



Premium Lift Systems

OPERATION AND PARTS MANUAL



I/C SM480

MODEL NUMBER : **R.H. PIVOT FRAME UNIT, 230VAC**

PART NUMBER : **1920-0094**

SERIAL NUMBER : _____

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

**PHONE: 864.288.3877
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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)

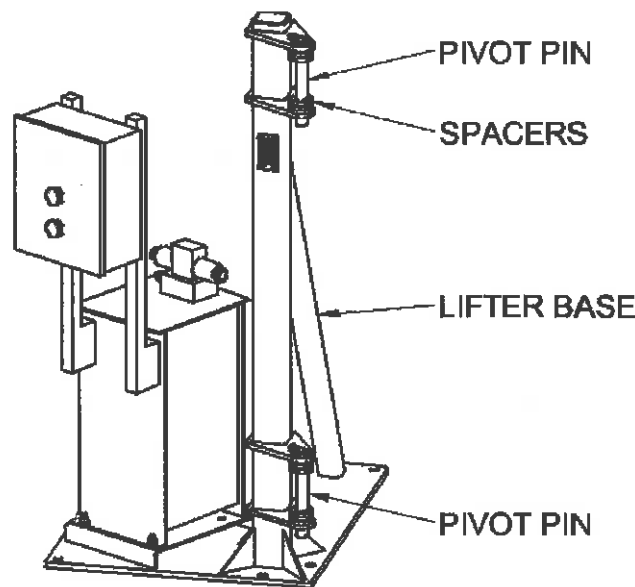


figure I-1

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.

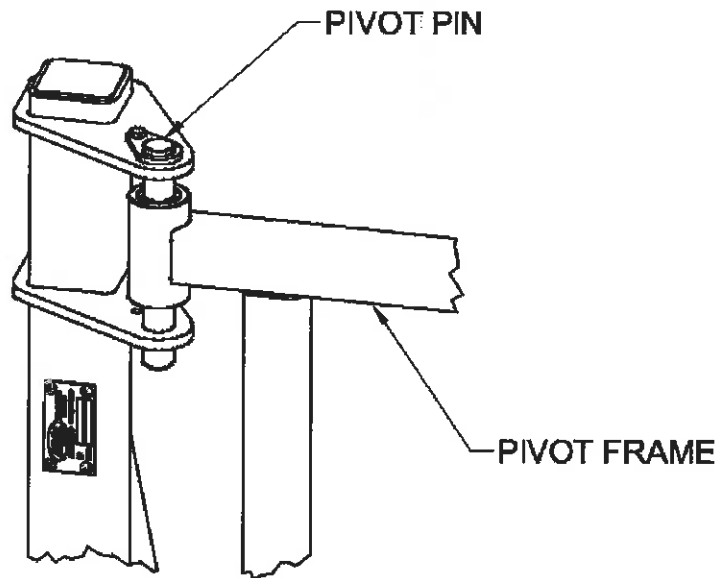


figure I-2

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.

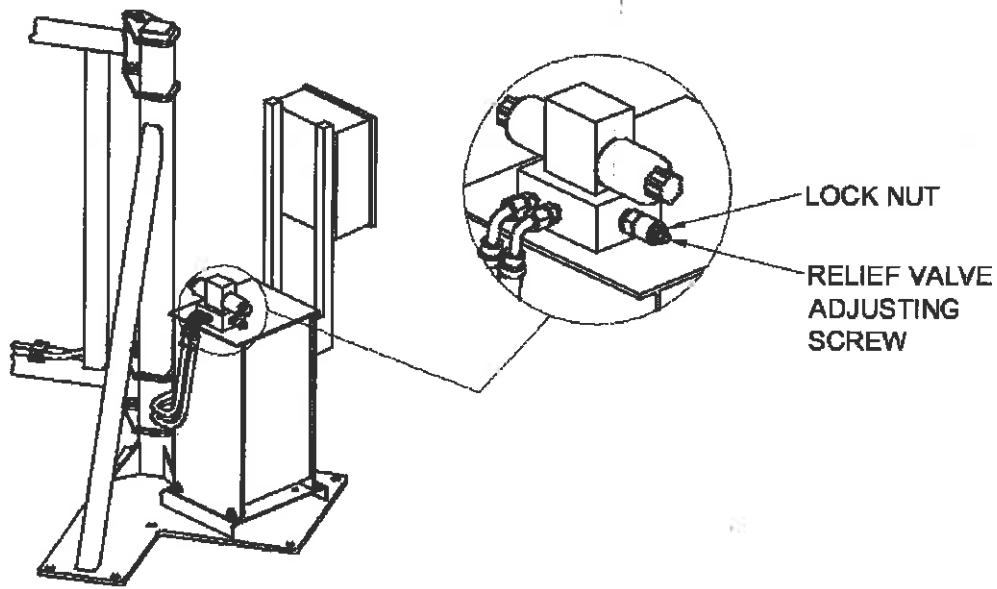


figure I-3

- 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.

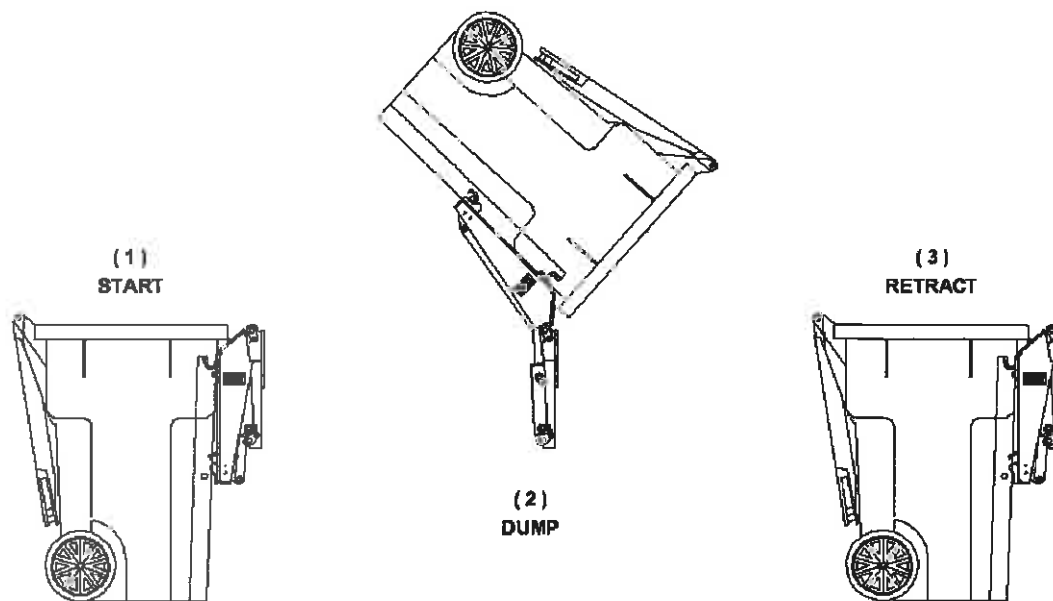


figure O-1

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.

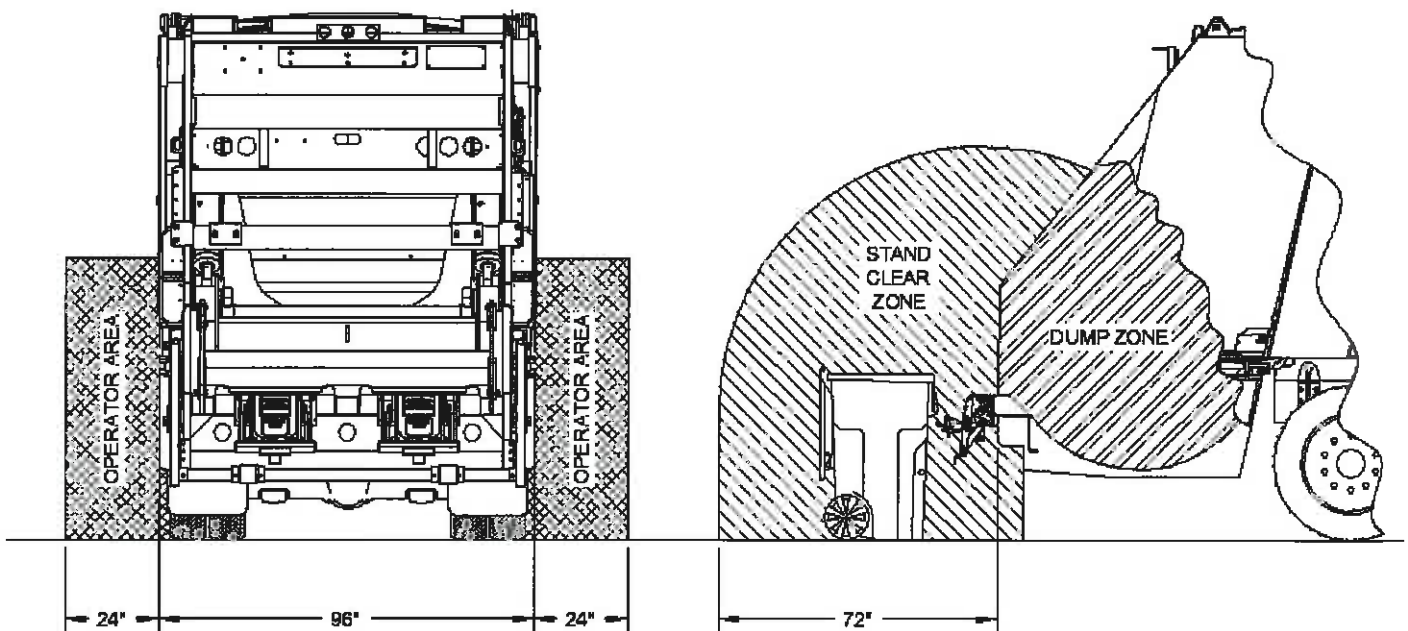


figure O-2

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 15-1/2"*, leave the lower hook attachment in the lower setting. If this dimension is between *14-1/2" to 15"*, move the lower hook attachment to the upper setting.

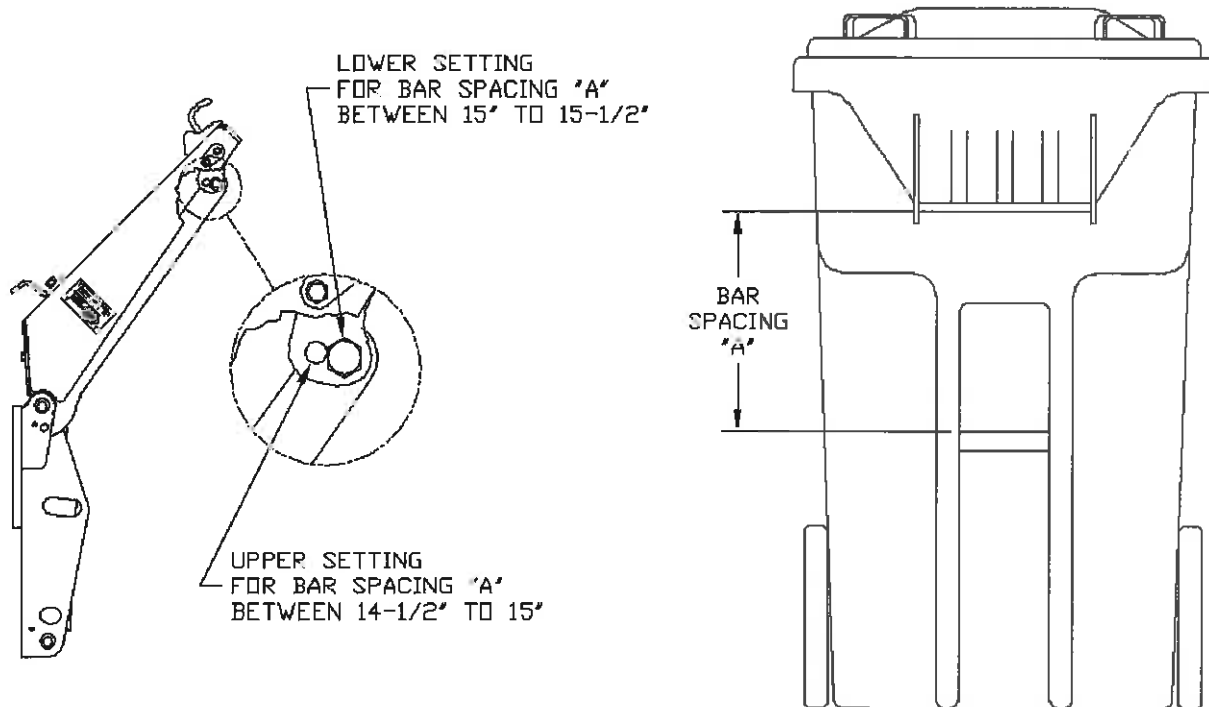


figure O-3

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.

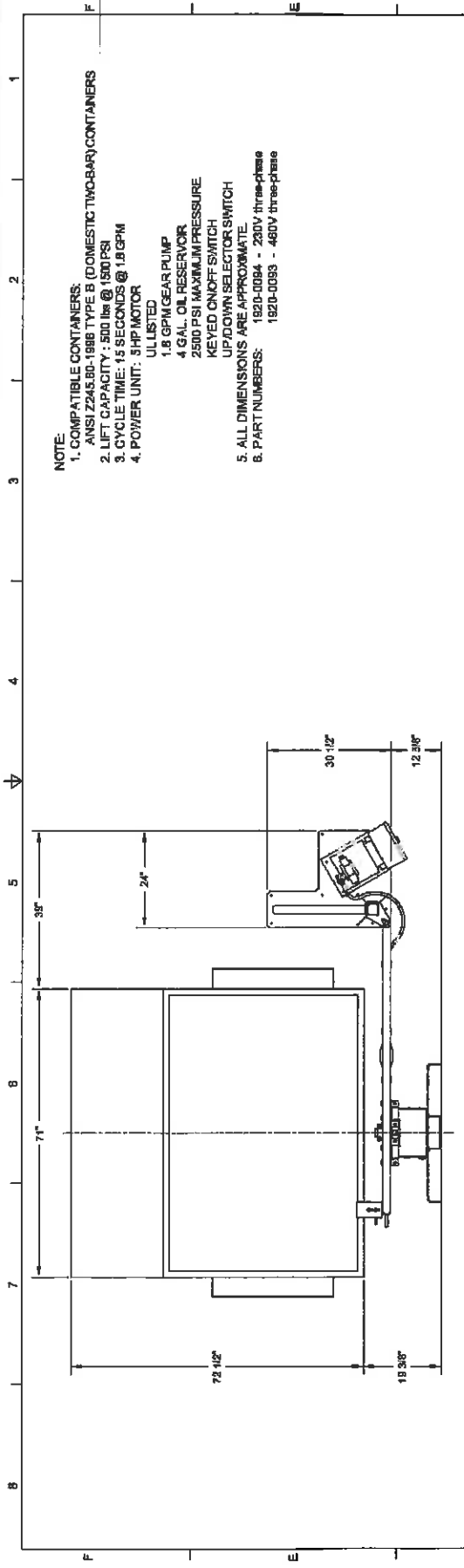
TROUBLE-SHOOTING CHART (WI-0323-A)

<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.

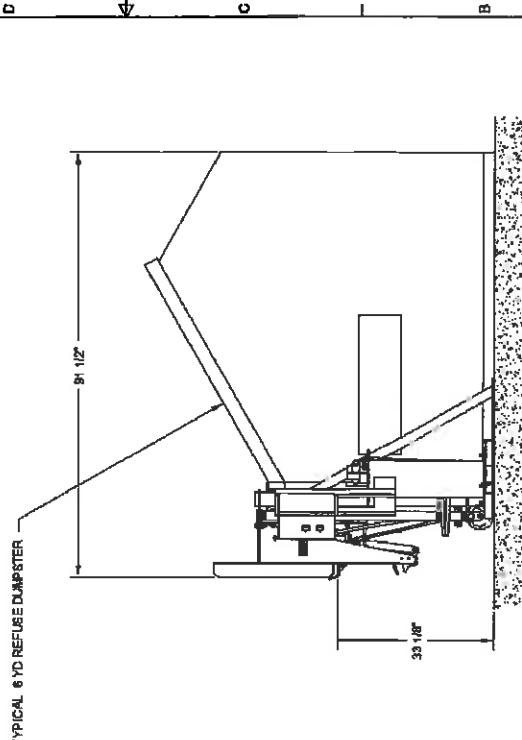
APPENDIX A
Assembly drawings and part numbers

NOTE:

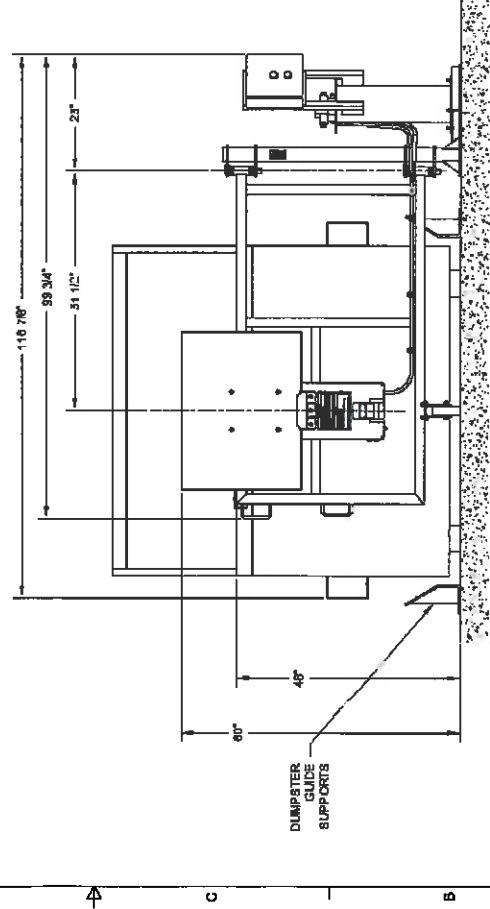
1. COMPATIBLE CONTAINERS:
ANSI Z245.80-1988 TYPE B (DOMESTIC TWO-BAY) CONTAINERS
2. LIFT CAPACITY: 500 lbs @ 1500 PSI
3. CYCLE TIME: 15 SECONDS @ 1.0 GPM
4. POWER UNIT: 5HP MOTOR
UNLISTED
1.8 GPM GEAR PUMP
4 GAL. OIL RESERVOIR
2500 PSI MAXIMUM PRESSURE
KEYED ON/OFF SWITCH
UP/DOWN SELECTOR SWITCH
5. ALL DIMENSIONS ARE APPROXIMATE
6. PART NUMBERS: 1920-0094 - 230V three-phase
1920-0093 - 460V three-phase



PLAN VIEW



RIGHT SIDE ELEVATION



FRONT ELEVATION

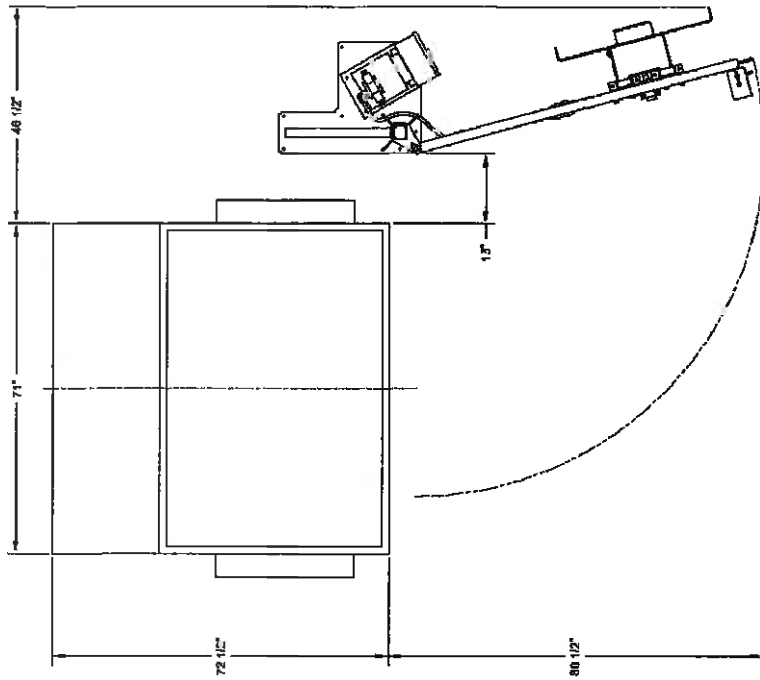
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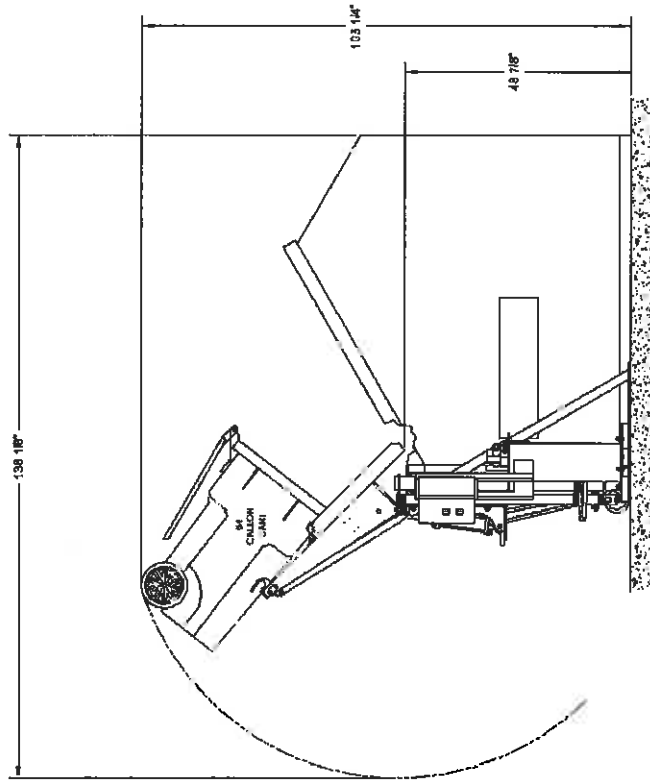
BAYNE MACHINE WORKS, INC.
910 YORKSHIRE ROAD - GREENVILLE, SC 29605 - 864.261.3077

TITLE
SM480 R.H. PIVOT FRAME UNIT - 230/460V

DATE	10/19/2011	SCALE	1:1B	SHEET	OF
DRAWN BY	CTT	CHECKED BY	DATE	DWG NO	REV
				Q15800200	-
QTY	FINISH	WEIGHT			



PLAN VIEW - OPENED



RIGHT SIDE ELEVATION - DUMPED

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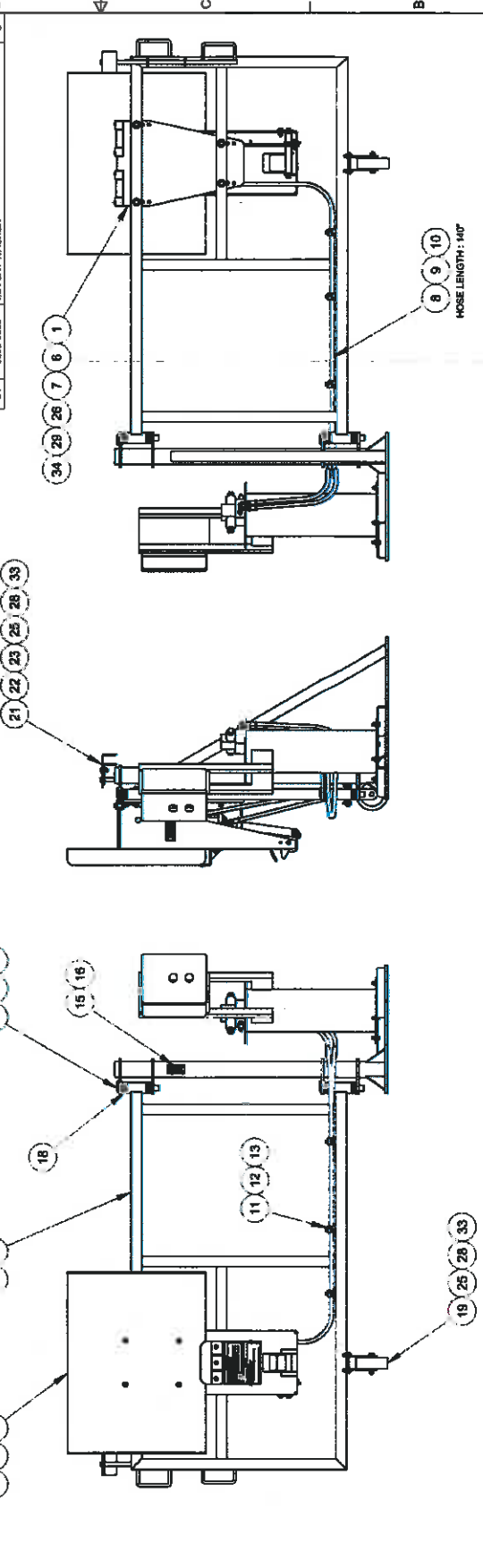
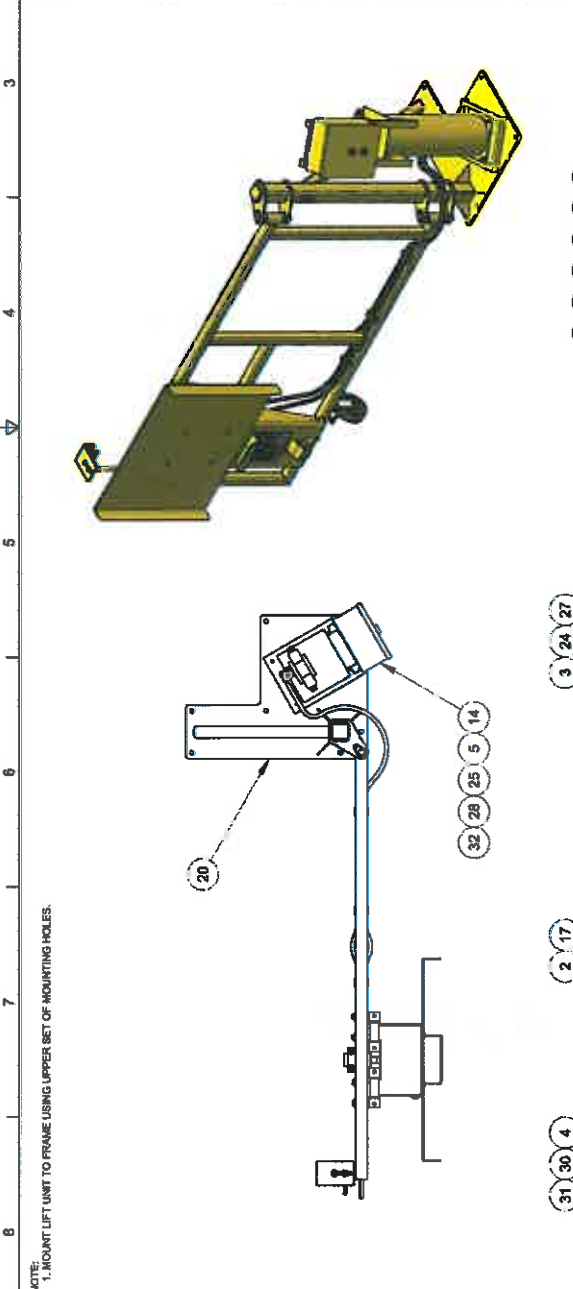
UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 LINEAR TOLERANCES:
 FRACTIONAL .0125
 TWO PLACE DECIMAL .010
 DECIMAL .005
 ANGULAR TOLERANCES:
 UNDIMENSIONED .03125
 DIMENSIONED .015625

BAYNE MACHINE WORKS, INC.
 910 FORK SHOALS ROAD - GREENVILLE, SC 29615 - 864.884.8177

TITLE: **SM480 R. H. PIVOT FRAME UNIT - 2301460V**

MATERIAL	DATE	SCALE	SHEET OF
CITY	10/19/2011	1:18	2
FINISH	DATE	DWG NO	REV
		Q5800200	-

ITEM	PART NO.	DESCRIPTION	QTY
1	1098-0180	1800 LIFTER ASSEMBLY	1
2	2065-1310	CYLINDER CONNECTOR BUSHING	4
3	4000-0021	FACEPLATE PIN WELDMENT	2
4	4000-0048	1800 EXTENDED CHUTE	1
5	8201-0008	STRAIGHT ADAPTER (1/4" MANTP x 3/8" M-JIC)	2
6	8201-0008	STRAIGHT ADAPTER (1/2" MANTP x 3/8" M-JIC)	2
7	8238-0008	90 DEGREE FITTING (3/8" M-JIC x 3/8" F-JIC)	2
8	8510-0008	1/2" WEATHERHEAD HYDRAULIC HOSE	200
9	8516-0008	HOSE END - 3/8 x STRAIGHT JIC	2
10	8516-0008	HOSE END - 3/8 x 90° JIC	2
11	8550-0010	TWIN COVER PLATE	3
12	8550-0012	TWIN CLAMP HEX BOLT	3
13	8550-0015	PLASTIC CLAMP - 5/8	6
14	8700-1005	POWER UNIT, 1.8 GPM, 200WAC	1
15	7500-0070	1800 CLUSTERAL INAKE PLATE	1
16	7500-0071	1710 ALUMINUM DRIVE PIVET	4
17	7500-3548	R.H. PIVOT FRAME WELDMENT	1
18	7500-3558	HINGE SHIM	36
19	7500-3568	9" RIGID CASTER	1
20	7500-3556	STAND WELDMENT R.H.	1
21	7500-3570	LOCK BAR WELDMENT	1
22	7500-3578	LOWER LOCK PLATE	1
23	7500-3578	UPPER LOCK PLATE	1
24	8001-0000	1/2" 28 ELASTIC LOCK NUT	2
25	8001-0000	1/2" 28 ELASTIC LOCK NUT	2
26	8001-0000	1/2-13 SELF LOCKING NUT	8
27	8001-0008	1/4-20 x 1 HEXCS	2
28	8001-0010	3/8-16 x 1-1/4 HEXCS	10
29	8001-0028	1/2-13 x 3-1/2 HEXCS	4
30	8001-0068	1-3/16 x 1 BRGCS	4
31	8001-0000	1-3/16 ELASTIC LOCK JAM NUT	4
32	8000-0000	5/16 FLAT WASHER	8
33	8000-0000	3/8 FLAT WASHER	11
34	8000-0000	1/2 FLAT WASHER	8



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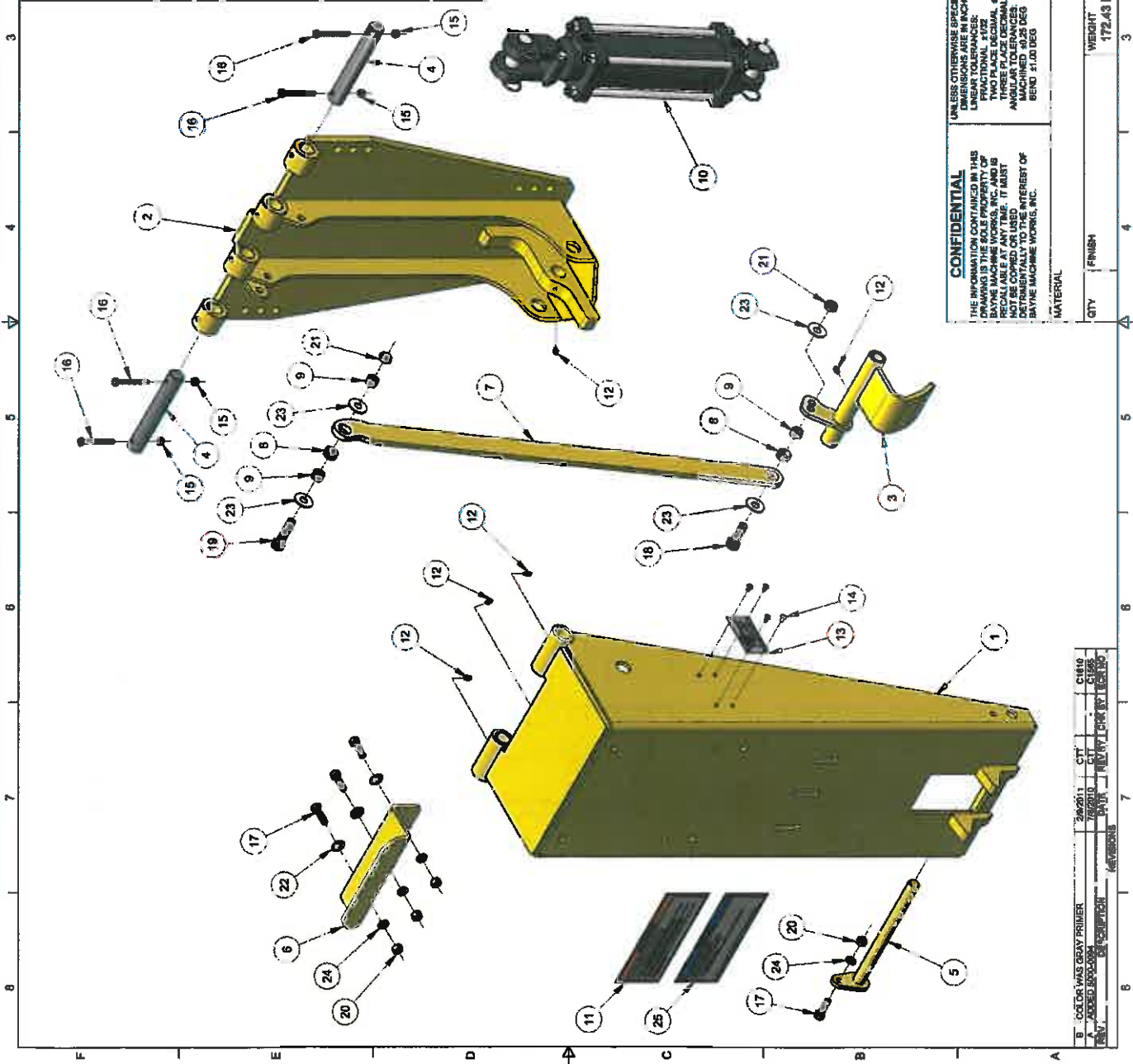
TITLE: **SM480 R.H. PIVOT FRAME UNIT - 230V**

DRAWN BY: CTT DATE: 10/20/2011 SCALE: 1:14 SHEET 1 OF 1

CHECKED BY: DATE: DWG NO: 1920-0094 REV: -

MATERIAL: QTY: FINISH: WEIGHT: 669.76 lbmass

ITEM	PART NO.	DESCRIPTION	QTY
1	4900-008	M480 FACEPLATE WELDMENT	1
2	4900-010	MAINFRAME WELDMENT	1
3	4900-020	HOOK WELDMENT	1
4	4900-025	FACEPLATE PIN	2
5	4900-028	HOOK PIN WELDMENT	1
6	4900-030	SADDLE WELDMENT	1
7	4900-038	M480 HOOK DRIVE	1
8	2603-1401	SLEEVE BUSHING - .75 ID, .86 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	7600-0071	3/16 ALUMINUM DRIVE RIVET	4
15	8901-0400	1/4-20 x 2-1/2 HHCS	4
16	9001-0610	3/8-16 x 1-1/4 HHCS	4
17	9001-0812	1/2-13 x 1-1/2 HHCS	4
18	9001-0818	1/2-13 x 2 HHCS	1
19	9401-0660	3/8-16 HEX NUT	4
20	9521-0800	1/2-13 ELASTIC LOCK JAM NUT	2
21	9600-0500	5/16 FLAT WASHER	3
22	9600-0700	7/16 FLAT WASHER	4
23	9700-0600	3/8 LOCK WASHER	4
24	9700-0600	3/8 LOCK WASHER	4
25	5000-0094	NOTICE LABEL	1



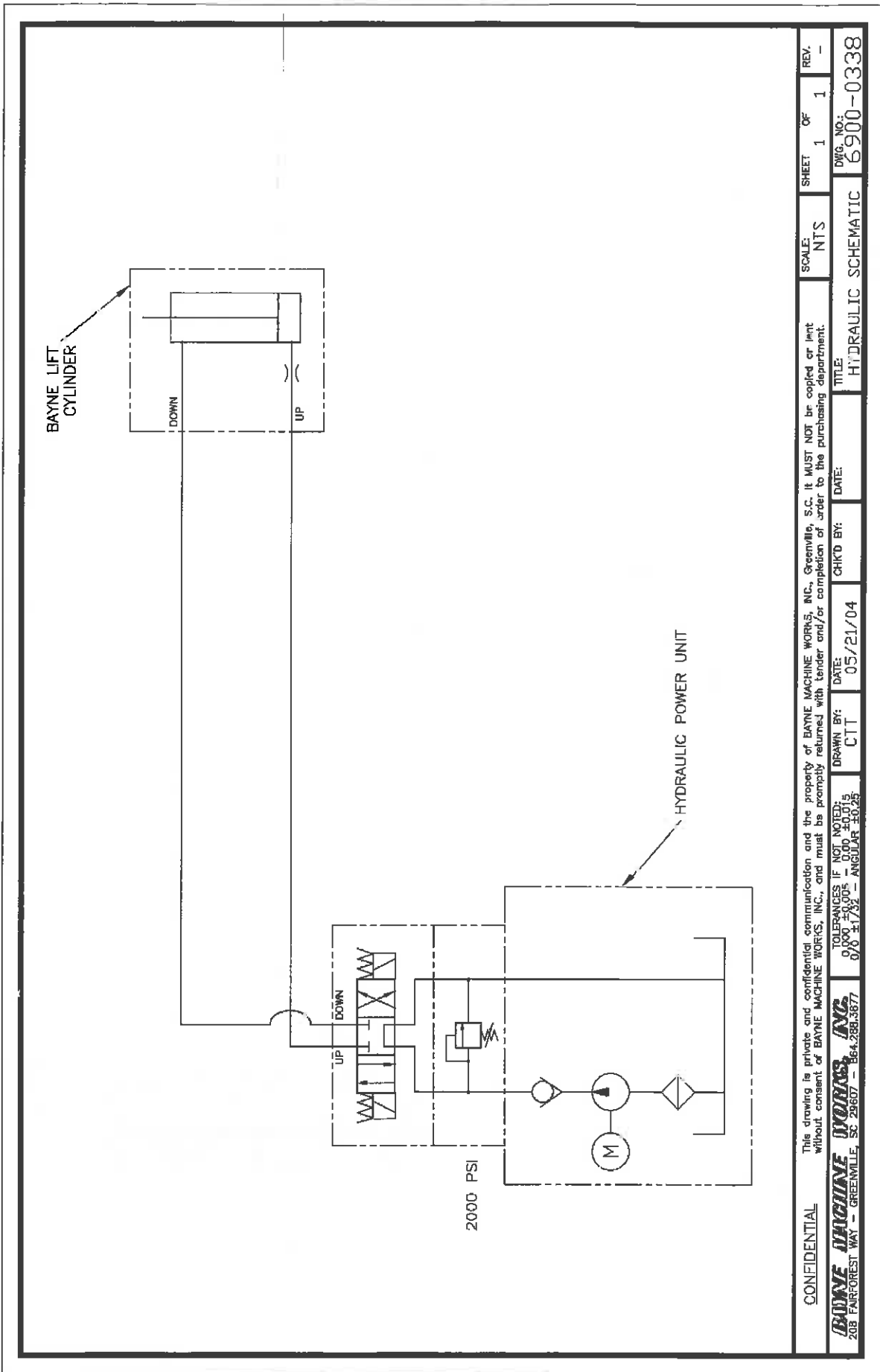
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 LINEAR TOLERANCES:
 FRACTIONS: ±.005
 DECIMALS: ±.005
 THREE PLACE DECIMAL: ±.005
 ANGULAR TOLERANCES:
 ±.005 DEG

BAYNE MACHINE WORKS, INC.
 910 FORK SHOALS ROAD • GREENVILLE, SC 29605 • 864.292.3577

TITLE: **M480 LIFTER ASSEMBLY**
 DRAWN BY: _____ DATE: 2/17/2009 SCALE: NONE SHEET OF 1
 CTT: _____ DATE: 2/17/2009 DWG NO: 1989-0480 REV B
 CHECKED BY: WTS DATE: 2/17/2009
 MATERIAL: _____ WEIGHT: 172.43 lbs/mass
 QTY: _____ FINISH: _____

DATE	BY	CHKD	APP'D
2/20/11	CTT	CH10	
02/20/11	WTS	CH10	
02/20/11	WTS	CH10	



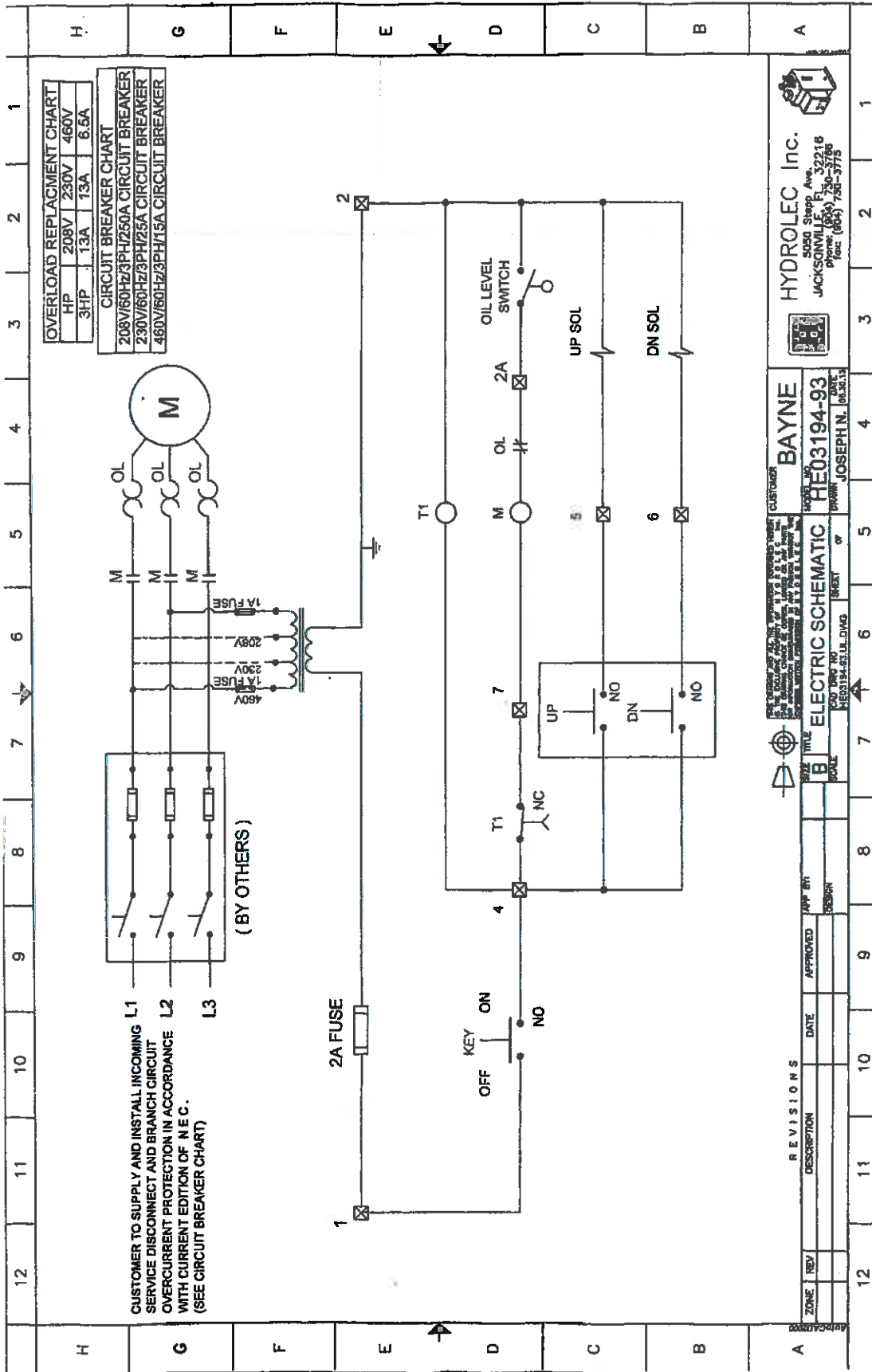
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	DRAWN BY: CTT DATE: 05/21/04 CHKD BY:		TITLE: HYDRAULIC SCHEMATIC DWG. NO.: 6900-0338

TOLERANCES IF NOT NOTED:
 0.000 ±0.005 - 0.00 ±0.015
 0/0 ±1/32 - ANGULAR ±0.25

BAYNE MACHINE WORKS, INC.
 208 PARFOREST WAY - GREENVILLE, SC 29607 - 864.286.3677

ELECTRICAL SCHEMATIC (WI-7106-A)

Bayne *THINLINE*[®] Premium Lift Systems



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