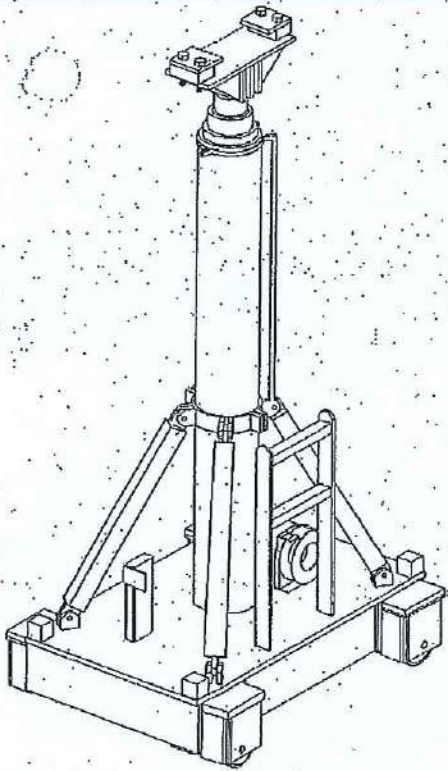
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MOLINE, IL 61266-0906



SERVICE, OPERATION AND PARTS

MANUALS FOR



RIGGING GEAR SALES, INC.

P.O. BOX 544

DIXON, IL 61021

800-728-4911

MODELS 21.5A, 43A, 130GPU2S, & 300GPU4S

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Section 1 General Information

1



Introduction

The hydraulics used on this lift system consist of one or more power units, basic direct manual hydraulic controls, and double-acting telescopic cylinders. The operating condition of this hydraulic system depends upon your compliance with the procedures and precautionary measures set forth in this safety and operations manual.

Do not operate this system if you are not familiar with its components and the principals upon which they operate.

Notice!!!

This is very important for safe operation of this system. Personnel authorized and trained to operate this lift system should demonstrate a complete knowledge and understanding of this lift system and:

- proper operating procedures
- safety factor requirements
- proper maintenance procedures
- troubleshooting techniques

Personnel operating this system should advise proper authorities immediately when a malfunction occurs.

Design

This lift system is designed for accurate precise lifting and smooth movement of heavy loads. It is designed to be extremely stable when used in accordance with good and safe rigging practices by competent rigging and maintenance personnel. All procedures are based on the safe operation of this lift system under proper operating conditions and without deviations from the system as it was originally intended to be used.

Operating Characteristics and Limitations

Prior to operation, become familiar with this system and its limitations. Do not rely on past experience with similar types of lifting devices.

Capacities and Stabilization

Since the safety of personnel through the proper use of this system is paramount, warnings and cautions have been used throughout this manual to emphasize these areas of concern. They are defined as follows:

Warning!!! - If not followed, could end in injury or death to personnel.

Caution!!! - If not followed, could end in damage or loss of system.

Section 1 General Information

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- Shim runway track every three feet or less. Always have a qualified professional engineer verify capacity to span greater lengths.
- Verify the structural strength of track when system will be traveling over pits or open areas in the floor.
- Check the load chart before lifting the load to determine the exact pressure needed to lift the load.

Do Not Do the Following:

- Leave the system controls unattended with the engine running.

Caution!!! Always shut off the power units and remove the keys when system will be unattended.

- Leave the system control stations when a load is suspended.

- Operate a malfunctioning system. Shut down and seek qualified assistance.

- Allow unauthorized or inexperienced personnel to operate the system.

- Take anyone's word for the weight of a load. Check the pressure readings against your load chart.

- Use sight method of determining whether or not the system is level or plumb. Use accurate measures (tapes, or level-lift system).

- Operate the system without performing necessary inspections, preparations, and proper setup beforehand.

- Underestimate the power of this system.

Caution!!! Be careful and always take necessary precautions to insure safe operating conditions.

Warning!!! Do not adjust any factory preset valves without the express permission and technical instructions from the manufacturer.

Never allow people to do any work under a suspended load unless safety cribs or stands are installed beneath the suspended load. Never allow anyone to walk under a load for any reason.



Prestart Inspection

Every prestart inspection should include the checking of fuel and oil. It is the user's responsibility to inspect the system before operation begins. It is also recommended that inspection of the system take place even if the system may have been recently put into operation by other personnel.

Walk-Around Inspection

The walk-around inspection and the visual inspections are the most efficient methods of checking your system. The purpose behind such inspections is to insure the system is in good operating order.

Overall Cleanliness

Check all system surfaces to be sure they are cleared of any oil, fuel and foreign objects (rags, papers, tools, etc.). Also, check for fluid leaks or signs of physical damage or wear.

Lubrication

Any parts of the system requiring lubrication should be checked against the lubrication chart and maintenance record to see if lubrication is necessary prior to operation.

Maintenance Records

Update your maintenance records each time the system is operated. The life of this system will depend upon its proper care and maintenance.

Equipment Utilization Records

Personnel authorized to operate this system should document usage of the system to assist other personnel in operating and maintaining this system properly.

Warning!!! Do not operate this system until prestart inspection, preparation and proper setup measures have been completed by qualified personnel.

Upon starting the system, allow it to run for a few minutes and listen for any unusual noises.

Pressure Gauges

On all Lift System power units there are hydraulic pressure gauges for each lifting unit and one system pressure gauge.

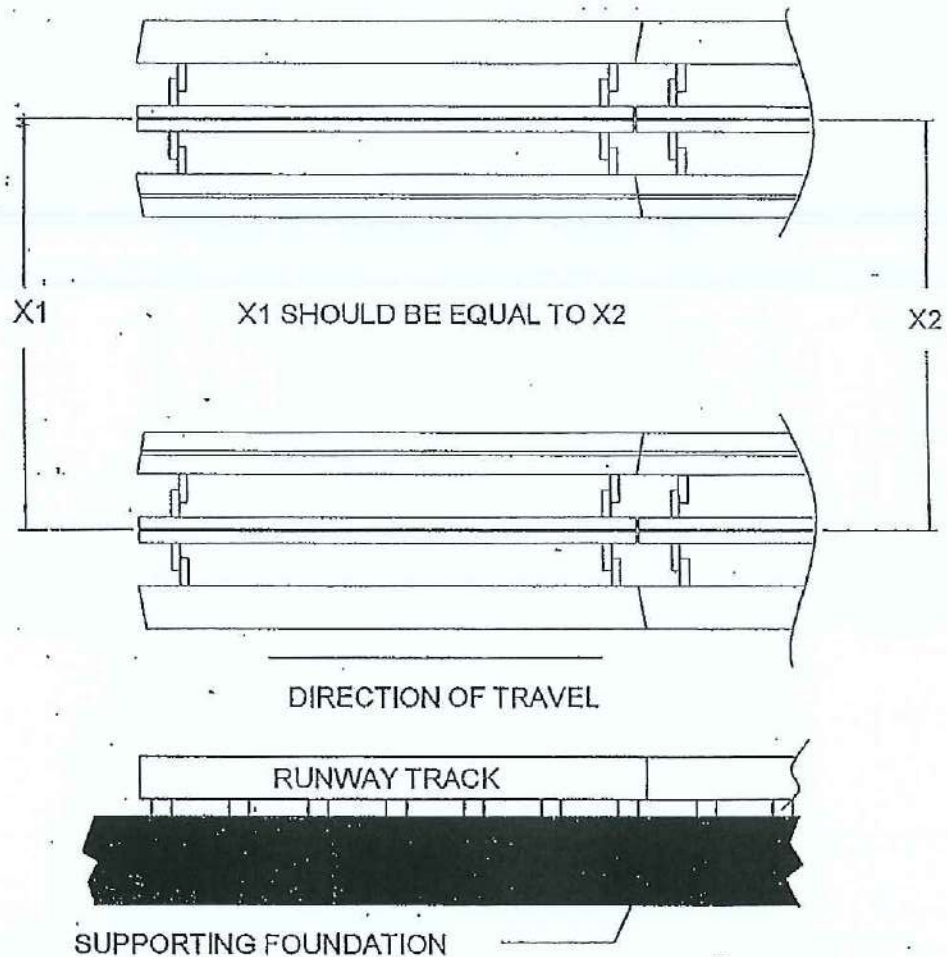
Section 2 Getting Started

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Set the runway track on the floor or support surface. *Refer to the drawing below.* Bolt the sections together. The runway tracks must be shimmed carefully to insure that the system remains level and plumb while traveling. The use of runway track is required when traveling with a load.

Runway tracks should be parallel in the direction of travel. Alignment of the sections from end to end is critical when traveling any distance. Distance between the opposite track sections must be measured carefully and corrections made before proceeding further. Shim the sections, if necessary, after correcting alignment.



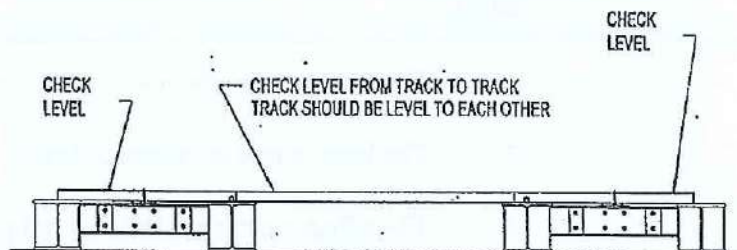
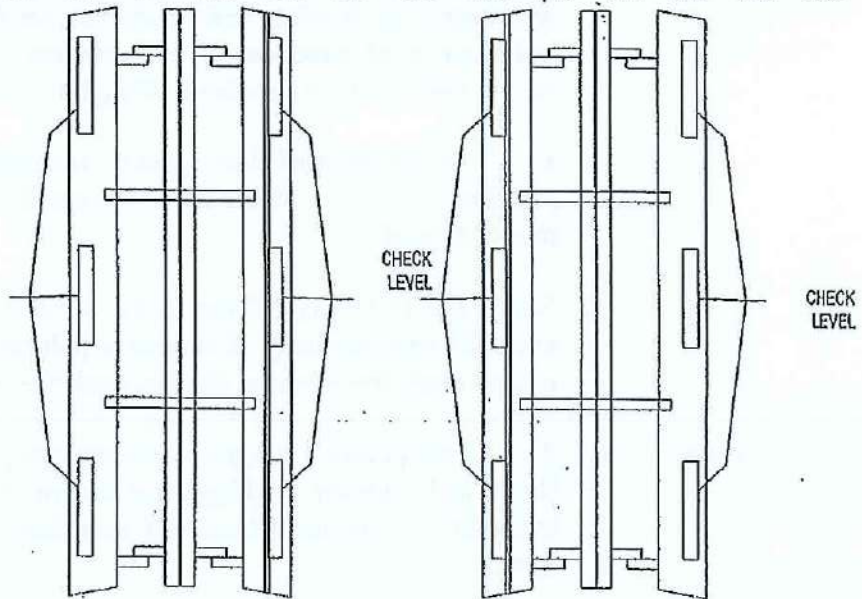
Lay out the lift dimensions on paper first. *Refer to the drawing on the next page.* Do a dimensional layout of the lifting arrangement before doing any setup. There are five critical dimension points which must be laid out.

A. The wheel boxes on each lifting unit should be extended if possible for maximum stability.

B. The lifting units must be kept as close to the load as possible to minimize deflection in the lifting beams. Place runway track accordingly.

Section 2 Getting Started

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2. Set lifting units in position. Lifting units must be level and plumb at all times.
3. Place beams onto header plates and install safety beam clips. If lifting links are to be used, place links onto beams before setting beams in place and position according to placement of lifting devices or chokers necessary to lift load.
4. Remove protective dust cap and covers and connect hydraulic lines. See instructions for proper connection. Do not connect propel cylinders to track before lifting. Let the lift units move and center up to the load first.
5. Attach load with appropriate and adequate rigging equipment. Make sure that rigging equipment is adequate to handle the load to include adequate safety factors.
6. Extend cylinders 6" and then retract cylinders fully to insure the machine is operating properly before lifting loads.
7. Check all clearances. Clear lifting area of all personnel. Come up tight to the load and apply a part of the load to the lift units.



Warning!!! This system has steel wheels with anti-friction bearings that easily move under heavy load conditions. Take extreme care to prevent the system from operating on a downhill condition. The system may move if not held back or blocked properly. Always keep the system level and plumb.

Caution!!! Watch beams constantly for deflection or signs of excessive loading. Excessive deflection of beams will cause severe side loading of cylinders. Cylinders must be extended at equal length with beams level. Use a measuring device (tape or level-lift system described in Section 4) to insure this. Operator and crew should constantly monitor exact cylinder extension.

Cylinder sections should extend starting with the large bottom section followed by the next largest section and so forth. Retraction should occur in the reverse sequence.

Caution!!! If cylinder sections do not extend or retract in proper sequence, contact manufacturer immediately. Extending out of sequence may result in severe damage to cylinder section.

10. Traveling

Warning!!! Always keep the system units level and plumb during lifting and travel with loads. When traveling with loads, ensure that the track is level and parallel to line of travel. Shim low areas to keep the system units level and plumb during travel. System units must operate parallel to each other. Incorrect relationships between system units, such as allowing one side to get ahead of the other while traveling, creates side loads in extended cylinders causing rapid packing wear and possible damage to the cylinder rods.

Warning!!! The foundation area supporting the track and lifting units must be firm enough to support the combined weight of the load, lifting units, beams and track without settling or sinking. Any change in the support area under the track or lifting units during the lift or while traveling is extremely dangerous. This must be monitored by the personnel operating the system at all times.

The traveling procedure is as follows. After the load is lifted slightly and is clear of supports, attach the propel cylinders to the track. When ready to travel, shift the lift/propel levers on the lifting units to the up position.

When traveling with four lifting units, always connect the propel cylinders to the front set of lifting units so that they travel and the rear lifting units by the connecting tubes.

Make sure that the connections from the front to back lifting units are tight to maintain the same distance between lifting units while traveling.



Warning!!! Extreme care must be taken that all required quick couplers are properly connected prior to any movement of the cylinders.

Quick Couplers

In keeping with efforts to maintain clean oil, the quick couplers must be free from any and all dirt always. Couplers must be wiped clean prior to connection. If equipped with dust covers, covers should be used on coupler halves any time couplers are not connected.

When you are satisfied that all quick couplers are properly connected, grip the hydraulic line just behind the quick couplers and pull to insure that the coupler stays connected. The next step is to extend the cylinders about one (1) foot. Then retract them to the starting position. If the cylinders will not retract, recheck the couplers to be sure they are completely engaged.

Check to be sure that hoses are hooked up to the proper directional valves and lifting units. Correct any problems and repeat the one (1) foot extension and retraction procedure to be sure couplers are properly connected.

If there are any other problems, do not attempt to make the lift. Refer to the troubleshooting section or call the manufacturer for further troubleshooting assistance.

Warning!!! Failure to adhere to this safety procedure could result in severely hazardous conditions and could cause serious damage to the system.

If the retract coupler is not connected, pressure in the rod end of the lift cylinder is then trapped and the cylinder cannot extend. If the pressure builds high enough, it will relieve to the atmosphere through a relief valve ported through the end plate of the head end, or the top of the cylinder depending on the cylinder make.

If oil is leaking or squirting from this relief valve, stop and check the couplers. The relief valve will protect the cylinder from over pressurization if the cylinder is not extended too far.

Note: Stop the motor and operate the directional control valve levers back and forth to relieve pressure in the lines. Check all couplers, then restart the motor and repeat the extend and retract safety procedure.



Wheel boxes are marked in correspondence to the lifting unit's corners (1A, 1B, 2A, and 2B) and must be returned to their original position if removed for any reason.

System wheels are built using special anti-friction bearings to facilitate ease of movement. The maximum rolling capacity is to be achieved only on firm, level track surfaces.

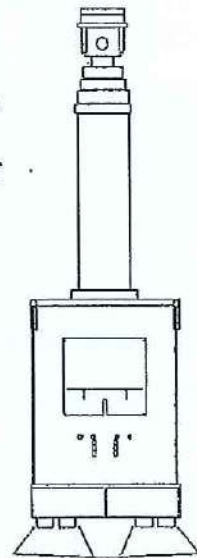
Wheel Lubrication

The wheels that this lift system moves on are equipped with grease fittings located on the hub of each wheel and should be greased regularly. Fill the bearings with a good grade of EP (extreme pressure) grease.

To gain access to the grease fittings, each individual lifting units should be raised with a forklift and blocked up to allow you to move, remove, or service the wheels.

Caution!!!

Be sure not to change the proper placement of any shims when moving or removing the wheel. Wheels must be shimmed snugly in place.



Lubrication points
(4 places - both side)

Hydraulic Oil

Oil in a hydraulic system performs the dual function of lubrication and transmission of power. Careful selection of oil should be made with the assistance of a reputable supplier, helping to ensure the satisfactory operation and life of this system and its components. Some of the factors important in selecting a good grade of hydraulic oil are:

- The oil must have additives to insure high anti-wear characteristics.
- The oil must have proper viscosity to maintain adequate sealing and lubricating qualities at the expected operating temperature of the system.
- The oil must have rust and oxidation inhibitors.

Oil Level - The oil level must be checked when cylinders are fully retracted and prior to the operation of this system. Make sure that the reservoir is filled with a good grade of hydraulic oil.

Caution!!!

Do not operate this unit without oil under any condition.



The filter element has molded-on integral gaskets and cannot be put in upside down. When the indicator is in the red zone, replace the filter. Machines built after 1985 have a remote dirt alarm on the control panel. A red light indicates a clogged filter.

Systems 21A, 21.5A, 42A, 22A, 44A, and models 2050 and 4100 are supplied with suction filters and return line filters with spin-on cartridges. See the parts replacement list for replacement order numbers.

If there is a major failure of the pump, or other system components, replace all filter elements and clean the system oil and inside the reservoir.

- Pump the oil out of the reservoir into a suitable container
- Wipe out the inside of the reservoir to remove all dirt.
- Pump oil back into reservoir straining through a 10 micron filter.

Hydraulic System

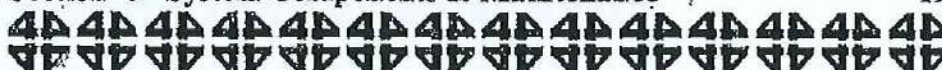
Bleeding Procedures for Lifting Units

Preferred Method - Hook hoses up in normal manner from power unit to base. Tip the base over with the safety counterbalance valve on the up side so the cylinder is horizontal. Power the cylinder out to about half stroke.

Caution!!! Be sure to support the moving end of the cylinder with a forklift or trolley on overhead.

At this point, the top end of the cylinder should be pointing slightly downward and it helps move the air bubbles if you gently bounce the end of the cylinder up and down several times. Then power the cylinder all the way in and set the base upright. Do this to the rest of the bases.

Alternate Method - Hook hoses up to the base. Pull both valve handles to go up 6". Power down and hold pressure for several minutes. Reduce pressure level to 1000 psi on system relief. Pull handles and stroke the cylinders all the way up and hold pressure against the cylinder by continuing to hold the valve handles in the actuated position. Hold this pressure for several minutes. Then run all the way down and go on to the next base to bleed. After that, check the first base to see if any of the stages have ex... if they have, repeat the bleeding procedures. Continue... of the bases have been bled. Be sure not to trap pressure in the cylinder. When finished with each base, with the engine off, move valve handles back and forth at the power unit before disconnecting hoses.

**Manual**

For the dual-fuel option on manual control machines, first pull the flap valve and wait until the engine is starved for fuel. Then change the manual control valve to the desired fuel position.

Diesel Engine Option**Prestart Instructions**

Read the engine manual furnished by the manufacturer before initial usage. Preparations for the initial start-up and each additional start-up thereafter should include careful checks of the following:

1. Check all components for mechanical security. If an abnormal condition or defective part is detected, repair or service as required. The engine should be kept free of dust, dirt, and spilled oil or fuel.
2. Check engine crankcase oil level.
3. Check radiator coolant level.
4. Check fuel supply level.
5. Inspect the air cleaner. Service if necessary.
6. Inspect exhaust system for possible leakage and cracks.

Fuel System Priming

The fuel system must be primed prior to initial start up or after engine has run out of fuel.

Caution!!!

Due to the precise tolerances of diesel injection systems, it is extremely important that the fuel be kept clean and free of water. Dirt or water in the system can cause severe damage to both the pump and the injection nozzles.

A. Priming the low pressure fuel system (transfer pump, fuel filter, and injection pump housing):

1. Check fuel level in fuel tank and open the shut off valve.
2. Loosen the fuel filter to the injection pump line at the injection pump fuel inlet fitting.
3. Actuate the priming lever on the side of the transfer pump until the fuel flows from the fitting.



Caution!!! Do not engage the starter for periods longer than 30 seconds without allowing 2 minutes for the starter to cool.

* If the engine fails to start after 30 seconds, wait two minutes before reattempting. Absence of blue/white exhaust smoke during cranking indicates no fuel is being delivered. If the engine does not start on the first attempt, check fuel supply system.

* Allow the engine to warm up before applying a load. Within seconds after starting the engine, oil pressure should exceed a minimum of 60 KPA (10 psi). After engine has reached operating temperature, the oil pressure should be in the range of 207 to 380 KPA (30 to 55 psi) at full load RPMs.

If it becomes necessary to use an additional source of power to start the engine, use a 12 volt battery connected in parallel.

Caution!!! Always let the engine run at idle speed without a load for at least two minutes before stopping. This lets the engine cool gradually and uniformly.

Operation

Operation, following prestart, preheat, and starting instructions, involves several checking and servicing procedures. Observing these practices will help the user extend the life of the engine.

Electric Motor Option

If the electric motor option was purchased, make sure that the proper input voltage (230 or 460 VAC) is selected at the switch, mounted on the door of the electrical enclosure, of the power unit. Have a certified electrician confirm that the wire, bringing power to the unit, is adequate to compensate for the wire's length and the motor's amperage draw.

Warning!!! Failure to use wire of an adequate gauge can cause fire and personal injury.

When starting the motor, make sure that the motor's rotation is in the desired direction. If it is not, shut the motor off. Running of the motor in the wrong direction will damage the hydraulic pump.

General Operation

Applying a Load

Allow the engine to warm up before connecting to a load. Continuous engine overloading causes high operating temperatures that can damage the engine. The exhaust system may become fouled by combustion deposits during periods of operation at light loads.



Warning!!!

Exhaust gas is deadly!!! Exhaust gases contain carbon monoxide, a poisonous gas that might cause unconsciousness and death. It is an odorless and colorless gas formed during combustion of hydrocarbon fuels. Symptoms of carbon monoxide poisoning are:

- Dizziness
- Headache
- Weakness & sleepiness
- Vomiting
- Muscular twitching
- Throbbing in temples

If you experience any of these symptoms, get out into fresh air immediately, shut the unit down and do not use until it has been inspected. The best protection against carbon monoxide inhalation is proper installation and regular, frequent inspections of the complete exhaust system. If you notice a change in the sound or appearance of the exhaust system, shut the unit down immediately and have it inspected and repaired at once by a competent mechanic.

System Maintenance

1. All hydraulic filters should be changed if indicator shows filter is dirty or at least once a year.
2. Wheels and all bearings should be greased at least once per month with a good grade high pressure grease.
3. Change engine oil after the first 100 hours of operation, then every 500 hours thereafter.
4. Replace engine air filter at least once per year.
5. Have an oil sample tested once a year on hydraulic oil (general wear, metal, and contamination tests). If a high water content is suspected (milky in color with low lubricity), ask for the Carl Fischer method of water content tests.
6. Inspect hoses and gaskets for wear monthly and service them as needed.

For more detailed component data, refer to the other sections of this manual or contact the manufacturer. Details on components with replacement parts list and specifications on parts available.



Level-Lift System

The unique design of the level-lift system puts accurate information instantly at the operator's fingertips. The sensor(s) will transfer information on the horizontal level of the load directly to the readout. Load corrections can be made immediately, front to back, as well as side to side.

The level-lift system consists of four (4) main components packaged in a handsome carrying case for easy storage and mobility. The interior of the case is custom fit to the level-lift components giving durable and safe transport from job to job. All components are calibrated and tested at the factory.

Components

Sensor - The sensor is marked left, right, front, and back for speedy setup. The unit is equipped with magnetic feet for secure mounting to any metal surface and the plug outlets are keyed for correct hook-up every time. The "zero" or level point can be set before each lift with a 7/16" socket or nut driver.

100' Black Power Cord - The cord is keyed on its ends so that it only fits one way into outlets. The cable is reversible and durably constructed.

Readout - The readout has labeled outlets for sensor and power source cord. The unit has magnetic feet for horizontal or vertical mounting and the display features bar lights to indicate the high side of the load for easy correction. The readout also has a center light for power indication. There is an on/off switch to preserve battery life.

An additional sensor is available from the factory with all hardware. No readout modification is necessary. An additional 100' cable will be shipped with any sensor purchased.

The battery should be recharged immediately upon receipt of your level-lift system. Do not charge more than 24 hours.

Power Source Specification (Customer Supplied)

The Level-Lift system requires 9 to 30 volts DC. The readout will automatically regulate input amperage. The unit can be run using a power unit battery.



General

- Always check the basic things first. If the same problem exists in all of the lifting units, look for a problem in the power unit.

1. Is the pump working properly?
2. Are the filters dirty?
3. Is the hydraulic tank full of oil?
4. Is the oil clean or contaminated?
5. Are relief valves set to proper pressures?

- Isolate the problem. If a lifting unit is not working properly, switch the hydraulic lines from the power unit and another lifting unit.

1. If the problem no longer exists, the problem could be in the control valve or elsewhere in the power unit or couplers.
2. If the problem remains, then the problem is isolated to the lifting unit.

- Look for simple problems first.

1. Lift/propel lever may not be shifted properly.
2. Dirty track can cause propel problems.
3. The system may not be level or plumb.
4. The load may be heavier than what was thought or stuck down in some way.
5. All bolts may not have been removed.

Propel Cylinder Troubleshooting

Problem: Does not extend or does not retract.

| Causes | Solutions |
|------------------------------------|----------------------------|
| Couplers not collected. | Connect couplers properly. |
| Lift/propel lever shifted to lift. | Shift to propel position. |

Section 5 Troubleshooting

29



Problem: Lift cylinder extends slowly.

| Causes | Solutions |
|---|--|
| Couplers not fully connected. | Connect couplers properly. |
| Load is heavy in area closest to that cylinder. | Reposition rigging and the load. |
| Internal oil leakage in cylinder, could be worn piston seals. | Use flow meter to check for bypass. Cylinder rebuild possible. |

Problem: Leakage when extending.

| Causes | Solutions |
|----------------------|---|
| Severe side loading. | Check levelness of lifting units, beam deflection, runway track deflection, or lifting units staging out of sequence with each other. |
| Worn packing. | Replace packing. |

Problem: Lift cylinder not staging properly.

| Causes | Solutions |
|----------------------|--|
| Severe side loading. | Check for lifting units out of level, beam deflection, or runway track deflection. |

Warning!!! Operating with cylinders mis-staging can cause severe damage to cylinders and hazardous lifting conditions due to cylinders restaging under the load. Consult factory immediately.

Problem: Deflection in cylinder stages.

| Causes | Solutions |
|--|------------------------------------|
| Warning!!! Severe side loading. Very dangerous! System is out of level, runway track could be settling. | Lower the load and reset properly. |



Problem: Erratic extension or retraction.

| Causes | Solutions |
|-----------------------------------|--------------------------------------|
| Air in system. | Bleed system. |
| Pump cavitating, tank low on oil. | Fill with oil and check pump. |
| Contamination in system. | Drain and flush system. Replace oil. |

Problem: Slow extension and retraction on all lifting units.

| Causes | Solutions |
|------------------------------|---|
| Hydraulic oil filters dirty. | Replace filters. |
| Contaminated oil. | Drain and flush system. Replace oil. |
| Worn pump. | Check with flow meter. Replace pump if flow is too low. |

Caution!!! Always use the same power unit to lower the cylinders as was used to raise them. Failure to do this can result in overfilling the oil reservoir.

Never plug the hydraulic oil fill opening. Ventilation is necessary to avoid a pressure buildup in the reservoir tank. The oil fill cap provided with the machine is a vented cap.

Protect the top of the lifting units from the weather when possible. Water can settle into the cylinders. This can make the packings swell which will cause cylinder chatter.

Water in the hydraulic oil will also cause the oil to lose some of its lubricity. This can cause premature wear to the cylinders and damage to the pump.

Rigid maintenance scheduling and practices will help keep the lifting system at its peak performance potential. This will also help ensure many years of reliable performance. Use the maintenance and utilization charts to keep track of the use and maintenance intervals.



Load Chart Check List

Note: **Lift pressure** is the amount of pressure required to lift the load.

Stop pressure is the amount of pressure that will apply maximum load to the beams and rigging within safety factors. **Do not exceed!**

Pressures

Lifting Unit #1

Lifting Unit #2

Approximate lifting weight _____ lbs.

Approximate lifting weight _____ lbs.

Approximate pressure
to lift stop limit

Approximate pressure
to lift stop limit

Stage 1 _____ psi _____ psi
 Stage 2 _____ psi _____ psi
 Stage 3 _____ psi _____ psi
 Stage 4 _____ psi _____ psi

Stage 1 _____ psi _____ psi
 Stage 2 _____ psi _____ psi
 Stage 3 _____ psi _____ psi
 Stage 4 _____ psi _____ psi

Lifting Unit #3

Lifting Unit #4

Approximate lifting weight _____ lbs.

Approximate lifting weight _____ lbs.

Approximate pressure
to lift stop limit

Approximate pressure
to lift stop limit

Stage 1 _____ psi _____ psi
 Stage 2 _____ psi _____ psi
 Stage 3 _____ psi _____ psi
 Stage 4 _____ psi _____ psi

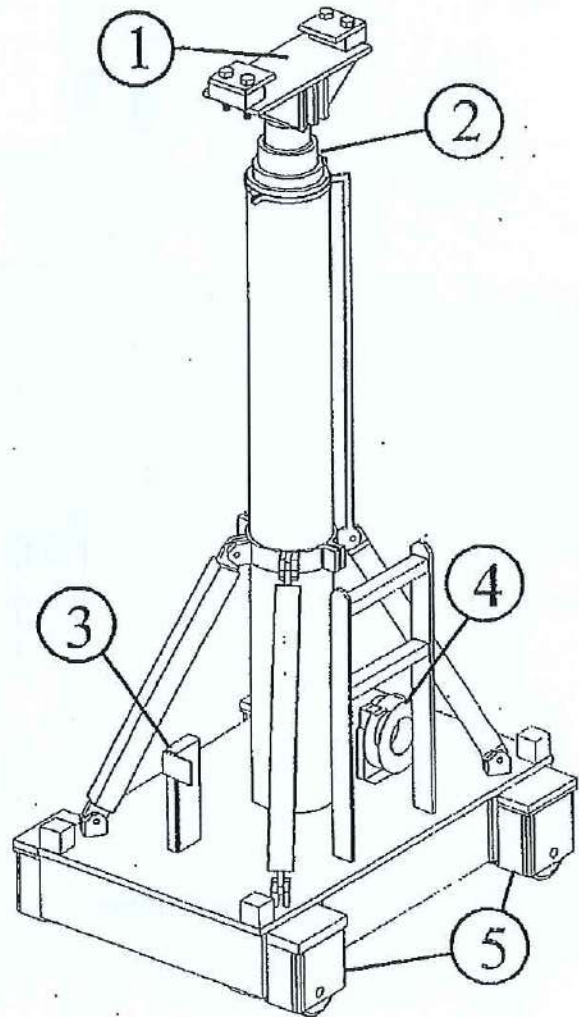
Stage 1 _____ psi _____ psi
 Stage 2 _____ psi _____ psi
 Stage 3 _____ psi _____ psi
 Stage 4 _____ psi _____ psi

Note: To find the approximate to lift and stop limit pressures, use the load chart on the following page.



75-Ton Base

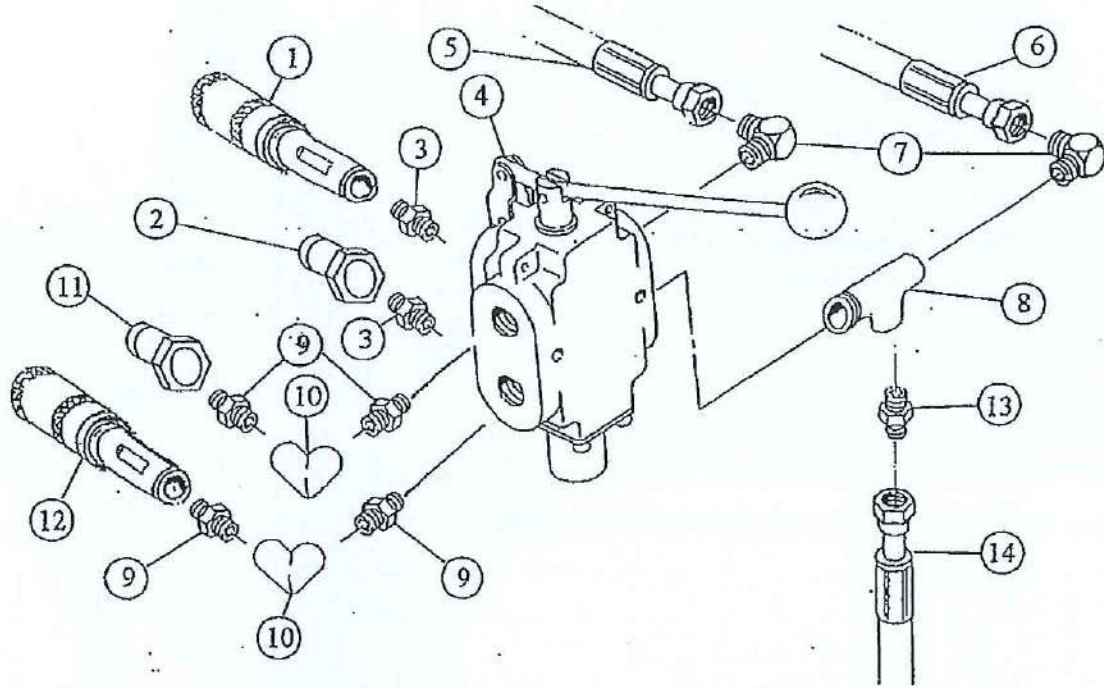
| Item Number | Description |
|-------------|------------------------------------|
| 1 | Header Plate |
| 2 | Lift Cylinders |
| 3 | Lift/Propel Valve & Quick Couplers |
| 4 | Hose Reel |
| 5 | Wheel Boxes (Typ. 4) |



Appendix D Replacement Parts



Lift/Propel Valve



Item Number

Part Order Number

Item Number

Part Order Number

1

C47

8

F124

2

C48

9

F087

3

F084

10

F048

4

DV76

11

C08

5

HA0307T

12

C09

6

HA0049

13

F163

7

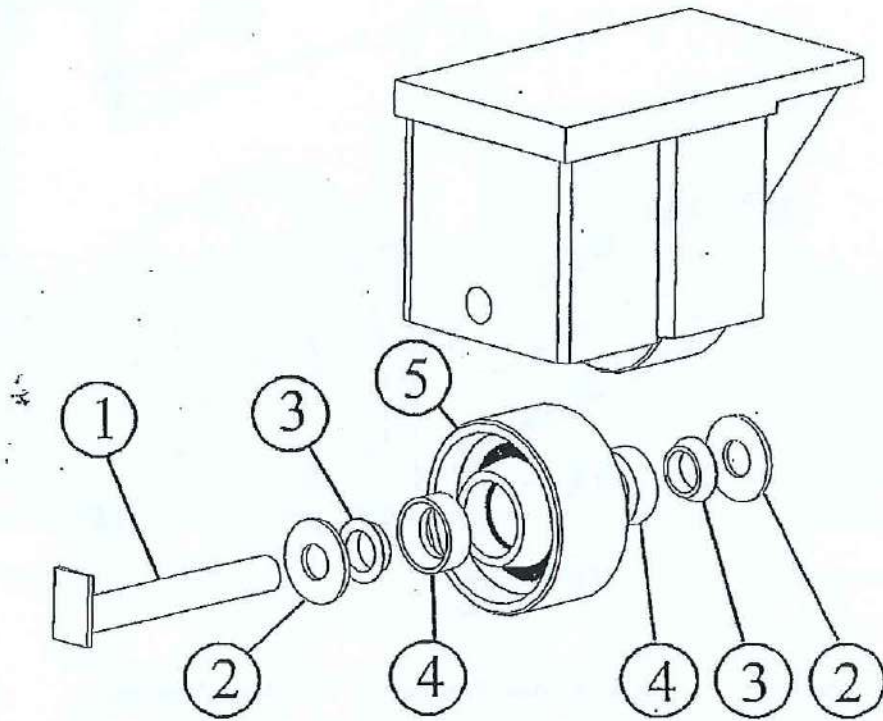
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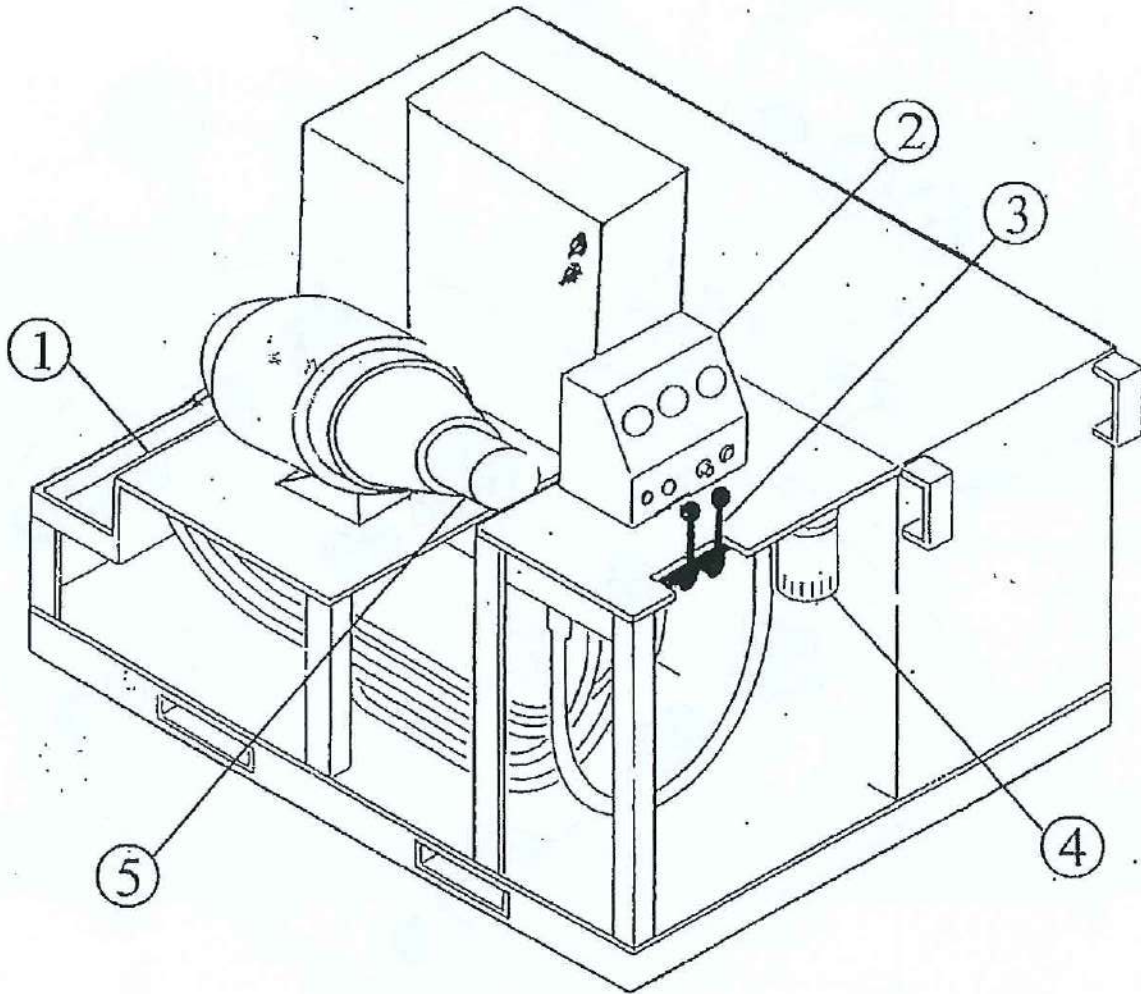
Wheel Box



| Item Number | Replacement Order Number |
|-------------|-----------------------------------|
| 1 | 75MKA015 |
| 2 | WB08 |
| 3 | MP178 |
| 4 | Part of wheel assembly only (W03) |
| 5 | W03 |



Power Unit



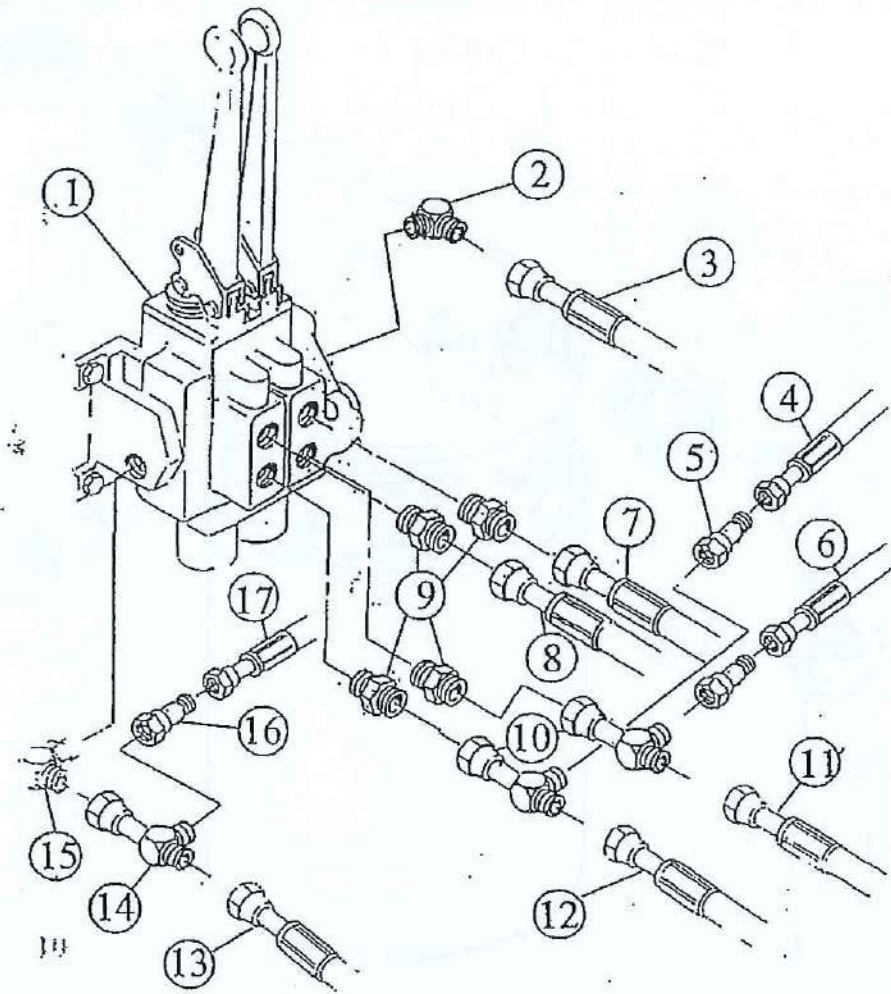
Item Number

Description

- | | |
|---|-------------------------------------|
| 1 | Quick Couplers |
| 2 | Power Unit Gauges & Control Buttons |
| 3 | Control Valve |
| 4 | Hydraulic Oil Filter |
| 5 | Hydraulic Pump |



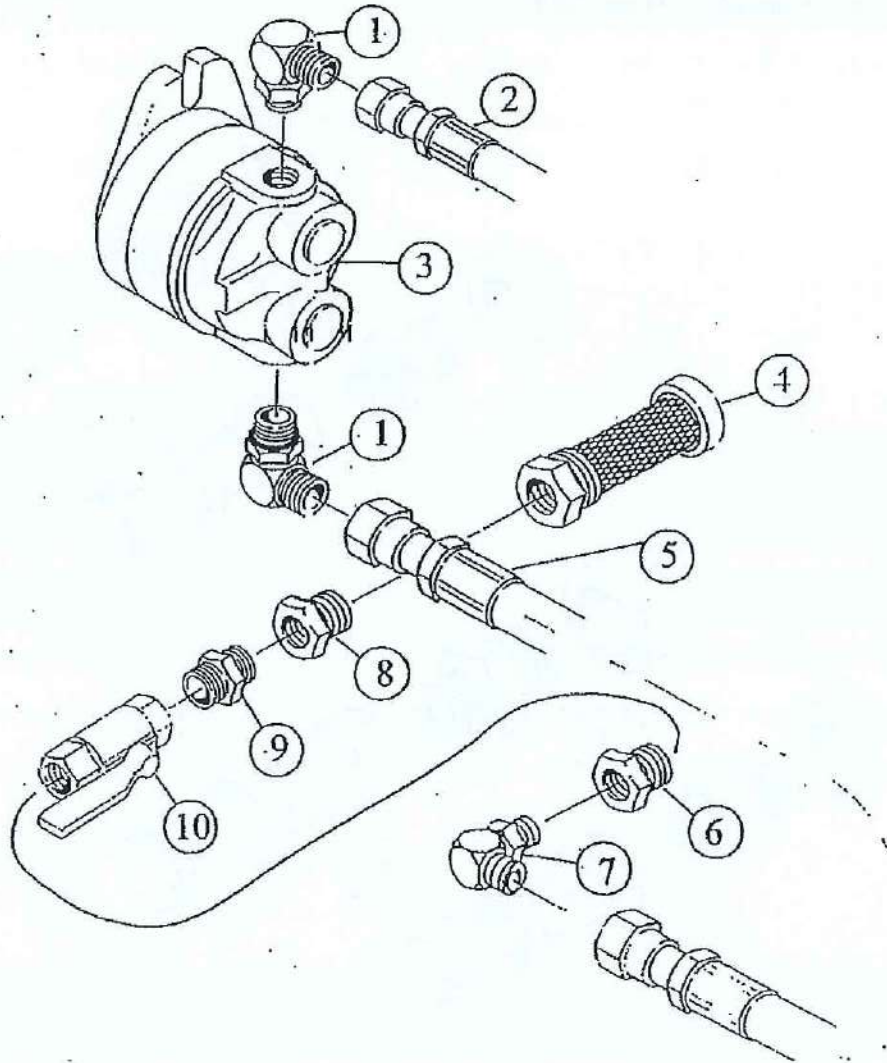
Control Valve



| Item Number | Part Order Number | Item Number | Part Order Number |
|-------------|-------------------|-------------|-------------------|
| 1 | DV14 | 10 | F150 |
| 2 | F038T | 11 | HA0769T |
| 3 | HA0171T | 12 | HA0056T |
| 4 | HA0772T | 13 | HA1084 |
| 5 | F163 | 14 | F152T |
| 6 | HA0773T | 15 | F038T |
| 7 | HA0343T | 16 | F165T |
| 8 | HA0367T | 17 | HA077T |
| 9 | F115T | | |



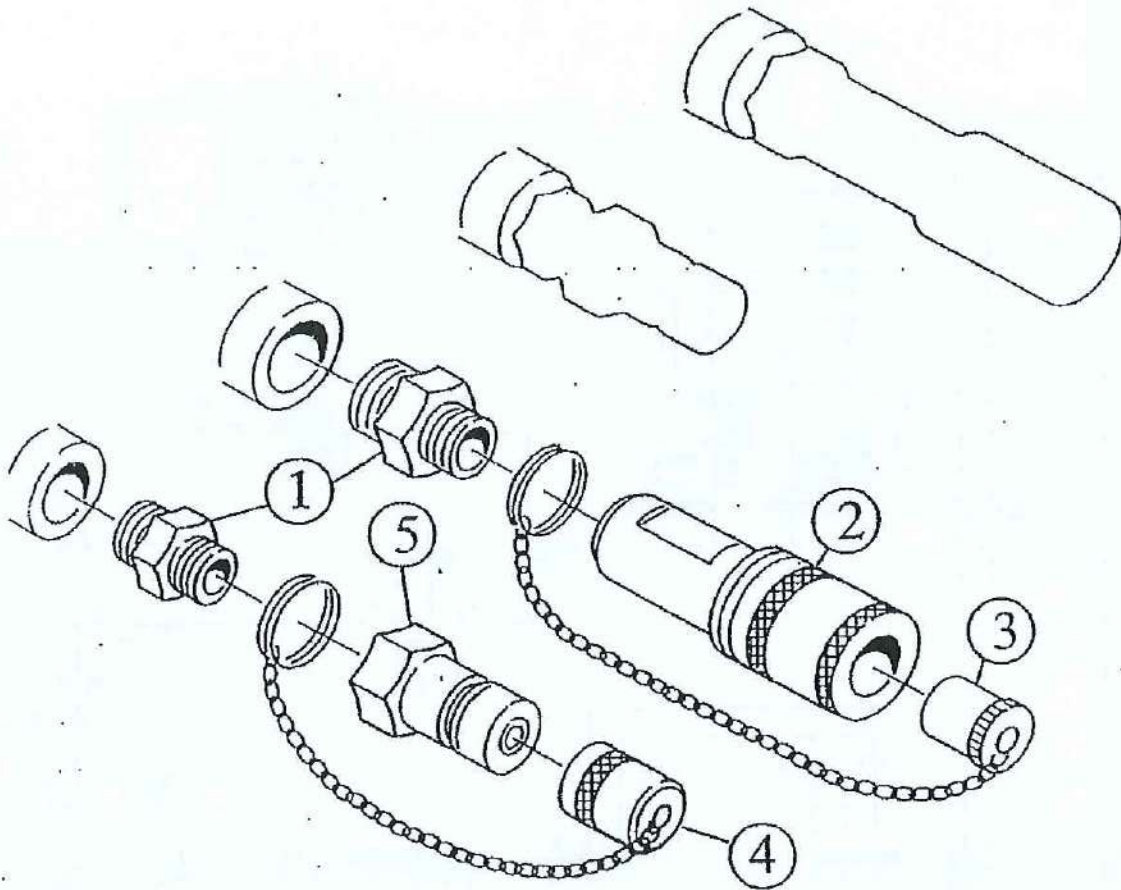
Hydraulic Pump



| Item Number | Part Order Number | Item Number | Part Order Number |
|-------------|-------------------|-------------|-------------------|
| 1 | F009T | 6 | F147 |
| 2 | HA1084 | 7 | F038T |
| 3 | P57 | 8 | F149 |
| 4 | STR12 | 9 | F086 |
| 5 | HA1083 | 10 | BV01 |



Couplers



| Item Number | Part Order Number |
|-------------|-------------------|
| 1 | F105T |
| 2 | C47 |
| 3 | C13 |
| 4 | C14 |
| 5 | C48 |