

RJ-450 HD/PC, RJ-450 HD/PC/HI VOLUME, RJ-575 HD/PC, RJ-575 EHD/PC

OPERATION, SERVICE, AND INSTALLATION

ISSUED AUGUST 2017

CUSTOMER NAME: _____

SERIAL NUMBER: _____

COMPACTION & RECYCLING SOLUTIONS

0023-RJPC-0817



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





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.

RamJet[®] Precrusher TABLE OF CONTENTS

General Information

Introduction	
Preface	5
Hazard Symbols and Definitions	5
Lock-Out/Tag-Out Instructions	6
Specifications	
Service/Parts Assistance	
Guards and Access Covers	10
Grease Lubrication Recommendation	10
Recommended Oils	10
Warning Decals on the Unit	11
Decal Care	11
Hydraulic Symbols	
Electrical Symbols	
Installation	
Contact Information	
Concrete Pad Requirements	
Anchoring and Weldment of Skids to Anchor Plates	
Anchoring	
Steel Installation Procedures	
Electric and Hydraulic Installation	
Operation	
Contact Information	26
Pre-Operation Instructions	
Operator Station	
Operating Instructions	
Optional Controls	
Service	
Contact Information	32
Compactor Lock-Out/Tag-Out Instructions	33
Periodic Maintenance	35
Periodic Maintenance Schedule	36
Pressure Settings	37
Limit Switch Settings	41
Operating Characteristics of Precrushers	42
Fuse. Circuit Breaker & Wire Size Charts	43
Power Units	44
Flectrical Schematics	46
Hydraulic Schematics	50
Troubleshooting Chart	
Renlacement Parts	
Contact Information	56
Electrical Hydraulic and Miscellaneous Hardware Parts Lists	57 ہے۔ 57
Decal Parts List	50
Decal Placement	60

RamJet[®] Precrusher TABLE OF CONTENTS

ecal Images6	3
dex	5

RJ-450 HD/PC, RJ-450 HD/PC/HI VOLUME, RJ-575 HD/PC, RJ-575 EHD/PC

OPERATION, SERVICE, AND INSTALLATION ISSUED AUGUST 2017 0023-RJPC-0817 1

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SECTION 1 GENERAL INFORMATION

INTRODUCTION

Thank you for purchasing a Marathon® Precrusher!

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:

ANSI STANDARD NO. Z245.2, "STATIONARY COMPACTORS SAFETY REQUIREMENTS"

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

A DANGER



Before servicing 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.
- 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 servicing 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.

SPECIFICATIONS

Specifications - RJ-450 HD/PC







Model	Clear Top Opening	Motor	Pump	Normal System	Cylinder	Cycle
	(Length, Width)	Size	Size	Pressure	(Stroke, Rod, Bore)	Time
RJ-450 HDPC	56 x 57 1/2	20	18.5	2150	82S ,4R ,6B	69

SPECIFICATIONS (CONTINUED)

Specifications - RJ-575 HD/PC



Model	Clear Top Opening	Motor	Pump	Normal System	Cylinder	Cycle
	(Length, Width)	Size	Size	Pressure	(Stroke, Rod, Bore)	Time
RJ-575 HDPC	85 1/2 x 57 1/2	30	52.0	2200	112S ,4R,7B	51

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.

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.

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

Cold Weather Fluid

• Amoco-Rycon MV

WARNING DECALS ON THE UNIT

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 unit'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.

General Information

DECAL CARE - CONTINUED



INCORRECT TECHNIQUE

HYDRAULIC SYMBOLS



HYDRAULIC SYMBOLS (CONTINUED)



General Information

ELECTRICAL SYMBOLS

SYMBOL DEFINITIONS

d di BATTERY FUSE SOLENOID CONTACT RELAY CR1 CR1 NORMALLY OPEN CONTACT OF CR1 NORMALLY CLOSED CONTACT OF CR1 INDICATOR LIGHT (GREEN) PUSH BUTTON SWITCH NORMALLY CLOSED 0 PUSH BUTTON SWITCH NORMALLY OPEN **TOGGLE SWITCH** DIODE PRESSURE SWITCH LIMIT SWITCH NORMALLY OPEN 0 LIMIT SWITCH NORMALLY CLOSED -0 ~ -16 CAPACITOR

Issued August 2017

General Information

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SECTION 2 INSTALLATION

CONTACT INFORMATION



Technical Service and Warranty:

877-258-1105

Parts:

800-528-5308

For parts visit our eCommerce Marketplace 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)

RamJet[®] Precrusher Installation

CONCRETE PAD REQUIREMENTS

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

Review this manual before starting the installation. Study the jobsite and installation requirements carefully to be certain all necessary safeguards and or safety devices are provided to protect all personnel and equipment during the installation and as a completed system. Special attention is directed to the most current ANSI Z245.2 standard.

Concrete Pad

- Preferred dimensions of the concrete pad are 10'0" wide and a length of 5'0" greater than combined length of
 Precrusher and receiver container. It should be level and of minimum 3000 PSI concrete steel reinforced, 6" thick.
 For good housekeeping practices, it is recommended a drain beneath the area of the charge box be incorporated in
 the pad connecting to a sanitary sewer. It is preferred that the concrete pad be flush with the surrounding ground
 level. If it must be raised above surrounding ground level, pad at end opposite Precrusher should be tapered to
 ground level.
- To provide accessibility, concrete pad should be positioned to allow 28" clearance between any obstacle and the outside edge of grab claw per ANSI Z245.21. Allow a minimum of 45' of clear space from container-end of pad for container handling vehicle.

NOTICE

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

Decals

Be certain that the appropriate decals are in their proper locations on the machine. For decal locations, see **Decals** and **Decal Placement** in the Replacement Parts section of this manual.

NOTICE

Installation is not complete until all decals are in place.

ANCHORING AND WELDMENT OF SKIDS TO ANCHOR PLATES

Anchor plates are shipped loose with compactor and should be pre-located on pad. Once anchor plates have been anchored to the pad, sit compactor in place on top of the anchor plates. Stitch weld skids to anchor plates with 6" stitch welds at 18" centers maximum on all skids. Skids will vary in length requiring spacing to vary but should not exceed 18" centers.



RamJet[®] Precrusher Installation

ANCHORING

The skid plates should be anchored to concrete pad using eight (8) min. 1" x 6" long anchor bolts to secure the skid plates to the concrete. It is best if these holes are drilled in the concrete after prelocating the compactor in its desired location. Holes in the skid plates are 1-5/16" Dia. to permit the use of a 1-1/8" Dia. concrete bit. The holes in the concrete should be approximately 5" deep. When the compactor has been permanently located, shim to compensate for unevenness in pad. Set anchor bolts, tighten all nuts securely, and weld the skids to the skid plates. Container guides (optional) should be anchored in the same manner, spacing between guides determined by rail spacing of the container.





- furnished, red head type recommended). Eight (8) total.
- 4. Weld compactor skids to the skid plates.

RamJet[®] Precrusher Installation

STEEL INSTALLATION PROCEDURES

Dock Installation

If the appropriate accessories are ordered from Marathon Equipment Co., the Precrusher will be furnished with a hopper and gate, doghouse, or a chute. THESE ACCESSORIES SHOULD NOT BE ALTERED AS THEY ARE MANUFACTURED IN ACCORDANCE WITH ANSI STANDARDS WHICH ARE CURRENT AT THE TIME OF MANUFACTURE.

If the Precrusher cannot be directly abutted to the dock or if there is any difference in height between the dock and the Precrusher, an appropriately sturdy transition section should be provided by the customer and securely affixed to the dock (See ANSI Z245.2 Standards). Optional container guides with stops are available from Marathon and are recommended for proper dock placement of the container to the Precrusher.

Chute-Fed Installation

Precrushers 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 the inside floor level. Also, due to compactor height variations the bottom of the access hole should be at least 2" above the compactor height. A security door (in accordance with local code) should be installed in the wall opening. In the absence of a local code, this door should be constructed of 3/16" thick steel or of steel hollow core design and be lockable from the inside of the building.

Container Guides

If container guides (optional) are used with the compactor and container, each guide should be anchored to the concrete pad with 3/4" X 6" (minimum) anchor bolts. These bolts should be concrete anchors or expansion type anchor bolts. To allow for construction variations, it is best if these holes are drilled in the concrete after prelocating the container guides in their desired location. Install anchor bolts in each location provided. When the guides have been placed in position, and the anchor bolts have set, tighten all nuts securely.

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 33 in the Service section.

A lockable fused disconnect switch (customer furnished) must be installed and be with insight of the Precrusher's motor control panel location, not to exceed 50'0" from the motor. This fused disconnect switch should be sized in accordance with the local and national electric codes (See **Fuses and Circuit Breakers** chart).

A DANGER

All equipment must be grounded per the National Electric Code.

Remote Power Pack Installation

- 1. The remote power pack should be installed and anchored as required by the customer. If the control station is mounted in the face of the motor control panel, be certain these controls are located as to be in a convenient, but not hazardous, location to the customer.
- 2. Connect the hydraulic hoses to the power pack, exercising care to follow the port decals (A or B) on the Precrusher and the power pack. In the event the decals have been obliterated, the hose leading from the rear (base) of the ram cylinder should be installed in A Port on the main control valve subplate (for the ram). The hose leading from the rod end of the ram cylinder should be connected to the B Port on the main (ram) valve subplate. Refer to **Power Unit** 4 diagrams in the Service section of this manual.

The hose leading from the base end of each gate cylinder tee together and should be installed in A Port on the gate control valve subplate. The hose leading from the rod end of each gate cylinder tee together and should be connected to the B Port on the gate valve subplate. Refer to **Power Unit** 44 diagrams in the Service section of this manual.

RamJet[®] Precrusher Installation

ELECTRICAL AND HYDRAULIC INSTALLATION (CONTINUED)

Pushbutton Control Panel

The operator station is factory wired using flexible non-metallic conduit. If it is necessary to disconnect it from the wires (to install the operator station inside a building), exercise care that these wires are reconnected as originally furnished. (Check local codes to be certain that Sealtite is acceptable.)

Operator Station 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. If installation requires this operator 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 Precrusher's motor control panel, in accordance with local and National Electric Codes, using knock-outs in bottom of the motor control panel. See **Fuse** & Circuit Breaker Chart (43) for Motors and Wire Size Chart (43), in the Service section, to determine the proper service disconnect amperage rating and the proper wire size.

NOTICE

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 Precrusher or remote power pack. If voltage is correct, put fused disconnect switch in "ON" position.

Start-Up Instructions

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

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

2. Depress the start button and check the pump shaft for proper rotation. Motor rotation should be clock wise (observed from fan end of motor).

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.

3. 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 eCommerce Marketplace 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.

A 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** 3.

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

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!

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 3.

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** 33.

A 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.

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.

NOTICE

Before operating the precrusher, make sure that the ratchets and claws are securely attached to the receiver container.

OPERATOR STATION



- ON/OFF KEYED SWITCH This switch requires a key for operation and must be ON to operate the other controls. While the machine is not in use, this switch should remain in the OFF position with the key removed. The key should always be in the possession of authorized personnel.
- 2. **POWER ON PUSHBUTTON** Pressing this button turns the control power to the operating controls ON. This button should illuminate indicating the control power is ON.

NOTICE

The key switch must be in the ON position.

3. **START PUSHBUTTON** - Pressing this button will start the machine to cycle. The machine will run one complete cycle automatically and stop.

NOTICE

The key switch must be in the ON position and the POWER ON light must be illuminated.

- 4. **EMERGENCY STOP PUSHBUTTON** (red mushroom head) Pressing this button will stop all powered motion of the compactor ram and Precrusher gate.
- 5. FOR/REV SELECTOR SWITCH This spring center return selector switch will override the automatic cycle of the machine when turned to the FWD (FORWARD) or REV (REVERSE) position. When turned to the FORWARD position, the ram will move in the forward direction. When turned to the REVERSE position, the ram will move in the reverse direction. When the switch is released, the ram will stop.
- 6. **UP/DOWN SELECTOR SWITCH** This spring center return selector switch will override the automatic cycle of the machine when turned to the UP or DOWN position. When turned to the UP position, the Precrusher gate will move in the up direction. When turned to the DOWN position, the Precrusher gate will move in the down direction. When the switch is released, the machine will stop.

OPERATING INSTRUCTIONS

A DANGER

The employer should allow only authorized and trained personnel to operate this Precrusher.

Never enter any part of the Precrusher unless the disconnect switch has been locked-out and tagged-out.

- 1. Place material to be discarded into the Precrusher.
- 2. Insert the key into the key switch. Turn the key counter clockwise to the ON position.
- 3. Press the POWER ON push button. The POWER ON push button should illuminate and stay illuminated during the full cycle of the machine.
- 4. Press the START button. The Precrusher will initiate a complete cycle. (A complete cycle consists of the following: The ram compacts the discarded material against the Precrusher gate. The ram hesitates momentarily after initial compaction and the gate raises up. The ram then pushes the material into the receiver container. Finally, the ram will retract, the gate will return to the down position, and the motor will shut off.)
- 5. Repeat, if necessary, after the Precrusher has stopped.
- 6. Turn the key switch to the OFF position, and remove the key.

IN CASE OF EMERGENCY: Push the large RED button to STOP!

Manual Control of Ram and Gate Direction

- 1. The FWD/REV switch will manually control the ram direction. If held to the FWD position, the ram will travel forward. If held to the REV position, the ram will retract. When this switch is released, the Precrusher will stop all motion.
- 2. The UP/DOWN switch will manually control the gate direction. If held to the DOWN position, the gate will travel down. If held to the UP position, the gate will raise up. When this switch is released, the Precrusher will stop all motion.

OPTIONAL CONTROLS

- 1. **Container Full Light** When the light is on, the container is full and is ready to be emptied before its next use. To deactivate, press the illuminated container full light. (The unit will not run while the light is on).
- Advance Warning Light When the light is blinking, 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. (Unit will run with light on.)
- 3. **Cycle Timer** This option is used when more than one cycle is desired. The factory setting is for three strokes (adjustable).
- 4. Access Interlock This is optional with units equipped with doors, chutes, or access gates. It prevents the unit from operating while a door or gate is open.
- 5. **Photoelectric Cycle Control** 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.
- 6. Automatic Shutdown Used with the photoelectric cycle control. This option has a timer that should not be set over 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 passed. To deactivate the timer, the illuminated auto shutdown pushbutton is pressed after clearing the blockage.
- 7. **Oil Temperature Shutdown** This option will shut the power unit down when the preset oil temperature is reached. The indicator light will blink. To reset press the oil temperature light.
- 8. Low Oil Level Shutdown This option will shut the power unit down when the oil level drops below a preset level. The indicator light will illuminate. To reset press the low oil level light.

9. **Thermostatically Controlled Oil Heater** - This option is installed in the oil reservoir. The thermostat can be adjusted so the heater will heat the oil when the oil temperature goes below the preset level. It is recommended to set the thermostat between 70 F - 100 F.

SECTION 4 SERVICE

RamJet[®] Precrusher Service

CONTACT INFORMATION



Technical Service and Warranty:

877-258-1105

Parts:

800-528-5308

For parts visit our eCommerce Marketplace 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)

RamJet[®] Precrusher Service

LOCK-OUT & TAG-OUT INSTRUCTIONS

A 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.
- 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.

RamJet[®] Precrusher Service

PERIODIC MAINTENANCE

Never perform any service or maintenance procedures on any part of the Precrusher until the Precrusher has been locked out and tagged out per the **Lock-Out/Tag-Out Instructions** 33.

Monthly

- Check external hoses for chafing, rubbing, or other deterioration and damage.
- Check for any obvious unsafe conditions in the Precrusher area.
- Retract the ram to the rear position and lower the gate completely. Check oil level in hydraulic reservoir. Level should be 3/4 of sight glass.
- Clean out debris from behind Precrusher ram and out of the Precrusher gate tracks.
- Lubricate the ram guidance tracks using the grease fittings on side of the machine, and check guide shoes for wear.
- Lubricate hold down bars using an all purpose lithium grease.

Three Months

- Check functional operation of controls and options (stop button, timers, lights, etc.).
- Check hydraulic cylinder, internal hoses, and connections for leakage; check hoses for chafing and wear.

Annually

- Lubricate electric motor bearings annually per the manufacturer's instructions.
- Replace or filter hydraulic oil in the power unit. The reservoir should be cleaned thoroughly before replacing the oil. If
 the oil is filtered, use a 3 micron filter and have a sample of the oil evaluated to determine if the oil requires an
 additive to return the oil to the original state.

Filter Maintenance

- The hydraulic filter should be cleaned at regular yearly intervals.
- The filter may be removed from the unit by disconnecting the union on the suction side of the pump, removing the four bolts retaining the cover plate, and lifting the filter from the reservoir.
- Care should be exercised in cleaning the filter to insure that the element is not torn. Clean the element with a soft brush and standard industrial solvent.
- Replace the filter after cleaning and tighten the union securely. Pump noise and a "crackle" sound is most often caused by air entering the pump suction line. Tightening the suction fittings will usually eliminate the problem.

MAINTENANCE SCHEDULE

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

MAINTENANCE SCHEDULE								
		Monthly						
	CHECK HOSES	CHECK UNSAFE CONDITIONS	CHECK OIL LEVEL	WASH/CLEAN OUT DEBRIS	LUBRICATE RAM GUIDE TRACKS	LUBRICATE HOLD DOWN BARS		
Jan								
Feb								
Mar								
Apr								
May								
June								
July								
Aug								
Sept								
Oct								
Nov								
Dec								

MAINTENANCE SCHEDULE						
	EVERY 3 I	MONTHS	ANNU/	ALLY		
	CHECK FUNCTIONAL OPERATION OF CONTROLS	CHECK HYDRAULIC CYLINDER	LUBRICATE MOTOR BEARINGS	CLEAN OR REPLACE HYDRAULIC FILTER		
Jan						
Feb						
Mar						
Apr						
May						
June						
July						
Aug						
Sept						
Oct						
Nov						
Dec						

PRESSURE SETTINGS FOR RJ-575HD/PC

PRESSURE SETTINGS						
CYLINDER MODEL NO	HP	GPM	RELIEF VALVE	GATE RELIEF	PRESSURE RPM	SWITCH GATE
RJ-575HDPC	30	52	2500	2500	2200	1500
RJ-575EHDPC 30 52 2500 2500 2200 1500						
On units with the Advance Warning Light, set the pressure 200 PSI below pressure switch setting.						

- 1. Lockout & Tagout the power to the machine. See Lock-Out/Tag-Out Instructions 33.
- Remove the 1/4" plug in the 90° fitting located in the "T" fitting from the pressure side of the pump and install a 0-3000 psi. pressure gauge.
- 3. Loosen the locking nut on the unloading valve located under the suction port of the hydraulic pump and turn the adjustment screw several turns counter clockwise.
- 4. Loosen the lock nuts on the main relief valve and the relief valves for the Precrusher gate and turn the relief valves several turns counter clockwise.
- 5. Remove the silver caps on the pressure switches and turn the adjustment screws several turns counter clockwise.
- 6. Remove the limit switch arm from the Precrusher gate limit switch.
- 7. Open the motor control panel.

CAUTION

Care should be taken when the motor control panel is open and power is turned on. Components in the panel will be energized.

- 8. Remove the Lockout & Tagout provisions and turn the power ON.
- 9. Insert Key into the Key switch and turn to the ON position.
- 10. Press the POWER ON push button.
- 11. Turn the FOR/REV selector switch to the FORWARD position and allow the main ram to press against the Precrusher gate. While holding pressure against the gate, adjust the main relief valve clockwise until the pressure reaches 900 psi. on the pressure gauge.
- 12. Continue to hold pressure against the Precrusher gate and adjust the unloading valve clockwise until the high flow section of the pump drops out. A distinct difference in the sound of the motor and pump can be heard when the high flow pump drops out.
- 13. Continue to hold pressure against the Precrusher gate and adjust the main relief to 2200 psi. While holding this pressure, adjust the ram pressure switch (located in the "B" port of the decompression valve) clockwise until the Input light for the pressure switch illuminates. Refer to the schematic supplied with the compactor for the correct input designation for the pressure switch.
- 14. Release the FOR/REV selector switch.
- 15.Loosen the two flat head screws on the top of the ram pressure switch and lift the top upward to prevent the pressure switch from actuating.
- 16.Again turn the FOR/REV selector switch to the FORWARD position to hold pressure against the Precrusher gate and adjust the main relief to 2500 psi. Tighten the lock nut on the main relief.
- 17.Release the FORWARD switch and turn the FOR/REV switch to the REVERSE position until the ram reaches the full retracted position.
- 18.Turn the UP/DOWN selector switch to the UP position. Allow the Precrusher gate to reach its fully up position and adjust the up relief valve (located on the outside of the manifold) to 1500 psi. Tighten the lock nut on the up relief valve.

PRESSURE SETTINGS FOR RJ-575HD/PC (CONTINUED)

- 19. Turn the UP/DOWN selector switch to the DOWN position. Allow the Precrusher gate to press against the floor of the compactor and adjust the down relief valve (located on the inside of the manifold) to1500 psi. While holding this pressure, adjust the Precrusher gate pressure switch (located in the "B"port of the gate valve) clockwise until the Input light for the pressure switch illuminates. Refer to the schematic supplied with the compactor for the correct input designation for the pressure switch.
- 20.Continue to hold the UP/DOWN selector switch in the DOWN position and adjust the down relief valve to 2500 psi. Tighten the lock nut on the down relief valve.
- 21. Release the UP/DOWN selector switch.
- 22. Replace silver caps on the pressure switches.
- 23.Lockout & Tagout the power to the machine. See Lockout & Tagout Instructions 33.
- 24. Close the motor control panel.
- 25.Replace the limit switch arm on the Precrusher gate limit switch.
- 26. Remove the 0-3000 psi. pressure gauge and replace the 1/4" plug.
- 27. The pressures are now set.

PRESSURE SETTINGS FOR RJ-450HD/PC

PRESSURE SETTINGS						
CYLINDER MODEL NO	HP	GPM	RELIEF VALVE	GATE RELIEF	PRESSURE SWITCH SETTING	SWITCH GATE
RJ-450HDPC Hi Vol 20 18.5 2450 1700 2150 1500						
On units with the Advance Warning Light, set the pressure 200 PSI below pressure switch setting.						

- 1. Lockout & Tagout the power to the machine. See Lock-Out/Tag-Out Instructions 33.
- Remove the 1/4" plug in the 90° fitting located on the pressure side of the pump and install a 0-3000 psi pressure gauge.
- 3. Loosen the lock nuts on the main relief valve and the relief valve for the Precrusher gate and turn the relief valves several turns counter clockwise.
- 4. Remove the silver caps on the pressure switches and turn the adjustment screws several turns counter clockwise.
- 5. Remove the limit switch arm from the Precrusher gate limit switch.
- 6. Open the motor control panel.

CAUTION

Care should be taken when the motor control panel is open and power is turned on. Components in the panel will be energized.

- 7. Remove the Lockout & Tagout provisions and turn the power ON.
- 8. Insert Key into the Key switch and turn to the ON position.
- 9. Press the POWER ON push button.
- 10. Turn the FOR/REV selector switch to the FORWARD position and allow the main ram to press against the Precrusher gate. While holding pressure against the gate, adjust the main relief valve clock wise until the pressure reaches 2150 psi. on the pressure gauge.
- 11. While holding this pressure, adjust the ram pressure switch (located in the "A" port of the ran control valve) clockwise until the Input light for the pressure switch illuminates. Refer to the schematic supplied with the compactor for the correct input designation for the pressure switch.
- 12. Release the FOR/REV selector switch.
- 13.Loosen the two flat head screws on the top of the ram pressure switch and lift the top upward to prevent the pressure switch from actuating.
- 14. Again turn the FOR/REV selector switch to the FORWARD position to hold pressure against the Precrusher gate and adjust the main relief to 2450 psi. Tighten the lock nut on the main relief.
- 15. Release the FORWARD switch and turn the FOR/REV switch to the REVERSE position until the ram reaches the full retracted position.
- 16.Turn the UP/DOWN selector switch to the DOWN position. Allow the Precrusher gate to press against floor of the compactor and adjust the gate relief valve to 1500 psi.
- 17. While holding this pressure, adjust the gate pressure switch (located in the "B" port of the gate control valve) until the input light for the pressure switch illuminates. Refer to the schematic supplied with the compactor for the correct input designation for the pressure switch.
- 18. Turn the UP/DOWN selector switch to the UP position. Allow the Precrusher gate to reach its fully up position and adjust the gate relief valve to 1700 psi.

PRESSURE SETTINGS FOR RJ-450HD/PC (CONTINUED)

19. Turn the UP/DOWN selector switch to the DOWN position to lower the Precrusher gate to the floor of the compactor.

- 20. Release the UP/DOWN selector switch.
- 21.Replace silver caps and tighten the top screws on the pressure switches.
- 22.Lockout & Tagout the power to the machine. See Lock-Out/Tag-Out Instructions 3.
- 23. Close the motor control panel.
- 24. Replace the limit switch arm on the Precrusher gate limit switch.
- 25. Remove the 0-3000 psi. pressure gauge and replace the 1/4" plug.
- 26. The pressures are now set.

RamJet[®] Precrusher Service

LIMIT SWITCH SETTINGS

Lock out and tag out the Precrusher as per the Lock-Out/Tag-Out Instructions 33 before performing any procedures.

There are three limit switches on the standard Precrusher. One limit switch limits the ram movement forward and one limits ram movement rearward. The other limit switch limits the Precrusher gate movement. The ram limit switches are actuated by two fixed actuators on the ram. The ram limit switch actuators have been factory set so that the ram cylinder lacks 3/4" before it bottoms out in either direction. The Precrusher gate limit switch is factory set so that the switch is actuated when the gate cylinder is 3/4" from full extension. If any adjustments are required, make sure the Precrusher is locked out and tagged out as per the **Lock-Out/Tag-Out Instructions** 3 during any adjustment. Replace all access covers before testing effectiveness of adjustment.

Ram retracted limit switch should be set to stop the ram 3/4" from the fully retracted position. Adjustment is made by loosening Gate limit switch should be set to and adjusting the actuator on the top of the stop the travel of the gate 3/4" ram limit switch actuator arm. before the gate reaches its full extended stroke. Adjustment is made by loosening the limit switch actuator arm. 0 Ram extended limit switch should be set to stop the ram 3/4" from the fully extended 00 0 position. Adjustment is made by loosening and adjusting the actuator on the bottom of the ram limit switch actuator arm.

RamJet[®] Precrusher Service

OPERATING CHARACTERISTICS OF PRECRUSHERS

With the unit at the "START" position, which is Main Ram Retracted actuating the rear limit switch, Gate down, and the Key Switch in the ON position, the unit is now ready to be loaded with materials.

Load materials to be discarded into the change chamber.

Press the "Power On" (green) illuminated pushbutton to power up the controls and the PLC.

If the unit is not in the "START" position, press the Power On pushbutton, and use the Manual Up/Down, and the Manual Forward/Reverse switches to set the unit in the START position.

Press the START button, the motor will start. The forward solenoid on the ram control valve will energize. This will send the hydraulic oil flow to the base end of the ram cylinder, causing the ram to move forward. The ram will continue to move forward, compacting the material in the charge box, until the hydraulic system pressure reaches its preset pressure. When the system pressure reaches this setting the pressure switch will close, and the forward solenoid on the ram control valve will de-energize. This allows the ram control valve to shift back to the center position and divert the oil flow to the gate control valve. The up solenoid on the gate control valve will energize and send hydraulic oil flow to the base end of the gate cylinders. The gate cylinders will extend until the gate actuates the gate limit switch. When the gate limit switch is actuated, the up solenoid on the gate control valve will de-energize and the gate control valve will shift to the center position. At this time, the forward solenoid on the ram control valve will energize and send hydraulic oil flow to the base end of the cylinder causing the ram to move in the forward direction. The ram will move in the forward direction until it actuates the front limit switch. When the front limit switch is actuated, the forward solenoid on the ram control valve is de-energized, and the reverse solenoid on the ram control valve is energized. This change in the control valve, changes the hydraulic oil flow from the base end of the ram cylinder to the rod end of the ram cylinder. This causes the ram to move in the reverse direction. The ram will move in the reverse direction until the rear limit switch has been actuated. When the rear limit switch is actuated, the reverse solenoid on the ram control valve will de-energize and the ram control valve will shift to the center position diverting hydraulic oil flow to the gate control valve. The down solenoid on the gate control valve will energize and send hydraulic oil flow to the rod end of the gate cylinders. The gate cylinders will move the gate in the down direction. The gate will continue to go down until the gate closes and the pressure setting is reached. When this pressure is reached, the pressure switch will close and the unit will shut down.

FUSES AND CIRCUIT BREAKERS

Three Phase					
MOTOR SIZE	VOLTAGE	FULL LOAD AMP	DUAL ELEMENT FUSE MAX. SIZE	CIRCUIT BREAKER MAX. SIZE	SERVICE DISCONNECT AMP.
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	60
	230	76.0	150	200	60
	460	38.0	70	100	30
	575	28.6	60	80	30

WIRE SIZES

Three Phase	THW Copper 75°C (165°F)					
MOTOR SIZE	VOLTAGE	LENGTH	LENGTH			
		TO 100'	TO 200'	TO 300'		
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	1/0	3/0		
	230	2	1	2/0		
	460	6	6	4		
	575	8	8	6		

POWER UNITS



POWER UNITS (CONTINUED)

Power Unit - 30 HP







Electric Schematic - E-8293 PLC Circuits







Electric Schematic - E-8294 PLC Circuits



RamJet[®] Precrusher Service

HYDRAULIC SCHEMATICS

Hydraulic Schematic - RJ-450HD/PC Typical



HYDRAULIC SCHEMATICS (CONTINUED)

Hydraulic Schematic - RJ-575HD/PC Typical



TROUBLESHOOTING	CHART	
PROBLEM	CAUSE	SOLUTION
UNIT WILL NOT START	1. No electrical power to unit	1a. Turn on main disconnect. 1b. Replace fuses or reset breakers
	2. No electrical power to control circuit	2a. Check primary and secondary sides of transformer.2b. Check for correct voltage. Check control fuses.2c. Check stop button.2d. Check start button to be sure contact closes when depressed.
	3. No electrical power to PLC	3a. Check the key switch and the power on switch.3b. Insure the Power On, Run, and OK lights on the PLC are ON.
	4. No electrical power to motor	4a. Check heater resets
UNIT WILL NOT	1. Motor starter is in-operative.	1a. Check motor starter coil & wiring.
CONTINUE RUNNING WHEN START BUTTON IS RELEASED	2. Motor starter auxiliary contacts are inoperative	2a. Check motor starter contacts and wiring
	3. Reverse Button is inoperative	3a. Check reverse button to be sure contacts are closed3b. Check wiring
	4. Secondary contact on start button is inoperative	4a. Check contact, wired black and orange, to be sure it is operating properly4b. Check wiring
MOTOR RUNS BUT	1. Insufficient oil in reservoir	1a. Fill reservoir with oil
RAM DOES NOT MOVE NORMALLY	2. Low relief pressure	 2a. Check relief pressure (refer to PROCEDURES-HYDRAULIC PRESSURE CHECK and PRESSURE SETTINGS for correct pressure. 2b. Clean orifice in relief valve 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/ nicks 3c. Replace cylinder
	4. Defective pump	4a. Replace pump
	 Oil leakage from hose fittings 	5a. Tighten hose fittings
	6. Low voltage	6a. Check voltage
	7. Pump may be driven in the wrong direction of rotation	7a. Stop immediately to prevent seizure. Check direction of drive rotation (proper rotation direction is indicated by arrow on motor)
	8. Shaft broken, or shaft key sheared	8a. Visually inspect motor and pump shaft and hub couplings for damage. Replace if necessary.
	 Intake pipe from reservoir blocked, or oil viscosity too heavy to prime 	9a. Drain system. Add clean fluid of proper viscosity and specifications. Filter as recommended. Check system filter 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	11a. Flow control valve (restrictor) clogged, remove\clean orifice.
	12. Valve response sluggish	12a. Contaminated oil-drain and flush system.12b. Inadequate voltage, check voltage, check oil.12c. Disassemble valve & clean
	13. Loose hub coupling	13a. Tighten set screws on hub coupling halves
	14. Output fuse blown	14a. Check all output fuses. Replace if necessary.
UNIT WILL NOT REVERSE	1. Solenoid valve is in- operative	1a. Check coil in solenoid valve
	2. Reverse button in-operative	2a. Check reverse button contacts
	3. Output fuse blown	3a. Check output fuse. Replace if necessary.

TROUBLESHOOTING	CHART	
PROBLEM	CAUSE	SOLUTION
PUMP MAKES NOISE- SOUNDS LIKE GRAVEL	1. Partly clogged intake strainer or restricted intake pipe	1a. Pump must receive intake fluid freely or cavitation results. Drain system, clean intake pipe and clean or replace strainer
	2. Defective bearing	2a. Replace pump
	3. Air leak at pump intake pipe joints	3a. Tighten joints as required.
PUMP SHAFT SEAL LEAKING	1. Seal worn or damaged	1a. 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
	 High ambient temp in relation to oil temp. 	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 filter.1b. Replace oil more often and clean tank
	Viscosity of oil too low at working conditions	2a. Replace oil with factory recommended oil.
	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 breakers at disconnect 1c. Check heater elements to be sure they are tight 1d. Check wiring from starter to motor to make sure all connections are tight 1e. Check motor leads to be sure all connections are tight surges or voltage
		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 phrase protectors which drop power to the motor if surges are present.

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SECTION 5 REPLACEMENT PARTS

CONTACT INFORMATION



Technical Service and Warranty:

877-258-1105

Parts:

800-528-5308

For parts visit our eCommerce Marketplace 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)

ELECTRICAL PARTS LISTS

ELECTRICAL			
Part Number	Description	RJ- 7450HDPC	RJ-575HDPC
031540	RELAY 4 POLE 120 VAC 25 A NO C	Х	Х
030488	FUSE 1.5 AMP 500 V	Х	Х
030191	FUSE 2 AMP CONTROL	Х	Х
030288	TRANSFORMER 150VA 208/230/460 PRI 120SEC X		Х
034781	PLC TELEMECANIQUE 16 IN 10 OUT	Х	Х
035483	PLC TELEMECANIQUE EXP MOD 8 IN 6 OUT	Х	Х
030486	MOTOR STARTER EXT RESET	Х	Х
034920	MOTOR STARTER IEC OVERLOAD 17-25 AMPS	Х	
034925	MOTOR STARTER IEC OVERLOAD 48-65 AMPS	Х	
034798	MOTOR STARTER IEC 65A CONTACTOR	Х	
034835	MOTOR STARTER IEC 50A CONTACTOR	Х	
034800	MOTOR STARTER IEC OVERLOAD 37-50 AMPS		Х
035104	MOTOR STARTER IEC OVERLOAD 60-100 AMPS		Х
034902	MOTOR STARTER IEC 115A CONTACTOR		Х
035173	MOTOR STARTER IEC OVERLOAD 30-40 AMPS		Х
034885	MOTOR STARTER IEC 40A CONTACTOR		Х
030010	LIMIT SWITCH ARM W/ROLLER	Х	Х
030012	LIMIT SWITCH ARM	Х	Х
030013	PRESSURE SWITCH, SINGLE	Х	Х
030014	PRESSURE SWITCH, DUAL		Х
030139	SELECTOR SWITCH, 3 POS, RTN CTR	Х	Х
030201	EMERGENCY STOP SWITCH	Х	Х
030200	PUSH BUTTON, GREEN	Х	Х
030269	KEYED SWITCH	Х	Х
030687	ILLUMINATED PUSH BUTTON, GREEN	Х	Х
030903	LIMIT SWITCH, WHISKER TYPE	X	X
031071	MOTOR 20HP	X	
031179	MOTOR 30HP		X

HYDRAULIC AND MISCELLANEOUS HARDWARE PARTS LIST

HYDRAULIC			
Part Number	Description	RJ-450HDPC	RJ-575HDPC
020051	SUCTION STRAINER	Х	
020938	SUCTION STRAINER		Х
020081	VALVE, 4-WAY, D08, REGEN SPOOL	Х	
020400	VALVE, 4-WAY, D08, MOTOR SPOOL	Х	
023075	VALVE, 4-WAY, D08, TANDEM SPOOL		Х
020960	VALVE, 2-WAY		Х
020399	VALVE, 2-WAY	Х	
020184	VALVE, CHECK	Х	
020185	VALVE, CHECK		Х
020970	VALVE, CHECK		Х
020197	BREATHER, FILLER CAP	Х	
020647	BREATHER, FILLER CAP		Х
020214	VALVE, RELIEF	Х	Х
020215	SIGHT GAUGE	Х	Х
020259	PUMP, GEAR, 18.5GPM	Х	
020353	PUMP, GEAR, 52GPM		Х
020398	HUB COUPLING	Х	
020932	HUB COUPLING		Х
020850	VALVE, RELIEF, SANDWICH		Х
040009	CYLINDER, MAIN RAM		X
040190	CYLINDER, MAIN RAM	X	
040290	CYLINDER, GATE	X	X

MISCELLANEOUS HARDWARE			
PART NO.	DESCRIPTION	RJ 450HD/PC	RJ 575HD/PC
05-5004	TURNBUCKLE	Х	
05-0018	NUT FOR SHOE BOLT	Х	Х
05-5031	TURNBUCKLE		Х
05-0273	BOLT FOR SHOE	Х	Х
06-0005	CAST IRON SHOE, LONG	2	4
06-0006	CAST IRON SHOE, SHORT	4	2
06-3597	SHOE ASTM A487 LONG	6	6

DECALS PARTS LIST

When your Precrusher leaves the factory, several WARNING DECALS are installed for your protection. These labels are subject to wear and abuse due to the nature of operation. The FOLLOWING DECALS MUST BE MAINTAINED. Additional decals may be purchased through your distributor or from Marathon Equipment Company by calling the parts department at 800-528-5308.

Note: When ordering replacement decals, use the chart below with the drawing on the next page or look for the part number in the lower right hand corner of the decal.

PART #	DESCRIPTION	QTY
06-0002	RAM-JET	2
06-0038	CAUTION: DO NOT REMOVE ACCESS COVER EXCEPT FOR SERVICING. FOLLOW LOCK OUT - TAG OUT PROCEDURES.	6
06-0039	DANGER: DO NOT ENTER.	6
06-0040	CAUTION: KEEP OUT (used on hoppers)	*
06-0041	CAUTION: THIS COMPACTOR STARTS AUTOMATICALLY. (used on units with photocells)	*
06-0052	CAUTION: GATE MUST BE CLOSED BEFORE OPERATING COMPACTOR. (used on access gates)	*
06-0121	WARNING: FEDERAL REGULATION PROHIBITS THE USE OF THIS EQUIPMENT BY ANYONE UNDER 18 YEARS OF AGE.	2
06-0249	DANGER: LOCK OUT AND TAG OUT POWER BEFORE PERFORMING ANY MAINTENANCE, REPAIR, OR ADJUSTMENT.	1
06-1839	AMERICAN FLAG	2
06-3123	DANGER: CONFINED SPACE	3
06-2751	MARATHON COMPACTION & RECYCLING SOLUTIONS	2
06-3977	WARNING: DO NOT OPERATE	2
06-0133	WARNING: KEEP OFF! FALL/CRUSH HAZARD!	2
06-3978	DANGER: DO NOT OVERRIDE OR TAMPER WITH SAFETY DEVICES	2
06-0097	MARATHON SERIAL NUMBER	1
06-0413	WARNING: CRUSH HAZARD	1

* Quantity varies depending on optional loading configurations.

DECAL PLACEMENT FOR PRECRUSHERS



Replacement Parts

DECAL PLACEMENT FOR PRECRUSHERS (CONTINUED)





Replacement Parts

DECAL PLACEMENT FOR PRECRUSHERS (CONTINUED)

Optional Loading Configuration



DECAL IMAGES

06-0002



06-0249

HIGH VOLTAGE HAZARD! Lock out and tag out power before performing any maintenance, repair, adjustment, or before entering machine.	CRUSHING/ SHEARING MAZARD! Keep clear,	PRESSURIZED FLUID HAZARDI Relieve pressure before performing maintenance of repairs.	PERMIT REQUIRED CONFINED SPACE Follow company confined space and lockout/lagout procedures before entering.
Failure to comply will result to de	with or sermes injury. 31 mb and	comule con esta dispetición, se ca	ears la muerte é feriores grave
1	1		
PELIGRO DE ALTO VOLTAJE Bloquear y rotular la energía sióctrica antes de hacer trabajos de mantenimiento, reparaciente, ajustes o de entor e la mejoria,	PELIGRO DE APLASTAMIENTO/ CIZALLAMIENTO/ Mantenerse alejado.	PELIGRO DE FLUIDO PRESURIZADOI Alivie la presión antes de téctuar trabajos de mantenimiento o reparación.	PERMISO REQUERIDOI ESPACIOS ESTRECHOS Seguir los procedimientos de bloqueo y rotulado antes de entrar.

06-0038



DO NOT PAINT OVER THES LABEL, REPLACE IF DAMADED OR LOST. NO PHINE ENGINA DE ESTA ETIQUETA, REEMPLACELA SI SE DANA O SE PIERDE

06-0121

NOTICE **AVISO** Federal law prohibits operation of Las leyes federales prohiben que

equipment by persons under 18 years of age. may only be loaded and

operated by persons who have

been authorized and properly

must be lurned to the "OFF"

position and removed when this

of persons 18 years and older.

restrictions apply.

as personas que han sido autorizadas y debidamente entrenadas son las únicas que pueden cargar y operar la máquina

edad operen los equipos.

personas menores de 18 años de

Sujeta a las restricciones de edad U.S. Department of Labor age del Departamento del Trabajo de Estados Unidos. The key in the "ON-OFF" switch

La llave en el interruptor "ON-OFF" (ENCENDIDO/APAGADO) se debe equipment is NOT in operation. The key is to remain in the custody girar a la posición "OFF" (APAGADO y retirarla cuando este equipo no está en funcionamiento. La llave debe permanecer bajo el cuidado de personas mayores de 18 años

06-0039



06-1839



06-2751



06-3123



WARNING ADVERTENCIA Do not operate or service this equipment until you have been properly trained and qualified in its use, per the manufacturers operation and service manual. Failure to do so could lead to death or serious injury. No utilice este equipo ni le preste servicio hasta que no haya sido debidamente entrenado y calificado para su uso, según el manual de funcionamiento y servicio del fabricante. El incumplimiento de esta norma podría resulta en la muerte o lesiones graves.

DO NOT PAINT OVER THIS LABEL. REPLACE IF DAMAGED OR LOST. NO PINTE ENCIMA DE ESTA ETIQUETA, REEMPLACELA SI SE DANA O SE FIERDE

06-0052

A PELIGRO

CRUSHING/SHEARING HAZARD! Gate must be closed before operating equipment, Failure to do so could result in death or serious injury.

PELIGRO DE APLASTAMIENTO/CIZALLAMIENTO! errar la compuerta antes de hacer funcionar el equipo. Si no se cumple con esta disposición se puede causar la muerte o lesiones graves.

06-0040



06-0041

06-3977



DECAL IMAGES

06-0133

5	KEEP OFF: FALL/CRUSH HAZARD! Do not climb on equipment. Use work platform for servicing. Failure to comply could result in death or serious injury.
S	iPROHIBIDA LA ENTRADA! iRIESGO DE CAIDAS/APLASTAMIENTO! No treparse al equipo. Usar la plataforma de trabajo para hacor reparaciones. Si no se o cumple con esta disposición arrives o causar la muerte o lesiones

06-3978		
DO NOT override or tamper with safety devices. They are installed for your safety.	NO sobrepase ni altere los dispositivos de seguridad. Se han instalado para su	
Failure to comply will result	seguridad. El incumplimiento de esta norma podría	
in death or serious injury.	resultar en la muerte o lesiones graves,	

OD NOT PAINT OVER THIS LABEL REPLACE IF DAMAGED OR LOST. NO PINTE ENCERA DE ESTA ETIQUETA, REEMPLACELA SI SE DANA O SE PIERDE,

06-0097

06-0413

A WARNING		
1	CRUSH HAZARD! When changing containers or repositioning transfer vehicles, turn key switch to off position and remove key. Failure to do so could result in death or serious injury.	
A	ADVERTENCIA	
N	¡RIESGO DE APLASTAMIENTO! Al cambiar los recipientes o cambiar la posicion de los vehiculos de transferencia, girar la llave a la posicion de apagado y sacarla. Si no se cumple con esta disposición, se puede causar la muerte o	

lesiones graves.

Α

anchoring 21

С

circuit breakers 43 concrete pad requirements 19 contact information 18, 26, 32, 56

D

decal care 11 decal images 63 decal placement for precrushers 60 decals parts list 59

Ε

electrical and hydraulic installation 23 electrical charts 43 electrical parts list 57 electrical symbols 15

F

fuses 43

G

grease lubrication recommendation 10 guards and access covers 10

Η

hydraulic parts list 57 hydraulic schematics 50 hydraulic symbols 13

introduction 4

limit switch settings 41 Lock-Out/Tag-Out 6 lock-out/tag-out instructions 33

Μ

miscellaneous hardware parts list 57

0

operating characteristics of precrushers42Operating Instructions29operator station28optional controls29

Ρ

parts list 57 periodic maintenance 35 periodic maintenance schedule 36 power units 44 preface 5 pre-operation instructions 27 pressure settings 37, 43

R

recommended oils 10 replacement parts 55

S

safety symbols and definitions 5 service/parts assistance 10 specifications 8 steel installation procedures 22

T

troubleshooting chart 52

W

warning decals on the unit 11warranty and service on motors 43wire sizes 43



www.marathonequipment.com

Customer Care: 800-633-8974

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

Technical Service and Warranty: 877-258-1105

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