



# TC Tank Compactor

TC-220T-HD, TC-225T-HD, TC-300T-HD, TC-220T-HD/HF, TC-225T-HD/HF, TC-300T-HD/HF

OPERATION, SERVICE, AND INSTALLATION

ISSUED FEBRUARY 2018

CUSTOMER NAME: \_\_\_\_\_

SERIAL NUMBER: \_\_\_\_\_

**COMPACTION & RECYCLING SOLUTIONS**

**0017-TCT-0218**



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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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## TC Tank Compactor

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OPERATION, SERVICE, AND INSTALLATION

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# **SECTION 1**

# **GENERAL INFORMATION**

# TC Tank Compactor

## General Information

### INTRODUCTION

Thank you for purchasing a Marathon® TC Tank Compactor!

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

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#### **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.

### 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).

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- 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.

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### 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**

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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.

# TC Tank Compactor

## General Information

### 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.

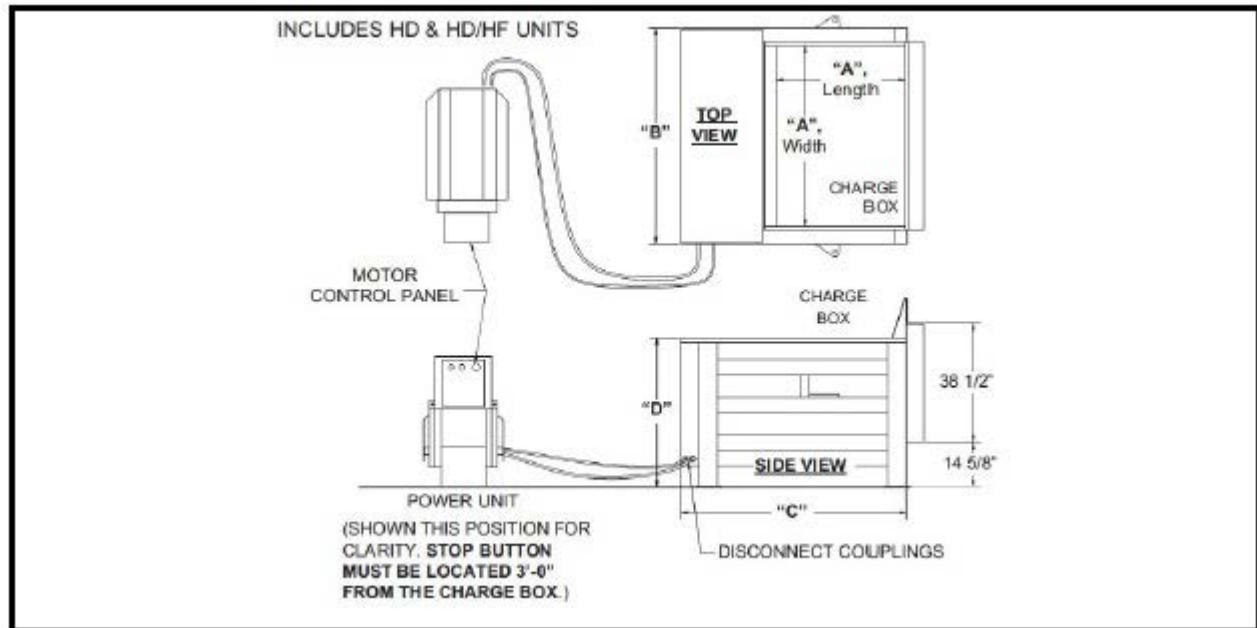
You must read and obey all warnings in any manual produced by Marathon Equipment Company to support your unit.

# TC Tank Compactor

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### SPECIFICATIONS



	TC-220-HD & HD/HF	TC-225-HD & HD/HF	TC-300-HD & HD/HF
"A", Clear Top Opening (Length x Width) (inches)	42 x 58	53.5 X 58	67.5 X 58
"B", (inches)	69	69	69
"C", (inches)	72	91	112.5
"D", (max.) (inches)	48	48	48
Charge Box Capacity (cubic yards)	2.0	2.50	3.0
NWRA Rating	1.42	1.82	2.27
Cycle Time (seconds)	52 HD 40 HD/HF	63 HD 49 HD/HF	77 HD 59 HD/HF

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### 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**

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

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### WARNING DECALS ON THE UNIT

#### **WARNING**

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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:

# **TC Tank Compactor**

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- 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.

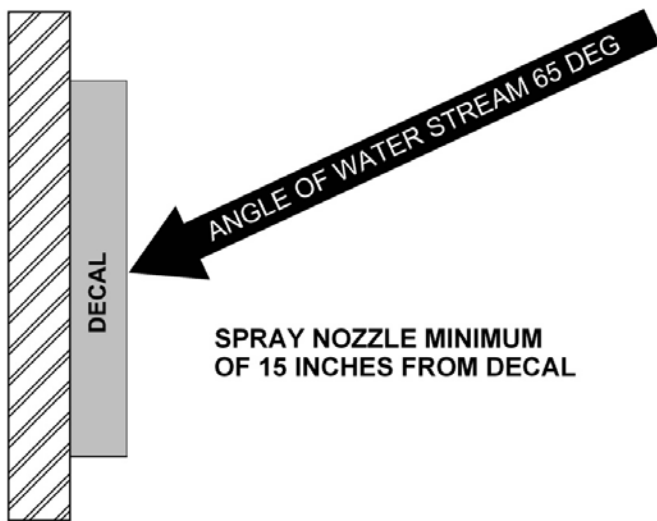


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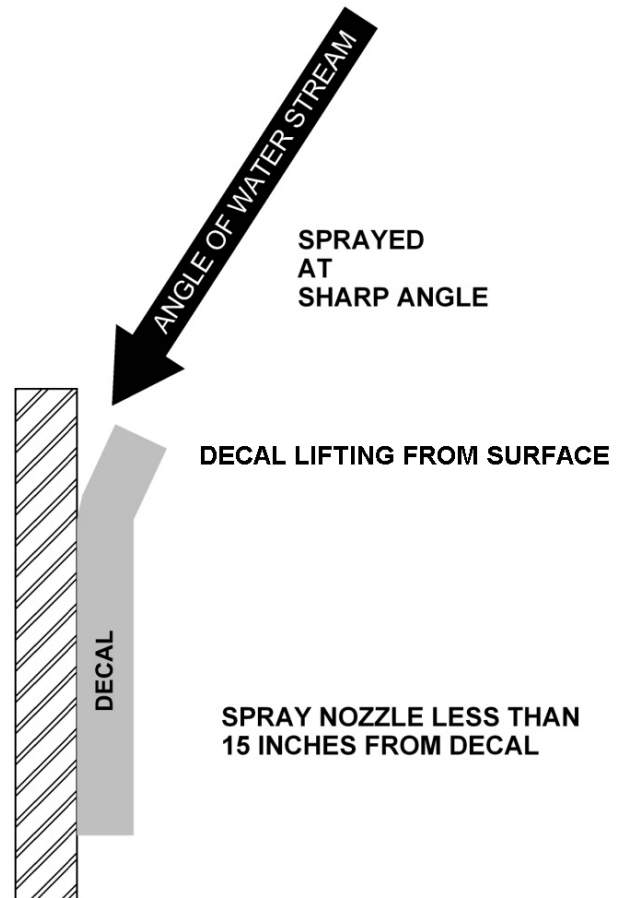
## General Information

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### DECAL CARE (CONTINUED)



RECOMMENDED TECHNIQUE



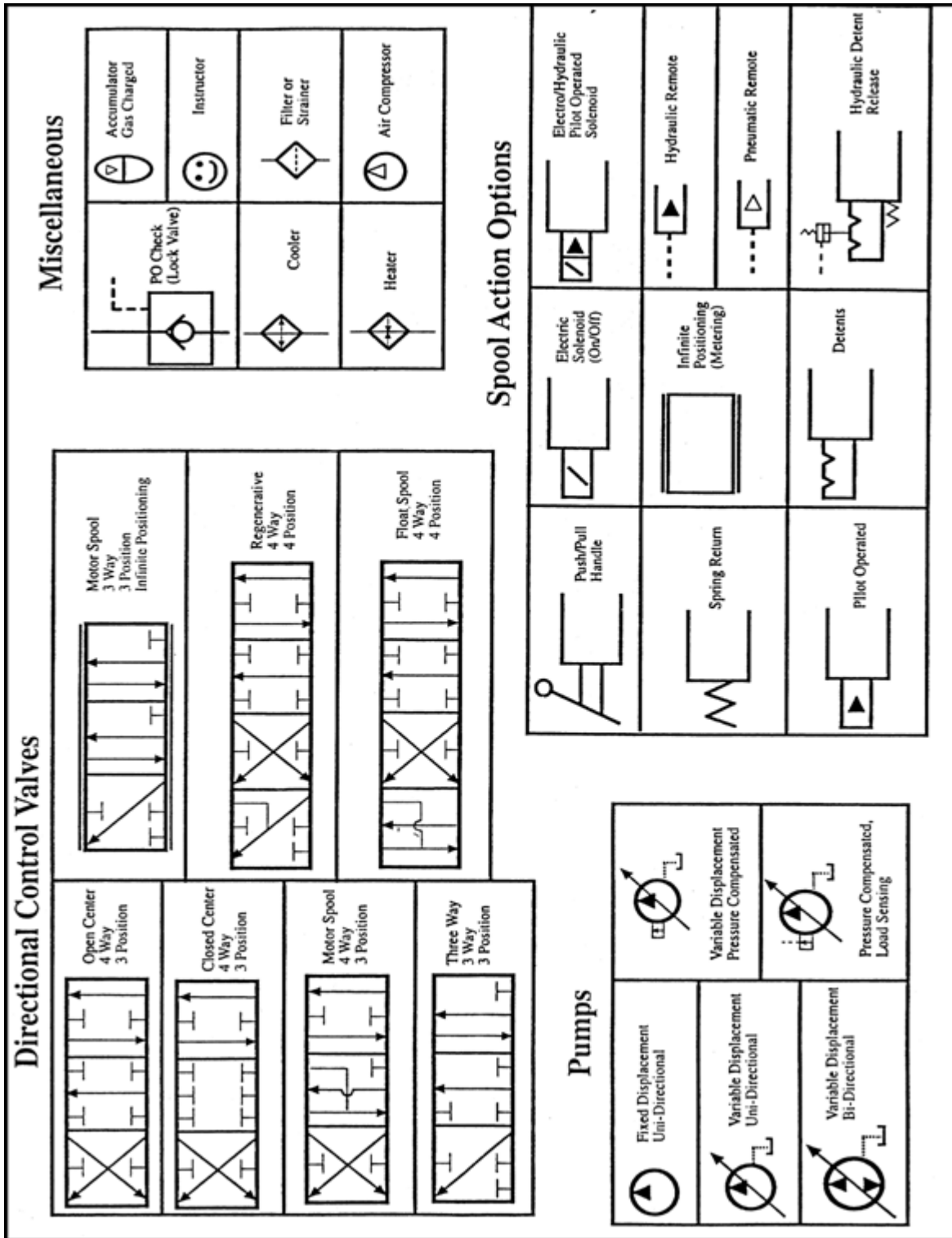
INCORRECT TECHNIQUE

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### HYDRAULIC SYMBOLS

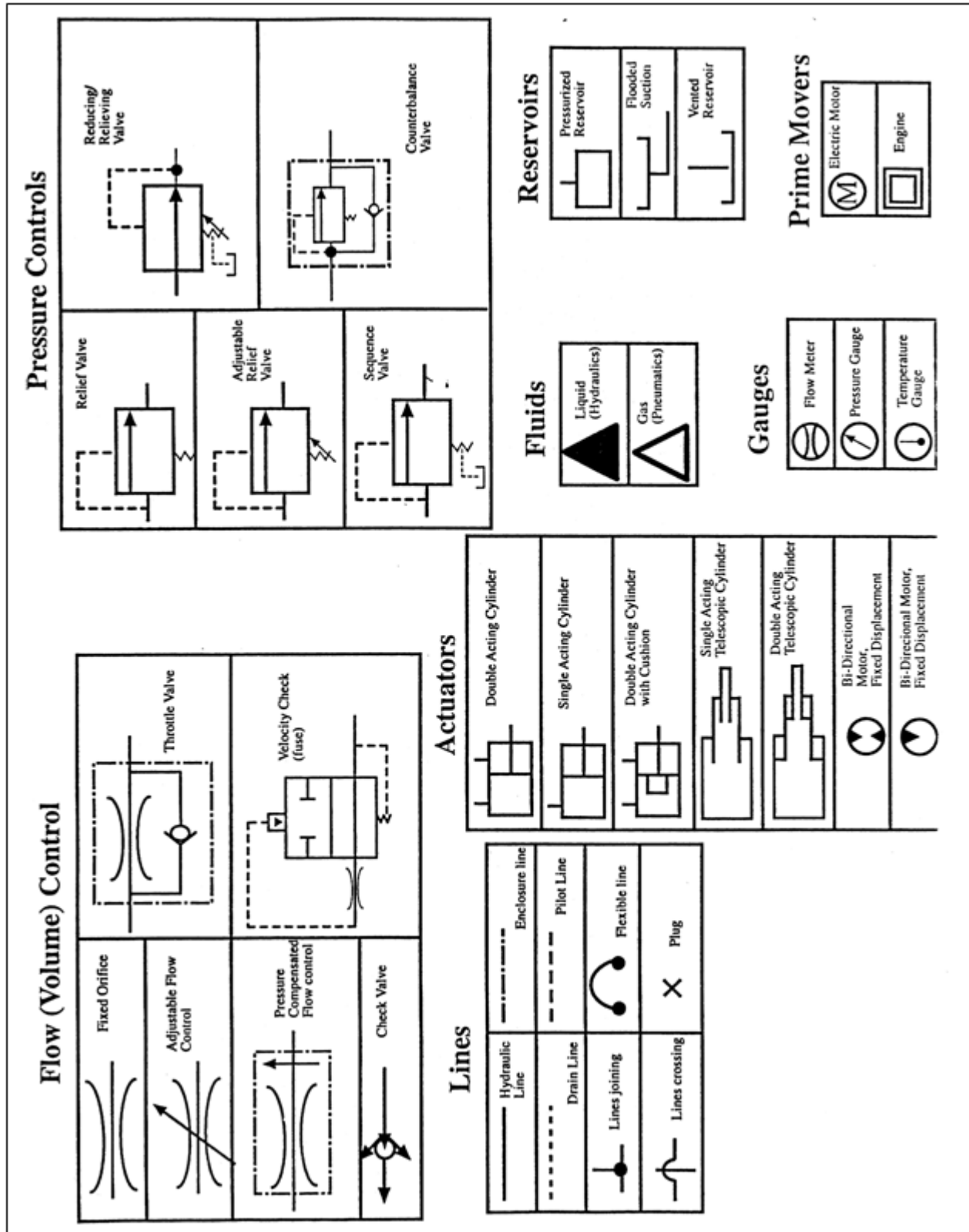


# TC Tank Compactor

## General Information



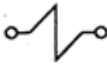




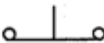

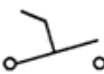

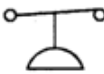



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### HYDRAULIC SYMBOLS (CONTINUED)



**ELECTRICAL SYMBOLS**

**SYMBOL DEFINITIONS**

	<b>BATTERY</b>
	<b>FUSE</b>
	<b>SOLENOID</b>
	<b>CONTACT RELAY</b>
	<b>NORMALLY OPEN CONTACT OF CR1</b>
	<b>NORMALLY CLOSED CONTACT OF CR1</b>
	<b>INDICATOR LIGHT (GREEN)</b>
	<b>PUSH BUTTON SWITCH NORMALLY CLOSED</b>
	<b>PUSH BUTTON SWITCH NORMALLY OPEN</b>
	<b>TOGGLE SWITCH</b>
	<b>DIODE</b>
	<b>PRESSURE SWITCH</b>
	<b>LIMIT SWITCH NORMALLY OPEN</b>
	<b>LIMIT SWITCH NORMALLY CLOSED</b>
	<b>CAPACITOR</b>

# **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](http://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.

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.

---

#### Concrete Pad

1. Preferred dimensions of the concrete pad are 10'0" wide and a length of 5'0" greater than the length of the compactor and container. It should be level and of minimum 3000 PSI concrete 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 2'-4" clearance between any obstacle and the outside edge of grab claw per ANSI Z245.21. Allow a minimum of 45' of clear space from 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.

---

#### Container Guides

If container guides (optional) are used, the guides 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 pre-locating the container guides in their desired location. Drill holes and place anchor bolts in each location provided on the guides. When the guides have been placed in position, and the anchor bolts have set, tighten all nuts securely.

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## Installation

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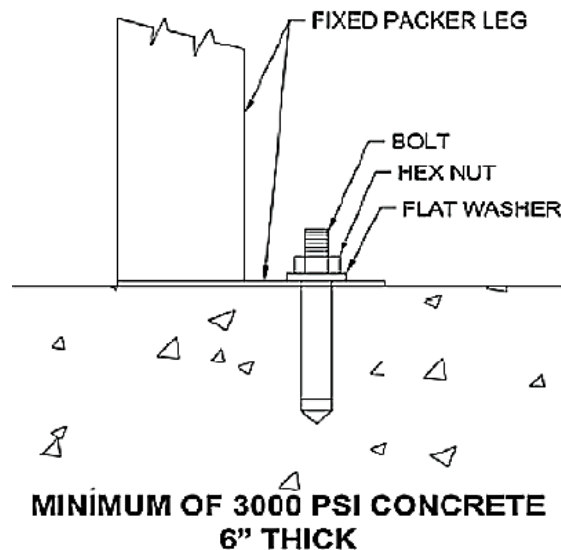
### CONCRETE PAD REQUIREMENTS (CONTINUED)

#### 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. Holes in the leg plates are 1-5/16" diameter to permit the use of a 1-1/8" diameter concrete bit. The 1-1/8" diameter holes in the concrete should be approximately 5" deep. When the compactor has been permanently located, shimmed to compensate for unevenness, and anchor bolts set, tighten all nuts securely.

#### NOTICE

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





### STEEL INSTALLATION PROCEDURES

#### Dock Installation

If the appropriate accessories are ordered from Marathon Equipment Co., the compactor will be furnished with either a four-sided hopper or a three-sided hopper with a hinged gate. THESE ACCESSORIES SHOULD NOT BE ALTERED AS THEY ARE MANUFACTURED IN ACCORDANCE WITH THOSE STANDARDS WHICH PREVAIL AT THE TIME OF MANUFACTURE.

If the compactor cannot be directly abutted to the dock or if there is any difference in height between the dock and the compactor/container, an appropriately sturdy transition section should be provided by the customer and securely affixed to the dock. Along with the transition section, a compactor/container guidance/stop mechanism should be installed to assure that the unit does not bottom out against the transition section or dock during dock placement (See ANSI Z245.2 Safety Standards). Optional container guides with stops are available from Marathon and are recommended for proper dock placement of the compactor/container.

#### Chute-Fed Installation

Compactors installed in this arrangement are normally fed "through-the-wall". The lower edge of the access hole in the wall should be a MINIMUM of 42" (and, if possible, not more than 58") from the inside floor level. 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.

#### Decals

Be certain that the appropriate decals are in their proper locations at all times on the machine. For decal locations, **see Decals and Decals Placement for Trash Commander Tank** <sup>591</sup> in the Operation section of this manual.

#### NOTICE

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Installation is not complete until all decals are in place.

---

### ELECTRICAL & HYDRAULIC INSTALLATION

#### **DANGER**

The motor control panel contains high voltage components. Only authorized service personnel should be allowed inside. See **Lock-Out & Tag-Out Instructions** <sup>(5)</sup> in the Service section.

A lockable fused disconnect switch (customer furnished) must be installed and be within sight of the compactor motor control panel location, not to exceed 50'0" from the compactor. This fused disconnect switch should be sized in accordance with the compactor (**see Fuse and Circuit Breaker Chart** <sup>(43)</sup>).

#### **DANGER**

All equipment must be grounded per National Electric Code.

### Grounding Instructions

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

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

### Remote Power Pack Installation

1. The remote power pack should be installed and anchored as required by the customer. If the operator 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.

#### **CAUTION**

Operator Station 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 door. If installation requires the 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.

2. For a through-the-wall power pack installation, see the diagram **Through-The-Wall Power Unit Installation** <sup>(24)</sup> in this section. Special care should be taken to protect the hoses from abrasive objects.
3. Connect the hydraulic hoses to the power pack, exercising care to follow the port decals (A or B) on the packer and the power pack. In the event the decals have been obliterated, the hose leading from the rear of the cylinder should be installed in the side port of the block to which solenoid valve is bolted (A Port). The hose leading from rod end of the cylinder should be connected to the end of the block to which the solenoid valve is bolted (B Port). Refer to **Power Unit diagrams** <sup>(55)</sup> in the Service section of this manual.

### ELECTRICAL & HYDRAULIC INSTALLATION (CONTINUED)

#### Push-button Control Panel

If a remote operator station is furnished, it will be factory wired using sealtite. 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.)

#### CAUTION

Operator Station must be located so that the Emergency Stop Button is readily accessible to the operator and within three (3) feet of the charging chamber or access door. 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

Run power lines, between fused disconnect switch (customer furnished) and compactor's motor control panel, in accordance with local electrical codes, using knock-outs in bottom of motor control panel. See **Fuse & Circuit Breaker Chart for Motors and Wire Size Chart** <sup>(43)</sup>, 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.

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

#### Start-Up Instructions

1. With the ram fully retracted, check to be sure the oil reservoir is full to the 3/4 level on the sight gauge (Refer to the maintenance chart for **hydraulic oil recommendations** <sup>(10)</sup>). The hydraulic system pressure has been factory set and the entire unit has been operated prior to shipment.

#### DANGER

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

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

#### CAUTION

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

3. Make sure that the operators are trained in the proper use of this equipment prior to operation.

# TC Tank Compactor

## Installation

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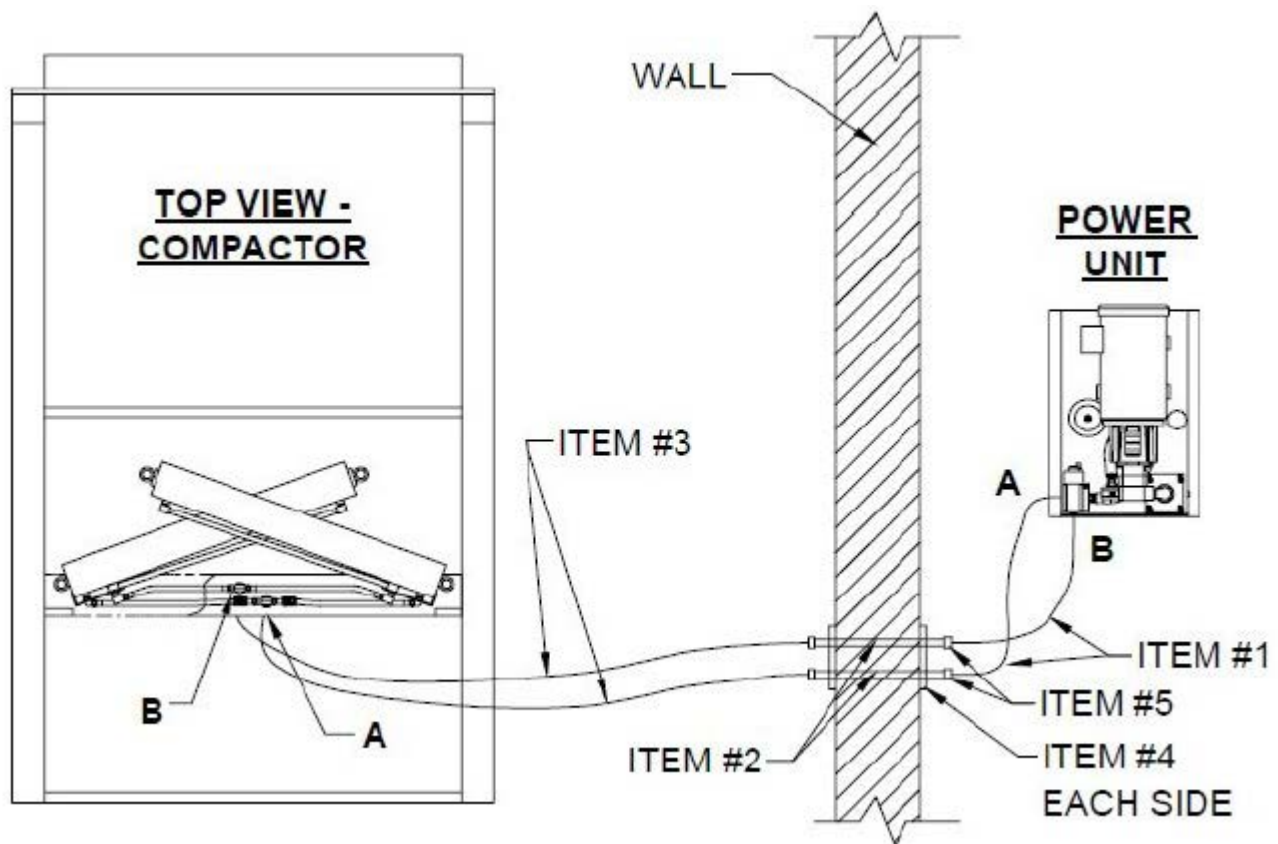
### THROUGH-THE-WALL POWER UNIT INSTALLATION

If the remote power unit is to be mounted through-the-wall, the following list of material and diagram is the suggested method.

List of Material		
Item #	QTY	Description
1	2	Hydraulic Hose, Hi-Pressure (sized to power unit*), 36" long
2	2	Pipe, Schedule 80 (sized to power unit*), 36" long
3	2	Hydraulic Hose, Hi-Pressure (sized to power unit*), 96" long
4	2	Steel plate with holes for Item # 2, 3/16" x 8" x 12"
5	4	Coupling, Female (sized to fit hose & pipe*)
* 1/2" for hose lengths of 20'0" or less. Consult factory for longer lengths.		

### WARNING

An emergency stop button must be mounted within 3'-0" of the compactor charge box access.



# **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](http://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)

# TC Tank Compactor

## Operation


27

### 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** .


#### **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** .

#### **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** .

#### **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.

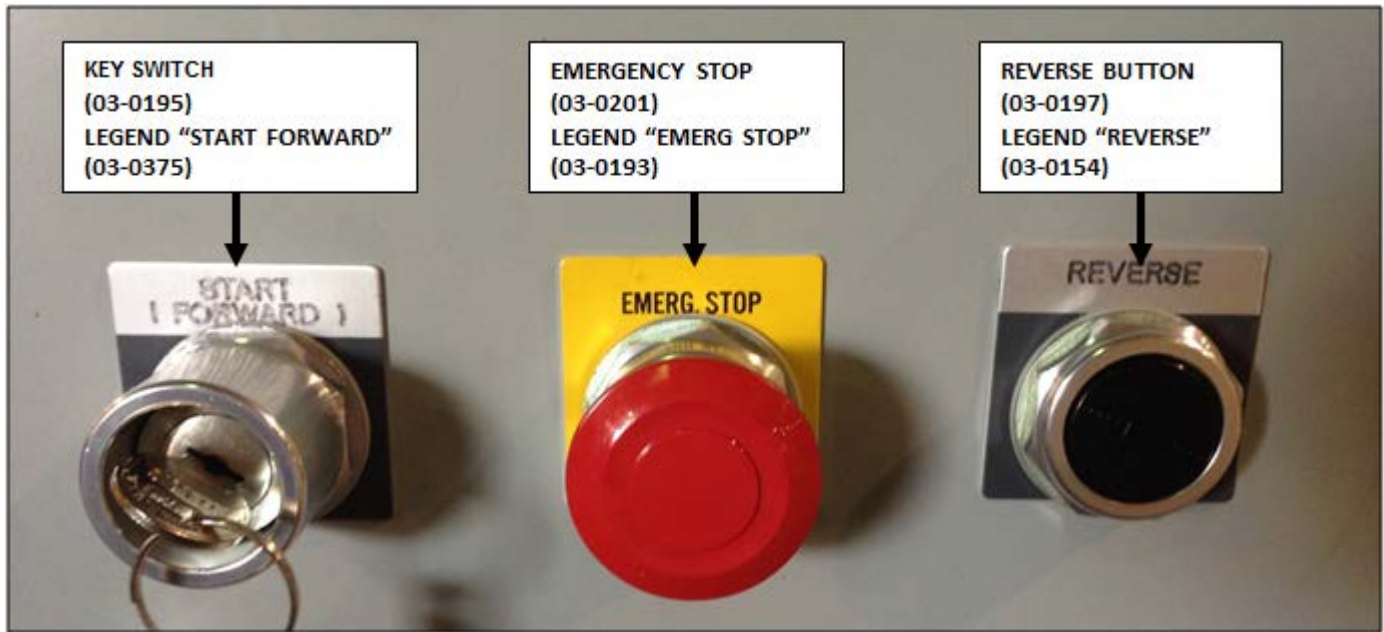
#### **NOTICE**

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

# TC Tank Compactor

## Operation

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### Control Description

1. **MANUAL - OFF - AUTOMATIC SWITCH** - (Optional Equipment - not included on standard models) 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 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.
3. **EMERGENCY STOP PUSHBUTTON** - When depressed, this pushbutton will stop all powered operation of the compactor.
4. **REVERSE PUSHBUTTON** - This pushbutton will reverse the compaction ram when depressed. The motor must be running for the **REVERSE** button to operate. See the **MANUAL OVERRIDE INSTRUCTIONS** on the next page for details of the operation.



# TC Tank Compactor

## Operation

### OPERATING INSTRUCTIONS - STANDARD MODELS

1. First, 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. Refer to **Decals - Optional Loading Configurations** <sup>[67]</sup> to determine how your compactor is configured.

2. Insert the key into the key switch. Turn it clockwise and depress for 1 to 2 seconds and release. The unit will cycle the preset number of times determined by the Multi-Cycle Counter\*, then stop.
3. Repeat, if necessary, after the compactor has stopped.
4. When you have finished using the compactor, remove the key from the key switch.

\*For more information on the Multi-Cycle Counter see **PLC Maintenance** <sup>[45]</sup>.

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

### Manual Override Instructions (Ram Stop Rear Only)

If the ram is stopped in any position:

- To move the ram forward, turn the key switch clockwise and depress.
- To move the ram rearward, hold the reverse button down, turn and depress the key switch, release the key switch, then release the reverse button.

While the ram is moving:

- To reverse the ram while it is moving forward, press the reverse button.
- To cause the ram to move forward while it is moving rearward, depress the key switch.

#### NOTICE

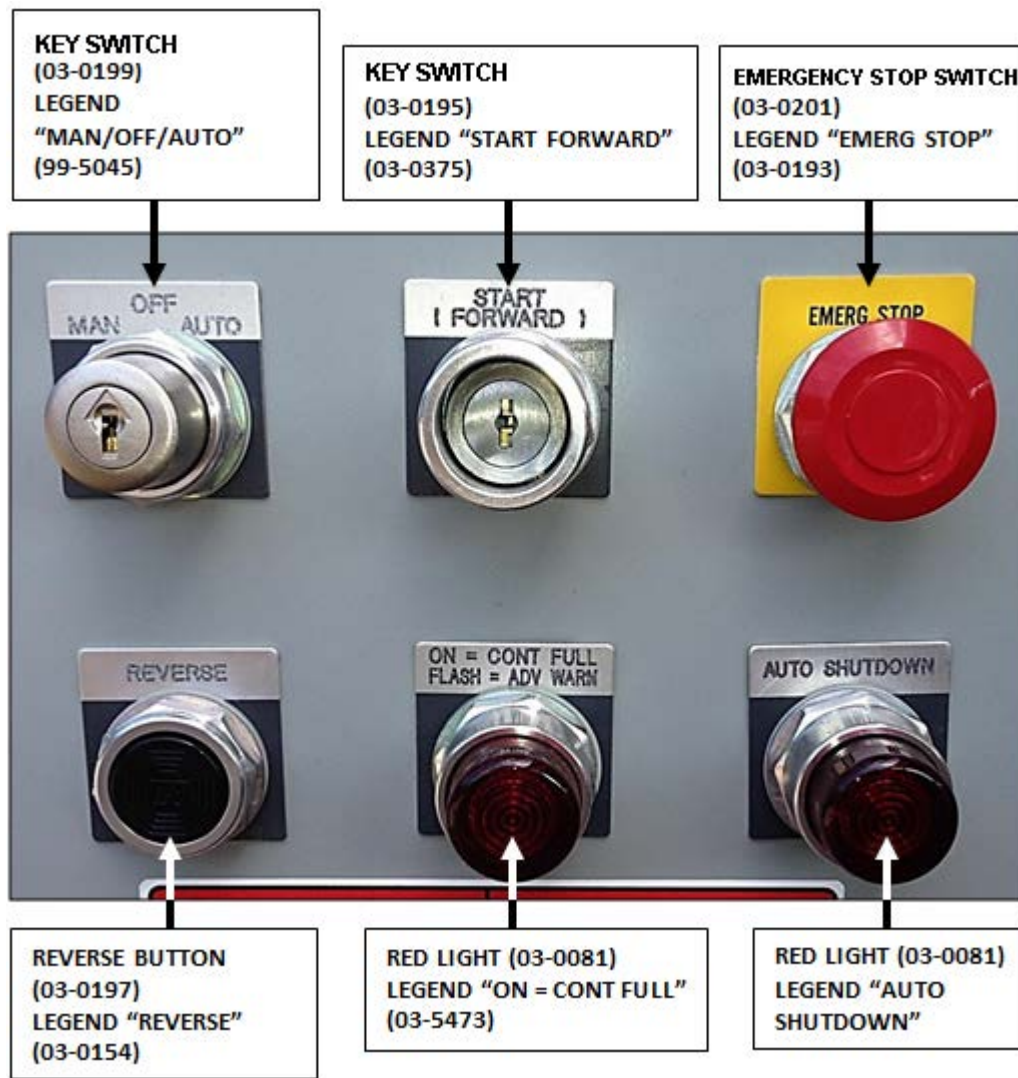
Refer to Optional Controls for Manual Override on Ram Stop Forward Machines.

# TC Tank Compactor

## Operation

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### CONTROL PANEL - MODELS WITH PHOTOELECTRIC CYCLE CONTROL



### 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.

# TC Tank Compactor

## Operation

### CONTROL PANEL - MODELS WITH PHOTOELECTRIC CYCLE CONTROL (CONTINUED)

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 on the Multi-Cycle Counter, see **PLC Maintenance** .

# TC Tank Compactor

## Operation

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### OPERATING INSTRUCTIONS - MODELS WITH PHOTOELECTRIC CYCLE CONTROL

#### NOTICE

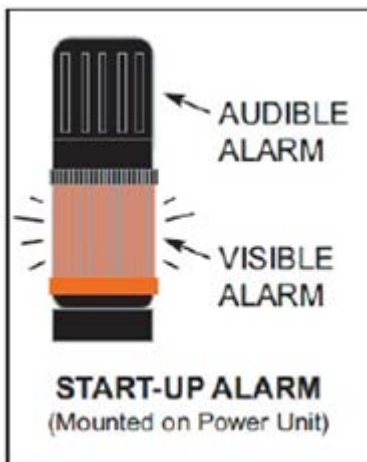
This compactor features an ANSI Z245.21-5.12.1 compliant start-up alarm that is both audible and visible during the activation of the AUTOMATIC mode.

#### 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.



# TC Tank Compactor

## Operation

### OPTIONAL CONTROLS

1. **SUSTAINED MANUAL PRESSURE CONTROL BUTTON** (Hold-To-Run, Release-To-Stop) this option requires the compactor operator to remain at the push button station while the compactor is in use. Actuation requires depressing the "Hold-To-Run" and "Start" buttons. After the unit has started, the "Start" button is released. If the "Hold-To-Run" button is released, the unit will stop instantly.
2. **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, press the illuminated container full light (The unit will not run while the light is continuously on).
3. **RAM STOP FORWARD** - When a machine with this option has been stopped, the ram will move rearward when restarted. To move the ram forward (when it is stopped), insert the key into the START/FORWARD switch, turn the key clockwise and depress the switch. Release the switch and press it a second time. The ram will change directions and move forward. To reverse the ram while it is moving forward, depress the REVERSE switch. To cause the ram to move forward while it is moving rearward, press the START/FORWARD button.
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** - (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 prevent 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. 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 pushbutton is pressed after clearing the blockage.
7. **THERMOSTATICALLY CONTROLLED OIL HEATER** - This option is installed in the oil reservoir. The thermostat is adjustable so the heater will heat the oil when the oil temperature goes below a specified level. It is recommended to set the thermostat between 70° F - 100° F.

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# **SECTION 4**

# **SERVICE**

**CONTACT INFORMATION**



Technical Service and Warranty:

**877-258-1105**

Parts:

**800-528-5308**

For parts visit our eCommerce Marketplace at **[www.mecomerchant.com](http://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

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

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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.

### PERIODIC MAINTENANCE

#### **WARNING**

Ram speed accelerates as ram retracts. Never enter any part of the self-contained compactor/container until the unit has been Locked-Out and Tagged-Out.

---

#### Monthly

1. Check external hoses for chafing, rubbing, or other deterioration and damage.
2. Check for any obvious unsafe conditions in the compactor area.
3. Check oil level in hydraulic reservoir. Level should be 3/4 of sight gauge (ram fully retracted).
4. Clean out or wash out debris from behind compactor ram.
5. Lubricate the ram guidance tracks using the grease fittings on the compactor side (For guided ram machines only), and check guide shoes for wear.

#### Three Months

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

#### Annually

1. Lubricate electric motor bearings annually per the manufacturer's instructions.

#### Filter Maintenance

1. The hydraulic filter should be cleaned at regular yearly intervals.
2. 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.
3. Care should be exercised in cleaning the filter to ensure that the element is not torn. Clean the element with a soft brush and standard industrial solvent.
4. Replace the filter after cleaning and tighten the union securely. Pump noise and a "crackle" sound are most often caused by air entering the pump suction line. Tightening the suction fittings will usually eliminate the problem.

# TC Tank Compactor

## Service

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### MAINTENANCE SCHEDULE FORM

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

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

MAINTENANCE SCHEDULE							
	Every 3 Months					Annually	
	CHECK FUNCTIONAL OPERATION OF CONTROLS	CHECK HYDRAULIC CYLINDER	CHECK INTERNAL HOSES	CHECK HYD CONNECTIONS FOR LEAKS AND WEAR	LUBRICATE CONTAINER DOOR HINGES	LUBRICATE MOTOR BEARINGS	CLEAN HYDRAULIC FILTER
Jan							
Feb							
Mar							
Apr							
May							
June							
July							
Aug							
Sept							
Oct							
Nov							
Dec							

# TC Tank Compactor

## Service

### PRESSURE SETTING INSTRUCTIONS

When the hydraulic cylinders used in the compactor are fully extended or retracted, they bypass internally. This prevents the hydraulic system from reaching relief pressure under normal conditions. Follow the recommendations below for proper pressure setting.

1. Disconnect and lock-out power per the procedure on **Lock-Out/Tag-Out page** <sup>51</sup>.
2. Using the quick disconnects, disconnect the hydraulic hoses from the compactor.
3. Remove the 1/4" plug from the check valve and install a 0-3000 psi pressure gauge.
4. Loosen the lock nut on the relief valve and turn the adjustment screw several turns counterclockwise.
5. Remove the lock-out provisions and turn the disconnect to the ON position. Start the power unit using the **Operating Instructions** <sup>29</sup> page.
6. With the hoses disconnected, the power unit will build pressure. Adjust the relief pressure up by turning the relief adjustment screw clockwise. Adjust the relief valve to the desired pressure setting and tighten the lock nut. See chart below.
7. Press the EMERGENCY STOP button to stop the power unit, and relieve the stored hydraulic energy as described on **Lock-Out/Tag-Out page** <sup>51</sup>.
8. Disconnect and lock-out power as described in Step 1.
9. Remove the pressure gauge and replace the 1/4" plug in the check valve.
10. Reconnect the hydraulic hoses, and remove the lock-out provisions.

Pressure Settings						
MODEL NO.	HP	GPM	RELIEF VALVE SETTING	PRESSURE SWITCH	BORE	ROD
TC-220-HD	10	10	2000	1850	4 1/2	2 1/2
TC-225-HD	10	10	2000	1850	4 1/2	2 1/2
TC-300-HD	10	10	2000	1850	4 1/2	2 1/2
TC-220-HD/HF	15	13	2300	2150	4 1/2	2 1/2
TC-225-HD/HF	15	13	2300	2150	4 1/2	2 1/2
TC-300-HD/HF	15	13	2300	2150	4 1/2	2 1/2
On units with the Advance Warning Light, set pressure 200 PSI below pressure switch setting.						

## PRINCIPLES OF OPERATION

### Standard System Operating Characteristics, 10 Hp & 15 Hp

The system uses special cylinders to move the ram and two timers to control the operation of the ram. When the hydraulic cylinders used in the Trash Commander "TANK" compactors are fully extended or retracted, they bypass internally. This prevents for the hydraulic system from reaching relief pressure under normal conditions. The sequence of operation for this system is as follows:

Upon start up, a contact is made that energizes an input on the PLC. This input is read by the operating program in the PLC and causes the output for the motor starter to energize, starting the motor. At the same time the motor output is energized the operating program in the PLC starts the timer (T1) that controls the extend stroke of the ram. The directional control valve remains de-energized allowing hydraulic fluid to flow to the base end of the hydraulic cylinders causing them to extend. When the extend timer (T1) times out it causes the output for the directional control solenoid to energize and shifts the spool in the directional control valve. This redirects hydraulic fluid to the rod end of the cylinders causing them to retract. At the same time T1 times out the operating program in the PLC starts the retract timer (T2) that controls the retract stroke of the ram. When T2 times out it de-energizes the output for the motor starter and the directional control valve causing the motor to stop and the valve to de-energize.

### Cylinder Removal Instructions

1. Disconnect and lock-out power per the procedure on **Lock-Out/Tag-Out page 5**.
2. Remove access covers from compactor.
3. Remove power unit.
4. Remove hoses (4 for Trash Commander "TANK").
5. Remove cylinder pins.
6. Remove cylinders (2 Trash Commander "TANK").
7. To install the cylinders, reverse the above steps.

# TC Tank Compactor

## Service

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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

# TC Tank Compactor Service

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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

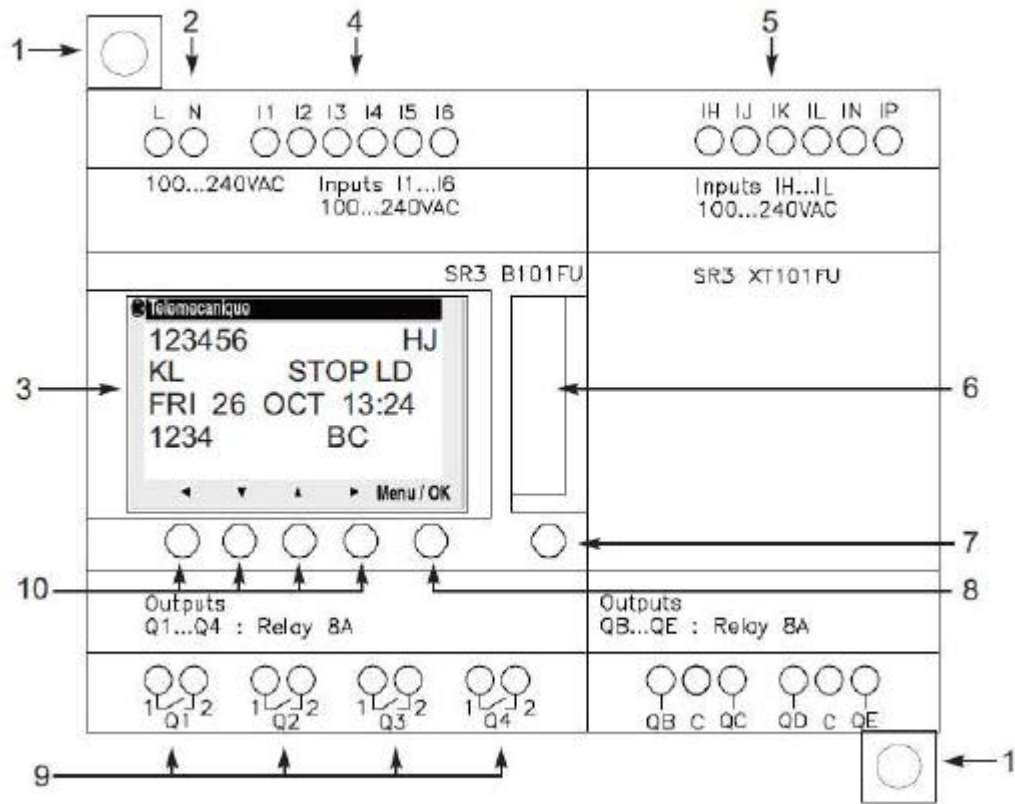


# TC Tank Compactor

## Service

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### PLC MAINTENANCE - LAYOUT & DESCRIPTION



REFERENCE	DESCRIPTION
1	Retractable mounting feet
2	Screw terminal block for the 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 (Menu / Ok)
9	Relay output screw terminal block
10	Arrow keys

# TC Tank Compactor

## Service

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### PLC MAINTENANCE - LAYOUT & DESCRIPTION (CONTINUED)

MULTICYCLE COUNTER SELECTION	
STEPS	DIRECTIONS
1	Press the Menu Button
2	Press Arrow Down Button to select PARAMETER (flashing)
3	Press Menu/Ok Button
4	Press Arrow Up Button until CC1 is flashing
5	Press Arrow Left Button until P=0001 is (flashing)
6	Press Arrow Down or Arrow Up to select cycle count
7	Press Menu/Ok Button
8	Press Menu/Ok Button with YES to Confirm Changes
9	Press the Menu Button

RAM STOP REAR OR RAM STOP FORWARD SELECTION	
STEPS	DIRECTIONS
1	Press and Hold the Arrow Left Button to Change and display the current ram stop position
2	Press the Z2 button to display the ram stop forward function.
Note: Repeating this process switches the current position to ram stop forward or ram stop reverse.	

PLC MAINTENANCE - EXTEND/RETRACT TIMER ADJUSTMENT	
STEPS	DIRECTIONS
1	Press the Menu Button
2	Press the Up or Down Arrow Button until you get to PARAMETER
3	Press the Menu Button
4	Press the Up or Down Arrow Button until TT1 is flashing (Extend Timer)
5	Press the < Arrow Button
6	Press the Up or Down Arrow Button until the desired time is flashing
7	Press Menu
8	Press Menu with YES blinking
9	Repeat Steps 4-8 with TT5 (Retract Timer)
10	Press the Menu Button to return to normal operation.

TIMER SETTINGS (IN SECONDS)				
MODEL NO.	RAM STOP REAR		RAM STOP FORWARD	
	TT1	TT5	TT1	TT5
TC-220-T-HD	30	22	22	30
TC-225-T-HD	37	26	26	37
TC-300-T-HD	45	32	32	45
TC-200-T-HD/HF	23	17	17	23
TC-225-T-HD/HF	29	20	20	29
TC-300-T-HD/HF	35	24	24	35

**MAIN SERVICE DISCONNECT/BRANCH CIRCUIT PROTECTION MUST BE SUPPLIED BY INSTALLER. REFER TO SERVICE/INSTALLATION MANUAL FUSE AND CIRCUIT BREAKER CHART.**

SERVICE DISCONNECT

DS1

PDB1  
POWER DISTRIBUTION BLOCK

L1 L2 L3

MAIN MOTOR CONTACTOR M1

T1 T2 T3

MOT1 MAIN MOTOR

FU1 PRIMARY FUSE

FU2 SECONDARY FUSE

H1 H2 X1 X2

CONTROL POWER TRANSFORMER XF1

OPT 23 OPT 20 5A OPT 8 4 OPT 28 3 OPT 2 2 OPT 19 1

R R R R/S R R

TO PLC 2

7

TELEMECANIQUE SR3BT01FU MODULAR SMART RELAY

034729 100-240VAC

IN-1 IN-2 IN-3 IN-4 IN-5 IN-6

I1 I2 I3 I4 I5 I6

01 02 03 04

A1 A2 OL N

REVERSE P W

NO NC

OPT 6

TELEMECANIQUE SR3XT101FU EXTENSION MODULE

034852

IN-H IN-J IN-K IN-L IN-N IN-P

IP

08 0C 0D 0E

OPT 3

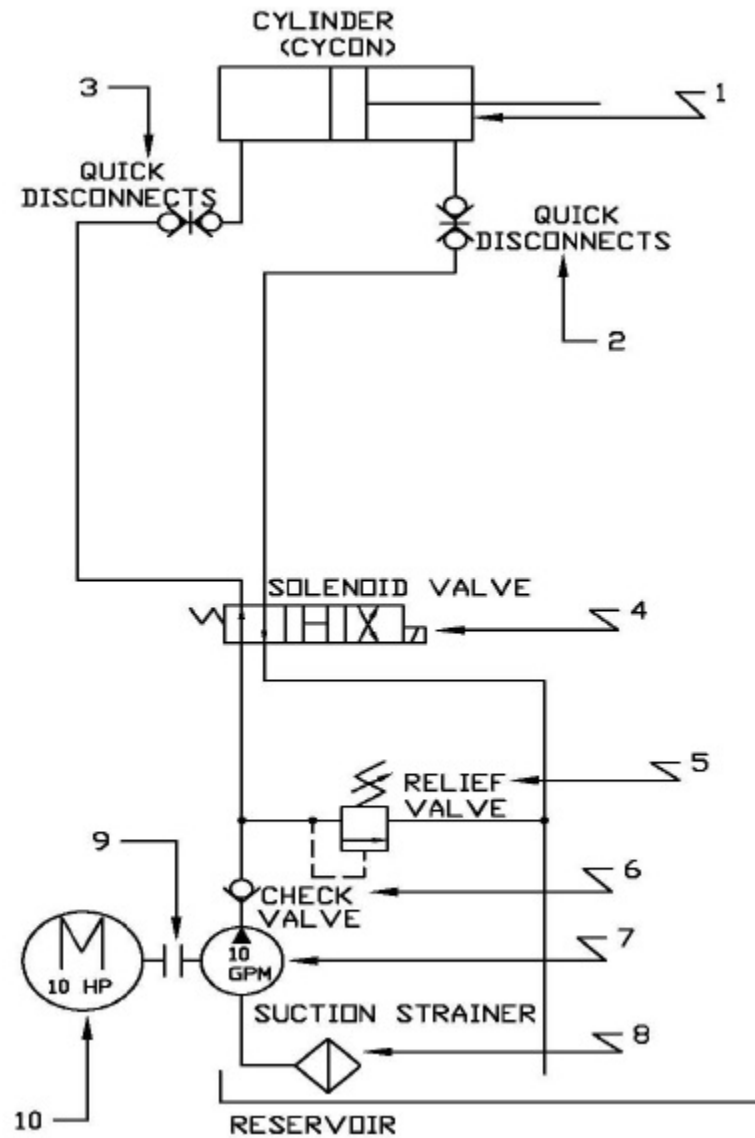
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# TC Tank Compactor

## Service

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### HYDRAULIC SCHEMATIC - TYPICAL (CYCON)



1. Cylinder
2. Quick Disconnect (Female)
3. Quick Disconnect (Male)
4. Valve, 4-Way
5. Relief Valve
6. Check Valve
7. Pump
8. Suction Filter
9. Hub Coupling (Not on Closed-Coupled Units)
10. Motor

\* Single cylinder unit shown. For dual cylinder units, connect identical cylinder in parallel.

# TC Tank Compactor

## Service

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TROUBLESHOOTING CHART		
PROBLEM	CAUSE	SOLUTION
<b>UNIT WILL NOT START</b>	1. No electrical power to unit	1a. Turn on main disconnect. 1b. Replace fuses/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 motor	3a. Check overload reset
<b>UNIT WILL NOT CONTINUE RUNNING WHEN START BUTTON IS RELEASED</b>	1. Motor starter is in-operative	1a. Check motor starter coil & wiring
	2. Motor starter auxiliary contacts are inoperative	2a. Check motor starter contacts and wiring
<b>MOTOR RUNS BUT RAM DOES NOT MOVE NORMALLY</b>	1. Insufficient oil in reservoir	1a. Fill reservoir with oil
	2. Low relief pressure	2a. Check relief pressure (refers 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 or nicks 3c. Replace cylinder
	4. Defective pump	4a. Replace pump
	5. Oil leakage from hose fittings	5a. Tighten hose fittings
	6. Pump may be driven in the wrong direction of rotation	6a. Stop immediately to prevent seizure. Check direction of drive rotation (proper rotation direction is indicated by arrow on motor)
	7. Shaft broken, or shaft key sheared	7a. Visually inspect motor and pump Shaft and hub couplings for damage. Replace if necessary.
	8. Intake pipe from reservoir blocked, or oil viscosity too heavy to prime	8a. Drain system. Add clean fluid of proper viscosity and specifications. Filter as recommended. Check suction strainer for cleanliness.
	9. Intake air leaks (foam in oil or sounds like gravel in pump)	9a. Check intake connections. Tighten securely
	10. Units shift slowly	10a. Flow control valve (restrictor) clogged, remove and clean orifice. For Units equipped with pilot valve, remove pilot section, remove and clean orifices.
	11. Valve response sluggish	11a. Contaminated oil-drain and flush system. 11b. Inadequate voltage, check voltage 11c. Disassemble valve and clean
<b>UNIT WILL NOT REVERSE</b>	1. Solenoid valve is in-operative	1a. Check coil in solenoid valve
	2. Reverse button in-operative	2a. Check reverse button contacts
<b>PUMP MAKES NOISE-SOUNDS LIKE GRAVEL</b>	1. Partly clogged intake strainer or restricted intake	1a. Pump must receive intake fluid freely or cavitation results. Drain system, clean intake pipe and clean or

# TC Tank Compactor

## Service

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TROUBLESHOOTING CHART		
PROBLEM	CAUSE	SOLUTION
	pipe	replace strainer
	2. Defective bearing	2a. Replace pump
	3. Air leak at pump intake pipe joints	3a. Tighten joints as required.
<b>PUMP SHAFT SEAL LEAKING</b>	1. Seal worn or damaged	1a. Replace seals or pump.
<b>EXCESSIVE HEAT</b>	1. Continuous running	1a. When over 140 degrees 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 1d. Check to be sure CYCON Power Pack has not been exchanged for Pressure Shifting Power Pack.
	2. Undersized hydraulic lines	2a. Replace with larger hydraulic lines
	3. High ambient temp in relation to oil temp.	3a. Use lower viscosity oil
	4. Excessive system leakage	4a. Check system for bypassing or leaks
<b>RAPID WEAR</b>	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
	2. Viscosity of oil too low at working conditions	2a. Replace oil with factory recommended oil.
	3. Pressure too high	3b. Reduce pump pressures to factory specifications.
	4. Air recirculation causing pump noise	4a. Tighten all fittings.
<b>ERRATIC OPERATION</b>	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.
<b>OVERLOADS TRIP FREQUENTLY</b>	1. Incorrect voltage	1a. Check for correct voltage
	2. Excessive load on motor	2a. Check relief valve settings and pressure switch settings 2b. Check pump and motor alignment
	3. Possible problem with motor	3a. Check motor windings for shorted or open windings 3b. Check motor bearings and lubrication
	4. Improper overload setting	4a. Check overload section for correct settings. Adjust as needed. 4b. Check overload for correct size
	5. Loose connections	5a. Check all connections on motor starter, overload section, and in motor junction box for loose connections. Tighten as needed.
	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.	

# **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](http://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)



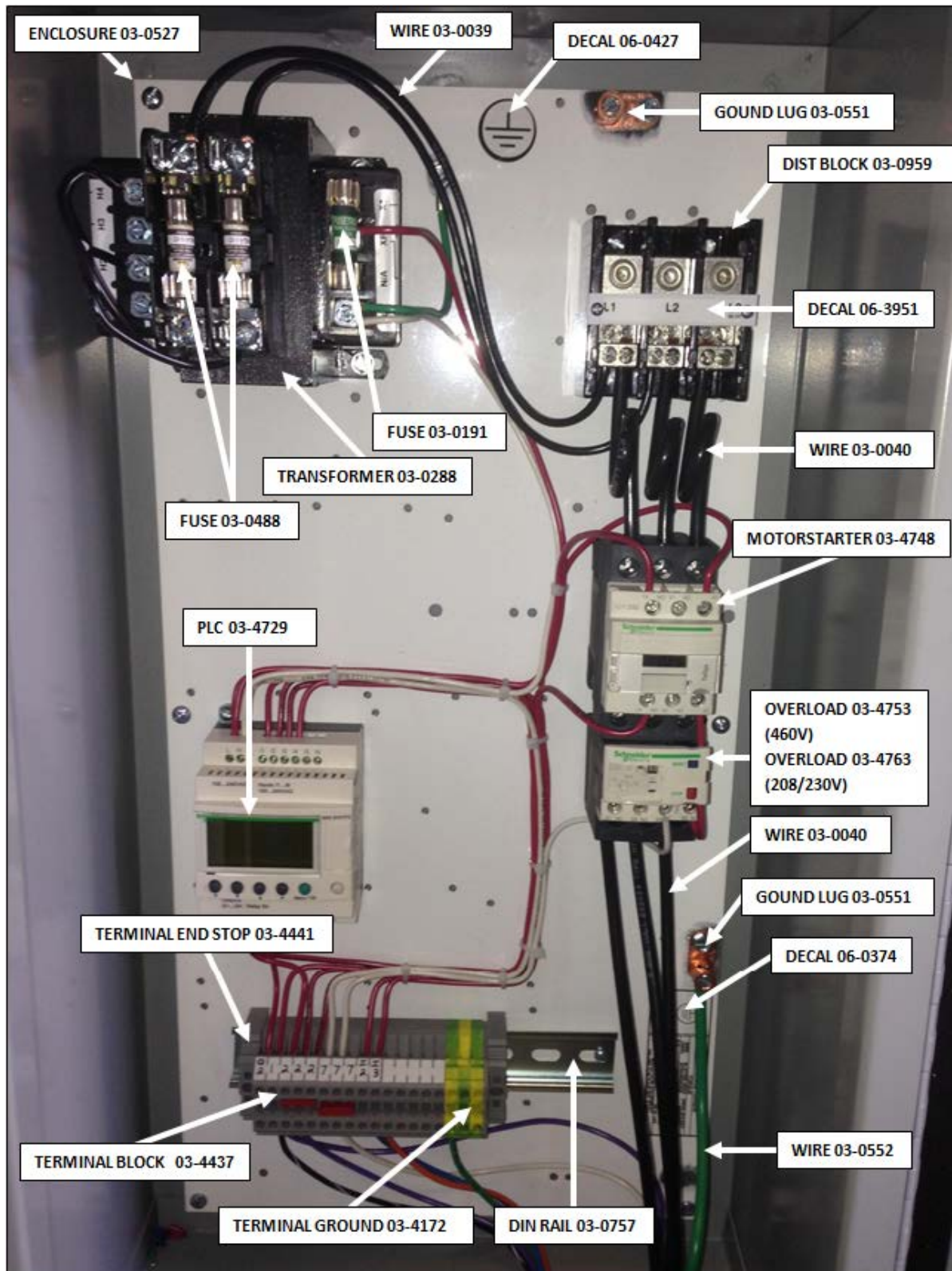
# TC Tank Compactor

## Replacement Parts

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### TYPICAL PANEL BOX CONFIGURATION

The diagram below represents a typical panel box configuration for the Trash Commander compactors. The panel box on your compactor may differ depending on the model and/or optional equipment/controls. Refer to the chart below to identify components. To order replacement parts, please call our Parts Department at 800-528-5308.



# TC Tank Compactor

## Replacement Parts

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### ELECTRICAL PARTS LIST

ELECTRICAL					
Part #	Description				
03-0288	CONTROL TRANSFORMER-MICRON 150VA, 208/230/460-120 VAC				
03-0959	DISTRIBUTION BLOCK				
03-4729	ZELIO SMART RELAY - PLC				
03-4852	ZELIO EXPANSION MODULE - 6 INPUTS, 4 OUTPUTS OR				
03-5483	ZELIO EXPANSION MODULE - 8 INPUTS, 6 OUTPUTS				
03-4748	IEC MOTOR STARTER				
03-4753	OVERLOAD FOR 460V OR				
03-4763	OVERLOAD FOR 230V				
03-4437	IEC FINGER-SAFE TERMINAL BLOCKS				

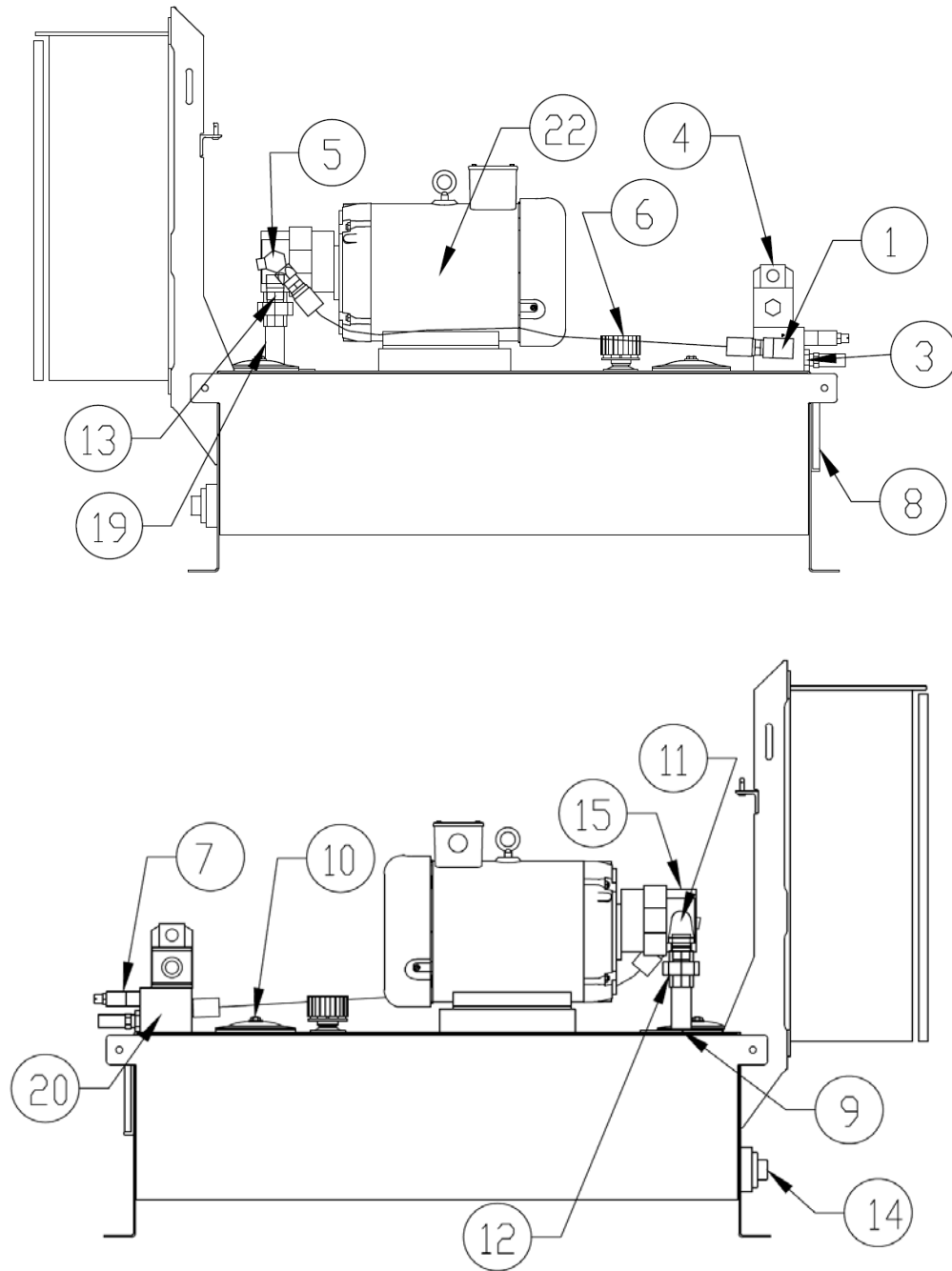
See **Power Unit Parts List**  for additional replacement parts

# TC Tank Compactor

## Replacement Parts

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### POWER UNIT - DRY 10 HP (MECO)



# TC Tank Compactor

## Replacement Parts

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### POWER UNIT - DRY 10 HP - PARTS LIST (MECO)

Match reference numbers with the drawing on the previous page. To order replacement parts call our parts department at 800-528-5308.

REF #	PART #	DESCRIPTION	QTY
1	02-0044	ELL 3/4 NPTM X 3/4 NPTF 90	1
2	02-0050	FILTER SUCTION 1"	1
3	02-0132	ADAPTER 1/2 NPTF X 3/4 NPTM	2
4	02-0157	VALVE 4-WAY 05 O 2-POS	1
5	02-0184	VALVE CHECK 3/4 NPTM X 3/4 NPTF W/ 1/4 NPTF	1
6	02-0197	FILTER BREATHER 3/4	1
7	02-0214	VALVE RELIEF 20 GPM CART PILOT OP	1
8	02-0215	GAUGE SIGHT LEVEL 5"	1
9	02-0218	FLANGE SUCTION 1 PIPE	1
10	02-0219	CLEAN OUT COVER 6	2
11	02-0238	ELL 1 NPTM X 1 NPTF SCH 40	2
12	02-0239	UNION 1 NPT	1
13	02-0240	NIPPLE 1 NPT CLOSE	1
14	02-0254	PLUG 2 NPT SG HD	1
15	02-0267	PUMP GEAR 9 GPM	1
16	02-0325	HOSE END 3/4 WB X 3/4 NPTM SW	1
17	02-0326	HOSE END 3/4 WB X 3/4 NPTM	1
18	02-0329	HOSE END 1/2 WB X 1/2 NPTM	2
19	02-0363	PIPE 3/4 SCH 40 X 16	1
20	02-6243	SUBPLATE 05 1 STN 3/4 NPTF R ON P F/UV PPK	1
21	03-0949	ENCLOSURE 12 1/2 X 24 X 8 NEMA 3R W/O KO	1
22	03-7030	MOTOR 10HP 208/230/460V 60HZ 3PH 1750 CCM TEFC EPA	1
23	05-5554	5/16 X 1 A36 HR ROD SQ CUT	1
24	35-6818	7 GA A36 X 9 1/8 X 13 1/8	1
25	35-8147	7 GA A36 X 21 15/16 X 34 3/16	1
26	35-8148	LI 1/2 X 1 1/2 X 3/16 X 13 1/2 A36	1
27	35-8149	14 GA A36 X 45 1/4 X 51 1/4	1
28	460113	RSVR UNIT PPK 20GAL R2	1

### COMPONENT REPLACEMENT PARTS LIST

Cylinders						
Part #	Description	TC-220T	TC-220T-HD	TC-225T	TC-225T-HD	TC-300T-HD
04-0360	Cylinder	X	X			
04-0370	Cylinder			X	X	
04-0380	Cylinder					X
04-0361	Seal kit for ALL TC UNITS	X	X	X	X	X
09-3874	Cylinder Pin	X	X	X	X	X

# TC Tank Compactor

## Replacement Parts

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### REPLACEMENT PARTS LIST (CONTINUED)

PART #	DESCRIPTION	Front Load (FF, RF, SF) Rear Load (FF & RF)	Front Load FF 3YD
<b>Hydraulic</b>			
02-0197	FILLER/BREATHING CAP	X	X
02-0250	STRAINER SUCTION 100 MESH, 3/8" PORT	X	X
02-0354	PUMP, 3GPM (USED ON 3 HP, 3 PH)	X	X
02-0297	VALVE SOLENOID OP, HYDRAULIC D01	X	X
29222	PRESSURE SETTING TOOL	X	X
040105	CYLINDER, 4"B X 2"R X 16" STR	X	X
040106	SEAL KIT FOR 040105 CYLINDER	X	X
<b>Single Phase Unit Parts</b>			
02-0368	HUB COUPLING FOR 3/4HP, 1PH MOTOR		
02-0369	PUMP, GEAR, HI-LO, 3 GPM		
03-0407	MOTOR, 3/4 HP, 1PH, 110 V		
03-5045	MOTOR STARTER – IEC OL, 1PH 7-10 (ADJ 8.4)		
<b>Hardware</b>			
05-0294	LATCH/ROTARY HANDLE, F/FEED DOOR	X	X
06-0334	CASTER, 6" SWIVEL W/LOCK		X

Note: The Pressure Setting Tool (29222) is required for setting pressures on any VIP.

See **Power Unit Parts List** [56](#) for additional replacement parts.

# TC Tank Compactor

## Replacement Parts

### 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 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.

When ordering replacement decals, use the chart below with the following illustrations or look for the part number in the lower right hand corner of the decal.

PART #	DESCRIPTION	QTY
06-0038	WARNING: DO NOT REMOVE ACCESS COVER	2
06-0039	DANGER: DO NOT ENTER	3*
06-0040	CAUTION: KEEP OUT	1*
06-3044	DANGER: HAZARDOUS VOLTAGE!	1
06-0052	CAUTION: GATE MUST BE CLOSED.	*
06-0058	" A " PORT	1
06-0059	" B " PORT	1
06-0124	CYCON	2
06-0249	DANGER: HAZARDOUS VOLTAGE ...LOCK OUT & TAG OUT	1
06-0364	COMPACTOR SERIAL NUMBER	1
06-3123	DANGER: CONFINED SPACE!	3
06-3977	WARNING: DO NOT OPERATE OR SERVICE THIS EQUIPMENT...	2
06-0121	CAUTION: FEDERAL REGULATION PROHIBITS...	2
06-1839	AMERICAN FLAG	2
06-0133	WARNING: KEEP OFF!	2
06-3726	SIGNATURE SERIES	2
06-0144	TRASH COMMANDER TANK, MARATHON EQUIPMENT COMPANY	2
06-3978	DANGER: DO NOT OVERRIDE OR TAMPER WITH SAFETY DEVICES.	2
06-0413	WARNING, CRUSH HAZARD	1
* Quantity varies according to optional equipment configuration.		

# TC Tank Compactor

## Replacement Parts

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### DECAL PLACEMENT FOR TC-220T

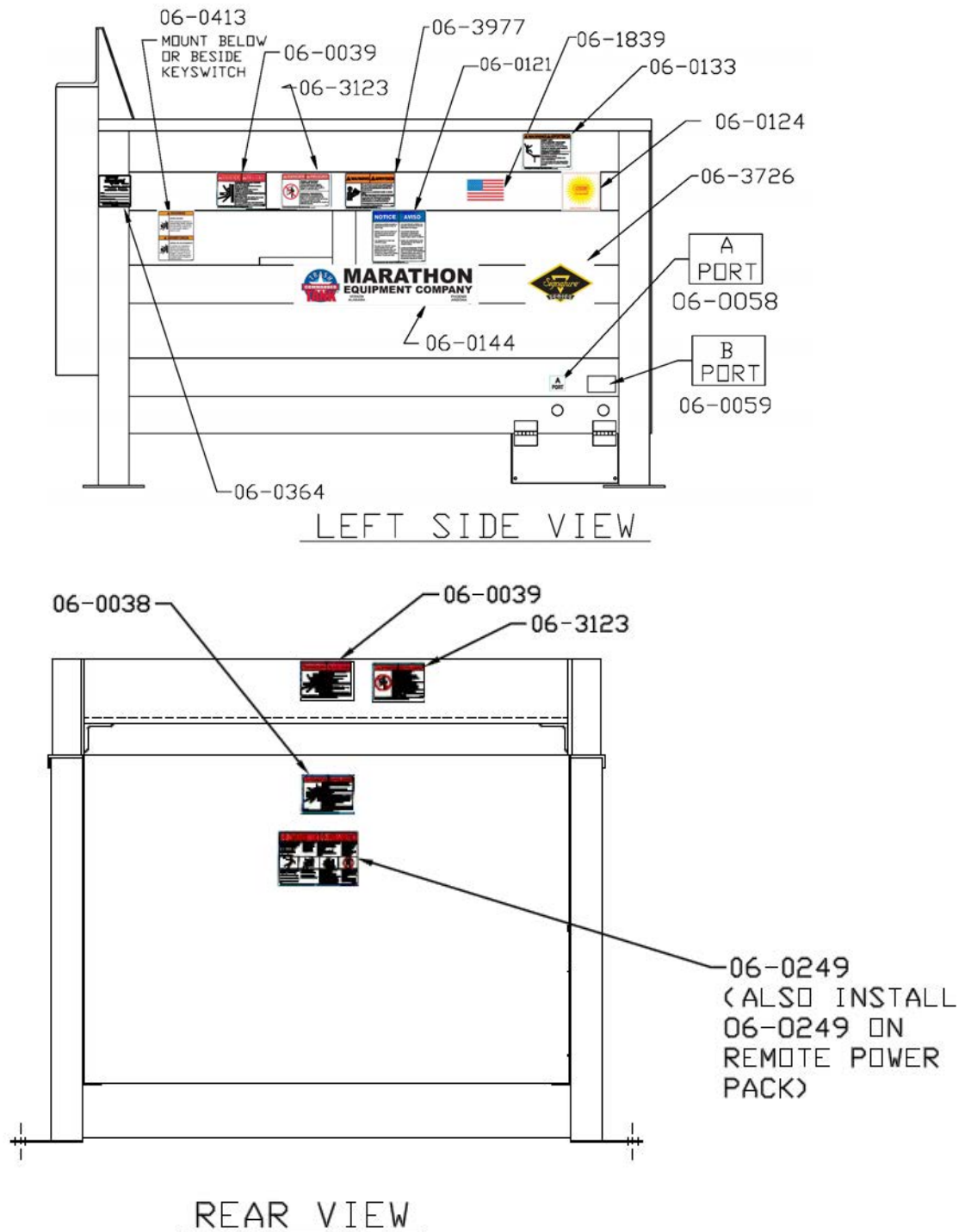


Illustration Page 1 of 2

# TC Tank Compactor

## Replacement Parts

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### DECALS PLACEMENT FOR TC-220T (CONTINUED)

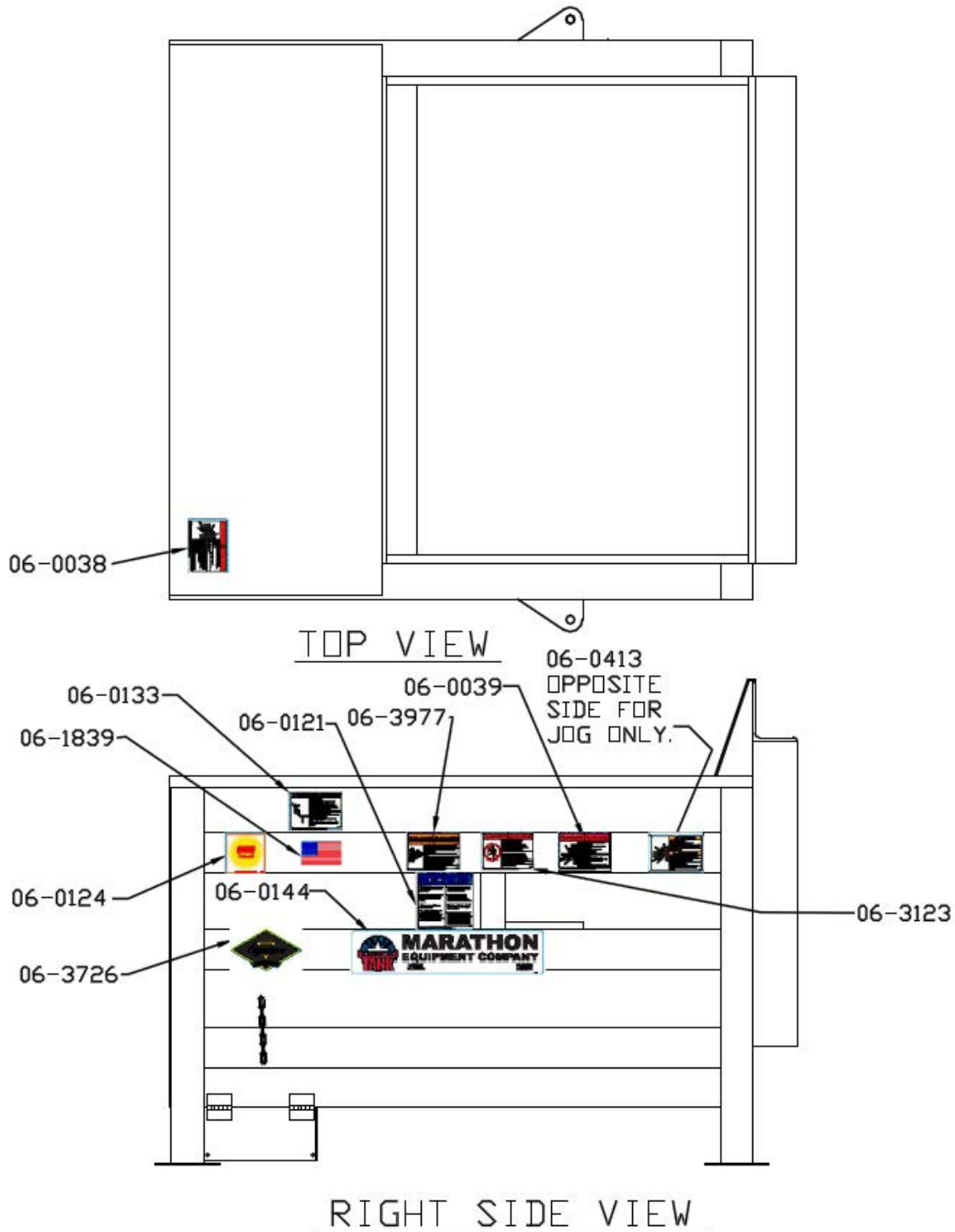


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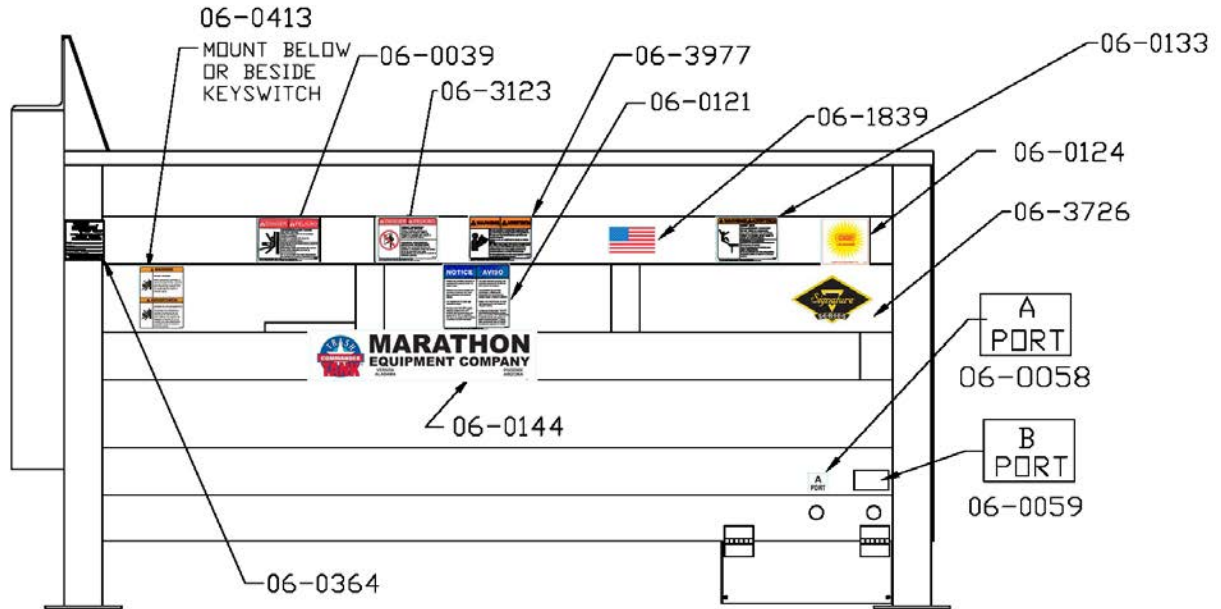


# TC Tank Compactor

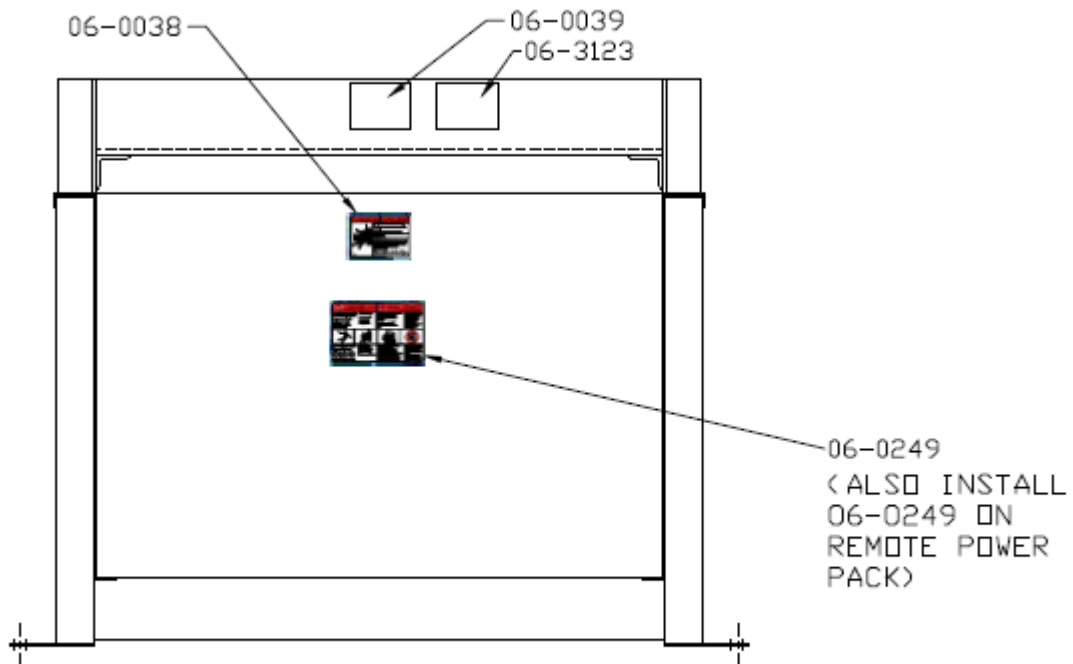
## Replacement Parts

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### DECAL PLACEMENT FOR TC-225T



LEFT SIDE VIEW



REAR VIEW

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# TC Tank Compactor

## Replacement Parts

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### DECALS PLACEMENT FOR TC-225T (CONTINUED)

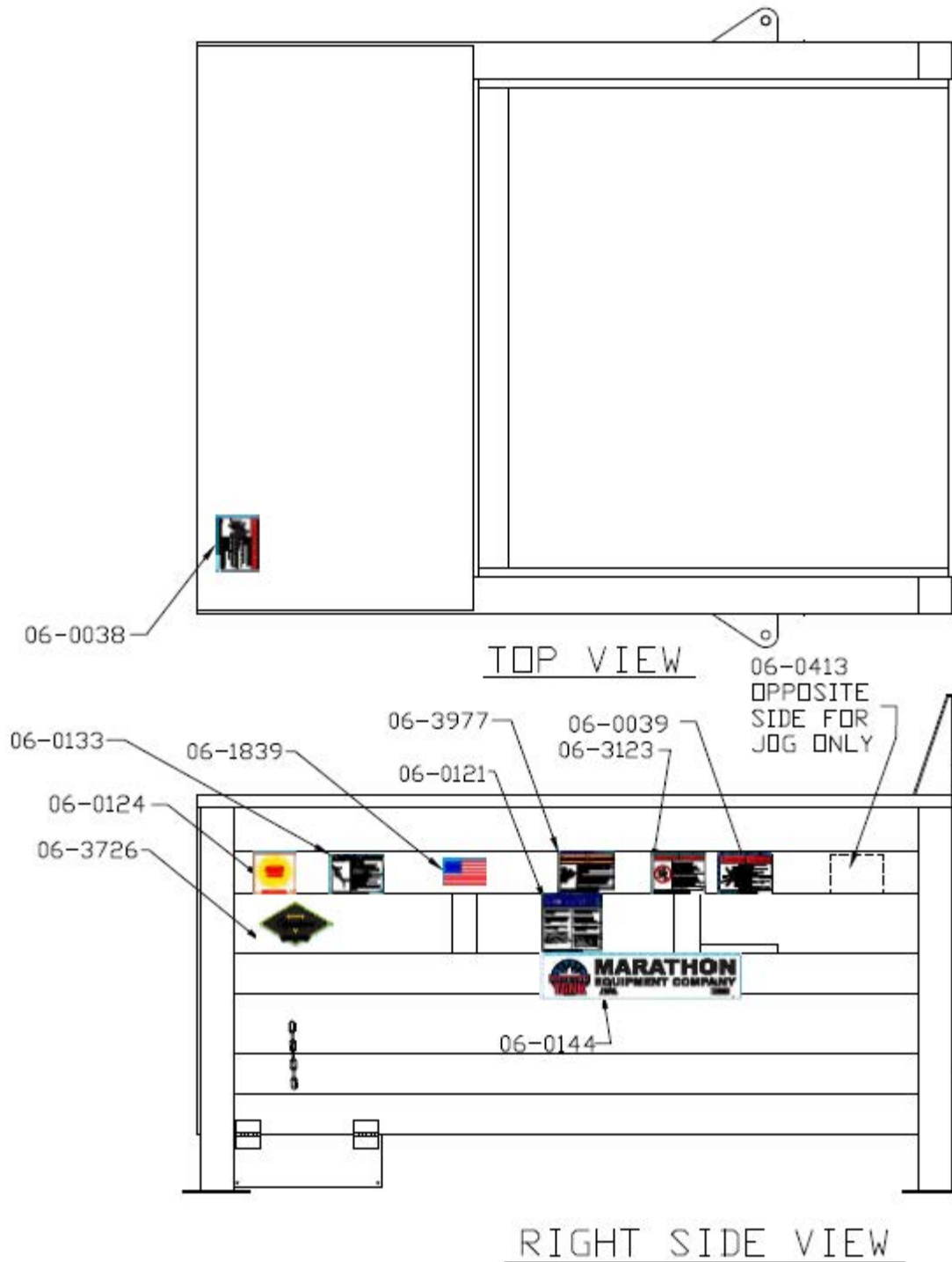


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# TC Tank Compactor

## Replacement Parts

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### DECAL PLACEMENT FOR TC-300T

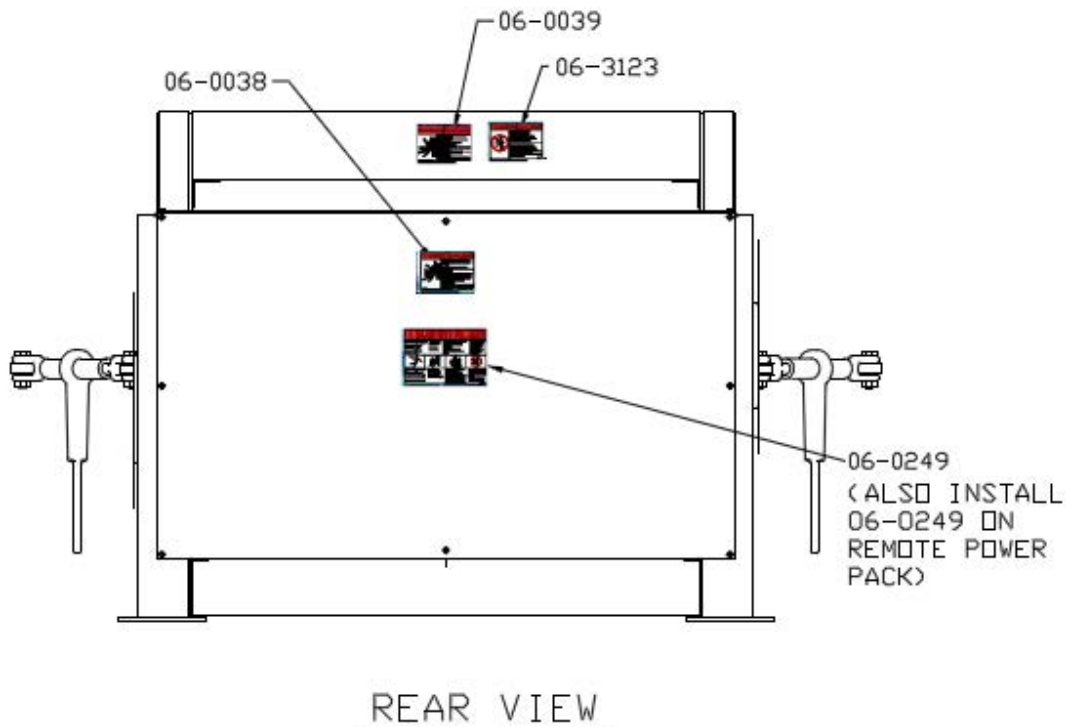
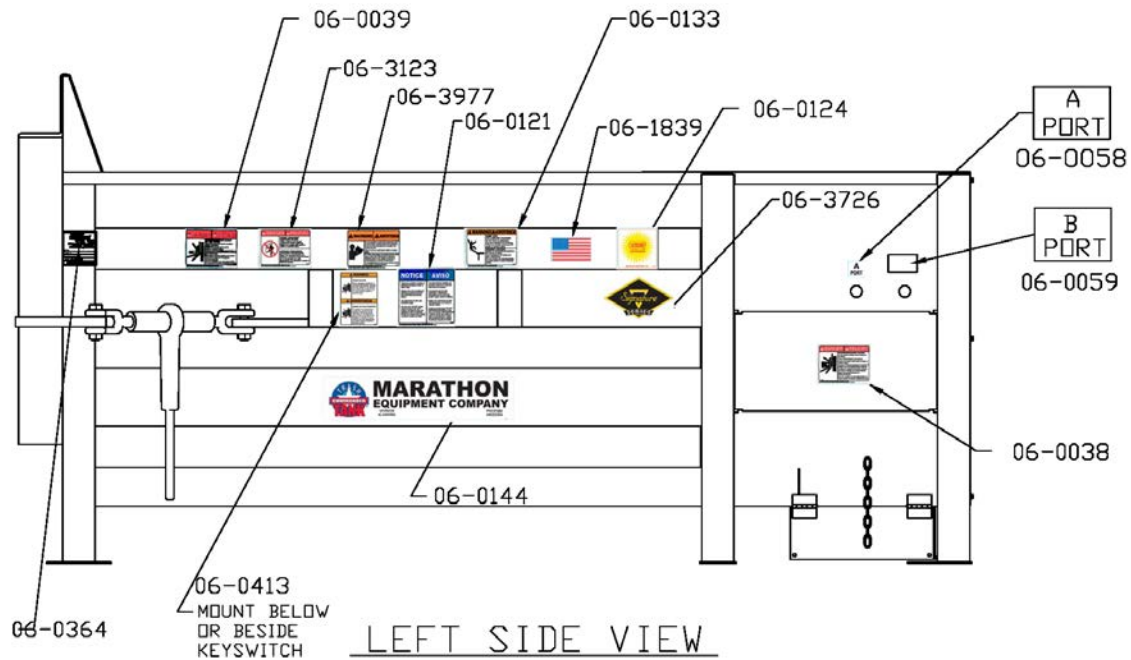


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# TC Tank Compactor

## Replacement Parts

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### DECALS PLACEMENT FOR TC-300T (CONTINUED)

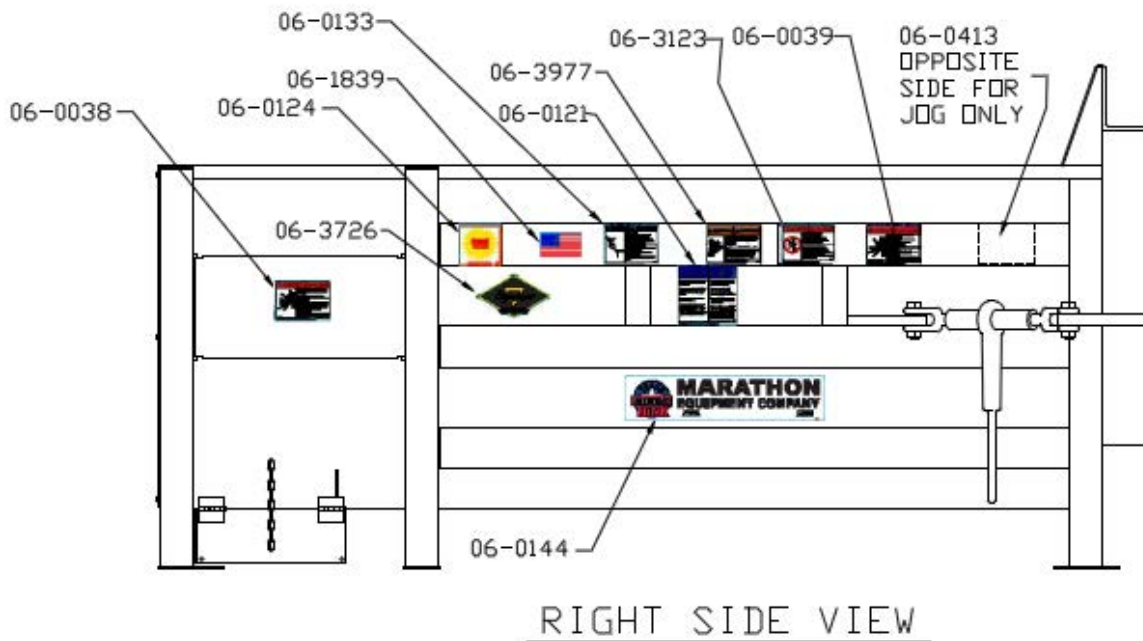
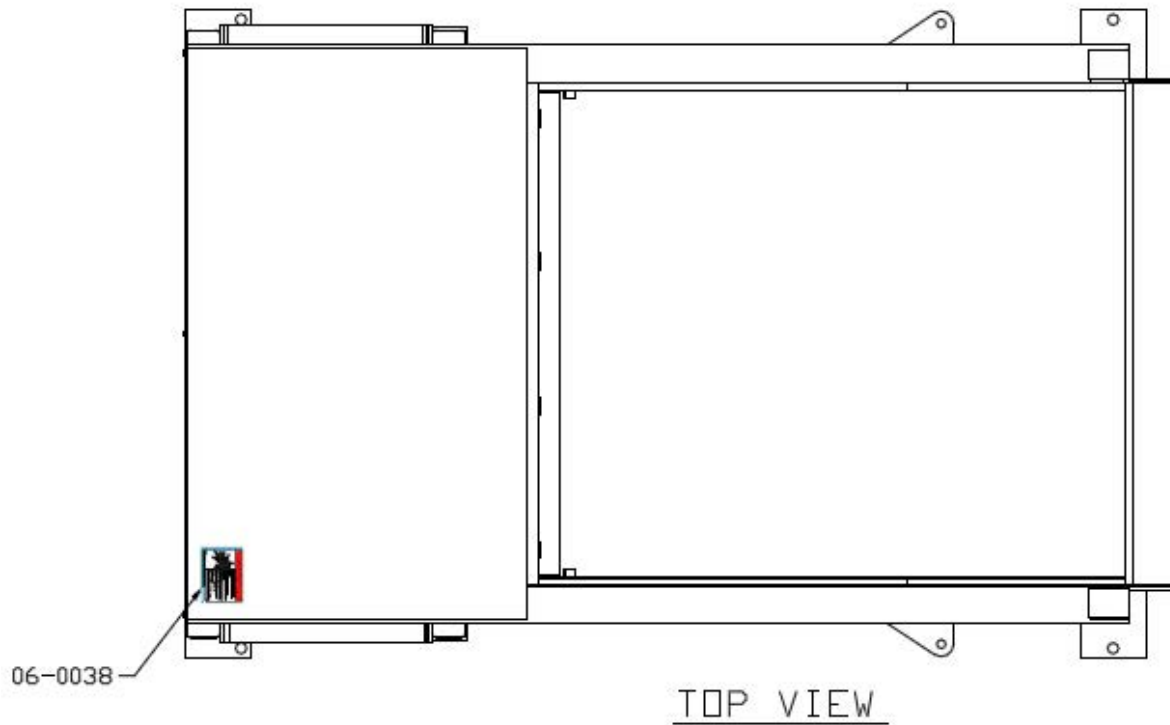


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# TC Tank Compactor Replacement Parts

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## DECAL IMAGES

06-0038



06-0039



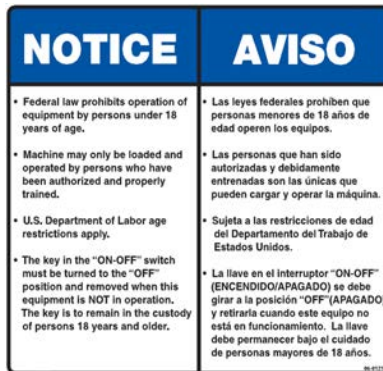
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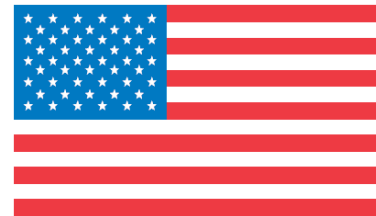
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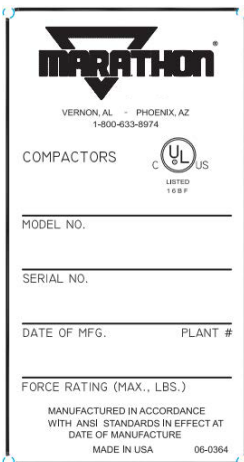
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06-1839



06-0364



06-3123



06-3044





# TC Tank Compactor Replacement Parts

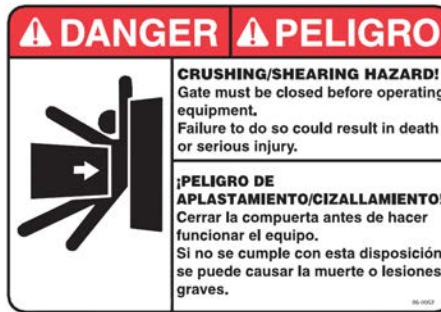
66

## DECAL IMAGES

06-0040



06-0052



06-3977



06-0133



06-0058



06-0059



06-0144



**MARATHON**  
EQUIPMENT COMPANY  
VERNON ALABAMA  
PHOENIX ARIZONA

06-3726



06-0413

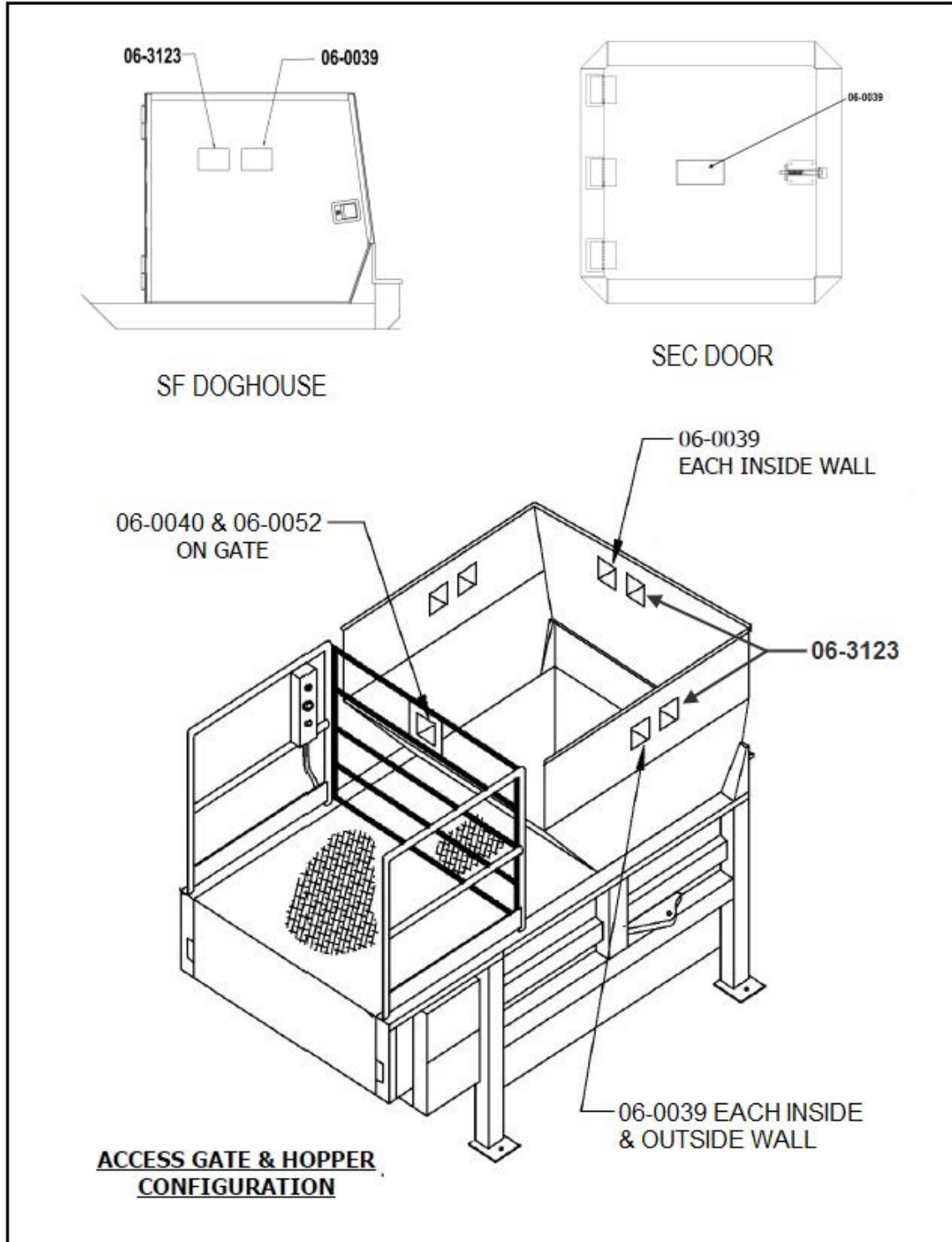


# TC Tank Compactor

## Replacement Parts

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### DECALS - OPTIONAL LOADING CONFIGURATIONS



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Technical Service and Warranty:  
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