RamJet® RJ-30

HIGH DENSITY COMPACTION EXTRUDER

OPERATION, SERVICE, AND INSTALLATION

ISSUED FEBRUARY 2017

CUSTOMER NAME: _____

SERIAL NUMBER: _____

COMPACTION & RECYCLING SOLUTIONS **0021-RJ30-0217**

Environmental Solutions Group
201 W. Main Street, Ste 300
Chattanooga, TN 37408
Marathon Customer Care: 1.800.633.8974

WARNING

IF INCORRECTLY USED, THIS EQUIPMENT CAN CAUSE SEVERE INJURY. THOSE WHO USE AND MAINTAIN THE EQUIPMENT SHOULD BE TRAINED IN ITS PROPER USE, WARNED OF ITS DANGERS, AND SHOULD READ AND FULLY UNDERSTAND THIS ENTIRE MANUAL BEFORE ATTEMPTING TO SET UP, OPERATE, ADJUST OR SERVICE THE EQUIPMENT. KEEP THIS MANUAL FOR FUTURE REFERENCE

IMPORTANT SAFETY NOTICE

Proper service and repair are important to the safe, reliable operation of the Marathon Equipment Company products. Service procedures recommended by Marathon Equipment Company are described in this Operation, Service, and Installation Manual and are effective for performing service operations. Some of these service operations may require the use of tools or blocking devices specially designed for the purpose. Special tools should be used when and as recommended. It is important to note that some warnings against the use of specific methods that can damage the product or render it unsafe are stated in the service manual. It is also important to understand these warnings are not exhaustive. Marathon Equipment Company could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each method. Consequently, Marathon Equipment Company has not undertaken any such broad evaluations. Accordingly, anyone who uses service procedures or tools which are not recommended by Marathon Equipment Company must first satisfy himself thoroughly that neither his safety nor the product safety will be jeopardized by the method he selects.

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Printed in U.S.A.

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RJ-30 High Density Compaction Extruder

OPERATION, SERVICE, AND INSTALLATION

ISSUED FEBRUARY 2017

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SECTION 1
GENERAL INFORMATION

INTRODUCTION

Thank you for purchasing a Marathon® RJ-30 Compaction Extruder!

This product is designed to give you reliable service and superior performance for years to come. The purpose of this manual is to provide the owner and/or operators with the necessary information to properly install, operate, and maintain the machine. Also included are sections regarding troubleshooting and service procedures. The manual is not intended as a primary training source, but as a reference guide for authorized, trained personnel. Each person involved in the operation, maintenance, and installation of the machine should read and thoroughly understand the instructions in this manual and follow ALL warnings.

Employers involved in the operation, maintenance, and installation of the machine should also read and understand the most current version of the following applicable standards:

A copy of this standard may be obtained from:

ENVIRONMENTAL INDUSTRIES ASSOCIATION

4301 CONNECTICUT AVENUE, NW SUITE 300

WASHINGTON, D.C. 20008

OSHA Standards - 29 CFR

Refer to:

- Part 1910.147: “The Control of Hazardous Energy (Lock-Out/Tag-Out)”
- Part 1910.212: "Machinery and Machine Guarding: General Requirements for all Machines"
- All other applicable OSHA Standards

ANY SERVICE OR REPAIRS THAT GO BEYOND THE SCOPE OF THIS MANUAL SHOULD BE PERFORMED BY FACTORY AUTHORIZED PERSONNEL ONLY!

If you should need further assistance, please contact your distributor. You will need to provide the equipment serial number, installation date, and electrical schematic number to your distributor.

If you have any safety concerns with the equipment or need further information, please contact us at:

Marathon Equipment Company

P.O. Box 1798

Vernon, AL 35592-1798

Attn: Field Service Department

877-258-1105

PREFACE

The following sections are a guide for maintenance and service of the Marathon Equipment Company unit. The sections cover preventive maintenance, adjustment, and troubleshooting hints. Before performing maintenance, check the work area carefully to find all the hazards present and make sure all necessary safeguards or safety devices are used to protect all persons and equipment involved. In order to diagnose a problem quickly and effectively, a service person must be thoroughly familiar with the machine. This Operation, Service, and Installation Manual explains the system and its major components. Diagrams and schematics of the electrical and hydraulic systems are in the Service Section.

IMPORTANT!

- Before starting any maintenance, study this section of the manual.
- Read all hazard warnings and decals on the unit.
- Clear the area of other persons before performing any maintenance.
- Know and understand safe use of all controls.
- It is your responsibility to understand and follow manufacturer's instructions on equipment maintenance and care.

HAZARD SYMBOLS AND DEFINITIONS

Listed below are the definitions for the various levels of hazards. It is important that the operators of this equipment and people who service units read and understand all warnings as they relate to this equipment operation.

- DANGER – indicates an imminently hazardous situation, which WILL result in DEATH or SERIOUS INJURY if you don't follow proper instructions.
- WARNING – indicates an imminently hazardous situation, which COULD result in DEATH OR SERIOUS INJURY if you don't follow proper instructions.
- CAUTION – indicates an imminently hazardous situation, which will result in MINOR to MODERATE INJURY if you don't follow proper instructions.
- NOTICE – means unit or other property may be damaged if these instructions are not followed.

You must read and obey all warnings in any manual produced by Marathon Equipment Company to support your unit.

LOCK-OUT & TAG-OUT INSTRUCTIONS

⚠ DANGER

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

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. Notify all affected employees that servicing or maintenance is required on the compactor and that the compactor must be shut down and locked out to perform the servicing or maintenance.
2. Perform a hazard assessment;
   a. The authorized employee shall refer to the company procedure to identify the type and magnitude of the energy that the compactor utilizes, shall understand the hazards of the energy, and shall know the methods to control the energy.
3. Wear proper personal protective equipment.
4. If compactor is operating, it must be shut down by the normal stopping procedure. If the ram is pressing against a load, move the ram rearward before shutting the compactor down.
5. De-activate the energy isolating device(s) so that compactor is isolated from the energy source(s).
   a. Shut down all power sources.
   b. Move the main disconnect lever to the OFF position.
6. Lockout the energy isolating device(s) with assigned individual lock(s).
   a. Padlock the disconnect lever with a keyed padlock and take the key with you.
   b. 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." or

      "Warning: Do not energize without the permission of _____."
   c. Place operating components in such a position so as not to be subject to possible free fall and/or install additional blocking devices to prevent this potential for any raised or elevated component.
7. Stored hydraulic energy must be removed from the compactor hydraulic circuit for complete Lock-Out and Tag-Out. Make sure that this energy has been relieved by manually depressing the solenoid valve pin located in the center of each coil end of the directional control valve.
8. After locking and tagging the compactor, ensure that the compactor is disconnected from the energy source by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate. 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.
9. Before entering compactor perform hazard assessment for confined space requirements (hazardous fumes, dust, toxic material, or other hazards) per the OSHA confined space standard.
10. The compactor is now locked out.

LOCK-OUT & TAG-OUT INSTRUCTIONS (CONTINUED)

RESTORING SERVICE

When the servicing or maintenance is completed and the compactor is ready to return to normal operating condition, the following steps shall be taken:

1. Check the compactor and the immediate area around the compactor to ensure that nonessential items have been removed and that the compactor components, guards and covers are operationally intact.
2. Check the work area to ensure that all employees have been safely positioned or removed from any hazardous area.
3. Verify that the controls are in neutral.
4. Remove the lockout devices and re-energize the compactor.

NOTICE

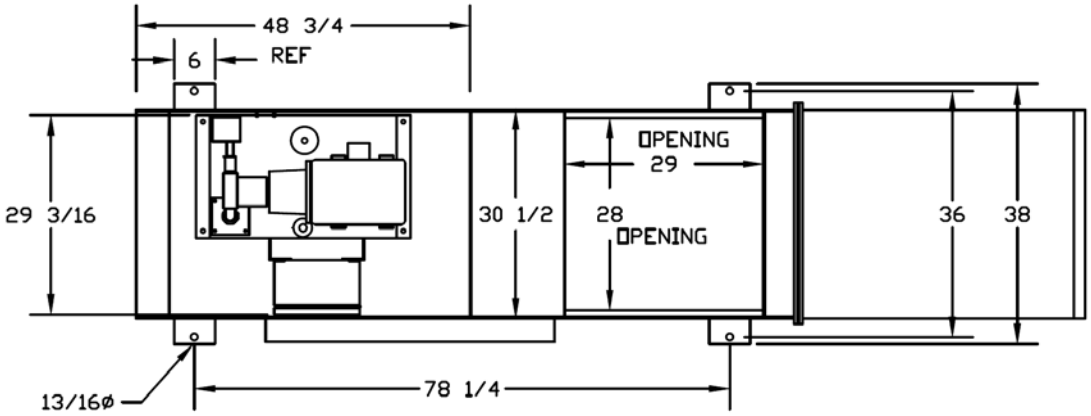
The removal of some forms of blocking may require re-energizing of the compactor before safe removal.

5. Notify affected employees that the servicing or maintenance is completed and the compactor is ready for use.
6. Reassess area to determine all hazards are protected.

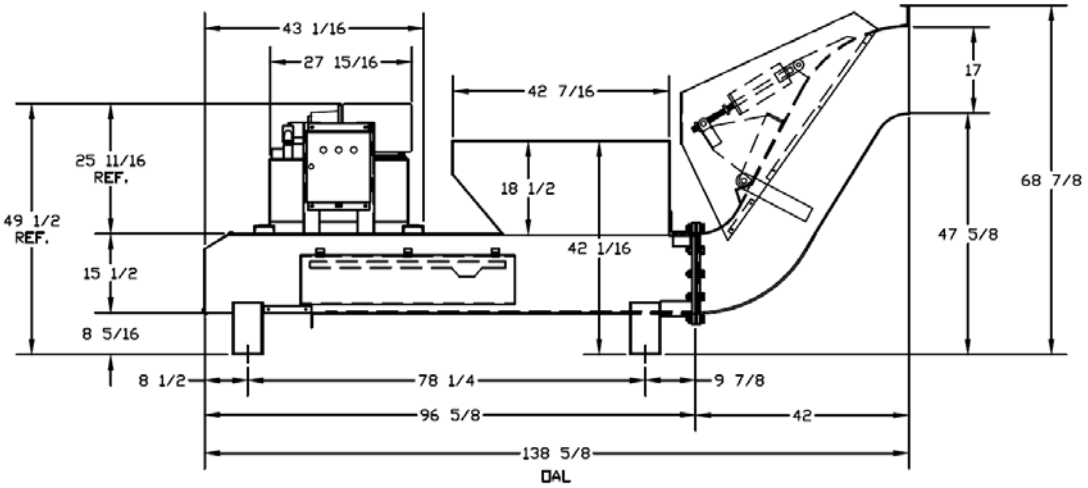
RJ-30 Compaction Extruder
General Information

SPECIFICATIONS

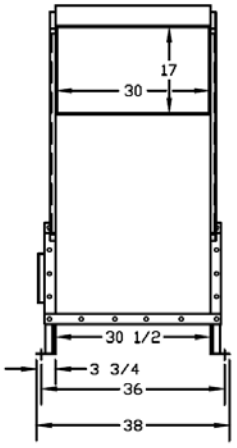
There are two (2) types of the RJ-30 Extruder: the RJ-30 with a hydraulic choker, and an RJ-30 without a hydraulic choker. The models differ from the choker being spring loaded, or using a hydraulic cylinder in the S-tube.



TOP VIEW



SIDE VIEW



FRONT VIEW

SERVICE/PARTS ASSISTANCE

Assistance in troubleshooting, repair and service is available by contacting the authorized Marathon Equipment Company Dealer in your area. Parts are available at your Marathon Equipment Company Dealer or through Marathon Equipment Company. Marathon Equipment Company personnel are trained to give prompt, professional assistance.

ALWAYS give the machine serial number in all correspondence relating to the equipment.

GREASE LUBRICANT RECOMMENDATION

Use a grease gun. Before engaging grease gun, clean the fitting. Always pump enough grease to purge the joint of contaminated grease and wipe off the excess grease. Lubricate a unit as recommended on the lubrication decal on the unit and in the Operation, Service, and Installation Manual. Use NLGI 000 grease.

RECOMMENDED OILS

The following oils by brand name are approved for use in the hydraulic system on this equipment and considered to be all temperature hydraulic fluids.

- Union-UNAX-46, UNAX-AW46
- Gulf-Harmony 47, Harmony 48-AW
- Exxon-Teresstic 46, NUTO 46
- Texaco-Rando 46
- Chevron-AW 46
- Shell-Turbo 46, Tellus 46
- Citgo-Pacemaker 46, Tellus-AW46
- Conoco-Super Hydraulic Oil 46

Automatic Transmission Fluid (for 15 HP and smaller units only)

- Quaker State-Dextron II (ATF)

Cold Weather Fluid

- Amoco-Rycon MV

GUARDS AND ACCESS COVERS

Before operating or performing maintenance, check the work area carefully to find all the hazards present and make sure all guards and safety devices are in place to protect all persons and equipment involved.

WARNING DECALS ON THE UNIT

⚠ WARNING

DO NOT operate without all guards and access covers in place.

Make sure you can read all warning and instruction decals. Clean decals if you cannot read the words. See below for directions on cleaning decals. Replace any decal that is damaged, missing, or is not readable. When you replace a part that has a decal, make sure a new decal is installed on the new part. See the Operation, Service, and Installation Manual for replacement decals. Order replacement decals from Marathon Equipment Company or an authorized dealer.

DECAL CARE

It is important that the decals are properly cleaned to make sure that they are readable and do not come off the unit. Use the following steps to clean the decals.

A. General Instructions

Following these instructions helps the decals adhere longer.

- Wash the decals with a blend of mild car wash detergent and clean water
- Rinse with clean water
- Let the unit air-dry or dry with a micro-fiber cloth
- Do not allow fuels to stay in contact with the decal for an extended period of time. Remove the fuel contamination as quickly as possible
- Do not use carnauba-based wax over the decals
- Do not use a mechanical brush while washing the decals.

B. Pressure Washer Precautions

Pressure washing can cause damage to decals. It can cause the edges of the decals to lift and peel the decal away from the unit. Over time, the decal can fade, crack or chip away.

Use pressure washing only when other cleaning methods are not effective. If you use a pressure washer, use the following precautions.

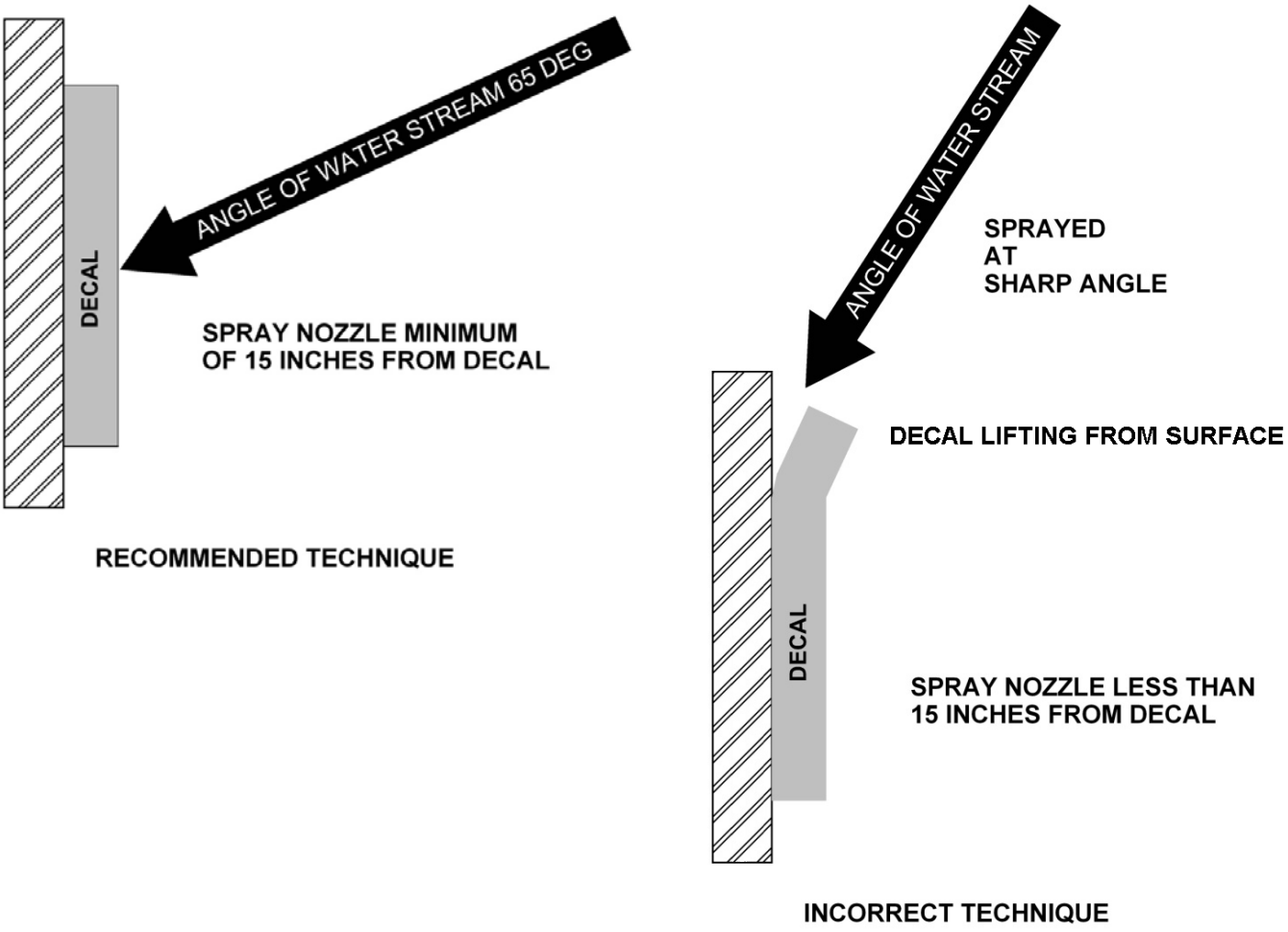
- Spray nozzle opening: 40° wide pattern
- Spray angle: 65° from vehicle' s body
- Distance of nozzle to decal: 15" minimum
- Water pressure: less than or equal to 800 psi
- Length of time: not more than 30 sec.
- Do not use sharp angles to clean the decals – this can lift the decals from the unit.
- NEVER use a "turbo pressure nozzle".

C. Remove Difficult Debris

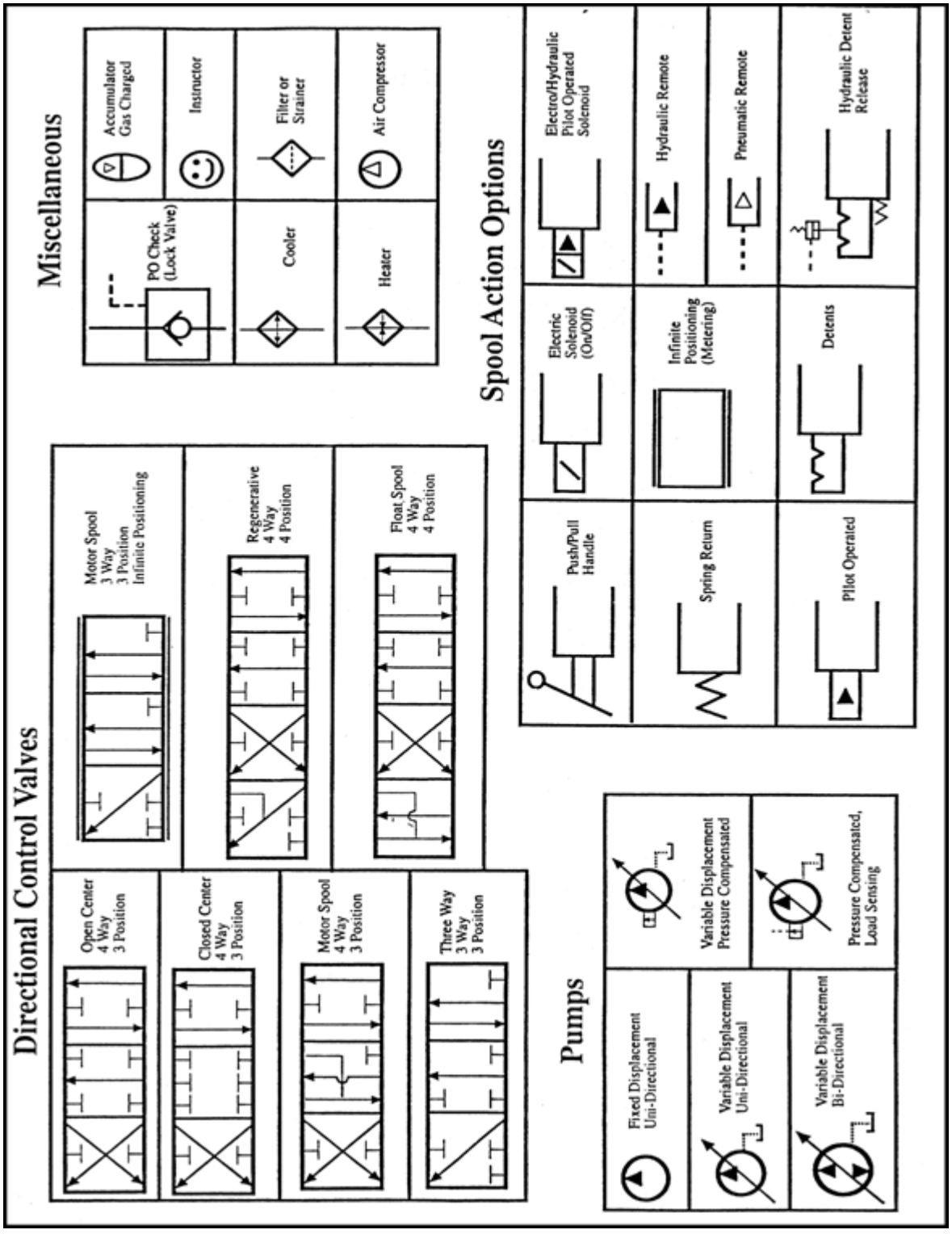
When normal cleaning procedures do not remove difficult debris from the decals, try the following:

- Spot clean the decal with Isopropyl Alcohol and a micro-fiber cloth (rag)
- If these methods do not work on a problem area, call a Marathon Equipment Company Dealer or Marathon Equipment Company Customer Support.

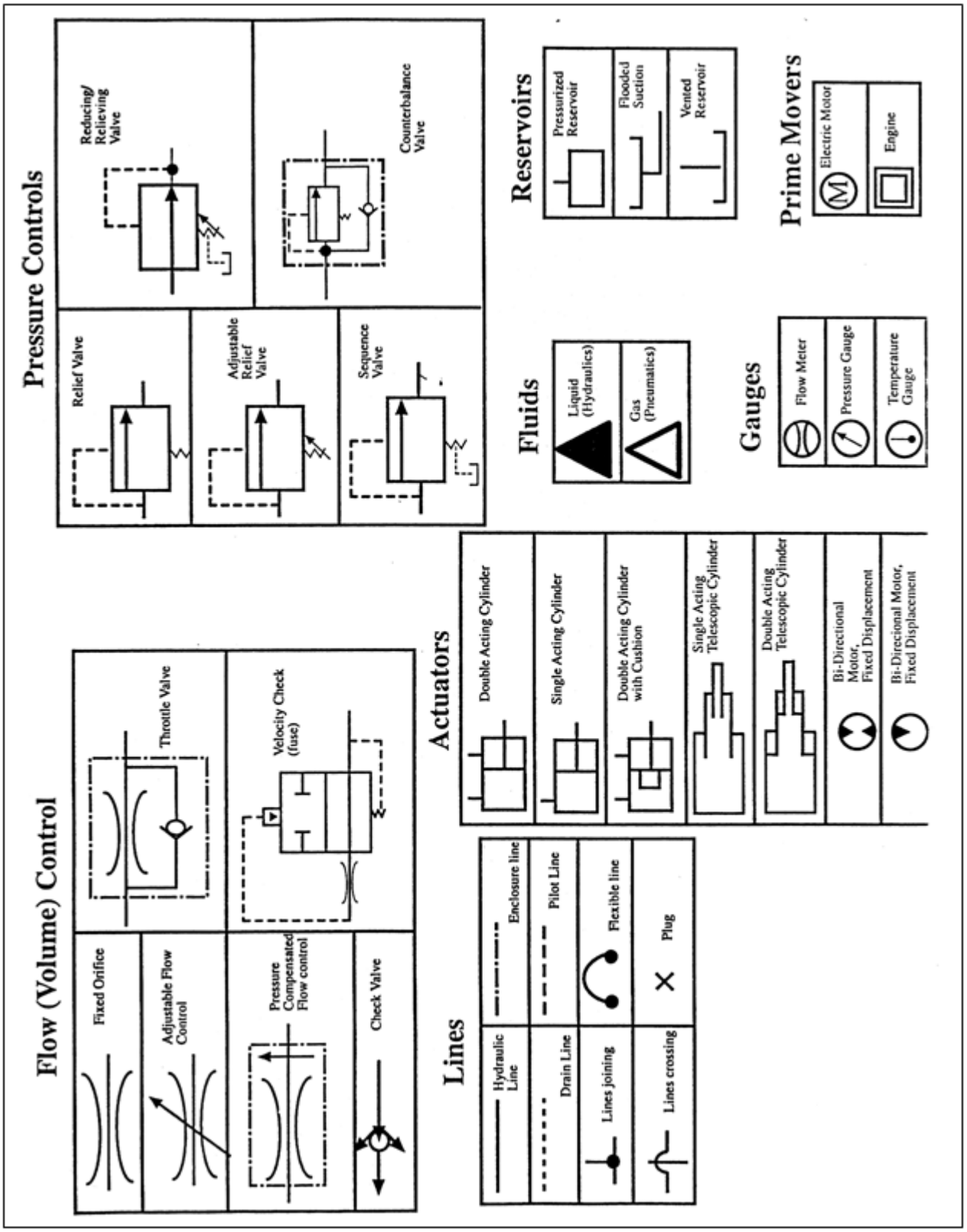
DECAL CARE - CONTINUED



HYDRAULIC SYMBOLS

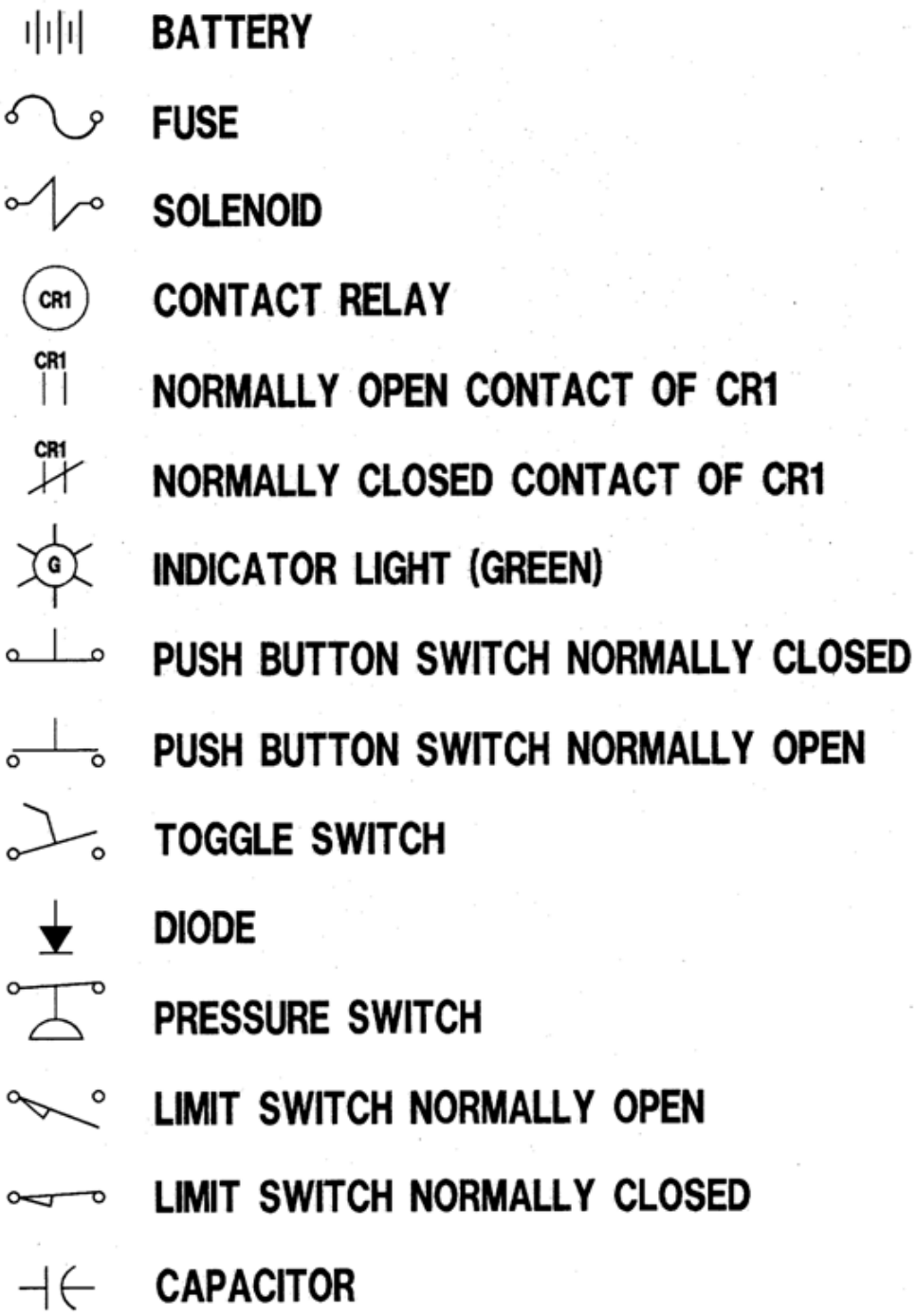


HYDRAULIC SYMBOLS (CONTINUED)



ELECTRICAL SYMBOLS

SYMBOL DEFINITIONS



SECTION 2
INSTALLATION

CONTACT INFORMATION

Technical Service and Warranty:

877-258-1105

Parts:

800-528-5308

For parts visit our e-commerce market place at **www.mecomerchant.com**.

If you do not have a user name and password, contact our Parts Department and they will assist with your registration.

Normal Business Hours:

Monday-Friday 8:00am - 5:00pm

(Central Standard Time)

CONCRETE PAD REQUIREMENTS

⚠ CAUTION

Review this manual before making the installation. 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. Special attention is directed to the most current ANSI Z245.2 standard.

Marathon Equipment Co. 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. Concrete should be minimum 3,000 psi, steel reinforced, 6" thick. It is preferred that the concrete pad be flush with the surrounding ground level.
2. To provide accessibility, concrete pad should be positioned to allow adequate space for the container-handling vehicle. If applicable, allow proper clearances for a through-the-wall chute.

NOTICE

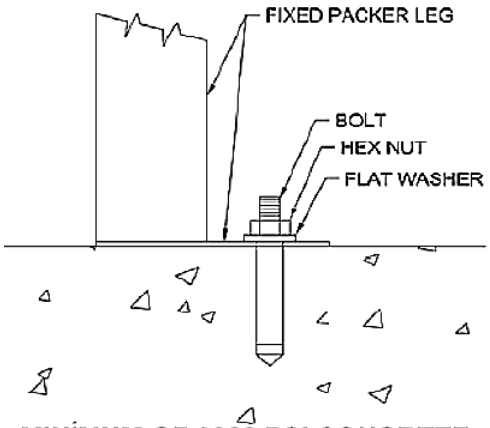
The clearances given are minimums. Your installation may require greater clearances depending on the site and the hauling equipment that will be used.

Anchoring

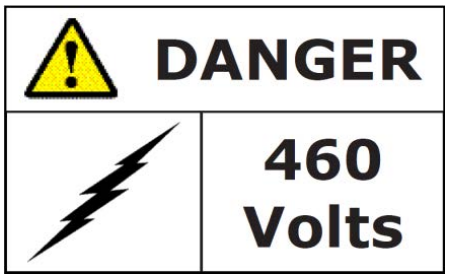
The compactor should be anchored to the concrete pad using (4) minimum 3/4" x 6" long anchor bolts. These bolts can be secured to concrete pad using "Porok" or special concrete anchors. It is best if these holes are drilled in the concrete after pre-locating the compactor in it's desired location. When the compactor has been permanently located, shimmed to compensate for unevenness, and anchor bolts set, tighten all nuts securely. Anchor the power unit using 3/8" x 4" long anchor bolts. Allow enough space around the compactor for any maintenance or service (including cylinder removal and liner equipment).

NOTICE

Ensure anchor bolts are not allowed to torque or twist the compactor body when tightened.



ELECTRICAL AND HYDRAULIC INSTALLATION



The Panel Box contains high voltage components. Only authorized service personnel should be allowed inside. See **Lock-Out & Tag-Out Instructions** 6 in the General Information section.

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

⚠ WARNING

All equipment should be grounded per The 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 electrician should be consulted.

Remote Power Pack Installation

1. If the power unit is remote, it should be installed and anchored as required by the customer. If push buttons are mounted in the face of the panel box, be certain these controls are located as to be in a convenient, but not hazardous, location to the customer.

⚠ 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. If installation requires the control station to be located in a more remote area, a second Emergency Stop Button should be added and installed in the manner described above.

2. Connect the hydraulic hoses between the compactor body and the power unit. The rear port (base end) on the compactor is “A” port. The front port (rod end) on the compactor is “B” port.
3. The Limit Switch is connected to the power unit with sealtite. To install, bolt the limit switch to the pre-drilled hole pattern outside the compactor body (right-hand side towards the rear for compactors with power unit connection on the right-hand side; left-hand side towards the rear for compactors with power unit connection on the left hand side). Other compactor mounted electrical options are color coded and referenced to the schematic shipped with the compactor. Make sure all wires are connected properly. Check local codes to assure that Sealtite is acceptable.

ELECTRICAL AND HYDRAULIC INSTALLATION (CONTINUED)

Push-button Control Panel

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

⚠ CAUTION

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

Electrical Connections

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

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

2. Check voltage at fused disconnect switch to be certain it is the same as is shown on compactor or remote power pack.

Start-Up Instructions

With the ram fully retracted, check to be sure the oil reservoir is full to the 3/4 level on the sight gauge (Refer to the Recommended Oils page 9 for hydraulic oil recommendations). The hydraulic system pressure has been factory set and the entire unit has been operated prior to shipment.

⚠ CAUTION

Make sure persons and material are clear of charge box area.

Put fused disconnect switch in "ON" position when ready to start machine. Depress the start button and check the motor fan for proper rotation (should be clockwise). Caution: If the pump rotates backward, stop immediately. The pump will be damaged if it is operated in reverse even for short periods. Reversing any two incoming power lines will change the motor/ pump rotation. Follow all **Lock-Out & Tag-Out Instructions** 6 in the General Information section.

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

SECTION 3
OPERATION

CONTACT INFORMATION

Technical Service and Warranty:

877-258-1105

Parts:

800-528-5308

For parts visit our e-commerce market place at **www.mecomerchant.com**.

If you do not have a user name and password, contact our Parts Department and they will assist with your registration.

Normal Business Hours:

Monday-Friday 8:00am - 5:00pm

(Central Standard Time)

PRE-OPERATION INSTRUCTIONS

Employers should allow only authorized and thoroughly trained personnel to operate this compactor.

This compactor is equipped with a key operated locking system. Keys should be in possession of only authorized personnel. Turn off and remove the key after use.

⚠ DANGER

ONLY TRAINED AND AUTHORIZED PERSONNEL SHOULD BE ALLOWED INSIDE PANEL BOX. The panel box contains high voltage components. See **Lock-Out/Tag-Out Instructions** 6.

⚠ WARNING

Do not operate compactor until operating instructions are thoroughly understood. Wear safety glasses and gloves when operating this equipment.

⚠ WARNING

Stay clear of all internal compactor parts and all moving external compactor parts when in operation. Failure to do so could result in serious personal injury or death!

⚠ WARNING

Never enter any part of compactor unless the disconnect switch has been turned off, padlocked, and all stored energy sources have been removed. See **Lock-Out/Tag-Out Instructions** 6.

⚠ WARNING

Do not remove access covers except for servicing. Only trained and authorized service personnel should be allowed to service this equipment. All access doors on the compactor body should always be secured in place when the unit is operating. See **Lock-Out/Tag-Out Instructions** 6.

⚠ WARNING

Before starting compactor, be sure no one is inside. Be certain that everyone is clear of all operation points and pinch point areas before starting.

⚠ WARNING

If the compactor is equipped with a security gate or doghouse with security door, be sure that the security gate or door is closed before the compactor is started.

NOTICE

Federal regulation prohibits the use of this equipment by anyone under 18 years of age.

PRINCIPLES OF OPERATION

Operating Characteristics

The system uses special cylinders to move the ram and two timers to control the operation of the ram. When the hydraulic cylinder is fully extended or retracted, it bypasses internally. This prevents the hydraulic system from reaching relief pressure.

The sequence of operation for this system is as follows:

Upon start up, the start switch contact closes and energizes an input on the PLC. The operating program in the PLC reads the input and energizes the motor output starting the motor that drives the pump. At the same time a timer (TT1 or TT2 depending on model) in the PLC program starts timing the extend stroke of the ram. The directional control valve remains de-energized allowing hydraulic fluid to flow to the base end of the cylinders causing them to extend. When the timer that controls the extend stroke of the ram times out it causes the output for the directional control valve to energize and shifts the spool in the valve. This directs the flow of hydraulic fluid to the rod end of the cylinders causing them to retract. At the same time a timer (TT5 or TTD depending on model) starts timing the retract stroke of the ram. When this timer times out it de-energizes the outputs for the motor and the directional control valve shutting off the motor and stopping the movement of the ram.

The Emergency Stop button will shut the compactor down when depressed by breaking the control circuit to the PLC.

CONTROLS

Optional

Your compactor may be fitted with some or all of the following optional controls:

1. Sustained Manual Pressure Control – This button is Hold-To-Run, Release- To-Stop, requiring the operator to remain at the pushbutton station while the compactor is in use.

NOTICE

To actuate, press the "Hold-To- Run" and "Start" buttons. Once the equipment has started, release the "Start" button.

NOTICE

If the "Hold-To-Run" button is released, the unit will stop instantly.

2. Container Full Indicator Light – When illuminated, the container is full and is ready to be emptied before its next use. To deactivate the light, depress the illuminated button.

NOTICE

The unit will NOT run while this light is ON.

3. Advance Warning Indicator Light – When flashing, the container is nearing the full level and a pick up call should be made. At this time 200 psi is left before the pressure switch is activated to shut the unit off and container is full.

NOTICE

The unit will continue to run while this light is flashing.

4. Ram Stop Forward – When a machine with this option has been stopped, the ram automatically begins to move rearward when restarted. To reverse the ram while it is stopped, depress the key switch. The ram will retract and then go forward.

5. Cycle Timer – Used when more than one cycle is desired.

NOTICE

Factory setting is for three strokes (adjustable).

6. Access Interlock – If the compactor is equipped with doors, chutes, or access gates, the interlock prevents the unit from operating while a door or gate is open.
7. Photoelectric Cycle Control (Photocell) – Consists of a LED light source and a reflector. It can be mounted on a hopper or chute. Two holes, located so as to avoid any hazard, are located in opposite walls of the chute. When the light beam is blocked for 15 seconds, the compactor is activated and will continue to run until the obstruction has been cleared.
8. Automatic Shutdown – Used with the photoelectric cycle control. This option has a timer that can be set up to 30 minutes. If a blockage in the charge chamber causes the compactor to continue cycling, the timer will shut the compactor down after the preset time has elapsed. Once the blockage is cleared, deactivate the timer by pressing the illuminated push-button.
9. Thermostatically Controlled Oil Heater – Installed in the oil reservoir. The thermostat can be adjusted so the heater heats the oil when the oil temperature drops below the preset level.

STANDARD CONTROL PANEL

Control Description

1. KEYED START SWITCH - This switch requires a key for operation. Insert the key and turn clockwise to the START position. Depress and hold the key for one to two seconds and release. The compactor will cycle the preset number of times determined by the Multi-Cycle Counter*, then stop. After use, turn the key to the counterclockwise position and remove the key.
2. EMERGENCY STOP PUSH-BUTTON - When depressed, this push-button will stop all powered operation of the compactor.
3. REVERSE PUSH-BUTTON - This push-button will reverse the compaction ram when depressed. The motor must be running for the REVERSE button to operate. See the Multi-Cycle Counter page.

OPERATING INSTRUCTIONS - STANDARD MODELS

⚠ WARNING

Do not operate compactor until operating instructions are thoroughly understood.

Manual Mode (Standard and "A" Model)

1. Check work area and make sure all personnel are clear of compactor.
2. Make sure the Emergency Stop button is pulled out.
3. Place the material to be discarded into the compactor.

NOTICE

If you are loading the compactor through a door or gate, close it before starting the compactor.

4. "A" Models ONLY: Insert the key into the MANUAL - OFF- AUTOMATIC SWITCH and turn to the "MANUAL" position.
5. Insert the key into the KEYED START SWITCH and turn clockwise to the "START" position. Depress and hold the key for one to two seconds and release. The compactor will cycle one time (complete extension and retraction of the ram), then stop.
6. If necessary, repeat step 4 after the compactor has stopped.
7. When complete, remove key from the KEYED START SWITCH.
8. "A" Models ONLY: Remove key from the MANUAL - OFF- AUTOMATIC SWITCH.

CONTROL PANEL - AUTOMATIC MODE "A" MODEL ONLY

Control Description

1. MANUAL-OFF AUTOMATIC SHUTDOWN - This switch controls the compactor operation mode, manual or automatic (automatic is photocell mode).
2. KEYED START SWITCH - This switch requires a key for operation. Insert the key and turn clockwise to the START position. Depress the key for one to two seconds and release. The compactor will cycle the preset number of times determined by the Multi-Cycle Counter*, then stop. After use, turn the key to the counterclockwise position and remove the key.
3. EMERGENCY STOP PUSH-BUTTON - When depressed, this push-button will stop all powered operation of the compactor.
4. REVERSE PUSH-BUTTON - This push-button will reverse the compaction ram when depressed. The motor must be running for the REVERSE button to operate.
5. ADVANCE WARNING / CONTAINER FULL LIGHT - When the light starts flashing (ADVANCE WARNING), then 200 PSI is left before the pressure switch is activated to shut the unit off and container is full (unit will run when light flashes). When the light stays on continuously (CONTAINER FULL), the container is full and is ready to be emptied before its next use. To deactivate the light, depress the illuminated light (the unit will not run while the light is continuously on).
6. AUTOMATIC SHUTDOWN LIGHT - Used with the photoelectric cycle control. If a blockage in the charge chamber causes the compactor to continue cycling, the timer will shut the compactor down after the preset time has passed. To deactivate the timer, the illuminated push-button is pressed after clearing the blockage.

*For more information see the **Multi-Cycle Counter** page.

OPERATING INSTRUCTIONS - AUTOMATIC MODE "A" MODEL ONLY

NOTICE

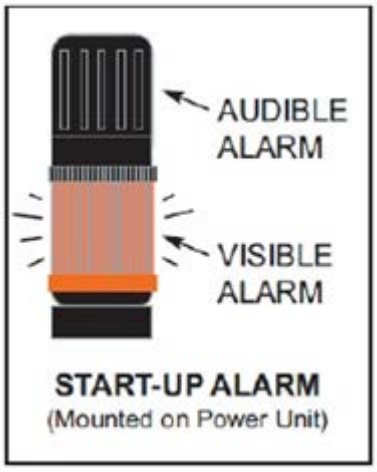
This compactor features an ANSI Z245.21(2013) section 5.12.1 compliant start-up alarm that is both audible and visible during the activation of the AUTOMATIC mode.

Operating Instructions (Automatic Mode)

1. Place the material to be discarded into the compactor.
2. Insert the first key into the "MANUAL - OFF - AUTOMATIC" key switch and turn to the “AUTOMATIC” position.
3. Insert the second key into the "START" switch and turn to the right.
4. Depress the key in the "START" switch and hold it continuously for 20 seconds.
   a. Both the audible and visual start-up alarms will energize for 5 seconds.
   b. After 5 seconds the audible alarm will stop, but the visual alarm will continue for an additional 15 seconds (for a total of 20 seconds).
   c. After 20 seconds, the motor will start and the ram will extend, and then retract (one complete cycle).
   d. The light will continue to flash until the unit is manually turned off, automatically shuts down, or is switched to manual mode.

NOTICE

If you are loading the compactor through a door or gate, close it before starting the compactor.



⚠ WARNING

In AUTOMATIC mode, the power unit will run automatically anytime photocells detects ANY OBJECT in the charge box.

OPERATING INSTRUCTIONS FOR RJ-30 "S-CURVE" EXTRUDER COMPACTORS

Proper Charging of the Compaction Tube

1. Loosen lock nuts on "S" tube restrictor adjustment screw.
2. Turn adjustment screw until restrictor is completely retracted. In adjusting, you will notice that it is spring loaded, therefore, it is important to observe spring compression in charging.
3. Initial charging of compactor should be done with corrugated material.

⚠ WARNING

Never charge compactor with bundles of stacked corrugated material.

4. Install pressure gauge in gauge port. Start machine. Deposit Refuse. Type of material being compacted will determine correct restrictor adjustment. Feed material into unit for 20-30 strokes. Restrictor should be adjusted inward until a consistent pressure of 800 to 1000 PSI is reached.
5. When "S" tube is fully charged and compacted material is being expelled into container, continue compacting waste. Wile observing pressure gauge, after 15 to 20 cycles, if pressure gauge has had very slight variations in pressure, compactor is charged property.
6. Remove pressure gauge and tighten lock nuts on restrictor adjustment screw.
7. Restrictor adjustment should be rechecked (per above) after compactor has been used for two weeks.

⚠ CAUTION

Feeding the RJ-30 with anything other than "loose" refuse may cause the S-tube to jam. Examples of this "non-compactable" refuse are: stacks of computer paper, catalogs, books, newspapers, magazines, bundles of boxed forms, wood, and dense plastic materials.

While the above material will start into the S-tube, the lack of proper "flexing" through the remainder of the tube can cause an increase in pressure thereby jamming the tube. A periodic pressure check should be performed on the unit (biweekly) to ensure the differences in the type of material being compacted have not increased pressure over the 800-1000 PSI mark.

SECTION 4
SERVICE

CONTACT INFORMATION

Technical Service and Warranty:

877-258-1105

Parts:

800-528-5308

For parts visit our e-commerce market place at **www.mecomerchant.com**.

If you do not have a user name and password, contact our Parts Department and they will assist with your registration.

Normal Business Hours:

Monday-Friday 8:00am - 5:00pm

(Central Standard Time)

LOCK-OUT & TAG-OUT INSTRUCTIONS

⚠ DANGER

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

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. Notify all affected employees that servicing or maintenance is required on the compactor and that the compactor must be shut down and locked out to perform the servicing or maintenance.
2. Perform a hazard assessment;
   a. The authorized employee shall refer to the company procedure to identify the type and magnitude of the energy that the compactor utilizes, shall understand the hazards of the energy, and shall know the methods to control the energy.
3. Wear proper personal protective equipment.
4. If compactor is operating, it must be shut down by the normal stopping procedure. If the ram is pressing against a load, move the ram rearward before shutting the compactor down.
5. De-activate the energy isolating device(s) so that compactor is isolated from the energy source(s).
   a. Shut down all power sources.
   b. Move the main disconnect lever to the OFF position.
6. Lockout the energy isolating device(s) with assigned individual lock(s).
   a. Padlock the disconnect lever with a keyed padlock and take the key with you.
   b. 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.” or

      “Warning: Do not energize without the permission of _____.”
   c. Place operating components in such a position so as not to be subject to possible free fall and/or install additional blocking devices to prevent this potential for any raised or elevated component.
7. Stored hydraulic energy must be removed from the compactor hydraulic circuit for complete Lock-Out and Tag-Out. Make sure that this energy has been relieved by manually depressing the solenoid valve pin located in the center of each coil end of the directional control valve.
8. After locking and tagging the compactor, ensure that the compactor is disconnected from the energy source by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate. 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.
9. Before entering compactor perform hazard assessment for confined space requirements (hazardous fumes, dust, toxic material, or other hazards) per the OSHA confined space standard.
10. The compactor is now locked out.

LOCK-OUT & TAG-OUT INSTRUCTIONS (CONTINUED)

RESTORING SERVICE

When the servicing or maintenance is completed and the compactor is ready to return to normal operating condition, the following steps shall be taken:

1. Check the compactor and the immediate area around the compactor to ensure that nonessential items have been removed and that the compactor components, guards and covers are operationally intact.
2. Check the work area to ensure that all employees have been safely positioned or removed from any hazardous area.
3. Verify that the controls are in neutral.
4. Remove the lockout devices and re-energize the compactor.

NOTICE

The removal of some forms of blocking may require re-energizing of the compactor before safe removal.

5. Notify affected employees that the servicing or maintenance is completed and the compactor is ready for use.
6. Reassess area to determine all hazards are protected.

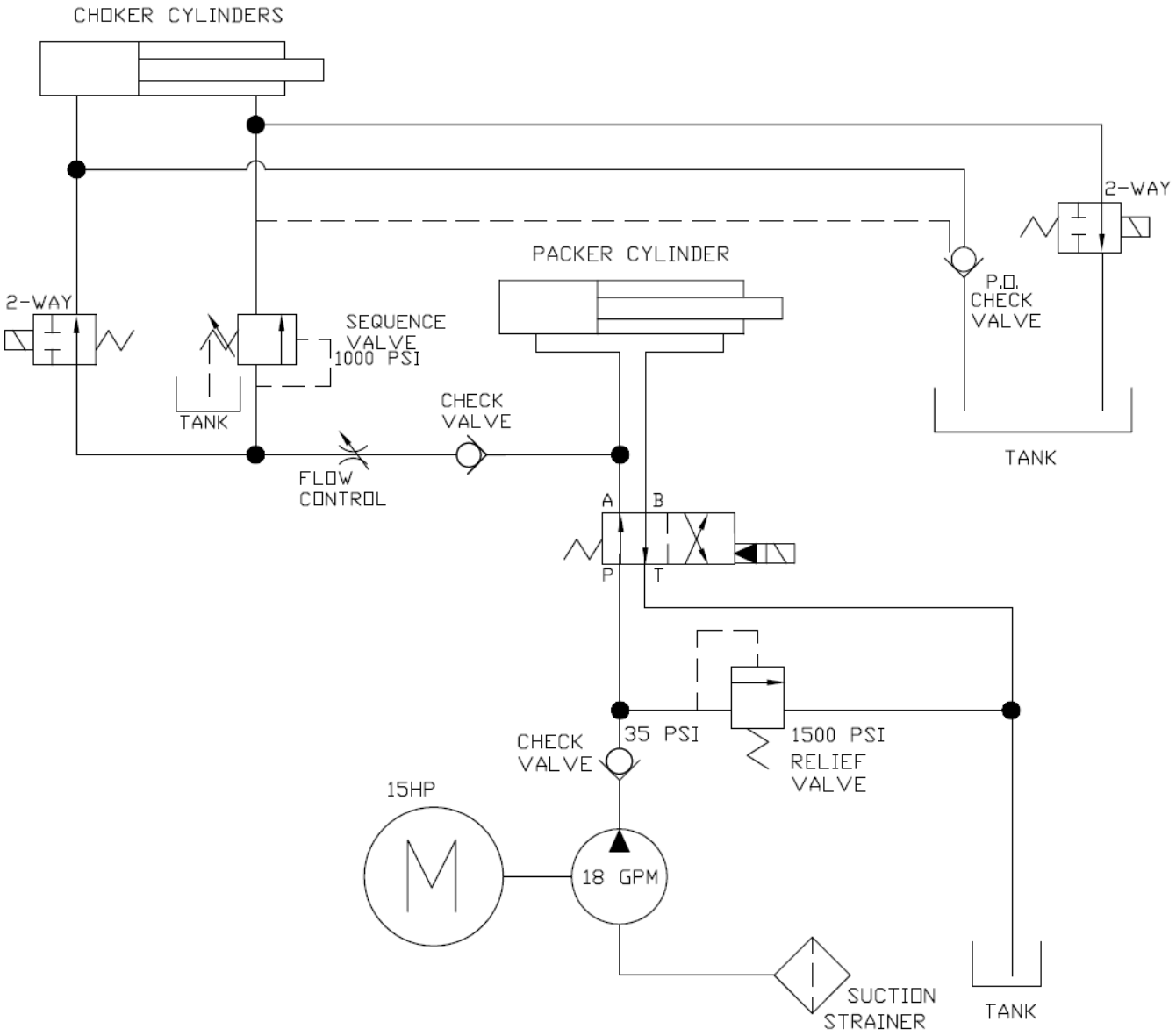
RJ-30 Compaction Extruder

Service

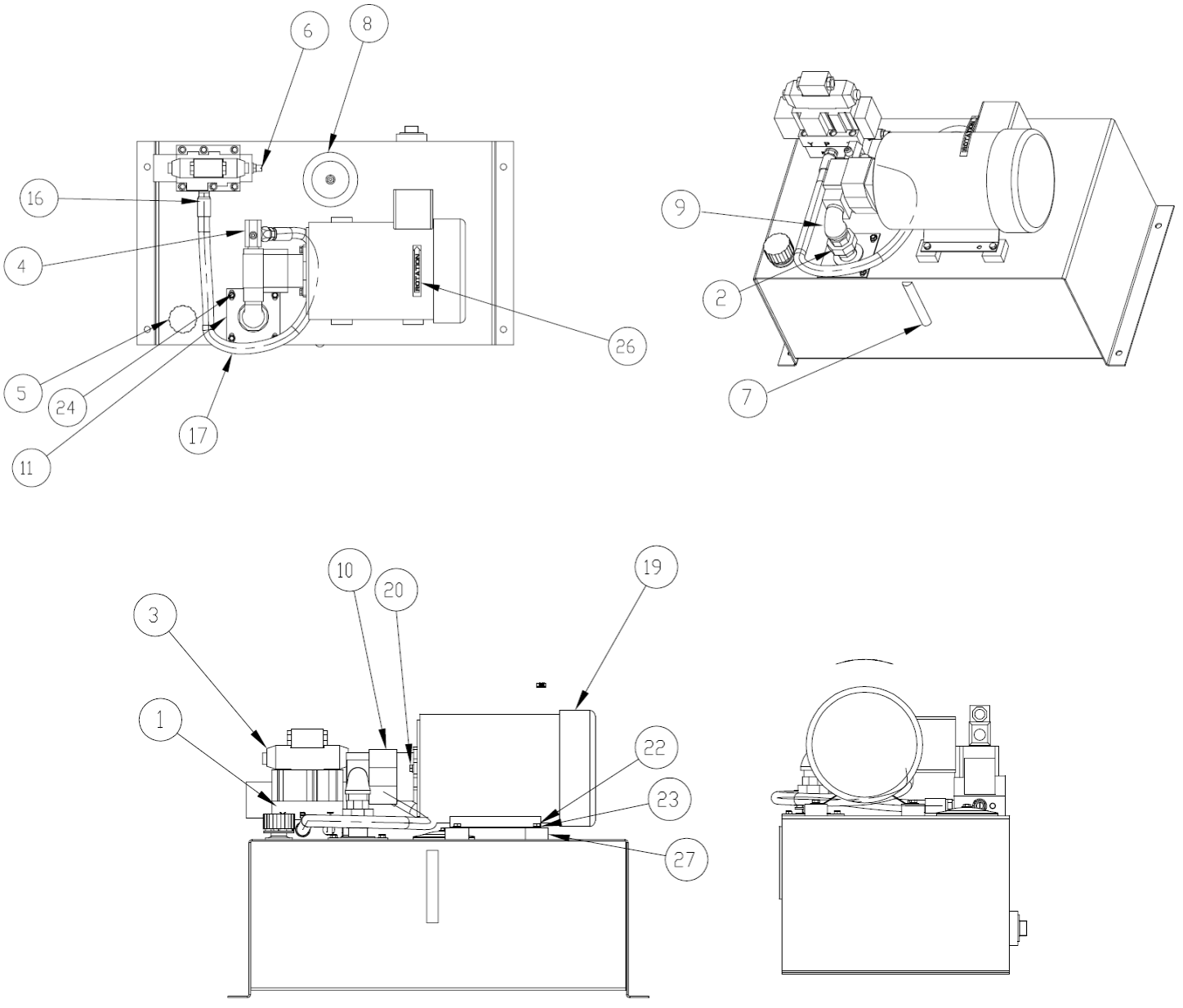
FUSES AND CIRCUIT BREAKERS					
Three Phase					
MOTOR SIZE	**VAC**	**FULL LOAD AMP**	**DUAL ELEMENT FUSE MAX.SIZE**	**CIRCUIT BREAKER MAX.SIZE**	**SERVICE DISCONNECT AMP.**
3 HP	208	8.5	15	20	30
	230	8.2	15	20	30
	460	4.1	10	15	30
	575	3.3	6	15	30
5 HP	208	13.1	30	40	30
	230	11.5	25	40	30
	460	5.7	15	20	30
	575	4.8	10	15	30
10 HP	208	27.5	50	80	60
	230	25.6	50	70	60
	460	12.8	25	35	30
	575	11.4	20	30	30
15 HP	208	47.3	60	90	60
	230	45.0	60	90	60
	460	22.5	30	40	30
	575	18.3	30	40	30
20 HP	208	51.0	100	125	100
	230	48.0	90	125	100
	460	24.0	45	60	60
	575	19.1	35	50	60
30 HP	208	81.0	150	225	200
	230	76.0	150	200	200
	460	38.0	70	100	100
	575	28.6	60	80	60
Single Phase					
3/4 HP	120	8.2	20	20	30
	230	4.1	10	15	30
3 HP	208	15.5	30	45	30
	230	14.0	25	40	30
5 HP	208	22.0	50	80	60
	230	20.8	45	70	60
10 HP	208	43.0	100	125	100
	230	39.0	90	125	100

WIRE SIZES				
Three Phase	**THW Copper 75°C (165°F)**			
MOTOR SIZE	**VOLTAGE**	**LENGTH**		
		TO 100'	TO 200'	TO 300'
3 HP	208	10	8	6
	230	12	10	8
	460	12	12	12
	575	12	12	12
5 HP	208	10	6	4
	230	10	8	6
	460	12	12	10
	575	12	12	12
10 HP	208	6	4	2
	230	8	4	3
	460	12	10	8
	575	12	12	10
15 HP	208	4	2	1
	230	6	3	2
	460	10	8	6
	575	12	10	8
20 HP	208	4	1	1/0
	230	4	2	1
	460	10	8	6
	575	10	10	8
30 HP	208	2	0	3/0
	230	2	1	2/0
	460	6	6	4
	575	8	8	6
Single Phase				
3/4 HP	120	12	8	6
	230	12	12	10
3 HP	208	8	6	4
	230	8	6	4
5 HP	208	8	6	4
	230	8	6	4
10 HP	208	4	1	1/0
	230	4	2	1/0

HYDRAULIC SCHEMATIC



15 HP MOTOR



POWER UNIT PARTS LIST

Reference numbers given below refer to the 15 HP Motor.

PART #	REF #	DESCRIPTION	QTY
02-0264	1	SUBPLATE 05 1 STN 1/2 NPTF R O	1
02-0211	2	UNION 1 1/4 NPT	1
02-3106	3	VALVE 4-WAY 05 O 2-POS INTERNA	1
02-0184	4	VALVE CHECK 3/4 NPTM X 3/4 NPT	1
02-0197	5	BREATHER 3/4 FILLER	1
02-0214	6	VALVE RELIEF 20 GPM CART PILOT	1
02-0215	7	GAUGE SIGHT LEVEL 5 INCH	1
02-0219	8	CLEAN OUT COVER 6	1
02-0261	9	ELL 1 1/4 NPTM X 1 1/4 NPTF 90	1
02-0259	10	PUMP 18.5 GPM GEAR	1
02-0260	11	FLANGE SUCTION 1 1/4 PIPE	1
02-0051	12	FITLER SUCTION 1 1/4 18 GPM 10	1
02-0065	13	PLUG 1/4 NPT SOCKET HEAD	2
02-0365	14	PIPE 1 1/4 SCH 40 X 10 1/2	1
34-2629	15	PIPE 1/2 SCH 40 X 9 RETURN	1
02-0326	16	HOSE END 3/4 WB X 3/4 NPTM	2
02-0327	17	HOSE 3/4 2 WB 3100 PSI	1
06-0002	18	DECAL RAM-JET	1
03-4351	19	MOTOR 15HP 208/230/460V 60HZ 3	1
05-0012	20	BOLT 3/8-16 X 1 1/4 HHCS PLT	2
02-0044	21	ELL 3/4 NPTM X 3/4 NPTF 90	1
05-0155	22	BOLT 3/8-16 X 3/4 HHCS	4
05-0159	23	WASHER 3/8 LOCK	4
05-0105	24	NUT 5/16-18 HEX SELF-LOCKING	2
05-0154	25	BOLT 5/16-18 X 2 1/4 SHCS	2
06-0011	26	DECAL MOTOR ROTATION 3/4 X 4	1
06-2751	27	DECAL MARATHON COMP & RECYC	1
02-0262	28	NIPPLE 1 1/4 NPT CLOSE	1

PLC MODELS

Pressure Settings

DANGER

Only authorized and trained personnel should perform the following procedures. Lock-out and tag-out compactor per instructions given on **Lock-Out/Tag-Out page** 6.

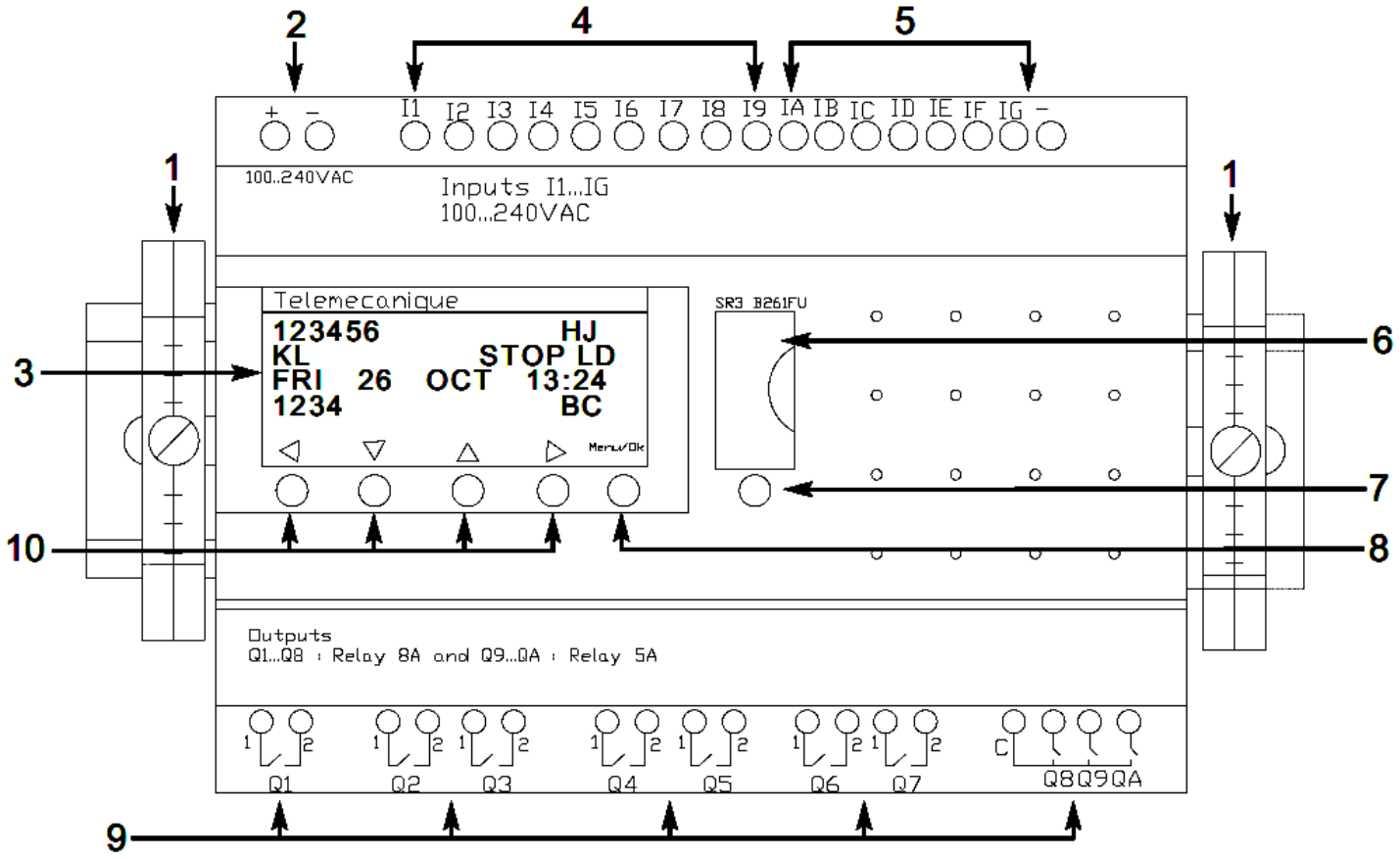
1. Lock-out and tag-out compactor per instructions see **Lock-Out/Tag-Out page** 6.
2. If quick disconnects are used, uncouple the hoses from compactor and position ends on a clean surface. If quick disconnects are not used remove hoses from compactor and cap the hose ends with 2500-psi rated caps.
3. Remove 1/4” plug from the 1/4" tee beneath the pressure switch and install a 3000-psi liquid-filled pressure gauge.
4. Remove the top cap on the pressure switch and turn the adjusting screw several turns counter-clockwise (CCW).
5. Loosen lock nut on relief valve and turn adjusting screw several turns CCW.
6. Start the machine.
7. Turn the relief valve adjusting screw clockwise (CW) until the pressure reaches 1000 psi. Refer to Table below.
8. Turn the pressure switch adjust screw for circuit 2 until input I7 highlights on the PLC screen. Adjust the relief pressure to 1200psi and turn the pressure switch adjustment screw for circuit 1 until input I5 highlights on PLC screen.
9. Stop machine.
10. Remove the screws on the pressure switch cover and raise cover.
11. Turn the relief valve adjust screw CCW several turns and start the motor.
12. Turn the relief valve adjust screw CW until the gauge reads 1500psi. Refer to Table below.
13. Tighten lock nut on the adjust screw.
14. Lock-out and Tag-out machine.
15. Relieve pressure and remove pressure gauge.
16. Reconnect hydraulic hoses.

Model No.	HP	GPM	Relief Valve	Pressure Switch	Cylinder	
					Bore	Rod
RJ-30	15	18	1500	1200	7"	4"

NOTICE

Units fitted with an Advance Warning Light require switch pressure set at 200psi lower than pressure switch.

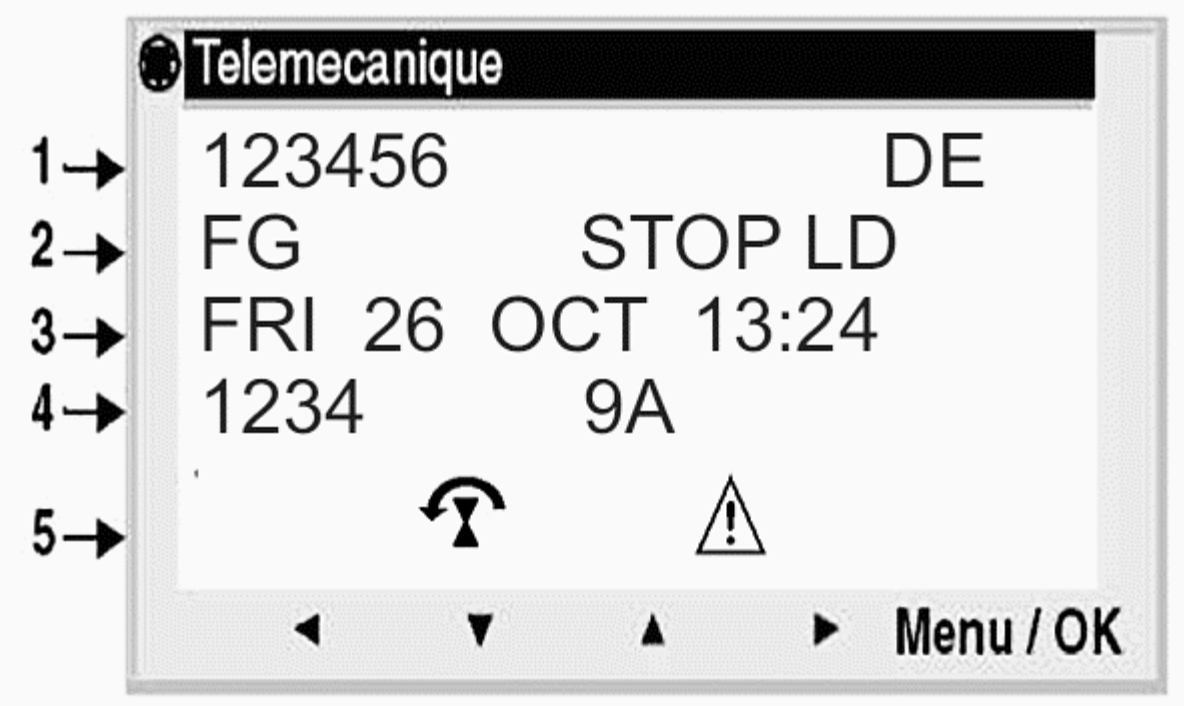
PLC LAYOUT



Reference numbers given below refer to PLC Layout above.

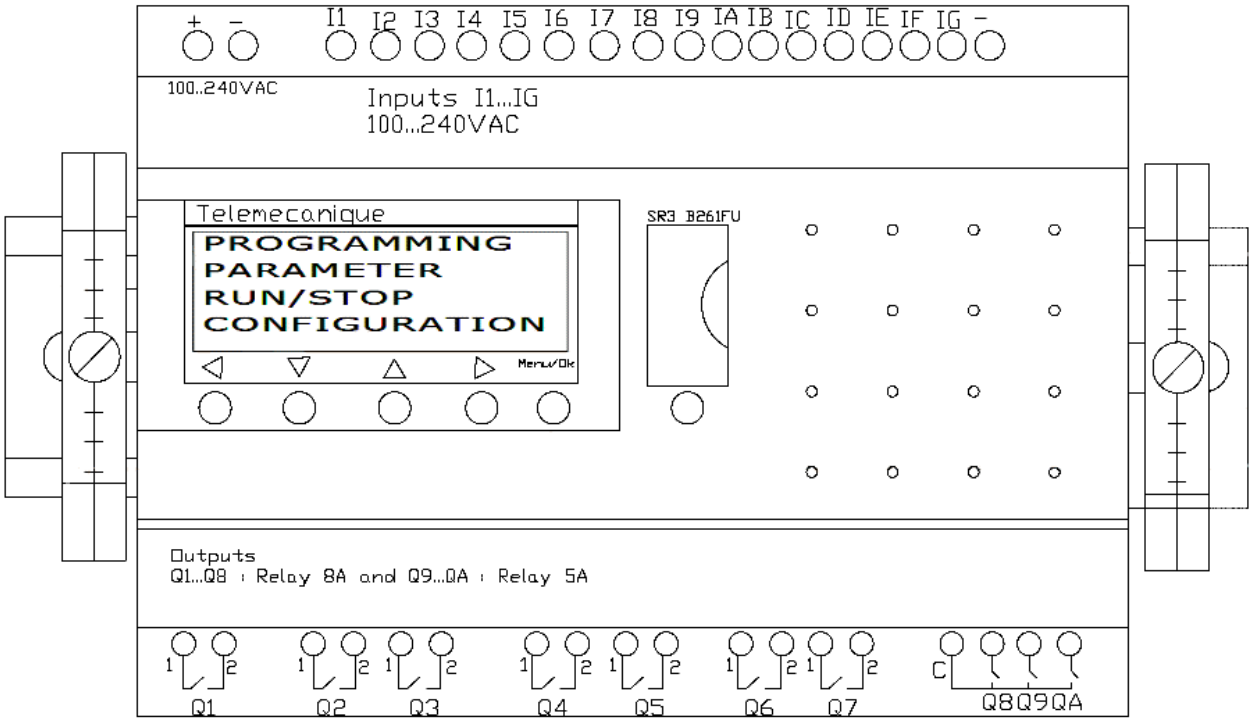
REF #	DESCRIPTION
1	END BARRIERS (EACH SIDE)
2	SCREW TERMINAL BLOCK FOR POWER SUPPLY
3	LCD, 4 LINES, 18 CHARACTERS
4	SCREW TERMINAL BLOCK FOR INPUTS
5	SCREW TERMINAL BLOCK FOR DISCRETE INPUT
6	CONNECTOR FOR BACKUP MEMORY OR PC CONNECTION CABLE
7	SHIFT KEY
8	SELECTION AND VALIDATION KEY
9	RELAY OUTPUT SCREW TERMINAL BLOCK
10	ARROW KEYS OR Z PUSHBUTTONS (ONCE CONFIGURED)

LCD DESCRIPTION



REF #	DESCRIPTION
1	INPUT STATUS
2	OPERATING MODE (RUN/STOP); PROGRAMMING MODE (LD/FBD)
3	DATE (DAY AND TIME FOR PRODUCTS WITH CLOCK)
4	OUTPUT STATUS
5	CONTEXTUAL MENUS / PUSHBUTTONS / ICONS INDICATING THE OPERATING MODE

PROGRAM RUN/STOP SELECTION



Refer to **PLC Layout** page for control location details.

1. Press MENU/OK button; this switches the screen to the Main Menu.
2. Using the Arrow UP or Arrow DOWN key, scroll to RUN/STOP; flashing indicates current selection.
3. Press MENU/OK button.
4. “YES” option is flashing to Run or Stop Program.
5. Press MENU/OK button to complete settings.

MULTI-CYCLE COUNTER SELECTION – MANUAL MODE ONLY

Refer to **PLC Layout**, for control location details.

1. Press MENU/OK button.
2. Press the Arrow DOWN key.
3. Press MENU/OK button.
4. Using the Arrow RIGHT key, scroll to P=0003; flashing indicates current selection.
5. Using the Arrow UP or Arrow DOWN key, adjust cycle count to the required setting.
6. NOTE: Maximum number of cycles is four (4).
7. Press MENU/OK button.
8. “YES” option is flashing.
9. Press MENU/OK button to confirm the changes.
10. Press the Arrow LEFT key to return to normal operation.

Ram Stop Forward Option

Refer to **PLC Layout** page for control location details.

1. Press and hold the Z1 key until the RAM STOP REAR selection parameter is displayed.
2. Press and hold the Z2 key until the ram stop forward selection is displayed.

AUTO-SHUTDOWN TIMER SELECTION

NOTICE

In the event that you need to change these parameters, please call the Marathon Technical Service department and assistance will be given accordingly; refer to **Contact Information** 16 for details.

Refer to **PLC Layout** for control location details.

1. Press MENU/OK button.
2. Using the Arrow UP or Arrow DOWN key, scroll to TTA; flashing indicates current selection.

NOTICE

TD is the AUTO SHUTDOWN timer; default setting is 5 minutes.

3. Press the Arrow RIGHT, scroll to T=5.00; flashing indicates current selection.
4. Using the Arrow UP or Arrow DOWN key, adjust timer to the required setting.

NOTICE

Maximum time selection is 30 minutes..

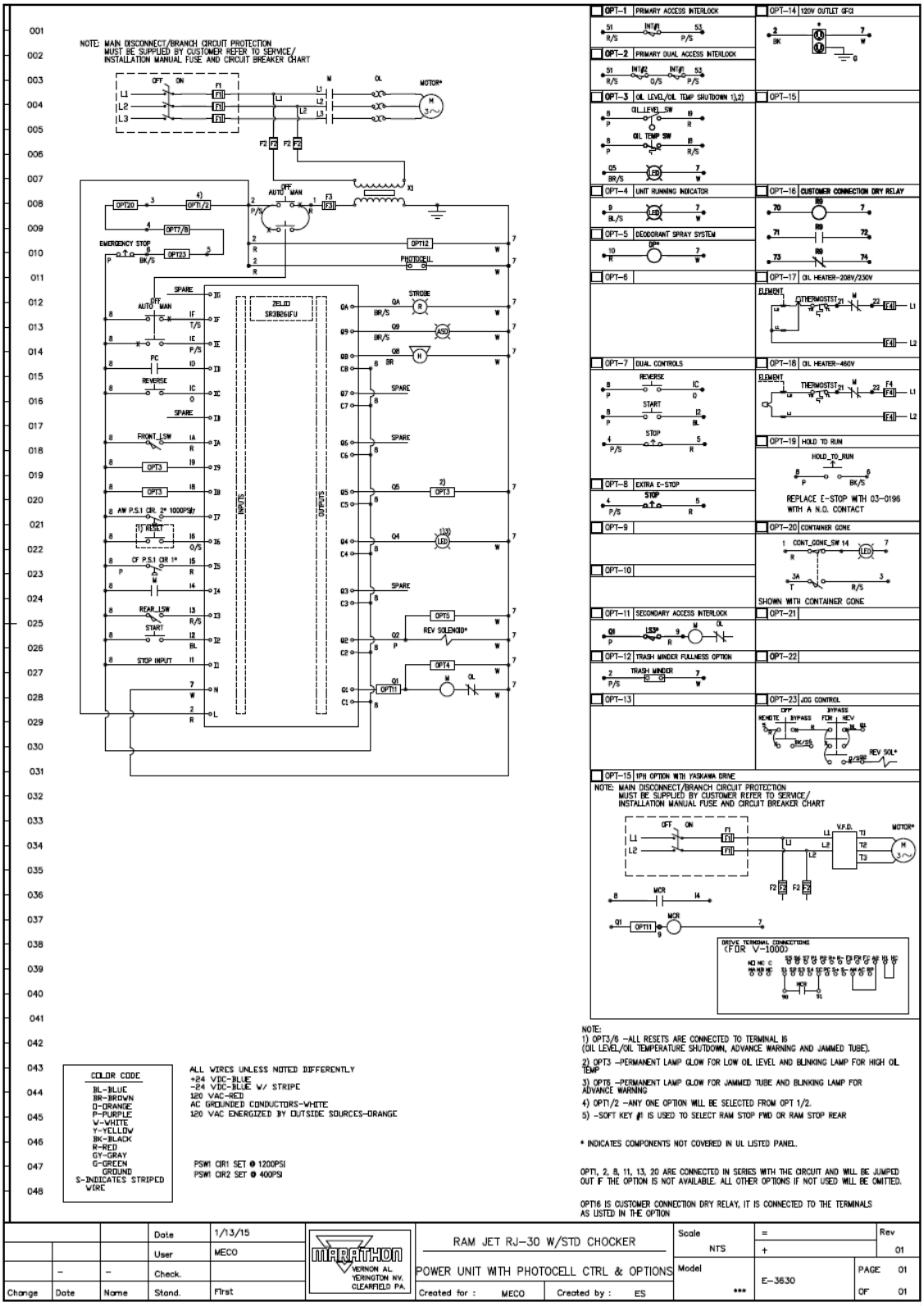
5. Press the Arrow RIGHT key to confirm.
6. Press MENU/OK button. “YES” option is flashing.
7. Press MENU/OK button to confirm the changes.
8. Press MENU/OK button twice to exit menu.
9. Using the Arrow UP or Arrow DOWN key, scroll to RUN/STOP; flashing indicates current selection.
10. Press MENU/OK button. “YES” option is flashing to Run Program.
11. Press MENU/OK button to complete settings.

ELECTRICAL PARTS LIST

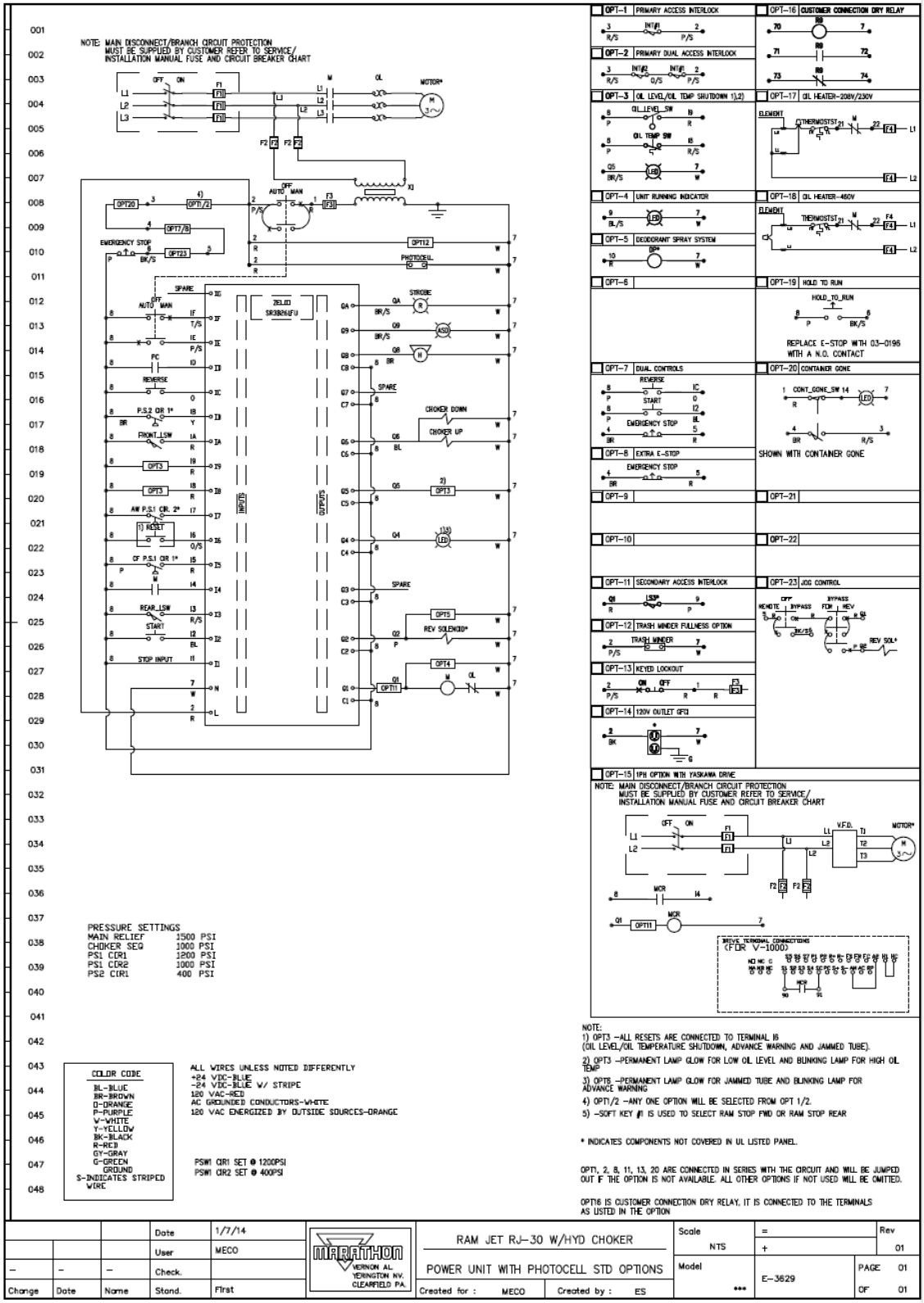
Part #	Description	Qty
03-0551	TERMINAL GROUND #14-#4 WIRE SI	4
03-4781	PLC TELEMECANIQUE 16 IN 10	1
05-0239	SCREW 10-32 X 3/8 SELF TAPPING	17
05-0223	WASHER #10 STAR EXT. TOOTH	5
03-0191	FUSE 2 AMP CONTROL	1
03-0488	FUSE 1.5 AMP 500 V	2
03-0288	TRANSFORMER 150VA 208/230/460	1
03-3638	LIGHT STROBE MODULE 120V RED	1
03-4283	ALARM STACK MODULE 120VAC 100	1
03-4734	BASE SIDE MNT VERTICAL F/STROBE	1
03-0486	MOTOR STARTER EXT RESET	1
03-4920	MOTOR STARTER IEC OVERLOAD 17-25 AMPS TELE	1
03-4835	MOTOR STARTER IEC 50A	1
06-0277	DECAL UL APPROVED STOCK EQUIPMENT	1
06-0374	DECAL GROUND (SHOWS THE GROUND)	1
03-4437	TERMINAL BLOCK W/PRESSURE PLAT	20
03-4172	TERMINAL BLOCK #24-10 GROUND	3
03-4169	TERMINAL BLOCK END BARRIER	1
03-4441	TERMINAL BLOCK END STOP	2
03-4438	TERMINAL BLOCK JUMPER	2
03-4440	TERMINAL BLOCK MARKING TABS	2
06-3160	DECAL “TYPE” F/PANEL BOX	1
06-3194	DECAL “SHORT CIRCUIT CURRENT...”	1
06-0081	DECAL UL/CUL PANEL BOX	1
05-0316	SCREW 8-32 X 1/2 MACH SLOT	6
03-0027	CONDUIT 1/2 SLT UL/CSA approved	16.75
03-0026	CONNECTOR 1/2 ST SEALTITE	6
03-0028	CONDUIT 3/4 SLT UL/CSA approved	2.5
03-0024	CONNECTOR 3/4 ST SEALTITE	1
03-0023	CONNECTOR 3/4 90 DEG SEALTITE	1
06-0134	GROMMET 3/8 ID X 5/8 OD X 1/4	1
03-1090	TERMINAL #16-14 BARE RING #10	1
03-2018	CABLE LOOM 3/4	2
03-4914	CONTACT AUX FRONT 1 NC 3 NO TE	1
03-0195	OPERATOR 30 PUSHBUTTON KEYED W	1
03-0201	OPERATOR 30 PUSH/PULL MHD RED	1
03-0197	OPERATOR 30 PUSHBUTTON BLK FLS	1

ELECTRICAL PARTS LIST		
03-0199	OPERATOR 30 SELECTOR 3 KEYED M	1
03-0081	OPERATOR 30 PUSHBUTTON ILL RED	2
03-0375	LEGEND 30 'START FORWARD'	1
03-0193	LEGEND 30 'EMERG STOP'	1
03-0154	LEGEND 30 'REVERSE'	1
99-5045	LEGEND 30 'MAN/OFF/AUTO'	1
03-0074	LEGEND 30 'CONTAINER FULL'	1
03-0350	LEGEND 30 'AUTO SHUTDOWN'	1
03-0076	CONTACT BLOCK 1 NO	2

ELECTRICAL SCHEMATIC



ELECTRICAL SCHEMATIC WITH CHOKER



TROUBLESHOOTING

Only thoroughly trained and experienced service personnel should perform trouble- shooting and maintenance on this compactor. Do NOT enter the compactor for any reason until it has been locked-out and tagged-out per the **Lock-Out & Tag-Out Instructions.** 6

Basic tools required:

- Continuity tester
- Screwdrivers – 1 medium flat head, 1 small Phillips
- Adjustable wrench
- Allen wrenches
- Flashlight
- Voltage and Amp tester
- Electrical schematic

TROUBLESHOOTING

Problem	Possible Cause	Solution
UNIT WILL NOT START	1. No electrical power to unit.	1a. Turn main disconnect switch ON. 1b. Replace fuses or reset breakers.
	2. No electrical power to control circuits.	2a. Check primary and secondary sides of transformer. 2b. Check for correct voltage. 2c. Check fuses in control box. 2d. Check STOP button. Pull to reset. 2e. Check START button to make sure contact closes when depressed.
	3. No electrical power to motor.	3a. Check overload reset. Depress motor starter reset.
UNIT WILL NOT CONTINUE RUNNING WHEN START BUTTON RELEASED	1. Motor starter is inoperative.	1a. Check motor starter coil and wiring.
	2. Motor starter auxiliary contacts are inoperative.	2a. Check motor starter contacts and wiring.
MOTOR RUNS BUT RAM WILL NOT MOVE NORMALLY	1. Insufficient hydraulic fluid in the reservoir.	1a. Fill reservoir with hydraulic fluid.
	2. Low relief pressure.	2a. Check relief pressure, refer to **PLC page** as applicable. 2b. Clean orifice in relief valve (on pump) and reset pressure. 2c. Check “O” rings on relief valve for damage or leakage.
	3. Oil leakage in cylinder.	3a. Check cylinder for bypassing. 3b. Replace seal kit, inspect rod and cylinder tube for scoring or nicks. 3c. Replace cylinder.

TROUBLESHOOTING

Problem	Possible Cause	Solution
	4. Defective pump.	4. Replace pump.
	5. Oil leaking from hose fittings.	5. Tighten hose connections.
	6. Low voltage.	6. Check voltage.
	7. Pump rotating in wrong direction.	7. Stop immediately to prevent pump seizure. Check direction of drive rotation (proper rotation direction is indicated by arrow on motor). Reverse any two incoming power leads.
	8. Shaft broken, or shaft key sheared.	8. Visually inspect motor and pump shaft for damage. Replace if necessary.
	9. Intake pipe from reservoir blocked, or oil viscosity too heavy to prime.	9. Drain system. Add clean fluid of proper viscosity/specifications. Filter as recommended. Check suction strainer for cleanliness.
	10. Intake air leaks (foam in oil or sounds like gravel in pump).	10a. Check intake connections. Tighten securely.
	11. Units shift slowly.	11. Flow control valve (restrictor) clogged, remove and clean orifice.
	12. Valve response sluggish.	12a. Contaminated oil; drain and flush system. 12b. Inadequate voltage; check voltage, check coil. 12c. Disassemble valve and clean.
UNIT WILL NOT REVERSE	1. Solenoid valve inoperative.	1a. Check coil in solenoid valve.
PUMP MAKES NOISE, SOUNDS LIKE GRAVEL	1. Partially clogged suction strainer or suction pipe.	1. Pump must receive fluid freely or cavitation will result. Flush system, clean suction pipe and clean or replace suction strainer. Add clean fluid.
	2. Defective bearing.	2. Replace pump.
	3. Air leak at pump intake pipe joints.	3. Tighten joints as required.
PUMP SHAFT SEAL LEAKING	1. Seal worn or damaged.	1. Replace seals or pump.
EXCESSIVE HEAT	1. Continuous running.	1a. When over 140°F or hot in comparison with circuit lines, pump should be shut down immediately. Before restarting, insure that fluid cooling capacity is adequate to remove system-generated heat. 1b. Install oil cooler (air or water type). 1c. Install oil temperature shut down switch
	2. Undersized hydraulic lines.	2a. Replace with larger hydraulic lines

TROUBLESHOOTING

Problem	Possible Cause	Solution
	3. High ambient temp in relation to oil temperature.	3a. Use lower viscosity oil.
	4. Excessive system leakage.	4a. Check system for bypassing or leaks.
RAPID WEAR	1. Abrasive matter in the hydraulic oil being circulated through pump.	1a. Install adequate filter or clean. 1b. Replace oil more often and clean tank.
	2. Viscosity of oil too low at working conditions.	2a. Replace oil with factory recommended.
	3. Pressure too high.	3a. Reduce pump pressures to factory specifications.
	4. Air recirculation causing pump noise.	4a. Tighten all fittings.
ERRATIC OPERATION	1. Valve sticking or binding.	1a. Disassemble & clean as necessary.
	2. Viscosity of oil too high.	2a. Change oil to factory recommended viscosity.
	3. Air in system.	3a. Check for leaks, tighten fittings.
	4. Low oil.	4a. Fill reservoir with oil.
	5. Low voltage.	5a. Check primary & secondary sides of transformer for correct voltage.
OVERLOADS TRIP FREQUENTLY		1a. Check for correct voltage (incoming power). 1b. Check fuses or breaker at disconnect. 1c. Check heater elements to make sure they are tight. 1d. Check wiring from starter to motor to make sure all connections are tight. 1e. Check motor leads to make sure all connections are tight.
		NOTE: Excessive overload tripping and/or motor or coil failures may occur if voltage surges or voltage drops are frequent in your area. This circumstance can be remedied by the installation of phase protectors which drop power to the motor if surges are present

NOTICE

In all events, check output fuses.

PERIODIC MAINTENANCE

⚠ DANGER

Only authorized and trained personnel should perform the following procedures. **Lock-Out and Tag-Out** 6 the compactor per instructions given in **Lock-Out & Tag-Out** 6 Instructions.

After Start-Up

Replace the return line filter after the start-up technician has completed the initial startup of the machine.

Daily (or every 8 hours of operation)

1. Check for any oil leaks. Keep all hydraulic fittings tight. Check the oil level and temperature in the hydraulic reservoir. Maintain oil level up to 3/4 full in the sight gauge. Oil level should be checked with cylinder ram in retracted position. The temperature should be below 160° F.
2. Check all remote emergency stop locations. Make sure that each emergency stop button is not obstructed, damaged, or depressed.
3. If fitted, clean the photocell lens. In a dusty application, it may be necessary to clean the photocell and reflector several times a day.
4. Check the reflector plates of the laser positioners for particulate accumulation.
5. Clean the radiator of the oil cooler.

Weekly (or every 40 hours of operation)

1. Clean around the machine and remove any operator hazards.
2. Check the function of all emergency stop buttons and interlock switches.
3. If fitted, check the start-up alarm and flashing beacon. Clean the light as required.

Monthly (or every 160 hours of operation)

1. Check the function of all controls (lights, switches, etc.).
2. Clean out debris from behind compactor ram.
3. Guided-ram machines only – Lubricate the ram guidance tracks using the grease fittings provided.
4. Check all hoses for chaffing, rubbing, or other deterioration and damage.
5. Inspect the breather cap on hydraulic reservoir. Clean or replace as necessary.
6. Check the cylinder pins and make sure they are secure.
7. Check the seals on all cylinders for leaks.
8. After the first 160 hours of operation, the return line filter should be replaced.
   After this replacement, the return line filter maintenance/replacement schedule is extended to every 600-1000 hours of operation.

PERIODIC MAINTENANCE (CONTINUED)

Quarterly (or every 500 hours of operation)

1. Change the return line oil filter element in the oil filter housing (filter/housing is located on the side of reservoir at the end of oil return line from oil cooler).
2. Inspect the cylinder rod for nicks and abrasions. Check cylinder rod seals for damage. Inspect cylinder pins for movement or missing cotter pins. Lubricate cylinder pinning sleeves and pins.

Semi-Annually (or every 1000 hours of operation)

1. Send an oil sample for evaluation.
2. Check the compactor structure for any signs of any problems, such as cracked welds, bending, etc.
3. Rotate the ram cylinder rod 180°.

Annually (or every 2000 hours of operation)

1. Lubricate the electric motor bearings as recommended by the manufacturer.
2. Change the hydraulic fluid in the entire system. If existing oil is reused, it should be tested by a laboratory to ensure it meets necessary specifications. Additives can be added to bring oil back to standards. Before returning oil to the tank, it should be filtered through a minimum 6 micron filter. The hydraulic tank should be cleaned inside with a nonflammable solvent and thoroughly dried before replacing the oil.
3. Filter maintenance:
   a. Hydraulic suction filters should be cleaned at yearly intervals.
   b. Filters may be removed from unit by disconnecting the union on the suction side of pump (circulating pump for oil cooler), or by removing four bolts that retain suction flange to main pump, and lifting the filter from reservoir.
   c. Care should be exercised in cleaning the filter to ensure that the element is not torn. Clean the filter with a soft brush and standard industrial solvent.
   d. Replace the filter after cleaning. Securely tighten the union or bolts. Pump noise and a “crackle” sound are most often caused by air entering the pump suction line. Tightening the suction fittings will usually eliminate problem.

DAILY MAINTENANCE SCHEDULE

Make copies of below table to record your maintenance on equipment.

MAINTENANCE SCHEDULE				
	DAILY			
Day	CHECK FOR OIL LEAKS	CHECK REMOTE EMERGENCY STOP LOCATIONS	CLEAN PHOTOCELL IF NECESSARY	CLEAN RADIATOR OF OIL COOLER IF NECESSARY
1				
2				
3				
4				
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WEEKLY MAINTENANCE SCHEDULE

Make copies of below table to record your maintenance on equipment.

MAINTENANCE SCHEDULE				
	WEEKLY			
Week	CHECK UNSAFE CONDITIONS AND CLEAN AROUND MACHINE	CHECK FUNCTION OF ALL BUTTONS AND SWITCHES	MAKE SURE ALL LIGHTS AND INSTRUCTIONS ARE VISIBLE	CHECK THE START-UP ALARM AND BEACON
1				
2				
3				
4				
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RJ-30 Compaction Extruder

Service

MAINTENANCE SCHEDULE				
	WEEKLY			
Week	CHECK UNSAFE CONDITIONS AND CLEAN AROUND MACHINE	CHECK FUNCTION OF ALL BUTTONS AND SWITCHES	MAKE SURE ALL LIGHTS AND INSTRUCTIONS ARE VISIBLE	CHECK THE START-UP ALARM AND BEACON
33				
34				
35				
36				
37				
38				
39				
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41				
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MONTHLY MAINTENANCE SCHEDULE

Make copies of below table to record your maintenance on equipment.

MAINTENANCE SCHEDULE						
	Monthly					
Month	CHECK FUNCTION OF ALL CONTROLS	CHECK ALL HOSES	CHECK FOR UNSAFE CONDITIONS	CHECK OIL LEVEL IN RESERVOIR	CLEAN OUT DEBRIS FROM ABOVE RAM	CHECK ACCESS INTERLOCK FOR CORRECT OPERATION
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						

QUARTERLY, SEMI-ANNUAL, & ANNUAL MAINTENANCE SCHEDULE

Make copies of below table to record your maintenance on equipment.

MAINTENANCE SCHEDULE							
	Every 3 months		Every 6 months		Annually		
Month	CHECK CONNECTIONS AND SEALS ON CYLINDERS FOR LEAKS	CHECK CYLINDER PINS FOR SECURENESS	SEND OIL SAMPLE FOR EVALUATION	CHECK STRUCTURE FOR SIGNS OF ANY PROBLEMS	LUBRICATE MOTOR BEARINGS	CHANGE HYDRAULIC FLUID	FILTER MAINTENANCE
January							
February							
March							
April							
May							
June							
July							
August							
September							
October							
November							
December							

SECTION 5
REPLACEMENT PARTS

CONTACT INFORMATION

Technical Service and Warranty:

877-258-1105

Parts:

800-528-5308

For parts visit our e-commerce market place at **www.mecomerchant.com**.

If you do not have a user name and password, contact our Parts Department and they will assist with your registration.

Normal Business Hours:

Monday-Friday 8:00am - 5:00pm

(Central Standard Time)

CYLINDER REPLACEMENT – ALL MODELS

⚠ WARNING

Never enter any part of the compactor until the unit has been locked-out and tagged-out per **Lock-Out & Tag-Out Instructions** 6.

1. Lock-Out and Tag-Out the compactor as specified in **Lock-Out & Tag-Out Instructions** 6.
2. Remove access covers.
3. Relieve hydraulic pressure by depressing the solenoid valve pin/spool.
4. Remove hoses.

NOTICE

Disconnect one hydraulic hose at a time, removing hose fittings slowly. Plug ALL ports and hose ends.

5. Remove cylinder pins.
6. Remove cylinders.
7. Install the cylinders; process is the reverse of the above steps.

NOTICE

Before reinstalling cylinder, check cylinder pin, and cylinder rod for signs of fatigue. Do not reuse parts if wear or cracks are present.

8. Fill the reservoir with hydraulic oil. See **Recommended Oils** 9.
   Fill until oil is 3/4 up in the sight gauge.

Decals

Warning Decal Requirements

When your compactor leaves the factory, several WARNING DECALS are installed for your protection. These labels are subject to wear and abuse due to the nature of the baling operation. The following decals must be maintained. Additional decals may be purchased through your distributor or from Marathon Equipment Company, refer to **Contact Information** 16 for details.

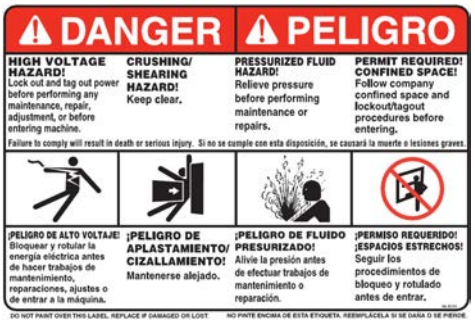
PART #	DESCRIPTION	QTY
06-0002	RAMJET LOGO	2
06-0038	WARNING: DO NOT REMOVE ACCESS COVER	2
06-0039	DANGER: DO NOT ENTER	3
06-0121	NOTICE: FEDERAL REGULATIONS...	2
06-0249	DANGER: HAZARDOUS VOLTAGE	1
06-0364	COMPACTOR SERIAL NUMBER	1
06-1839	AMERICAN FLAG	2
06-3123	DANGER: CONFINED SPACE	2
06-2751	MARATHON COMPACTION & RECYCLING	2
06-3977	WARNING: DO NOT OPERATE OR SERVICE...	2
06-3978	DANGER: DO NOT OVERRIDE OR TAMPER...	2
06-0133	WARNING: KEEP OFF!	2

DECAL IMAGES

06-0038

06-0039

06-0249



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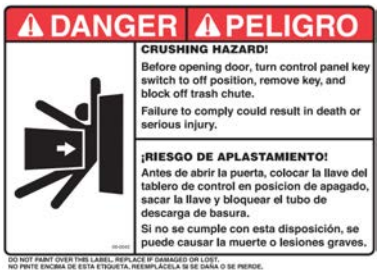
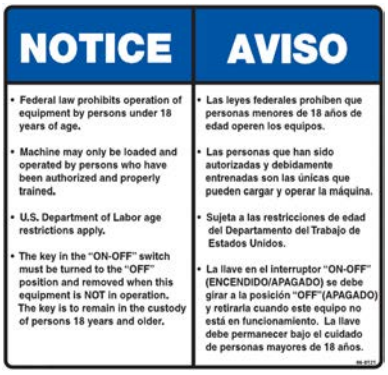
06-0042



06-2751

06-0002

06-0121



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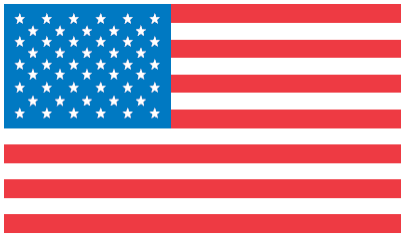

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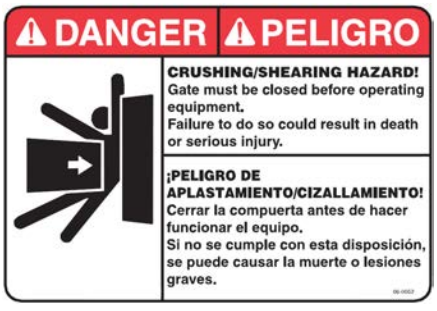


06-3977

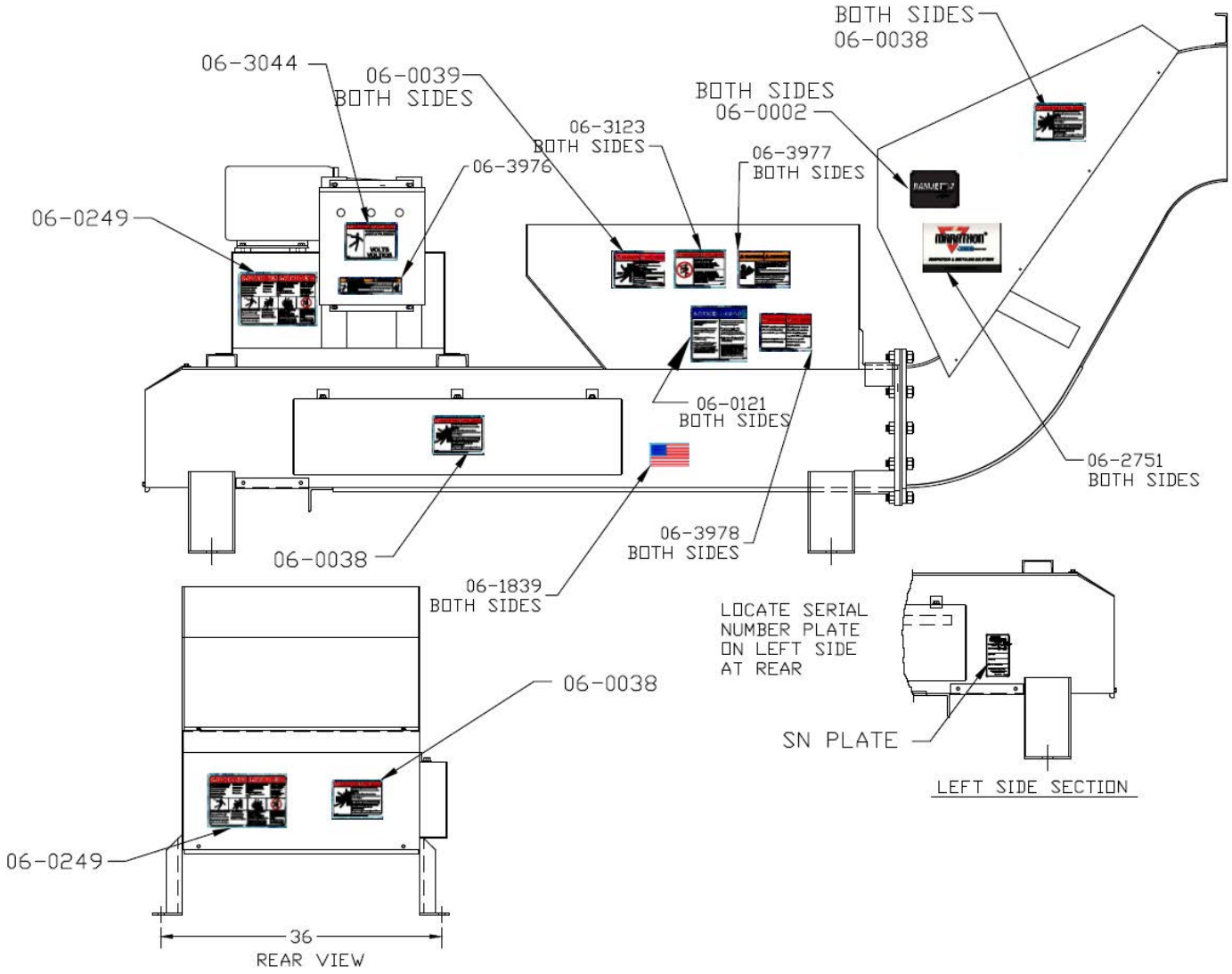
DECAL IMAGES

06-0133

06-0364

DECAL PLACEMENT

STANDARD EQUIPMENT



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RJ-30 Compaction Extruder
INDEX

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www.marathonequipment.com

Customer Care:
800-633-8974

Parts Central:
800-528-5308
www.mecomerchant.com

Technical Service and Warranty:
877-258-1105

Customer Support

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