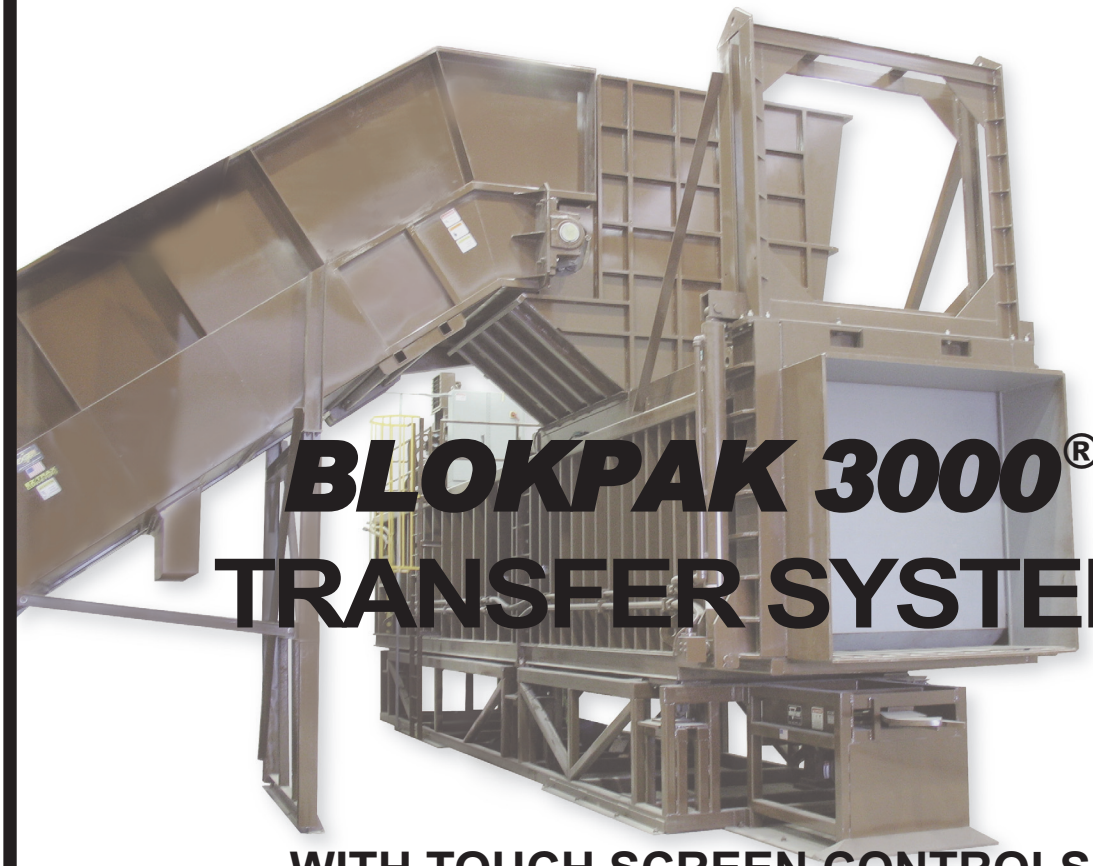
OPERATION, MAINTENANCE, AND INSTALLATION MANUAL



BLOKPAK 3000®
TRANSFER SYSTEM

WITH TOUCH SCREEN CONTROLS

MARATHON®

VERNON, AL
1-800-633-8974

Marathon Equipment Co. OMI Manual No. 0057, Revised 08/08

CONTENTS

1 OPERATION

PRE-OPERATING INSTRUCTIONS

WARNING! DO NOT OPERATE COMPACTOR AND CONVEYOR UNTIL ALL OPERATING INSTRUCTIONS ARE READ AND THOROUGHLY UNDERSTOOD.

STAY CLEAR OF ALL INTERNAL PARTS OF THE COMPACTOR DURING OPERATION. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH!

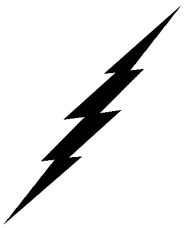
NEVER ENTER <u>ANY PART</u> OF THE COMPACTOR OR CONVEYOR UNLESS THE DISCONNECT SWITCH HAS BEEN LOCKED-OUT AND TAGGED-OUT. See Lock-Out & Tag-Out instructions in the Maintenance section. Before starting the compactor or conveyor, be sure no one is inside. Be certain that everyone is clear of all points of operation and pinch point areas before starting.

THE EMPLOYER SHOULD ALLOW ONLY AUTHORIZED AND TRAINED PERSONNEL TO OPERATE THIS COMPACTOR AND CONVEYOR. This system is equipped with a key operated locking system. The key(s) should be in the possession of only authorized personnel.

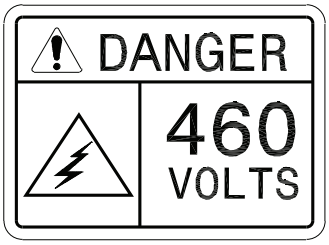
Federal regulation prohibits operation by persons under 18 years of age.

DO NOT REMOVE ACCESS COVERS EXCEPT FOR SERVICING. Only authorized service personnel should be allowed inside. All access doors or covers on the compactor body and conveyor should always be secured in place when the unit is operating. **See Lock-Out & Tag-Out instructions in the Maintenance section.**

Before operating the compactor and conveyor, make sure that the receiver trailer is properly staged, chocked and that the truck and trailer brakes are set.

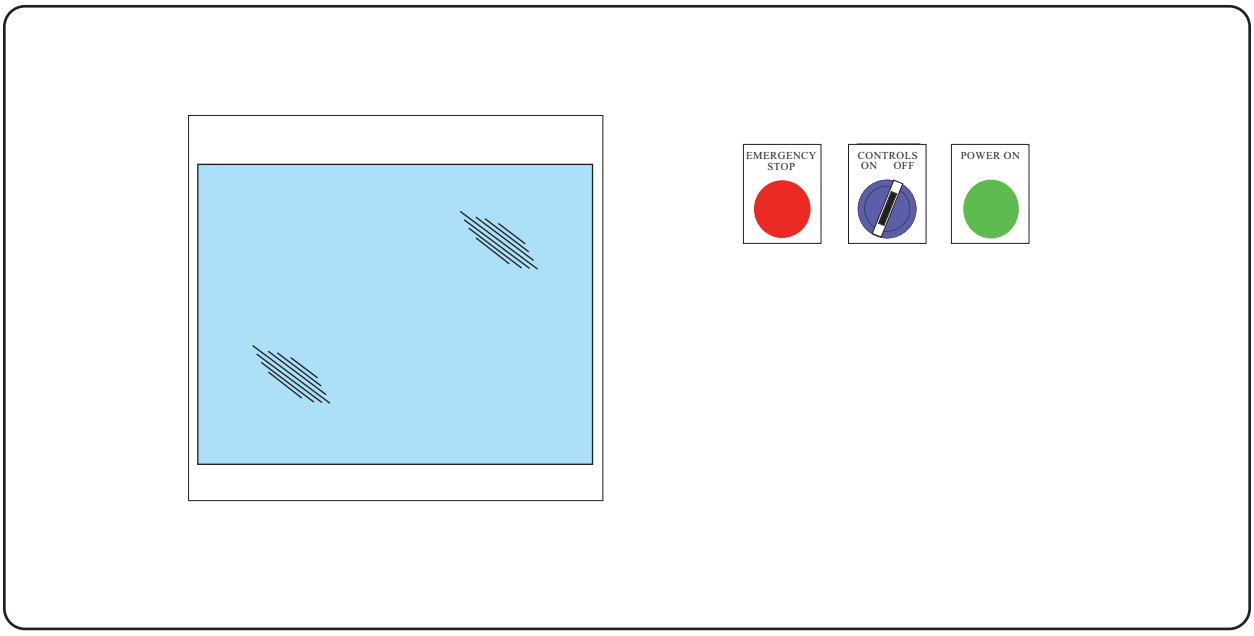


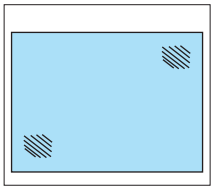
ONLY AUTHORIZED PERSONNEL SHOULD BE ALLOWED INSIDE THE PANEL BOX. The panel box contains high voltage components. **See Lock-Out & Tag-Out Instructions in the Maintenance section.**



CONTROL PANEL with / TOUCH SCREEN

This the typical control panel layout for the Blok-Pak 3000®. If there is any peripheral equipment operating with the machine (i.e. Conveyors), then the controls for that may be located on the control panel as well. Depending on the type of installation, control(s) and/or control panel may vary from that shown below.

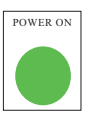




TOUCH SCREEN - MOST OF THE COMPACTOR'S OPERATIONS CAN BE CONTROLLED FROM HERE. SEE PAGE 1-5 FOR A GUIDE TO TOUCH SCREEN CONTROLS.

EMERGENCY STOP PUSHBUTTON - PRESSING THIS BUTTON STOPS THE MACHINE IN THE EVENT OF AN EMERGENCY OR ANYTIME THE MACHINE NEEDS TO BE STOPPED.

KEYED ON/OFF SWITCH - TURNS POWER TO THE PROGRAMMABLE CONTROLLER ON OR OFF. SWITCH MUST BE IN THE "ON" POSITION FOR ALL OTHER CONTROLS TO FUNCTION.



POWER ON PUSHBUTTON - PUSHING THIS BUTTON TURNS THE POWER ON TO THE OPERATOR CONTROLS. PUSH AND HOLD FOR 20 SECONDS.

START-UP INSTRUCTIONS

WARNING! **DO NOT OPERATE COMPACTOR AND CONVEYOR UNTIL OPERATING INSTRUCTIONS ARE THOROUGHLY UNDERSTOOD.**

IN CASE OF EMERGENCY:
Push the large red button to STOP.

Prior to start-up of compactor each day, check items found in DAILY list of PERIODIC MAINTENANCE section of this manual, page 2-2.

Standard operation includes compactor start up for Manual and Automatic Operation.

COMPACTOR START UP

1. Check work area and make sure that all personnel are clear of compactor.
2. Turn electrical disconnect to "ON" position.
3. Insert CONTROL key and rotate switch to "ON" position.
4. Make sure all "EMERGENCY STOP BUTTONS" are pulled out.
5. Touch "SAFETY RELAY RESET" button.
   (Allow for a brief delay for control processor to initialize).
6. Touch "ACK ALL" (acknowledge all) and "RESET" on touch screen to clear alarm screen. Screen will change to main menu.
7. Touch "MOTOR START" button and hold for 20 seconds.

a. An alarm will sound and beacon will flash for 5 seconds.

b. The alarm will silence in five seconds and beacon will continue to flash for 15 more seconds. The beacon continues to flash allowing the operator time to be sure no one is inside compactor or on feed conveyor at any time.

c. The main motor will start after 20-second delay and operator should remove finger from "Start" button.

This completes COMPACTOR START UP sequence.

TOUCH SCREEN INSTRUCTIONS BEGIN ON PAGE 1-5.

CONTROL DESCRIPTION WITH TOUCH SCREEN CONTROLS

AUTOMATIC OPERATION MODE

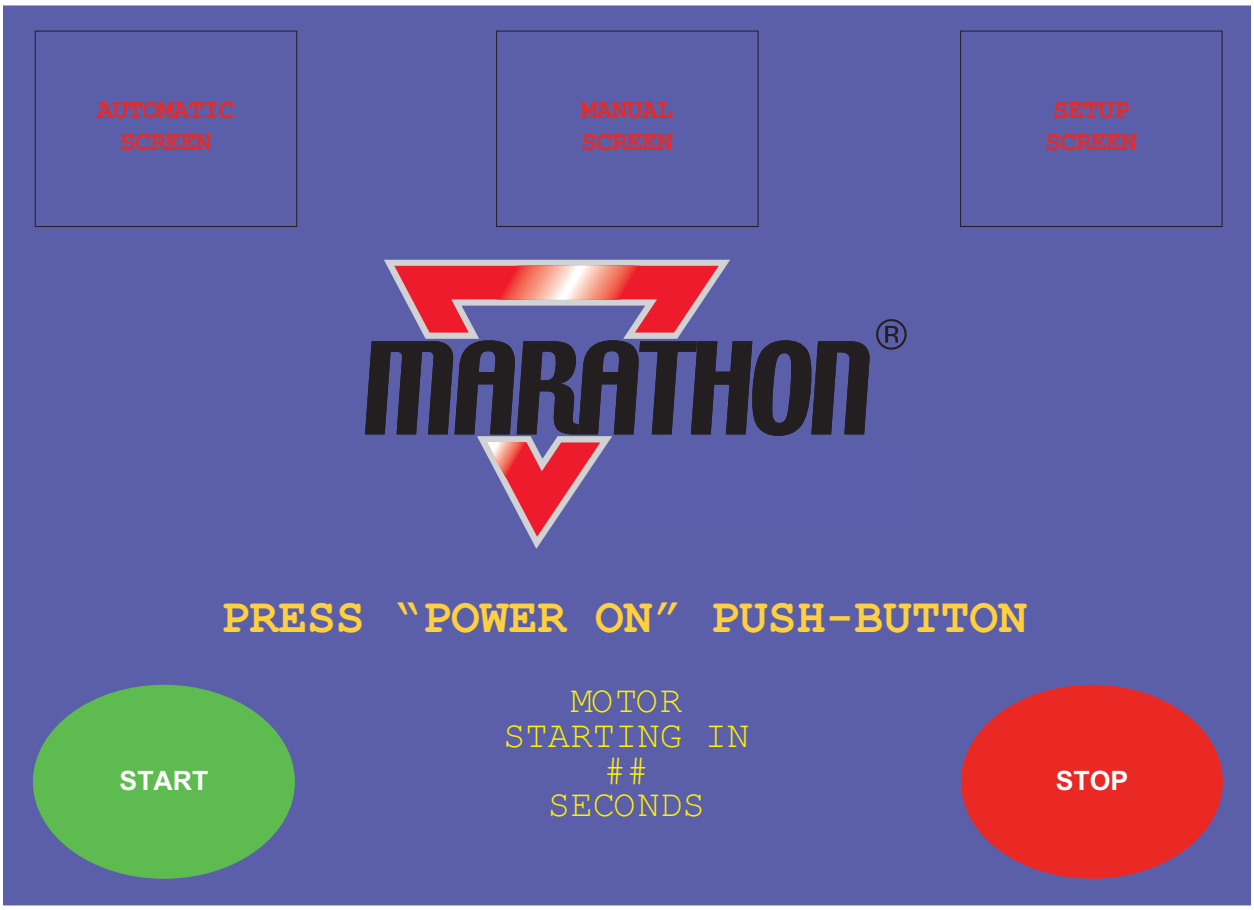
1. Start compactor per Start-Up procedure on page 1-3.
2. Touch "MANUAL MODE" button and screen will advance to "MANUAL-MODE-SCREEN".
3. Touch "RAM REVERSE" button until ram is fully retracted.
4. Touch "MAIN MENU" button.
5. Touch "AUTO MODE" button and screen will advance to “AUTO MODE-SCREEN”. Touch "AUTO MODE" button and compactor will Automatically cycle when designated photocell is blocked by incoming product.
6. Touch CONVEYOR "AUTO" button, if you want compactor to control flow of material. You may control flow of material manually by touching CONVEYOR "ON - OFF" button as required. **(OPTIONAL CONTROLS)**
7. Touch "MANUAL MODE", "MAIN MENU", or "CYCLE STOP" button to end AUTO MODE. To resume AUTO MODE, you will have to begin at step 1 of this procedure.

MANUAL OPERATION MODE

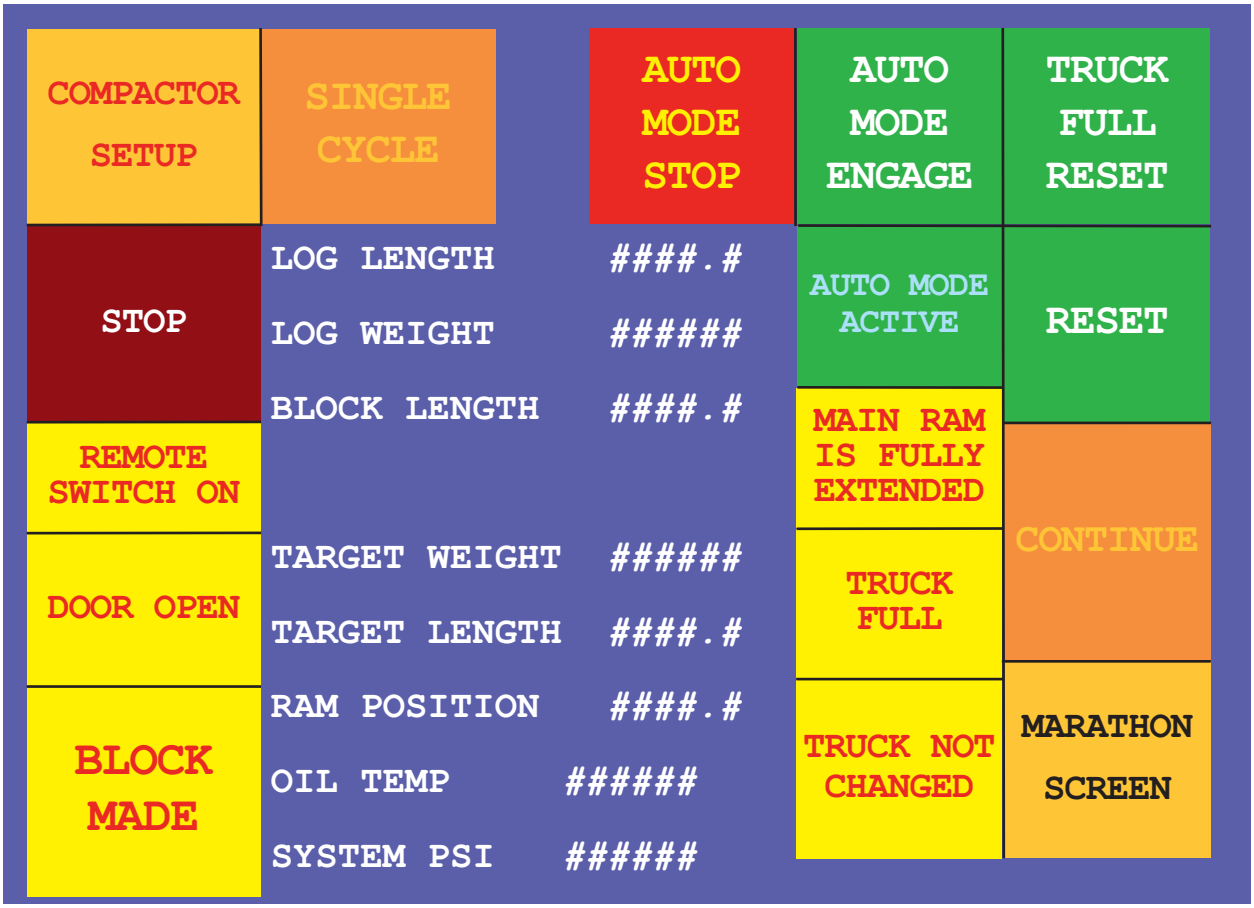
1. Start compactor per Start-Up procedure.
2. Touch "MANUAL MODE" button and screen will advance to "MANUAL MODE SCREEN".
3. Touch "RAM REVERSE" or “RAM FORWARD” button for manual ram operation.

TOUCH SCREEN INSTRUCTIONS BEGIN ON PAGE 1-5.

MARATHON SCREEN - 1

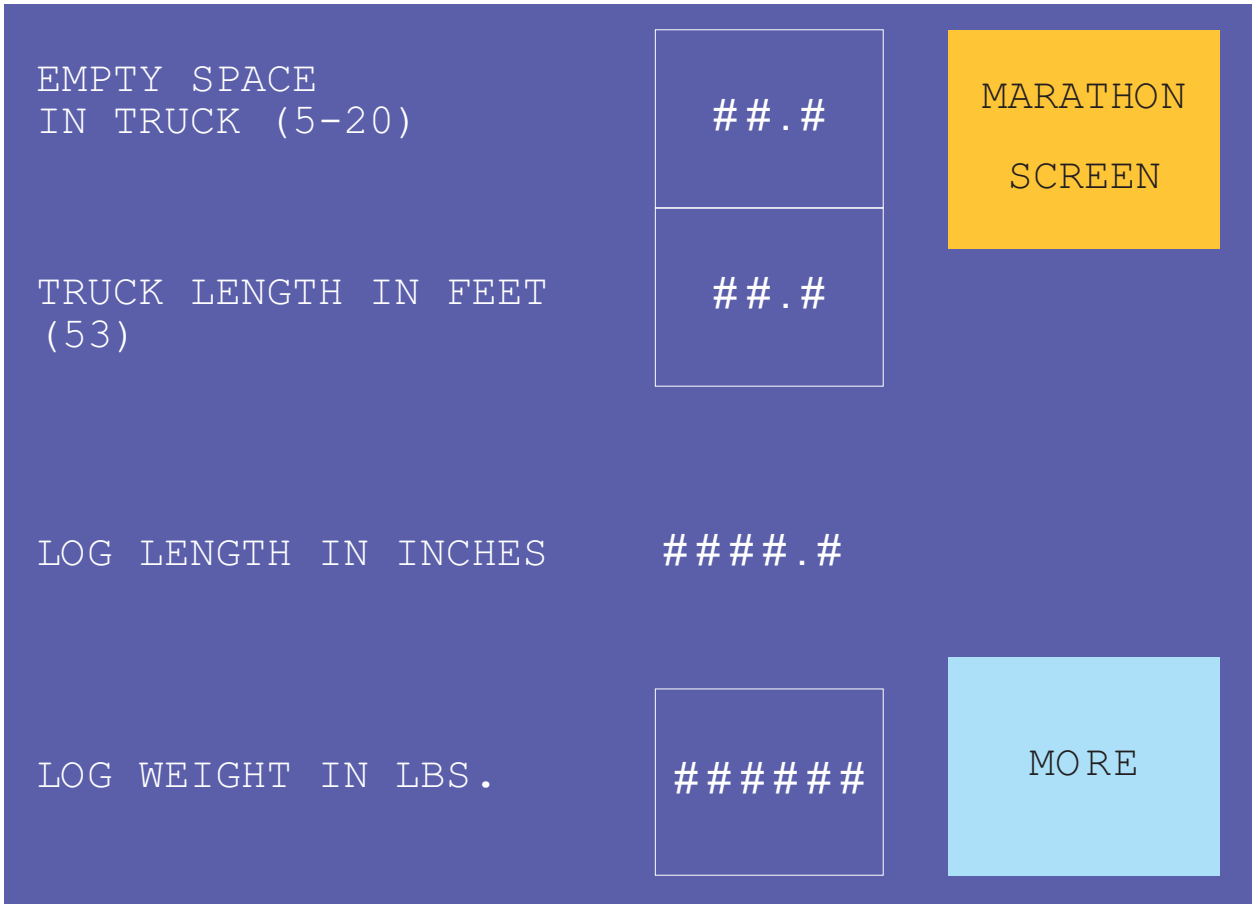


AUTOMATIC MODE SCREEN

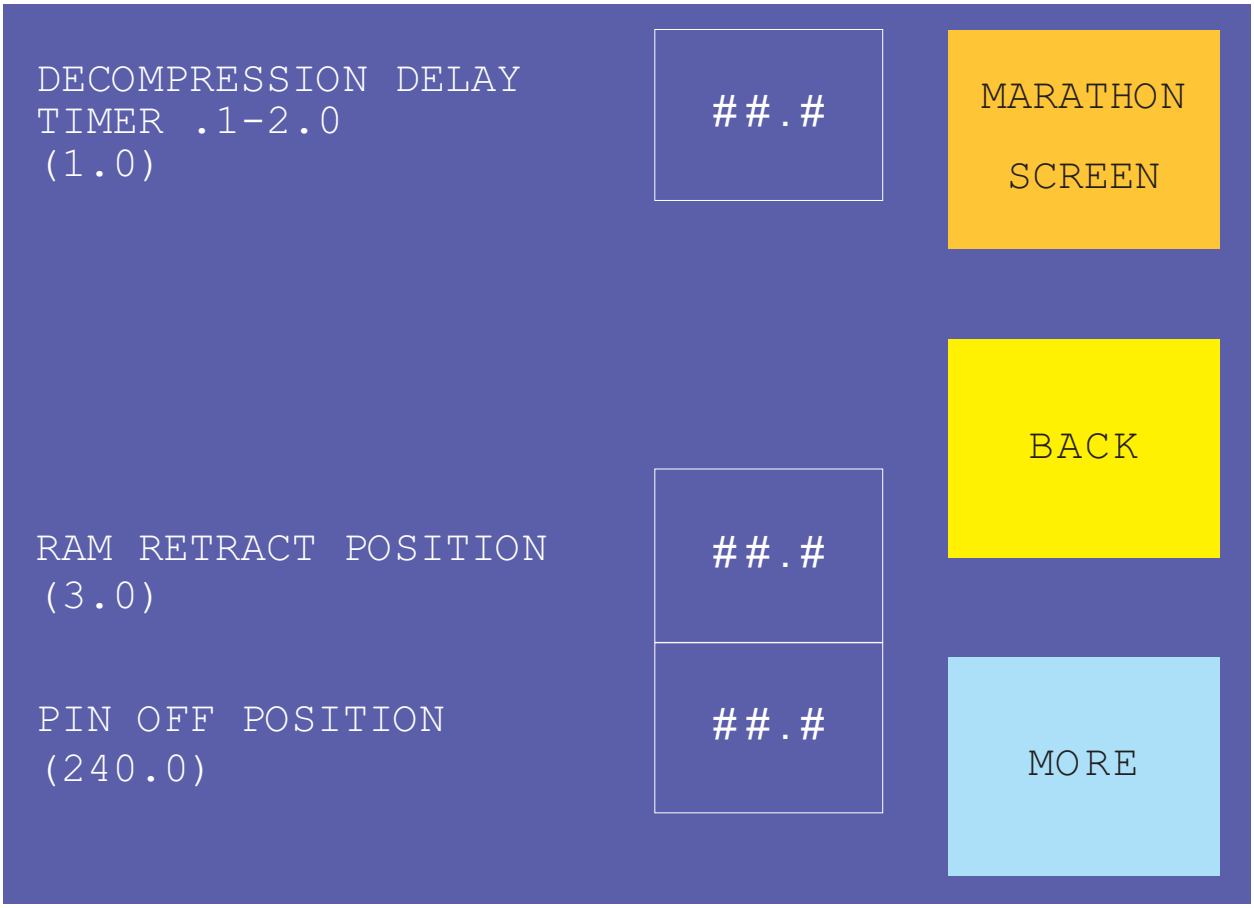


MANUAL MODE SCREEN

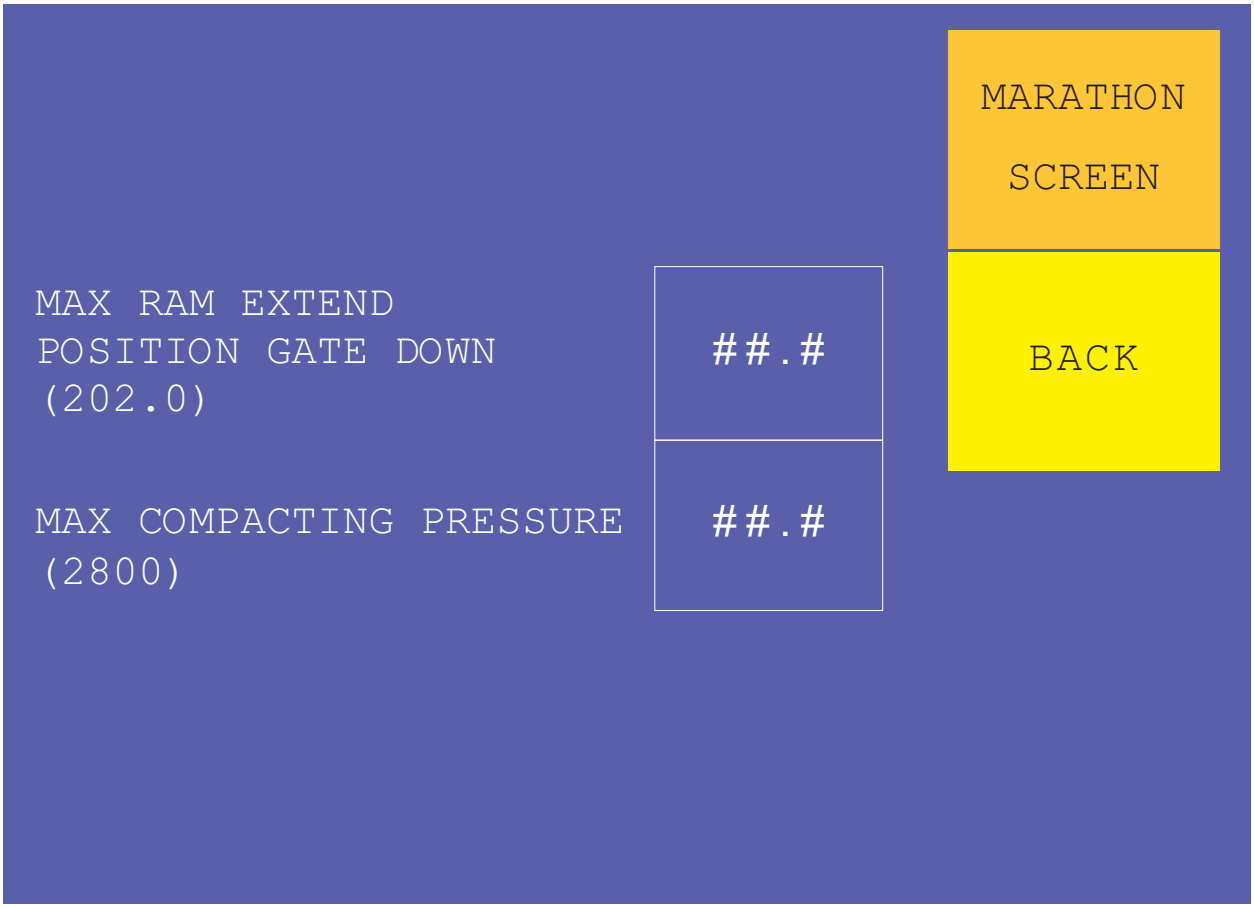
SET UP SCREEN 1



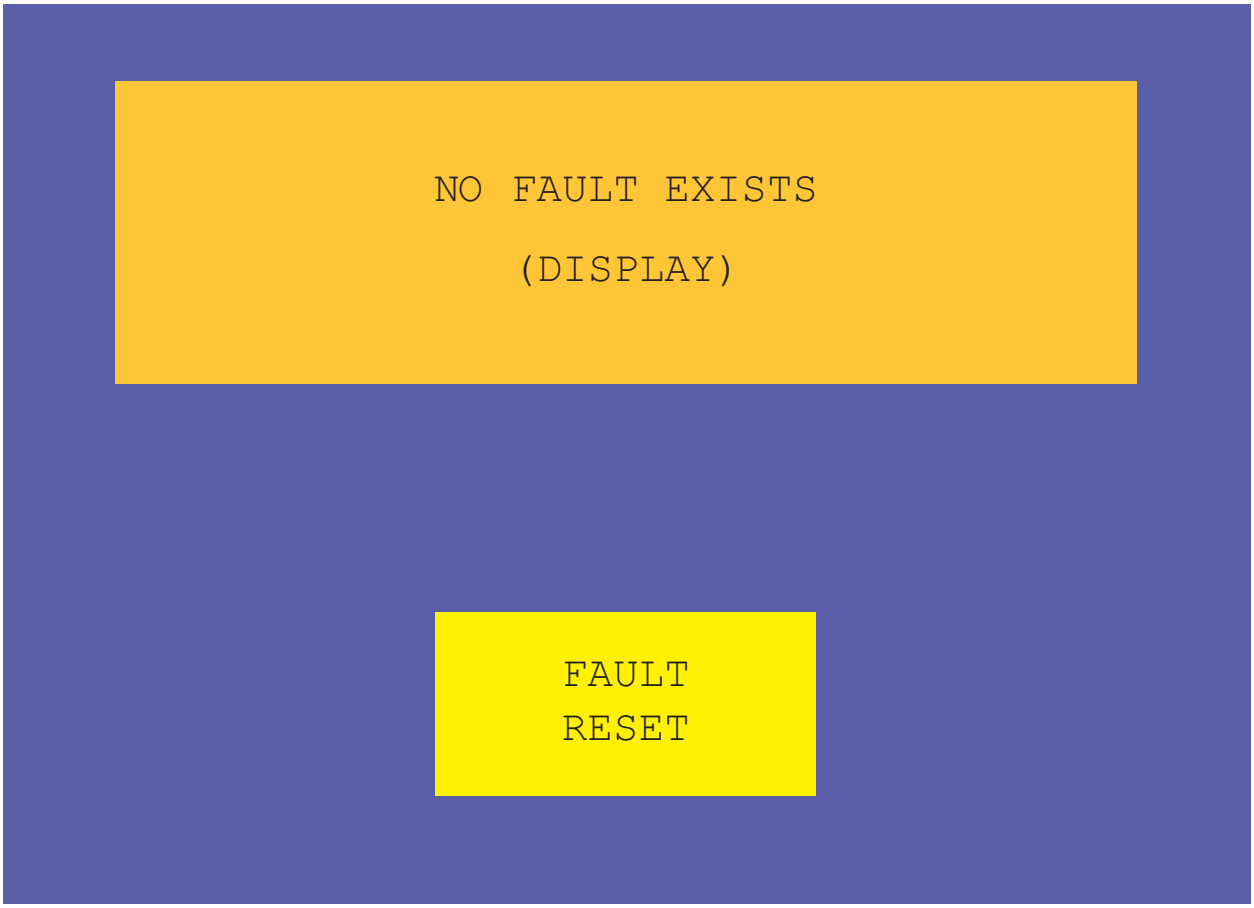
SET UP SCREEN 2



SET UP SCREEN 3



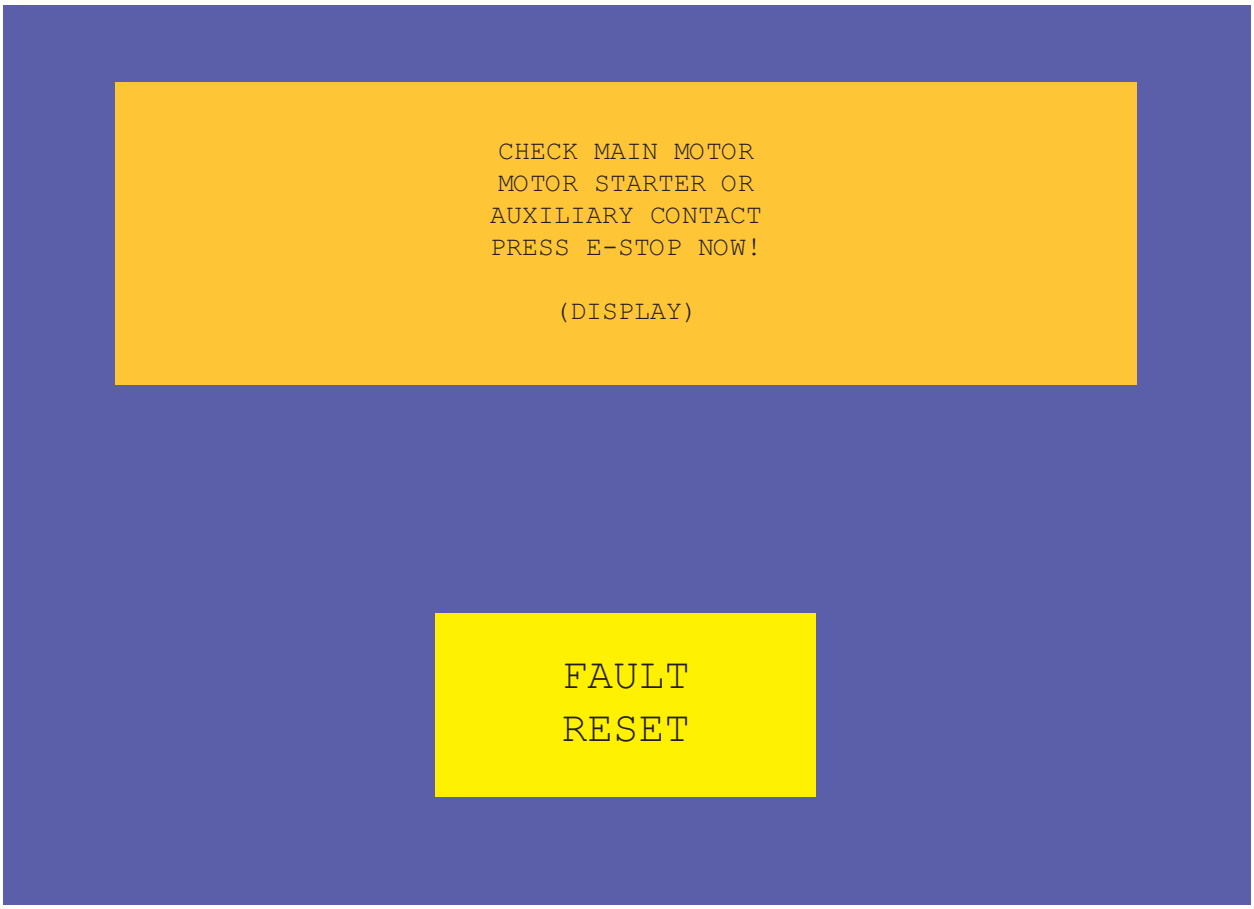
SCREEN 7 MAJOR FAULT



THE DISPLAY SCREEN WILL LIST ONE OF THE FOLLOWING:

- NO FAULT EXIST
- MALFUNCTION, TIME OUT WAITING FOR RAM MOVEMENT
- MALFUNCTION, TIME OUT WAITING FOR DOOR MOVEMENT
- TOO MANY CYCLES WITHOUT CHANGE IN BLOCK LENGTH
- CHECK MAIN MOTOR, MOTOR STARTER OR AUX. CONTACT PRESS E-STOP NOW!
- CHECK OIL COOLER FAN MOTOR STARTER OR AUX. CONTACT
- CHECK OIL COOLER, PUMP MOTOR STARTER OR AUX. CONTACT
- OIL FILTER MUST BE CHANGED
- CANNOT EXTEND RAM. DOOR NOT CLOSED AND TRUCK NOT IN POSITION.
- TRUCK NOT IN POSTION, RAM EXTENDING
- TRUCK NOT IN POSTION
- RAM SENSOR OUT OF CALIBRATION
- Error

SCREEN 8 CRITICAL FAULTS



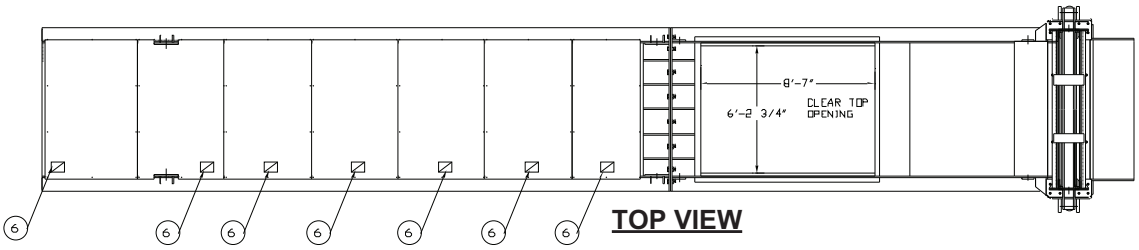
DECAL REQUIREMENTS

When your compactor leaves the factory, several WARNING DECALS are installed for everyone's protection. These labels are subject to wear and abuse due to the nature of the compactor operation. THE FOLLOWING DECALS MUST BE MAINTAINED. Additional decals may be purchased through your distributor, by calling the parts department at **1-800-633-8974** or by logging on to: **www.parts1stop.com**.

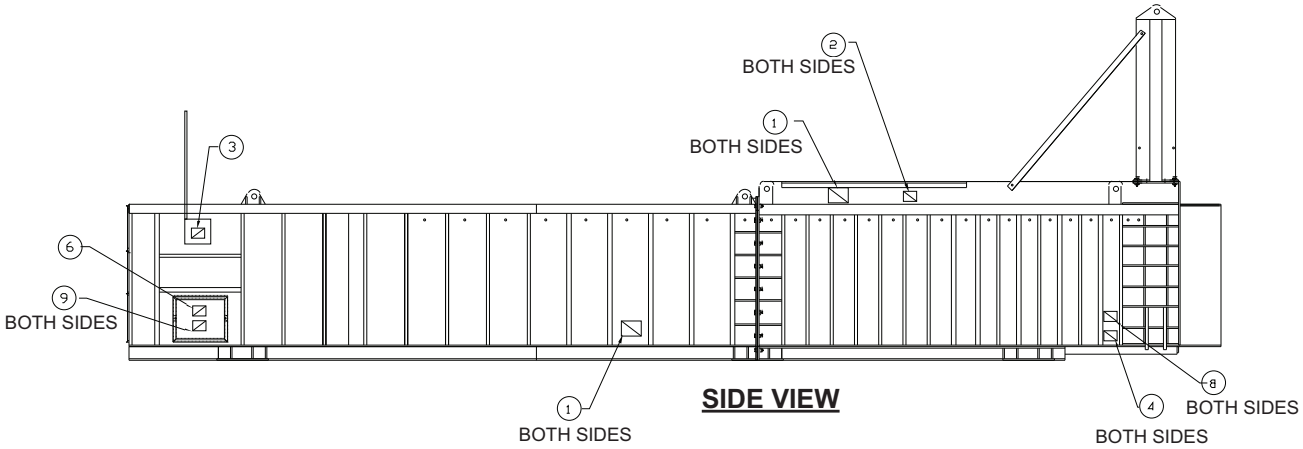
Part #	Ref #	Description	Qty
06-0002	1	RAM-JET	5
06-0039	2	DANGER DO NOT ENTER	4
06-0120	3	DANGER DISCONNECT & LOCK-OUT/TAG-OUT	1
06-0041	4	WARNING THIS MACHINE STARTS AUTOMATICALLY	4
06-0043	5	208 VOLT	1
06-0038	6	WARNING DO NOT REMOVE ACCESS COVERS	13
06-0121	7	NOTICE FEDERAL REGULATION PROHIBIT UNDER 18	2
06-0413	8	WARNING WHEN CHANGING CONTAINERS…	2
06-0249	9	DANGER HAZARDOUS VOLTAGE	4
06-0250	10	LOCK OUT POINT. DANGER LOCK-OUT/TAG OUT….	1

SEE FOLLOWING PAGE FOR PLACEMENT DIAGRAM (MATCH REF#s) AND PAGE 1-15 FOR DECAL IMAGES.

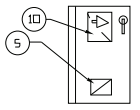
DECALS DIAGRAM



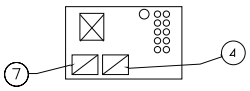
TOP VIEW



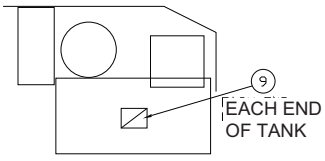
SIDE VIEW



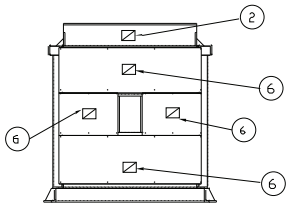
PANEL BOX DOOR



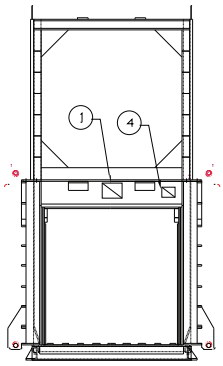
CONTROL PANEL



POWER UNIT - END VIEW



REAR VIEW



FRONT VIEW

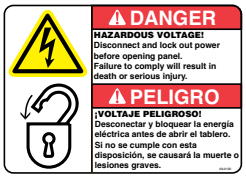
SEE NEXT PAGE FOR DECAL IMAGES

DECAL IMAGES

06-0002

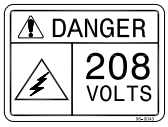
06-0039

06-0120



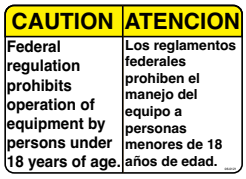
06-0041

06-0043



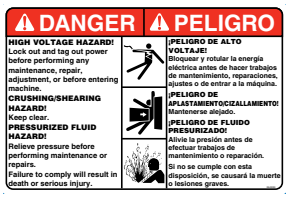
06-0038

06-0121



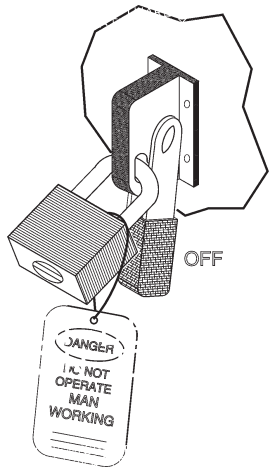
06-0413

06-0249



06-0250

LOCK-OUT & TAG-OUT INSTRUCTIONS



Before entering any part of the compactor or conveyor, be sure that all sources of energy have been shut off, all potential hazards have been eliminated, and the compactor and conveyor is locked-out and tagged-out in accordance with OSHA and ANSI requirements.

If the ram is pressing against a load, retract the compaction ram and lower the gate before shutting the compactor off. The specific lock-out and tag-out instructions may vary from company to company (i.e. multiple locks may be required, or other machinery may need to be locked-out and tagged-out). The following instructions are provided as minimum guidelines.

INSTRUCTIONS

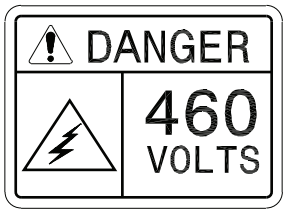
1. Move the main disconnect lever to the OFF position.

2. Padlock the disconnect lever with a keyed padlock and take the key with you.

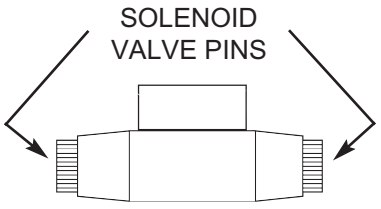
3. Along with the padlock, place an appropriate, highly visible, warning tag on the disconnect lever. The tag should provide a warning such as: "Danger: Do not operate equipment. Person working on equipment. Warning: Do not energize without the permission of _____."

4. After locking and tagging the compactor, try to start and operate the compactor (as outlined in the Operating Instructions) to make sure the lock-out and tag-out is effective. If the lock-out and tag-out is effective, remove the key from the key switch and take it with you.

ELECTRICAL: The panel box contains high voltage components. Only authorized service personnel should be allowed inside the box. Authorized service personnel should be allowed inside the box only after the compactor has been locked-out and tagged-out.



HYDRAULIC: Stored hydraulic energy must be removed from the compactor hydraulic circuits for complete lock-out and tag-out. Make sure that this energy has been relieved by manually depressing the solenoid valve pins located in the center of the coil ends of the directional control valves.



PERIODIC MAINTENANCE

WARNING:

NEVER ENTER ANY PART OF THE COMPACTOR OR CONVEYOR UNTIL THE UNIT HAS BEEN LOCKED-OUT AND TAGGED-OUT PER THE INSTRUCTIONS ON PAGE 2-1.

IF THE GATE IS RAISED AND MUST REMAIN UP FOR MAINTENANCE OR INSPECTION, A SAFETY SUPPORT MUST BE USED TO SECURE GATE FROM FALLING.

FAILURE TO DO SO COULD RESULT IN INJURY OR DEATH!

DAILY

1. Check for any oil leaks. Keep all hydraulic fittings tight. Check oil level and temperature in hydraulic reservoir. Maintain oil level 3/4 full in sight gauge. Temperature should be below 160º F.
2. Check all remote emergency stop locations. Make sure each emergency stop button is functional and not obstructed or damaged.
3. Make sure the operator's area is free from hazards that could cause injury.
4. Check for any obvious unsafe conditions in compactor area.

WEEKLY

1. Clean around power pack and machine to remove operator hazards.
2. Check function of all emergency stop buttons and interlock switches.
3. Check start-up alarm and strobe light. Clean lights as required.
4. Clean debris from behind compactor ram. Replace cover(s) when clean out is complete.

MONTHLY

1. Check all hoses for chaffing, rubbing, or other deterioration and damage.
2. Inspect breather cap on hydraulic reservoir. Clean or replace as necessary.
3. Check cylinder pins and make sure they are secure.
4. At end of first month, return line filter cartridge should be replaced. After first month, filter pressure switch will indicate when filter needs changing.
5. Clean oil cooler radiator.

QUARTERLY

1. Change return line filter element in oil filter housing (filter housing is located on top of reservoir at end of oil return line from cooler).
2. Inspect cylinder rods of compression and choker cylinders for nicks and abrasions.
3. Check cylinder rod seals for damage. Inspect cylinder pins for movement or missing cotter pins. Lubricate cylinder pinning sleeves and pins.
4. Lubricate all hopper access door hinges.
5. Check hydraulic cylinder, internal hoses, and connections for leakage.

Continued on next page....

PERIODIC MAINTENANCE - (CONTINUED)

DANGER: Only authorized and trained personnel should perform these procedures. Lock-out and Tag-out the compactor before any maintenance procedures are performed.

SEMI-ANNUALLY

1. Send oil sample out for evaluation.
2. Check compactor structure for signs of problems (i.e., cracked welds, bending, etc.).

ANNUALLY

1. Change hydraulic fluid in the entire system. If existing oil is reused, it should be tested by a laboratory to insure it meets necessary specifications. Additives can be added to bring oil back to standards. Before returning the oil to the tank, it should be filtered through a minimum 5 micron filter. The hydraulic tank should be cleaned inside with a non-flammable solvent and thoroughly dried before replacing oil.
2. Lubricate electric motor bearings as recommended by the manufacturer.
3. Filter maintenance:
    a. The hydraulic suction filters should be cleaned at yearly intervals.
    b. The filters may be removed from the unit by disconnecting the union on the suction side of the pump (circulating pump for oil cooler), or by removing the four bolts that retain the suction flange to the main pump, and lifting the filter from the reservoir.
    c. Care should be exercised in cleaning the filter to insure that the element is not torn. Clean the filter with a soft brush and standard industrial solvent.
    d. Replace the filter after cleaning and tighten the union, or bolts, securely. 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.

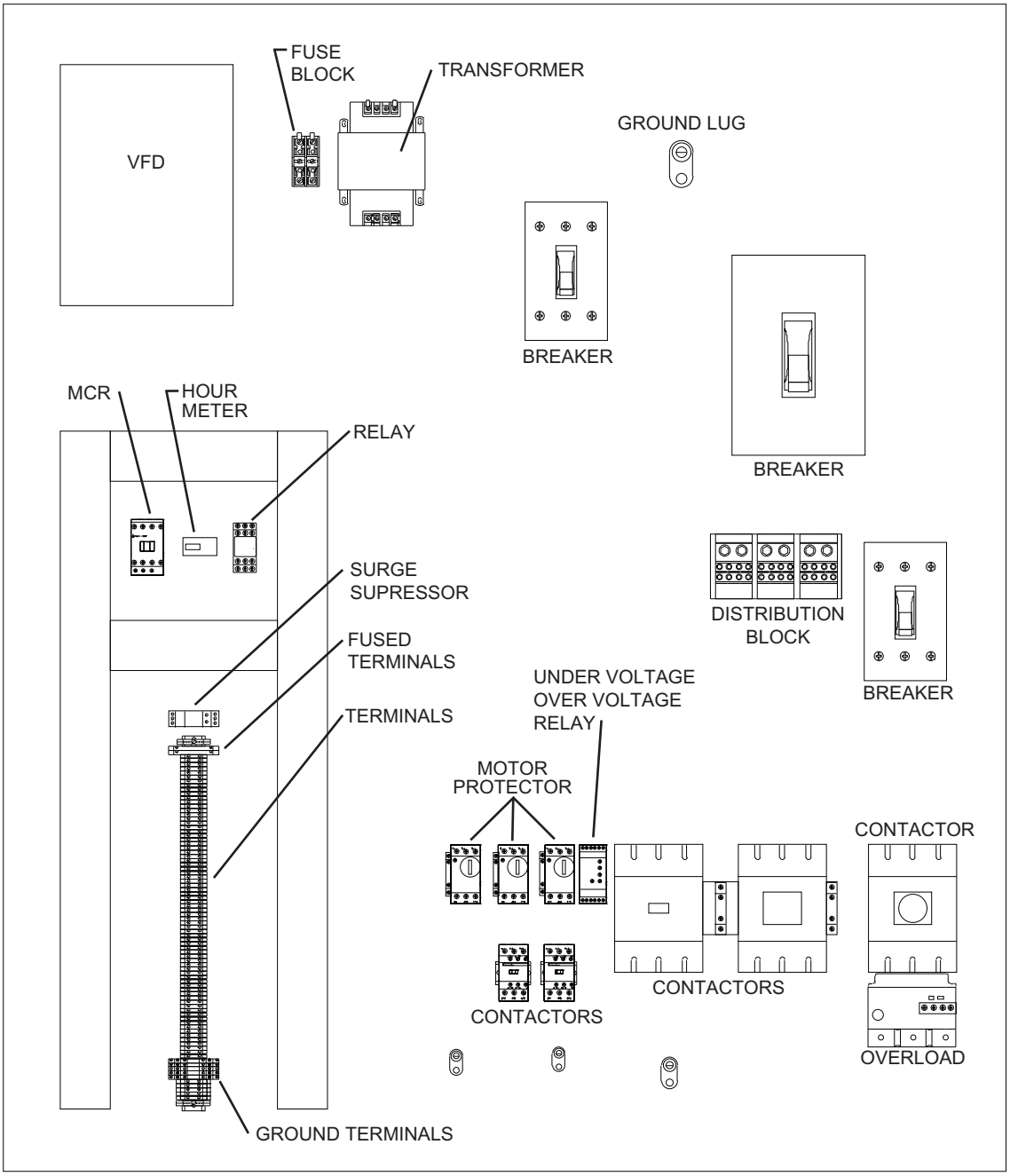
RECOMMENDED OILS

1. Union-UNAX-46, UNAX-AW46
2. Gulf-Harmony 47, Harmony 48-AW
3. Exxon-Teresstic 46, NUTO 46
4. Texaco-Rando 46
5. Chevron-AW 46
6. Shell-Turbo 46, Tellus 46
7. Citgo-Pacemaker 46, Tellus-AW46
8. Conoco-Super Hydraulic Oil 46
9. Quaker State-Dextron II (ATF)
   Automatic Transmission Fluid
10. Amoco-Rycon MV
    Cold Weather Fluid

MOTOR CONTROL PANEL - TYPICAL

THE DIAGRAM BELOW REPRESENTS THE PANEL BOX LAYOUT FOR THE BLOKPAK. TO ORDER REPLACEMENT PARTS, CALL 1-800-633-8974 AND ASK FOR THE PARTS DEPARTMENT.

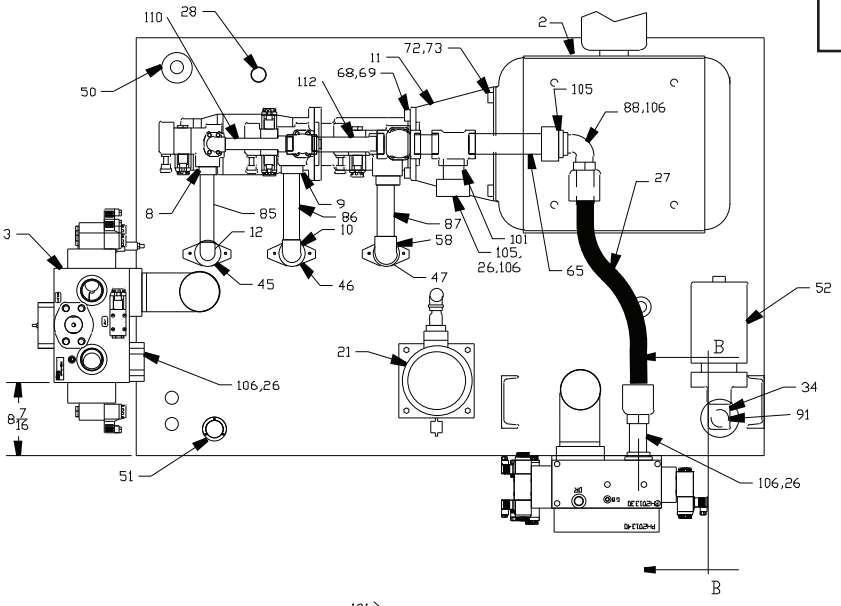
DANGER: The panel box contains high voltage components. Only authorized service personnel should be allowed inside the box. Authorized service personnel should be allowed inside the box only after the compactor has been locked-out and tagged-out.

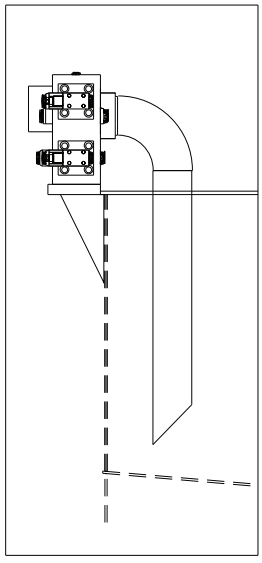


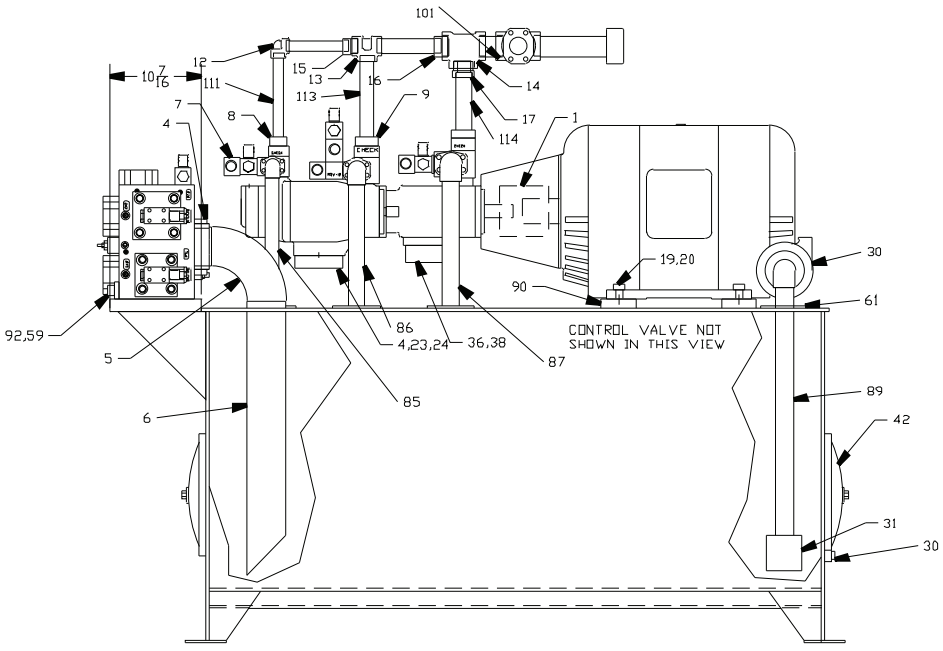
POWER UNIT LAYOUT

WARNING: **DO NOT PERFORM ANY MAINTENANCE ON POWER UNIT UNTIL POWER HAS BEEN LOCKED OUT AND TAGGED OUT AS DESCRIBED ON PAGE 2-1.**

MATCH REFERENCE NUMBERS TO THE CHART STARTING ON PAGE 2-8.

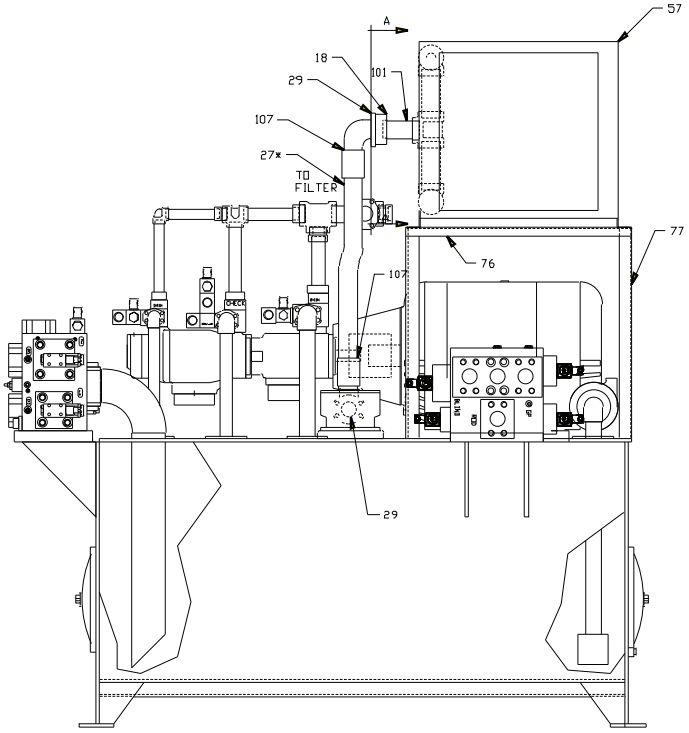


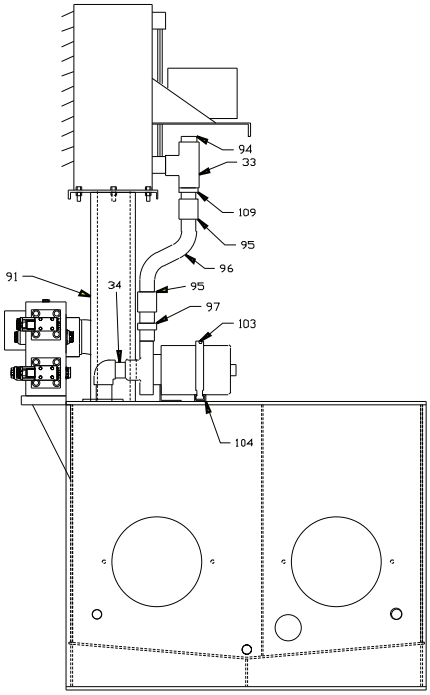


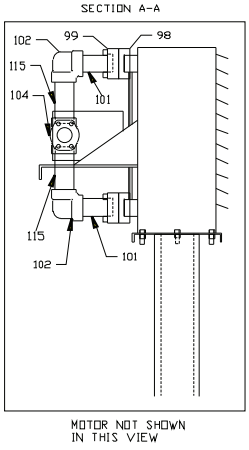


POWER UNIT LAYOUT (CONTINUED)

MATCH REFERENCE NUMBERS TO THE CHART STARTING ON PAGE 2-8.

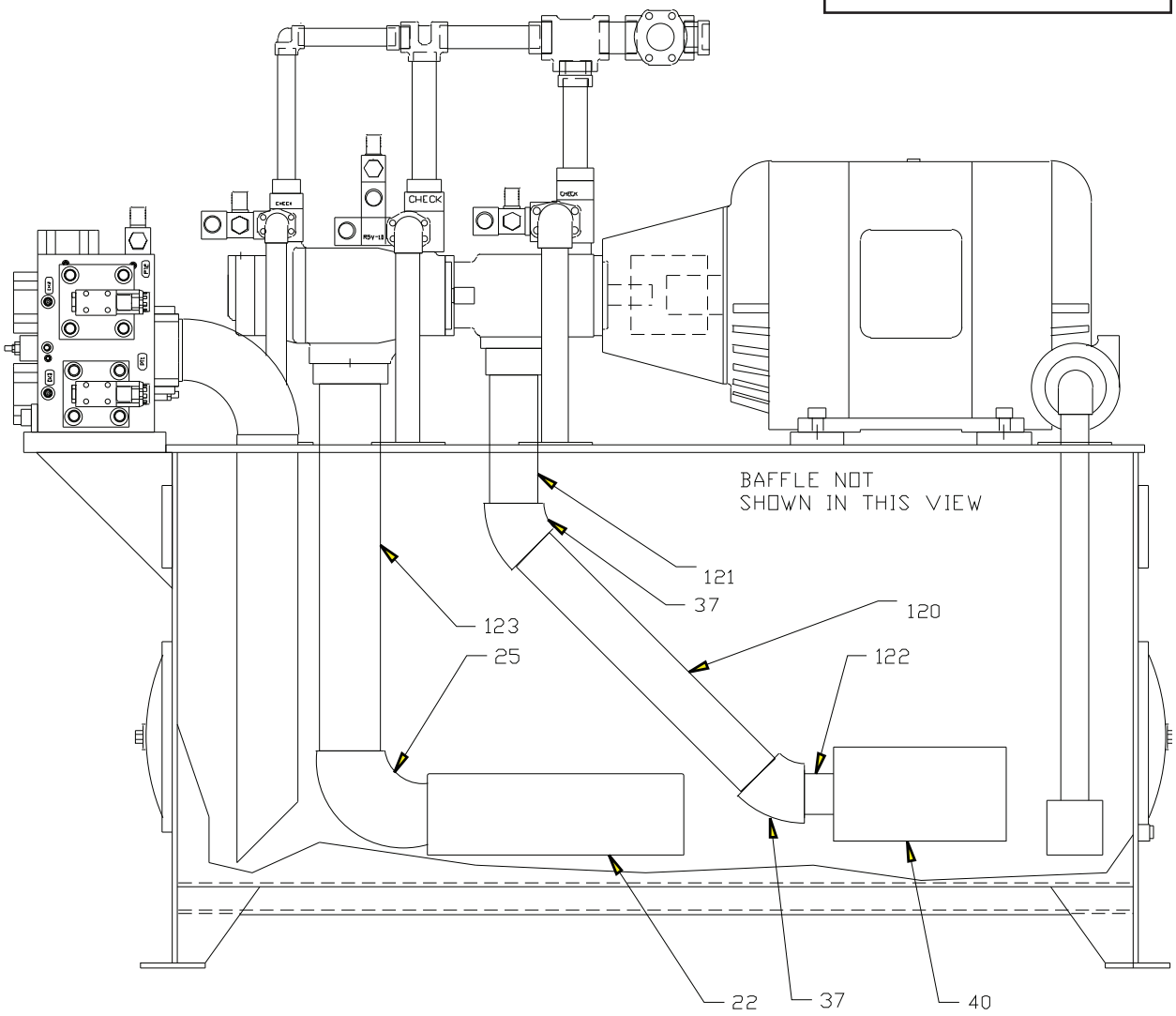






POWER UNIT LAYOUT (CONTINUED)

MATCH REFERENCE NUMBERS TO THE CHART STARTING ON PAGE 2-8.



POWER UNIT REFERENCE CHART

Part #	Ref. #	Description	Quantity
02-0297		VALVE 4-WAY 03 C 2-POS	9
03-0245		SWITCH OIL TEMP CUT OFF ADJ.RA	1
03-0147		CONDULET 1/2 GASKET	1
03-0146		CONDULET 1/2 COVER	1
03-0883		CONDULET 1/2 LB	1
05-2258		BOLT 5MM X 30MM SHCS PL GR 12.	36
02-1098		HOSE END 1 1/4 WB X 1 1/4 C61	2
02-4766		PUMP 12 28 66 105 GPM VANE 400	1
02-1075	1	HUB COUPLING 1 1/2-3/8 X 2 7/8	1
03-5084	2	MOTOR 100HP 415V 50HZ 405TC TE	1
02-3560	3	MANIFOLD 200 GPM F/TR-12 100A	1
02-0872	4	FLANGE C61 4 WELD 500 PSI	3
02-0871	5	ELL 4 WELD 90 SCH 40	2
09-4852	6	PIPE 4SCH 40 X 31	2
02-0913	7	HOSE END 2 WB X 2 C61 90 SF	2
02-1057	8	FLANGE C61 1 WELD	2
02-0882	9	FLANGE C61 1 1/4 WELD	2
09-5841	10	PIPE 1 SCH 160 X 6 5/8 SQ CUT	1
02-1074	11	ADAPTOR PUMP/MOTOR SAE C2B X40	1
02-1048	12	ELL 1 WELDF 90 SCH 160	2
02-0884	13	TEE 1 1/4 WELD F SCH 160	1
02-0560	14	TEE 2 WELDF SCH 160	2
02-0889	15	ADAPTER 1 WELDF X 1 1/4 WELDM	1
02-0561	16	ADAPTER 1 1/4 WELDF X 2 WELDM	1
02-0881	17	ADAPTER 1 1/2 WELDF X 2 WELDM	1
02-1045	18	FLANGE C61 2 WELD COMP	1
05-0034	19	BOLT 3/4-10 X 2 HHCS GR 5	4
05-0226	20	WASHER 3/4 LOCK	4
02-1056	21	FILTER RETURN LINE 10 MICRON A	1
02-1053	22	FILTER SUCTION 4 200GPM	1
02-1054	23	FLANGE SUCTION 4	1
02-1055	24	FLANGE SUCTION RISER 4	1
02-1052	25	ELL 4 NPTM X 4 NPTF 90	1
02-1072	26	HOSE END 2 WB X 2 C62 SF	3
02-0912	27	HOSE 2 HYDRAULIC 5000 PSI	8
03-0437	28	SWITCH OIL LEVEL & TEMP CLOSED	1
02-0901	29	FLANGE C61 2 SPLIT	2
02-0316	30	PLUG 3/4 NPT	1
02-1064	31	VALVE CHECK 2 NPTF 125PSI BRON	1
02-0638	32	FLANGE C61 2 NPT	1
05-0160	33	TEE 2 NPTF SCH 40	1
02-0933	34	NIPPLE 2 NPT CLOSE SCH 40	1
02-0639	35	ADAPTER 1 1/4 NPTF X 2 NPTM S	5
02-0669	36	FLANGE C61 3 NPT	1

Continued on next page.

POWER UNIT REFERENCE CHART (CONTINUED)

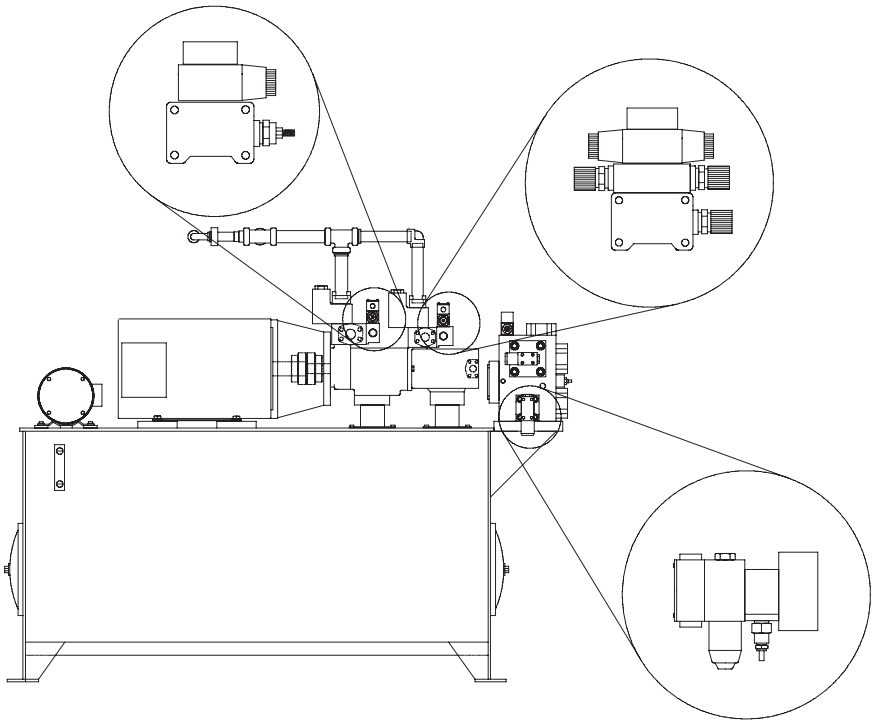
Part #	Ref. #	Description	Quantity
02-1058	37	ELL 3 NPTF 45 SCH 40	2
02-0621	38	FLANGE SUCTION 3 PIPE	1
02-0647	39	BREATHER 2 HOLE W/STRAINER	1
02-0668	40	FILTER SUCTION 3 NPTF 100 GPM	1
02-1059	41	PIPE 3 SCH 40 X 6 THD ONE END	1
02-0824	42	CLEAN OUT COVER MNTG BRKT REMO	4
02-0215	43	GAUGE SIGHT LEVEL 5 INCH	2
02-1061	45	FLANGE RETURN LINE 1	1
02-1044	46	FLANGE RETURN 1 1/4	1
02-1043	47	FLANGE RETURN LINE 1 1/2	1
02-0885	50	BREATHER 10 MICRON 300 GPM 3/4	1
02-0856	51	BREATHER WELD RISER F/02-0647	1
02-3069	52	PUMP BURKS 320GA5 1 1/4 220/38	1
05-0064	55	WASHER 1/2 LOCK	4
02-5077	57	OIL COOLER AIR 400VAC 50HZ AOC	1
02-0890	58	ELL 1 1/2 WELDF 90 SCH 160	1
05-0539	59	BOLT 5/8-11 X 1 1/2 SHCS	2
09-4851	60	PIPE 4 SCH 40 X 2 SQ CUT	1
02-1065	61	FLANGE SUCTION 2	1
02-0823	62	CLEAN OUT COVER 14	4
02-0873	63	FLANGE C61 1 1/2 WELD	2
02-0888	64	BOLT KIT F/4 C61 FLANGE BK510	1
25-1803	65	2 SCH 160 PIPE X 9 STR CUT	1
02-3706	66	MANIFOLD 200 GPM F/BLOCK PACK	1
05-0474	67	BOLT GR 5, 1/2-13 X 1 3/4	4
05-0645	68	BOLT 5/8-11 X 1 3/4 HHCS GR 2	2
05-0561	69	WASHER 5/8 LOCK	2
02-0805	70	COUPLING 2 SCH 40	2
03-0772	71	SWITCH PRESSURE F/FAIREY ARLON	1
05-0243	72	WASHER LOCK 5/8 GRADE 8	8
05-0338	73	BOLT 5/8 X 1 1/2 HHCS ZINC GR	8
09-4835	74	PIPE 3/4 SCH 40 X 30	2
05-0015	75	NUT 3/8-16 HEX SELF LOCKING	12
09-4837	76	7 GA X 13 1/2 X 30 1/8	1
09-4853	77	C6 X 8.2 X 28 SQ CUT	2
05-0018	78	NUT 1/2-13 HEX SELF-LOCKING	6
05-0052	79	WASHER 1/2 FLAT	6
05-0062	80	BOLT 1/2 13 X 1 1/2 HHCS	10
05-0155	81	BOLT 3/8-16 X 3/4 HHCS	4
05-0159	82	WASHER 3/8 LOCK	4
05-0176	83	BOLT 3/4-10 X 1 1/4 HHCS	2
02-0904	84	PLUG 3 NPT SQ HD	1
14-2233	85	PIPE 1 SCH 40 X 46	1
14-2234	86	PIPE 1 1/4 SCH 40 X 46	1

Continued on next page.

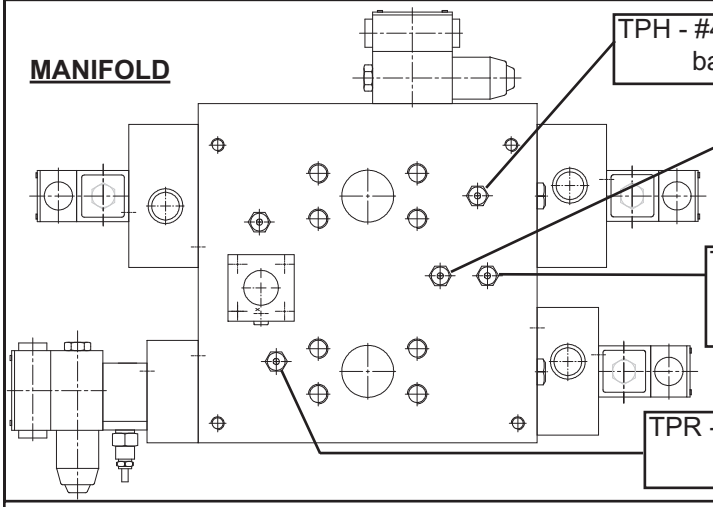
POWER UNIT REFERENCE CHART (CONTINUED)

Part #	Ref. #	Description	Quantity
14-2235	87	PIPE 1 1/2 SCH 40 X 46	1
02-2326	88	HOSE END 2 WB X 2 C62 SF 90	1
14-2237	89	2 SCH 40 PIPE X 30	1
14-2238	90	1 X 4 X 4	4
02-0801	91	ELL 2 NPTF SCH 40	1
14-2239	92	1/2 X 2 X 2 11/16 BAR	4
02-0254	94	PLUG 2 NPT SQ HD	1
02-1050	95	HOSE END 1 1/2 WB X 1 1/2 NPTM	2
02-2313	95	ADAPTER 1 1/2 NPTM X 1 1/2 NPT	1
02-1091	96	HOSE 1 1/2 WB 5000PSI	2
02-0350	97	ADAPTER 1 1/2 NPTM X 1 1/2 NPT	1
02-1070	98	FLANGE C61 2 NPT COMP	2
02-0875	99	FLANGE C61 2 WELD W/O-RING & B	2
14-2240	101	PIPE 2 SCH 160X 4 SQ CUT	5
02-0876	102	ELL 2 WELDF 90 SCH 160	2
02-1071	105	FLANGE C62 2 WELD COMP	2
02-1069	106	FLANGE C62 2 SPLIT W/BOLTS	4
02-1049	109	ADAPTER 1 1/2 NPTM X 2 NPTF SC	1
09-5842	111	PIPE 1 SCH 160 X 9 5/16	1
09-5843	112	PIPE 1 1/4 SCH 160 X 7 5/16 SQ	1
09-5844	113	PIPE 1 1/4 SCH 160 X 9 1/4 SQ	1
09-5845	114	PIPE 1 1/2 SCH 160 X 6 1/2 SQ	1
09-5846	115	2 SCH 160 PIPE X 6 1/2 STR CUT	2
09-5848	117	PIPE 1 SCH 40 X 8 3/4 SQ CUT	1
09-5849	118	PIPE 1 1/4 SCH 40 X 9 1/8 SQ	1
09-5850	119	PIPE 1 1/2 SCH 40 X 7 5/16 SQ	1
02-0670	120	PIPE 3 SCH 40 X 24	1
02-1028	121	PIPE 3 SCH 40 X 12	1
14-2241	122	PIPE 3 SCH 40 X 8 THREAD 2 END	1
09-5851	123	4 SCH 40 PIPE X 28 1/2	1

PRESSURE SETTINGS



MANIFOLD

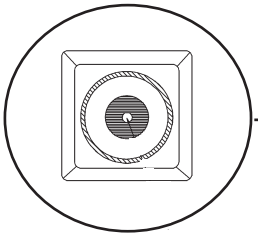


TPH - #4SAE PORT. Used to show pressure on base end of main cylinder. Gauge provided.

TPX - #4SAE PORT. Used to show pilot pressure for directional valves. No gauge provided.

TPP - #4SAE PORT. Used to show system pressure. Pressure Transducer used in this port. Gauge provided.

TPR - #4SAE PORT. Used to show pressure on rod end of main cylinder. Gauge provided.



Center point on end of coil on directional control valve either: 1. Shifts valve manually by physically shifting valve spool, or, 2. Releases stored hydraulic energy.

PRESSURE SETTINGS - continued

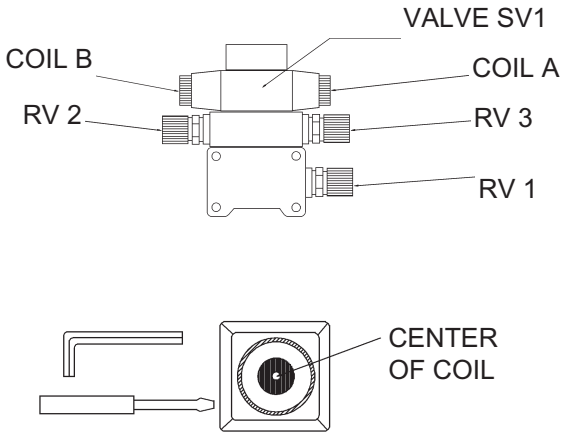
Following adjustments will need to be made with power unit running.
See BLOK PAK START-UP SEQUENCE in PRE OPERATING INSTRUCTIONS.

STEP 1

ADJUSTING SYSTEM PRESSURE RELIEFS

ADJUSTMENT FOR RV2
Using View 2 as reference, loosen the (3) three locking screws on sides of adjustment knobs of RV1, RV2 and RV3 with a 5/64" allen wrench. Remove small caps from pressure switches using a small phillips head screwdriver. Using a small blade screwdriver, or allen wrench, press actuator in center of Coil A to adjust RV2. RV2 adjustment knob can be turned clockwise to increase pressure, or counter clockwise to decrease pressure. Adjust RV2 to 3000 psi. Release and press actuator of Coil A again to test setting. These pressures can be read at pressure gauge in port TPP of manifold.

VIEW 2



Note: Pressure on RV1 may have to be increased before RV2 can be set.

ADJUSTMENT FOR RV1 AND RV3:
Using VIEW 2 as a reference, turn RV1 adjustment knob clockwise to fully closed position. Using a small blade screwdriver, or allen wrench, press actuator in center of Coil B. Adjust RV3 by turning adjustment knob clockwise to increase pressure, or counter clockwise to decrease pressure. RV3 should be set at, and not to exceed 3000 psi. This pressure can be read at pressure gauge in port TPP of manifold. Release actuator of coil, and press again to test setting. While holding 3000 psi, adjust RV1 counter clockwise until pressure starts to drop. Turn RV1 clockwise to increase pressure back up to 3000 psi.

After these settings have been made, tighten the (3) three locking screws on sides of adjustment knobs of RV1, RV2, and RV3.

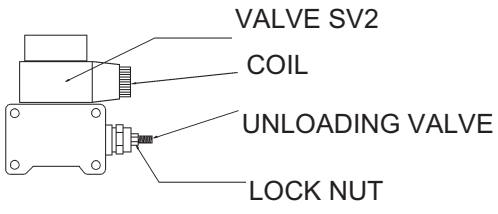
ADJUSTMENT FOR RV4:
Using a small blade screwdriver or allen wrench, press actuator in center of coil, shifting valve spool. Turn adjustment knob clockwise to increase pressure, or counterclockwise to decrease pressure. This pressure should be set at 2000 psi. Using gauge in TPP port of manifold, adjust pressure up or down as needed. After adjustment is made tighten lock nut on adjustment screw.

STEP 2

ADJUSTING UNLOADING PRESSURE FOR HI- FLOW PUMP.

Using VIEW 1 as reference, Using a small blade screwdriver or allen wrench, press actuator in center of coil, shifting valve spool. Turn adjustment knob clockwise to increase pressure, or counterclockwise to decrease pressure. This pressure should be set at 750psi. Using gauge in TPP port of manifold, adjust pressure up or down as needed. After adjustment is made tighten lock nut on adjustment screw.

VIEW 1



PRESSURE SETTING - continued

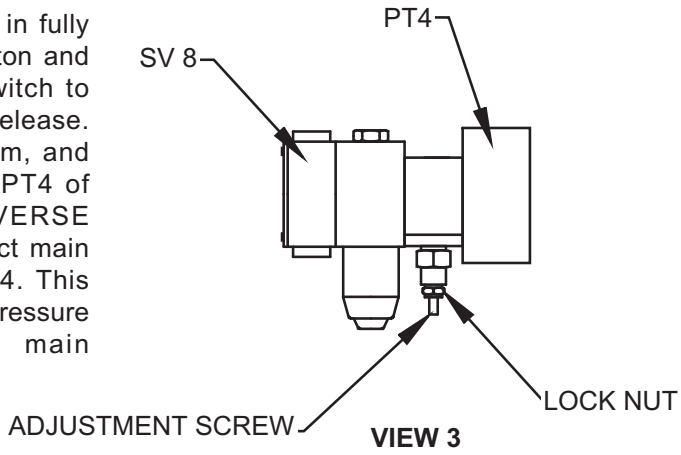
The Following steps will require (2) two people.

NOTE: See manifold diagram on page 2-10 for relief adjustment locations.

STEP 3

ROD PORT RELIEF

This setting needs to be done with main ram in fully retracted position. Press MANUAL MODE button and turn RAM FORWARD/REVERSE selector switch to REVERSE position to retract main ram and release. When this is done, lower rear limit switch arm, and loosen lock nut on rod port relief valve on PT4 of ram manifold. Turn RAM FORWARD/REVERSE selector switch to REVERSE position to retract main ram and adjust rod port relief valve on PT4. This setting should be, and not exceed 2000 psi. Pressure can be read using TPR port on main manifold.
Tighten lock nut.



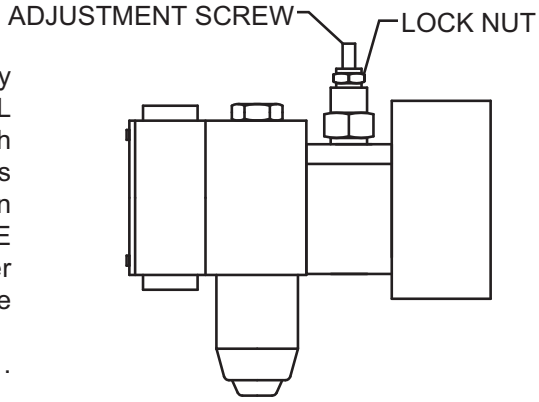
VIEW 3

The Following steps will require (2) two people.

STEP 4

PRE-CRUSH GATE RELIEF

This setting needs to be done with main ram fully retracted and the pre-crush gate down. Press MANUAL MODE button and turn GATE UP/DOWN selector switch to DOWN position to lower pre-crush gate. When this is done, lower pre-crush gate limit switch arm, and loosen lock nut on R9 of pre-crush gate manifold. Turn GATE UP/DOWN selector switch to DOWN position to lower gate and adjust relief valve R9. This setting should be 1500 psi.
Tighten lock nut on relief and reset limit switch.

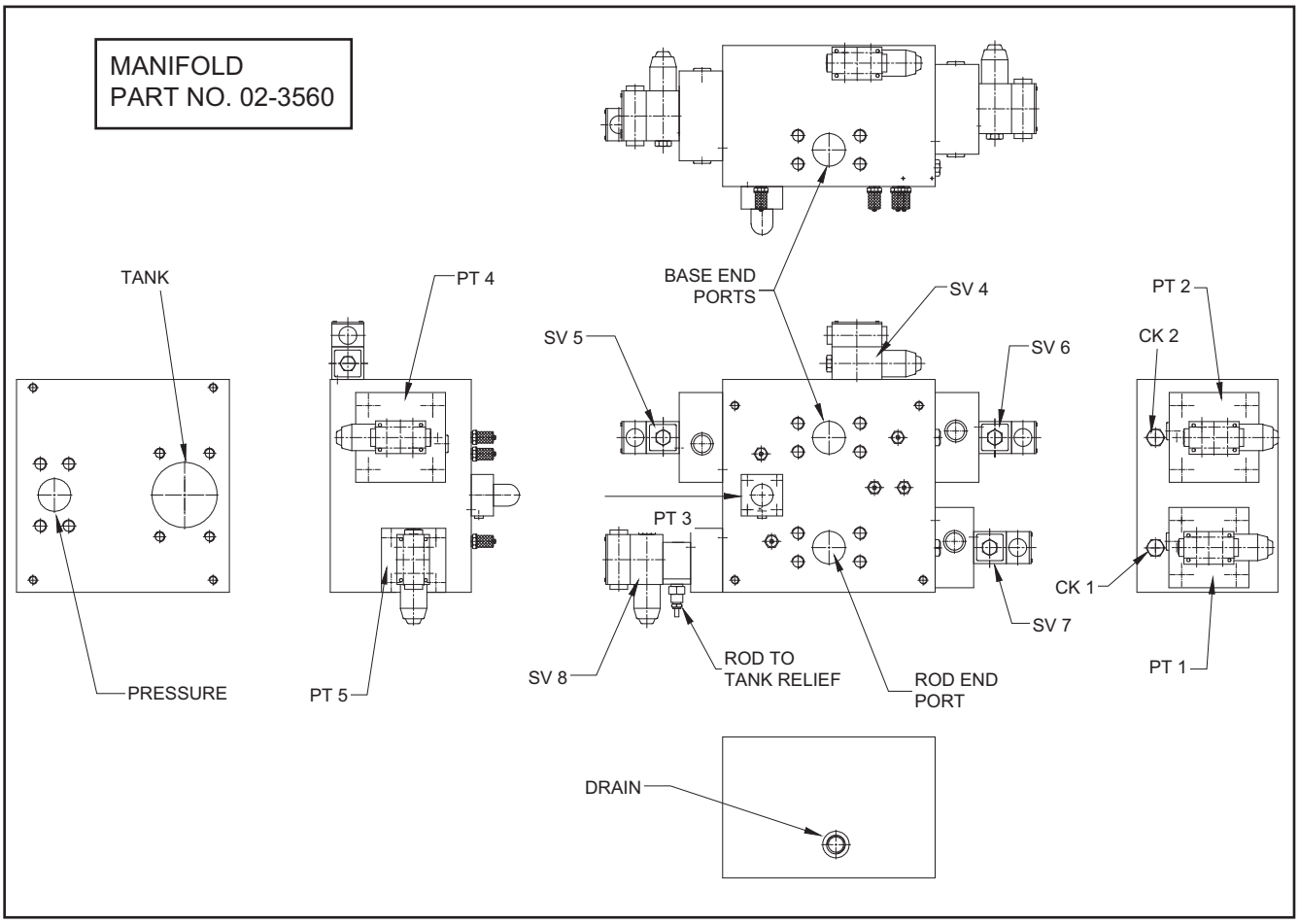


This setting needs to be done with main ram fully retracted and the pre-crush gate up. Press MANUAL MODE button and turn GATE UP/DOWN selector switch to UP position to raise gate. When this is done, lower pre-crush gate limit switch arm, and loosen lock nut on R12 of pre-crush gate manifold. Turn GATE UP/UP selector switch to UP position to raise gate and adjust relief valve R12. This setting should be 3000 psi. Tighten lock nut on relief and reset limit switch.

NOTE: See manifold diagram on page 2-11 for relief adjustment locations.

RELIEF PRESSURES SETTINGS ARE NOW COMPLETE.

HYDRAULIC MANIFOLD - Ram



PT1- Rod end pressure poppet. Controls fluid flow to rod end of cylinder.

PT2- Base end pressure poppet. Controls fluid flow to base (head) end of cylinder.

PT3- Decompression poppet. Controls how fast high pressure is released from the base end ports before cylinder can be retracted.

PT4- Base end to tank poppet. Controls fluid flow from base (head) end of cylinder back to tank.

PT5- Rod end to tank poppet. Controls fluid flow from rod end of cylinder back to tank.

SV4- 4-way valve. Opens and closes decompression poppet (PT3).

SV5- 4-way valve. Opens and closes base end to tank poppet (PT4).

SV6- 4-way valve. Opens and closes base end pressure poppet (PT2).

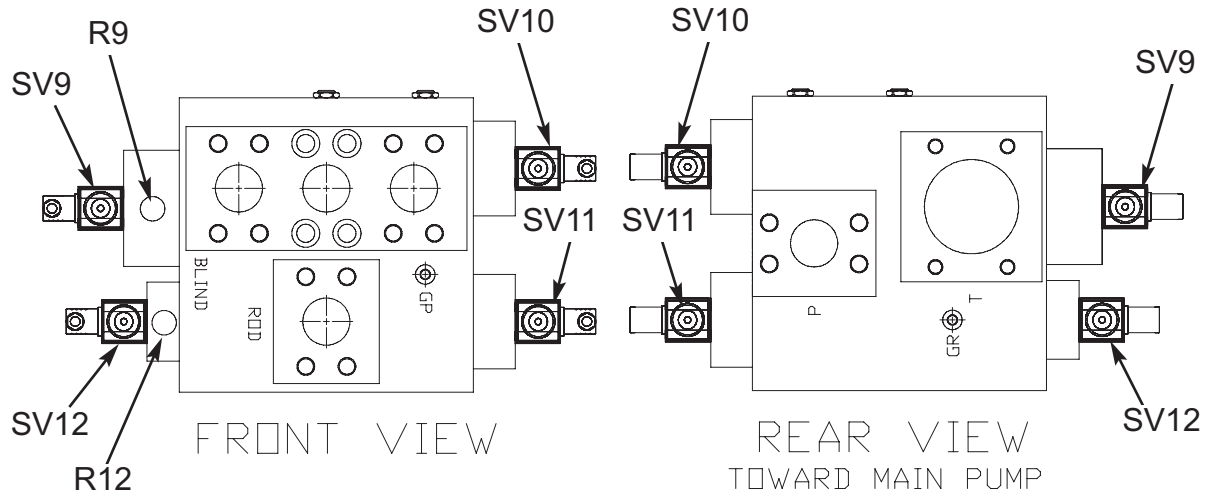
SV7- 4-way valve. Opens and closes rod end pressure poppet (PT1).

SV8- 4-way valve. Opens and closes rod end to tank poppet (PT5).

CK1 & CK2- Check valves. Check flow of pilot pressure in manifold.

HYDRAULIC MANIFOLD - Pre-Crush Gate

MANIFOLD
PART NO. 02-3706



SV9 --- BASE TO TANK
SV10 ---PRESSURE TO BASE
SV11 --- PRESSURE TO ROD
SV12 --- ROD TO TANK
R9 --- BASE END RELIEF
R12 --- ROD END RELIEF

ELECTRICAL CHARTS

FUSES AND CIRCUIT BREAKER

MOTOR SIZE	VAC	FULL LOAD AMPS	DUAL ELEMENT FUSE MAX.SIZE	CIRCUIT BREAKER MAX. SIZE	SERVICE DISCONNECT AMPS
100 HP	208	272.8	450	600	800
3PH	230	248	400	600	400
	460	124	200	300	200
	575	99	175	250	200

WIRE SIZES THW COPPER 75 DEGREE CELSIUS

MOTOR H.P.	VAC	LENGTH TO 100'	LENGTH TO 200'	LENGTH TO 300'
100 HP	208	500 KCM	500 KCM	500 KCM
3PH	230	400 KCM	400 KCM	400 KCM
	460	2/0	2/0	2/0
	575	1	1	1

NOTE: THIS INFORMATION IS FOR THE COMPACTOR ONLY.
(Does not include conveyor requirements).

CONVEYOR INFORMATION

If your Blok-Pak is configured with a conveyor for loading material, the conveyor should be installed per the ASME B20.1-2006 “Safety Standard For Conveyors and Related Equipment”.

The conveyor installation should include an emergency stop button (mushroom head, maintained type) on each side of the conveyor load zone. Along with the emergency stop buttons, safety decals must be installed around the conveyor feed hopper as shown on the following drawing no. 13704. The decals “DANGER DO NOT ENTER” and “WARNING: THIS MACHINE STARTS AUTOMATICALLY” should be installed by each emergency stop button. The decals “DANGER: DO NOT ENTER” should be installed on each inside wall of the feed hopper. The decals “WARNING: KEEP OUT” should be installed on each outside wall of the feed hopper.

Part numbers for the decals are:

06-0040	WARNING: KEEP OUT
06-0039	DANGER: DO NOT ENTER
06-0041	WARNING: THIS MACHINE STARTS AUTOMATICALLY

See the drawing that follows on the next page for the location of the decals and emergency stop buttons.

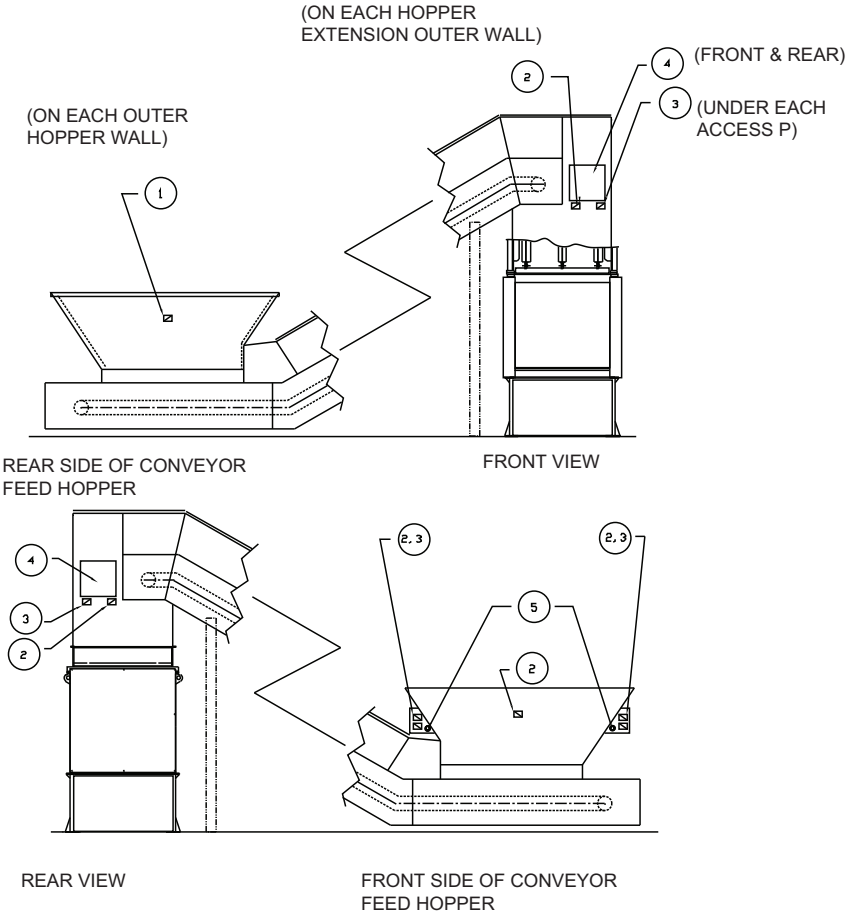
The conveyor can be operated on MANUAL mode or automatically in AUTO MODE. Do not enter the conveyor for any reason until the main power supply is locked-out and tagged-out per the instructions on page 2-1.

DANGER!

Failure to lock-out and tag-out the main power supply prior to entering the conveyor could result in serious injury or death!

CONVEYOR INFORMATION

DECAL AND EMERGENCY STOP LOCATION
FOR CONVEYOR.



NOTE:
1. ARRANGEMENT IS FOR TYPICAL INFORMATION ONLY.
2. DECALS AND EMERGENCY STOP BUTTONS MUST BE INSTALLED AS SHOWN FOR THE INSTALLATION TO BE COMPLETE.

REF. NO.	PART NO.	QTY.	DESCRIPTION
1.	06-0040	3	WARNING: KEEP OUT
2.	06-0039	7	DANGER: DO NOT ENTER
3.	06-0041	4	WARNING: THIS MACHINE STARTS AUTOMATICALLY
4.		2	ACCESS DOOR
5.		2	EMERGENCY STOP BUTTONS

3 INSTALLATION

CONCRETE PAD REQUIREMENTS

STUDY THE JOB SITE 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. THE COMPACTOR SHOULD BE INSTALLED PER STANDARD Z245.2 OF THE AMERICAN NATIONAL STANDARDS INSTITUTE.

Marathon Equipment Company 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

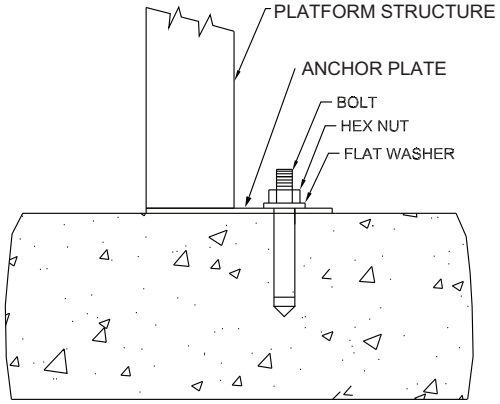
1. Refer to equipment drawing to show your equipment arrangement. Recommended dimensions of concrete pad are 10'0" wider than width of compactor and a length of 10'0" longer than length of compactor. If compactor is being fed by an above ground conveyor, preferred dimensions of concrete pad are 10'0" wider than width of conveyor and a length of 10'0" longer than length of conveyor. Concrete should be minimum 3,000 PSI, steel reinforced, 6" thick. It is preferred that concrete pad be 4” (minimum) higher than surrounding ground level to assure proper drainage.

2. Concrete provisions should also be provided for receiver trailer, power unit and control platform. For above-ground conveyors, a special truck ramp will be required to position route truck above conveyor dumping area.

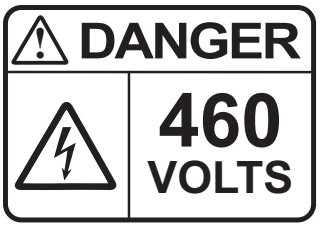
NOTE: CLEARANCES GIVEN ARE MINIMUMS. YOUR INSTALLATION MAY REQUIRE GREATER CLEARANCES DEPENDING ON SITE AND HAULING EQUIPMENT THAT WILL BE USED.

ANCHORING

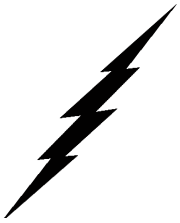
Each compactor platform should be anchored to concrete pad using (16) minimum 1” x 6” long concrete anchor bolts. It is best if these holes are drilled in the concrete after prelocating the platform and the compactor in its desired location. Holes in the anchor plates are 1-5/16” diameter to permit the use of a 1-1/8” diameter concrete bit. The 1-1/8” diameter holes in the concrete should be approximately 5” deep. When the compactor has been permanently located, shimmed to compensate for unevenness, and anchor bolts set, tighten all nuts securely. If a conveyor is used, it should be anchored per the manufacturer’s instructions.



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 and conveyor requirements.

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

GROUNDING INSTRUCTIONS

This appliance must be connected to a grounded, metal, permanent wiring system; or an equipment grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal or lead on the appliance.

If there is any doubt whether the equipment is properly grounded, a qualified electrican should be consulted.

REMOTE POWER PACK INSTALLATION

1. The power unit should be installed and anchored as required by the customer. **CAUTION:** Controls must be located so that the Emergency Stop Button is readily accessible to the operator and within three (3) feet of the charging chamber access and on each side of the conveyor dumping area. **If installation requires the control station to be located in a more remote area, a set of Emergency Stop Buttons should be added and installed in the manner described above.**
2. Connect the hydraulic hoses between the compactor body and the power unit. The rear port on the compactor is “A” port. The front port on the compactor is “B” port.
3. The sonic sensors for automatic operation are to be mounted on the conveyor hopper for conveyor-fed systems and to the compactor hopper extension for stand alone, top-fed systems.

ELECTRICAL CONNECTIONS

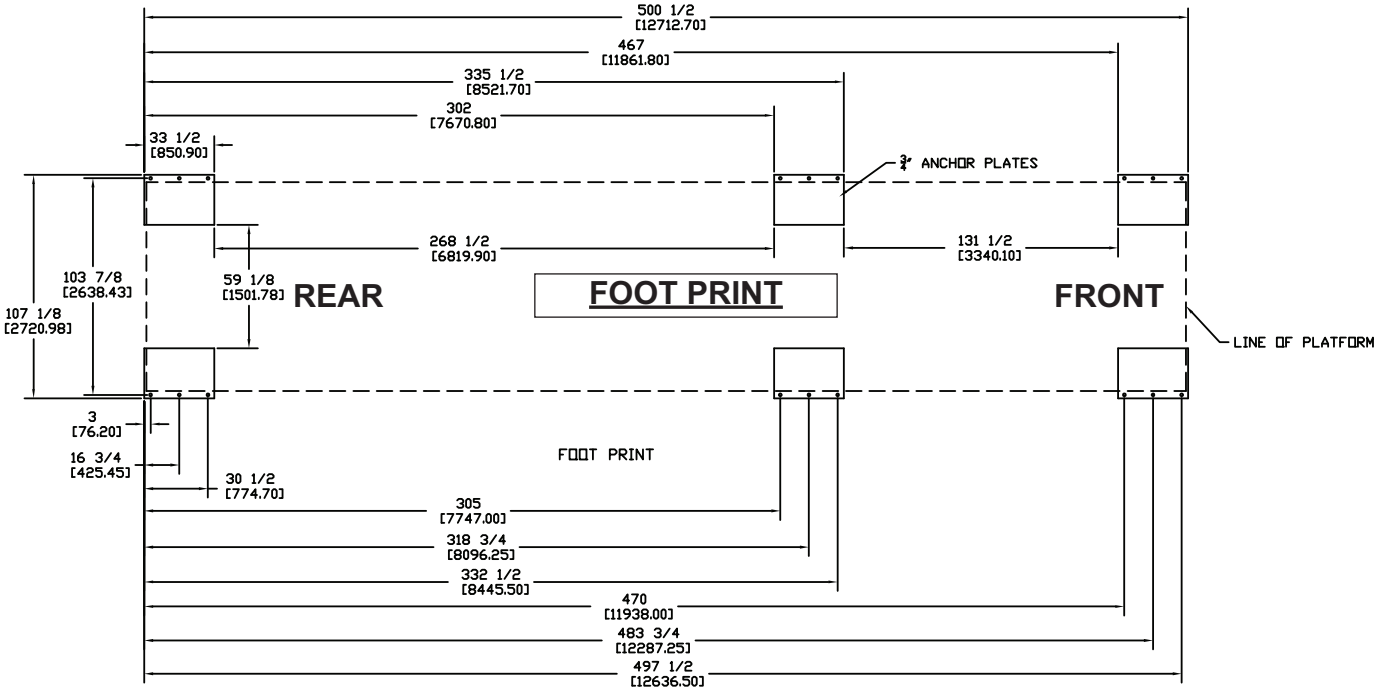
1. Run power lines between fused disconnect switch (customer furnished) and compactor's electrical panel box, in accordance with local electrical codes, using “knock-outs” in the bottom of panel box. See Fuse & Circuit Breaker Chart for Motors and Wire Size Chart on page 2-11 in the Maintenance Section, to determine the proper service disconnect amperage rating and the proper wire size.
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 when ready to start machine.

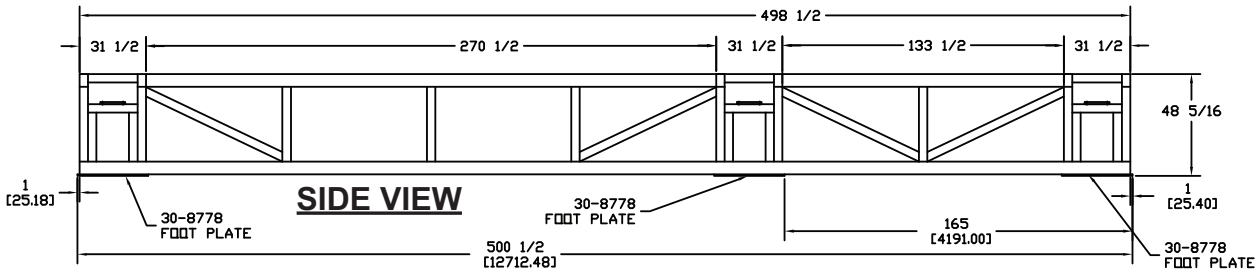
ASSEMBLING THE BLOK-PAK - LOCATING THE ANCHOR PLATES

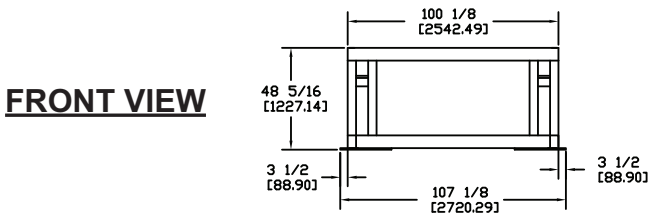
The installer of the Blok-Pak must thoroughly read the installation instructions before starting. All numerical values in the following diagrams and instructions are shown in inches, and in millimeters (below in parentheses).

NOTE: All welds for Blok-Pak assembly must be 3/8", 70,000 psi fillet welds, continuous at all contact points.

Step 1: Weld each of the six (6) 3/4" x 24" x 33 1/2" anchor plates (part # 32-8778) to the bottom of the platform as shown in the diagram below. **NOTE:** It may be necessary to locate these plates in the desired location first (per the diagram below) and then slide the platform in place once the Blok-Pak has been mounted.





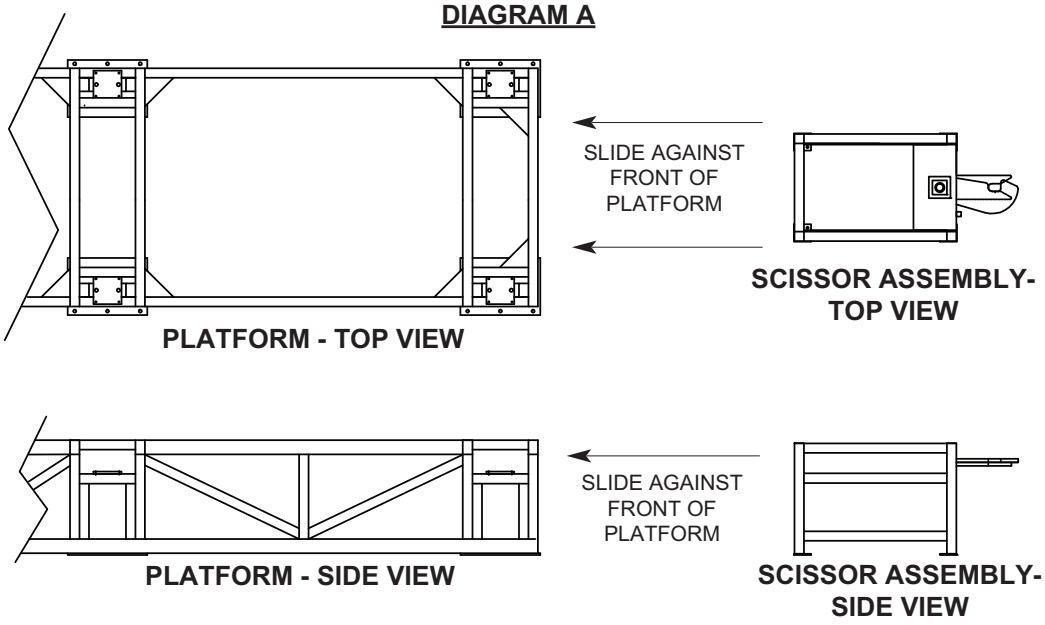


ASSEMBLING THE BLOK-PAK - SCISSOR ASSEMBLY

The following procedure explains how to attach the scissor assembly to the front of the platform:

Step 1: Slide the scissor assembly (as shown in Diagram A below) against front of the platform until the legs of the scissor stand contact the cross members on the platform.
Step 2: Weld legs of scissor assembly to cross members on the platform at all contact points (as shown in Diagram B below).
Step 3: Anchor the scissor assembly to the pad using the four (4) anchor wedges (part number 05-4499).

DIAGRAM A



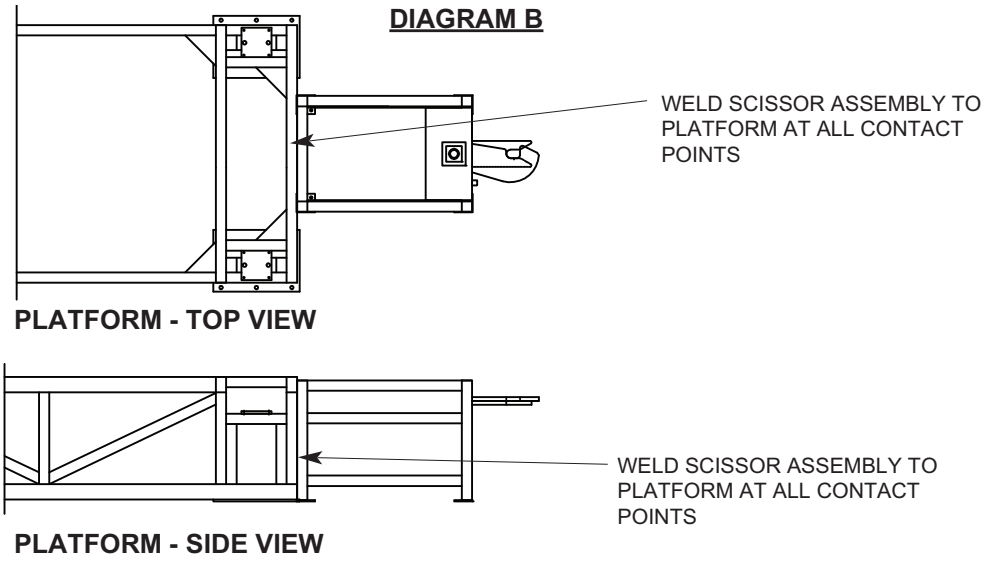
PLATFORM - TOP VIEW

SCISSOR ASSEMBLY- TOP VIEW

PLATFORM - SIDE VIEW

SCISSOR ASSEMBLY- SIDE VIEW

DIAGRAM B



PLATFORM - TOP VIEW

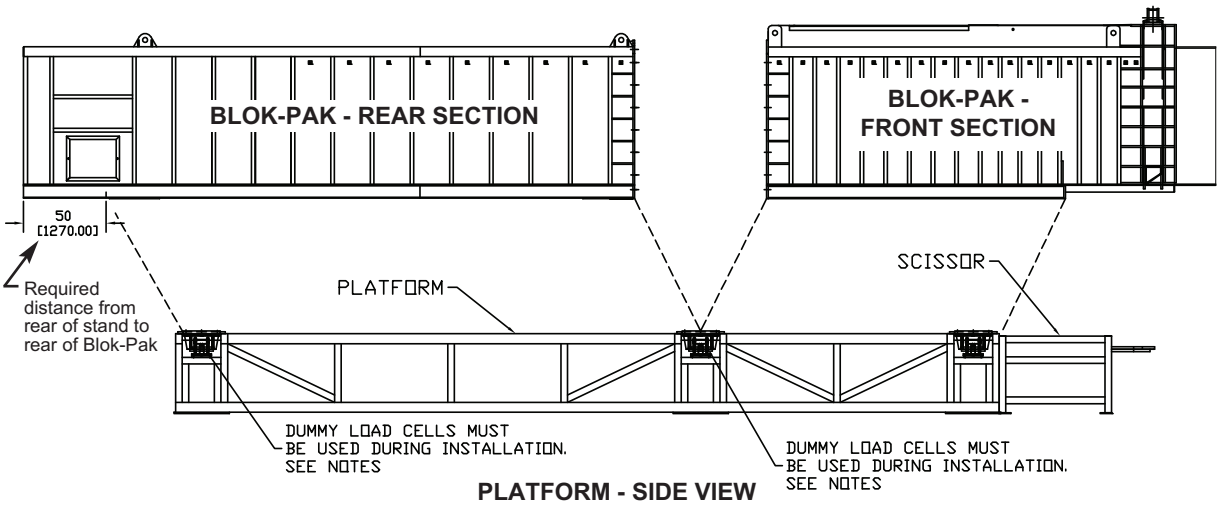
PLATFORM - SIDE VIEW

ASSEMBLING THE BLOK-PAK - MOUNTING BLOK-PACK ON PLATFORM

After installing the scissors assembly to the platform, next install the Blok-Pak body to the platform using the following procedure:

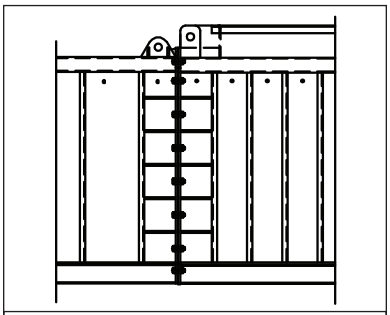
NOTE: Blok-Paks with load cells require the use of dummy load cells during installation.

Step 1: First bolt dummy load cells to the platform and bolt the top plates to the top of the dummy load cells.
Step 2: Set the rear section of Blok-Pak on rear of the platform so that 50” of the Blok-Pak extends over the rear of the platform as shown in the diagram below. Ensure that the Blok-Pak is centered with the platform. Once the rear section has been set in place, then weld the bottom of the rear section to all top plates of the dummy load cells. All welds should be solid, triple-pass continuous welds at all contact points.
Step 3: Set the front section of the Blok-Pak on the platform, against the rear section so that the bolt holes of the flange joint are aligned. Connect using the provided bolts, nuts and washers. Torque the corner bolts first, then the side bolts, and finally the top and bottom bolts last. Torque all bolts to 150 foot pounds, dry.
Step 4: Weld the front section of the body to the top plates of the dummy load cells (just as done with the rear section in Step 2).



PLATFORM - SIDE VIEW

Step 5: Once the Blok-Pak has been completely welded to the top plates, replace the dummy load cells with the functional load cells.



SIDE VIEW - CONNECTED BODY

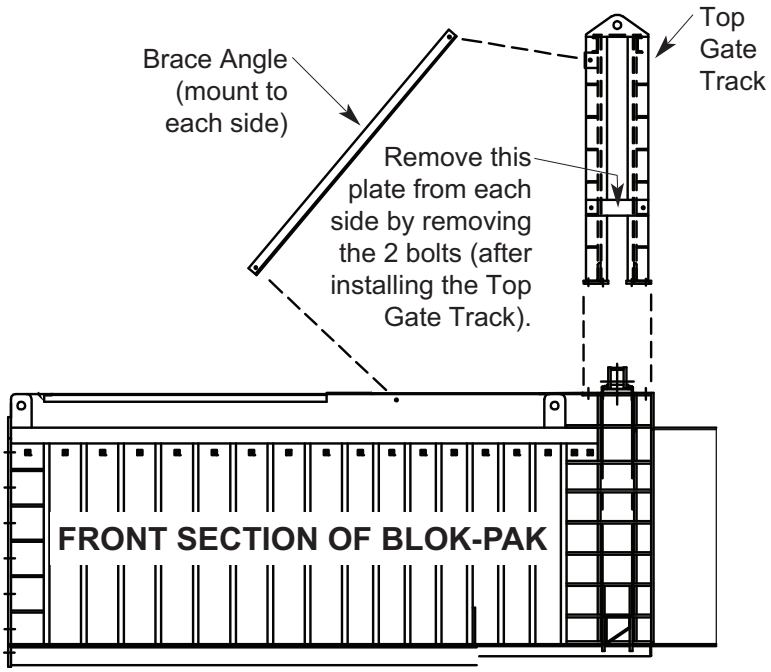
ASSEMBLING THE BLOK-PAK - TOP DOOR TRACK

After the Blok-Pak body has been mounted to the platform, the top door track can be mounted to the front of the Blok-Pak by the following procedure:

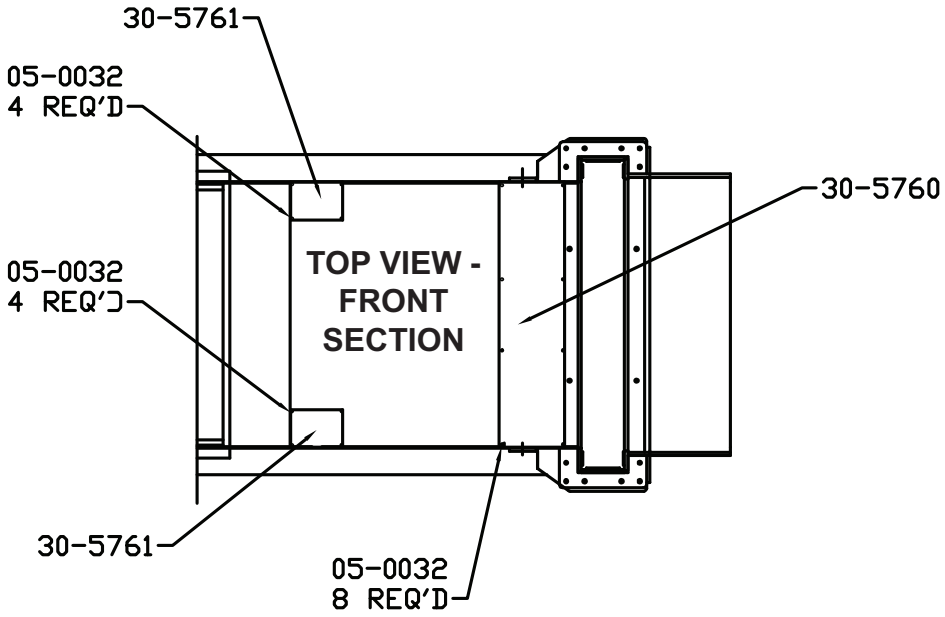
Step 1: Set the top gate track onto the front section of the Blok-Pak body as shown in the diagram to the right. Align bolt holes and connect top gate track to the body using the provided bolts, nuts and washers. Torque all bolts to 150 foot pounds, dry.

Step 2: Mount the brace angles to the top gate track and to the sides of the Blok-Pak body as shown in the diagram to the right.

Step 3: Unbolt and remove the 1/2" x 6" x 23 7/8" (p/n 30-5310) plates from each side of the top gate track.



Step 4: Once the top gate track and the brace angles have been mounted, then mount the covers (part numbers 30-5760 & 30-5761) using the supplied screws as shown in the diagram below:



ASSEMBLING THE BLOK-PAK - COMPLETED ASSEMBLY