

I. INSTALLATION INSTRUCTIONS

IT SHALL BE THE RESPONSIBILITY OF THE INSTALLER OF THE STATIONARY COMPACTORS TO INSTALL COMPACTORS IN ACCORDANCE WITH CURRENT ANSI Z245 STANDARDS APPLICABLE CODES. **K-PAC DOES NOT ASSUME RESPONSIBILITY FOR THE INSTALLATION PROCEDURES OF THIS EQUIPMENT.** CONFORMANCE TO ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS CONCERNING INSTALLATION RESTS WITH THE CUSTOMER.

Warning: All involved personnel shall study this manual completely before proceeding. Study the installation carefully to be certain that all safety guards, and safety devices are provided and in the proper place to protect personnel and equipment during and after the installation.

INSTALLATION SITE

1. Careful consideration should be given to the site selected for the K-PAC Compactor.
2. Concrete Pad: Ample room should be provided for the collecting vehicle to maneuver, including room to avoid OVERHEAD ELECTRIC AND TELEPHONE LINES. The unit should be placed on a reinforced concrete pad. Preferred dimensions of the concrete pad are 10'0" wide and a length of 5'0" greater than the length of the stationary compactor and receiver container. It should be a minimum of 3,000 PSI concrete, steel reinforced, 6" thick. For good housekeeping practices, it is recommended that a drain beneath the platform be incorporated in the pad to allow for washdown, etc. Concrete should be flush with the surrounding ground level. This is important for truck access. NOTE: the pad must be level on outside 2' to allow contact of all four platform rollers if Roll-Off container is being used.

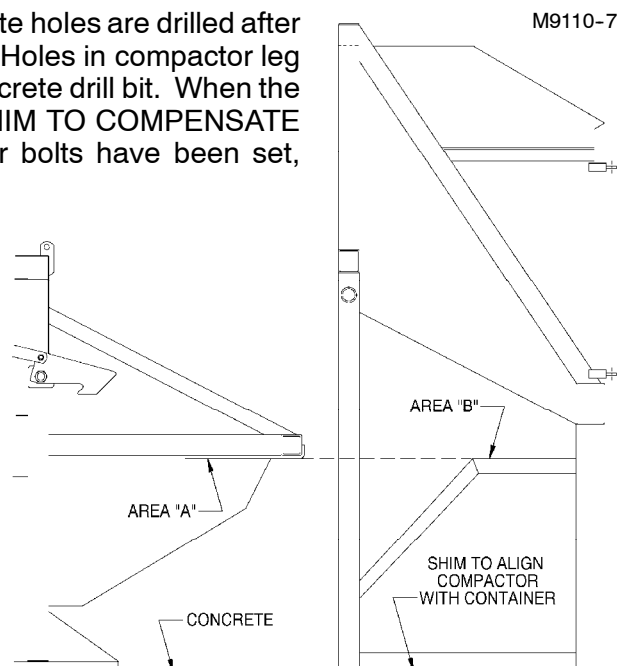
To provide accessibility, the concrete pad should be positioned to allow 2'0" between the container and the building wall if installed parallel with the building. Allow a minimum of 4' of clear space from container end of pad for container handling vehicle. NOTE: With VERSAPAC, plan installation for possible future expansion.

Container guide (optional) should be anchored with bolts grouted-in with setting compound approximately 5" deep. Spacing between the guides is determined by rail spacing of the containers. NOTE: Some type of container guide is necessary for a roll-off container. Make sure guide is long enough for accurate alignment. We also recommend installation of a container stop at rails or rollers.

3. Anchoring: Compactor should be anchored to concrete pad using at least two (2) 3/4 or 5/8" Dia. anchor bolts per leg or a total of 8 to 12 anchor bolts. The use of 'Red Head' Phillips Drill Co. or equivalent anchor bolts is recommended. To allow for manufacturing variations, it is best if the concrete holes are drilled after prelocating compactor in its desired location. Holes in compactor leg plates are 13/16" Dia. to permit use of 3/4" concrete drill bit. When the compactor has been permanently located, SHIM TO COMPENSATE FOR CONCRETE UNEVENNESS, and anchor bolts have been set, tighten all nuts securely.

NOTE: IT IS VERY IMPORTANT THAT THE SHIMMING IS DONE CAREFULLY SO AS NOT TO TWIST THE COMPACTOR, AFFECTING LIFE AND/OR OPERATION OF THE COMPACTOR.

When the container is in position, the container (area 'A') must rest on compactor (area 'B'). This is for support during compaction cycle. It is best to have the container and compactor together when installing the compactor. See illustration to the right. If wheel option is added to front load container, compactor must be shimmed approximately 1-1/2" to properly align with container.



Container guide (optional) should be anchored in the same manner as the compactor. spacing of the guides is determined by rail spacing of receiver box.

4. Chute-fed installation: Compactors installed in this arrangement are normally fed 'through-the-wall'. The lower edge of the access hole in the wall should be a minimum of 42" (and, if possible, not more than 58") from inside floor level. A security door (in accordance with local code) should be installed in the wall opening. In the absence of local code, this door should be constructed of 3/16" steel plate or steel hollow core design and be lockable from the inside of the building. NOTE: When compactor is shut-fed, remove compactor door and move interlock to security door (see current ANSI Z245.1) which prevents compactor from cycling whenever door is open.

For 'through-the-wall' installation, move power panel from compactor to within 3' of the shut door. A remote start / stop control can be added for hauler to operate compactor from outside of the building.

SAFETY DECAL REQUIREMENTS

Be certain that the appropriate decals are applied in their proper locations. It is recommended that a 'DANGER -- DO NOT ENTER' decal #74-319 be applied to any access door (such as a security chute).

ELECTRICAL INSTALLATION

A separate lockable branch circuit for the power unit must be installed by a qualified electrician. Check the supply voltage and frequency on the power unit before connecting to main supply disconnect device (customer furnished). The actual voltage must be within 5% of the nameplate rating when the unit is subject to maximum relief setting. If voltage is not compatible, a qualified electrician must take whatever steps are necessary to make the voltage compatible.



Warning: Before wiring changes are made, make sure that the disconnect switch is padlocked in the 'OFF' position. Place an appropriate warning tag 'UNDER REPAIR, DO NOT ENERGIZE WITHOUT THE PERMISSION OF _____', on the disconnect switch so that the switch will not be energized without notifying the person making the wiring changes.

All wiring must be in accordance with Local and National Electric Code regulations. Recommended fuses and wire sizes are listed on a chart below, but the ratings must always meet or exceed any local code.

MOTOR HORSEPOWER	LINE VOLTAGE	MOTOR OVERLOAD AMPS	TIGHTENING TORQUES		
			CONNECTION	SCREW SIZE	TORQUE INCH-LB. MIN. - MAX.
3 Horsepower 3 Phase	208	11.0	Line Terminals:	M4	9 - 13.3
	230	10.0	Load Terminals:	M4	9 - 13.3
	460	5.0	Control Terminals:	M3.5	7 - 10.6
1 Horsepower Single Phase	110	16.0	Auxiliary Contact:	M3.5	7 - 9
	220	8.0	Terminal Block:		7 - 9

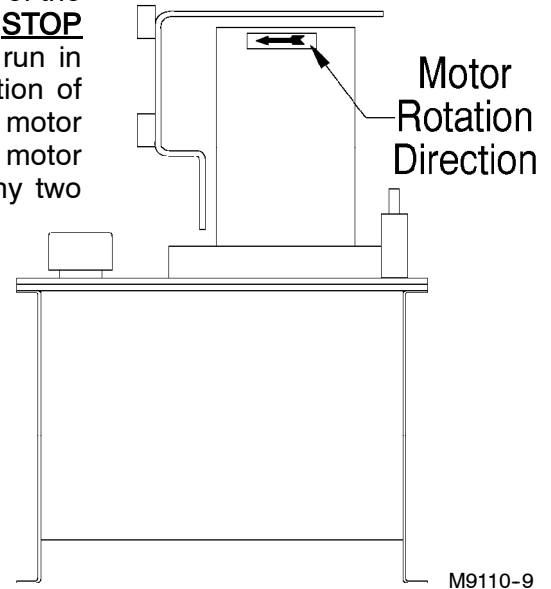
After making sure that all wiring is correct, run power lines between the customer's disconnect switch and the motor starter for the K-PAC compactor.

See inside of the control panel door on the Power Pack for the electrical schematic. Check that the power pack is set up for supply voltage being used. NOTE: Power packs are standard from factor as 110V. Included in an envelope inside control panel are conversion instructions to 220V. Also included are the necessary parts, schematics and decals.

Be sure motor is also wired for proper voltage. Any incorrect wiring can **burn up** components so double-check your work. NOTE: Conversions instructions are included in this manual on page 22.

Quickly start and stop, and then observe the direction of the electric motor rotation. If the pump runs **backwards**, **STOP IMMEDIATELY!** The pump will be damaged if it is run in reverse even for short periods of time. If the direction of rotation is not in agreement with the marking on the motor housing, (see the illustration to the right) correct the motor rotation. NOTE: On 3-Phase motors, reversing any two incoming power lines will reverse the motor rotation.

⚠ Caution: The 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 require this push button control station to be located in a more remote area, a second emergency stop should be added and installed in the manner described above.



IMPORTANT: AS A FINAL CHECK, CAREFULLY INSPECT FOR LEAKY HYDRAULIC CONNECTIONS, LOOSE ELECTRICAL CONNECTIONS. LOOSE OR MISSING BOLTS AND NUTS.

II. START-UP AND TESTING INSTRUCTIONS

⚠ Warning: Make sure that all access covers, hopper door or gates are closed and secured.

Before proceeding with this test, make sure that persons are standing clear of the loading chamber and the container.

Do not test this unit until you have read and understood the operating and maintenance instructions in this manual.

1. With the main disconnect switch 'OFF', visually inspect all hydraulic, mechanical, and electrical connections on power unit and compactor. All connections must be tight.
2. Check oil level in the reservoir to be sure it is adequate. The oil must be within 4" to 5" of the top of the reservoir. Use Dexron® II oil.
3. Lubricate all oil and grease points on the compactor as instructed under 'Monthly Check' in the Prevention Maintenance Section of this manual. See page 14.
4. Close the main power supply switch, BE ALERT for smoking, electrical arcing, or fuse failure. If any irregularity is observed, open main supply switch IMMEDIATELY. Find the source of trouble and make the necessary corrections.
5. OBSERVE MOTOR ROTATION. Insert 'START' key and turn momentarily then quickly depress 'STOP' button and observe motor rotation. It must rotate in the direction of the arrow on the motor housing (clockwise). If motor rotation is incorrect, open the main disconnect switch.
6. If rotation is correct, jog the electric motor to prime the pump. If the pump makes excessive noise, shut the system down and check for leaks or an obstruction.
7. Insert key and turn switch momentarily. When released, the ram will move and continue to move until it reaches full extension, then the ram will automatically shift to retract. Upon reaching the retracted position, the power will shut off.

8. After the completion of the packing cycle, the power unit should stop automatically. If it does not, press the 'STOP' button. Check the pressure switch in the cylinder 'retract' line. It may be faulty or incorrectly adjusted.



Warning: Make sure that the interlocks are installed and functioning properly.

With the factory electric interlock installed, opening of the hopper access door will shut down the power pack. Door must be closed for power pack to operate.

III. OPERATING INSTRUCTIONS

EMPLOYER RESPONSIBILITY FOR VERSAPAC COMPACTORS

The employer shall provide properly maintained compactors that meet all applicable regulatory safety standards and shall be responsible for:

1. Ensuring that the installation of the VERSAPAC compactor is in conformance with local codes, ordinances, and manufacturer's recommendations.
2. Providing for instruction and training in safe methods of work to employees before assigning them to operate, clean, service, maintain, or repair the equipment. Such instruction and training shall include procedures provided by the manufacturer.
3. Monitoring the employee's operation of the compactor and taking appropriate action to ensure proper use of the equipment, including adherence to safe practices.
4. Repairing, prior to placing the compactor into service, any mechanical malfunctions or breakdowns that affect the safe operation of the equipment.
5. Establishing and following a program of periodic and regular inspections of all compactors to ensure that all parts, component equipment, and safeguards are in safe operating condition and adjusted in accordance with the manufacturer's recommended procedures. This shall include keeping all malfunction reports and records of inspections and maintenance work performed.



Caution: Employers should allow only authorized and trained personnel to operate the compactor. Therefore, this compactor is equipped with a key operated locking system, and the key(s) shall be in the possession of only authorized personnel.

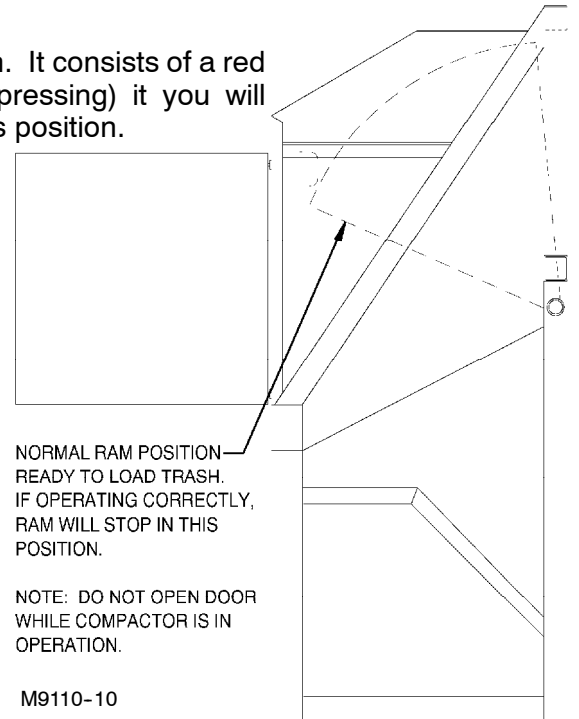
6. No one should ever need to enter loading hopper for service. If some unforeseen need arises to enter the chamber, MAKE SURE POWER DISCONNECT SWITCH HAS BEEN TURNED 'OFF' AND LOCKED WITH KEY IN POSSESSION OF PERSON DOING MAINTENANCE. An appropriate tag 'UNDER REPAIR, DO NOT USE' should be attached to the disconnect switch so that the switch will not be energized without notifying the person doing the service work. Before restarting the compactor, be sure loading hopper is clear of all personnel.
7. All access doors and panels on compactor body should always be secured in place.
8. Loading door must be closed before operating the compactor.

OPERATING INSTRUCTIONS FOR VERSAPAC COMPACTORS

1. Place material to be discarded into hopper and close hopper door. NOTE: Door **MUST BE CLOSED** to operate compactor. NEVER open door while compactor is in operation. **ALWAYS** cycle unit after placing material into hopper.
2. Insert key in keylock start switch, turn clockwise, and hold from 1 to 2 seconds, then release. After release, key can be removed to prevent unauthorized use.
3. Upon start-up of unit, ram extends until the ram reaches a pre-set force determined by sequence setting which reverses valve, making ram retract until the shut down pressure switch setting is reached.
4. All compactors must and do have a stop button. It consists of a red mushroom style head and by activating (depressing) it you will immediately shut unit down regardless of ram's position.
5. NEVER leave ram stopped in any position but 'UP' ready to load.

OPTIONAL FEATURES:

1. Container Full Light: When light is activated, container is full and ready to be emptied before its next use. To deactivate the light, depress emergency stop button.
2. Container Full Buzzer: If operator continues to overfill unit after full light has been illuminated, then the buzzer will sound.
3. Container Latched Light Kit: Compactor will not operate when container is gone or out of position. Red light will illuminate when container unlatched or out of operable position.
4. Roll-Off Hopper Cover Kit: Self-Storing and used to cover hopper for transport. Use tie down straps to seal liquids when loading.
5. Container Close-Off Kit: Closes off unit so trash will not be thrown on the ground when container is being emptied.



IV. HAULER OPERATING INSTRUCTIONS

⚠ Caution: The operator shall be certain that all individuals are standing clear of the point of operation and pinch-point area before actuating the controls.

DO NOT TRANSPORT THE CONTAINER WITH THE COLLECTING VEHICLE.

DO NOT USE ADDITIONAL EQUIPMENT IN LIFT AND DUMPING OPERATION.

⚠ Caution: When unloading the container, observe the following:
Check for overhead line clearance before unloading the container.

The above operations must be performed only after the area is cleared of persons and/or property.

FRONT LOAD CONTAINER

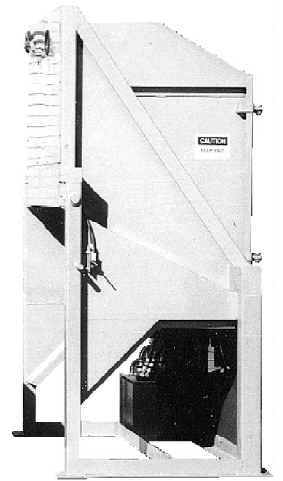
1. Properly align collecting vehicle forks to container pockets squarely, and slowly insert forks into pockets.
2. Insert vehicle forks just far enough to unlatch container and hook forks on pocket ends.
3. Lift container slightly and back truck straight back far enough to clear compactor. **NOTE:** If container will not release, check latch linkage and fork. Also, check that ram is in upper stopped position.
4. Raise container and dump. Lid latches should be released by insertion of truck forks in container pockets. (**NOTE:** If lid latches are released, then container to compactor latches should also be released. Be sure both sides are released.)
5. Return container to near ground and move straight forward to return container to original position. Make sure container is completely in place on both sides.
6. Lower forks slightly to release tip and back out of pockets. Latches should relatch container to compactor and lid to container. If unit is equipped with optional Container Latched Light Kit, light should turn off.
7. Check latches each time after return until driver is confident unit is 100% latched. If unit is equipped with optional container latched light kit, the large red light will illuminate when latches are not 100% latched.

NOTE: It is very important that unit is 100% latched.

8. Cycle unit one (1) time to make sure that the machine is ready to use.
9. If alignment is a problem, hauler may want to add a stripe to the compactor and the container lid for better visual alignment.

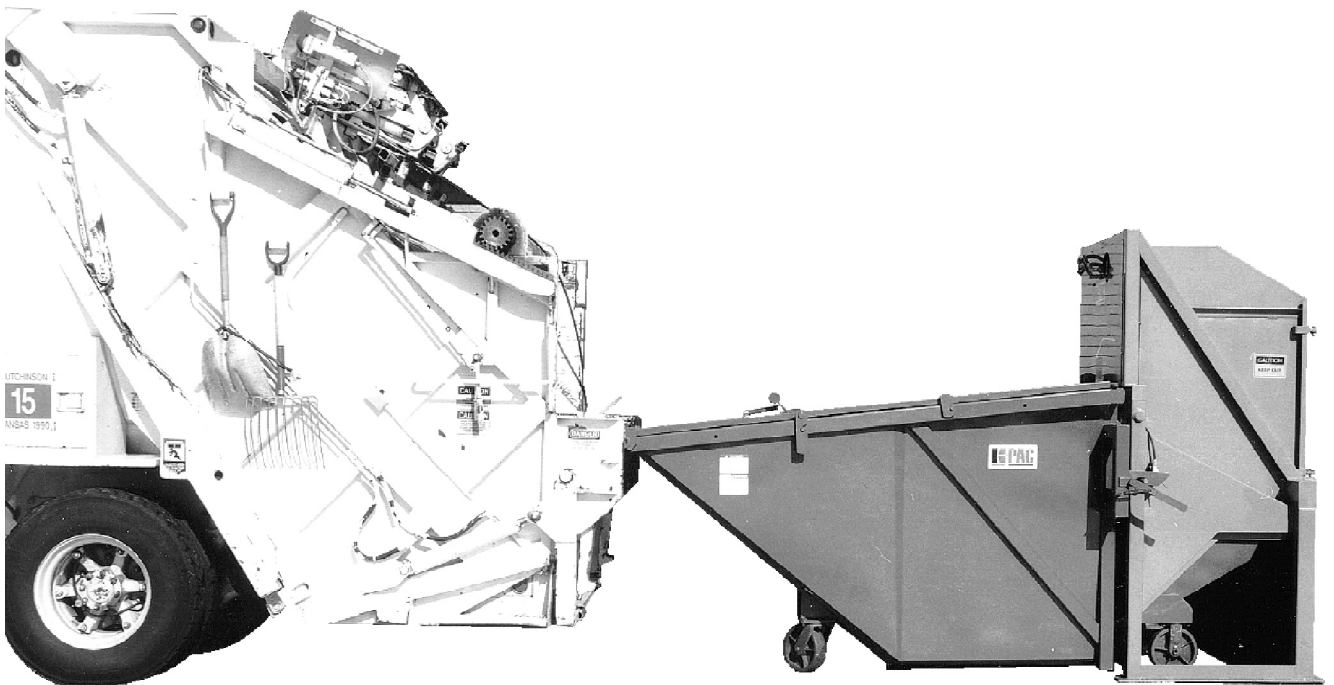


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REAR LOAD CONTAINER

1. Cycle machine two (2) or three (3) times to dislodge compacted load. This will only be necessary if unit is very full and material is sticking to sides.
 2. Align collecting vehicle with trunnion and connect lift cable to container as shown.
 3. Unlatch container (both sides).
 4. Lift slightly with cable and move collecting vehicle straight forward 3' or more to clear compactor.
 5. Lift container, dump and return to ground level.
 6. Back truck and container into compactor.
 7. Release cable, make certain lid is latched, and push container into compactor position, if not already in proper position.
 8. Relatch container to compactor. Make sure the both sides of container are latched.
- NOTE: This is very important because an unlatched container will move out of position causing interference of compactor ram and container.
9. Cycle unit to make sure compactor is ready to use.



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ROLL-OFF CONTAINER

1. Align collecting vehicle to container rails and rollers. Unlatch container (both sides).

IMPORTANT: OPEN LOADING DOOR AND CHECK THAT RAM IS IN 'UP' POSITION.

2. Pull container straight forward at least 2 Ft. before starting any lifting onto truck rails. Even slight lifting could cause compactor damage.

NOTE: This is very important to keep from damaging compactor.

3. If equipped with optional tarp, pull tarp down over hopper, hook bar and ratchet tight. Attach bungi cords on each side.

4. Load unit onto truck, connect tailgate hydraulic hoses to truck after loading unit.

5. Transport container to landfill or proper destination. Tilt hoist and open tailgate with auxiliary valve.

NOTE: If temperatures are below freezing, in liquid application the tailgate may not open using hydraulics. If seal is frozen, use a prybar on bottom corners of tailgate. Do not pry on seal channel. Once frozen tailgate is freed, the hydraulics will operate the tailgate.

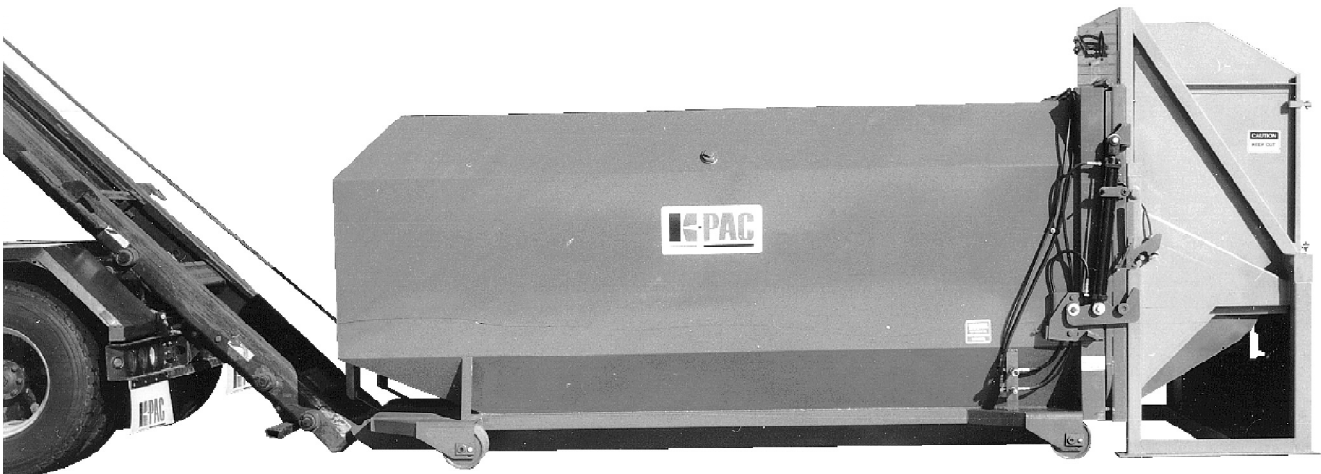
6. Be sure that the tailgate is tightly sealed.

7. When replacing container, align with guide rails. Make sure unit is properly aligned to compactor.

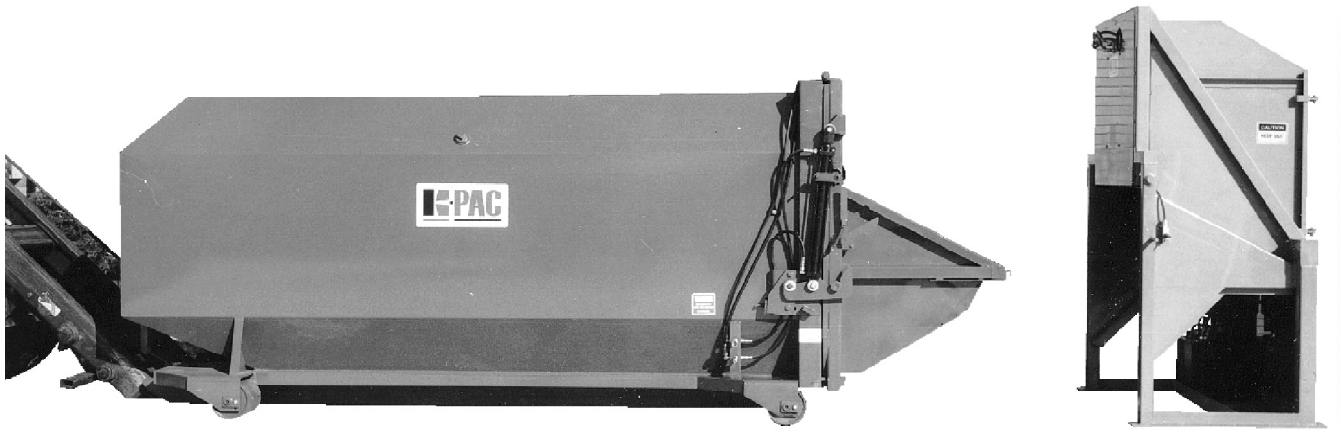
8. Unit must be on all 4 rollers for at least 2 Ft. before final compactor position.

9. Relatch compactor to container.

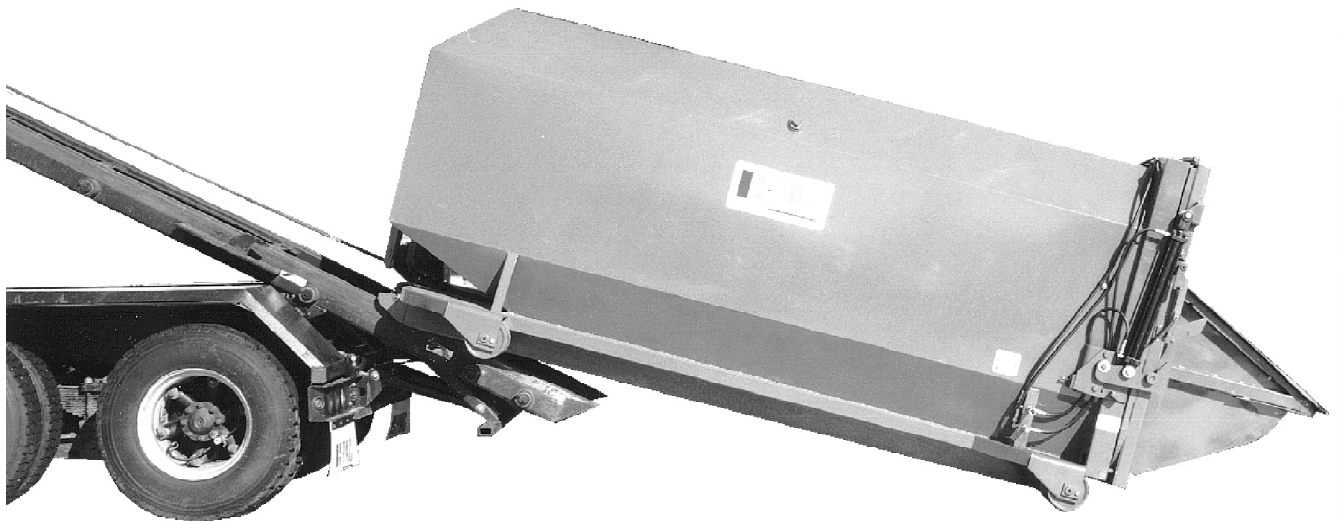
10. **NOTE: If unit is in a liquid application, the optional canvas cover kit should be installed and used to retain liquid when loading onto the roll-off hoist.**



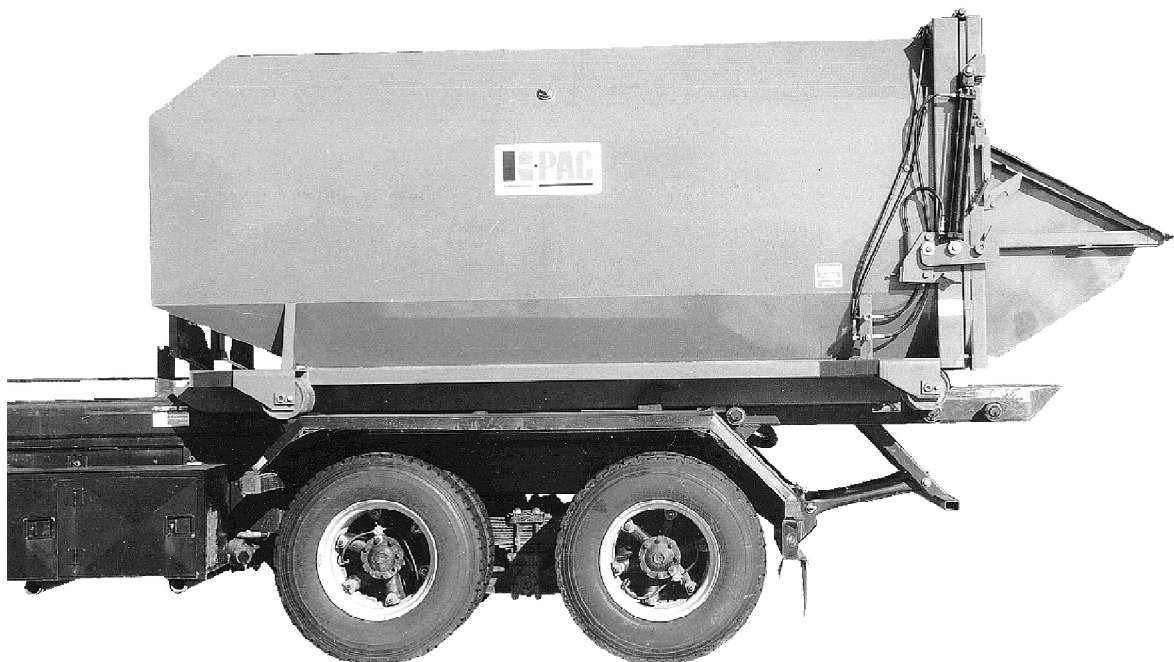
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V. MAINTENANCE INSTRUCTIONS

It shall be the responsibility of the employer who operates the equipment to ensure the proper caring for, cleaning, inspecting, and maintaining of compaction equipment, and in the case of employers who maintain their own equipment, the training of competent personnel for this purpose.

It shall be the responsibility of the employer to establish and follow a program of periodic and regular inspections of compaction equipment, and to ensure that all parts, auxiliary equipment, and safeguards are in safe operating condition and adjusted in accordance with the manufacturer's recommended procedures. The employer shall maintain records of these inspections and of maintenance work performed.

 **Warning:** Before removing access panels or entering charge chamber, make absolutely sure main disconnect power box is shut off and locked with key to said lock in possession of person entering charge chamber or area behind bolted access covers. A tag should also be attached to the disconnect 'Do Not Connect Power'.


WORK AREA AROUND COMPACTORS


It shall be the responsibility of the employer to provide adequate work area around the compactor to permit safe maintenance, servicing, and cleaning practices. It shall be the responsibility of the employer to keep all surrounding floors free from obstructions, from accumulation of waste water, and from grease, oil or water.

PREVENTIVE MAINTENANCE

We recommend that the user of the VERSAPAC compactors adopt a program of regularly scheduled maintenance procedures. Proper maintenance should give the Versapac a long and trouble-free life.

This schedule should be followed to insure against premature failure of mechanical or hydraulic components.

 **Warning:** Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.



AVOID HEATING NEAR PRESSURIZED HYDRAULIC HOSES

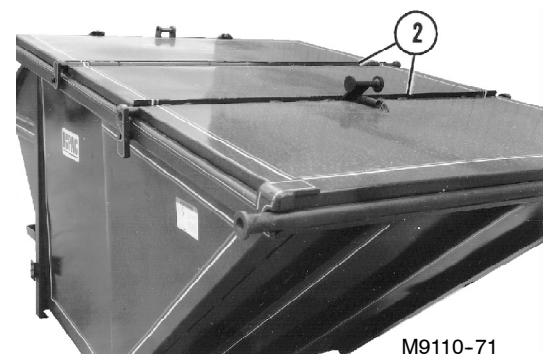
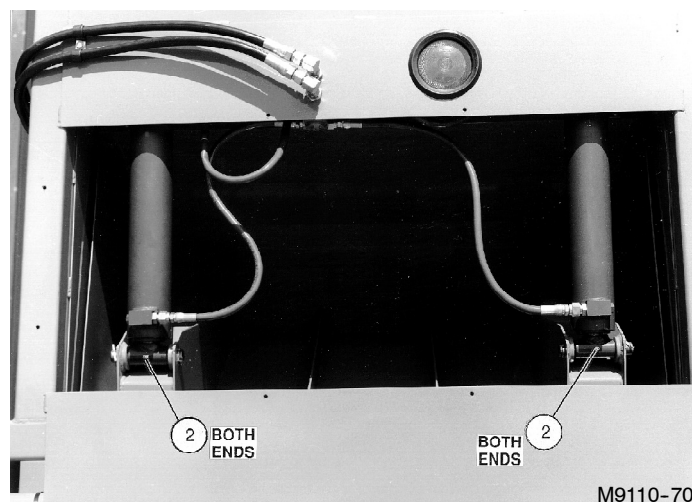
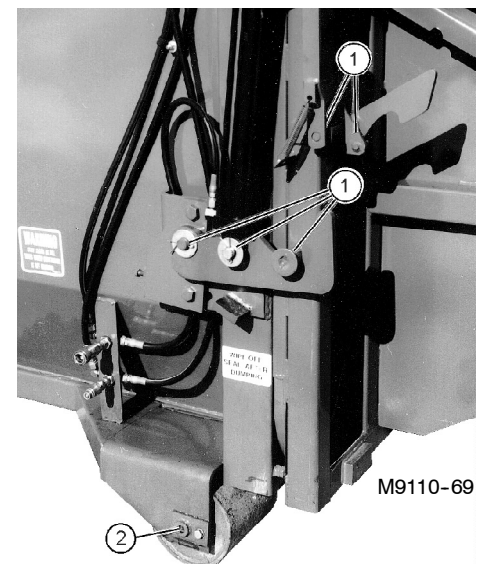
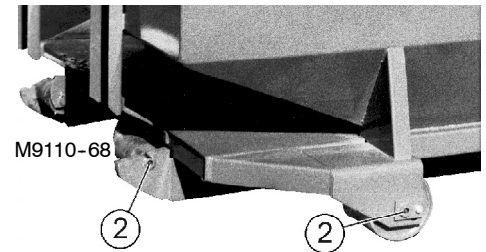
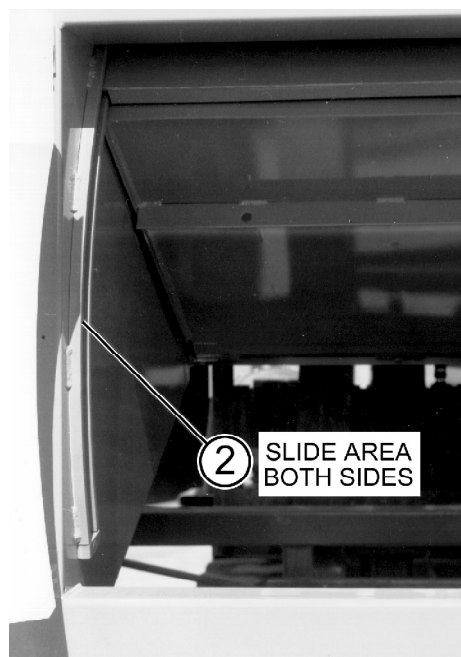
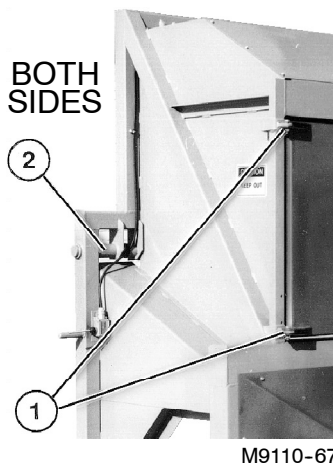
Flammable spray can be generated by heating near pressurized hydraulic hoses, resulting in severe burns to yourself and bystanders. Do not heat by welding, or using a torch near hoses. Hose can be accidentally cut when heat goes beyond the immediate flame area.

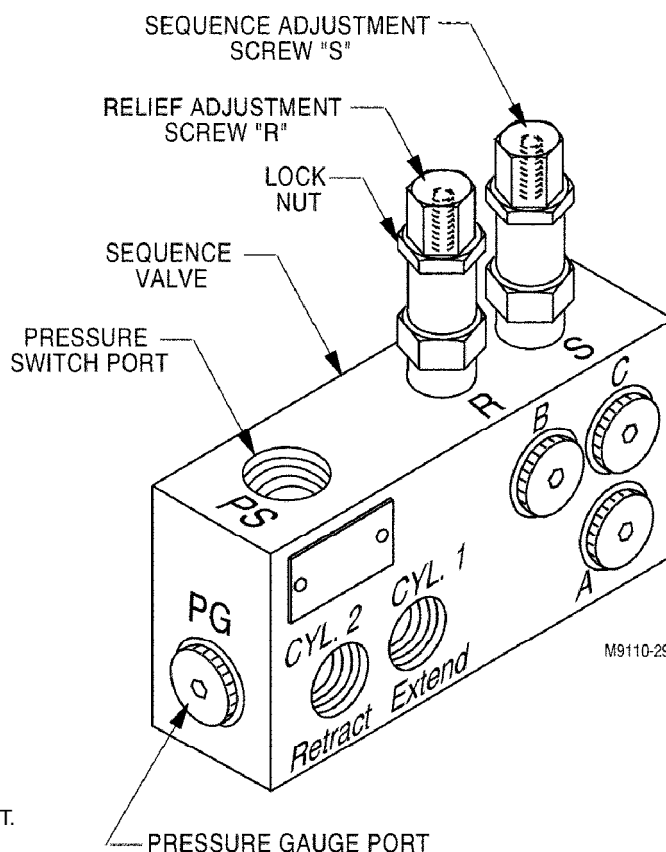
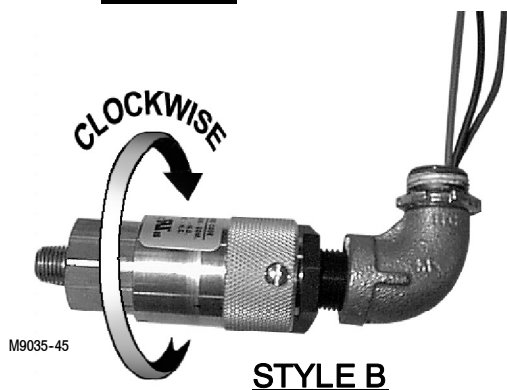
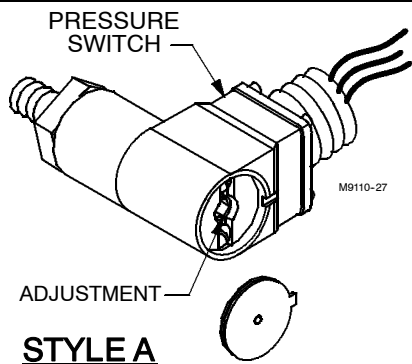
PREVENTIVE MAINTENANCE SCHEDULE	
INITIAL CHECK	All nuts and bolt during the first week of use, and then monthly thereafter.
	Hydraulic reservoir oil level should be at 4" to 5" level with ram retracted. Use a good quality Dexron II Automatic Transmission Fluid.
	Hydraulic lines and fittings for leaks.
	Hydraulic hose condition. (Check for damage, kinks, etc.)
	Access covers to be sure fasteners are in place.
	Power unit. Remove dust and dirt from outside of control box. Wipe off any dirt or grease, oil or moisture.
MONTHLY CHECK	Lubricate ram pivot shaft with EP grease. See LUBRICATION section on following page.
	Check external hoses for chafing, rubbing or other deterioration and damage.
	Check for any obvious unsafe conditions, such as electrical lines or operator obstructions, in compactor area.
	Check oil level in hydraulic reservoir.
	Wash hopper out.
	Check door latch on roll-off container for tightness. See page 16.
3 MONTH CHECK	Check functional operation of standard controls and options (stop button, timers, lights, etc.)
	Check hydraulic cylinder and internal hoses for leakage; hoses for chafing and wear.

FILTER MAINTENANCE	Hydraulic filter should be cleaned after 1 month of operation and then at regular intervals of not more than one year.
	Care should be taken in cleaning filter to insure that the element is not torn. Clean with a soft brush and standard industrial solvent.
	Replace filter after cleaning: tighten union securely. Pump noise and 'crackle' sound is most often caused by air entering pump suction line. Tightening the suction fittings will usually eliminate such problems.
YEARLY CHECK	Electrician to check all electrical connections, check motor resistance (recording successive readings helps to prevent future failure). Under heavy use, grease the motor. <u>Do not overgrease.</u>
	Hydraulic system - prior to winter season drain and clean inside of reservoir. Check pump and pump fittings. Check and clean filter, replace cover and refill. Check for tightness. Refill the reservoir with Dexron II Automatic Transmission Fluid (High Quality)
	Check structure of compactor for potential trouble areas and repair as needed.
	Check hoses to insure that they do not become severely worn before being replaced. A broken hose will allow the reservoir to be pumped dry and ruin the pump.
	Check ram pivot shaft and pivot bushings. Very important to keep this area lubricated. This will insure a very long life.
	Check condition of cylinder pivot pins and wear bushings. Replace as necessary. (See 'Cylinder Pivot Pin Inspection')

LUBRICATION:

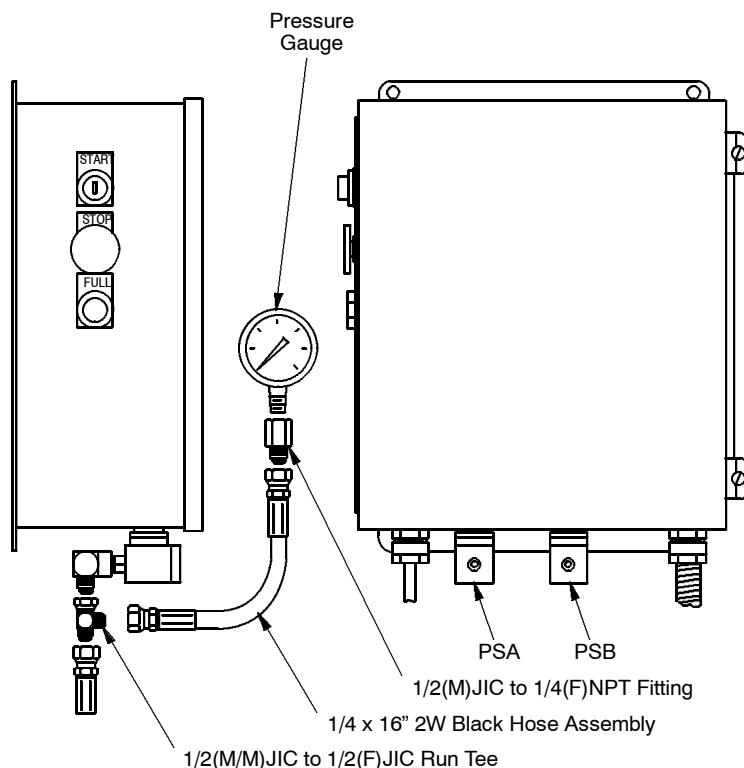
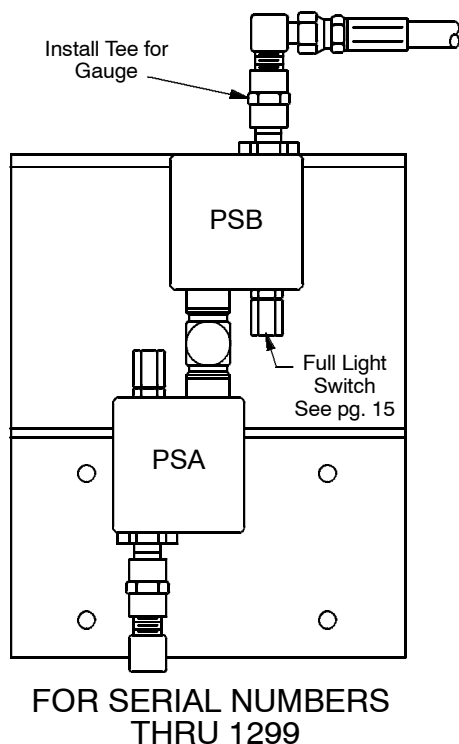
- ① - - OIL
- ② - - GREASE





SPECIAL ITEMS NEEDED TO ADJUST VALVES:

1. 0-3000 PSI Glycerine filled hydraulic gauge adaptable to 1/8NPT.
2. Screwdriver
3. 1/8" Allen Wrench (STYLE A)



FOR SERIAL NUMBERS 1300 & HIGHER

IMPORTANT: AFTER PACKING CYCLE HAS BEEN STARTED, LOCK START BUTTON AND REMOVE KEY BEFORE LEAVING COMPACTOR UNATTENDED. PACKING CYCLE WILL BE COMPLETED AUTOMATICALLY AND CANNOT BE RESTARTED WITHOUT KEY.

SEQUENCING VALVE, RELIEF VALVE AND PRESSURE SWITCH - SETTING AND ADJUSTING PROCEDURES

The Pressure Switch's function is to turn the unit off after a cycle is complete. The Main Relief Valve (R) and the Sequence Valve (S) are located on top of the valve block. The Main Relief Valve protects the pump and motor if the Sequence Valve or Pressure Switch should fail to function. The Sequence Valve controls the packing force and reverses the ram direction. **NOTE:** The Sequence Valve is preadjusted at the factory and should never need adjusting. However, if the need should arise, the following procedures must be followed.

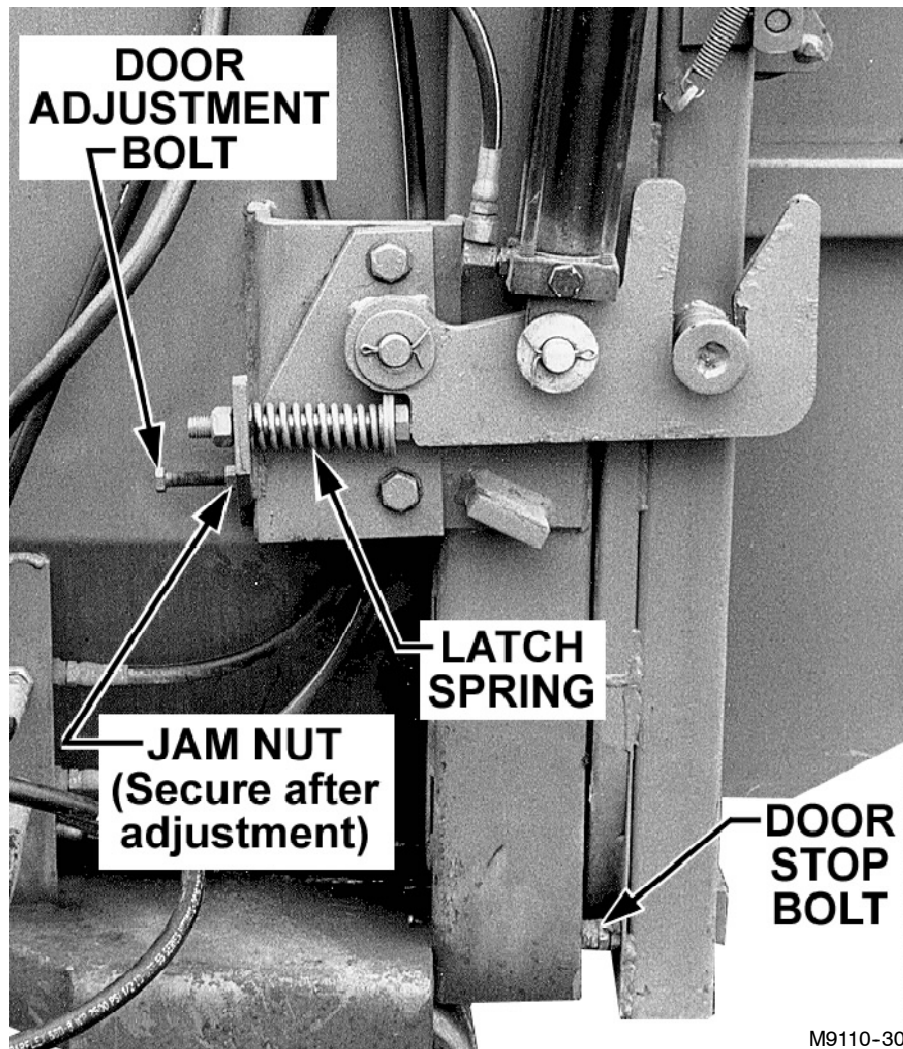
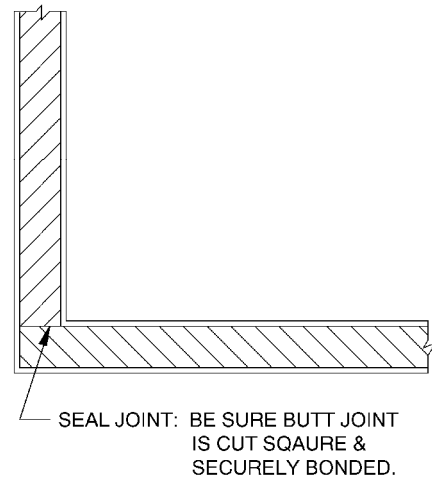
PRESSURE SETTING AND ADJUSTING PROCEDURE:

1. Install a 0 to 3000 PSI gauge in pressure port (PG) or tee at PSB switch.
2. STYLE A: Turn pressure switch adjustment screw clockwise one (1) full turn (800 PSI).
STYLE B: Turn pressure switch adjustment screw counter-clockwise one (1) full turn (800 PSI).
3. Remove the caps and loosen the lock nuts on Main Relief Valve (4) and Sequence Valve (S). See page 11.
4. Turn the Sequence Valve (S) adjusting screw clockwise approximately two (2) full turns and turn Relief Valve (R) adjusting screw counter-clockwise two (2) full turns.
5. Start machine. The ram will extend completely and the oil will dump over the Relief Valve (R). Adjust Relief Valve (R) clockwise until Pressure Gauge reads 2000 PSI. Turn Sequence Valve (S) counter-clockwise until the ram starts retracting. Tighten the lock nut on the Sequence Valve (S). (THIS OPERATION SHOULD BE PERFORMED AS QUICKLY AS POSSIBLE WITH THE MACHINE RUNNING AND THE RAM RETRACTING.)
6. Upon the ram fully retracting, adjust the Relief Valve (R) by turning clockwise one-half (1/2) turn. Tighten the Lock Nut on the Relief Valve (R). Relief pressure should be 2300 PSI.
7. SINGLE PHASE POWER UNITS: With motor running: STYLE A - turn (PSA) pressure switch adjustment screw counter-clockwise until the motor stops. STYLE B - turn pressure switch adjustment clockwise until the motor stops. Then turn an additional three-quarter (3/4) turn. This should set the switch for 700 PSI to 900 PSI. Check by operating a complete cycle.
8. 3-PHASE POWER UNITS: With the motor running and the oil dumping over the relief valve; STYLE A - turn pressure switch adjustment screw counter-clockwise until the motor stops, then turn an additional one-half (1/2) turn for style #1 switch, or one and one-half (1-1/2) turns for style #2, #3, and #4 switches. STYLE B - turn pressure switch adjustment screw clockwise until the motor stops, then turn an additional one-half (1/2) turn for style #1 switch, or one and one-half (1-1/2) turns for style #2, #3, and #4 switches.
9. Install and tighten the caps on Relief Valve (R) and Sequence Valve (S), and remove the gauge. Cycle the machine five (5) or six (6) times as a final check-out before installing the cover.

NOTE: If the ambient temperature is below zero (0) degrees Fahrenheit, the pressure switch setting may have to be increased. Increase setting only if a problem of ram returning exists.

ROLL-OFF CONTAINER REAR DOOR SEAL ADJUSTMENT OR REPLACEMENT

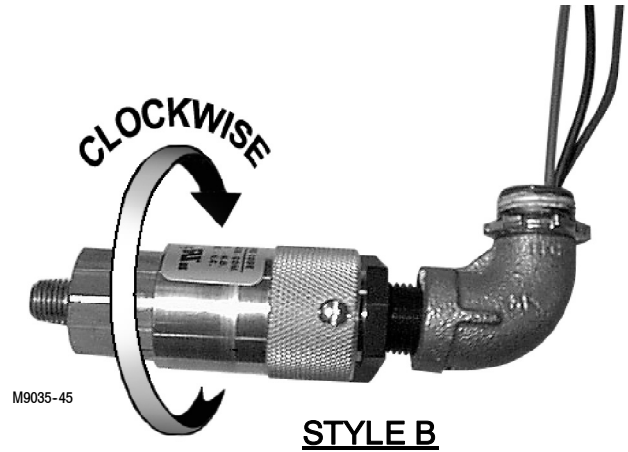
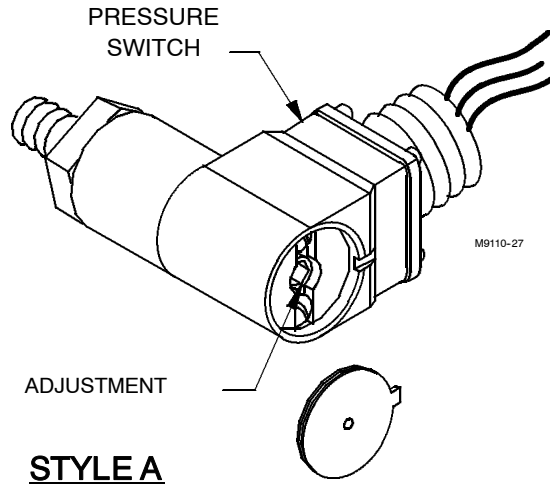
1. Inspect door seal for fractures or torn spots.
2. Inspect seal for waste material embedded into seal or left hanging over rod or seal.
3. If replacement of seal is necessary, begin removing seal by pulling from end at top of door. Peel out slowly so seal does not tear. After peeling out, scrape and buff seal contact area inside retaining channel. After cleaning, replace with new seal. Measure and cut new seal to join like old seal. Be sure to cut seal squarely to assure good joint. (See the illustration the right.) Apply a high grade of contact cement to the seal and the seal channel. Let cement dry until it is tacky and install seal strips. Bond the seal joint to assure no leakage at this point.
4. Check contact by chalking seal rod and powering door closed.
5. Adjust lower door stop bolt to prevent over-tightening seal and fracturing its fibers.
6. Adjust latch to snugly close door against stops. Must be tight so it must be powered open. This will eliminate the possibility of cylinder seal leakage ever allowing the door to unseal without being powered open.
7. Latch spring is designed to hold latch closed if cylinder pressure were lost. Tension is controlled by spacing washers not by adjustment of spring bolt. Check when latch is in unlatched position.



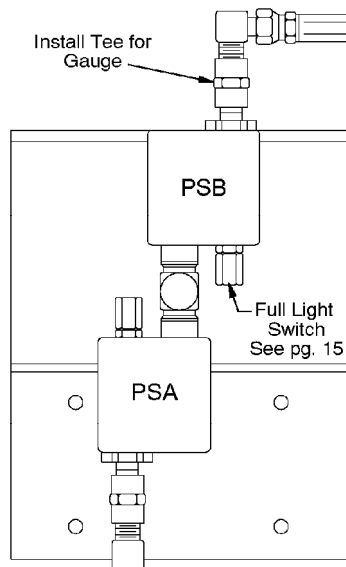
M9110-30

FULL LIGHT ADJUSTMENT

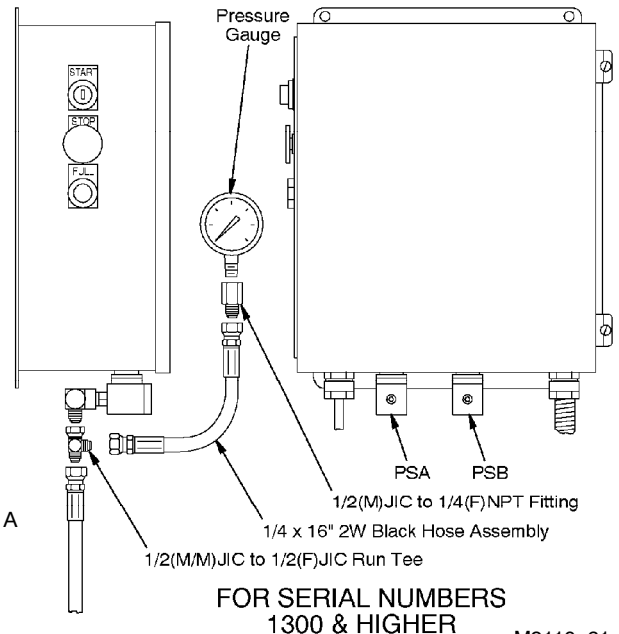
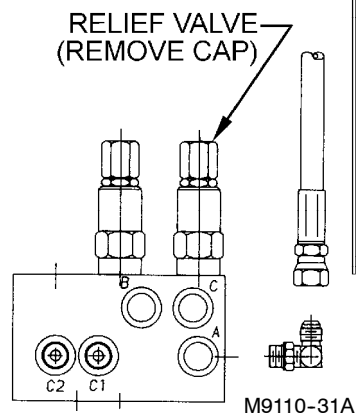
PRESSURE SWITCH ADJUSTMENT



1. Install pressure gauge in switch line.
2. **STYLE A**: Adjust PSB in several clockwise turns to be sure that it is above the desired setting.
STYLE B: Adjust PSB in several counter-clockwise turns to be sure that it is above the desired setting.
3. Position the Cam Switch so roller does not contact Cam when ram is extended.
4. Back off the Relief Valve (counter-clockwise) to allow unit to run over relief at desired full light pressure (approximately 200 PSI below sequence pressure). This setting will determine how much advance notice is given.
STYLE A: Adjust PSB counter-clockwise until FULL light switches on.
STYLE B: Adjust PSB clockwise until FULL light switches on.
5. Lock setting on PSB and increase relief setting on control valve to be minimum of 200 PSI above sequence setting. (Increase relief pressure slowly until ram reverses, then continue clockwise one-half (1/2) additional turn.)

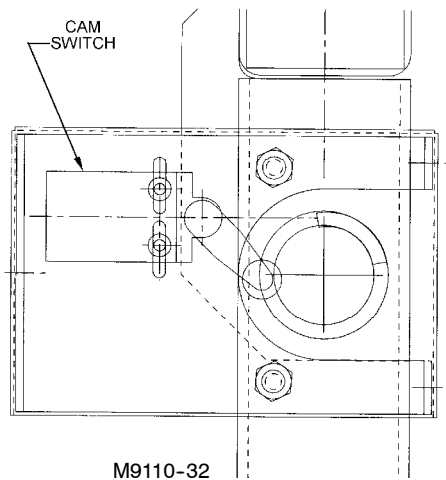


FOR SERIAL NUMBERS
THRU 1299

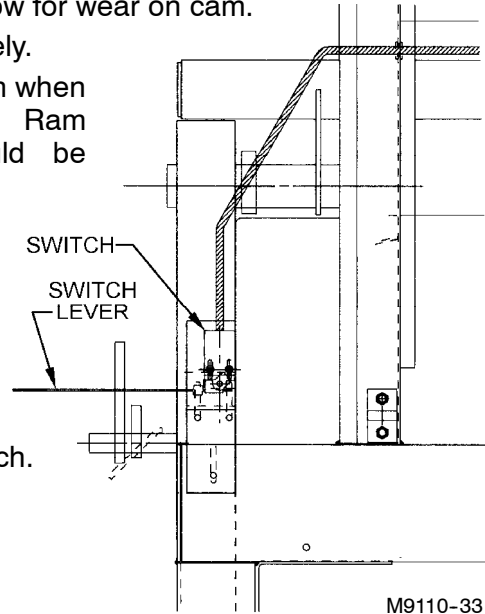


FOR SERIAL NUMBERS
1300 & HIGHER

CAM SWITCH ADJUSTMENT



1. Position switch so roller touches shaft when ram is in 'home' position.
2. Check switch when ram is in 'extended' position, that the electrical circuit opens. Also, check that some over-travel has been used to allow for wear on cam.
3. Tighten switch securely.
4. Check position of ram when switch circuit opens. Ram leading edge should be approximately 12" from fully extended.



DRIVER LIGHT LATCH ADJUSTMENT

1. Adjust both left and right switches so that they will be activated by latches if spring goes wider or in front of latch.
2. Do not adjust switch up so far as to bend the spring lever when the container shifts extreme side to side.

VI. TROUBLESHOOTING



Warning: Troubleshooting to be performed by qualified maintenance technicians only.

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
Packer does not develop full packing force	Sequence valve set too low	Readjust valve. see page 15 for instructions.
Motor and pump run, but compactor does not operate	Low oil level	Add oil
	Incorrect pump and motor rotation	Reverse wires at motor for single phase
	Pump suction screen plugged	Clean suction screen
	Key sheared on pump or motor shaft	Replace key and any damaged parts.
Cycle time too long	Pump worn or damaged	Replace pump
	Pump suction screen plugged	Clean suction screen
	NOTE: On single phase power unit, the cycle time will become longer as compaction in container increases. If cycle time becomes longer than 2 minutes, then check for one of the problems listed above or pump sequence valve set too low.	
Pump makes noise	Partly clogged intake strainer or restricted pipe	Pump must receive intake fluid freely or cavitation results. Flush the system. Clean intake pipe and clean or replace strainer. Add clean fluid.
	Defective Bearing	Replace pump
Power unit does not shut off at end of packing cycle	Pressure switch setting too high	Adjust pressure setting. See page 15.
	Main relief setting too low	Adjust main relief. See page 15.
System operates continuously over main relief and ram does not operate	Main relief set too low	Adjust main relief. See page 15.
	Sequence valve set too low or stuck in 'Pack' position	Adjust sequence valve or disassemble and clean. See page 15.

VII. ELECTRIC MOTOR TROUBLESHOOTING POSSIBILITIES



Warning: Electrical troubleshooting to be performed by qualified electrical or maintenance technicians only.

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
Motor runs excessively hot	Blocked ventilation	Clean external and internal ventilation system
	High ambient temperature of over 105° F	Provide outside source of cooler air
		Reduce the number of cycles per hour
Motor runs noisy	Bad bearings	Disconnect from pump coupling and check. If noise does not stop, replace bearings or pump
	Bad pump	Replace pump
Motor won't start	Compactor door open	Close door to connect interlock
	Very low voltage	Check power source. Check motor nameplate (motor wiring vs. line for low volts or high volts)
	Open motor leads	Check continuity. Clean and tighten.
	Rotor or bearings locked	Check shaft for freeness of rotation
	Thermal overload tripped	Reset. Be sure proper sized overload relays are used and amp setting is correct.
	Starter coil burned out	Replace starter coil
	Door interlock malfunction	replace interlock
	Optional container position switch not activated	Position container
		Latch container (both sides)
	Optional container switch not making contact	Check wiring or replace as necessary
Thermal overload relays tripping	Incoming leads to incorrect terminals	Correct lead terminal locations
	Low voltage at motor terminals	Improve power supply and/or increase line size
	Excessive voltage drop	Eliminate
	Overload amps set too low	Correct setting per nameplate current on motor housing
	Incorrect overload for voltage used	Replace per nameplate current on motor
	Loose electrical connections	Clean and retighten
Power unit shuts off on return of ram prior to complete return	Low ambient temperature	Increase setting on pressure switch
		Install oil heater
	Something lodged or restricting ram movement	Remove obstruction
Excessive vibration (out of balance)	Motor mounting	Check alignment between motor and pump. Be sure motor mounting is tight and solid
	Pump	Disconnect pump from coupling and restart motor. If vibration stops, the unbalance is in the pump. Replace the pump.
	Coupling	Remove coupling and restart motor. If the vibration stops, the unbalance is in the coupling. Replace the coupling spider.
	NOTE: If the vibration does not stop after checking the possible causes as listed above, the unbalance is in the motor. Check the bearings. (See the preceding page for section titled 'Motor runs noisy')	

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
Thermal overload doesn't trip soon enough	Overload setting too high	Set correctly
	Line voltage too high for motor	Rewire motor and starter. Match to line voltage. Replace overload with correct one or reset if applicable.
AVOID THE FOLLOWING: Excessive greasing of motor; misalignment of motor and pump, and contamination on motor and electrical components.		

VIII. PACKER AND CONTAINER TROUBLESHOOTING POSSIBILITIES

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
Ram drifting down out 'home' position	Hydraulic leak in hose or fitting	Tighten fitting or replace hose after isolating problem
	Hydraulic lock valve contaminated or failed	Clean or replace as necessary
	Hydraulic cylinder leaking internally	Replace seals
Full light coming on before container is full	Pressure switch setting too low	Increase PSB switch setting
	Cam switch out of position - not switching when roller is on cam	Readjust switch position
	Cam Switch wired incorrectly	Correct wiring per schematic
	Cam switch malfunction	Replace switch
	Cam loose or missing	Tighten cam or replace if missing
Full light not illuminating when container is full	Pressure switch PSB set higher than PSA	Reset PSB to be lower than PSA
	Full light bulb burned out	Replace bulb
	Bad wiring connection	Tighten connection or repair wire
	Failed relay	Replace
	Cam switch malfunction	Replace
Full horn not functioning after light has come on	Failed relay contacts	Replace relay
	Transformer	Replace transformer
	Signal to transformer, but not beyond alarm - electric signal getting to alarm	Replace alarm

INSTRUCTION TO CONVERT 9001 (SINGLE-PHASE) POWER UNIT VOLTAGE (CANNOT convert Single Phase to 3-Phase)

See wiring schematic in addition to these instructions.

1. What voltage to convert to? See Column I on the chart below.

2. Steps in making conversion. (All steps are very important)

a. Change relay per chart below (Column III).

NOTE: The 6" red wire may be necessary between the contactor and the overload. Observe wire routing when disassembling, and rewire the same way.

b. Rewire controls per proper electric schematic (Column VI). NOTE: 16" white wire from L3 to terminal block #2 will be added or removed per schematic.

c. Set overload relay to correct amperage (Column IV). This step is necessary for proper motor protection.

d. Change leads from the control panel to the motor at the motor. (Column V) See plate on motor for instructions.

e. Change wiring schematic in control panel. (Column VI)

f. Change voltage on outside of control panel per chart. (Column II)

I.	II.	III.		IV.	V.	VI.	VII.
VOLTAGE	VOLTAGE DECAL	OVERLOAD RELAY		AMPERAGE SETTING	MOTOR WIRES	ELECTRICAL SCHEMATIC	WIRE
		K-PAC	SIEMANS ALLIS#				
110 - 220	74-280	79-251 79-247	3TB4210-0AA8 3UA52002B	16	See Motor Plate	9001-110-3 + 9110-110-0AS	16" White 6" Red
220 - 240	74-281	79-251 79-362	3TB4210-0AA8 3UA52001K	8		9001-110-3 + 9110-220-0AS	6" Red

3. Double check that all steps were taken and are correct before connecting to power. Check wire routing per proper electrical schematic.

4. Note wiring schematic 9110-110-0AS and 9110-220-0AS need to have 9001-110-3 clear seal for installation.

Revised 5/93

INSTRUCTION TO CONVERT 9003 (3-PHASE) POWER UNIT VOLTAGE (CANNOT convert 3-Phase to Single Phase)

See wiring schematic in addition to these instructions.

1. What voltage to convert to? See Column I on the chart below.
2. Read conversion steps on chart below. Use parts as necessary.
3. Steps in making conversion. (All steps are very important)
 - g. Change motor starter to transformer wire to agree with the chart below for voltage desired. (See Columns I and II) This step gives the proper voltage to controls and oil heater.
 - h. Change overload relay per Column III. This step is necessary for proper motor protection. NOTE: SAME RELAY IS USED FOR 208 VOLT and 230 VOLT (460 VOLT IS DIFFERENT).
 - i. Set amperage of overload relay per Column IV. This step is necessary for proper motor protection. If the correct amperage cannot be set, check that the overload relay is correct.
 - j. Check wiring of control panel to motor at motor (high voltage vs. low voltage), and change to correspond if necessary. See nameplate on motor for correct wiring (208V and 230V are **low voltage**, 460V is **high voltage**).
 - k. Change electrical schematic per chart to agree with voltage converted to. (See Column VII)
 - l. Change voltage decal on outside of control panel per chart. (See Column V)
4. Recheck that all steps were taken and are correct before connecting to power. Check wire routing per electrical schematic.

I.	II.	III.		IV.	V.	VI.	VII.
VOLTAGE	WIRE FROM STARTER TO TRANSFORMER	OVERLOAD RELAY		AMPERAGE SETTING	VOLTAGE DECAL	MOTOR WIRES	ELECTRICAL SCHEMATIC
		K-PAC	SIEMANS ALLIS#				
-----	L1 - - H1 COMMON	-----	-----	-----	-----	See Motor Plate	-----
208	L2 - - H2	79-244	3UA5000IK	11	74-262		9003-208-0S
230	L2 - - H3	79-244	3UA5000IK	10	74-263		9003-230-0S
460	L2 - - H4	79-245	3UA5000IG	5	74-264		9003-460-0S

Revised 5/91