

PLAY IT SAFE!

INSTALLATION, OPERATION,
SERVICE, AND PARTS
MANUAL

FOR MARATHON
DEWATERING EXTRUDER COMPACTORS
(M-100, M-100PC, M-100FS, M-102, M-104)



Marathon Equipment Co. OMI Manual No. 0025 Rev. 1/04

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WHAT TO DO WHEN YOU NEED ASSISTANCE

Your compactor should give you reliable service for years to come. However, in the event you have problems, we will need the following information in order to serve you better:

COMPACTOR SERIAL NUMBER: _____

INSTALLATION DATE: _____

ELECTRICAL SCHEMATIC NUMBER: _____

When you need assistance you may contact your distributor:



D i s t r i b u t o r

For safety concerns or other information you may contact us at:

Marathon Equipment Company
P.O. Box 1798
Vernon, AL 35592-1798

1-800-633-8974

PRE-OPERATION INSTRUCTIONS

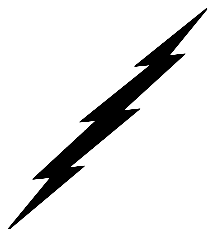


THE EMPLOYER SHOULD ALLOW ONLY AUTHORIZED AND TRAINED PERSONNEL TO OPERATE THIS COMPACTOR. THEREFORE, THIS COMPACTOR IS EQUIPPED WITH A KEY OPERATED LOCKING SYSTEM. THE KEY(S) SHOULD BE IN THE POSSESSION OF ONLY AUTHORIZED PERSONNEL.

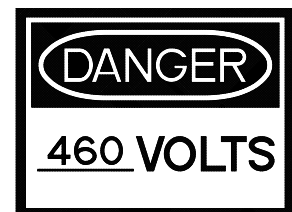


Never enter any part of the compactor unless the disconnect switch has been turned off and padlocked. Before starting the compactor, be sure no one is inside. Be certain that everyone is clear of all points of operation and pinch point areas before starting. See Lock-Out & Tag-Out instructions in the Maintenance section.

Do not remove access covers except for servicing. Only authorized service personnel should be allowed inside. All access doors on the compactor body should always be secured in place when the unit is operating. See Lock-Out & Tag-Out instructions in the Maintenance section.



The panel box contains high voltage components. Only authorized service personnel should be allowed inside. See Lock-Out & Tag-Out instructions in the Maintenance section.



M-100 CONTROL PANEL

Key Operated On/Off Power Switch - The key operated power switch provides controlled access to the operation of the machine. When the keyswitch is in the off position the machine will not operate. Only qualified operators should have a key.

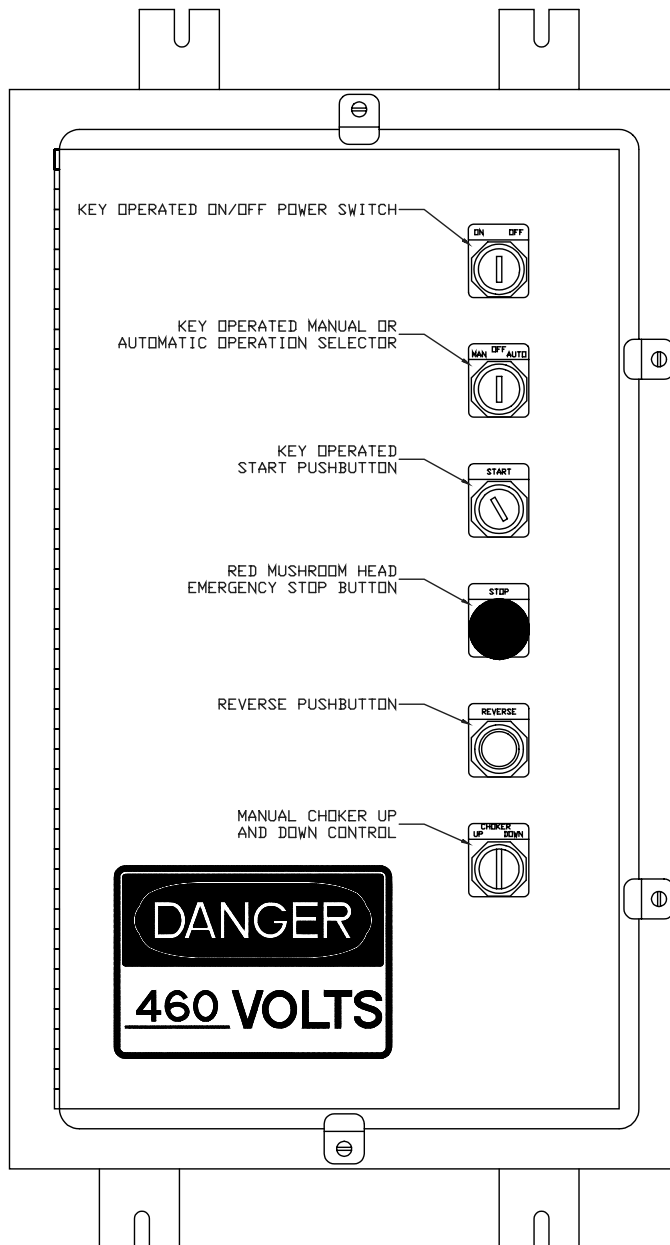
Keyed Man/Off/Auto Operation Selector - This switch is used to select the mode of operation. In automatic mode, the photo cell controls the operation of the machine. When the material blocks the path between the photo cell and the reflector, the machine will start and cycle until the path is cleared between the photo cell and the reflector. In manual mode, the machine responds only to the manual operation of the controls.

Keyed Start Pushbutton - When this button is depressed, it initiates a complete cycle of the machine. The ram will move forward until it reaches the forward proximity switch and then reverse until it reaches the rear proximity switch.

Emergency Stop Pushbutton - Pushing this button will immediately shut down the machine.

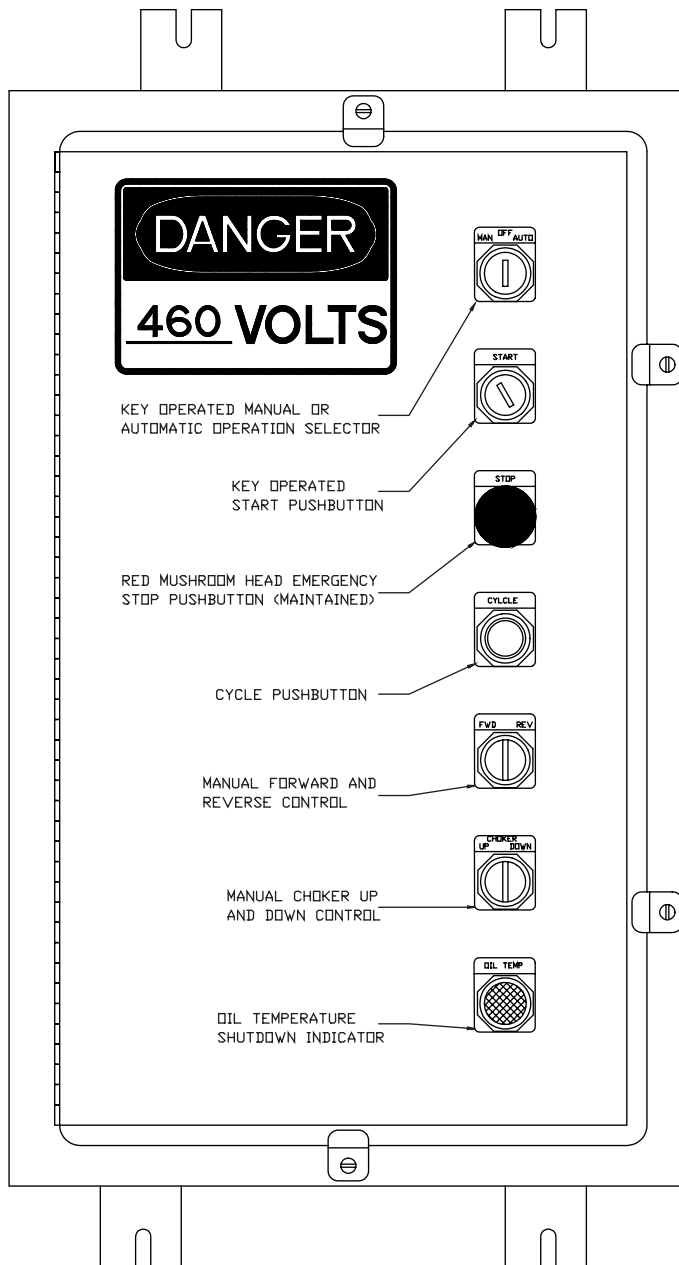
Reverse Pushbutton - Pushing this button while the ram is moving forward will cause the ram to reverse direction.

Choker Up/Down Control - This switch allows the operator to manually move the choker up and down.



M-102 CONTROL PANEL

Keyed Man/Off/Auto Operation Selector - This switch is used to select the mode of operation. In automatic mode, the photo cell controls the operation of the machine.



When the material blocks the path between the photo cell and the reflector, the machine will start and cycle until the path is cleared between the photo cell and the reflector. In manual mode, the machine responds only to the manual operation of the controls.

Keyed Start Pushbutton - When this button is depressed, it initiates a complete cycle of the machine. The ram will move forward until it reaches the forward proximity switch and then reverse until it reaches the rear proximity switch.

Emergency Stop Pushbutton - Pushing this button will immediately shut down the machine.

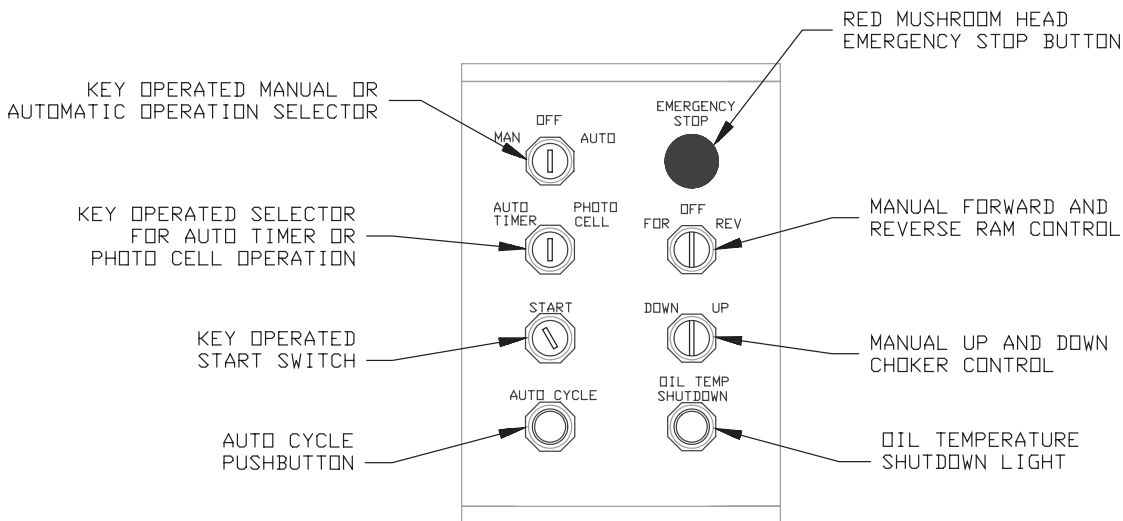
Cycle Pushbutton - Pushing the cycle pushbutton will cause the machine to make one complete cycle. The motor will start and the ram will move forward until it reaches the forward proximity switch. It will then reverse and travel back until it reaches the rear proximity switch.

Forward and Reverse Control - This switch allows the operator to manually control the forward and reverse movement of the ram. This button overrides the automatic operation of the machine and takes manual control.

Choker Up/Down Control - This switch allows the operator to manual move the choker up and down. This button overrides the automatic operation of the machine.

Oil Temperature Indicator - This light indicates an overtemp condition of the hydraulic fluid. It is reset by pushing on the lens.

M-104 CONTROL PANEL



Keyed Man/Off/Auto Operation Selector - This switch is used to select the mode of operation. In automatic mode, the Auto Timer/Photo Cell switch selects the Automatic mode of operation. When in AutoTimer, the Timer causes the machine to cycle at specific time intervals. When in the Photo Cell mode the material blocks the path between the photo cell and the reflector, the machine will start and cycle until the path is cleared between the photo cell and the reflector. In manual mode, the machine responds only to the manual operation of the controls.

Keyed Auto Timer/Photo Cell Operation Selector - (Optional) This switch is used to select Auto Timer or Photo Cell mode of automatic operation. It allows the operator to choose whether the auto timer or photo cell starts the cycle.

Key Start Pushbutton - When this button is depressed, it initiates a complete cycle of the machine. The ram will move forward until it reaches the forward proximity switch and then reverse until it reaches the rear proximity switch.

Auto-Cycle Pushbutton - Pushing the cycle pushbutton will cause the machine to make one complete cycle. The motor will start and the ram will move forward until it reaches the forward proximity switch. It will then reverse and travel back until it reaches the rear proximity switch.

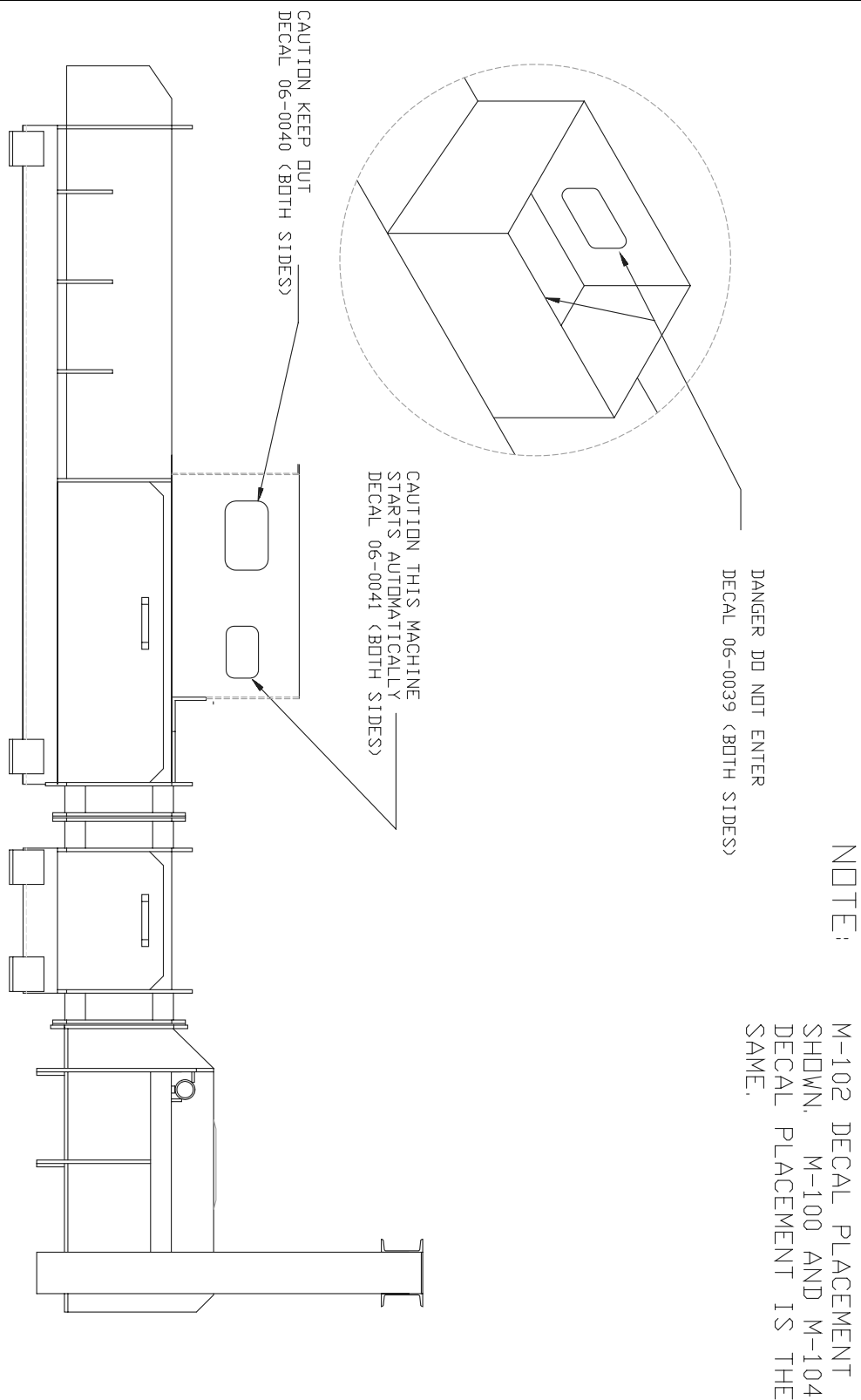
Emergency Stop Pushbutton - Pushing this button will immediately shut down the machine.

Forward and Reverse Control - This switch allows the operator to manually control the forward and reverse movement of the ram. This button overrides the automatic operation of the machine and takes manual control.

Choker Up/Down Control - This switch allows the operator to manually move the choker up and down.

Oil Temperature Indicator - This light indicates an overtemp condition of the hydraulic fluid. It is reset by pushing on the lens.

DECALS



LOCK-OUT & TAG-OUT INSTRUCTIONS

LOCK-OUT & TAG-OUT



Never enter any part of the compactor unless the power is off and the compactor is locked-out and tagged out in accordance with OSHA requirements.

Remove the key from the switch. Move the main disconnect lever to the off position, padlock it, and place, with the padlock, an appropriate warning tag such as:

Warning - do not energize without the permission of _____.

Before entering any part of the machine, be sure that all sources of energy have been disabled and all potential hazards have been minimized. If the ram is pressing against a load, move the ram rearward before shutting the machine down. Make sure that all hydraulic pressure in the system has been relieved by manually depressing the solenoid valve pin located in the center of the coil end of the valve.

See Lock-out and Tag-out instructions above.



The panel box contains high voltage components. Authorized service personnel should be allowed inside only after the machine has been locked out and tagged out. See Lock-out and Tag-out instructions above.

PERIODIC MAINTENANCE

MONTHLY

1. Check external hoses for chafing, rubbing, or other deterioration and damage.
2. Check for any obvious unsafe conditions.
3. Check oil level in hydraulic reservoir.

THREE MONTHS

1. Check functional operation of controls and options (stop button, timers, lights, etc.)
2. Check hydraulic cylinder, internal hoses, and connections for leakage; check hoses for chafing and wear.
3. Lubricate ram rear guidance system by applying general purpose grease at wear points.

Motor bearings should be lubricated once a year.

FILTER MAINTENANCE

1. The hydraulic filter should be cleaned at regular yearly intervals.
2. The filter may be removed from the unit by removing the four bolts retaining the cover plate to the reservoir, and lifting the filter from the reservoir. Check the wiring attached to the motor, it may have to be removed.
3. Care should be exercised in cleaning the filter to insure that the element is not torn. Clean the element with a soft brush and standard industrial solvent.
4. Replace the filter after cleaning and check fittings for tightness. Pump noise and a "crackle" sound is most often caused by air entering the pump suction line. Tightening the suction fittings will usually eliminate the problem.

RECOMMENDED OILS

- | | |
|-------------------------------------|------------------------------------|
| 1. Union - Unax-215, Unax-AW-215 | 6. Shell -Turbo 29, Tellus 29 |
| 2. Gulf - Harmony 47, Harmony 48-AW | 7. Phillips - Mangus 215 |
| 3. Standard - EP Hydraulic 15 | 8. Quaker State - Dextron II (ATF) |
| 4. Exxon - Teresstic 47, Nuto 48 | 9. Citgo - Pacemaker 46 |
| 5. Texaco - Rando 215 | 10. Amoco (Rycon) |

PROCEDURES

M-100 Pressure Setting Procedure:

Pressure Switch #1, Circuit #2	1500 PSI	(Shut Down)
Pressure Switch #1, Circuit #2	300 PSI	(Choker Down)
Pressure Switch #3	1200 PSI	(Choker Up)
Relief Valve (Packer)	1800 PSI	

The above pressure switches are located in "A" port of the DO-6 subplate (Packer). The relief valve is a cartridge type relief located in the DO-6 subplate.

Pressure Switch #2, Circuit #1	1000 PSI	(Choker Valve Center)
Pressure Switch #2, Circuit #2	400 PSI	(Choker Valve Center)
Sequence Valve	1350 PSI	(Choker Up Fast)
Choker Relief A Port	1800 PSI	
Choker Relief B Port	1800 PSI	

Pressure switch #2 is located in "A" port of the choker manifold block. The A & B port relief and the sequence valve is also located on the choker manifold block.

Setting Procedure

1. Remove the caps from the adjusting screws on pressure switch #1 and #3. Turn the adjusting screws CCW several turns.
2. Loosen the locknut on the packer relief and back off (CCW) several turns.
3. Use manual up switch and run choker all the way up.
4. Loosen the mounting nuts on the forward proximity switch (the one close to the charge box) and lower the switch from the mounting bracket.
5. Start unit up and allow the ram to bottom out in forward position.
6. Turn packer relief CW until the pressure gauge on the check valve reads 300 PSI.
7. Turn the adjusting screw on pressure switch #1 circuit #2 CW until the choker starts going down. (Allow choker to bottom out.)
8. Turn the packer relief CW until the pressure gauge reads 1200 PSI.
9. Turn the adjusting screw on pressure switch #3 CW until choker starts going up.
10. Turn the packer relief CCW until the pressure is below 1200 PSI. Turn the sequence valve CW all the way in.
11. Use the manual down switch and run the choker all the way down.
12. Turn the packer relief CW until the pressure gauge reads 1350 PSI.
NOTE: Choker should start going up at 1200 PSI.
13. Before choker gets all the way up, turn sequence valve (located on the choker manifold block) CCW until the speed at which the choker is going up increases.

PROCEDURES

14. Turn the packer relief CW until the pressure gauge reads 1500 PSI.
15. Turn adjusting screw on pressure switch #1 circuit #1 CW until the unit shuts down.
16. Loosen the top on pressure switch #1.
17. Set the packer relief at 1800 PSI.
18. Remount proximity switch, replace pressure switch top and caps (pressure switch 1 and 3) and tighten locknut on the packer relief and sequence valve.
19. Use the manual up switch and run choker all the way up.
20. Adjust P port relief to 1800 PSI. Turn the power disconnect off and lock out and tag out in accordance with OSHA requirements.
NOTE: See LockOut/TagOut Procedures in Section 2 of this manual.
21. Disconnect the red wire on pressure switch #2 circuit #1 from TB #17.
22. Put a jumper wire between TB #2 and TB # 18. Remove lock out/tag out and restore power to the machine.
23. Use the manual down switch and run the choker all the way down and hold.
24. Set choker A port relief at 400 PSI (use gauge on choker manifold).
25. Turn the adjusting screw on pressure switch #2 circuit #2 CW until relay 3 is energized.
26. Turn disconnect off and lock out and tag out in accordance with OSHA requirements. Remove the jumper wire and reconnect the red wire to TB # 17.
NOTE: See LockOut/TagOut Procedures in Section 2 of this manual.
27. Remove the lock out/tag out and restore power to the machine. Hold the choker in the down position with the down switch and set A port relief at 1000 PSI.
28. Turn adjusting screw on pressure switch #2 circuit #1 CW until relay 3 is energized.
29. Adjust A port relief to 1800 PSI.
30. Replace all pressure switch caps and tighten all locknuts on relief valves.

PROCEDURES

M-100 Precrusher Pressure Setting Procedure:

NOTE:

When setting ram pressure, precrusher gate should be in the up position.

1. Start machine using manual forward switch and adjust pressure to 500 PSI using the main relief cartridge. Then adjust pressure switch #1 circuit #2 until the indicator light on computer marked input #105 is illuminated.
2. Start machine using manual forward switch and adjust pressure to 1350 PSI using the main relief cartridge. Then adjust pressure switch #3 until indicator light on computer marked input #106 is illuminated.
3. Start machine using manual forward switch and adjust pressure to 1500 PSI using the main relief cartridge. Then adjust pressure switch #1 circuit #1 until indicator light on computer marked input #5 is illuminated. After step 3 adjust main relief to 1800 PSI.
4. Start machine using manual down (gate) switch and adjust pressure to 1500PSI using relief cartridge in precrusher manifold. Then adjust pressure switch #2 until indicator light on computer marked input #2 is illuminated. After step 4 adjust relief to 1700 PSI.
5. Start machine using manual down (choker) switch and adjust to 500 PSI using the relief cartridge on choker manifold. Then adjust pressure switch #4 until the indicator light on the computer marked input #101 is illuminated. After step 5 adjust relief pressure to 1800 PSI.

PROCEDURES

M-102 Pressure Setting Procedure:

Pressure Switch #1 Circuit #1	1900 PSI	Shutdown
Pressure Switch #1 Circuit #2	300 PSI	Choker Down
Pressure Switch #3	1300 PSI	Choker Up
Sequence Valve	1500 PSI	Choker Up Fast
Relief Valve (Packer)	2400 PSI	

The above pressure switches are located in “A” port of the packer subplate. The sequence valve is located between “A” port of the packer subplate and “B” port of the choker subplate. The relief valve is a cartridge type relief located on the packer subplate.

Pressure Switch #2 Circuit #1	1100 PSI	Choker Valve Center
Pressure Switch #2 Circuit #2	800 PSI	Choker Valve Center
Inline Relief (“A” Port Choker)	1900 PSI	
Relief Valve (Choker)	1900 PSI	

Pressure Switch #2 and the inline relief are located in “A” port of the choker subplate. The choker relief valve is a sandwich type valve located between the DO-1 directional valve and the DO-1 subplate.

Setting Procedure

1. Remove the caps from the adjusting screws on pressure switch #1 circuit #1 and #2 and pressure switch #3. Then turn the adjusting screws several turns CCW.
2. Loosen the locknut on the packer relief valve and back off (CCW) several turns.
3. Use the manual up switch and run the choker all the way up.
4. Loosen the mounting nuts on the forward proximity switch (the one close to the charge box) and lower the switch from the mounting bracket.
5. Start the unit up and allow the packing ram to bottom out in the forward position.
6. Turn the relief valve CW until the pressure gauge that is located on the check valve reads 300 PSI.
7. Turn the adjusting screw on pressure switch #1 circuit #2 CW until the choker starts going down.
8. Turn the relief valve CW until the pressure gauge reads 1300 PSI.
9. Turn the adjusting screw on pressure switch #3 CW until the choker starts going up.
10. Turn the relief valve CW until the pressure gauge reads 1500 PSI.
11. Press the stop switch.

PROCEDURES

12. Press start switch.
13. With manual down switch run the choker all the way down.
14. Turn the adjusting screw on the sequence valve CW all the way in.
15. Press the cycle switch; the choker will start going up.
16. Turn the adjusting screw on the sequence valve CCW until the speed at which the choker is going up increases.
17. Turn the relief valve CW until the pressure gauge reads 1900 PSI.
18. Turn the adjusting screw on pressure switch #1 circuit #1 CW until the unit shuts down.
19. Loosen the two screws holding the top down on pressure switch #1 and pull the top up so pressure switch can not be activated.
20. Turn the relief CW until pressure gauge reads 2400 PSI.
21. Press the stop switch.
22. Tighten the locknut on the packer relief and on the sequence valve.
23. Replace top on pressure switch #1; replace adjusting screw caps on pressure switch #1 circuit #1 and circuit #2 and pressure switch #3.
24. Turn off and lock out and tag out power disconnect in accordance with OSHA requirements.
NOTE: See LockOut/TagOut Procedures in Section 2 of this manual.
25. Put a jumper wire between TB #2 and TB #25.
26. Remove adjusting screw caps on pressure switch #2.
27. Use the pressure gauge on the DO-1 (small) subplate and the inline relief valve on "A" port of the small subplate.
NOTE: The sandwich relief on the DO-1 subplate must be adjusted above the pressure of the "A" port relief in order to set the next three pressures.
28. Turn the adjusting screws on pressure switch #2 circuit #1 and circuit #2 and the inline relief CCW several turns.
29. Remove the lock out/tag out and restore power to the machine. Use the manual up/down switch and run the choker down and hold, allowing the choker to operate at relief pressure.
30. Adjust pressure to 800 PSI with inline relief valve.
31. Turn adjusting screw on pressure switch #2 circuit #2 CW until relay 6 is energized.
32. Turn off and lock out and tag out power disconnect in accordance with OSHA requirements.
NOTE: See LockOut/TagOut Procedures in Section 2 of this manual.
33. Remove jumper wire from TB #2 and TB #25.
34. Remove the lock out/tag out and restore power to the machine. Restart unit and use the manual up/down switch and run the choker down and hold, allowing the choker to operate at relief pressure.

PROCEDURES

35. Adjust pressure to 1100 PSI.
36. Turn the adjusting screw on pressure switch #2 circuit #1 CW until relay 6 is energized.
37. Adjust the inline relief CW until pressure gauge reads 1900 PSI.
38. Tighten locknut on inline relief and replace caps on pressure switch #2.
39. Use manual up/down switch and run choker up until it bottoms out and hold.
40. Adjust the sandwich relief valve until pressure gauge reads 1900 PSI.
41. Tighten locknut on sandwich relief.
42. Pressures are now set to factory specifications.
43. Be sure all pressure switch tops and caps have been replaced and all locknuts have been tightened down.
44. Remount the forward proximity switch.

PROCEDURES

M-104 Pressure Setting Procedure:

Pressure Switch #1 Circuit #1	2100 PSI	Shutdown
Pressure Switch #1 Circuit #2	300 PSI	Choker Down
Sequence Valve	2300 PSI	Choker Down Fast
Relief Valve (Packer)	2500 PSI	

The above pressure switches are located in “A” port of the packer subplate. The sequence valve is located between “A” port of the packer subplate and “B” port of the choker subplate. The relief valve is a cartridge type relief located on the packer subplate.

Pressure Switch #2 Circuit #1	1100 PSI	Choker Valve Center
Pressure Switch #2 Circuit #2	400 PSI	Choker Valve Center
Inline Relief (“A” Port Choker)	2500 PSI	
Relief Valve (Choker)	2500 PSI	

Pressure Switch #2 and the inline relief are located in “A” port of the choker subplate. The choker relief valve is a sandwich type valve located between the DO-1 directional valve and the DO-1 subplate.

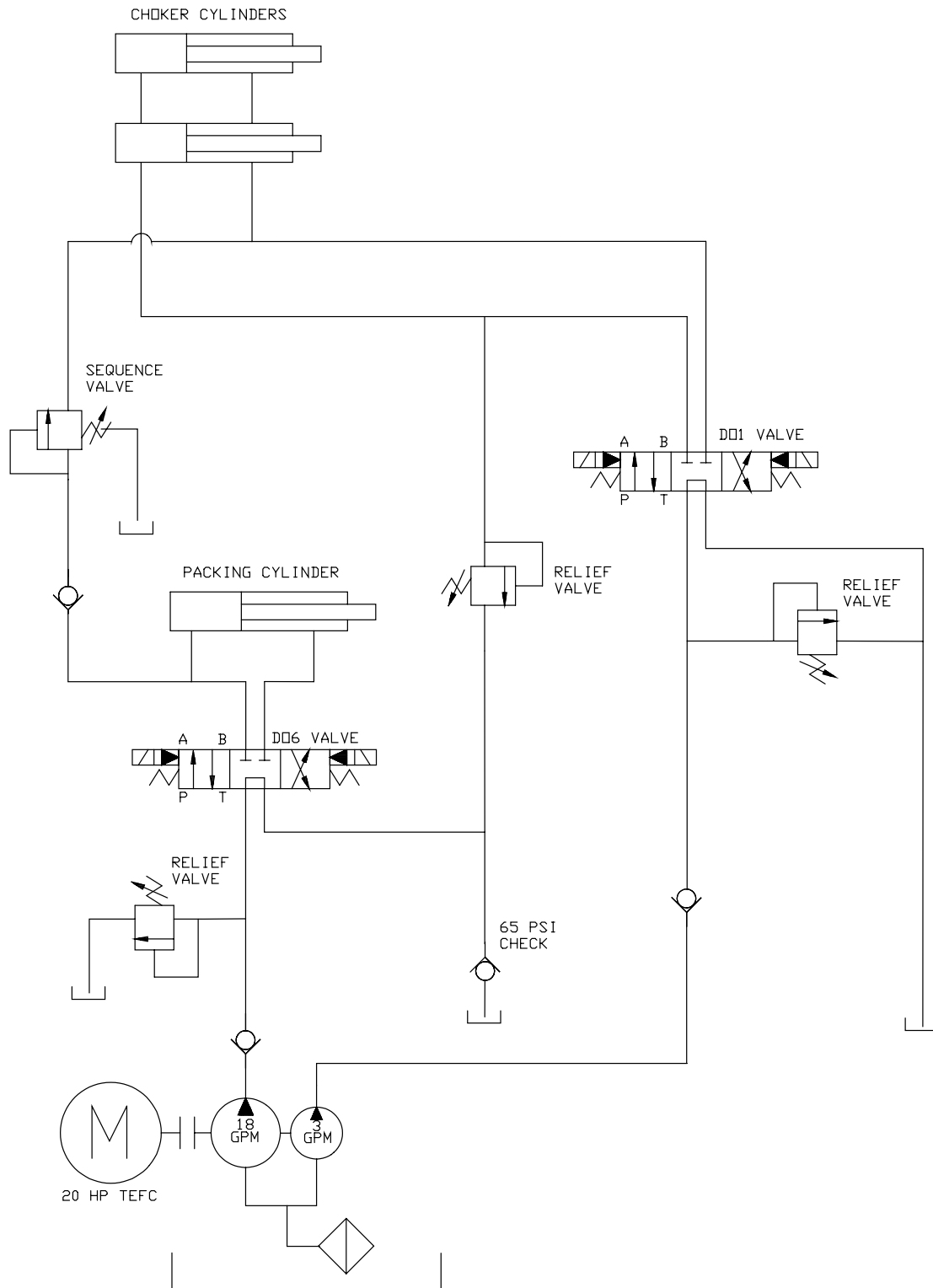
Setting Procedure

1. Remove the caps from the adjusting screws on pressure switch #1 circuit #1 and #2 . Then turn the adjusting screws several turns CCW.
2. Loosen the locknut on the packer relief valve and back off (CCW) several turns.
3. Use the manual up switch and run the choker all the way up.
4. Loosen the mounting nuts on the forward proximity switch (the one close to the charge box) and lower the switch from the mounting bracket.
5. Start the unit up and allow the packing ram to bottom out in the forward position.
6. Turn the relief valve CW until the pressure gauge that is located on the check valve reads 300 PSI.
7. Turn the adjusting screw on pressure switch #1 circuit #2 CW until input light 104 on the PLC comes on.
8. Turn the relief valve CW until the pressure gauge reads 2300 PSI.
9. Press the stop switch.
10. Press start switch.
11. With manual down switch run the choker all the way down.
12. Turn the adjusting screw on the sequence valve CW all the way in.
13. Press the cycle switch. The choker will start going up.
14. Turn the adjusting screw on the sequence valve CCW until the speed at which the choker is going up increases.
15. Turn the relief valve CCW until the pressure gauge reads 2100 PSI.

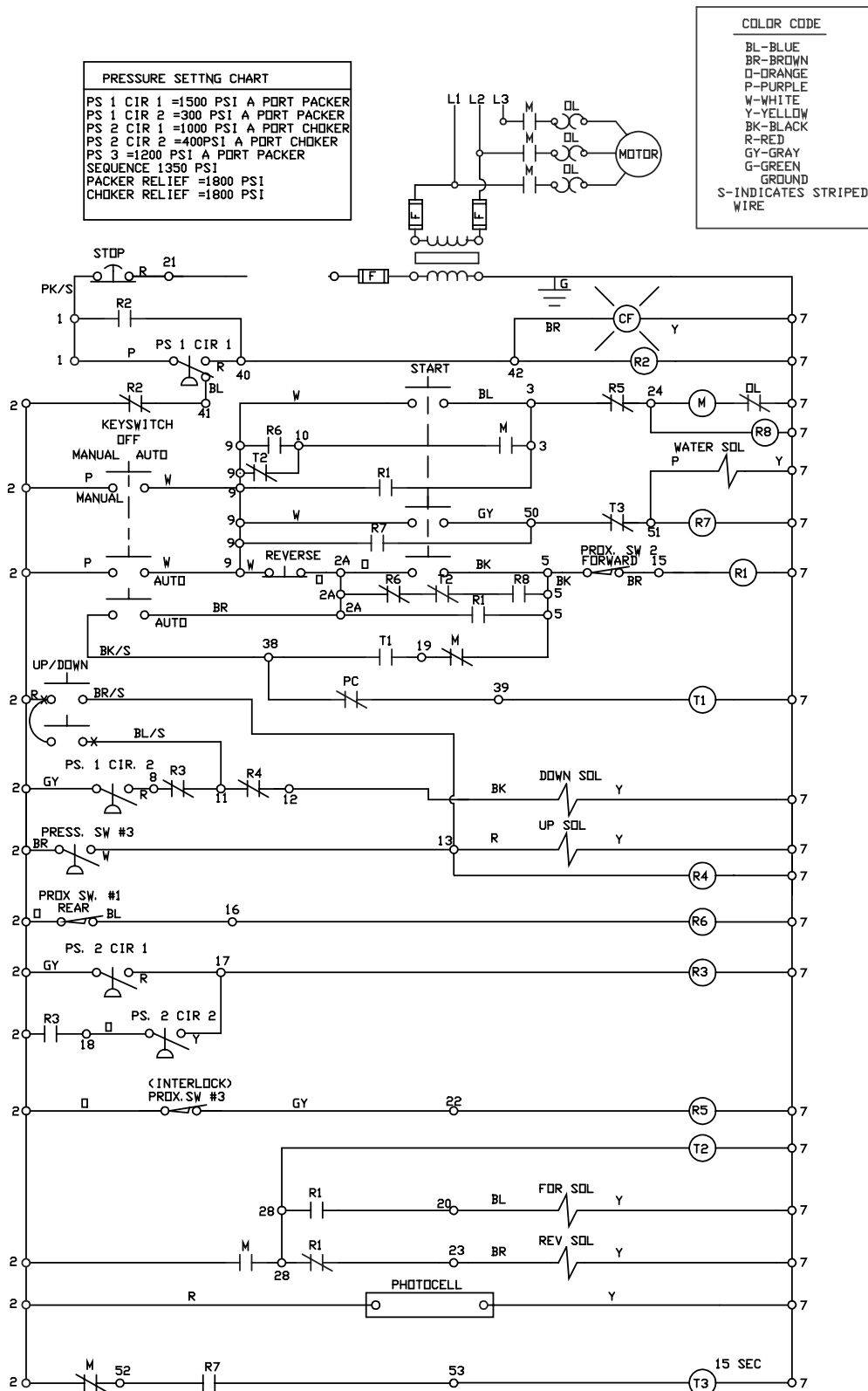
PROCEDURES

16. Turn the adjusting screw on pressure switch #1 circuit #1 CW until input light 103 on the PLC comes on.
17. Loosen the two screws holding the top down on pressure switch #1 and pull the top up so pressure switch can not be activated.
18. Turn the relief CW until pressure gauge reads 2500 PSI.
19. Press the stop switch.
20. Tighten the locknut on the packer relief and on the sequence valve.
21. Replace top on pressure switch #1; replace adjusting screw caps on pressure switch #1 circuit #1 and circuit #2.
22. Remove adjusting screw caps on pressure switch #2.
23. Use the pressure gauge on the DO-1 (small) subplate and the inline relief valve on "A" port of the small subplate.
NOTE: The sandwich relief on the DO-1 subplate must be adjusted above the pressure of the "A" port relief in order to set the next three pressures.
24. Turn the adjusting screws on pressure switch #2 circuit #1 and circuit #2 and the inline relief CCW several turns.
25. Use the manual up/down switch and run the choker down and hold, allowing the choker to operate at relief pressure.
26. Adjust pressure to 800 PSI with inline relief valve.
27. Turn adjusting screw on pressure switch #2 circuit #2 CW until input light 106 on the PLC comes on.
28. Restart unit and use the manual up/down switch and run the choker down and hold, allowing the choker to operate at relief pressure.
29. Adjust pressure to 1100 PSI.
30. Turn the adjusting screw on pressure switch #2 circuit #1 CW until input light 105 on the PLC comes on.
31. Adjust the inline relief CW until pressure gauge reads 2500 PSI.
32. Tighten locknut on inline relief and replace caps on pressure switch #2.
33. Use manual up/down switch and run choker up until it bottoms out and hold.
34. Adjust the sandwich relief valve until pressure gauge reads 2500 PSI.
35. Tighten locknut on sandwich relief.
36. Pressures are now set to factory specifications.
37. Be sure all pressure switch tops and caps have been replaced and all locknuts have been tightened down.
38. Remount the forward proximity switch.

HYDRAULIC SCHEMATIC E-241 FOR M-100 AND M-102



ELECTRICAL SCHEMATIC E-5103 FOR M-100

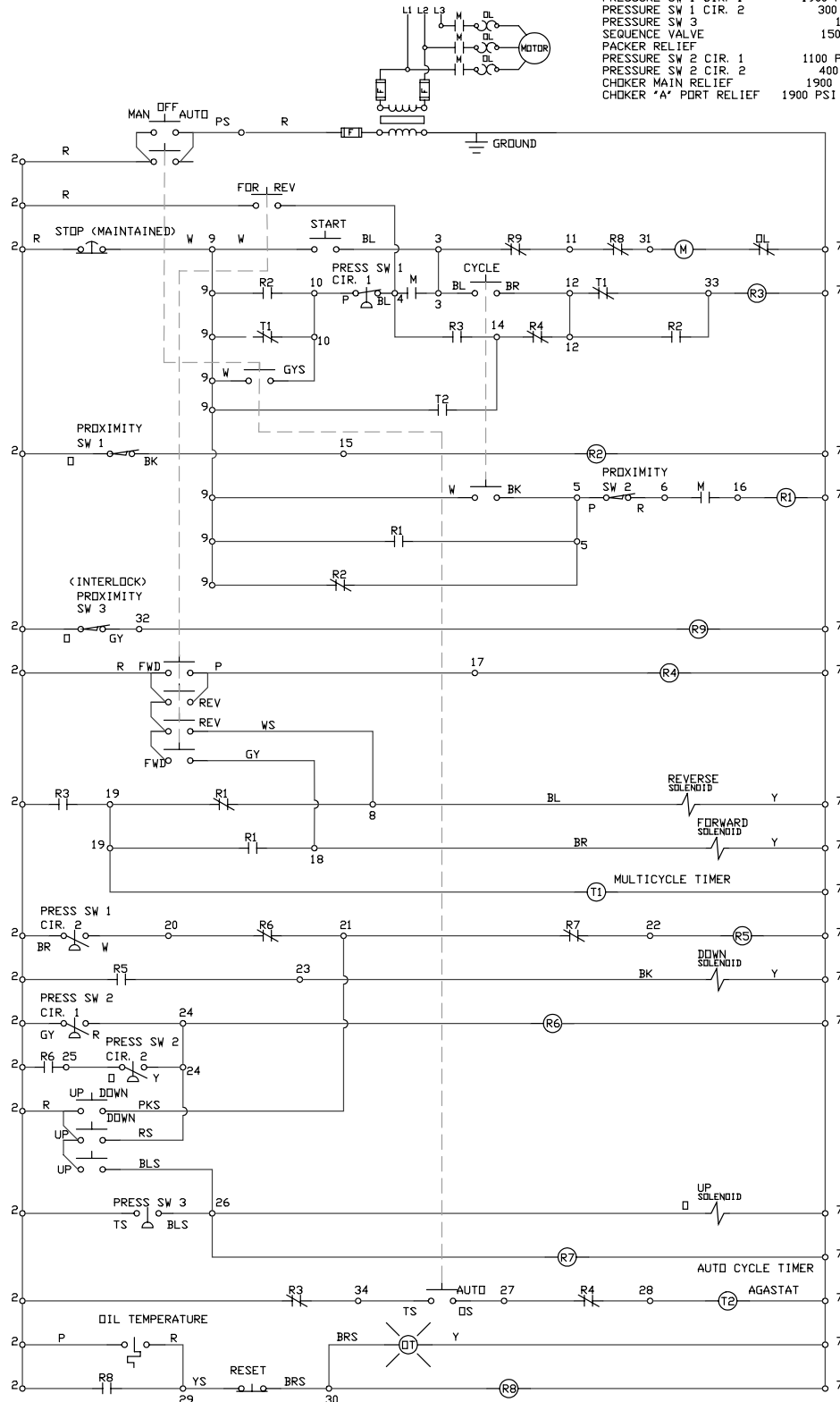


ELECTRICAL SCHEMATIC E-2299A FOR M-102

NOTES:

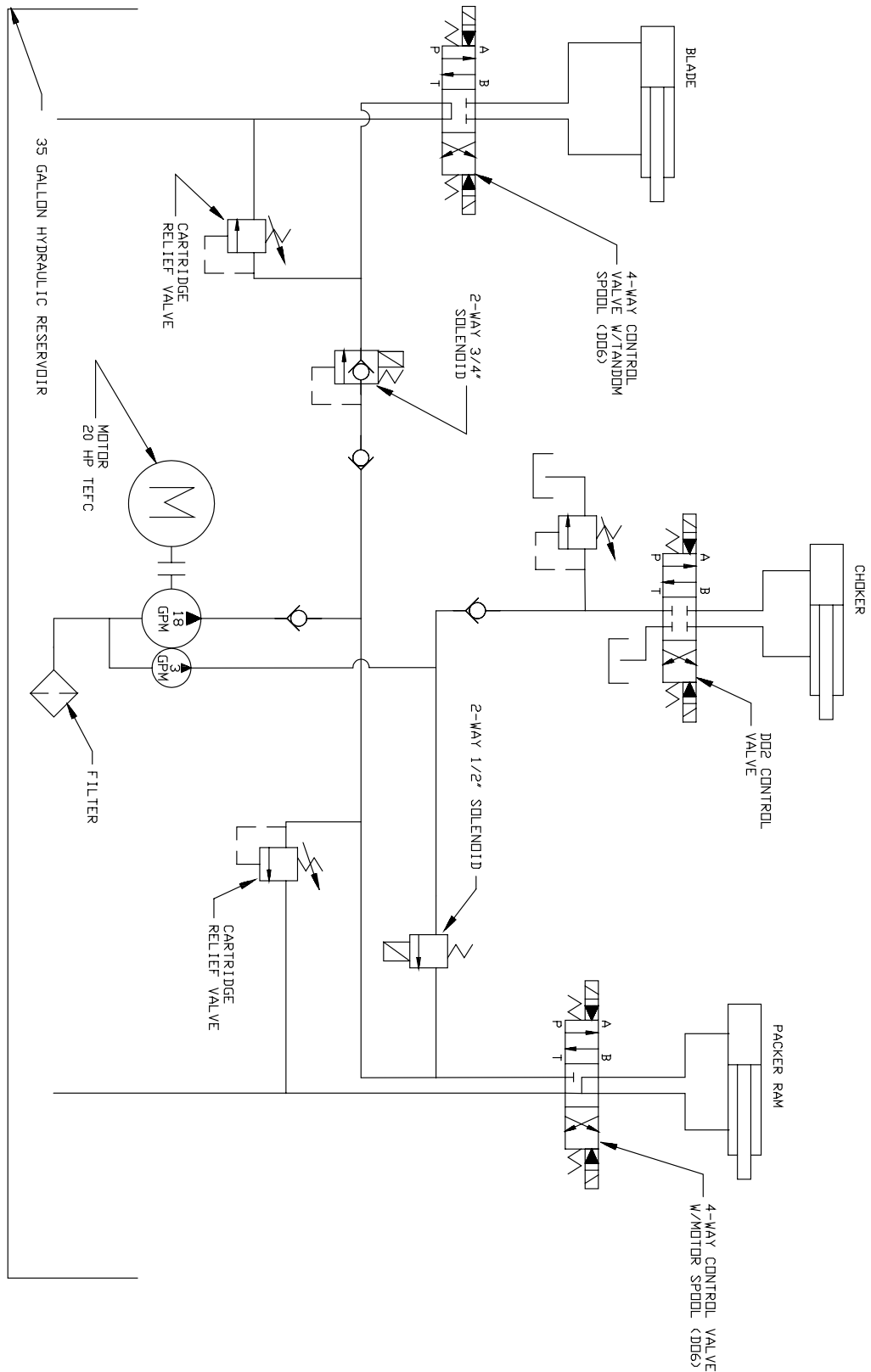
PRESSURE SETTINGS	
PRESSURE SW 1 CIR. 1	1900 PSI
PRESSURE SW 1 CIR. 2	300 PSI
PRESSURE SW 3	1300 PSI
SEQUENCE VALVE	1500 PSI
PACKER RELIEF	2400 PSI
PRESSURE SW 2 CIR. 1	1100 PSI
PRESSURE SW 2 CIR. 2	400 PSI
CHOKER MAIN RELIEF	1900 PSI
CHOKER 'A' PORT RELIEF	1900 PSI

COLOR CODE	
BL	BLUE
BR	BROWN
DR	ORANGE
P	PURPLE
W	WHITE
Y	YELLOW
BK	BLACK
R	RED
GY	GRAY
G	GREEN
GROUND	
S	INDICATES STRIPED WIRE

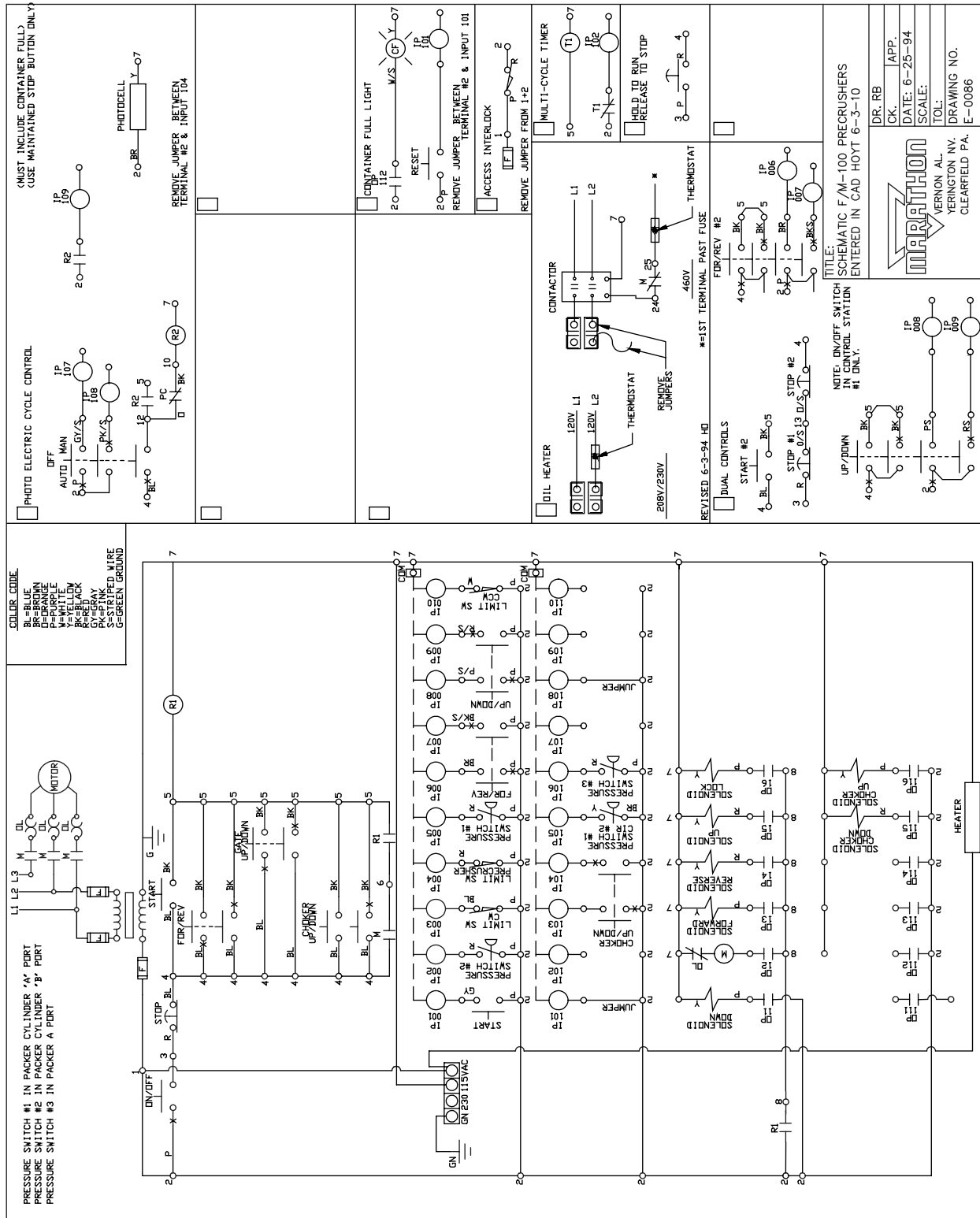


2 MAINTENANCE

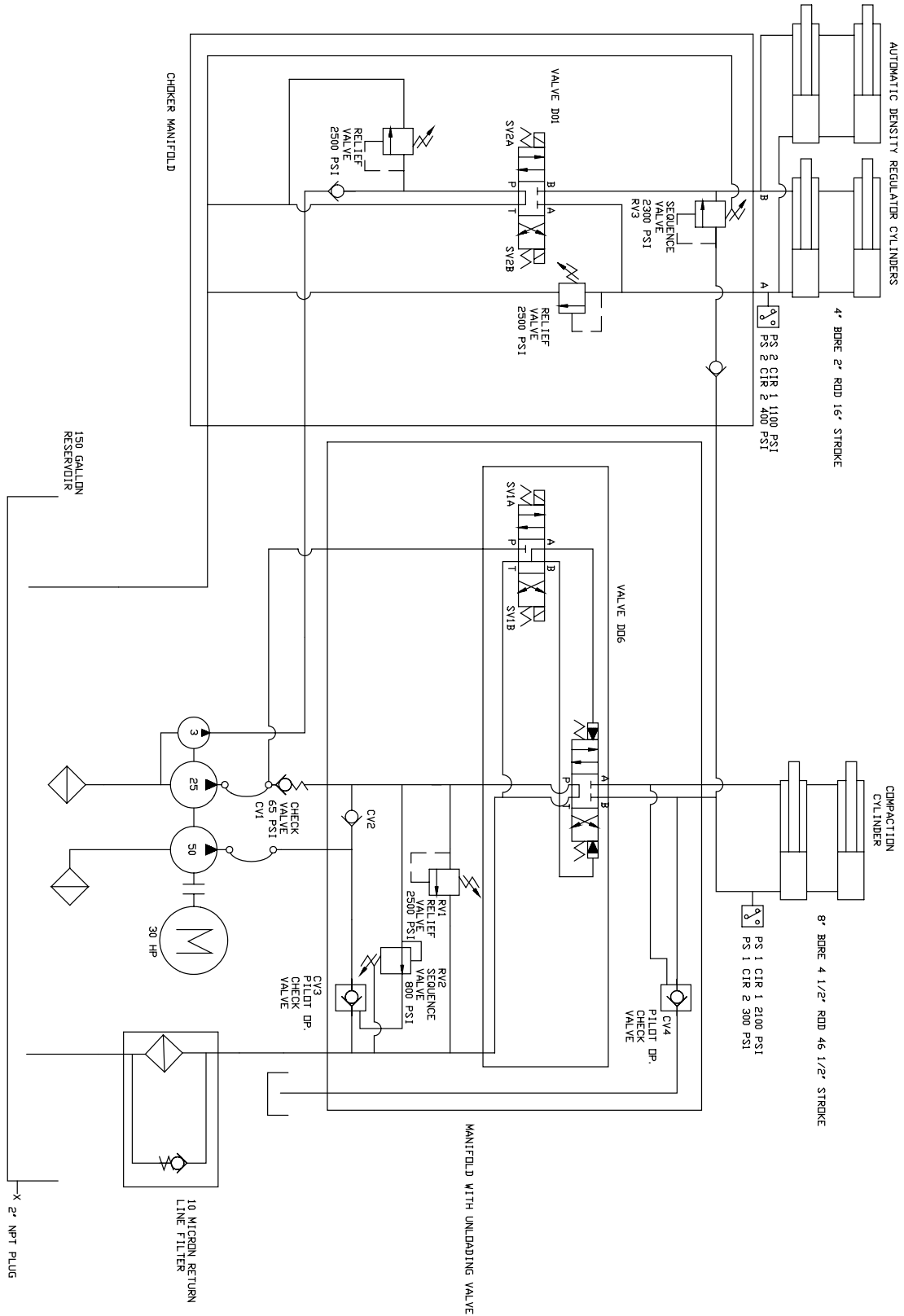
HYDRAULIC SCHEMATIC E-245 FOR M-100 PRECRUSHER



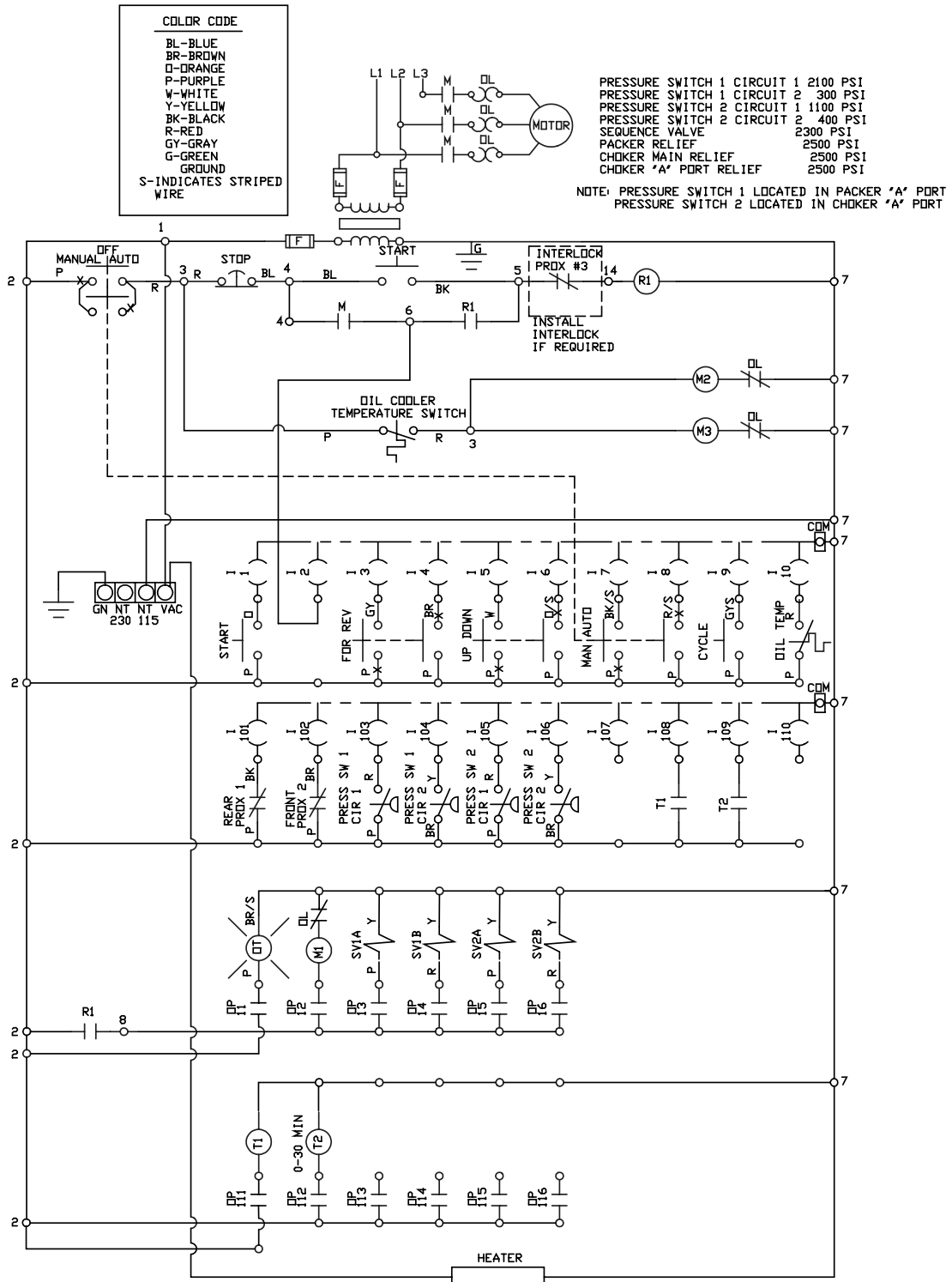
ELECTRICAL SCHEMATIC E-0086 FOR M-100 PRECRUSHER



HYDRAULIC SCHEMATIC E-272 FOR M-104



ELECTRICAL SCHEMATIC E-3600 FOR M-104



2 MAINTENANCE

DEWATERING EXTRUDER PARTS LIST

PART #	DESCRIPTION	M-100	M-102	M-104
02-0051	SUCTION FILTER, 15 HP, SEH-20-1 1/4 100W	X	X	
02-0053	PRESSURE GAUGE	X	X	
02-0184	VALVE, CHECK, 3/4"	X	X	
02-0197	BREATHER, 3/4"	X	X	
02-0214	VALVE, RELIEF, 20 GPM, CARTRIDGE	X	X	
02-0215	SIGHT GAUGE, 5"	X	X	X
02-0219	CLEAN OUT COVER	X	X	
02-0271	SUBPLATE DO6	X		
02-0397	ADAPTER, PUMP/MOTOR VLB-2-65-2A	X	X	
02-0398	HUB COUPLING 7/8-1/4, 1 5/8-3/8 M400	X	X	
02-0531	FILTER, 10 MICRON			X
02-0592	PUMP, 18/3 GPM, DUAL SECTION A FLANGE	X	X	
02-0619	PUMP, 75 GPM, VANE, 3 SECTION			X
02-0623	SUCTION FILTER, 2 1/2", 100 MESH			X
02-0625	VALVE, CHECK			X
02-0645	VALVE, RELIEF, 50 GPM, CARTRIDGE, RPGC-LAN			X
02-0646	VALVE, CHECK, 60 GPM, CARTRIDGE, CXHA-XAN			X
02-0647	BREATHER, 2", W/STRAINER			X
02-0661	MANIFOLD, 08, F/30 HP			X
02-0662	ADAPTER, PUMP TO MOTOR			X
02-0664	HUB COUPLING, 1 3/8-5/16 X 1 7/8-1/2 M500			X
02-0665	VALVE, 2 WAY, 120 GPM, CARTRIDGE			X
02-0666	VALVE, 3 WAY			X
02-0667	VALVE, 4 WAY, 08 T 3-POS			X
02-0668	SUCTION FILTER, 3", NPTF, 100 GPM			X
02-0691	VALVE, RELIEF, 3 GPM			X
02-0700	PRESSURE GAUGE, 0-5000 PSI			X
02-0923	QUICK DISCONNECT, 3/8 NPTF FEMALE	X	X	
02-0924	QUICK DISCONNECT, 3/8 NPTF MALE	X	X	
03-0013	PRESSURE SWITCH, SINGLE	X	X	
03-0014	PRESSURE SWITCH, DUAL	X	X	
03-0081	PUSHBUTTON, RED ILLUMINATED		X	
03-0139	SELECTOR, 3 POS, RETURN TO CENTER	X	X	X
03-0191	FUSE, 2 AMP CONTROL		X	
03-0195	PUSHBUTTON, KEYED			X
03-0196	PUSHBUTTON, RED, MUSHROOM HEAD	X		X
03-0197	PUSHBUTTON, BLACK, FLUSH HEAD	X		
03-0199	SELECTOR, 3POS, KEY MAINTAINED			X
03-0200	PUSHBUTTON, GREEN, FLUSH HEAD	X	X	X
03-0201	PUSHBUTTON, PUSH-PULL, RED, MUSHROOM		X	
03-0234	RELAY SPRING CLIP	X	X	X
03-0245	OIL TEMP CUT-OFF SWITCH		X	
03-0246	TIMER, AGASTAT 7012 AH		X	X
03-0256	RELAY BLOCK, 3 LINE	X	X	X
03-0269	SELECTOR, 2 POS, KEYED MAINTAINED	X		
03-0284	RELAY BASE	X	X	X
03-0288	TRANSFORMER, 150 VA, 208/230/460V	X	X	

2 MAINTENANCE

DEWATERING EXTRUDER PARTS LIST

PART #	DESCRIPTION	M-100	M-102	M-104
03-0293	TIMER, 1-1023 SEC, ON DELAY, SSAC	X	X	X
03-0294	TIMER BASE	X	X	X
03-0351	TIMER RETAINING CLIP	X	X	
03-0373	MOTOR STARTER, SIZE 3			X
03-0416	ENCLOSURE HEATER 200 WATT			X
03-0418	PLC AB SLC 100 EEPROM			X
03-0468	MOTOR STARTER, SIZE 1			X
03-0474	TRANSFORMER 300VA			X
03-0475	PLC AB SLC-150 PROCESSOR			X
03-0476	FUSE, 3 AMP, DUAL 1 1/4 BUSS			X
03-0484	MOTOR STARTER, SIZE 2, TYPE HP	X		
03-0488	FUSE, 1.5 AMP, 500V	X	X	
03-0529	FUSE 3 1/2 AMP			X
03-0543	PROXIMITY SWITCH, NOMRALLY CLOSED	X	X	X
03-0562	COMMANDER PUSHBUTTON, ILLUMINATED			X
04-0002	CYL 7" BORE, 4" ROD, 36 1/2" STROKE	X	X	
04-0105	CYL 4" BORE, 2" ROD, 16" STROKE	X	X	X
93-3222	CYL 8" BORE, 4 1/2" ROD, 46 1/2" STROKE			X
99-0186	MOTOR, 20HP, 230/460V, 256T TEFC	X	X	
99-0494	PUMP, BURKES, 320GA5			X
99-0509	VALVE, BALL, 1 1/2"			X
99-0582	VALVE, 4 WAY, O8 T 3-POS	X	X	
99-5016	MANIFOLD BLOCK, W/VALVES F/M102 (MCD 3239)	X	X	X
99-5056	MOTOR, 30 HP, 1760 RPM, 230/460V, 286TC TEFC			X
99-5271	FUSE 12 AMP, 600V DUAL			X
99-5662	TEMPERATURE CONTROL SWITCH F/COOLER			X
FOOD SERVICE OPTION				
PART #	DESCRIPTION	M-100		
96-3478	BASKET, 304 STAINLESS STEEL	X		
99-5282	SPRAY HEAD BALL FITTING	X		
99-5550	NOZZEL, H3/8U-6570 FLAT SPRAY, BRASS	X		
99-5204	SPRAY HEAD, DEFLECTOR TYPE	X		
03-0474	TRANSFORMER 300 VA	X		

2 MAINTENANCE

FUSE & CIRCUIT BREAKER CHART FOR MOTORS

MOTOR SIZE	VAC	FULL LOAD AMP.	DUAL ELEMENT FUSE MAX. SIZE	CIRCUIT BREAKER MAX. SIZE	SERVICE DISCONNECT AMP.
3 HP, 1 PH	208	18.7	30	45	30
	230	17.0	25	40	30
3 HP, 3 PH	208	10.6	15	20	30
	230	9.6	15	20	30
	460	4.8	10	15	30
	575	3.9	10	15	30
5 HP, 1 PH	208	30.8	50	80	60
	230	28.0	45	70	60
5 HP, 3 PH	208	16.7	30	40	30
	230	15.2	25	40	30
	460	7.6	15	20	30
	575	6.1	10	15	30
10 HP, 1 PH	208	55.0	100	125	100
	230	50.0	90	125	100
10 HP, 3 PH	208	30.8	50	80	60
	230	28.0	50	70	60
	460	14.0	25	35	30
	575	11.0	20	30	30
15 HP, 3 PH	208	46.2	80	110	60
	230	42.0	70	100	60
	460	21.0	40	50	30
	575	17.0	30	40	30
30 HP, 3 PH	208	88.0	150	225	200
	230	88.0	150	200	100
	460	40.0	70	100	60
	575	32.0	60	80	60

2 MAINTENANCE

WIRE SIZE CHART

THW Copper 75°C (165°F)				
MOTOR SIZE	VOLTAGE	LENGTH		
		TO 100'	TO 200'	TO 300'
3 HP, 1 PH	208	10	8	6
	230	10	8	6
3 HP, 3 PH	208	12	10	8
	230	12	10	8
	460	12	12	10
	575	12	12	12
5 HP, 1 PH	208	8	6	4
	230	8	6	4
5 HP, 3 PH	208	10	8	6
	230	10	8	6
	460	12	10	8
	575	12	12	10
10 HP, 1 PH	208	4	3	2
	230	4	3	2
10 HP, 3 PH	208	8	6	4
	230	8	6	4
	460	10	8	6
	575	12	10	8
15 HP, 3 PH	208	6	4	3
	230	6	4	3
	460	8	6	4
	575	10	8	6
30 HP, 3 PH	208	1	0	00
	230	2	1	0
	460	6	6	4
	575	8	8	6

2 MAINTENANCE

MOTOR STARTER & HEATER ELEMENT CHART

MOTOR SIZE	VOLTAGE	STARTER SIZE	HEATER ELEMENT	
			A-B	JOSLYN CLARK
3 HP, 1 PH	230	1	W-57	2447
3 HP, 3 PH	208	1	W-50	2443
	230	1	W-49	2442
	460	1	W-43	2434
	575	0	W-41	2432
5 HP, 1 PH	230	2	W-61	2451
5 HP, 3 PH	208	1	W-55	2446
	230	1	W-53	2445
	460	1	W-46	2436
	575	0	W-46	2432
10 HP, 1 PH	230	3	W-68	NA
10 HP, 3 PH	208	2	W-64	2455
	230	2	W-63	2454
	460	1	W-55	2447
	575	1	W-51	2444
15 HP, 3 PH	208	3	W-68	NA
	230	2	W-67	2460
	460	2	W-60	2452
	575	2	W-57	2448
30 HP, 3 PH	208	3	W-75	NA
	230	3	W-74	NA
	460	3	W-65	NA
	575	3	W-64	NA

CONCRETE PAD REQUIREMENTS

CAUTION:

REVIEW THIS MANUAL BEFORE MAKING THE INSTALLATION. STUDY THE JOBSITE AND INSTALLATION REQUIREMENTS CAREFULLY TO BE CERTAIN ALL NECESSARY SAFEGUARDS AND OR SAFETY DEVICES ARE PROVIDED TO PROTECT ALL PERSONNEL AND EQUIPMENT DURING THE INSTALLATION AND AS A COMPLETED SYSTEM. SPECIAL ATTENTION IS DIRECTED TO THE EXTRACT FROM AMERICAN NATIONAL STANDARDS INSTITUTE Z245.1 (GREEN BOOKLET, INSIDE ENVELOPE.) [THIS EXTRACT IS APPLICABLE TO STATIONARY COMPACTORS ONLY.]

These operating instructions are not intended as a substitute for training and experience in proper use and safety procedures in operating this equipment.

Marathon does not assume responsibility for the installation procedures of this equipment. Conformance to applicable local, state, and federal laws concerning installation rests with the customer.

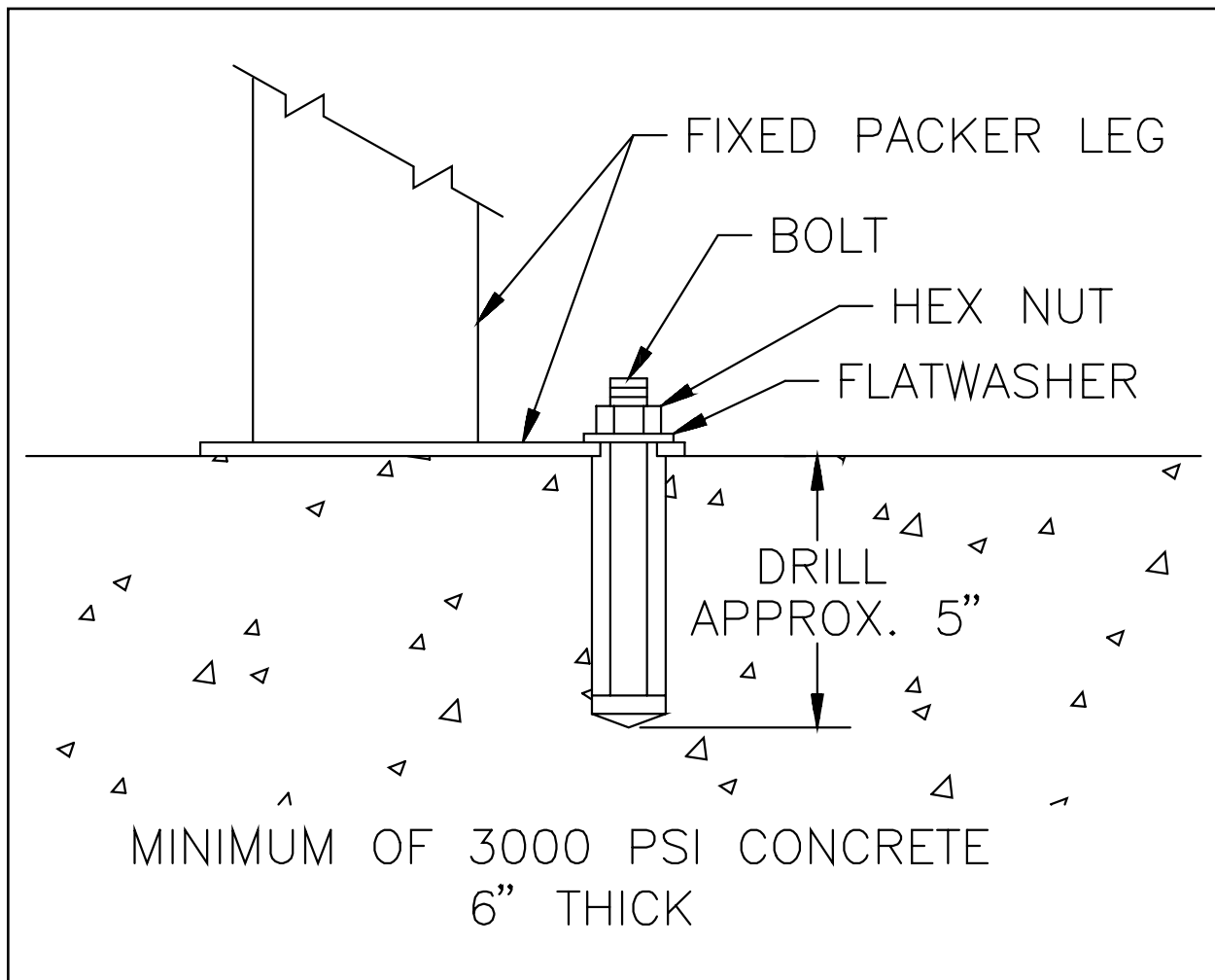
CONCRETE PAD

1. Preferred dimensions of the concrete pad are 10'0" wide and a length of 5'0" greater than combined length of compactor and receiver container. It should be of minimum 3,000 PSI concrete steel reinforced, 6" thick. For good housekeeping practices, it is recommended a drain beneath the area of the charge box be incorporated in the pad connecting to a sanitary sewer. It is preferred that the concrete pad be flush with the surrounding ground level. If it must be raised above surrounding ground level, pad at end opposite packer should be tapered to ground level.
2. To provide accessibility, concrete pad should be positioned to allow 2'0" between container and building wall if installed parallel with building. Allow a minimum of 45' of clear space from container-end of pad for container handling vehicle.

3 INSTALLATION

ANCHORING

1. The compactor should be anchored to the concrete pad using four (4) 3/4" X 6" (minimum) anchor bolts. These bolts can be secured to the concrete pad using special concrete anchors or expansion type anchor bolts. To allow for construction variations, it is best if these holes are drilled in the concrete after prelocating the compactor in its desired location. When the compactor has been placed in position, leveled (using metal shims), and the anchor bolts have set, tighten all nuts securely.

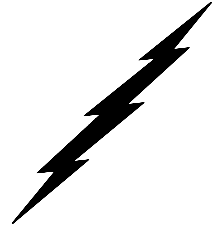


2. The container guide (optional) should be anchored in an identical manner, spacing between the guides is determined by the rail spacing of the container.

ELECTRICAL & HYDRAULIC INSTALLATION



The panel Box contains high voltage components. Only authorized service personnel should be allowed inside. See Lock-Out & Tag-Out instructions in the maintenance section.



A lockable fused disconnect switch (customer furnished) must be installed and be within sight of the compactor's electrical panel box location, not to exceed 50'0" from the compactor. This fused disconnect switch should be sized in accordance with the compactor (see Fuse and Circuit Breaker Chart).

CAUTION: All equipment should be grounded per National Electric Code.

REMOTE POWER PACK INSTALLATION

1. If a remote power pack is furnished (optional), it should be installed and anchored as required by the customer. If push buttons are mounted in the face of the panel box, be certain these controls are located as to be in a convenient, but not hazardous, location to the customer.
2. Connect the hydraulic hoses to the power pack, exercising care to follow the port decals (A or B) on the packer and the power pack. In the event the decals have been obliterated call the Marathon Service Department at 1-800-633-8974 for installation instructions.
3. The limit switch is connected to the remote power pack with Sealtite. To install, bolt the limit switch to the inside of the packer body (holes are pre-drilled) and adjust the arm. Other packer mounted electrical options are color coded and referenced to the electrical schematic inside the electrical panel box. Be certain wires are properly connected. (Check local codes to be certain Sealtite is acceptable.)

ELECTRICAL & HYDRAULIC INSTALLATION

PUSHBUTTON CONTROL STATION

If a remote push button station is furnished, it will be factory wired using Sealtite. If, in order to install this pushbutton station inside a building, it is necessary to disconnect it from the wires, exercise care that these wires are reconnected as originally furnished. (Check local codes to be certain that Sealtite is acceptable.)

CAUTION: Controls must be located so that the Mushroom (Emergency) Stop Button is readily accessible to the operator and within three (3) feet of the charging chamber access door. If installation requires this push button control station to be located in a more remote area, a second Emergency Stop Button should be added and installed in the manner described above.

ELECTRICAL CONNECTIONS

1. Run power lines between fused disconnect switch (customer furnished) and compactor's electrical panel box, in accordance with local electrical codes, using knock-outs in bottom of panel box. See Fuse & Circuit Breaker Chart for Motors and Wire Size Chart, in the Maintenance Section, to determine the proper service disconnect amperage rating and the proper wire size.

NOTE: High legs should be installed to L3 on motor starter.

2. Check voltage at fused disconnect switch to be certain it is the same as is shown on compactor or remote power pack. If voltage is correct, put fused disconnect switch in "ON" position.

START-UP INSTRUCTIONS

1. With the ram fully retracted, check to be sure the oil reservoir is full to the 3/4 level on the sight gauge (Refer to the maintenance chart for hydraulic oil recommendations). The hydraulic system pressure has been factory set and the entire unit has been operated prior to shipment.

2. **CAUTION: MAKE SURE PERSONS AND MATERIAL ARE CLEAR OF CHARGE BOX AREA.**

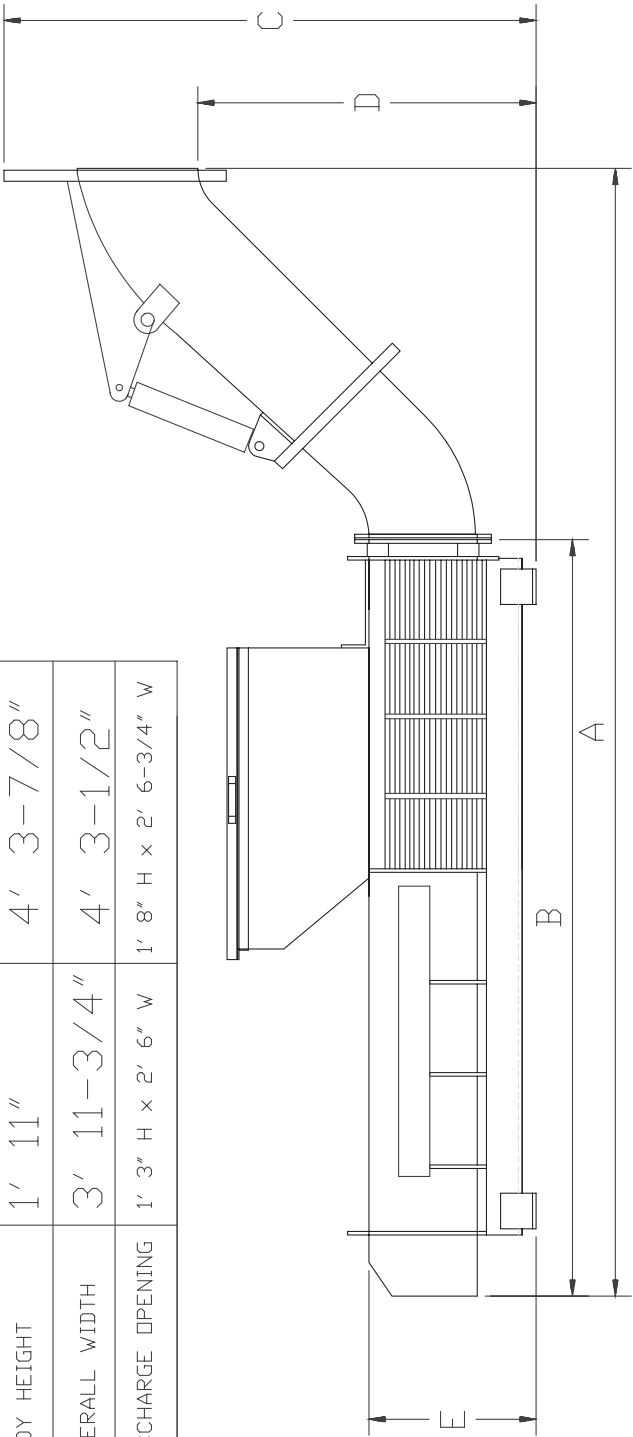
3. Depress the start button and check the pump shaft for proper rotation.

CAUTION: If the pump rotates backward, stop immediately. The pump will be damaged if it is operated in reverse even for short periods. Reversing any two incoming power lines will change the motor/pump rotation.

4. Make sure that the operators are trained in the proper use of this equipment.

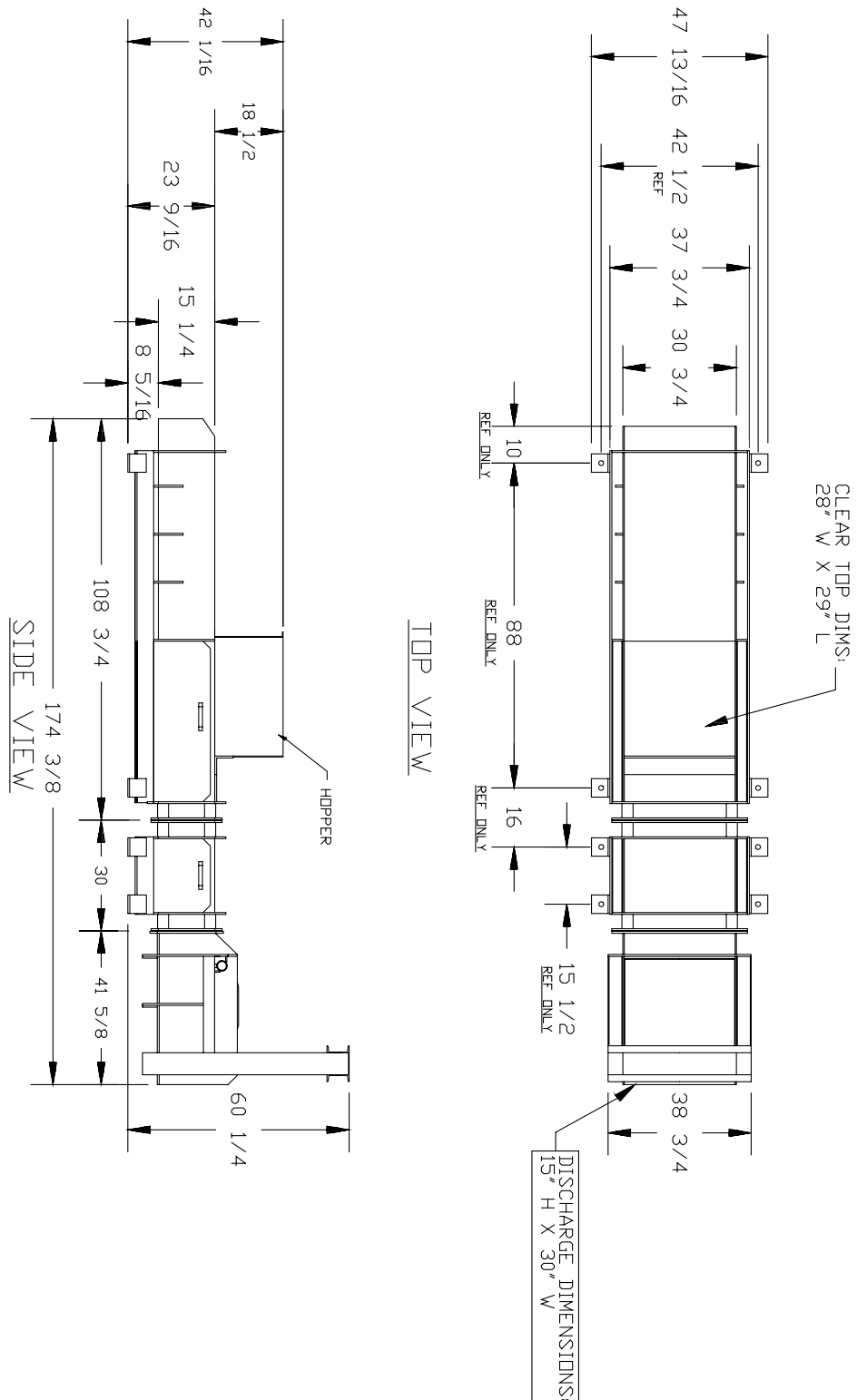
M - 100 DIMENSIONAL DRAWING

		M-100	M-100FS
A	OVERALL LENGTH	12' 4"	14' 5-1/2"
B	BODY LENGTH	8' 10-5/8"	8' 10-5/8"
C	OVERALL HEIGHT	6' 8-1/4"	7' 6-5/8"
D	DISCHARGE HEIGHT	3' 11-1/2"	4' 5-3/4"
E	BODY HEIGHT	1' 11"	4' 3-7/8"
	OVERALL WIDTH	3' 11-3/4"	4' 3-1/2"
	DISCHARGE OPENING	1' 3" H x 2' 6" W	1' 8" H x 2' 6-3/4" W



3 INSTALLATION

M - 102 DIMENSIONAL DRAWING



M - 104 DIMENSIONAL DRAWING

