AIR TECHNICAL INDUSTRIES

Making the job easier.

TELESCOPIC MAST JIB CRANE



OPERATION & MAINTENANCE MANUAL

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Hydraulic operated Telescopic Mast Jib Crane (TMJC family)

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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 crane 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 crane.

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 crane 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 crane.

Before Operation

Before using the crane, the operator shall have:

- Read and/or have explained, and understood, the manufacturer's operating instructions and safety rules.
- Inspected the crane 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 crane.

During Operation

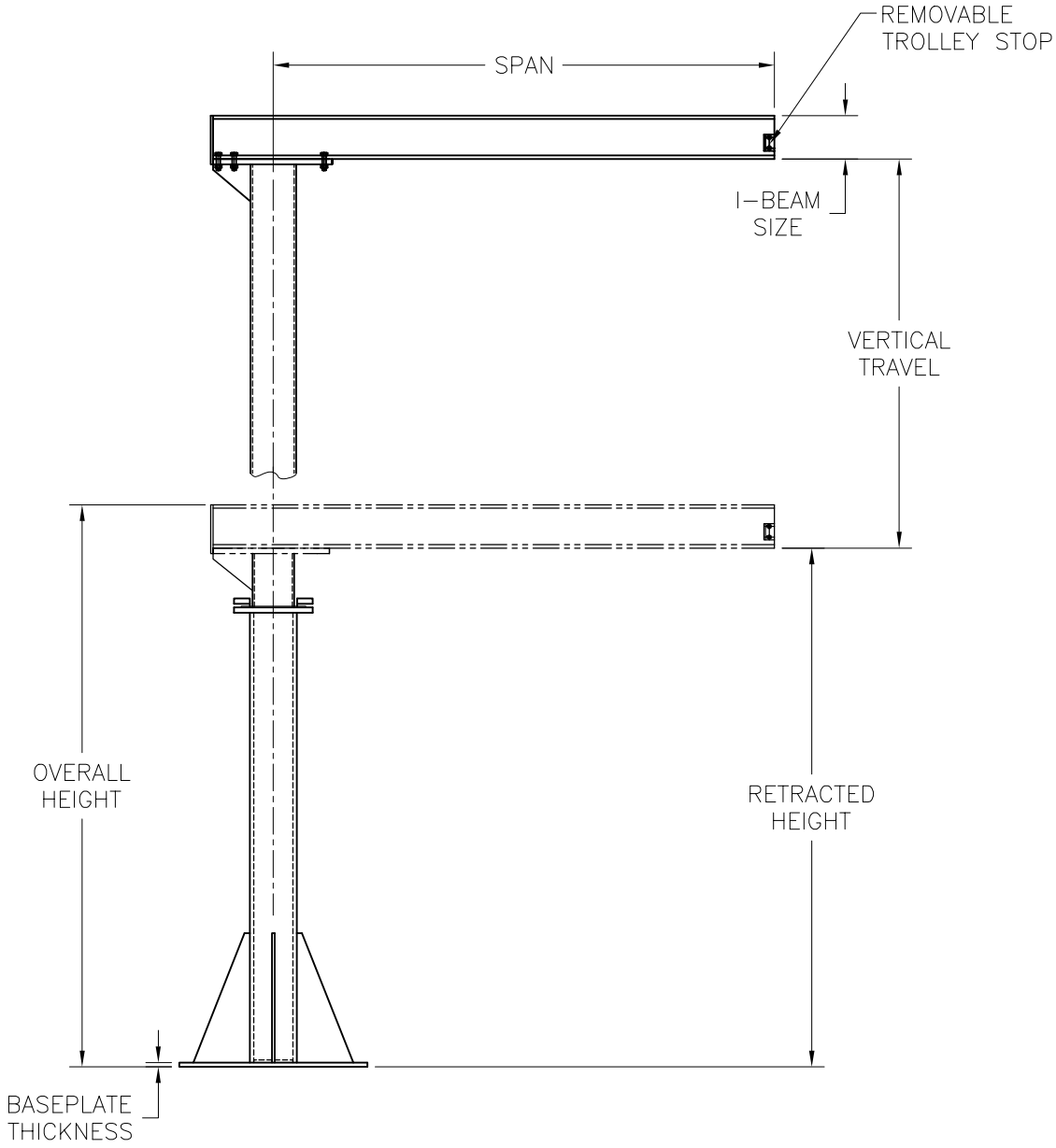
The crane shall only be used in accordance with the manufacturer's operating/maintenance manual.

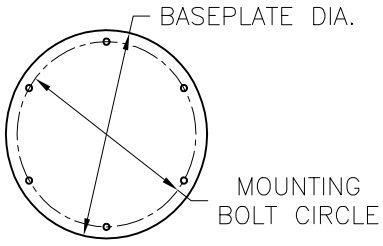
- Do not overload the crane.
- Ensure that all safety devices are operational and in place.

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 crane.

REV	DATE	ENG	DESCRIPTION





Air Technical Industries
7501 CLOVER AVE. – MENTOR,OHIO

TITLE TELESCOPIC MAST JIB CRANE

DWG. Type	MATERIAL		
LAYOUT			
DRAWN	DATE	SCALE	REVISION
VN	2/3/2010	N.T.S.	–

Portable Jib Crane

- 500 to 2,000 lbs capacities up to 12 ft spans.
- Completely self-contained with counterweight built-in to base.
- 4-way fork pockets provide easy access for portability
- ***Note:*** *cranes do not come with trolley or hoist.*



Model JCPRT-11010

No Installation Required!

MODEL #	CAP (lbs)	SPAN (ft)	HEIGHT (ft) UNDER BEAM	BASE (in)	WEIGHT
JCPRT-588	500	8	8	60 X 60	2400
JCPRT-5810	500	8	10	60 X 60	2500
JCPRT-5108	500	10	8	60 X 60	2700
JCPRT-51010	500	10	10	60 X 60	2800
JCPRT-188	1000	8	8	60 X 60	2800
JCPRT-1810	1000	8	10	60 X 60	3400
JCPRT-1812	1000	8	12	60 X 60	3500
JCPRT-1108	1000	10	8	60 X 60	3800
JCPRT-11010	1000	10	10	60 X 60	3900
JCPRT-11012	1000	10	12	60 X 60	4000
JCPRT-1128	1000	12	8	72 X 72	4400
JCPRT-11210	1000	12	10	72 X 72	4900
JCPRT-11212	1000	12	12	72 X 72	5200
JCPRT-11216	1000	12	16	72 X 72	5400
JCPRT-11220	1000	12	20	72 X 72	5700
JCPRT-21010	2000	10	10	72 X 72	6400
JCPRT-21012	2000	10	12	72 X 72	6500
JCPRT-21016	2000	10	16	72 X 72	6700
JCPRT-21020	2000	10	20	72 X 72	7500
JCPRT-21210	2000	12	10	72 X 72	7200
JCPRT-21212	2000	12	12	72 X 72	7400
JCPRT-21216	2000	12	16	72 X 72	8500
JCPRT-21220	2000	12	20	72 X 72	8800

Telescopic Mast Jib Crane

- 500 to 2,000 lb capacities, up to 12' spans and 18' heights.
- 360° manual rotation for versatile and agile handling
- Telescoping action is hydraulically operated, electrical or air powered.
- Dual-purpose design: unit can rotate under obstructions or reach into a cavity to pick up the load, then rotate the raise to a higher level over the obstruction below..

Experience a NEW dimension of versatility!



Model TMJC-510610E

Mast Height (ft)	Capacity	Beam Length			
		6	8	10	12
6–10	500	TMJC-56610E	TMJC-58610E	TMJC-510610E	TMJC-512610E
8–13	500	TMJC-56814E	TMJC-58814E	TMJC-510814E	TMJC-512814E
6–10	1,000	TMJC-16610E	TMJC-18610E	TMJC-110610E	TMJC-112610E
8–13	1,000	TMJC-16814E	TMJC-18814E	TMJC-110814E	TMJC-112814E
10–16.5	1,000	TMJC-161018E	TMJC-181018E	TMJC-1101018E	TMJC-1121018E
6–10	2,000	TMJC-26610E	TMJC-8610E	TMJC-210610E	TMJC-212610E
8–13	2,000	TMJC-26814E	TMJC-28814E	TMJC-210814E	TMJC-212814E
10–16.5	2,000	TMJC-261018E	TMJC-281018E	TMJC-2101018E	TMJC-2121018E

*All 'E' units are 120V AC with push button control
**'E3' suffix is for 3-phase, 240/480V AC powered
***'A' suffix is for air powered hydraulics for hazardous operations

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Telescopic Mast Jib Crane Assembly & Start-Up

Pre-Installation Instructions

For recommended installation of the floor-mounted jib crane base, see layout drawing "Easy Jib Crane Installation" below. This installation process provides general guidelines only, Air Technical Industries takes no responsibility for the installation of any product not installed by the factory. Consult a structural engineer for specific foundation requirements and compliance with local codes or regulations.

Assembly Instructions

1. Stand up jib crane mast, using a fork lift or overhead crane. Follow best rigging practices for safe erection.
2. Place base over and onto anchors mounted into floor.
3. Level mast in all directions. Shim as required.
4. Tighten to required torque based on anchor size.

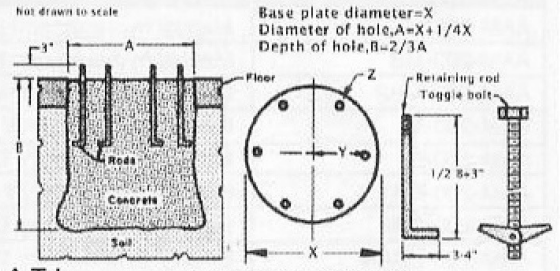
5. Place beam on top of mast top, include spacer if provided.
6. Install bolts, nuts and washers. Torque as required.

Easy Jib Crane Installation

1. Dig a hole to a size determined by the formula below.*
2. Prepare threaded retaining rods. Rod length should be half the hole plus 3 in. to stick out above floor level.
3. Pour concrete to half of the hole depth, perform steps 4 & 5 before it sets.
4. Use pattern to determine location of threaded retaining rods.
5. Rod should be held in position while rest of hole is filled with concrete, making sure threaded end is sticking out above floor level.

*On very sandy soil or unstable ground, the hole should be dug deeper for greater stability. **Note:** On a good 5" - 6" reinforced concrete floor, jib cranes can be installed using expansion toggle bolts (illustrated).

Base #	X (in.)	Y (in.)	Z (in.)
1	30	13	3/4 (6)
2	36	16	1 (6)
3	42	19	1 1/4 (6)
4	48	22	1 (12)
5	54	25	1 1/4 (12)
6	60	27	1 1/2 (12)



Trolley Installation

1. Remove end stop.
2. Slide trolley onto beam.
3. Replace end stop.

Electrical / Hydraulic Installation

1. For 120V units, plug in 3-prong plug into grounded 120VAC single-phase outlet, minimum 20-amp service.
2. For 230/460V AC 3-phase units, a plug is not provided, select and wire in your desired plug style or wire into minimum 30-amp 3-phase service of the voltage specified on your order.

   Note: Secondary overload protection is provided in the control panel, however primary overload protection is the responsibility of the owner/user to provide at the power source.
3. Remove the plug from the top of the hydraulic tank and replace with vent plug provided.

NOTE: GREASE SLEWING RING DURING INSTALLATION. CHECK ALL HOSES AND FITTINGS FOR LOOSE CONNECTIONS. CHECK ALL HOSES AND ELECTRICAL WIRES FOR DAMAGE BEFORE STARTING UNIT.

Special Operating Instructions

Refer to the general information section of the manual for basic operating instructions.

Start-Up

Once the power to the hydraulic power unit is energized, the unit will be operational.

For best results, extend the hydraulic mast action to the desired boom height before commencing with a lift. Use the hoist for the actual lifting operations.

Operation

Press and hold the Up button to raise the hydraulic mast. The mast will raise until the button is released or the mast reaches its maximum stroke.

Press and hold the Down button to lower the hydraulic mast. The mast will lower until the button is released or the mast reaches its fully retracted position.

Note: lowering the mast with full load may result in binding of the mast. It is recommended to raise and lower the load with the hoist and use the hydraulic mast lift to position the boom at the desired height.

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

The hydraulic system, usually contained in the base of the lift, consists of a directly coupled motor-pump combination, oil reservoir, solenoid operated lowering valve 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 operated to raise the lift and the pump is stopped when the table attains the desired raised height. A check valve between the pump holds the hydraulic cylinder at the raised height.

FOR LOWERING THE LIFT

The solenoid is energized to allow fluid to return from the hydraulic cylinder to the reservoir. An adjustable flow control valve is connected in the return line to limit the lowering speed under full load conditions.

All automatic controls, added to the lift table, must include provisions for immediately shutting off the pumping unit at the top travel of the table and de-energizing the solenoid at the bottom travel of the table.

BASIC OPERATING INSTRUCTIONS
MANUAL OPERATION:

TO RAISE LIFT: Close lowering valve located next to the hand pump and actuate pump handle.

TO LOWER LIFT: Slowly open the lowering valve

ELECTRIC OR AIR OPERATION:

TO RAISE LIFT:
(1) Insure unit is connected to the correct power source
(2) Depress “up” button or foot pedal, the unit will raise and continue until the button or foot pedal is released

CAUTION: DO NOT CONTINUE TO OPERATE BEYOND THE FULL EXTENSION OF THE CYLINDER

TO LOWER LIFT: Depress “down” button or pedal, the unit will lower and continue to lower until the button or foot pedal is released.

Prior to operating the lift table, 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 lift in the lowered 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.

ELECTRICAL NOTES AND PROCEDURES

120 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 volts.

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 ADJUSMENT INSTRUCTIONS

TABLE LOWERING SPEED TOO FAST-Turn lowering valve to limit flow of oil back to reservoir
TABLE LOWERING SPEED TO SLOW-Turn lowering valve to increase flow of oil back to reservoir.

BASIC ADJUSTMENT INSTRUCTIONS FOR VELOCITY FUSES

NOTE: Do not operate lift to fully raised position while performing the following adjustment.

Load lift to desired capacity-raise to **two-thirds (2/3)** of the raised height. Lower lift-if lowering speed is too fast, the velocity fuses will lock up. If the velocity fuses do lock up, raise the lift to height and adjust lowering valve to limit flow of oil back to reservoir. Repeat these steps until the table lowers to collapsed height.

NOTE: We recommend a top travel limit switch with velocity fuses.

UNIT WILL NOT LIFT LOAD:
Increase pump pressure, turn the hydraulic pressure bypass adjustment clockwise. This bypass adjustment is located on the side of the hydraulic pump.

WARNING: **Before attempting to work on the lift, always place blocks to support the platform or support unit to prevent downward movement. This provides protection for the worker.**

LUBRICATION AND 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.

Maintain oil level with lift fully raised. Oil level should be minimum 2 inches from the bottom of the tank.

Recommended hydraulic oils (non-foaming)

NORMAL CONDITIONS:	
AW-46	CITGO OIL
DURO AW-32	ARCO OIL
TELLUS #32	SHELL OIL
DTE #24	MOBIL 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 lowered.

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

TROUBLE SHOOTING SERVICE SUGGESTIONS

1) LIFT WILL NOT RAISE:
   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 10 seconds, reverse line leads.

(WARNING: Do not run the pump backwards or without hydraulic oil)

   B. CHECK OIL LEVEL
      (WARNING: Do not overfill)

With lift in full up position, oil level should be minimum 2 inches above bottom of the tank

1. LOWERING VALVE STUCK IN OPEN POSITION

   Flush lowering valve by operating up and down controls simultaneously

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 ¼ turn beyond what is required to lift load

   D. INSPECT LOWERING VALVE
      Disassemble valve and look for foreign material under valve seat

   E. CHECK FILTER IN TANK FOR FOREIGN MATERIAL
3. LIFT SLOWLY WITH LOWERING VALVE CLOSED:
   A. INSPECT CHECK VALVE
      Remove cap, spring and ball and inspect for foreign matter

B. FLUSH LOWERING VALVE
By operating up and down controls simultaneously. This should be done with no load

C. DISASSEMBLE LOWERING VALVE

Look for foreign material under valve seat

4. LIFT WILL NOT LOWER:
   A. TEST VALVE COIL FOR OPERATION

   Check voltage at coil

   B. LOWERING VALVE CLOSED

   Open valve and adjust for lowering speed

   C. VELOCITY FUSES

   Flow adjustment instructions for velocity fuses

5. LIFT WILL NOT RAISE FULL VERTICAL TRAVEL:

   A. CHECK FOR LOW OIL LEVEL

   B. IF FOAM IS VISIBLE IN TANK OIL

   Check for leaks in suction line between pump and tank

6. LIFT WILL NOT MAINTAIN HEIGHT AND LOWERS SLOWLY WHEN DOWN BUTTON IS NOT DEPRESSED.

   A. Check the pressure relief valve, do 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. Clean the strainer in the tank for foreign matter.

   D. Check and clean the lowering valve for debris.

7. LIFT DOES NOT LOWER SMOOTHLY:

   A. RUN LIFT UP AND DOWN

   Under load to purge air from hydraulic system

8. IF HYDRAULIC CYLINDER APPEARS TO BE LEAKING THROUGH TOP AIR VENT HOLE:

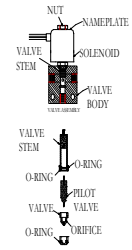
   A. RAISE AND LOWER TABLE

   Raise and lower the table (under load) to maximum, if oil is still leaking through vent hole-check cylinder packing.

TROUBLE SHOOTING SERVICE SUGGESTIONS NORMALLY CLOSED SOLENOID LOWERING VALVE

EXHIBIT 5

NORMALLY CLOSED SOLENOID LOWERING VALVE



SERVICE

In the event the valve malfunctions, check for a burned out coil and/or foreign material in the valve causing failure of valve to close. Check for possible low line voltage.

DISASSEMBLE PROCEDURE

Remove nut on top of solenoid. Slide off valve stem. The stem is threaded into the valve body. Use a wrench to remove the valve cartridge from the body. The valve seat is held in the valve stem by an o-ring and can be removed by grasping firmly and pulling apart. Carefully remove the valve from the seat.

REASSEMBLY PROCEDURE

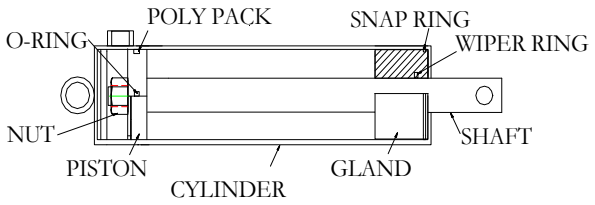
Reassemble in the same manner as disassembly. Make sure the valve spool and seat are clear of debris and foreign material. Check the o-rings for damage and replace as needed. Use care in reassembly to avoid o-ring damage.

REPAIR PARTS

When ordering repair parts specify the valve model number, pipe size, and coil voltage that appears on the nameplate on top of the solenoid.

HYDRAULIC CYLINDER

EXHIBIT 6



PHYSICAL SIGNS OF INTERNAL PROBLEMS

1. HYDRAULIC FLUID LEAKING OUT OF THE AIR BREATHER HOLE

   (Single acting cylinder) The poly pack needs to be replaced

2. DOUBLE ACTING CYLINDER OPERATES TO SLOW OR DOES NOT OPERATE

The poly pack needs to be replaced

3. VISIBLE LEAKAGE AROUND TOP OF GLAND

   The "O" ring needs to be replaced
4. RUBBING NOISE OR SQUEAL (EXCEPT NEW CYLINDERS)
   The poly pack needs to be replaced

5. 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.

NOTE: To prevent any accidents when performing maintenance of the hydraulic cylinders, lower the table, remove the top or hinge top up, or place a suitable support (stop) between the rollers and the end of the frame.

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 approximately 2000 PSI at factory. Do not readjust to exceed this setting as full load working pressure is less.

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.

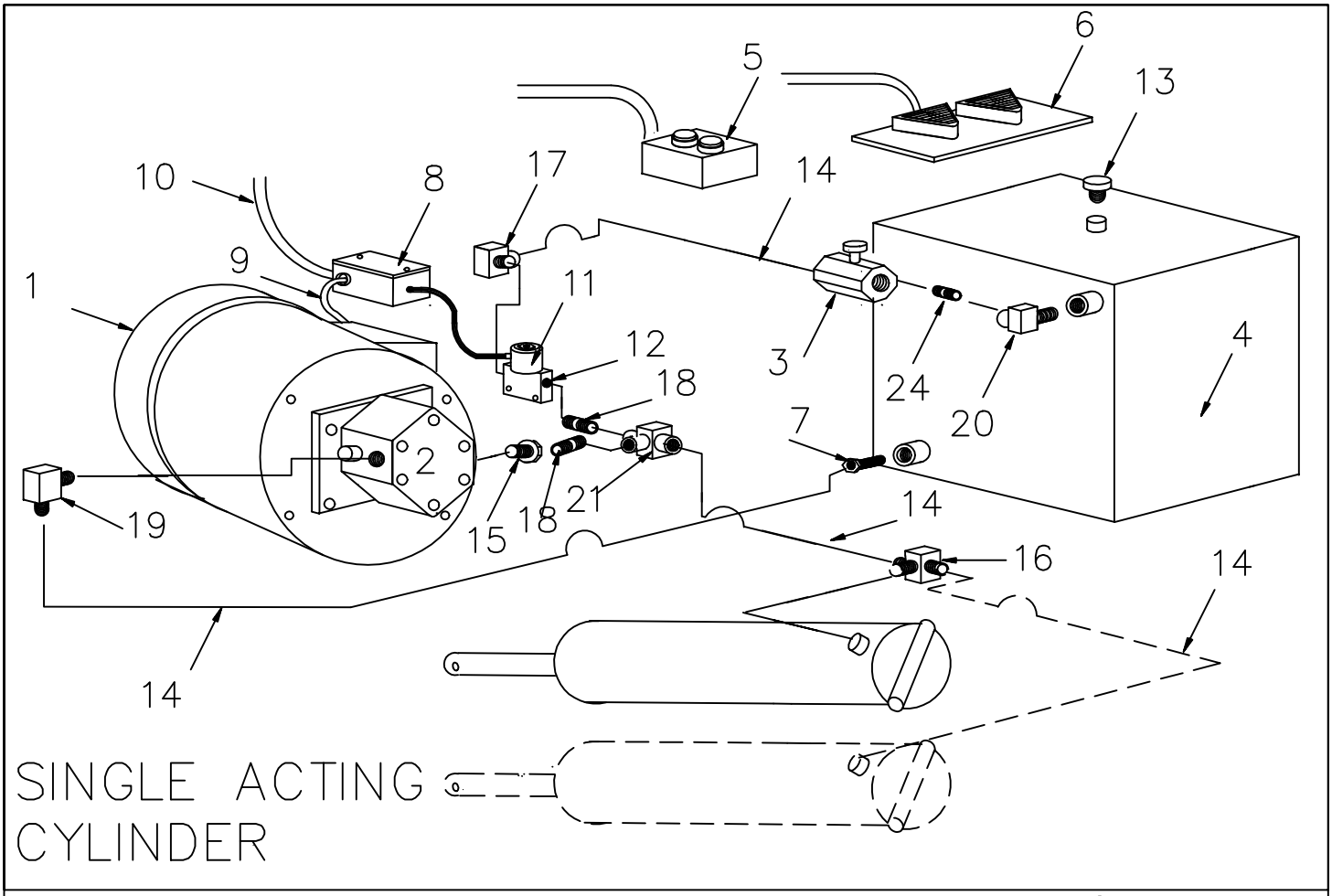
WARRANTY

Air Technical Industries products are unconditionally guaranteed against defects in workmanship and materials; unless otherwise agreed in writing, the seller makes no other warranties expressed or implied, which extends beyond the description of the goods.

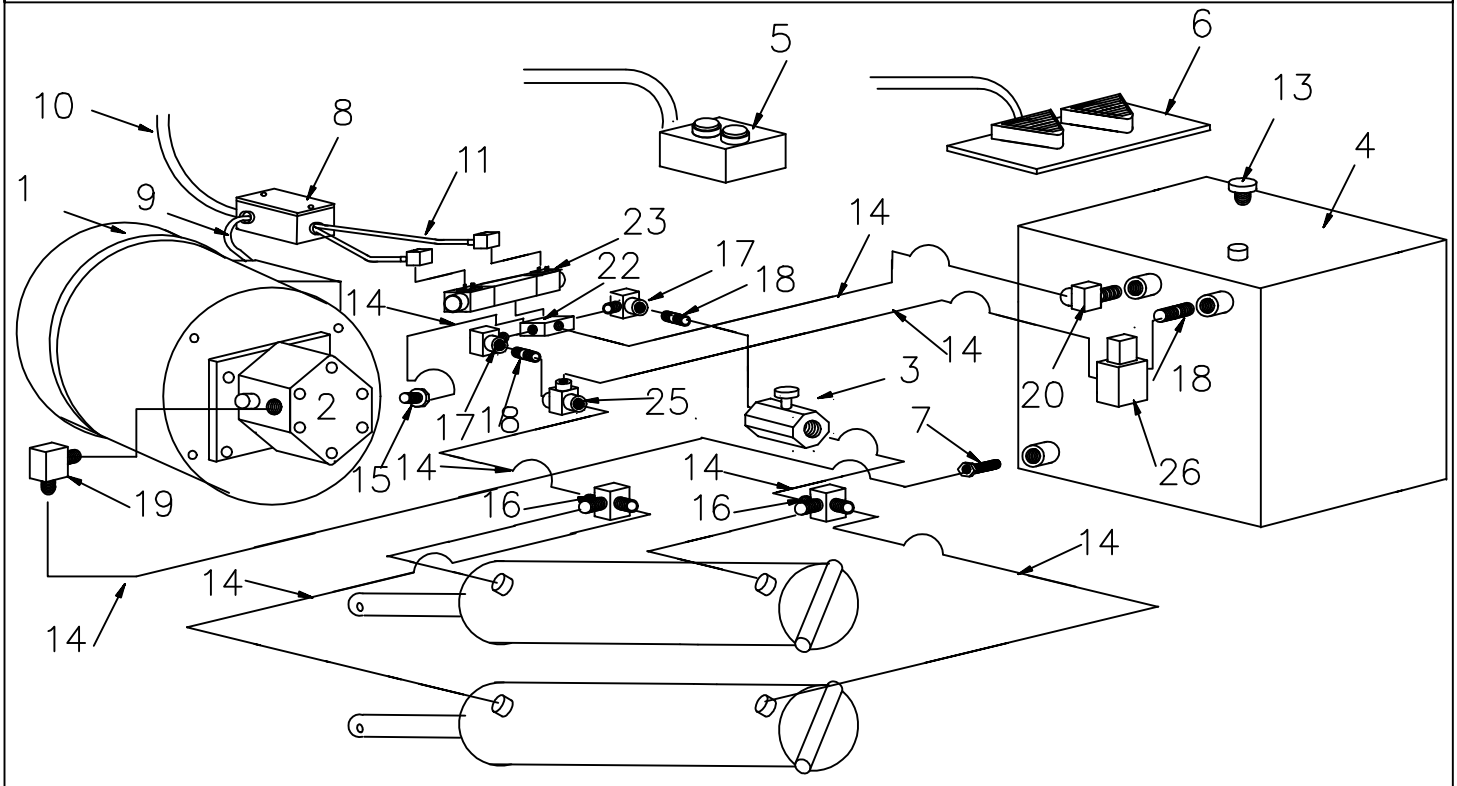
A. One year on all structural parts and components

B. Ninety (90) days on electrical and hydraulic components

Before any repairs are made or damaged equipment returned, written permission must be obtained from Air Technical Industries. Labor to replace defective components is not considered part of the warranty.



SINGLE ACTING CYLINDER



DOUBLE ACTING CYLINDER

HYDRUALIC POWERPACK PARTS LIST

ITEM 1 Motor

HP	QTY	VOLTS	PHASE	TYPE	Part Number
1	1	110	1	TANG	PETM11110
1	1	220/440	3	TANG	PETM13220
1	1	110	1	SHAFT	PESM11110
1	1	220/440	3	SHAFT	PESM13110
1	1	575	3	SHAFT	PESM13575
2	1	110	1	TANG	PETM21110
2	1	220/440	3	TANG	PETM23220
2	1	110	1	SHAFT	PESM21110
2	1	220/440	3	SHAFT	PESM23220
2	1	380	3	SHAFT	PESM23380
2	1	575	3	SHAFT	PESM23575
3	1	110	1	TANG	PETM31110
3	1	220/440	3	TANG	PETM33220
3	1	110	1	SHAFT	PESM31110
3	1	220/440	1	SHAFT	PESM31220
3	1	220/440	3	SHAFT	PESM33220
3	1	380	3	SHAFT	PESM33380
3	1	575	3	SHAFT	PESM33575
5	1	220/440	3	TANG	PETM53220
5	1	220/440	3	SHAFT	PESM53220
7.5	1	220/440	3	SHAFT	PESM75322
7.5	1	380	3	SHAFT	PESM75338
7.5	1	575	3	SHAFT	PESM75357
10	1	220/440	3	SHAFT	PESM10322
10	1	575	3	SHAFT	PESM10357
4AM	1	AIR MOTOR		SHAFT	PN4AM0000
6AM	1	AIR MOTOR		SHAFT	PN6AMFRV0
8AM	1	AIR MOTOR		SHAFT	PN8AMFRV0

ITEM 2 PUMP

HP	QTY	SIZE	TYPE	Part Number
1	1	0.48	Tang	PHP0048T0
1	1	0.48	Shaft	PHP0048S0
2	1	0.96	Tang	PHP0096TO
2	1	0.96	Shaft	PHP0096S0
2	1	1.44	Tang	PHP0144T0
2	1	1.44	Shaft	PHP0144S0
3	1	1.93	Tang	PHP0193T0
3	1	1.93	Shaft	PHP0193S0
3	1	2.41	Tang	PHP0241T0
3	1	2.41	Shaft	PHP0241S0
5	1	2.89	Tang	PHP0289T0
5	1	2.89	Shaft	PHP0289S0
5	1	3.86	Tang	PHP0386T0
5	1	3.86	Shaft	PHP0386S0
7.5	1	5.30	Shaft	PHP0561C0
7.5	1	6.55	Shaft	PHP0672C0
10	1	7.87	Shaft	PHP0787C0
10	1	8.96	Shaft	PHP0883C0
15	1	12.31	Shaft	PHP120000
20	1	13.44	Shaft	PHP1344C0

ITEM 3 FLOW CONTROL VALVE

1	1/4"	FLOW CONTROL	PH02MFCV0
2	1/4"	FLOW CONTROL	PH02MFCV0
3	1/4"	FLOW CONTROL	PH02MFCV0
5	3/8"	FLOW CONTROL	PH03MFCV0
7.5	3/8"	FLOW CONTROL	PH03MFCV0
10	3/8"	FLOW CONTROL	PH03MFCV0
15	1/2"	FLOW CONTROL	PH04MFCV0

ITEM 4 TANK CONSULT FACTORY

ITEM 5 PUSHBUTTON

2	2 BUTTON	PE2STAPB0
4	4 BUTTON	PE4STAPB0
6	6 BUTTON	PE6STAPB0
8	8 BUTTON	PE8STAPB0

ITEM 6 FOOT PEDAL

SINGLE ACTING	2 PEDAL	PETWINFP0	
DOUBLE ACTING	2 PEDAL	PETWINFP2	
AIR MOTOR	2 PEDAL	PNAFP34F0	

ITEM 7 TANK STRAINER PH0403STR

ITEM 8 HANDY BOX

LID		PEPC2X400
BOX		PE224HB00

ITEM 9 MOTOR CORD

1'-6"	110VOLT	1 PHASE	16--3	PEEW03160
1'-6"	10VOLT	1 PHASE	12--3	PEEW03120
1'-6"	220/440	3 PHASE	12--4	PEEW04120

ITEM 10 POWER CORD

8'-0"	110VOLT	1 PHASE	16--3	PE316AC80
8'-0"	110VOLT	1 PHASE	12--3	PEEW03120
8'-0"	220/440	3 PHASE	12--4	PEEW04120

ITEM 11 DIN CONNECTOR W/CORD W/ LOWERING VALVE

ITEM 12 LOWERING VALVE WITH DIN CONNECTOR

12 VOLT	1/4" NPT	M2HLV0122DIN
110 VOLT	1/4" NPT	M2HLV110VDIN
110 VOLT	3/8" NPT	M2HLV1103DIN

ITEM 13 VENT PLUG PH03VENT0

ITEM 14 HYDRAULIC HOSE

1/4"	10"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE020100
	12"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE020120
	16"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE020160
	18"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE020180
	24"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE020240
	36"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE020360
	48"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE020480
	60"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE020600
	72"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE020720
	84"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE020840
	96"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE020960
3/8"	12"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE030120
	16"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE030160
	18"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE030180
	24"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE030240
	36"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE030360
	48"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE030480
	60"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE030600
	72"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE030720
	84"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE030840
	96"	HYDRAULIC HOSE WITH M/F ENDS	M2HOSE030960

ITEM 15 3/8" x1/4" O-RING ADAPTER PH6405060400

ITEM 16 2 3/8" FL X 1/4" NPT M RN-T PH2605060406

ITEM 17 1/4" NPT M X 1/4" F 90 ELL PH5502040400

ITEM 18 1/4" CLOSE NIPPLE PH5404N04CLS

ITEM 19 3/8" FLARE X 3/8" O-RING ELL PH6801060600

ITEM 20 3/8" NPT M X 1/4" NPT F 90 ELL PH5502060400

ITEM 21 3/8" NPT F ALL THREE SIDES PH5605060606

ITEM 22 VALVE BASE

HVY/VK	1/4"	PHSP02D03
BOSCH	3/8"	PHSP03D03
SPERRY	3/8"	PHSP03PRT

ITEM 23 HYDRAULIC VALVE

BOSCH	12 VOLT	PHV4W1201
BOSCH	24 VOLT	PHV4W2401
BOSCH	110 VOLT	PHV4W1150

ITEM 24 1/4" X 1 1/2" NIPPLE PH5404N04150

ITEM 25 3/8" NPT F THREE SIDES PH5605060606

ITEM 26 PRESSURE RELIEF VALVE

1/4"	PHMPRRV10
3/8"	PHMPRRV20

ITEM 27 PNUEMATIC VALVE PNUMATIC0

ITEM 28 PNUEMATIC SOLENOID VALVE

DOERING	SINGLE ACTING	PHAVSA000
HYVAIR	DOUBLE ACTING	PHAVDA000

ITEM 29 MOTOR/PUMP COUPLINGS

LOVEJOY	.4375" BORE	PTL090070
LOVEJOY	.5" BORE	PTL090080
LOVEJOY	.625" BORE	PTL090100
LOVEJOY	.875" BORE	PTL090140
LOVEJOY	.5" BORE	PTL100080
LOVEJOY	.625" BORE	PTL100100
LOVEJOY	.75" BORE	PTL100120
LOVEJOY	.875" BORE	PTL100140
LOVEJOY	1" BORE	PTL100180
LOVEJOY	1.125" BORE	PTL100180
LOVEJOY	1.25" BORE	PTL100200
LOVEJOY	1.375" BORE	PTL100220
LOVEJOY	1.4375" BORE	PTL100230
LOVEJOY	.625" BORE	PTL110100
LOVEJOY	.75" BORE	PTL110340
LOVEJOY	.875" BORE	PTL110140
LOVEJOY	1.625" BORE	PTL110158

ITEM 30 1 AIR LINE PNAFAH400

ITEM 31 INLINE PRESSURE RELIEF VALVE

1/4"	PH021PREL
3/8"	PH031PREL

ITEM 32 FLOW DIVIDER

2 PORT	PHFDPM200
4 PORT	PHFDPM230
6 PORT	PHFDPM600

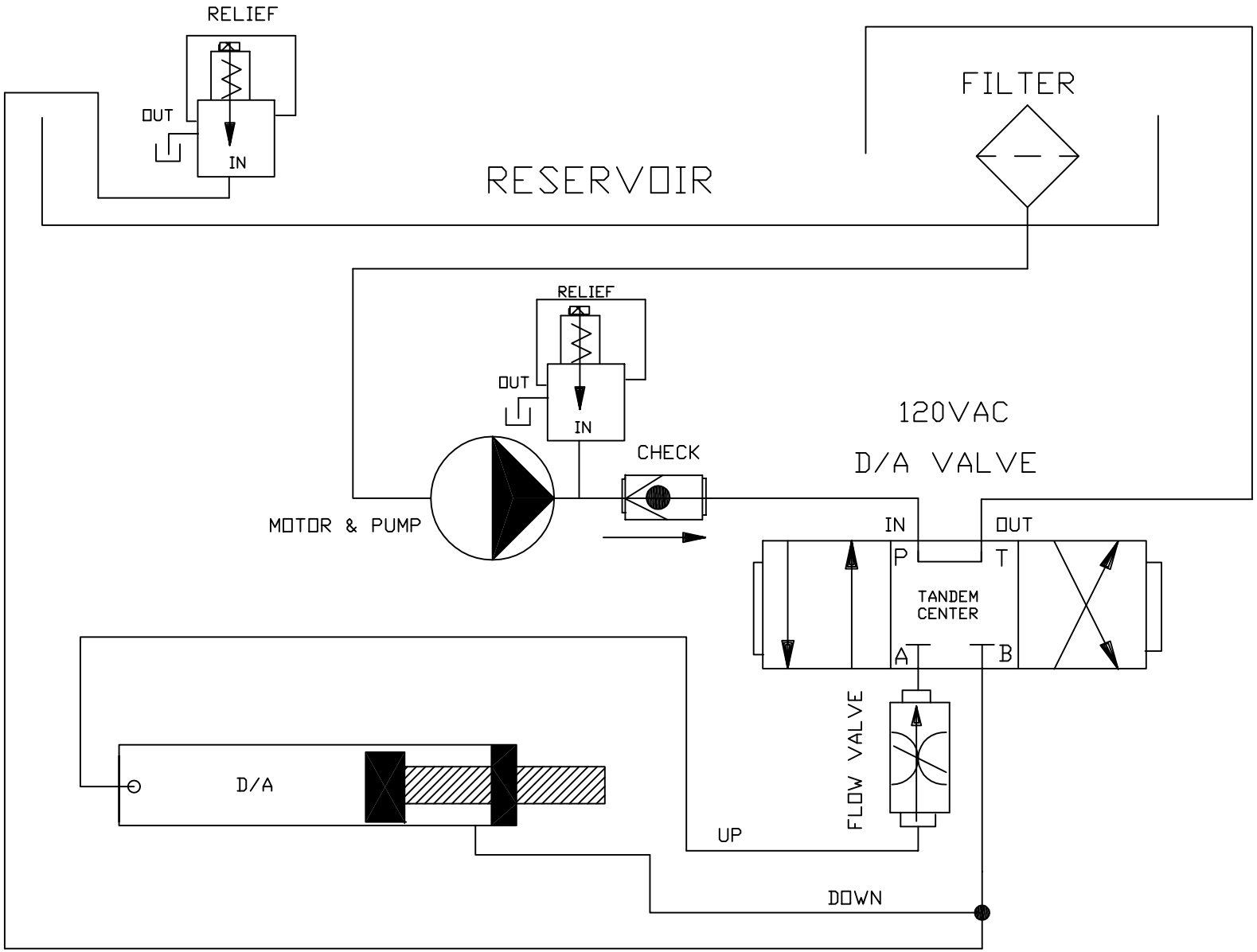
ITEM 33 3/8" FL X 1/4" NPT M ELL PH2501060400

HYDRAULIC MAST PARTS LIST

QTY	PART #	DESCRIPTION
1	MTO-210T	Top mast slew bearing for 2000 pounds models
1	MTO-145T	Top mast slew bearing for 500 and 1000 pounds models
1	M5YDC3845326	Telescopic mast cylinder for models with 6-10 ft height, 2 ½” bore x 48” st x 66 ½” c-c, D/A, flat bottom
1	M5YDC4807246	Telescopic mast cylinder for models with 8-13 ft height, 2 ½” bore x 60” st x 90 ½” c-c, D/A, flat bottom
1	M5YDC6249166	Telescopic mast cylinder for models with 10-16.5 ft height, 2 ½” bore x 78” st x 114 ½” c-c, D/A, flat bottom
4	Consult factory	¼” thk x 4” wide - UHMW wear plates for inner mast
4	Consult factory	¼” thk x 4” wide - UHMW wear plates for outer mast

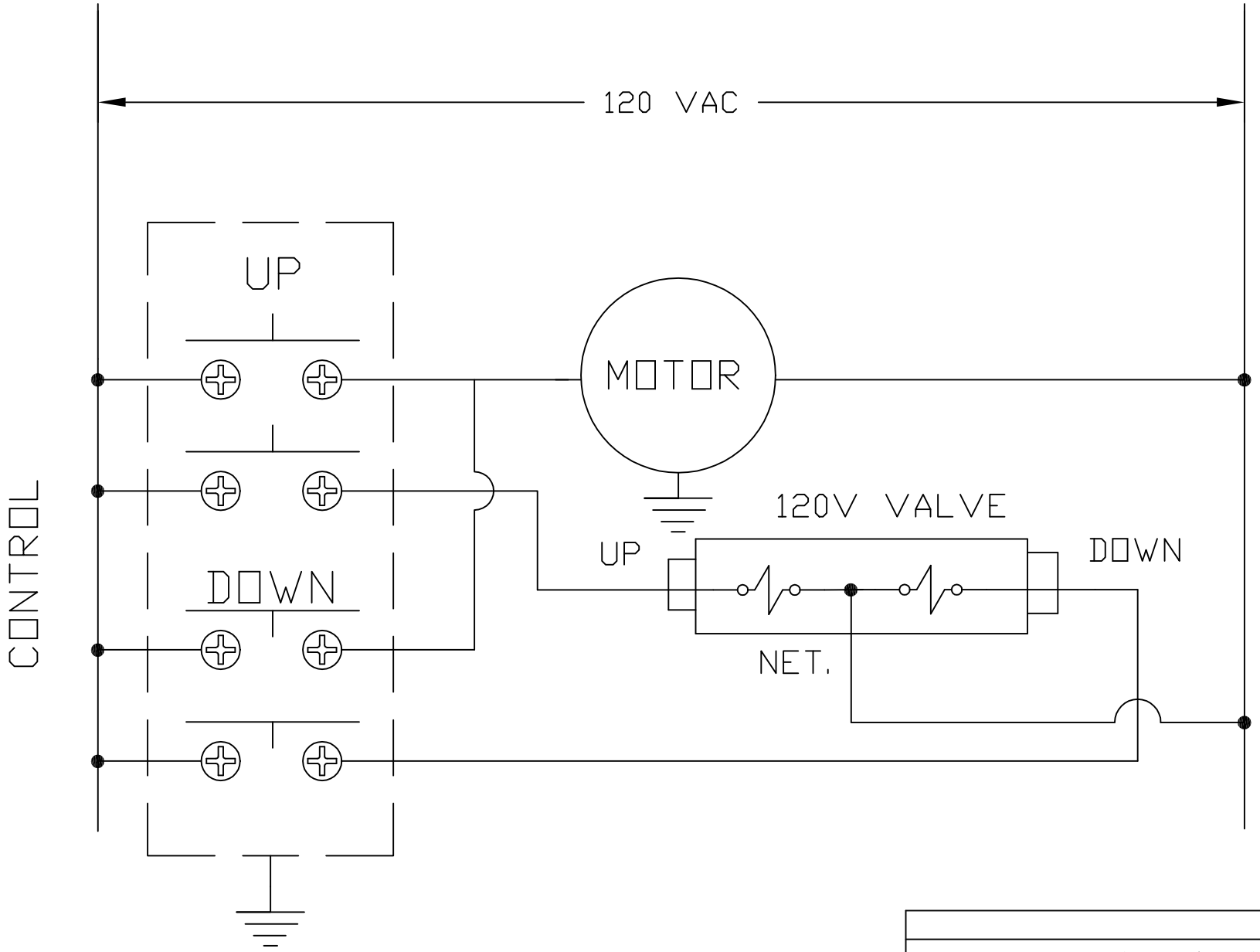
NOTE: Due to design improvements, consult factory for replacement hydraulic cylinder or bronze bushings for TMJC models manufactured prior to 2018.

NOTE 2: for any modified TMJC models (model number with suffix -M), consult factory to verify if standard parts apply before ordering.



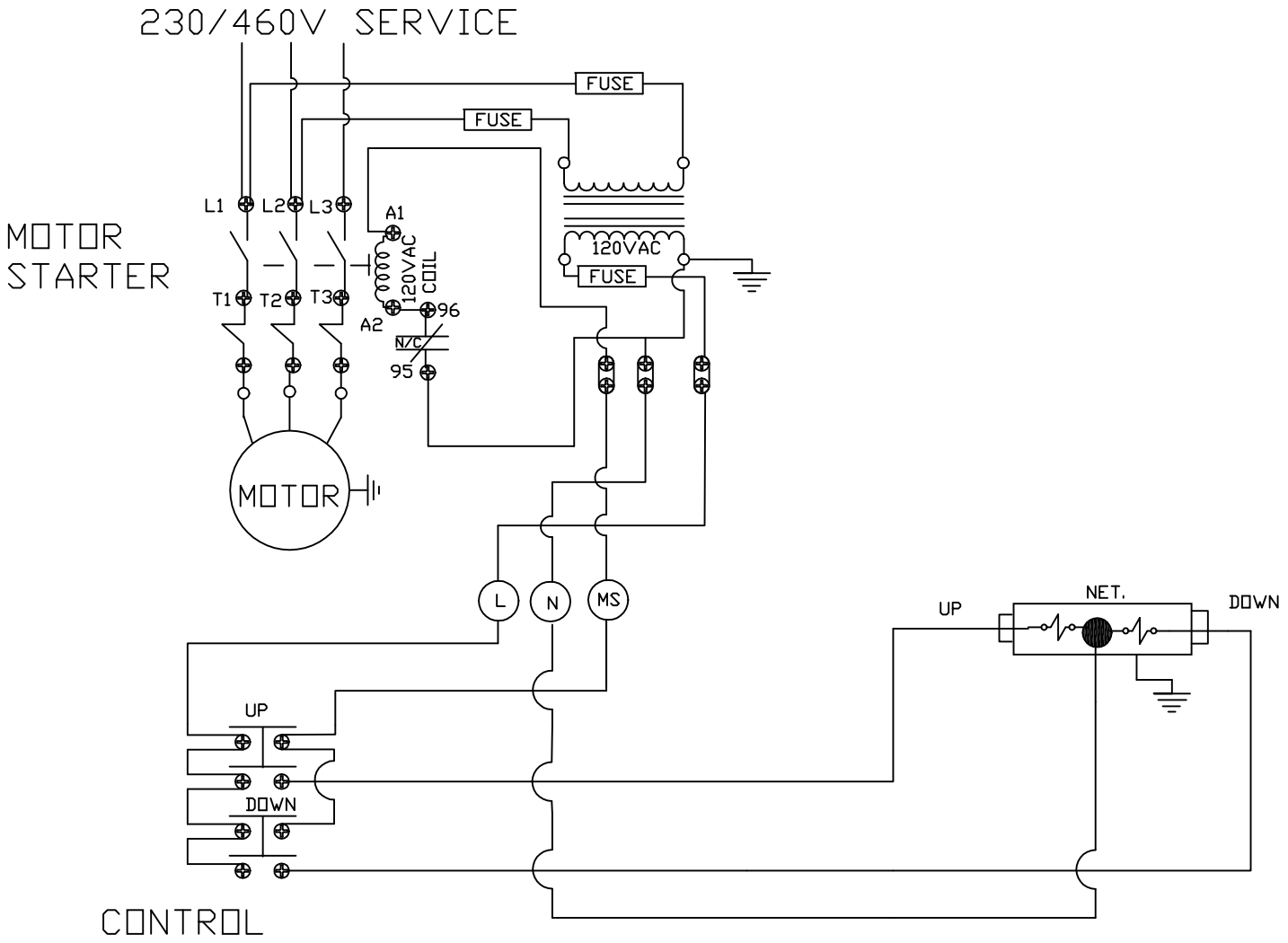
Air Technical Industries
7501 CLOVER AVE. - MENTOR,OHIO

TITLE	HYDRAULIC SCHEMATIC 1 VALVE D/A		
PART No.		MATERIAL	
DRAWN VN	DATE 6/13/2012	SCALE N.T.S.	
APPROVED			



Air Technical Industries
7501 CLOVER AVE. - MENTOR,OHIO

TITLE ELECTRICAL SCHEMATIC			
SINGLE PHASE 120V D/A			
PART No.		MATERIAL	
DRAWN VN	DATE 6/26/2012	SCALE N.T.S.	
APPROVED			



Air Technical Industries

7501 CLOVER AVE. - MENTOR,OHIO

TITLE ELECTRIC SCHEMATIC - 3 PH D/A BASIC		
PART No.	MATERIAL	
DRAWN LH	DATE 6/12/12	SCALE N.T.S.
APPROVED		

AIR TECHNICAL INDUSTRIES TERMS OF WARRANTY ACKNOWLEDGEMENT

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

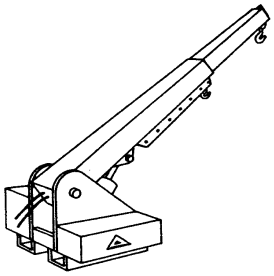
It is Air Technical Industries' policy that any and all eligible returns must have a return goods authorization on file before any return will be accepted or credit will be issued. A return goods authorization form may be obtained by calling our customer service department. Any parts or products must 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. Modified or specially coated units are not returnable.

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

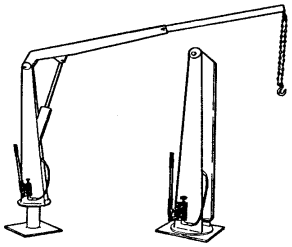
- Call Air Technical Industries customer service department for a Return Goods Authorization form
- Sign and return by fax a copy for Air Technical Industries file.
- Use this form as a packing slip for return shipment
- Return all parts or products for inspection to validate claim.

RETURN AND CREDIT POLICY

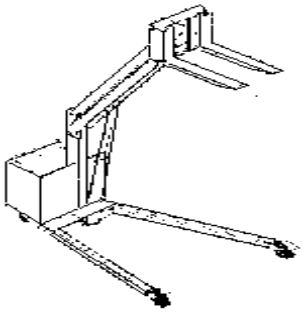
It is Air Technical Industries' policy that any and all returns or warranty claims once established to our satisfaction as a valid claim will be issued a <u>CREDIT</u> on the customer's account. This credit can be used within 1 year from the date of Credit Memo towards the purchase of new products, replacement parts, and/or service. <u>At no time will a cash refund be issued</u>. 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.



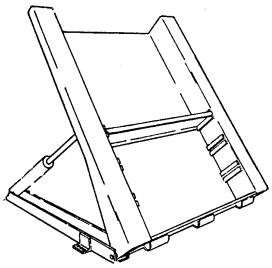
JibMaster



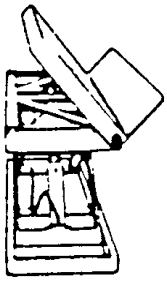
Truck mounted Foldable Crane



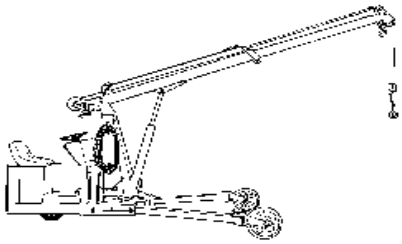
Universal Lift



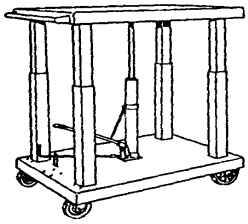
Zero-Low Crate Positioners



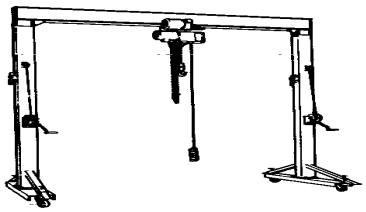
Lift & Tilt Tables



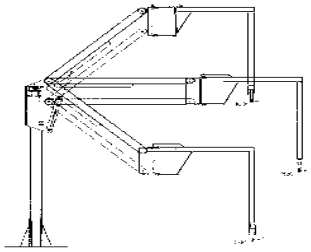
Port-O-Giant



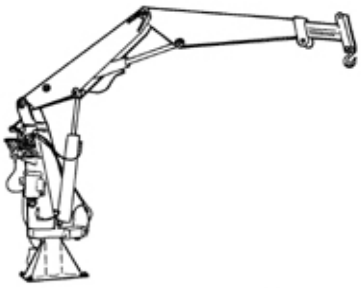
Post Tables



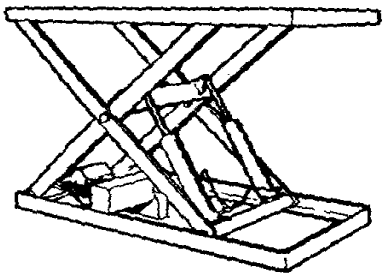
Gantry Cranes



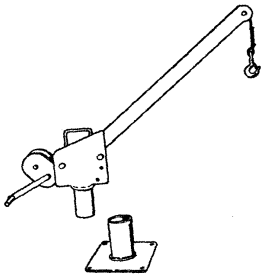
Articularm Manipulator



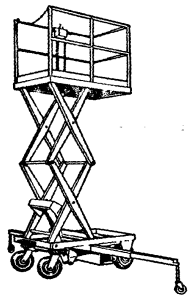
Knuckle Cranes



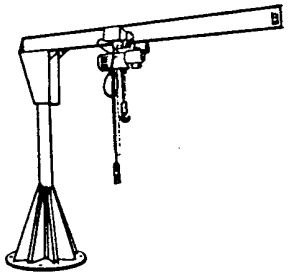
Scissor Lift Tables



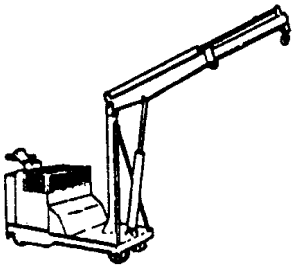
Truck Mounted Pick-Up Crane



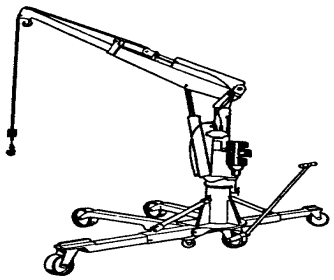
Maintenance Lifts



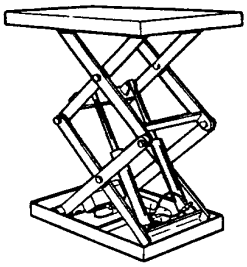
Floor Mounted Jib Cranes



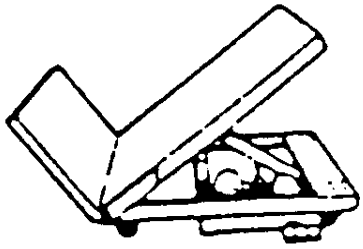
Reversible Boom Crane



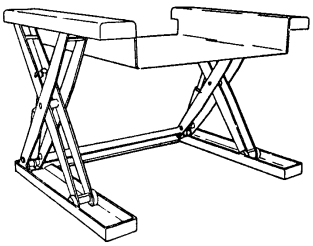
Super Master



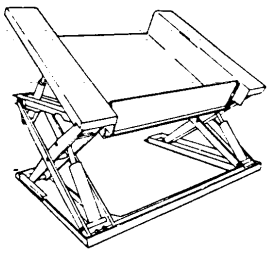
Double Scissor Lift Table



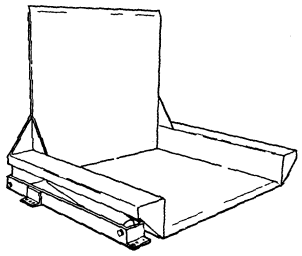
Crate Positioner



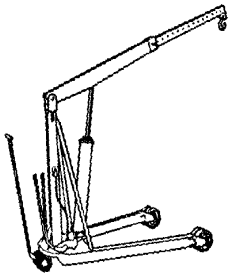
Zero-Low Lift Table



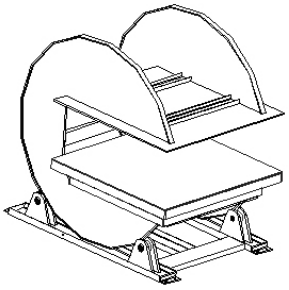
Zero-Low Lift & Tilt



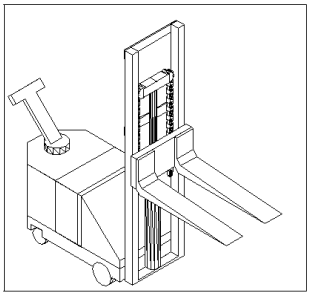
Zero-Low Up-Ender/Positioner



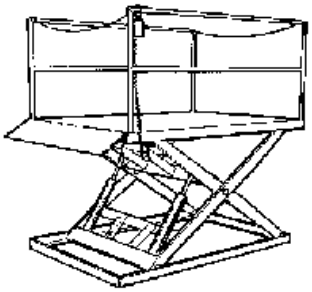
Husky Master



Upender-Inverter



Fork Master Lift Truck



Magic Dock Scissor Lift