



Premium Lift Systems

OPERATION AND PARTS MANUAL



I/C SM480

MODEL NUMBER : _____ **L.H. PIVOT FRAME UNIT, 460VAC**

PART NUMBER : _____ **1920-0096**

SERIAL NUMBER : _____

BAYNE MACHINE WORKS, INC.
910 FORK SHOALS ROAD
GREENVILLE SC, 29605
WEBSITE: www.baynethinline.com

PHONE: 864.288.3877
TOLL FREE: 800.535.2671
FAX: 864.458.7519
E-MAIL: sales@baynethinline.com

LICENSED UNDER ONE OR MORE OF
THE FOLLOWING U.S. AND CANADIAN PATENTS:

5,503,512	4,773,812	1,327,765	5,447,405
1,335,648	5,308,211	5,333,984	5,826,485

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SPECIFICATIONS (WI-0517-A)
Bayne **THINLINE**[®] Premium Lift Systems

- A. Double acting cylinder:
 - Replaceable seals.
 - Double action provides smooth operation throughout the dump cycle.

- B. Main pivot points are supplied with grease fittings for extended life.

- C. The lift unit operates at a cycle time of **15 seconds** for safe, fast, efficient service.

- D. Maximum lift capacity is **500 LBS.**

- E. Hydraulic pressure settings are as follows:
 - Relief valve pressure: **1500 PSI**

- F. Power unit specifications:
 - **5 HP** electric motor
 - **1.8 GPM** flow rate
 - **2500 PSI** maximum pressure
 - **4 GAL.** oil reservoir

- G. All parts are manufactured and kept in stock at Bayne Machine Works, Inc. for fast response to customer requests.

- H. One (1) year limited warranty from date of delivery on all units and models when properly maintained and operated within the recommended cycle time.

All lift units and parts are inspected by our Quality Control Department before shipment to insure that you always receive the highest quality available in the lift business.

For more information, please contact us at (800) 535-2671 or by fax at (864) 458-7519.

INSTALLATION INSTRUCTIONS (WI-0261-A)
Bayne **THINLINE**[®] Premium Lift Systems

The following information is intended to be a **GENERAL GUIDE** to installing the Bayne Industrial/Commercial lifter. Before starting the installation, read these instructions completely. **ALWAYS** use the proper tools, lift devices, and personal protective equipment to prevent injury while performing the installation.

I. Positioning and securing the lifter base:

1. The installation location should be a level solid surface, preferably a concrete pad.
2. Position the lifter in place per the specification drawing in Appendix A.
3. Check for adequate clearance on all sides and above the locations.
4. Anchor the lifter base to the ground using 5/8" wedge anchor bolts.

II. Attaching lifter pivot frame:

Note: *This dumper is shipped from the factory disassembled into two pieces. For proper operation and adjustment, follow these instructions to attach the pivot frame to the lifter base.*

1. Remove the pivot pins and spacers from the lifter base. (figure I-1)

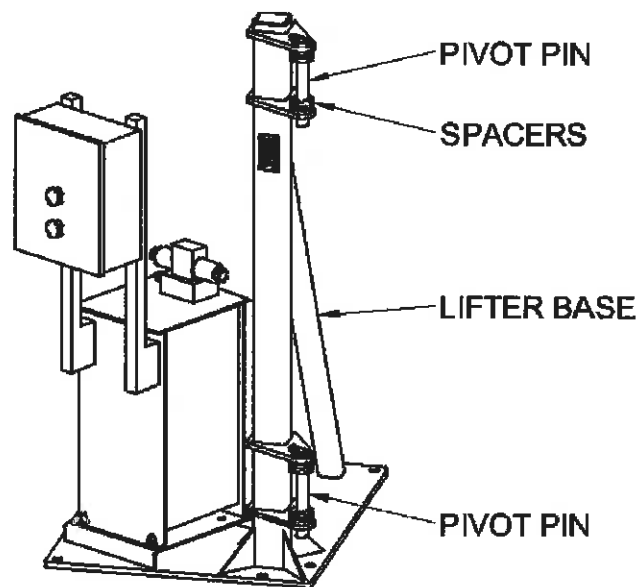


figure I-1

2. Stand the pivot frame and lifter assembly into position and reinstall the pivot pins. (figure I-2) Leave out the spacers at this time to allow the pivot frame to properly adjust for uneven terrain.

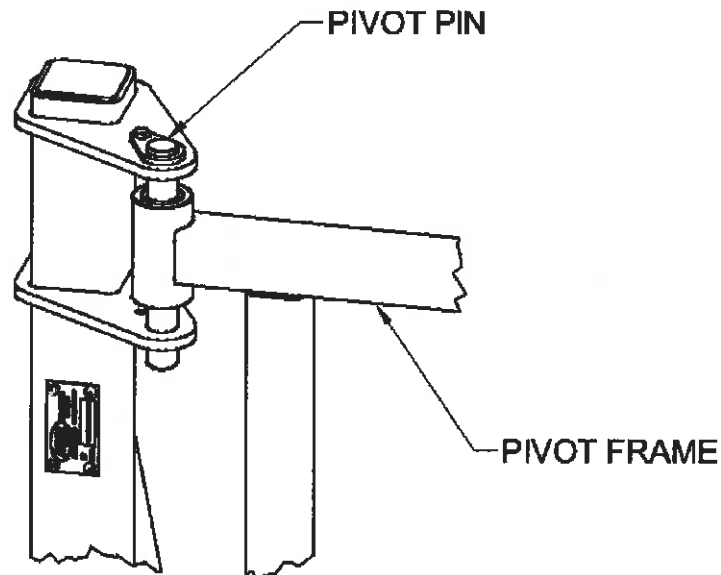


figure I-2

3. Remove the pivot pins, one at a time and install the spacers as needed to maintain the adjusted spacing.

III. Making hydraulic connections:

1. Connect the hydraulic hose from the “BASE” end of the hydraulic cylinder to the “A” port on the hydraulic power unit.
2. Connect the hydraulic hose from the “ROD” end of the hydraulic cylinder to the “B” port on the hydraulic power unit.

IV. Connecting to power supply:

1. Fill the power unit reservoir with Mobile[®] DTE 24 hydraulic oil or equivalent prior to operation.

Caution: Some hydraulic power units are shipped without oil in the reservoir. Do not run the power units dry, severe pump damage may occur.

2. Connect the proper protected power supply to the hydraulic power unit per the electrical schematic in Appendix A.

3. Turn the key switch to the “ON” position to start the power unit motor.
4. Turn and hold the selector switch to the “UP” position to raise the lifter to the dump position.
5. Operate the rotate control handle “UP” and “DOWN” through two complete dump cycles to purge all air from the hydraulic system.

V. Relief valve pressure:

Note: *All dumpers are shipped from the factory with hydraulic pressures preset to provide proper operation and maximum lift capacity. However, periodic pressure adjustments may be required to maintain proper operation.*

Warning: *This equipment is rated for a maximum pressure of 2500 psi. Operation at pressures above 2500 psi may damage equipment and cause personal injury. In order to avoid injury and maintain manufacturer’s warranty never operate above 2500 psi.*

1. If the lifter will not dump a fully loaded container, check to make sure that its weight does not exceed the maximum specified lift capacity.
2. If the weight does not exceed the maximum lift capacity, you may need to adjust the relief valve pressure.

3. Setting the relief valve pressure:

- a) Tee a 3000 psi hydraulic pressure gauge in the line connected to the “BASE” end of the hydraulic cylinder.
- b) Loosen the lock nut (figure I-3) on the relief valve adjusting screw.
- c) Turn the key switch to the “ON” position to start the power unit motor.
- d) Turn and hold the selector switch to the “UP” position to raise the lifter to the dump position.
- e) Once the lifter has reached full dump position, continue to hold the selector switch to the “UP” position to show pressure on the gauge.
- f) Turn the relief valve adjusting screw clockwise to increase the pressure reading on the gauge or counter-clockwise to decrease the pressure reading on the gauge.

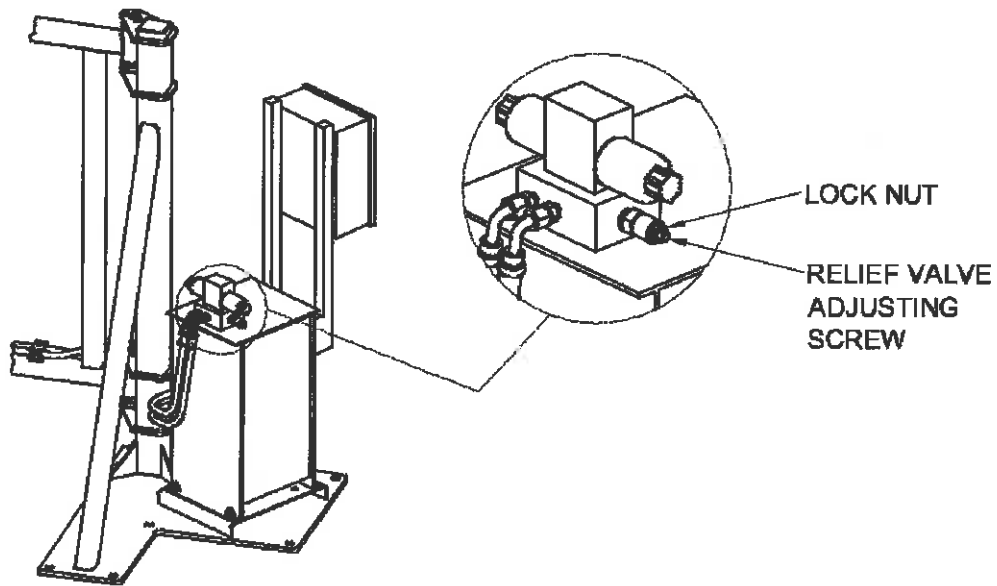


figure I-3

- g) Set the relief valve to the pressure given in the specifications located in the front of this manual.
- h) Release the “UP” / “DOWN” selector switch.
- i) Tighten the lock nut on the relief valve adjusting screw.

OPERATION INSTRUCTIONS (WI-0138-C)

Bayne *THINLINE*[®] Premium Lift Systems

The Bayne *THINLINE*[®] Premium Lift System is a high quality durable dumper built to meet industry requirements. To insure the safety of all operators of this equipment, please read this manual carefully before operating the dumper. *FAILURE TO COMPLY WITH INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE.*

The operating stages (figure O-1) in the cycle of the dumper are as follows:

- 1) **START** - The container to be dumped is placed on the lift saddle.
- 2) **DUMP** - The hydraulic cylinder extends to dump the contents of the container into the hopper. During this cycle, the lower rotating hook automatically “locks” the container to the lifter.
- 3) **RETRACT** - The hydraulic cylinder retracts to return the container to the start position. The lower rotating hook automatically retracts to “unlock” the container from the dumper.

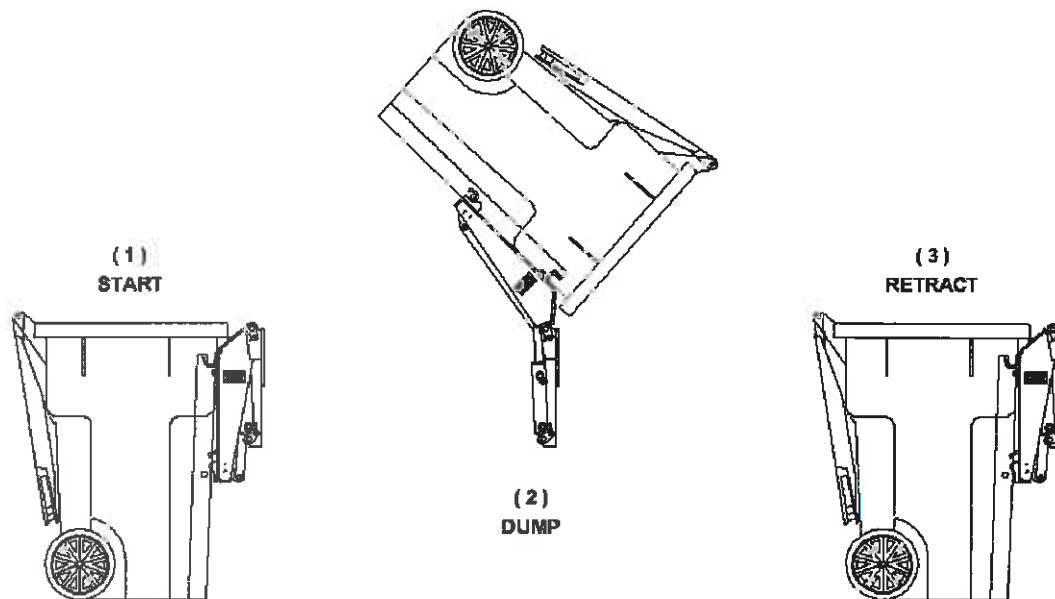


figure O-1

Warning: Exceeding the recommended cycle time on any dumper will void the manufacturer's warranty

The rotational motions of the dumper are controlled with the use of a hand valve. Moving the handle on the hand valve in one direction will cause the dumper to perform the “dump” stage (figure O-1). Moving the handle in the opposite direction will cause the dumper to perform the retract stage.

SAFETY ZONES

Stand Clear Zone

To prevent serious injury or death, operators and bystanders should remain outside the Stand Clear Zone (figure O-2) at all times during the operating cycle of the lifter. If at any point during the cycle persons enter this area, the operator must stop all motion of the lifter until the area is cleared.

Dump Zone

To prevent serious injury or death, operators and bystanders should remain outside the Dump Zone (figure O-2) at all times. If it becomes necessary to enter this area, all applicable OSHA lockout/tagout regulations must be followed.

Operator Area

To provide a clear, unobstructed view of both the Stand Clear Zone and Dump Zone, operators should remain within the Operator Area (figure O-2) at all times during the operating cycle of the lifter.

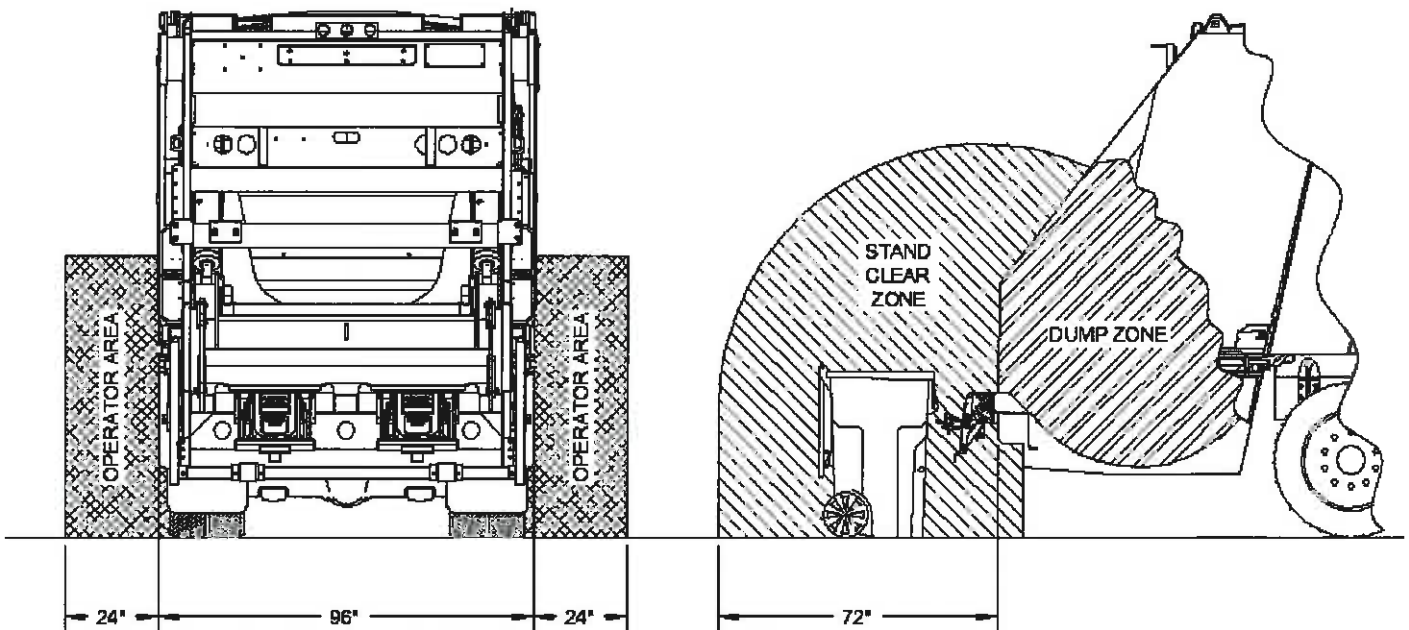


figure O-2

LOWER HOOK ADJUSTMENT

The lower hook is equipped with two settings that must be properly adjusted to accommodate the carts being lifted. Check the distance (A) (figure O-3) between the upper bar and the lower bar on the cart. If this dimension is between $15''$ to $15\text{-}1/2''$, leave the lower hook attachment in the lower setting. If this dimension is between $14\text{-}1/2''$ to $15''$, move the lower hook attachment to the upper setting.

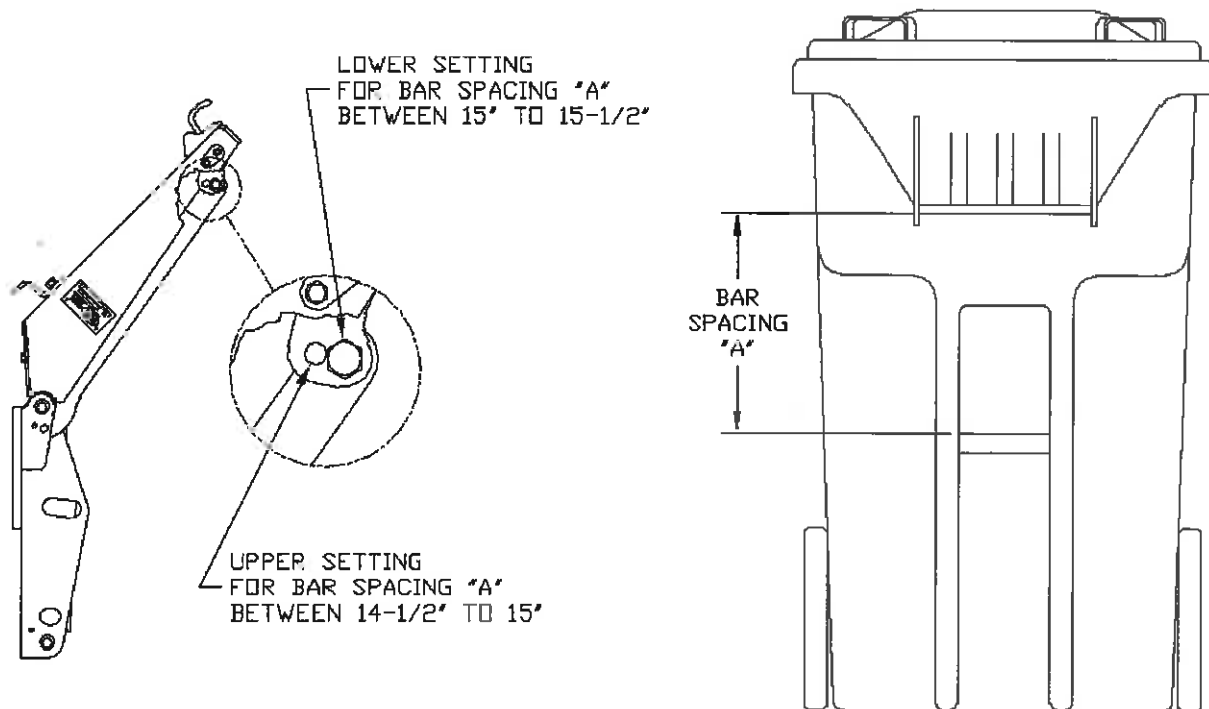


figure O-3

CAUTION: It is the responsibility of the owner / operator of this equipment to adjust these dimensions to be compatible with his specific application. If the bar spacing is not within either of the specified ranges, please contact us on available options for non-standard carts.

MAINTENANCE INSTRUCTIONS (WI-0141-A)

Bayne THINLINE[®] Premium Lift Systems

NOTE:

The most common cause of hydraulic component failure is contamination of the hydraulic fluid (water, chips, dirt, etc.) The Bayne *THINLINE*[®] Lift System comes clean from the factory. If removed, be sure the hoses, cylinder and fittings are clean before re-installing them on the unit.

Inspect your dumper on a weekly basis for loose bolts, fittings, oil leaks, etc. Tighten loose hardware as necessary and replace necessary seals to repair oil leaks.

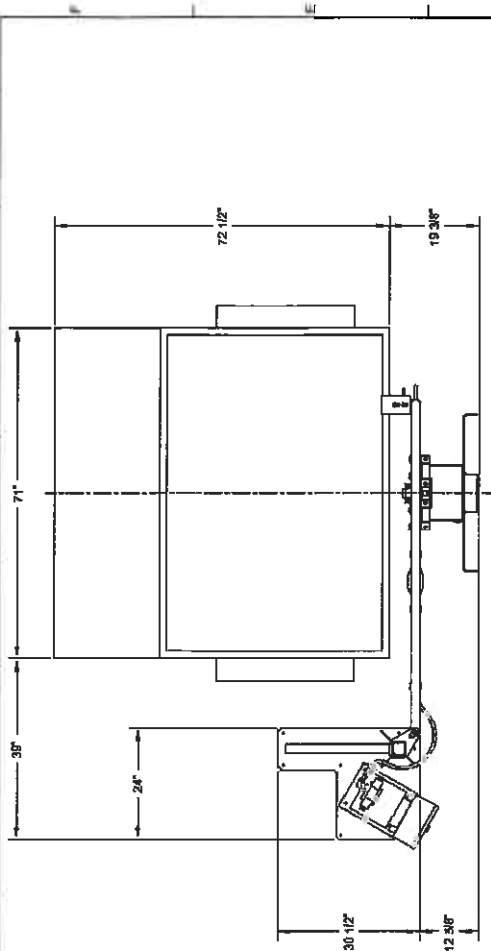
TROUBLE-SHOOTING CHART (WI-0323-A)

<i>SYMPTOM</i>	<i>POSSIBLE CAUSES</i>	<i>CORRECTIVE ACTION</i>
Power unit operates, but lifter does not work at all.	1. Power unit motor operating in reverse rotation.	1. Shut off power supply and reverse the L2 and L3 wires.
Power unit does not work at all.	1. Float switch shut off due to low oil level. 2. Loss of electrical power. 3. Loose electrical connection.	1. Add oil to system. 2. Check electrical supply. 3. Check connections inside control box.
Lifter operation very erratic.	1. Air trapped in system. 2. Low oil level. 3. Overcentre valve out of adjustment.	1. Bleed all air from lifter hydraulic system. 2. Add oil to system. 3. Adjust overcentre valve per installation instructions.
Cart lifter will not dump loaded container.	1. Container weight over maximum lift capacity in specifications. 2. System hydraulic pressure too low.	1. Reduce loaded weight of container. 2. Adjust relief valve per installation instructions.
Cylinder leaking oil.	1. Worn cylinder seals.	1. Install cylinder seal kit.

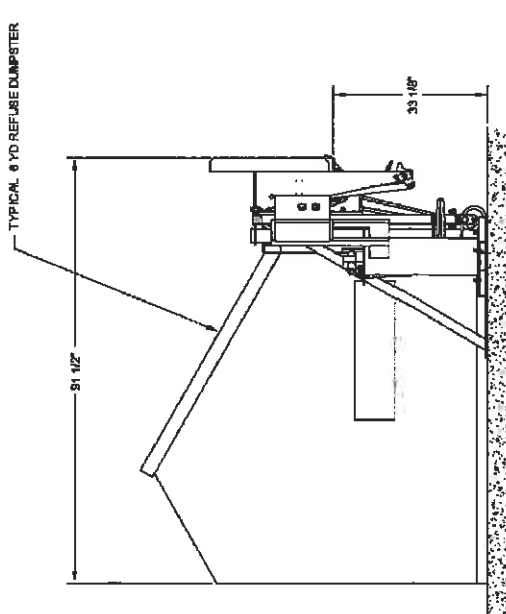
APPENDIX A
Assembly drawings and part numbers

NOTE:

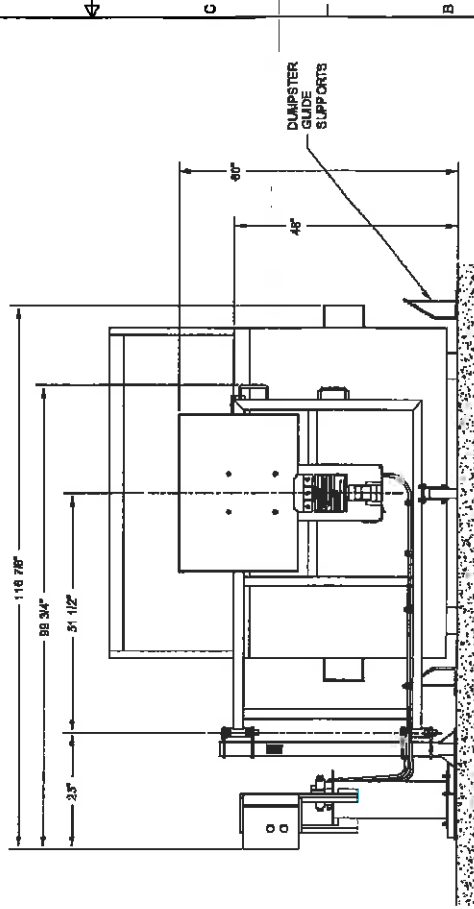
1. COMPATIBLE CONTAINERS:
ANSI Z45.50-1986 TYPE B (DOMESTIC TWO-BAY) CONTAINERS
2. LIFT CAPACITY: 500 lbs @ 1500 PSI
3. CYCLE TIME: 15 SECONDS @ 1.8 GPM
4. POWER UNIT: 5HP MOTOR
UL LISTED
1.8 GPM GEAR PUMP
4 GAL. OIL RESERVOIR
2500 PSI MAXIMUM PRESSURE
KEYED ON/OFF SWITCH
UP/DOWN SELECTOR SWITCH
5. ALL DIMENSIONS ARE APPROXIMATE.
1920-0092 - 230V three-phase
1920-0098 - 460V three-phase



PLAN VIEW

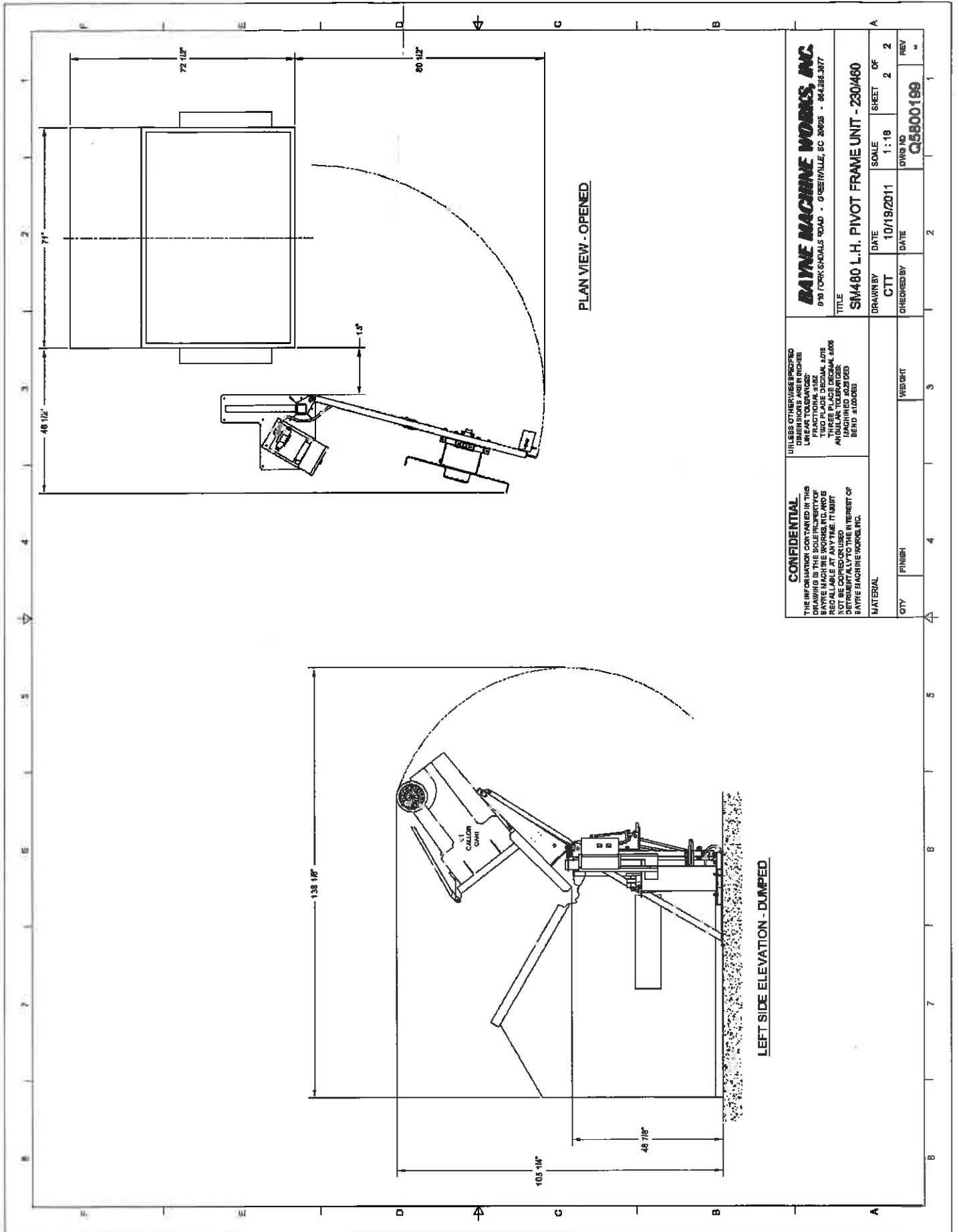


LEFT SIDE ELEVATION



FRONT ELEVATION

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TITLE SM480 L.H. PIVOT FRAME UNIT - 230/460V			
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CJT	10/19/2011	1:18	1 2
CHECKED BY	DATE	DWG NO	REV
		Q5800199	-



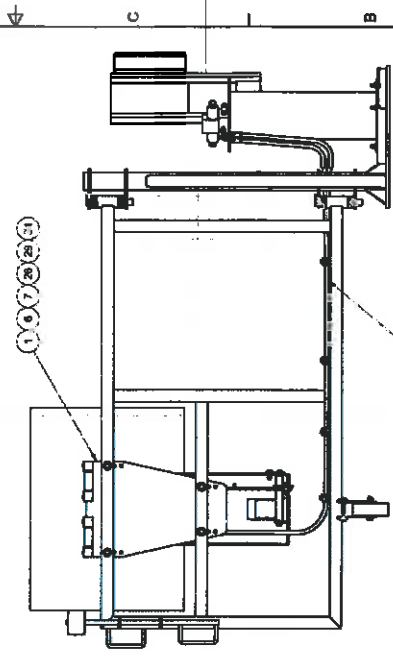
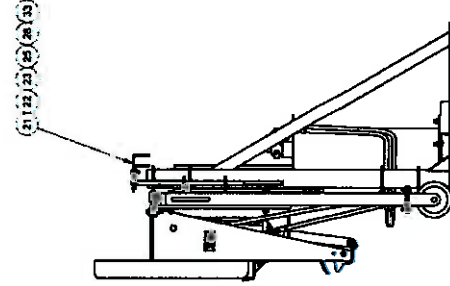
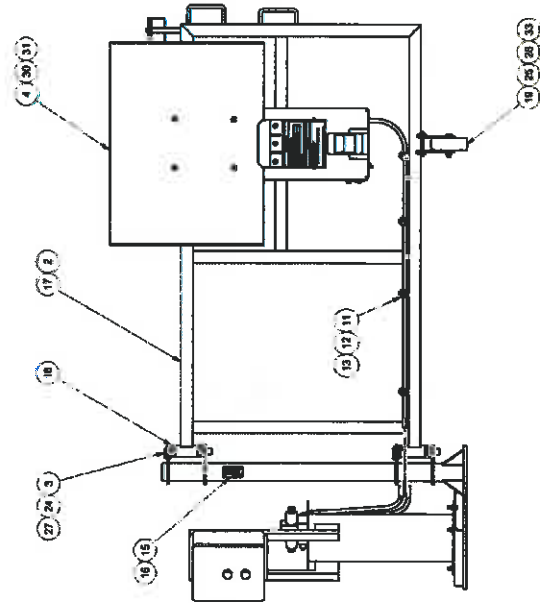
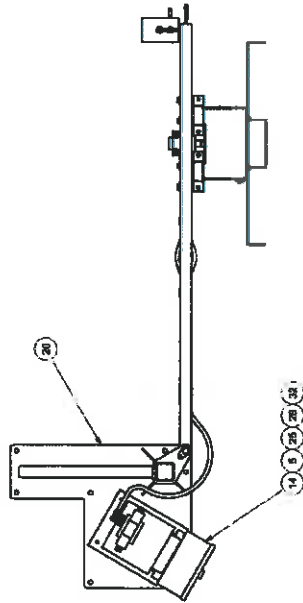
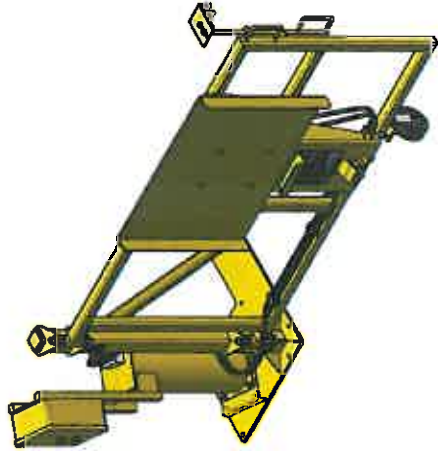
BAIRNE MACHINE WORKS, INC. 914 YORKSHALS ROAD - GREENVILLE, SC 29605 - 864.281.8177	
TITLE SM480 L.H. PIVOT FRAME UNIT - 230/460	
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CHECKED BY	DATE
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DWG NO Q35800199	REV -

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DIMENSIONS ARE IN INCHES
LINEAR TOLERANCES
FRACTIONS TO NEAREST THIRDS
THREE PLACE DECIMAL NOTE
ANGULAR TOLERANCES
BEND SIZES

QTY	FINISH	WEIGHT

NOTE:
1. MOUNT LIFT UNIT TO FRAME USING UPPER SET OF MOUNTING HOLES.



HOSE LENGTH: 150"

ITEM	PART NO.	DESCRIPTION	QTY
1	1090-0482	1480 LIFTER ASSEMBLY	1
2	2605-1310	CYLINDER CONNECTOR BUSHING	4
3	8900-0021	FACEPLATE PIN WELDMENT	2
4	4000-1248	1480 EXTENDED CHUTE	1
5	8201-14068	STRAIGHT ADAPTER (1/4 M-NPT X 3/8 M-JIC)	2
6	8201-14068	STRAIGHT ADAPTER (1/2 M-NPT X 3/8 M-JIC)	2
7	8279-0008	90 DEGREE FITTING (3/8 M-JIC X 3/8 M-JIC)	2
8	8510-0008	3W WEATHERHEAD HYDRAULIC HOSE	300'
9	8516-0008	HOSE END - 3/8 X STRAIGHT, JIC	2
10	8516-0008	HOSE END - 3/8 X 90° JIC	2
11	8500-0010	TWIN COVER PLATE	4
12	8500-0012	TWIN CLAMP HEX BOLT	4
13	8500-0015	PLASTIC CLAMP - 5/8"	8
14	8700-1006	POWER UNIT, 1.5 GPM, 480VAC	1
15	7500-0070	1/2" ALUMINUM DRIVE PLATE	1
16	7500-0071	1/2" ALUMINUM DRIVE RIVET	4
17	7500-1380	PIVOT FRAME WELDMENT	1
18	7500-1385	HORSE SHOE	18
19	7500-1386	1" RIBD CASTER	1
20	7500-1388	5" RIBD WELDMENT	1
21	7500-1376	LOCK BAR WELDMENT	1
22	7500-1378	LOCK BAR WELDMENT	1
23	7500-1379	1/2" RIBD LOCK PLATE	1
24	2001-14040	1/4" ELASTIC LOCK NUT	2
25	2001-14000	3/4" ELASTIC LOCK NUT	4
26	2001-14000	1/2" SELF-LOCKING NUT	4
27	2001-14068	1/4" X 1" HOCS	10
28	2001-14010	3/4" X 1" M FHCS	4
29	2001-14020	1/2" X 1" M FHCS	4
30	2001-14006	1/4" X 1" BRCS	4
31	8521-0000	1/4" ELASTIC LOCK WASH NUT	4
32	8500-0000	5/16" FLAT WASHER	8
33	8500-0000	1/2" FLAT WASHER	11
34	8500-0000	1/2" FLAT WASHER	8

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FRACTIONAL ±.010
DECIMAL ±.005
THREE PLACE DECIMAL ±.002
ANGULAR TOLERANCES:
DIMENSIONS ±.025 DEG
BEND ±1.0 DEG

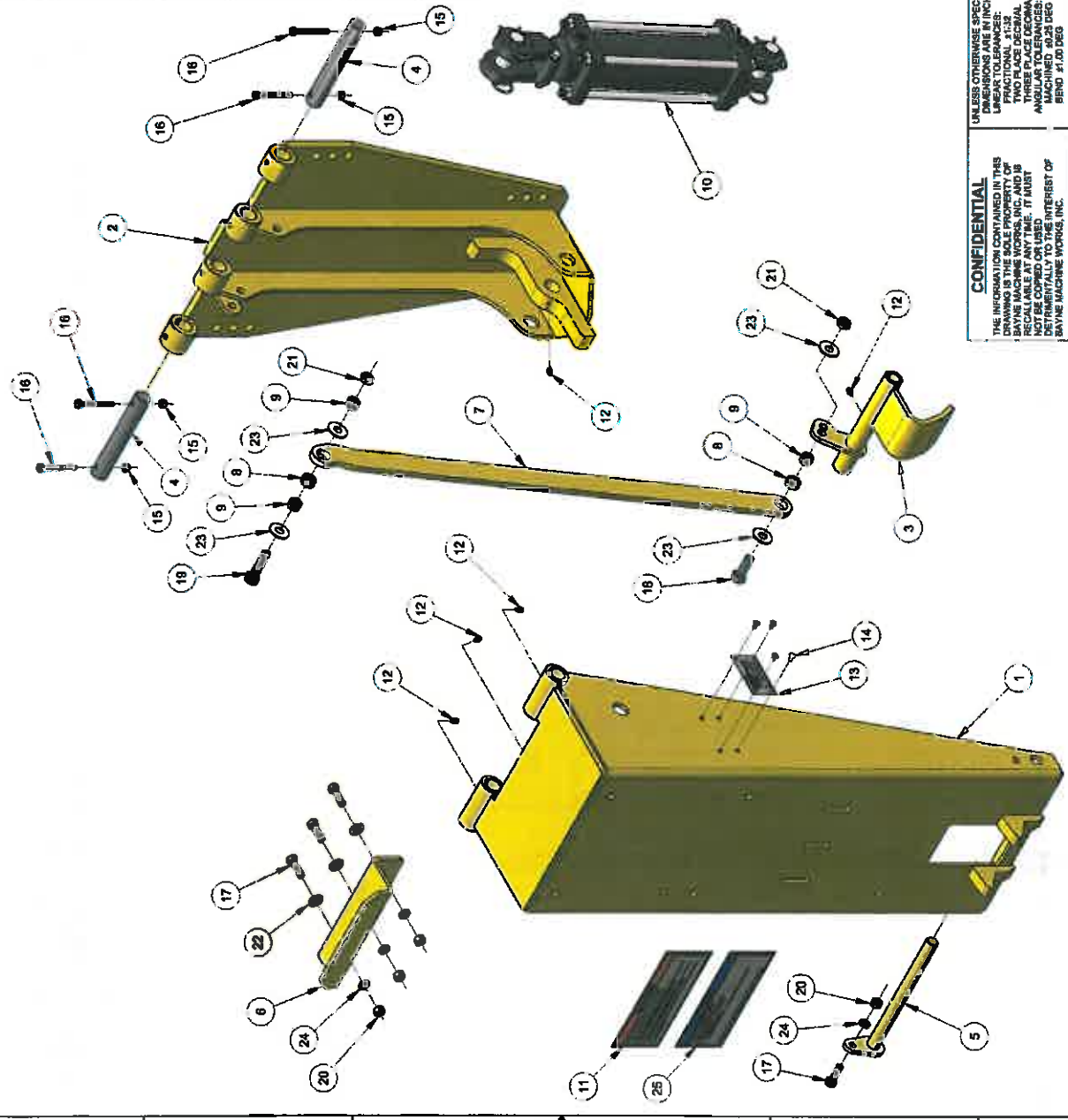
BAYNE MACHINE WORKS, INC.
910 YORKSHOALS ROAD - GREENVILLE SC 29605 - 864.288.8877

TITLE
SM480 L.H. PIVOT FRAME UNIT - 460V

DRAWN BY: [] DATE: 6/29/2011 SCALE: 1:14 SHEET: 1 OF 1
CTT: []
CHECKED BY: [] DATE: [] DWG NO: 1920-0096 REV: []

MATERIAL: []
QTY: [] FINISH: [] WEIGHT: 670.78 lbsmss

PARTS LIST			
ITE	PART NO.	DESCRIPTION	QTY
1	4800-4006	M480 FACEPLATE WELDMENT	1
2	4900-4010	MAINFRAME WELDMENT	1
3	4800-4020	HOOK WELDMENT	1
4	4800-4025	FACEPLATE PIN	2
5	4800-4026	HOOK PIN WELDMENT	1
6	4800-4020	SADDLE WELDMENT	1
7	4900-4038	M480 HOOK DRIVE	1
8	2603-1401	SLEEVE BUSHING - .75 ID., .88 OD., .38 W	2
9	2603-1402	LINK SLEEVE	3
10	3024-1008	TIE ROD CYLINDER (3 BORE x 8 STROKE)	1
11	5000-0010	WARNING LABEL	1
12	7004-0300	3/16 STRAIGHT DRIVE GREASE FITTING	5
13	7500-0070	MODEL/SERIAL NAME PLATE	1
14	7500-0071	3/16 ALUMINUM DRIVE RIVET	1
15	8801-3400	1/4-20 ELASTIC LOCK NUT	4
16	9001-0420	1/4-20 x 2-1/2 HHCS	4
17	9001-0810	3/8-16 x 1-1/4 HHCS	4
18	9001-0812	1/2-13 x 1-1/2 HHCS	1
19	9001-0816	1/2-13 x 2 HHCS	1
20	9401-9600	3/8-16 HEX NUT	4
21	9521-0800	1/2-13 ELASTIC LOCK JAM NUT	2
22	9600-0500	5/16 FLAT WASHER	3
23	9600-0700	7/16 FLAT WASHER	4
24	9700-0600	3/8 LOCK WASHER	4
25	5000-0084	NOTICE LABEL	1



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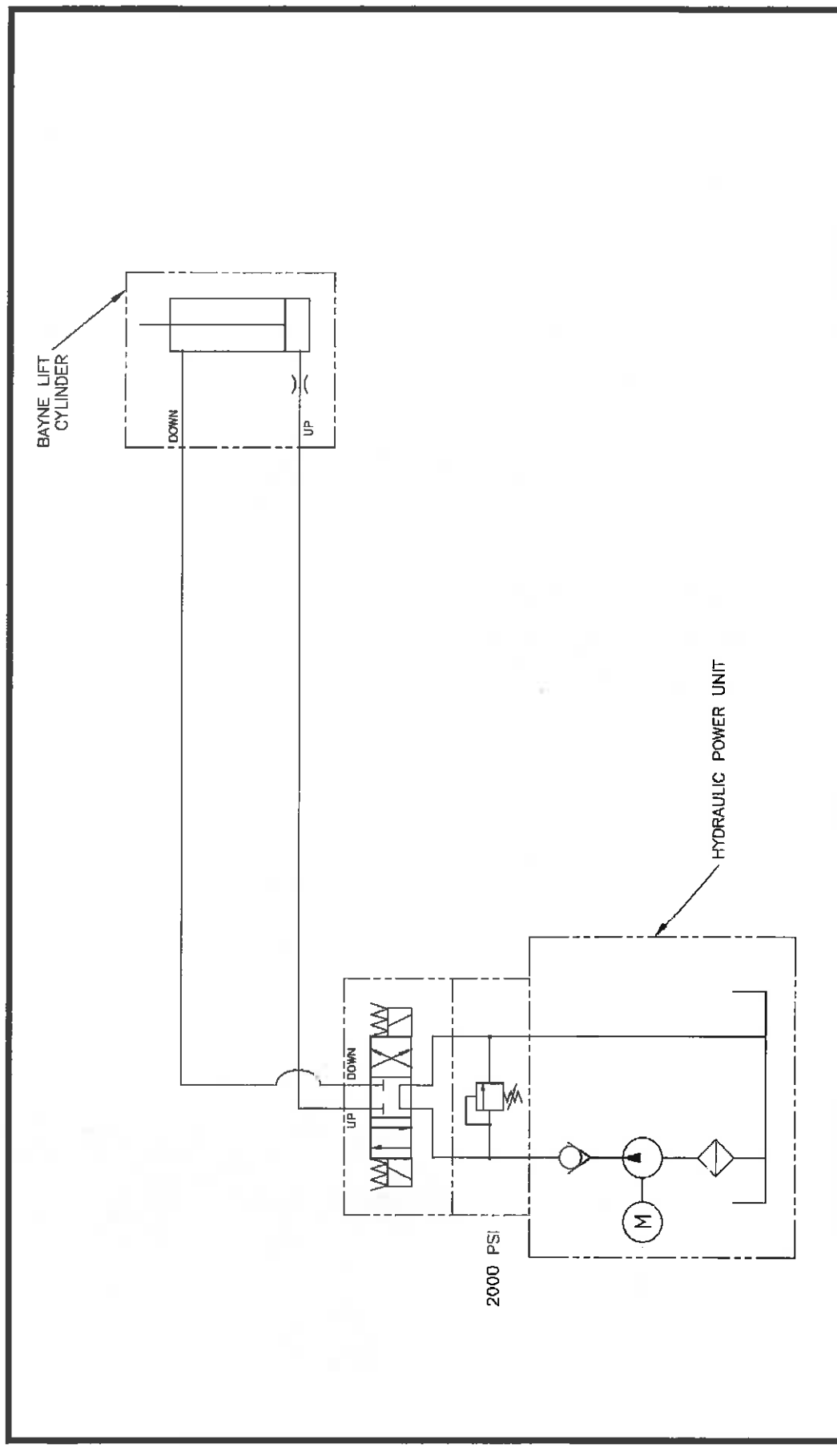
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DRAWN BY	DATE	SCALE	SHEET	OF
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CHECKED BY	DATE	DWG NO		
WTS	2/17/2009	1999-0480	REV B	

MATERIAL: _____

QTY	WEIGHT
172.43 lbmss	

REV	DESCRIPTION	REVISION	DATE	BY	CHKD
1	COLOR WAS GRAY PAINTER		2/26/11	CTT	CTT
2	REVISED				



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	TOLERANCES IF NOT NOTED: 0.000 ±0.005 - 0.00 ±0.015 0/0 ±1/32 - ANGULAR ±0.25		NTS	1	1	-
TITLE: HYDRAULIC SCHEMATIC		DATE:	CHK'D BY:	DATE:	CHK'D BY:	DATE:
DRAWN BY: CTT		05/21/04				
Dwg. No.: 6900-0338						

ELECTRICAL SCHEMATIC (WI-7106-A)

Bayne **THINLINE**® Premium Lift Systems

