



PALLET INVERTER



Operation & Maintenance Manual

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Models
PI-23636
PI-24242
PI-24848
PI-44848
PI-25454
PI-45454

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Responsibilities of Owners/Users

Deflection

It is the responsibility of the user/purchaser to advise the manufacturer where deflection may be critical to the application.

Inspection and Maintenance

The lift shall be inspected and maintained in proper working order in accordance with the manufacturer's operating/maintenance manual and safe operating practices.

Only trained personnel and authorized personnel shall be permitted to perform maintenance/service operations on the lift.

Maintenance/service personnel shall have:

- Read and/or have explained and understood, the manufacturer's operating/maintenance manual, and all safety rules and labels, prior to performing any maintenance/service operations on the equipment.
- Full time unlimited access to the manufacturer's operating/maintenance manual.

Removal from Service

Any lift not in safe operating condition such as, but not limited to excessive leakage, missing rollers, pins, or fasteners, any bent or cracked structural members, cut or frayed electric, hydraulic, or air lines, damaged or malfunctioning controls or safety devices, etc. shall be removed from service until it is repaired to the original manufacturer's standards.

Repairs

All repairs shall be made by qualified personnel in conformance with the manufacturer's instructions.

Operators

Only trained personnel and authorized personnel shall be permitted to operate the lift.

Before Operation

Before using the lift, the operator shall have:

- Read and/or have explained, and understood, the manufacturer's operating instructions and safety rules.
- Inspected the lift for proper operation and condition. Any suspect item shall be carefully examined and a determination made by a qualified person as to whether it constitutes a hazard. All items not in conformance with the manufacturer's specification shall be corrected before further use of the lift.

During Operation

The lift shall only be used in accordance with the manufacturer's operating/maintenance manual.

- Do not overload the lift.
- Ensure that all safety devices are operational and in place.

Modifications or Alterations

Modifications or alterations of equipment shall be made only with written permission from the original manufacturer. These changes shall be in conformance with all applicable provisions of applicable standards and shall be as safe as the equipment was before modification. These changes shall also satisfy all safety recommendations of the original equipment manufacturer for the particular application of the lift.

Special warnings, cautions, restrictions

Inspection

Upon receipt of the equipment, inspect thoroughly for damage sustained in transit. Make note of any noticeable or potential damage on the bill of lading. After un-packaging, inspect for any concealed damage and report immediately to the freight carrier.

Safe Operation

DO NOT OVERLOAD – built-in relief valves prevent operation beyond rated capacity, however there are no means to prevent a load above capacity from being loaded into the equipment, which could cause damage.

KEEP CLEAR WHEN IN USE – Prior to operation, ensure no obstacles are present in the range of motion of the equipment. Pinch points are present, so it is critical to avoid any moving parts while the equipment is in operation. Momentary controls allow “dead-man” operation, locking the unit in place when the controls are released. If any obstacle comes into the path of travel during operation, immediately release the controls.

WARNING LABELS



Installation and Start-Up

This equipment has been delivered fully assembled and ready for operation.

Prior to operation, the unit must be bolted to the floor. Consult a structural engineering contractor for foundation requirements.

Connect 230/460V 3-phase power to the unit and test operation. If the equipment does not operate within the first 5 seconds or travel in the correct direction, the phase is reversed, switch L1 and L3 and try again.

Operating Instructions

All controls are momentary and must be held down to continuously operate a function.

- To operate the clamping mechanism, depress “CLOSE” button until load is secure.
- To release the load, depress the “OPEN” button.

NOTE: Rotation convention is denoted by looking in the same direction that the open end of the clamp is facing (i.e. facing the powerpack access doors).

- To rotate counterclockwise, depress the “CCW” button until desired rotation angle is reached, or once the unit rotates 180° and stops rotating.
- To rotate clockwise, depress the “CW” button until desired rotation angle is reached, or once the unit rotates 180° and stops rotating.

General Information

You are now the proud owner/user of an Air Technical Industries, hydraulic-operated lift.

This lift is a highly versatile machine that is designed to perform a wide range of lifting, feeding, accumulating, aligning, transporting, upending, rotating, tilting and moving operations. All units can be manually operated, electric motor powered or air motor powered. On all powered units there are three control options: (1) pedestal control mounted on the unit, (2) foot operated remote control or (3) push button remote control.

The hydraulic lifts have the load capacity rating and serial number typed on a label plate attached to one side of the lift. The capacity is a net capacity rating for a lift furnished with the standard specifications. The relief valve of the hydraulic pump has been set to raise the rated capacity, plus a small amount for overload. If there are other fixtures, conveyors, etc. Mounted to the platform-deduct the weight of these from the load rating to obtain the net capacity. Lifts should not be overloaded beyond the established capacity, as damage may result.

NOTE: The hydraulic lift is not for lifting personnel unless it is specifically intended for that purpose. The equipment is not intended for lifting objects over personnel.

Operating Characteristics

Pallet Inverters consist of two functions: clamping and rotation. The clamp function allows a load to be secured within the Inverter before flipping it up to 180°. The two functions can be operated independently or simultaneously, so for the quickest, most efficient operation, the operator may choose to begin rotating while the unit is still clamping. With proper training and practice, this is a perfectly safe mode of operation.

The clamping mechanism is equipped with a hydraulic flow divider to split the hydraulic fluid evenly between the top and bottom clamping mechanisms. However, due to the nature of the hydraulic system, the flow will still tend to take the path of least resistance, meaning that the unloaded section of the clamp will tend to travel faster than the section with load on it when clamping and the section with load will open faster than the free section while un-clamping. This is normal behavior.

The hydraulic system, contained in the base of the lift, consists of a directly coupled motor-pump combination, oil reservoir, solenoid operated directional valves and all necessary plumbing. The hydraulic pump is a positive displacement design, and operates at a usual working pressure of 1500-1800 PSI. A fine mesh screen is provided for protection of the pump. This screen is located adjacent to the output port of the reservoir. A pre-adjusted, built-in, relief valve protects the pump discharge from the effects of overloading.

The operating principle provides that the pump is driven to operate the lift and the pump is stopped when the lift attains the desired position. A check valve between the pump holds the hydraulic cylinder in position.

Prior to operating the equipment, the hydraulic fittings should be tightened. The fittings can become loose from shipping to your facility.

The hydraulic reservoir should be filled to within 1" (one inch) of the top of the tank, with the table in the open position. Spillage can occur, through the vent plug, in the top of the tank during shipment. The fluid is coming from the vent plug. Wipe off all surfaces of any spilled hydraulic fluid.

WARNING! Electrically powered equipment contains the hazard of electric shock. Only a qualified electrical technician should work on electrical systems.

Electrical Notes and Procedures

110 Volt requires a 20 Amp fuse, three prong plug with ground.

All three phase motors are dual voltage and need to be wired for 208, 230, or 460.

Always check to ensure the proper rotation of the motor.

The transformer in the magnetic starter box **MUST** be wired to the proper voltage.

H1 & H4 = 460 Volts

H2 & H4 = 230 Volts

H3 & H4 = 208 Volts

Basic Adjustment Instructions

UNIT OPERATING TOO FAST- Turn flow control valve clockwise to limit flow of oil back to reservoir

UNIT OPERATING TOO SLOW-Turn flow control valve counterclockwise to increase flow of oil back to reservoir.

Maintenance Instructions

We recommend that lubrication and preventative maintenance work should be conducted on a regular schedule that is established through experience gained during the first few months of operation. The need for lubrication and inspection is largely proportional to actual service duty, environment and application.

We recommend that the lift should be lubricated and completely inspected at least once a week during the first month of regular operation. Inspection should include a careful examination of all fastenings, fulcrum pins, rolling surfaces and rollers, hydraulic connections, electrical systems and general functions. The lift should be cleaned and clear of accumulation of debris, water, etc. Consideration must be given to a means for the prevention of such conditions.

Recommended hydraulic oils (non-foaming)

NORMAL CONDITIONS:

AW-46	CITGO
CHEVRON EP-9	STANDARD OIL
DURO AWS-150	ATLANTIC RICHFIELD
TELLUS #32	SHELL OIL
DTE #24	MOBILE OIL

HIGH TEMPERATURE:

CHEVRON EP-15 STANDARD OIL

The use of multi-grade motor oils with SAE 510-10W-20W/20 or SAE 10W-20W-30 non-detergent is permissible where the above oils are not readily available.

NOTE: Do not use hydraulic fluids which contain additives that may swell or dissolve certain packing materials normally used in systems designed for petroleum oils. For special fluids consult the factory.

CAUTION: Over-filling the hydraulic tank will cause overflow when the table is clamped.

Periodically scheduled greasing of the lift provides the opportunity for general inspection, insuring the proper maintenance of the equipment.

Disassembly/Accessing the Cylinders

In order to disassemble the clamping unit, the rotating clamp section must be removed from the base. From the back access doors, remove the hydraulic lines to the rotation slew drive and the clamping cylinders. Support the rotating section securely and remove the bolts attaching the slew drive to the base of the unit. Lay the rotating section across two sawhorses or other supports. Remove the bolts attaching the cylinders to the rotating plate and the clamps will slide out of the channels allowing access to the cylinders and rollers.

Troubleshooting Service Suggestions

1) HYDRAULICS FUNCTIONS WILL NOT OPERATE:

A. CHECK THE POWER SUPPLY AND ELECTRICAL CIRCUIT

Pump motor starter (if provided). On new installations of 3-phase motors, if the lift does not start raising in approximately 5 seconds, reverse line leads.
(WARNING: Do not run the pump backwards or without hydraulic oil)

B. CHECK OIL LEVEL

(WARNING: Do not overfill)

C. SOLENOID VALVE STUCK IN POSITION

Manually pop valve coil on either end of valve.

D. LIFT IS OVERLOADED

Check weight of load and reduce load. If not overloaded, check system pressure and adjust relief, if necessary.

2) LIFT RAISES SLOWER THAN SPECIFIED RATE OR WILL RAISE ONLY PARTIAL LOAD:

A. CHECK LINE VOLTAGE UNDER LOAD CONDITION

Low voltage affects speed and capacity

B. SUCTION LINE MAY LEAK

Tighten fittings

C. RELIEF VALVE MAY LEAK

Remove foreign matter from valve and adjust to $\frac{1}{4}$ turn beyond what is required to lift load

D. INSPECT SOLENOID VALVES

Disassemble valve and look for foreign material under valve seat

E. CHECK FILTER IN TANK FOR FOREIGN MATERIAL

F. INSPECT CHECK VALVE

Remove cap, spring and ball and inspect for foreign matter.

3) CLAMP WILL NOT OPEN:

A. TEST VALVE COIL FOR OPERATION

Check voltage at coil

Manually pop valve coil at either end

B. LOW PRESSURE RELIEF STUCK OPEN

Open valve and clear debris or adjust pressure

4) UNIT WILL NOT FULLY CLAMP TO SPECIFICATION:

A. CHECK FOR LOW OIL LEVEL

B. IF FOAM IS VISIBLE IN TANK OIL

Check for leaks in suction line between pump and tank

5) LIFT WILL NOT MAINTAIN POSITION AND DRIFTS SLOWLY WHEN NO BUTTON IS DEPRESSED.

A. Check the pressure relief valve, due to an overload on the table, the relief valve may have activated. Debris can be entrapped not allowing the valve to close. Take the relief valve apart and clean it completely. Reassemble and adjust to ¼ turn beyond what is required to lift load.

B. The check valve may need cleaning or replacement.

C. Check and clean the solenoid valves for debris.

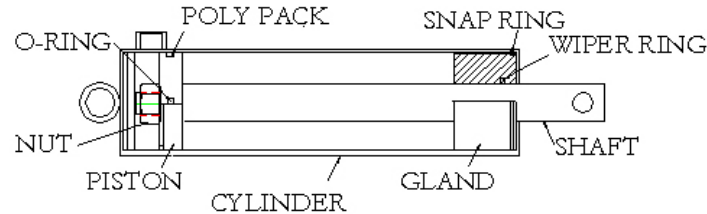
6) LIFT DOES NOT OPERATE SMOOTHLY:

A. RUN LIFT UP AND DOWN

Purge air from hydraulic system

B. If clamping action is jerky, grease outer guide tube on back side of clamping sections and/or roller channels

HYDRAULIC CYLINDER



PHYSICAL SIGNS OF INTERNAL PROBLEMS

1. DOUBLE ACTING CYLINDER OPERATES TO SLOW OR DOES NOT OPERATE
The poly pack needs to be replaced
2. VISIBLE LEAKAGE AROUND TOP OF GLAND
The "O" ring needs to be replaced
3. RUBBING NOISE OR SQUEAL (EXCEPT NEW CYLINDERS)
The poly pack needs to be replaced
4. JERKING MOTION OF SHAFT
Air in hydraulic system – purge air

PHYSICAL SIGNS OF EXTERNAL PROBLEMS

1. VISIBLE LEAKAGE NEAR PORTS
At bottom near end, and on cylinder-tube wall – replace cylinder
2. BENT ROD/SHAFT
Straighten or replace
3. BINDING CYLINDER
Check pivot points
4. SCORED OR RUSTY ROD SHAFT
Replace wiper ring and if necessary, the shaft

Defective and worn parts should be replaced. We suggest a cylinder repair kit to replace all worn poly packs, "O" rings and wipers. Rebuild the cylinder provided there has been no physical damage to the cylinder or any vital components.

For a smoother "break-in" period on new or rebuilt cylinders, we recommend to add STP or equal to the cylinder walls and shafts.

REPAIR PARTS

Repair kits are available from the factory. When ordering parts, specify the cylinder bore and whether it is single acting or double acting.

DISASSEMBLY PROCEDURE

A repair kit should always be on hand before disassembly since parts can become damaged when the piston is withdrawn and passes over the snap ring groove on the cylinder wall. Discard any such damaged parts and replace with new. Disassemble as follows:

1. Push the gland back into the cylinder until snap ring is free.
2. Remove the snap ring and pull out shaft, gland and piston assembly.

To replace poly pack, "O" rings and wipers, it is only necessary to spring the parts out of the grooves and remove them longwise over the lands of the piston and glands.

ASSEMBLY PROCEDURE

Clean piston and cylinder and remove any scratches or burrs that might damage sealing parts or prevent proper sealing function.

Lubricate lands and grooves and install new parts. Reassemble piston/rod assembly, gland and snap ring in the reverse order of disassembly.

PUMPS

ADJUSTMENTS

The built-in relief valve is set at 2000 PSI at factory. Do not readjust to exceed this setting as full load working pressure is approximately 1700 PSI.

SERVICE

Do not attempt to replace gears, bearings, shafts or other major parts of the pump. Order a replacement pump head, identified by the nameplate data, stamped on pump body and plate. When assembling pump on motor, be sure the intermediate coupling slot aligns with motor shaft tang.

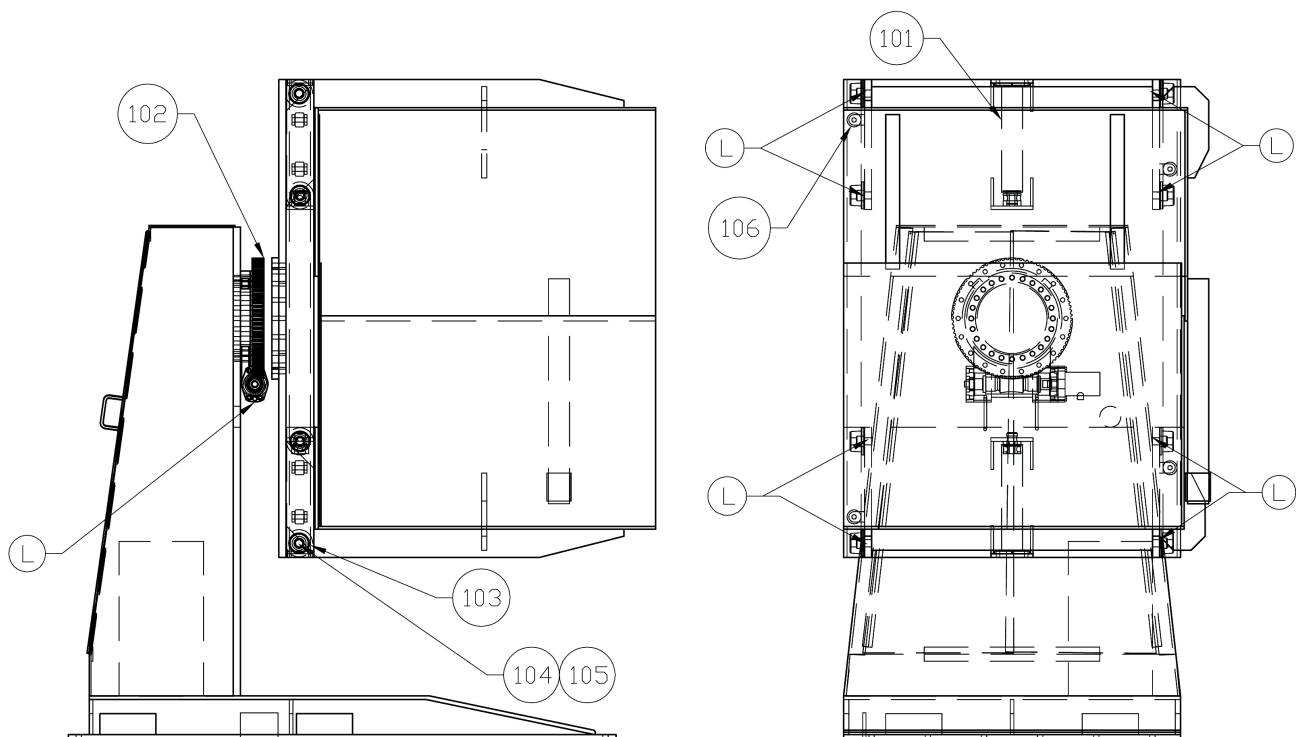
CAUTION

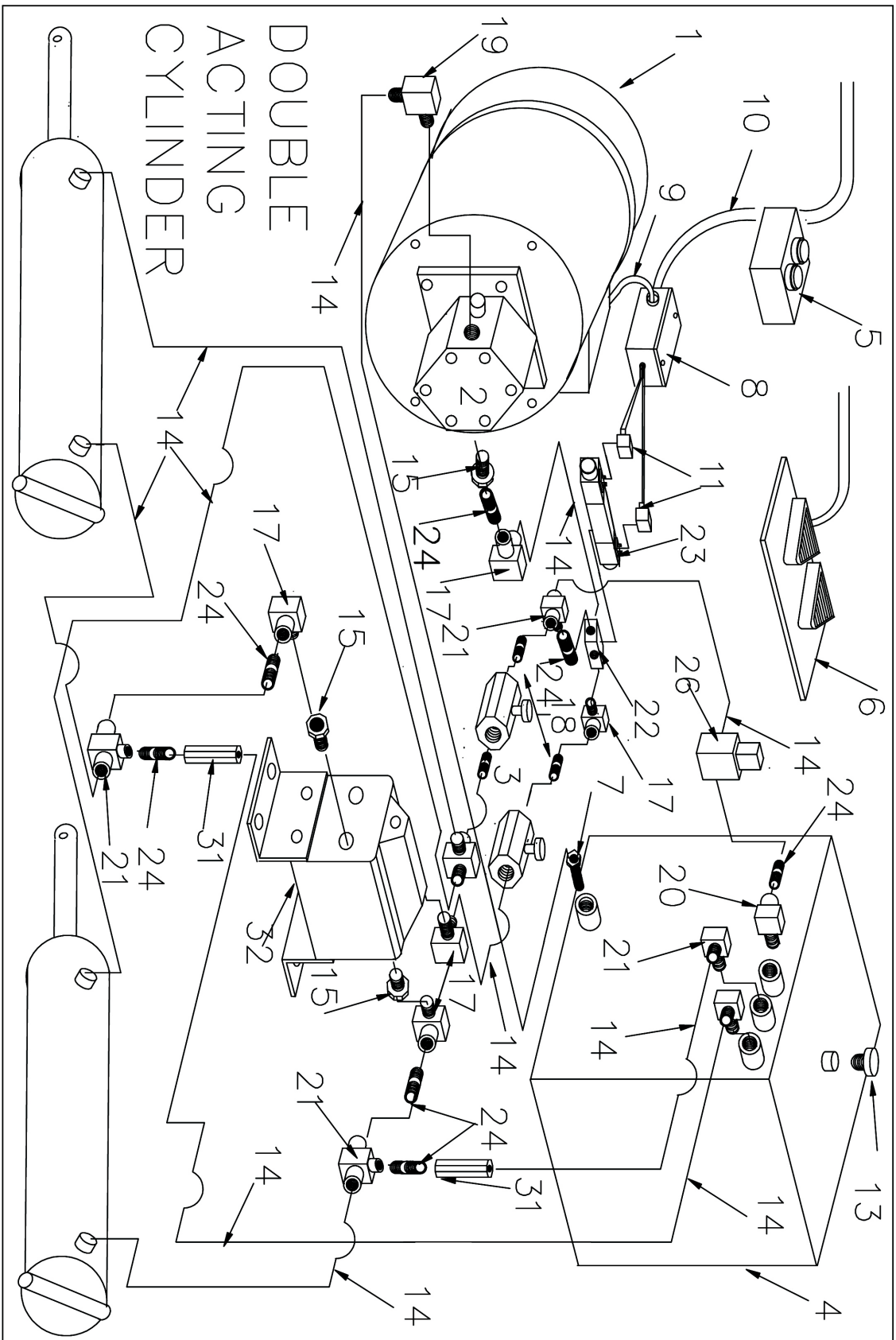
Do not operate this pump against the relief valve by overloading or in the extreme raised position any period greater than five seconds. When "Automatic Return" controls are used provision must be made to stop the pump immediately upon reaching the raised position.

Do not run the standard pumping unit continuously or use on applications requiring more than five starts per minute in continuous service. A special pump unit, externally mounted, equipped with a continuous duty motor and normally open by-pass valve can be furnished for high frequency starts.

Parts List

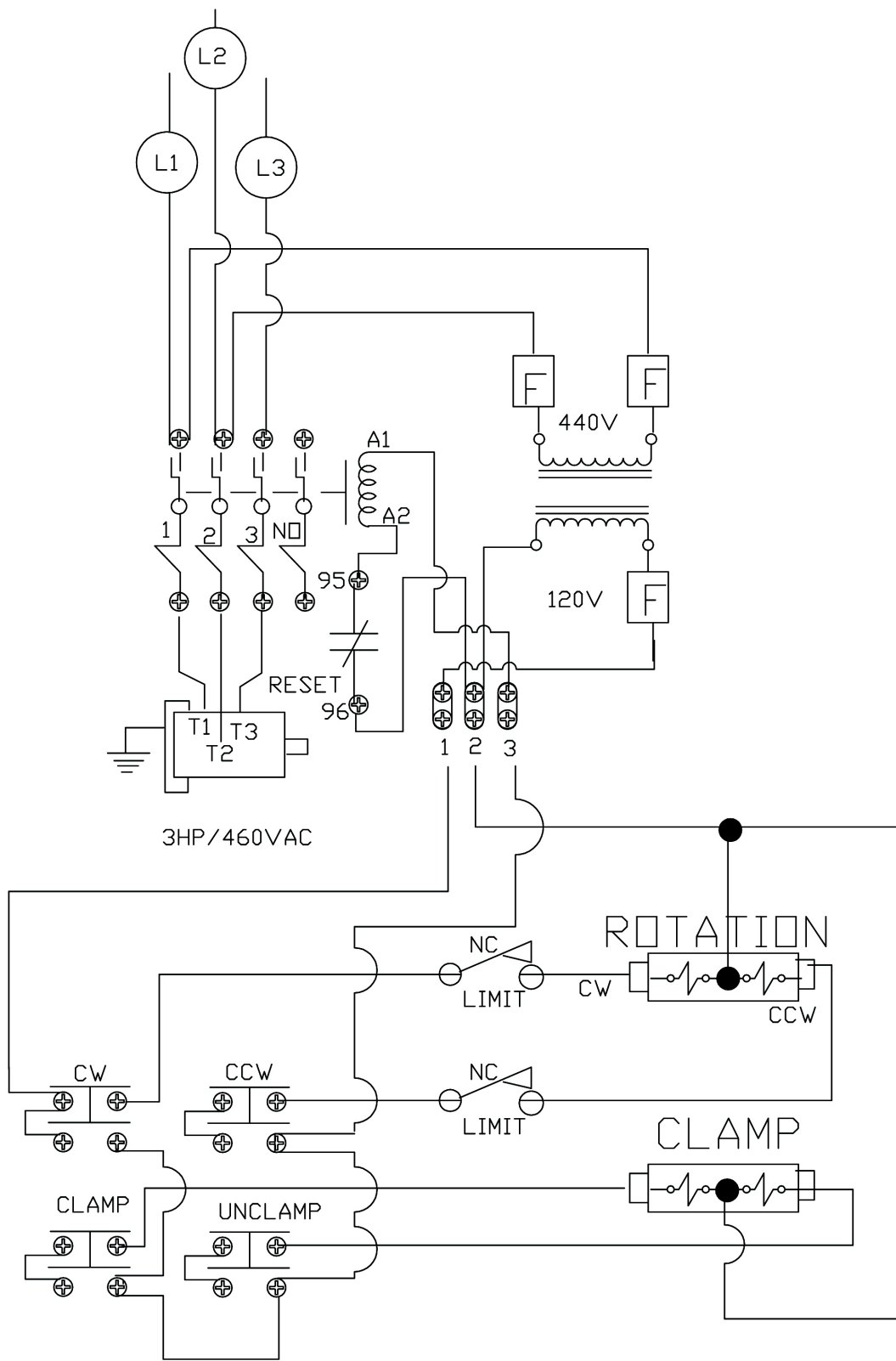
ITEM #	PART #	QTY (2000 models)	QTY (4000 models)	DESCRIPTION
101	M5YDC084128T	2	4	Hydraulic cylinder 2 1/2" bore x 10 1/2" st x 16" cc, DA
102	PTRTKS14K	1	0	S14 slew drive, 85:1 ratio, right hand drive
102	PTRTKS17K	0	1	S17 slew drive: 102:1 ratio, right hand drive
103	M1RCRF321300	8	16	Carriage roller, 4" dia x 1 3/4" id x 2" lg
104	PTB202816	8	16	Carriage roller bearing, 1 3/4" od x 1 1/4" id x 1" lg
105	PTBIR1601	8	16	Carriage roller bearing race 1 1/4" od x 1" id x 1" lg
106	PTCYR2000	8	16	Guide cam follower, 2" dia x 5/8" bore x 1 5/16" w

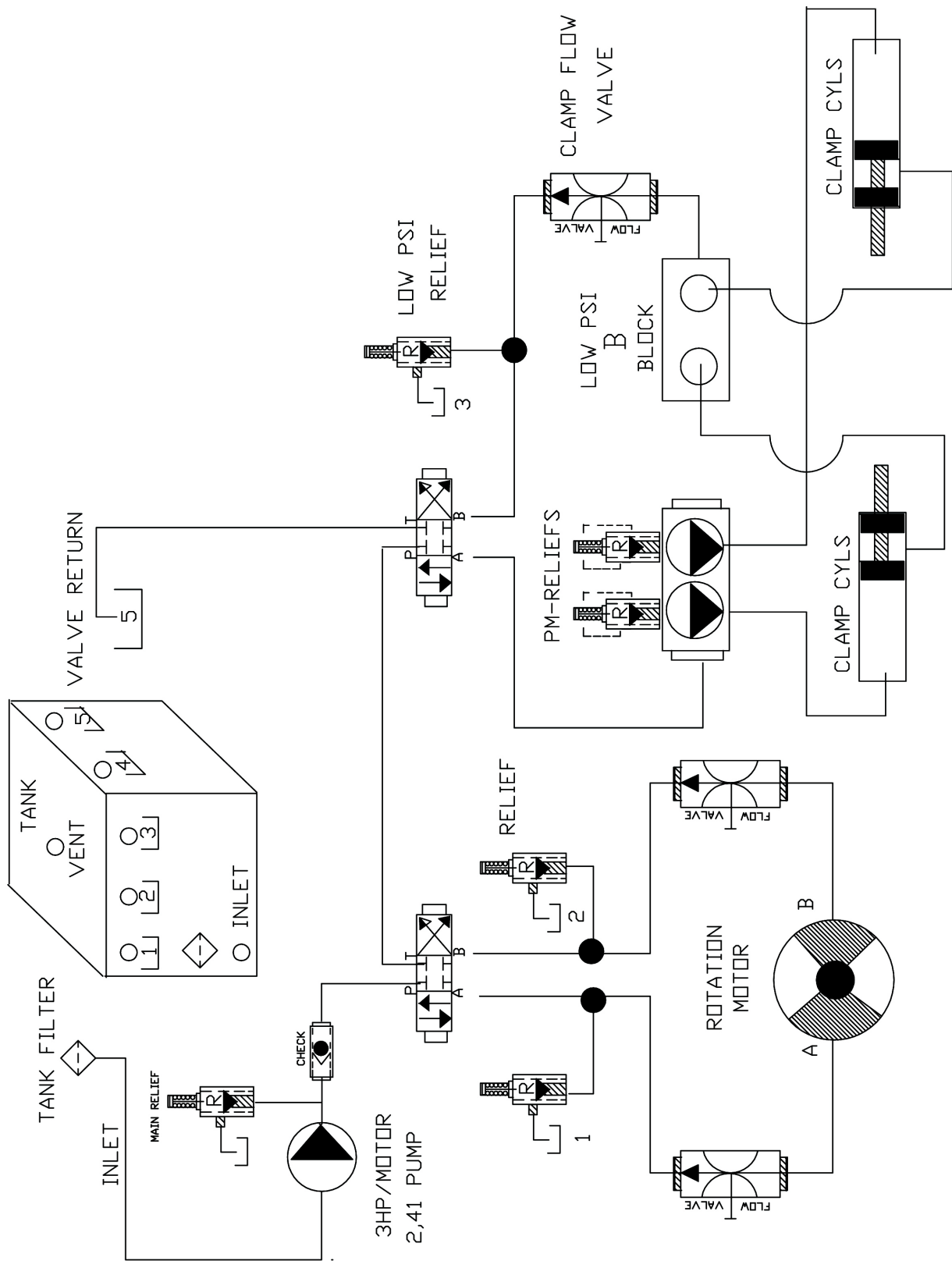




ITEM 1							ITEM 11							\$6.00	
HP	QTY	VOLTS	Motor PHASE	TYPE	Part Number	PRICE	DIN CONNECTOR W/CORD							W/ LOWERING VALVE	
1	1	110	1	TANG	PETM11110	\$324.00	ITEM 12 LOWERING VALVE WITH DIN CONNECTOR								
1	1	220/440	3	TANG	PETM13220	\$361.00	12 VOLT	1/4" NPT						M2HLV0122DIN	\$168.00
1	1	110	1	SHAFT	PESM11110	\$402.00	110 VOLT	1/4" NPT						M2HLV110VDIN	\$168.00
1	1	220/440	3	SHAFT	PESM13110	\$417.00	110 VOLT	3/8" NPT						M2HLV1103DIN	\$210.00
1	1	575	3	SHAFT	PESM13575	\$417.00	ITEM 13 VENT PLUG							PH03VENT0	\$5.00
2	1	110	1	TANG	PETM21110	\$934.00	ITEM 14 HYDRAULIC HOSE								
2	1	220/440	3	TANG	PETM23220	\$483.00	1/4"	10"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE020100	\$18.00			
2	1	110	1	SHAFT	PESM21110	\$672.00		12"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE020120	\$18.00			
2	1	220/440	3	SHAFT	PESM23220	\$490.00		16"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE020160	\$20.00			
2	1	380	3	SHAFT	PESM23380	\$490.00		18"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE020180	\$20.00			
2	1	575	3	SHAFT	PESM23575	\$490.00		24"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE020240	\$20.00			
3	1	110	1	TANG	PETM31110	\$975.00		36"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE020360	\$24.00			
3	1	220/440	3	TANG	PETM33220	\$535.00		48"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE020480	\$26.00			
3	1	110	1	SHAFT	PESM31110	\$1,125.00		60"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE020600	\$28.00			
3	1	220/440	1	SHAFT	PESM31220	\$1,200.00		72"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE020720	\$30.00			
3	1	220/440	3	SHAFT	PESM33220	\$595.00		84"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE020840	\$33.00			
3	1	380	3	SHAFT	PESM33380	\$600.00		96"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE020960	\$36.00			
3	1	575	3	SHAFT	PESM33575	\$600.00		3/8"	12"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE030120	\$20.00		
5	1	220/440	3	TANG	PETM53220	\$660.00			16"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE030160	\$22.00		
5	1	220/440	3	SHAFT	PESM53220	\$620.00			18"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE030180	\$22.00		
7.5	1	220/440	3	SHAFT	PESM75322	\$868.00	24"		HYDRAULIC HOSE WITH M/F ENDS		M2HOSE030240	\$24.00			
7.5	1	380	3	SHAFT	PESM75338	\$868.00	36"		HYDRAULIC HOSE WITH M/F ENDS		M2HOSE030360	\$26.00			
7.5	1	575	3	SHAFT	PESM75357	\$868.00	48"		HYDRAULIC HOSE WITH M/F ENDS		M2HOSE030480	\$30.00			
10	1	220/440	3	SHAFT	PESM10322	\$950.00	60"		HYDRAULIC HOSE WITH M/F ENDS		M2HOSE030600	\$33.00			
10	1	575	3	SHAFT	PESM10357	\$920.00	72"		HYDRAULIC HOSE WITH M/F ENDS		M2HOSE030720	\$36.00			
4AM	1	AIR MOTOR		SHAFT	PN4AM0000	\$503.00	84"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE030840	\$39.00				
6AM	1	AIR MOTOR		SHAFT	PN6AMFRV0	\$670.00	96"	HYDRAULIC HOSE WITH M/F ENDS		M2HOSE030960	\$42.00				
8AM	1	AIR MOTOR		SHAFT	PN8AMFRV0	\$876.00	ITEM 15 3/8" x1/4" O-RING ADAPTER					PH6405060400	\$6.00		
ITEM 2 PUMP							ITEM 16 2 3/8" FL X 1/4" NPT M RN-T					PH2605060406	\$8.00		
HP	QTY	SIZE	TYPE		Part Number	PRICE	ITEM 17 1/4" NPT M X 1/4" F 90 ELL					PH5502040400	\$6.00		
1	1	0.48	Tang		PHP0048T0	\$345.00	ITEM 18 1/4" CLOSE NIPPLE					PH5404N04CLS	\$3.00		
1	1	0.48	Shaft		PHP0048S0	\$345.00	ITEM 19 3/8" FLARE X 3/8" O-RING ELL					PH6801060600	\$8.00		
2	1	0.96	Tang		PHP0096T0	\$380.00	ITEM 20 3/8" NPT M X 1/4" NPT F 90 ELL					PH5502060400	\$6.00		
2	1	0.96	Shaft		PHP0096S0	\$380.00	ITEM 21 3/8" NPT F ALL THREE SIDES					PH5605060606	\$8.00		
2	1	1.44	Tang		PHP0144T0	\$425.00	ITEM 22 VALVE BASE								
2	1	1.44	Shaft		PHP0144S0	\$425.00	HVY/VK				1/4"	PHSP02D03	\$75.00		
3	1	1.93	Tang		PHP0193T0	\$445.00	BOSCH				3/8"	PHSP03D03	\$120.00		
3	1	1.93	Shaft		PHP0193S0	\$445.00	SPERRY				3/8"	PHSP03PRT	\$120.00		
3	1	2.41	Tang		PHP0241T0	\$460.00	ITEM 23 HYDRAULIC VALVE								
3	1	2.41	Shaft		PHP0241S0	\$460.00	BOSCH				12 VOLT	PHV4W1201	\$400.00		
5	1	2.89	Tang		PHP0289T0	\$465.00	BOSCH				24 VOLT	PHV4W2401	\$400.00		
5	1	2.89	Shaft		PHP0289S0	\$465.00	BOSCH				110 VOLT	PHV4W1150	\$300.00		
5	1	3.86	Tang		PHP0386T0	\$470.00	ITEM 24 1/4" X 1 1/2" NIPPLE					PH5404N04150	\$5.00		
5	1	3.86	Shaft		PHP0386S0	\$470.00	ITEM 25 3/8" NPT F THREE SIDES					PH5605060606	\$9.00		
7.5	1	5.30	Shaft		PHP0561C0	\$790.00	ITEM 26 PRESSURE RELIEF VALVE								
7.5	1	6.55	Shaft		PHP0672C0	\$800.00	1/4"					PHMPRRV10	\$150.00		
10	1	7.87	Shaft		PHP0787C0	\$800.00	3/8"					PHMPRRV20	\$165.00		
10	1	8.96	Shaft		PHP0883C0	\$860.00	ITEM 27 PNEUMATIC VALVE					PNUMATIC0	\$110.00		
15	1	12.31	Shaft		PHP120000	\$880.00	ITEM 28 PNEUMATIC SOLENOID VALVE								
20	1	13.44	Shaft		PHP1344C0	\$880.00	DOERING SINGLE ACTING					PHAVSA000	\$480.00		
ITEM 3 FLOW CONTROL VALVE							HYVAIR DOUBLE ACTING					PHAVDA000	\$860.00		
1		1/4"	FLOW CONTROL		PH02MFCV0	\$40.00	ITEM 29 MOTOR/PUMP COUPLINGS								
2		1/4"	FLOW CONTROL		PH02MFCV0	\$40.00	LOVEJOY	.4375" BORE				PTL090070	\$15.00		
3		1/4"	FLOW CONTROL		PH02MFCV0	\$40.00	LOVEJOY	.5" BORE				PTL090080	\$15.00		
5		3/8"	FLOW CONTROL		PH03MFCV0	\$48.00	LOVEJOY	.625" BORE				PTL090100	\$15.00		
7.5		3/8"	FLOW CONTROL		PH03MFCV0	\$48.00	LOVEJOY	.875" BORE				PTL090140	\$15.00		
10		3/8"	FLOW CONTROL		PH03MFCV0	\$48.00	LOVEJOY	.5" BORE				PTL100080	\$45.00		
15		1/2"	FLOW CONTROL		PH04MFCV0	\$55.00	LOVEJOY	.625" BORE				PTL100100	\$45.00		
ITEM 4 TANK CONSULT FACTORY							LOVEJOY	.75" BORE				PTL100120	\$45.00		
ITEM 5 PUSHBUTTON							LOVEJOY	.875" BORE				PTL100140	\$45.00		
2		2 BUTTON			PE2STAPB0	\$150.00	LOVEJOY	1" BORE				PTL100180	\$45.00		
4		4 BUTTON			PE4STAPB0	\$215.00	LOVEJOY	1.125" BORE				PTL100180	\$45.00		
6		6 BUTTON			PE6STAPB0	\$380.00	LOVEJOY	1.25" BORE				PTL100200	\$45.00		
8		8 BUTTON			PE8STAPB0	\$540.00	LOVEJOY	1.375" BORE				PTL100220	\$45.00		
ITEM 6 FOOT PEDAL							LOVEJOY	1.4375" BORE				PTL100230	\$45.00		
SINGLE ACTING				2 PEDAL	PETWINFP0	\$150.00	LOVEJOY	.625" BORE				PTL110100	\$65.00		
DOUBLE ACTING				2 PEDAL	PETWINFP2	\$150.00	LOVEJOY	.75" BORE				PTL110340	\$65.00		
AIR MOTOR				2 PEDAL	PNAFP34F0	\$150.00	LOVEJOY	.875" BORE				PTL110140	\$65.00		
ITEM 7 TANK STRAINER PH0403STR \$12.00							LOVEJOY	1.625" BORE				PTL110158	\$65.00		
ITEM 8 HANDY BOX							ITEM 30 1 AIR LINE PNAFAH400 \$10.00/FT								
LID					PEPC2X400	\$1.00	ITEM 31 INLINE PRESSURE RELIEF VALVE								
BOX					PE224HB00	\$3.00	1/4"				PH021PREL	\$54.00			
ITEM 9 MOTOR CORD							3/8"				PH031PREL	\$54.00			
ITEM 10 POWER CORD							ITEM 32 FLOW DIVIDER								
1'-6" 110VOLT		1 PHASE	16-3		PEEW03160	\$6.00	2 PORT				PHFDPM200	\$630.00			
1'-6" 10VOLT		1 PHASE	12-3		PEEW03120	\$6.00	4 PORT				PHFDPM230	\$1,850.00			
1'-6" 220/440		3 PHASE	12-4		PEEW04120	\$8.00	6 PORT				PHFDPM600	\$2,800.00			
ITEM 33 3/8" FL X 1/4" NPT M ELL PH2501060400 \$8.00															

440V SERVICE





Warranty

Air Technical Industries warrants that its products shall be free from defects in material and workmanship under normal and ordinary usage when owned by the original purchaser for a period of twelve months from the date the products are shipped from Air Technical Industries. Hydraulic and electrical components are warranted for 90 days. The customer must cease use of the product pending Air Technical Industries' substantiation of any warranty claim. In the event that a product defect shall occur during the warranty period, Air Technical Industries shall provide replacement parts free of charge. Any unauthorized repairs on said products will render the warranty null and void. Labor to replace defective components is not included in the warranty; nor is any downtime or rental charges. By accepting product delivery, purchaser agrees to the terms of this warranty. Unless otherwise agreed upon in writing, Air Technical Industries makes no other warranties expressed or implied, which extends beyond the description of the goods. Due to their unique design and construction, Air Technical Industries' products are not crated. Contact us for specific crating charges.

RETURN GOODS AUTHORIZATION POLICY

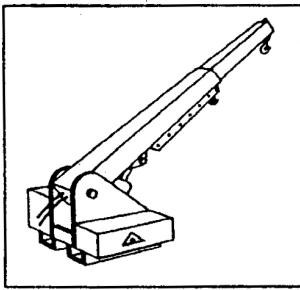
It is Air Technical Industries' policy that any and all returns must have a return goods authorization on file before any return will be accepted or credit will be issued. A return goods authorization form may be obtained by calling our customer service department. Any parts or products must be returned and inspected to validate any warranty or defect claim prior to any credit being issued. Any items returned without authorization on file will not be issued a credit as no claim has been established.

To establish a valid claim the customer must use the following procedure:

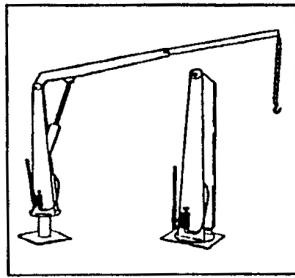
- Call Air Technical Industries customer service department for a Return Goods Authorization form
- Sign and return by fax a copy for Air Technical Industries file.
- Use this form as a packing slip for return shipment
- Return all parts or products for inspection to validate claim.

RETURN AND CREDIT POLICY

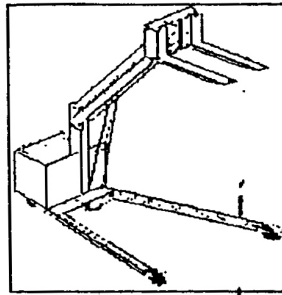
It is Air Technical Industries' policy that any and all returns or warranty claims once established to our satisfaction as a valid claim will be issued a CREDIT on the customer's account. This credit can be used within 1 year from the date of Credit Memo towards the purchase of new products, replacement parts, and/or service. At no time will a cash refund be issued. If a credit is issued under special circumstances, that credit can only be used as specified in a written agreement made between Air Technical Industries and the customer. This agreement must be made at the time the claim is established.



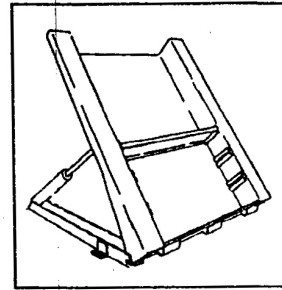
JibMaster



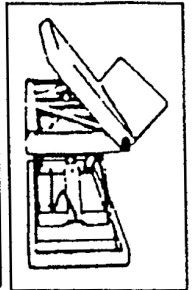
Truck mounted Foldable Crane



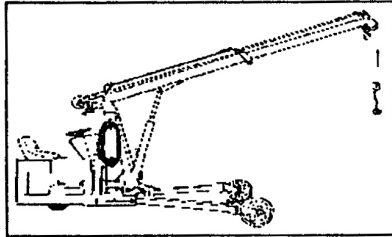
Universal Lift



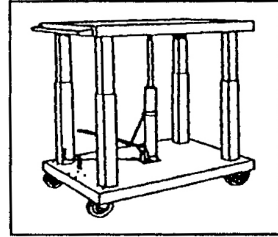
Zero-Low Crate Positioners



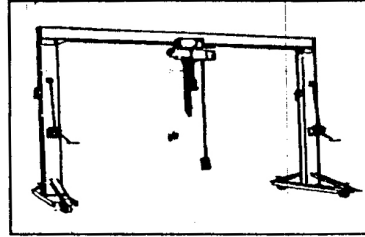
Lift & Tilt Tables



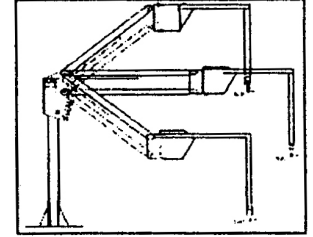
Port-O-Giant



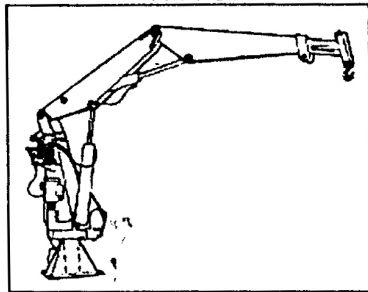
Post Tables



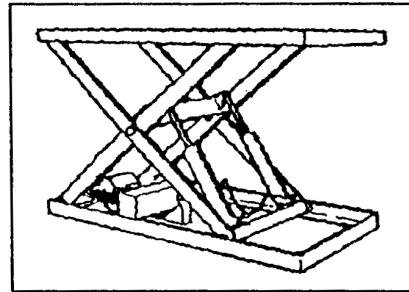
Gantry Cranes



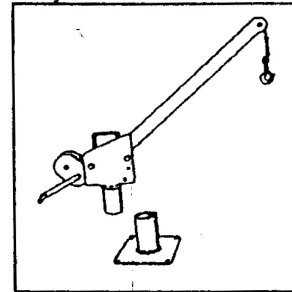
Articulating Manipulator



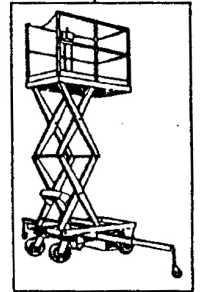
Knuckle Cranes



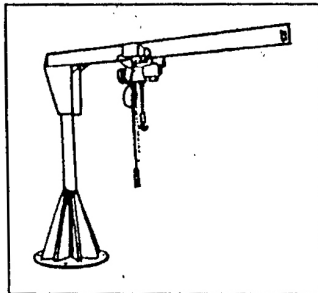
Scissor Lift Tables



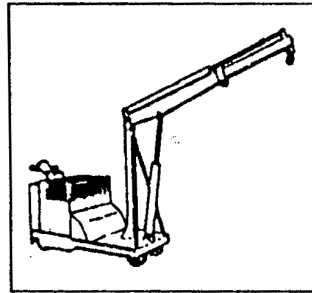
Truck Mounted Pick-Up Crane



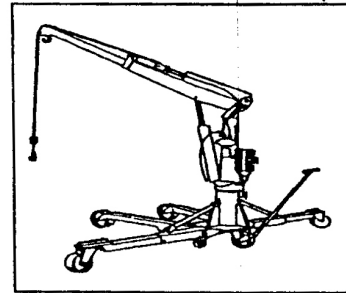
Maintenance Lifts



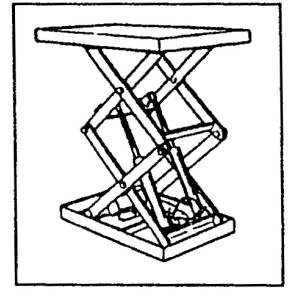
Floor Mounted Jib Cranes



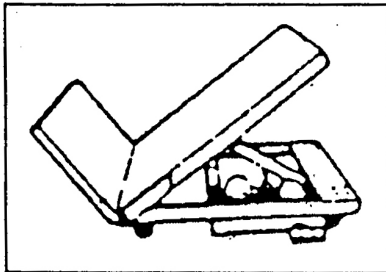
Reversible Boom Crane



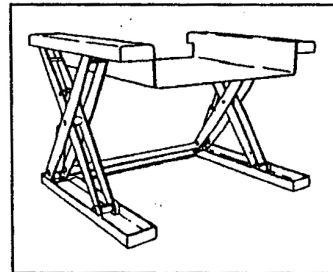
Super Master



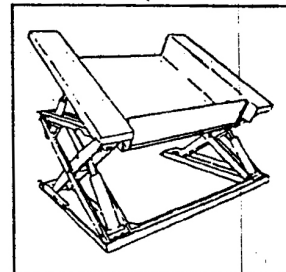
Double Scissor Lift Table



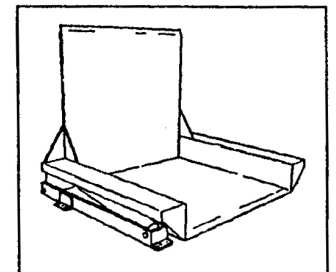
Crate Positioner



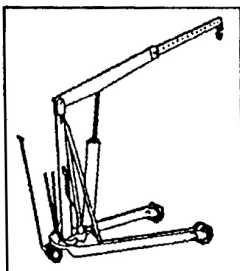
Zero-Low Lift Table



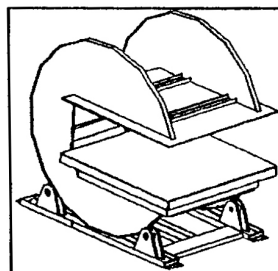
Zero-Low Up-Enders/Positioner



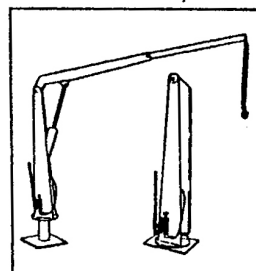
Zero-Low Lift & Tilt



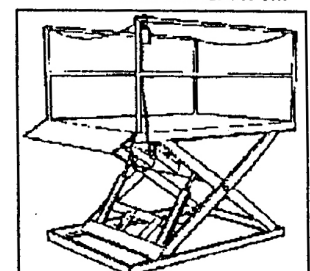
Husky Master



Upender-Inverter



Truck Mounted Foldable Crane



Magic Dock Scissor Lift