Side Eject Horizontal Balers

SE-504842-830, SE-504242-830, SE-503042-830, SE-503042-720, SE-503042-950A, SE-604842-830

OPERATION, SERVICE, AND INSTALLATION

ISSUED JANUARY 2023

CUSTOMER NAME: _____

SERIAL NUMBER: _____

COMPACTION & RECYCLING SOLUTIONS

0006-S-EJECT-0123

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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SECTION 1
GENERAL INFORMATION

INTRODUCTION

Thank you for purchasing a Marathon® Side Eject Horizontal Baler!

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. Z245.5, "SAFETY REQUIREMENTS FOR INSTALLATION, MAINTENANCE AND OPERATION"

ANSI STANDARD NO. Z245.51, "SAFETY REQUIREMENTS FOR BALING EQUIPMENT"

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 FOR HORIZONTAL BALERS

⚠ DANGER

Before entering any part of the baler, be sure that all sources of energy have been shut off, all potential hazards have been eliminated, and the baler 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 baler and that the baler 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 baler 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 baler 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 baler down.
5. De-activate the energy isolating device(s) so that baler 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 baler 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 baler, ensure that the baler 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 baler (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.

LOCK-OUT & TAG-OUT INSTRUCTIONS (CONTINUED)

9. Before entering baler perform hazard assessment for confined space requirements (hazardous fumes, dust or other toxic material).

10. The baler is now locked out.

RESTORING SERVICE

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

1. Check the baler and the immediate area around the baler to ensure that nonessential items have been removed and that the baler 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 baler.

NOTICE

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

5. Notify affected employees that the servicing or maintenance is completed and the baler is ready for use.

6. Reassess area to determine all hazards are protected.

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.

⚠ WARNING

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

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

WARNING DECALS ON THE UNIT

⚠ WARNING

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

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

DECAL CARE

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

A. General Instructions

Following these instructions helps the decals adhere longer.

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

B. Pressure Washer Precautions

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

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

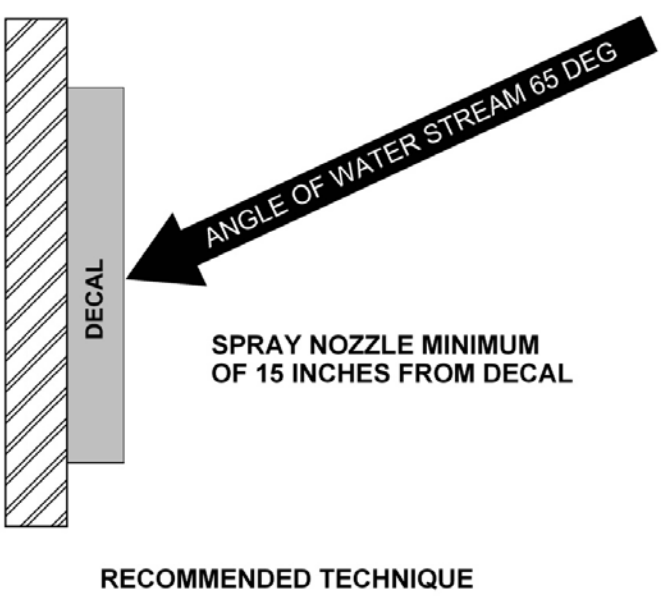
- Spray nozzle opening: 40° wide pattern
- Spray angle: 65° from unit's body
- Distance of nozzle to decal: 15" minimum
- Water pressure: less than or equal to 800 psi
- Length of time: not more than 30 sec.
- Do not use sharp angles to clean the decals – this can lift the decals from the unit.
- NEVER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

C. Remove Difficult Debris

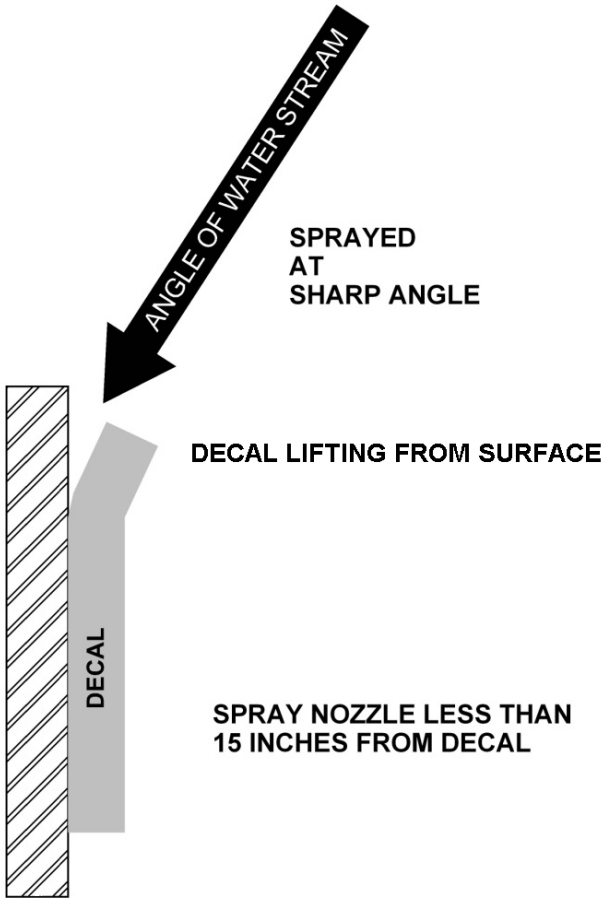
When normal cleaning procedures do not remove difficult debris from the decals, try the following:

- 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.

DECAL CARE (CONTINUED)

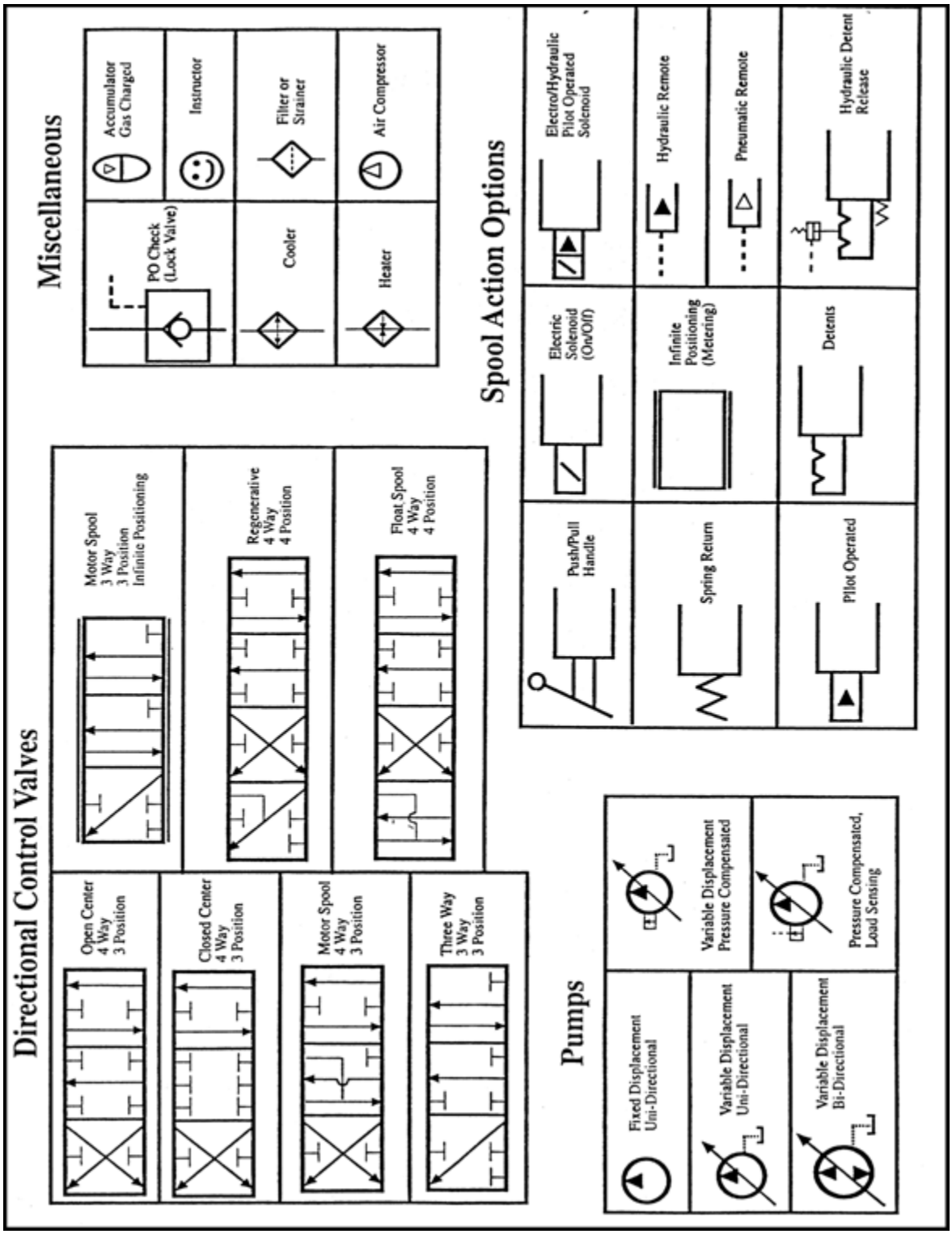


RECOMMENDED TECHNIQUE

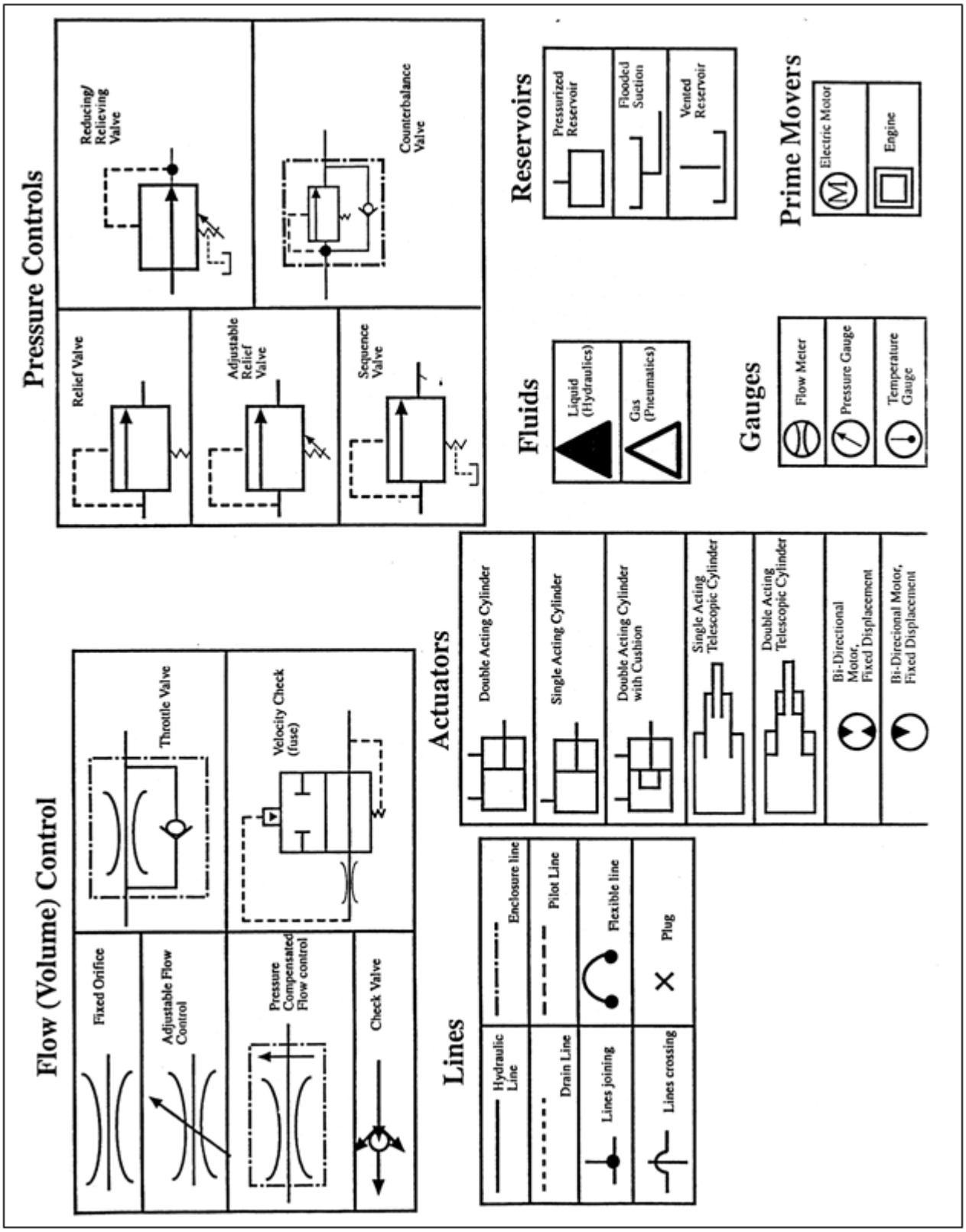


INCORRECT TECHNIQUE

HYDRAULIC SYMBOLS

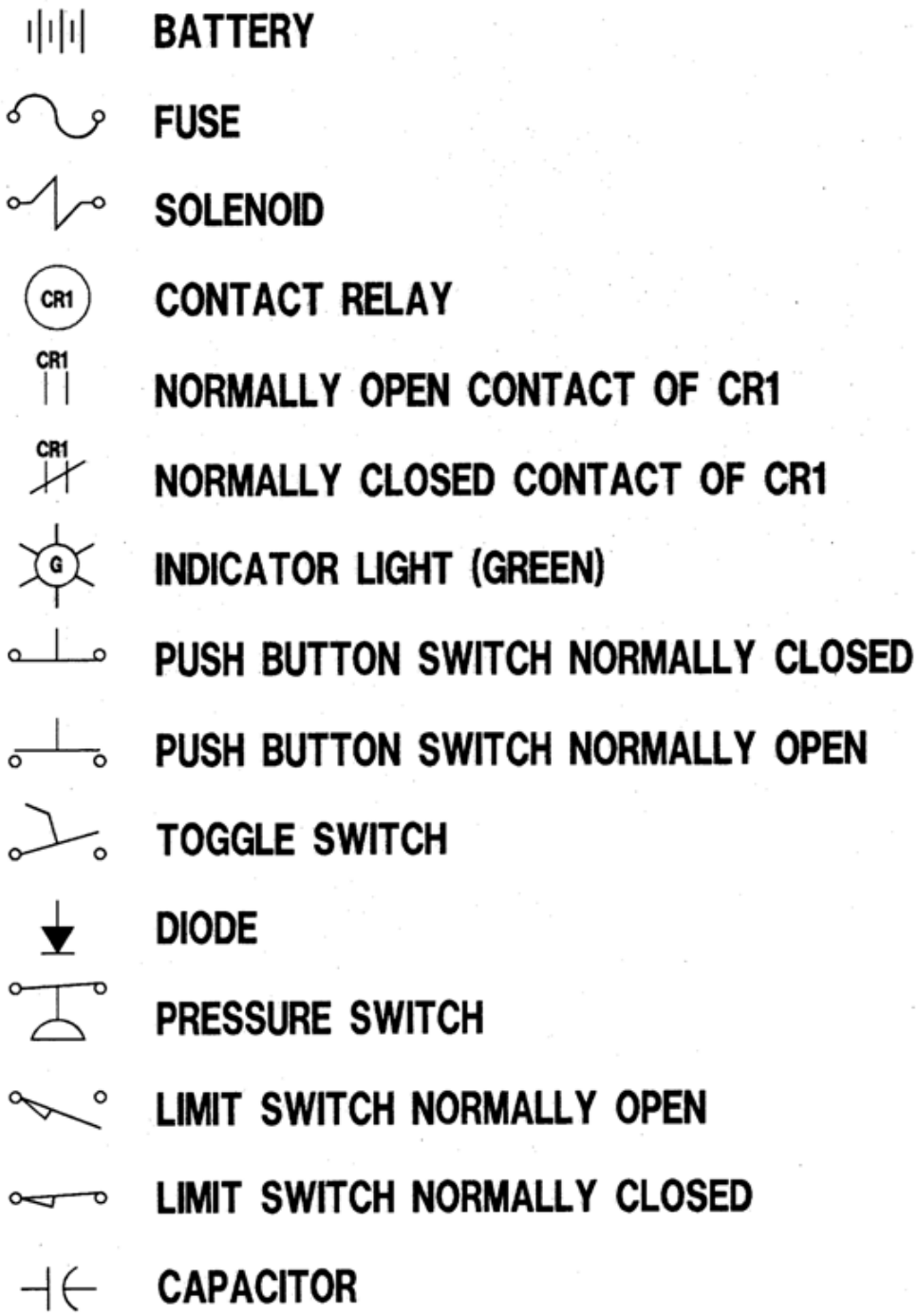


HYDRAULIC SYMBOLS (CONTINUED)



ELECTRICAL SYMBOLS

SYMBOL DEFINITIONS



SECTION 2
INSTALLATION

CONTACT INFORMATION

Technical Service and Warranty:

877-258-1105

Parts:

800-528-5308

For parts visit our 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)

GENERAL INSTALLATION

These operating 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.

This baler is designed for INDOOR USE ONLY.

⚠ CAUTION

Review this manual before making the installation. Study the job site and installation requirements carefully to be certain all necessary safeguards 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.

Concrete Pad or Floor

The pad or floor should be a minimum 3000 psi concrete, steel reinforced,4” thick. It is recommended that the pad or floor be flush with the surrounding area.

Working clearance for the panel box must comply with state and local building codes. Allow enough space in front of bale chamber for bale handling vehicle.

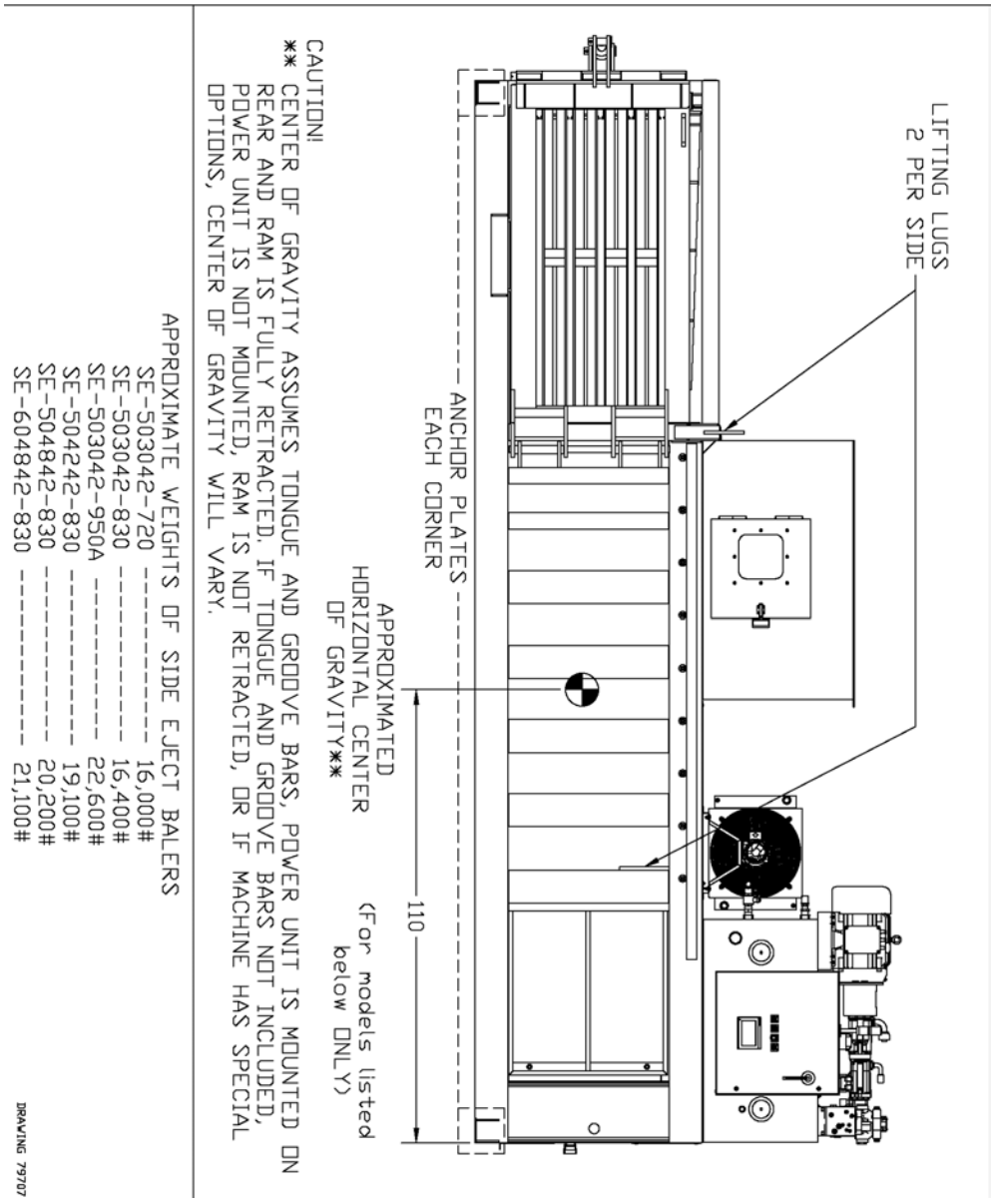
Anchoring

Anchor the side-eject baler to the pad or floor using anchor plates at the corners of baler base. See the diagram on the next page for anchor plate location. Four 1” diameter anchor bolts 3 3/4” long are required, Red Head type recommended. Anchor bolts are not provided by Marathon.

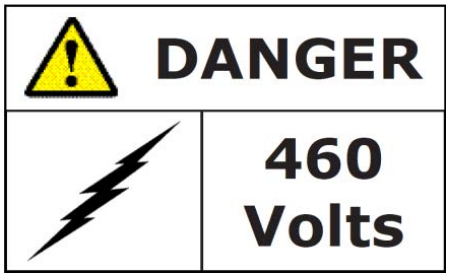
Decals

Installation of the baler is not complete until an inspection of the warning decals has been made. Decals should be clearly visible, legible, securely applied and in the proper location. For decal description and location, see **Replacement Parts** of this manual.

INSTALLATION DIAGRAM



ELECTRICAL INSTALLATION



The panel box contains high voltage components. Only authorized service personnel should be allowed inside. See **Lock-Out & Tag-Out Instructions** 6 in the Service section.

DANGER

Before making any electrical connection, be sure that the disconnect switch has been locked-out and tagged-out.

1. Use the **FUSE AND CIRCUIT BREAKER** 66 chart and the **WIRE SIZE** 66 chart in the **SERVICE** section of this manual for reference during the electrical installation.
2. Before connecting power to the baler, check the incoming line voltage with a voltmeter. Also, check voltage wiring in the baler panel box. If the baler is not wired to the proper voltage, make necessary corrections before proceeding.
3. A lockable disconnect switch is provided on the baler and is sized in accordance with the baler. Three phase power should be connected to the top of this switch. Be careful not to let incoming wires touch each other. A properly sized equipment ground should be connected to the enclosure ground lug.

START-UP INSTRUCTIONS

⚠ CAUTION

Make sure all persons and installation materials are clear of charge box area.

1. After the electrical connections are complete, check motor rotation by the following:
   a. Turn disconnect switch to the ON position.
   b. Have someone turn the key switch on and press the POWER ON button. Touch and hold the AUTO CYCLE button on the touch screen for 20 seconds. When the motor starts, immediately press the EMERGENCY STOP button. Check the motor rotation by watching the hub coupling by removing the cover on the pump motor adapter. A rotation decal on the motor shows the correct direction of rotation. In the event that the decal is missing the rotation should be clockwise when viewed form the motor end of the power unit.

⚠ 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.

2. With the ram in the full retract position, check to be sure the oil reservoir is filled to the 3/4 level on the sight gauge (refer to the maintenance chart for **hydraulic oil recommendations** 8). The hydraulic system pressure has been factory set.
3. The Side Eject baler is equipped with a photocell, an access interlock, an ejector interlock and three limit switches. These items have been factory adjusted. Check the proper function of each of these prior to operation start up. See the procedures in the Service Section of this manual.
4. Make sure that the operators are thoroughly 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 baler.

This baler 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.

NOTICE

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

⚠ WARNING

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

⚠ WARNING

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

⚠ WARNING

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

⚠ WARNING

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

⚠ WARNING

This baler is controlled by photocells and will start automatically when photocells detect ANY OBJECTS in the charge box.

⚠ WARNING

The compression ram in this baler travels at a very fast speed. Stand clear of the baler when in operation.

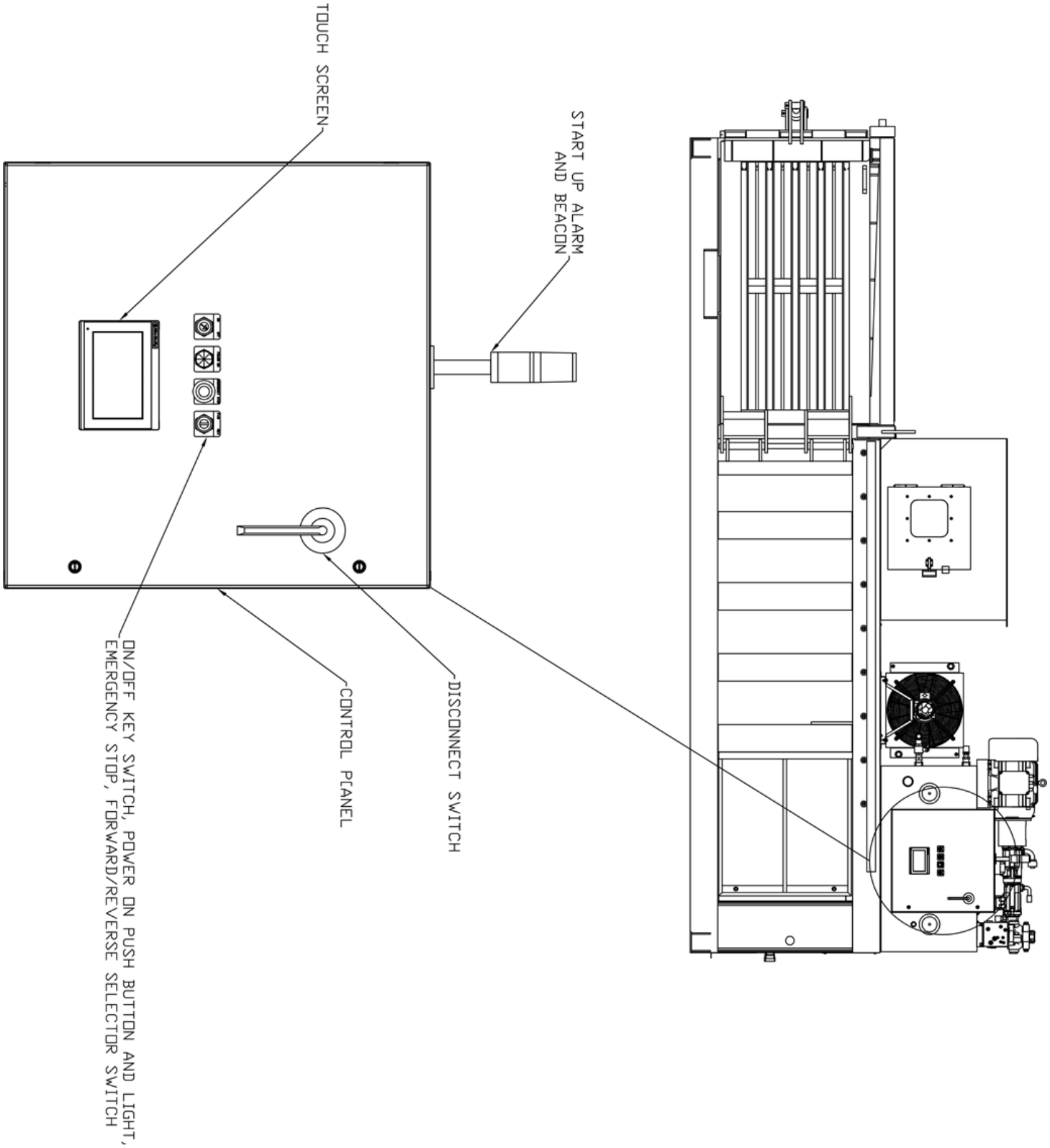
⚠ WARNING

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

⚠ CAUTION

The baler hydraulic system operates at high pressures and at high temperatures. If you suspect a leak, do not check with your hands and avoid contact with piping, hoses, and cylinders.

CONTROLS DESCRIPTION - MAIN



CONTROLS DESCRIPTION - MAIN (CONTINUED)

⚠ WARNING

Stay clear of all moving parts when the baler is in the photocell ON mode. Failure to do so could result in serious personal injury or death!

⚠ WARNING

Stay clear of moving parts when the baler is in AUTO CYCLE mode. Failure to do so could result in serious personal injury or death!

1. POWER ON Push Button with a Green Indicator Light

   This light is illuminated when the push button is depressed.

2. ON-OFF (Keyed Selector Switch)

   Turning this switch to the ON position turns power on to the controls on the control station. The baler cannot be operated unless the key switch is in the ON position. The purpose of this switch is to allow only authorized and trained personnel to operate the baler. The key should be removed from the baler when not in use and should stay in the possession of only trained and authorized personnel.

3. EMERGENCY STOP (Red Mushroom Head Push Button)

   Depressing this button will stop the baler instantly at any point in the cycle.

4. FORWARD (Selector Switch)

   This button will cause the ram to advance in the forward direction when depressed. When the button is released, the ram will stop movement.

⚠ WARNING

Stay clear of moving parts when the baler is in this mode.

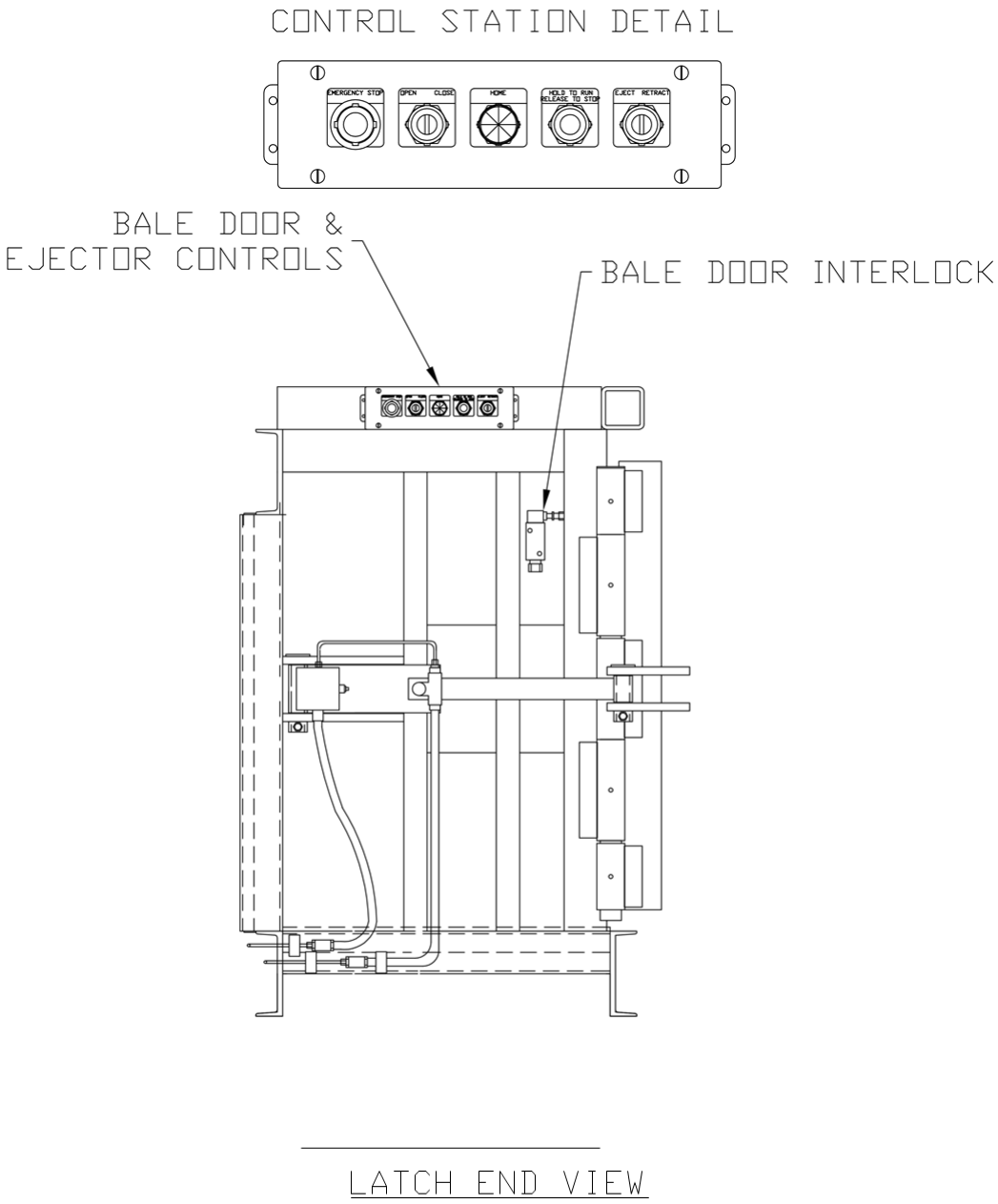
5. REVERSE (Selector Switch)

   This button will cause the ram to retract in the rearward direction when depressed. When the button is released, the ram will stop movement.

⚠ WARNING

Stay clear of moving parts when the baler is in this mode.

CONTROLS DESCRIPTION - EJECTOR & DOOR LATCH



CONTROLS DESCRIPTION - EJECTOR & DOOR LATCH (CONTINUED)

1. HOME (Push Button/Light)

   This push button is an illuminated push button. After the BALE MADE light has signaled the operator that the bale is ready to be tied off and ejected, the operator will tie off the bale and reset the BALE MADE light by depressing the EMERGENCY STOP/RESET push button. Following this, depressing the HOME push button returns the ram to the home position in preparation for ejecting the bale. When the ram is in the HOME position, this push button will be illuminated.

2. EMERGENCY STOP/RESET (Red Mushroom Head Push Button)

   Depressing this button will reset the BALE MADE light on the main control panel. The BALE MADE light must be reset to allow you to retract the ram to the HOME position prior to bale ejection. Also, when depressed, this button will stop any of the baler functions instantly.

3. RETRACT/EJECT (Spring-centered Selector Switch)

   This switch is used to extend the server island (bale ejector) to eject the bale and to retract the ejector after bale ejection. This switch is spring-centered and must be held in the EJECT or RETRACT position to function.

⚠ WARNING

Stay clear of moving parts when using this switch.

4. HOLD TO RUN/RELEASE TO STOP (Black Push Button)

   This button is a “deadman” type and must be depressed and held when using the OPEN/CLOSE switch to open and close the bale chamber door latch.

5. OPEN/CLOSE (Spring-centered Selector Switch)

   This switch is used to open and close the bale chamber door latch prior to and after bale ejection. This switch is spring-centered and must be held in the OPEN or CLOSE position to function. The HOLD TO RUN/RELEASE TO STOP pushbutton must be depressed and held at the same time the OPEN/CLOSE switch is being used.

⚠ WARNING

Stay clear of moving parts when using this switch.

OPERATING INSTRUCTIONS - MAKING A BALE

⚠ WARNING

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

⚠ WARNING

Do not operate baler until operating instructions are thoroughly understood. See previous pages for control panel layouts and locations.

⚠ WARNING

Stay clear of all moving parts when the baler is in the photocell ON mode. Failure to do so could result in serious personal injury or death!

⚠ WARNING

Stay clear of moving parts when the baler is in AUTO CYCLE mode. Failure to do so could result in serious personal injury or death!

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

This baler can be operated in either an automatic mode or a manual mode.

Automatic Mode

1. Insert the key into the key switch and turn it to the ON position. Depress the POWER ON button. The green light should remain illuminated after the button is released.
2. Touch and hold the AUTO CYCLE button on the touch screen for 20 seconds. A warning horn will sound for 5 seconds and the red beacon will flash for the entire 20 seconds. After the 20 seconds elapse the baler will start and complete one cycle. When the ram reaches the fully retracted position touch the PHOTOCELL MODE button on the touch screen. This will place the baler into photocell mode for automatic operation. From this point the baler will start up and cycle anytime it detects ANY OBJECT in the charge chamber. If 15 minutes (adjustable through the touch screen) elapses without a cycle being initiated or use of the controls, the power unit will shutdown. If the photocell detects ANY OBJECT in the charge chamber the baler will start up and cycle automatically.

⚠ WARNING

The power unit will start the ram automatically any time the photocell detects ANY OBJECT in the charge box.

3. In the Automatic Mode, to completely shut down the baler,depress the EMERGENCY STOP push button. Turn the key switch to the OFF position and remove the key.
4. If a bale is completed, the BALE MADE light will come on and the unit will shut down automatically. Follow the instructions on the next page to tie off and eject the bale.

Manual Mode

1. Insert the key into the key switch and turn it to the on position and depress the POWER ON button. The green light should remain illuminated after the button is released.
2. To bale material in the Manual Mode, first, completely fill the charge box with material.
3. Touch and hold the AUTO CYCLE button on the touch screen for 20 seconds. After the start up sequence is finished the baler will start up and make one complete cycle and return to the fully retracted position. Repeat steps 2 and 3 until the BALE MADE light is activated and the baler shuts down.

OPERATING INSTRUCTIONS - BALE TIE OFF/BALE EJECT

When the BALE MADE light is illuminated, it is time to tie off the bale and eject it from the baler.

NOTICE

The **controls** 26 used in the following operations are located on the end of the baler opposite the power unit. See next page for a diagram of bale tie off and ejection.

1. Depress the EMERGENCY STOP/RESET button on the Bale Ejector Control Panel. This will reset the BALE MADE light.
2. Wear safety glasses and leather gloves during this operation. Tie off the bale by inserting bale ties through the slots in the ram, loop end first. Feed wire through until it comes through the slots on the opposite end of the bale from the ram. Tie off each bale tie before inserting the next. Never insert bale ties through the slots opposite the ram, first. Tighten bale ties only hand tight to allow for bale expansion when ejected.

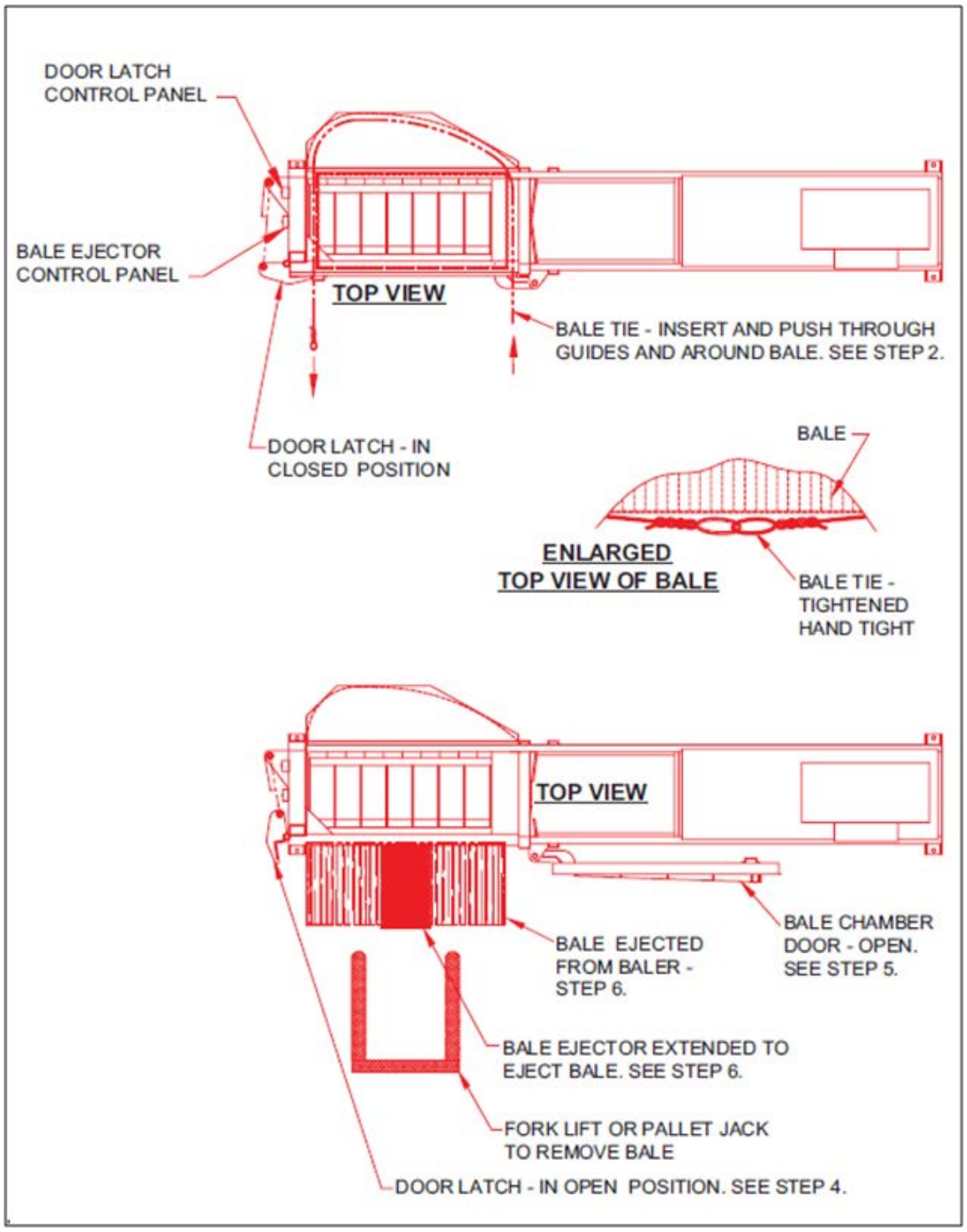
⚠ WARNING

Once all ties are in place, make sure all personnel are cleared from the bale chamber door and latch area.

3. Depress the HOME push button at the Bale Ejector Control Panel and hold for 20 seconds. This allows the power unit to restart. This also causes the ram to retract to the “home” position. The HOME light will come on indicating that the ram is properly positioned to eject the bale.
4. Depress and hold the HOLD TO RUN/RELEASE TO STOP push button on the Door Latch Control Panel. At the same time, turn and hold the OPEN/CLOSE switch to the OPEN position until the latch opens all the way.
5. Open the door all the way.
6. Turn and hold the RETRACT/EJECT switch on the Bale Eject Control Panel to the EJECT position. This will extend the bale ejector and eject the bale. Remove the bale with a fork lift or pallet jack.
7. Turn and hold the RETRACT/EJECT switch to the RETRACT position to retract the ejector. Close the door all the way. Close the latch by depressing and holding the HOLD TO RUN/RELEASE TO STOP push-button. At the same time, turn and hold the OPEN/CLOSE switch to the CLOSE position until the latch closes all the way.
8. The baler is ready to operate in AUTOMATIC or MANUAL mode.

DIAGRAM - BALE TIE OFF/BALE EJECT

This diagram should be used with the instructions from the previous page.



TOUCH SCREEN CONTROLS

ADDENDUM TO

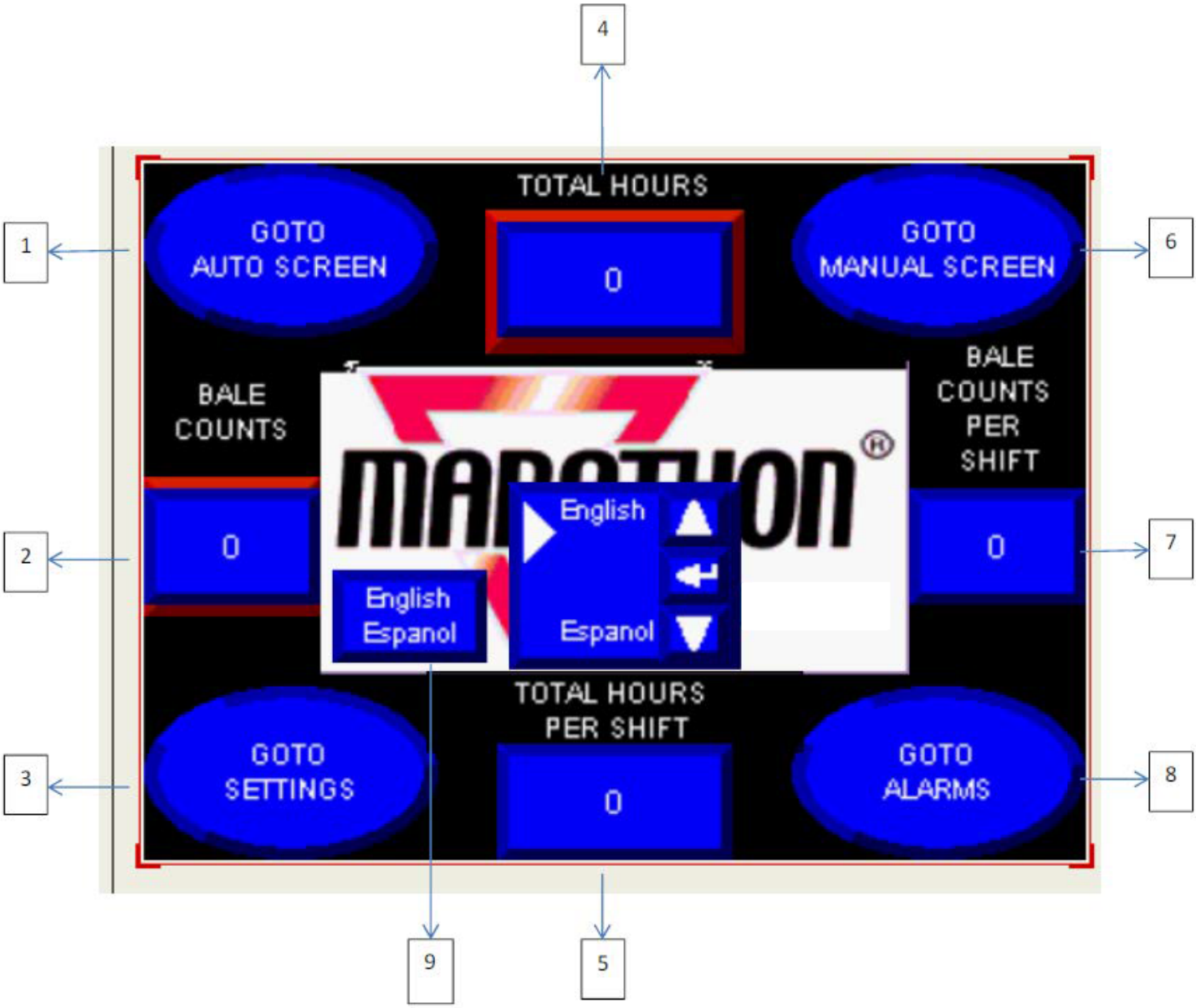
SIDE EJECT HORIZONTAL BALERS MANUAL

FOR TOUCH SCREEN CONTROLS

FOR MODEL NUMBERS

SE-504230-950A SE-503042-950A SE-504842-830 SE-504242-830 SE-503042-830 SE-503042-720

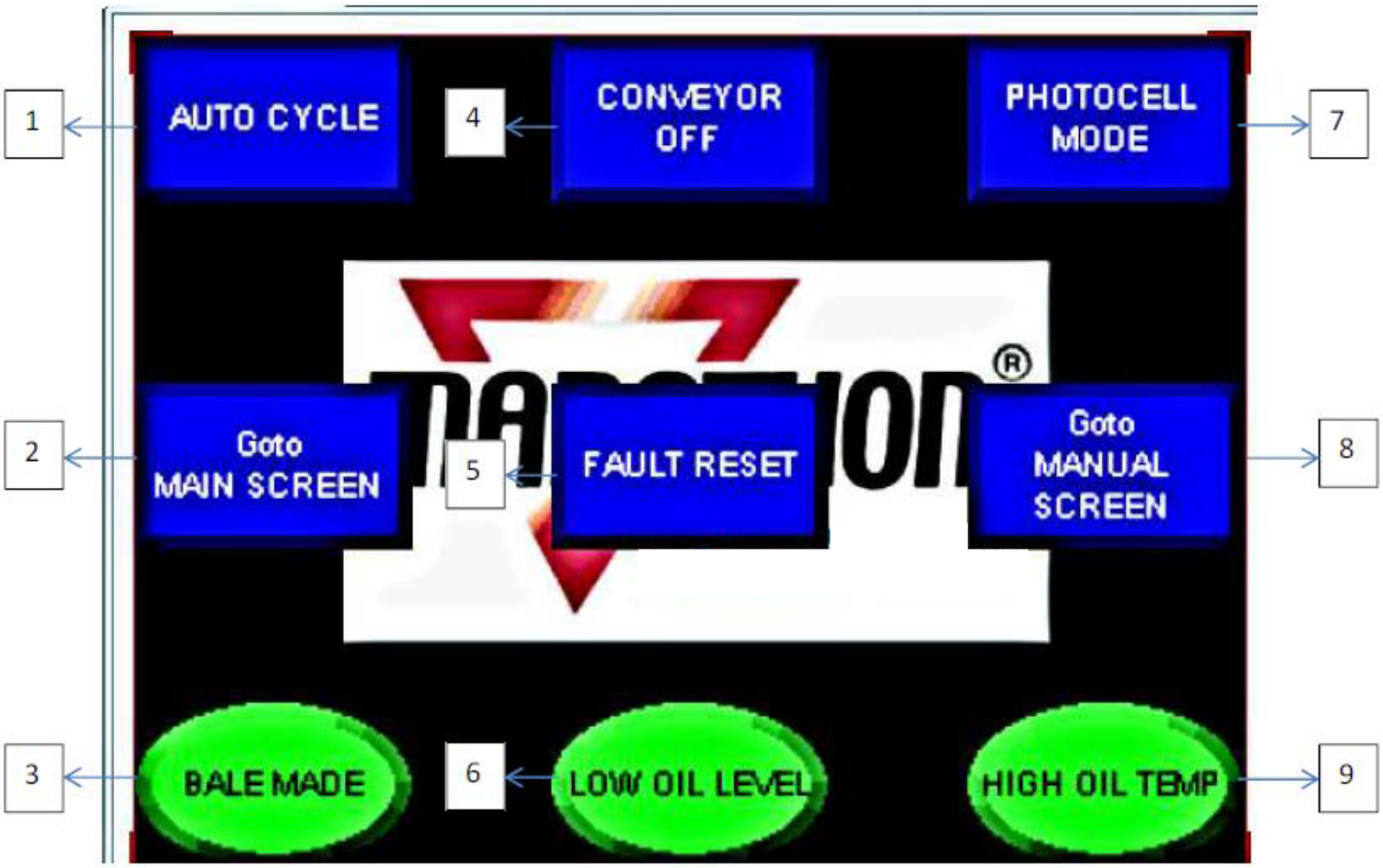
MAIN SCREEN



MAIN SCREEN (CONTINUED)

1. **GOTO AUTO SCREEN.** Touching Goto Auto Screen will take you to the screen for automatic control. Refer to Automatic Screen page 34 for details.
2. **BALE COUNTS.** The Bale Counts display shows the overall number of bales produced by the baler. It cannot be reset.
3. **GOTO SETTINGS**. Touching Goto Settings will take you to the settings screen where adjustments to how the baler operates can be made. Refer to Settings Screen page 38 for details.
4. **TOTAL HOURS.** The Total Hours display shows the overall number of hours the main motor and pump have run. It cannot be rest.
5. **TOTAL HOURS PER SHIFT.** The Total Hours Per Shift display shows the number of hours the main motor and pump have run during a specific period of time or shift. It can be reset from the settings screen.
6. **GOTO MANUAL SCREEN.** Touching the Goto Manual Screen will take you to the screen for manual control. Refer to Manual Screen page 36 for details.
7. **BALE COUNTS PER SHIFT.** The Bale Counts Per Shift display shows the total number of bales made during a certain period of time or shift. It can be reset from the settings screen.
8. **GOTO ALARMS.** Touching Goto Alarms will take you to the alarm screen. Refer to Alarm Screen page 40 for details.
9. **LANGUAGE SELECTOR.** Touching this button will cause the Language Selection box to appear. Use the up arrow to choose English and the down arrow to choose Spanish. Use the enter button to enter the selected language. There will be a couple second delay before the language changes on the screen. The selection box will stay on the screen for 5 seconds before hiding in the back ground again.

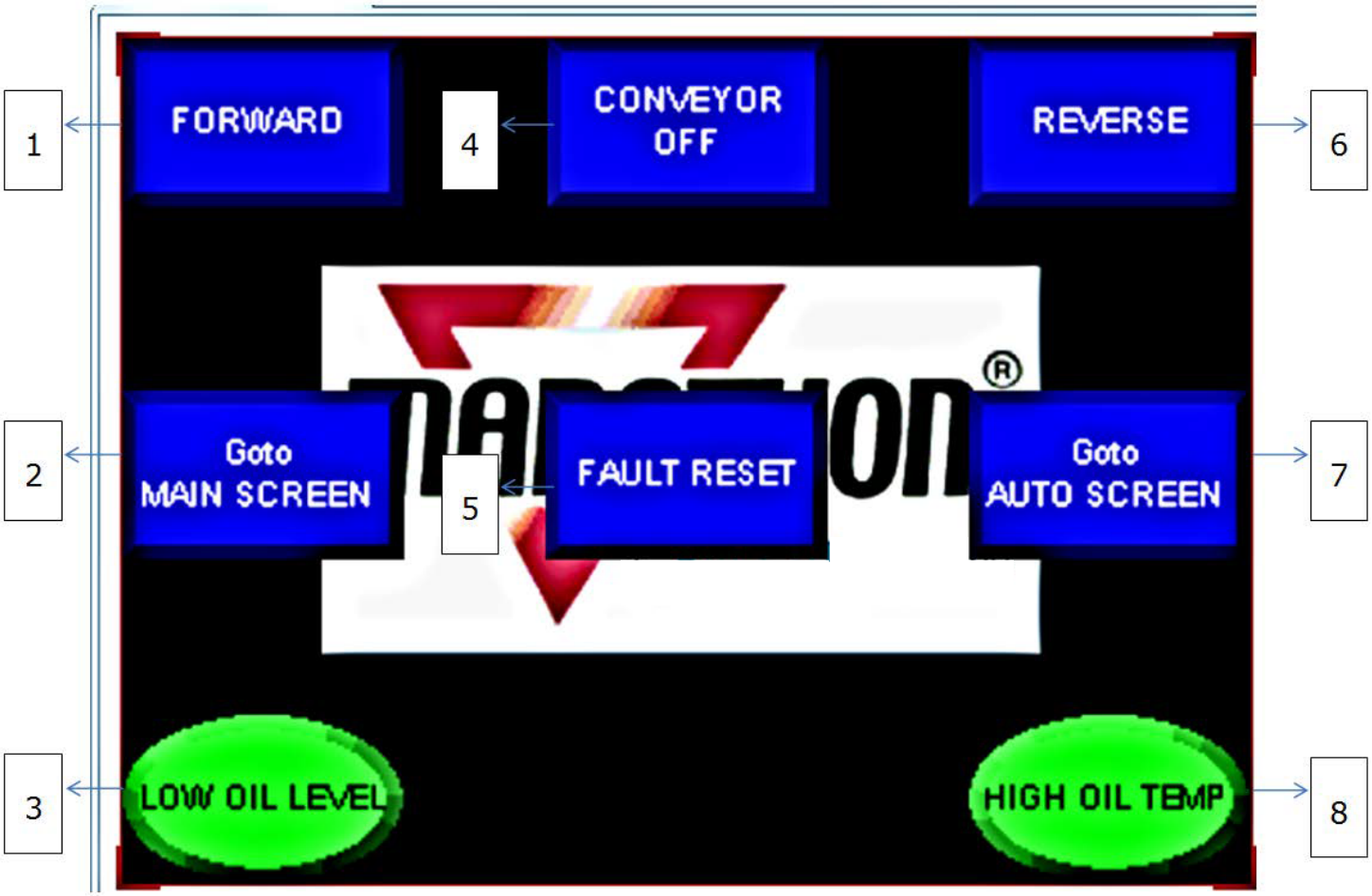
AUTOMATIC SCREEN



AUTOMATIC SCREEN (CONTINUED)

1. **AUTO CYCLE**. Touching Auto Cycle will start the baler and cause the baler to make one complete cycle and return to the rear limit switch.
2. **Goto MAIN SCREEN**. Touching Goto Main Screen will take you to the main start up screen.
3. **BALE MADE**. When the baler reaches the bale made pressure setting the Bale Made indicator will illuminate red and will be accompanied by a warning horn. When a bale is made the baler will cease operation. Follow the procedures for bale tie off and removal.
4. **CONVEYOR OFF/ON/AUTO**. Touching Conveyor Off/On/Auto will change the setting for the conveyor control. The image will also change to indicate what state the conveyor control is set to.
5. **FAULT RESET**. If a fault should occur the Fault Reset button will flash red and the image will change to read PUSH TO RESET FAULT. Touching Fault Reset will reset the fault. If the fault condition has not been corrected the fault condition will return.
6. **LOW OIL LEVEL**. If your baler is equipped with the Oil Management Package the Low Oil Level indicator will be visible on the screen. When the oil level in the hydraulic reservoir is at normal levels the indicator will illuminate green. If the oil level should drop below normal levels the indicator will illuminate red and will be accompanied by a warning horn. The baler operation will cease. Once the hydraulic oil level has been returned to normal levels the Low Oil Level alarm can be reset and baler operation may be resumed.
7. **PHOTOCELL MODE**. Touching Photocell Mode will allow the baler to cycle anytime the material level in the charge chamber blocks the photocell beam. The baler will cycle until the material level falls below the level of the photocell. The baler must be running and the ram must be fully retracted before it can be placed into photocell mode. The photocell delay setting and photocell watchdog timer setting can be adjusted from the settings screen.
8. **Goto MANUAL SCREEN**. Touching Goto Manual Screen will take you to the screen for manual control.
9. **HIGH OIL TEMP**. If your baler is equipped with the Oil Management Package the High Oil Temp indicator will be visible on the screen. When the temperature of the oil in the hydraulic reservoir is at normal levels the indicator will illuminate green. If the oil temperature should rise above normal levels the indicator will illuminate red and will be accompanied by a warning horn. The baler operation will cease. Once the hydraulic oil temperature has been returned to normal levels the High Oil Temp alarm can be reset and baler operation may be resumed.

MANUAL SCREEN



MANUAL SCREEN (CONTINUED)

1. **FORWARD**. Touching Forward will start the baler and cause the main ram to move forward. As long as the Forward button is held the ram will extend until it reaches the end of the cylinders stroke.
2. **Goto MAIN SCREEN**. Touching Goto Main Screen will take you to the main start up screen 32.
3. **LOW OIL LEVEL**. If your baler is equipped with the Oil Management Package the Low Oil Level indicator will be visible on the screen. When the oil level in the hydraulic reservoir

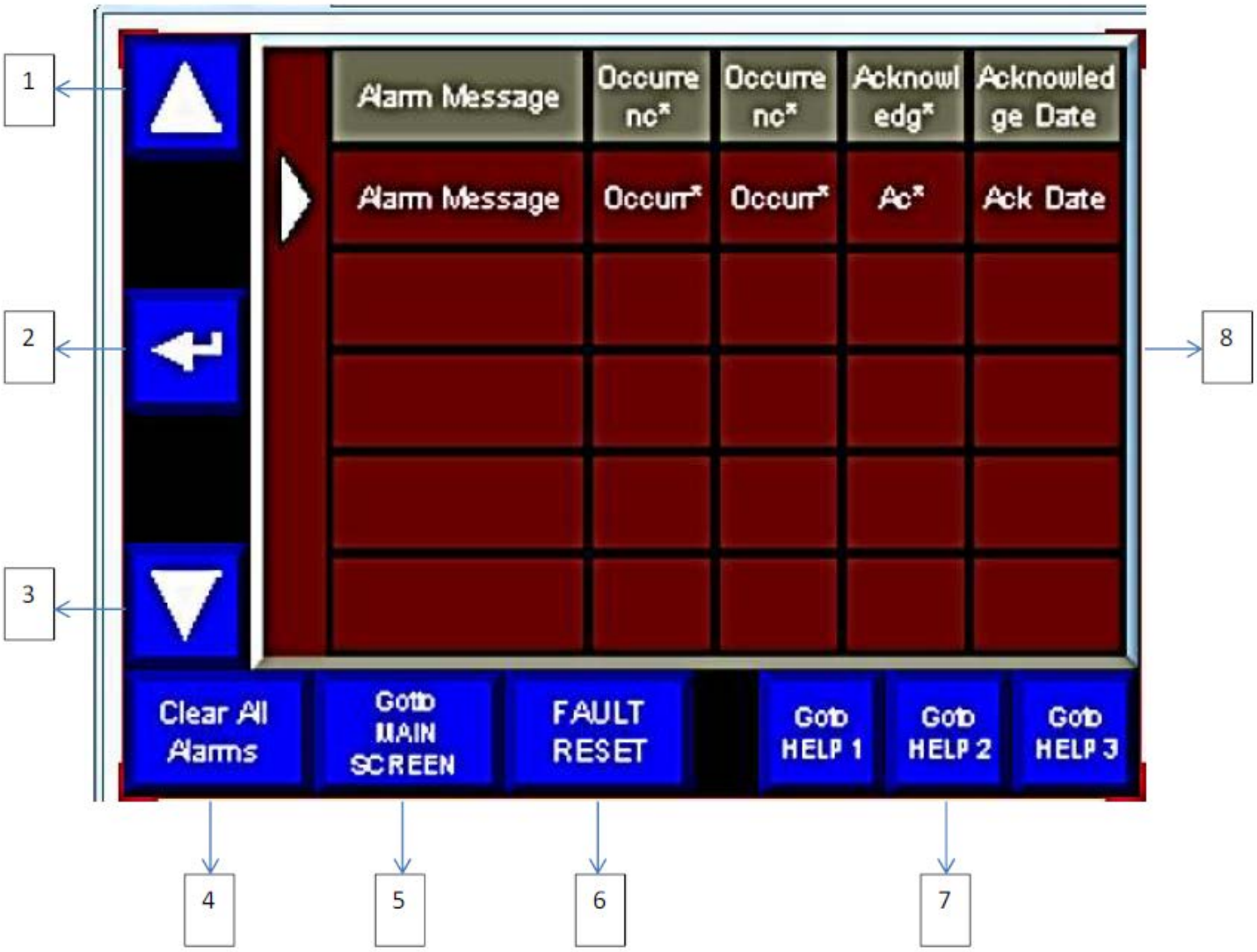
   is at normal levels the indicator will illuminate green. If the oil level should drop below normal levels the indicator will illuminate red and will be accompanied by a warning horn. The baler operation will cease. Once the hydraulic oil level has been returned to normal levels the Low Oil Level alarm can be reset and baler operation may be resumed.
4. **CONVEYOR OFF/ON/AUTO**. Touching Conveyor Off/On/Auto will change the setting for the conveyor control. The image will also change to indicate what state the conveyor control is set to.
5. **FAULT RESET**. If a fault should occur the Fault Reset button will flash red and the image will change to read PUSH TO RESET FAULT. Touching Fault Reset will reset the fault. If the fault condition has not been corrected the fault condition will return.
6. **REVERSE**. Touching Reverse will start the baler and cause the ram to retract. As long as the Reverse button is held the ram will retract until it reaches the rear limit switch.
7. **Goto AUTOMATIC SCREEN**. Touching Goto Automatic Screen take you to the screen for automatic control 34.
8. **HIGH OIL TEMP**. If your baler is equipped with the Oil Management Package the High Oil Temp indicator will be visible on the screen. When temperature of the oil in the hydraulic reservoir is at normal levels the indicator will illuminate green. If the oil temperature should rise above normal levels the indicator will illuminate red and will be accompanied by a warning horn. The baler operation will cease. Once the hydraulic oil temperature has been returned to normal levels the High Oil Temp alarm can be reset and baler operation may be resumed.

SETTINGS SCREEN

SETTINGS SCREEN (CONTINUED)

1. **SLEEP TIMER SETTING**. The sleep timer is a function that will shut the main motor down if the baler sits idle for a specified amount of time. The baler will restart on its own if it is in photocell mode and the photocell is blocked. The sleep timer setting can be adjusted by touching the blue box to the left of the caption. When it is touched a numerical entry display will pop up on the screen. Enter the desired amount of time and touch the enter button. The new value will be entered into the PLC program and will show on the display.
2. **PHOTOCELL DELAY SETTING.** The photocell delay is the amount of time it takes after the photocell is blocked before the machine will cycle. The photocell delay time can be adjusted by touching the blue box to the left of the caption. When it is touched a numerical entry display will pop up on the screen. Enter the desired amount of time and touch the enter button. The new value will be entered into the PLC program and will show on the display.
3. **PHOTOCELL WATCHDOG SETTING**. The photocell watchdog setting is a function that will shut the baler down if the photocell remains blocked for a specified amount of time. If the baler shuts down because of the photocell watchdog function, an alarm will appear on the screen accompanied by a warning horn. The condition must be corrected before the alarm can be reset and cleared. The photocell watchdog time setting can be adjusted by touching the blue box to the left of the caption. When it is touched a numerical entry display will pop up on the screen. Enter the desired amount of time and touch the enter button. The new value will be entered into the PLC program and will show on the display.
4. **UPPER PHOTOCELL DELAY SETTING**. The upper photocell delay setting is a function that is used to control a conveyor if the baler is equipped with one. If your baler is not equipped with an upper photocell this setting will not appear on the screen. The upper photocell delay time setting can be adjusted by touching the blue box to the left of the caption. When it is touched a numerical entry display will pop up on the screen. Enter the desired amount of time and touch the enter button. The new value will be entered into the PLC program and will show on the display.
5. **BALE DENSITY**. The bale density control is used to change the bale made pressure setting form a high pressure setting to a low pressure setting. This controls how densely compressed the bale is before the bale made indicator is triggered. To adjust the bale density setting, simply touch the button. It will toggle between Bale Density High and Bale Density Low. If your baler is not equipped with this option it will not appear on the screen.
6. **RESET HOURS PER SHIFT**. To reset the Hours Per Shift display on the Main screen, simply touch the Reset Hours Per Shift button.
7. **Goto MAIN SCREEN**. Touching Goto Main Screen will take you to the main start up screen 32.
8. **Goto ALARM SCREEN**. Touching Goto Alarm Screen will take you to the alarm screen 40.
9. **Goto DIAGNOSTICS SCREEN**. Touching Goto Diagnostics Screen will take you to the diagnostic screen 43.
10. **Goto CONFIGURATION SCREEN**. Touching Goto Configuration Screen will take you to the diagnostic screen 43. A user/password request will pop up on the screen. This screen is used by Marathon Equipment during manufacturing to set the baler up with the correct options and settings. Should there be a reason you need to access this screen please contact Marathon Equipment Company's Service Department at 1-800-633-8974.
11. **RESET BALES PER SHIFT**. To reset the Bales Per Shift display on the Main screen, simply touch the Reset Bales Per Shift button.

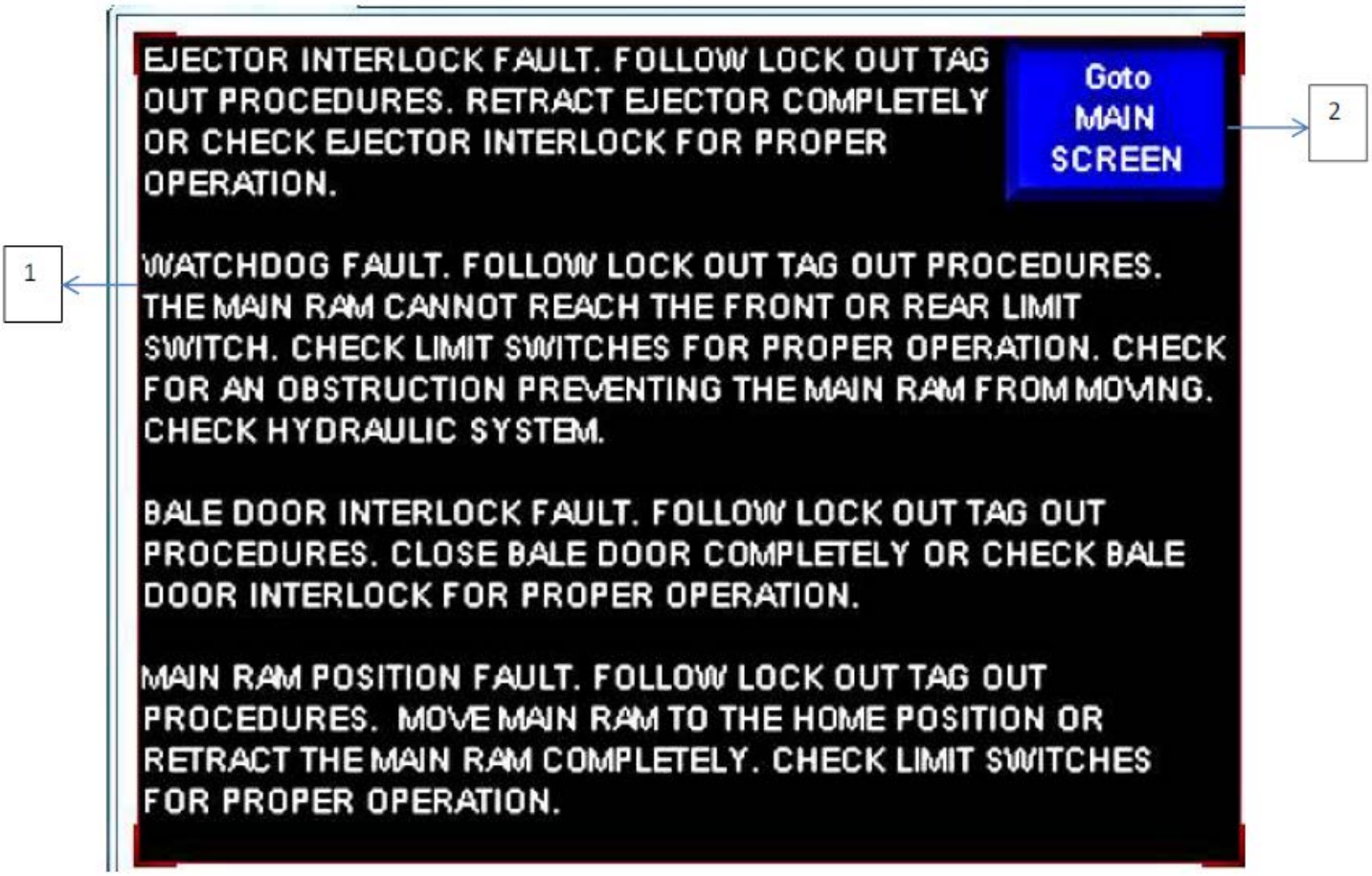
ALARM SCREEN



ALARM SCREEN (CONTINUED)

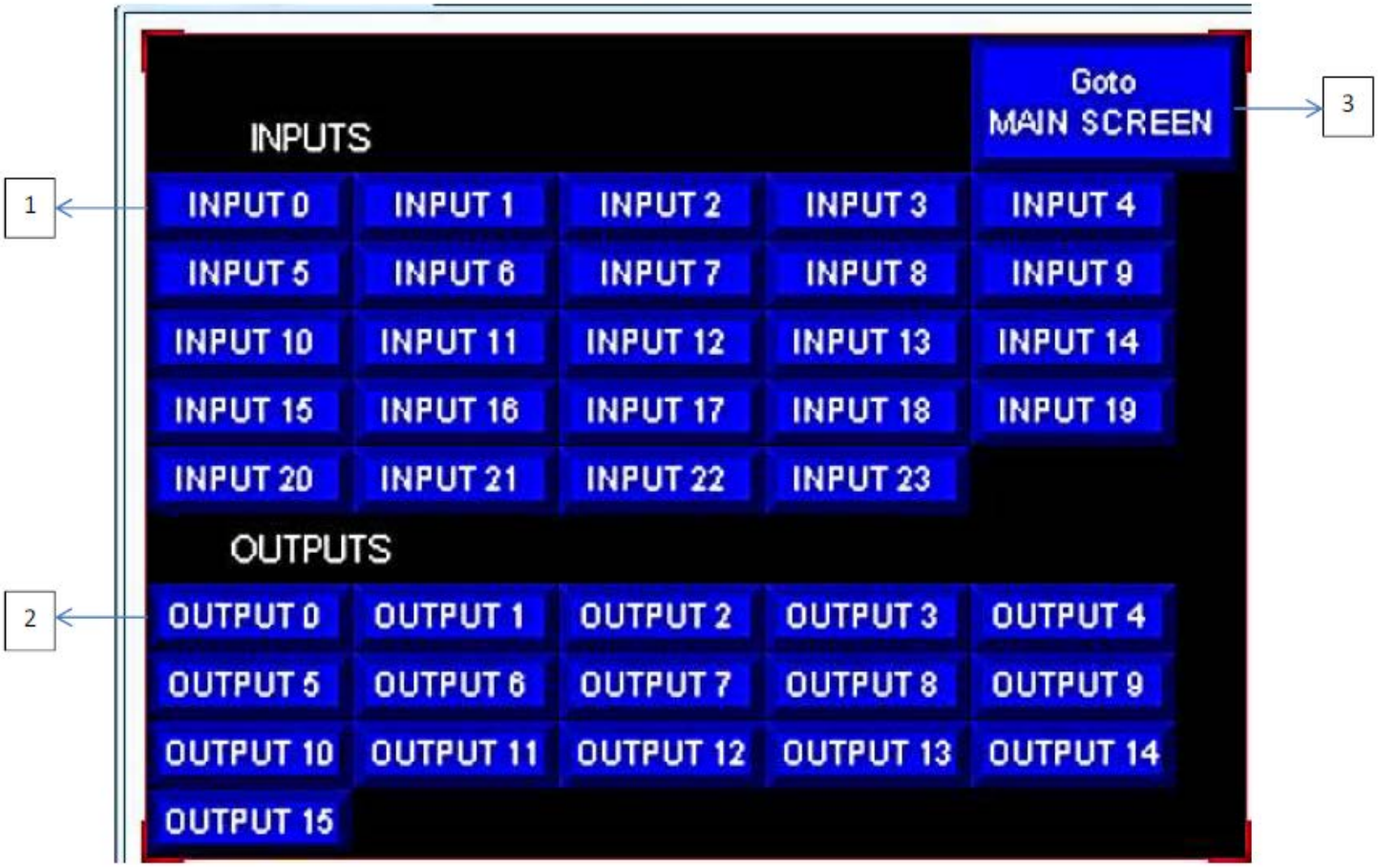
1. **SCROLL UP.** The scroll up button allows you to scroll to the top of the alarm log.
2. **ENTER BUTTON.** The enter button can be used to acknowledge alarms on the log.
3. **SCROLL DOWN.** The scroll down button allows you to scroll to the bottom of the alarm log.
4. **CLEAR ALL ALARMS.** The clear all alarms button will clear all alarms from the alarm log when touched.
5. **Goto MAIN SCREEN.** Touching Goto Main Screen will take you to the main start up screen.
6. **FAULT RESET.** If a fault should occur the Fault Reset button will flash red and the image will change to read PUSH TO RESET FAULT. Touching Fault Reset will reset the fault. If the fault condition has not been corrected the fault condition will return.
7. **Goto HELP 1-2-3.** The Goto Help 1-2-3 buttons will only appear if there is a fault that has not yet been reset. If a help button is present, touching it will take you to a help screen that will display text to direct you to what the possible causes of the fault may be. If you cannot find the cause of the fault or need assistance, please contact Marathon Equipment Company's Service Department at 1-800-633-8974 or contact your local Marathon Equipment distributor.
8. **ALARM LOG DISPLAY.** The alarm log displays alarms or faults in a list organized by time and date of occurrence. Each time an alarm or fault occurs it will appear in the list with an occurrence time and occurrence date. If the fault or alarm has been acknowledged there will also be an acknowledged time and acknowledged date displayed. The alarm log can be used to track the frequency of reoccurring alarms or faults. This can be helpful when trouble shooting problems.

HELP SCREEN 1-2-3



1. **HELP SCREEN DIALOG.** If a fault occurs a help button will appear on the alarm screen. Touching the help button will bring you to the corresponding help screen. On the help screen text will be displayed directing you to things that may be the cause of the fault. In most cases only one text box will appear although on rare occasions more than one may appear or there may be more than one help button available. If you cannot find the cause of the fault or need assistance please contact Marathon Equipment Company's Service Department at 1-800-633-8974 or contact your local Marathon Equipment distributor.
2. **GOTO MAIN SCREEN.** Touching Goto Main Screen will return you to the main startup screen.

DIAGNOSTIC SCREEN



1. **INPUT INDICATOR**. The input indicators show the status of the inputs on the PLC. If an input is on its corresponding indicator will illuminate green.
2. **OUTPUT INDICATOR.** The input indicators show the status of the outputs on the PLC. If an output is on its corresponding indicator will illuminate green.
3. **GOTO MAIN SCREEN.** Touching Goto Main Screen will return you to the main startup screen.

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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**.

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 FOR HORIZONTAL BALERS

⚠ DANGER

Before entering any part of the baler, be sure that all sources of energy have been shut off, all potential hazards have been eliminated, and the baler 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 baler and that the baler 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 baler 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 baler 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 baler down.
5. De-activate the energy isolating device(s) so that baler 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 baler 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 baler, ensure that the baler 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 baler (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.

LOCK-OUT & TAG-OUT INSTRUCTIONS (CONTINUED)

9. Before entering baler perform hazard assessment for confined space requirements (hazardous fumes, dust or other toxic material).

10. The baler is now locked out.

RESTORING SERVICE

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

1. Check the baler and the immediate area around the baler to ensure that nonessential items have been removed and that the baler 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 baler.

NOTICE

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

5. Notify affected employees that the servicing or maintenance is completed and the baler is ready for use.

6. Reassess area to determine all hazards are protected.

PERIODIC MAINTENANCE

⚠ WARNING

ONLY AUTHORIZED AND TRAINED PERSONNEL SHOULD PERFORM THE FOLLOWING PROCEDURES. **LOCK-OUT AND TAG-OUT** 6 THE BALER PER THE INSTRUCTIONS SPECIFIED.

Daily

1. Check for any oil leaks. Keep all hydraulic fittings tight.
2. Check oil level in hydraulic reservoir. Maintain oil level at least to 3/4 full in sight gauge. Do not overfill hydraulic reservoir. Leave room for thermal expansion of hydraulic fluid.
3. Check the oil filter indicator on the oil filter housing (filter/housing is located on top of reservoir at the end of the oil return line). If this indicator shows RED, change filter immediately.

Weekly

1. Clean around power pack and machine to remove operator hazards.
2. Check all interlock switches to ensure proper operation.
3. Clean photocell head.
4. Clean photocell reflector.
5. Grease door hinge.
6. Grease door latch hinge.

Monthly

1. Check all hoses for chaffing, rubbing, or other deterioration and damage.
2. Check for any obvious unsafe conditions in baler area.
3. Check operation of standard controls and options.
4. Check cylinder pins and make sure they are secure.
5. Check ram blade and fixed charge box blade.
6. Check hold down bars above ram.

Three Months

1. Change the return oil filter element in the oil filter housing (filter/housing is located on top of reservoir at the end of the oil return line).

Semi-Annually

1. Send oil sample out for evaluation.
2. Check baler structure for any signs of problems (i.e., cracked welds,bending, etc.).
3. Check all electrical connections.

Annually

1. Change the hydraulic fluid or filter it with a 3 micron filter.
2. Rotate the cylinder rod 180 degrees.
3. Lubricate electric motor bearings.

FILTER PROCEDURES

⚠ WARNING

ONLY AUTHORIZED AND TRAINED PERSONNEL SHOULD PERFORM THE FOLLOWING PROCEDURES. **LOCK-OUT AND TAG-OUT** 6 THE BALER PER THE INSTRUCTIONS SPECIFIED.

Annual Filter Maintenance

1. The hydraulic suction filter(s) should be cleaned at regular annual intervals.
2. On baler models with the 30/75 and 20/50 power unit modules, the two suction strainers may be removed from the power unit by disconnecting the pump suction flanges and pulling the suction lines and strainers through the suction flange openings in the top of the reservoir.
3. 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.
4. Replace the filter(s) after cleaning and check fittings for tightness. 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.

PRESSURE SETTING PROCEDURES

⚠ WARNING

ONLY AUTHORIZED AND TRAINED PERSONNEL SHOULD PERFORM THE FOLLOWING PROCEDURES. **LOCK-OUT AND TAG-OUT** 6 THE BALER PER THE INSTRUCTIONS SPECIFIED.

Ejector Relief Pressure Setting: All Side-Eject Balers

1. **Lock-Out and Tag-Out** the baler per the instructions.
2. Remove the Lock-Out provisions and turn the power on to the baler. Using the EJECT/RETRACT switch on the Ejector Control Panel, run the ejector out and hold.
3. Adjust the relief pressure on CP1 relief valve until the gauge in P3G reads 2500 PSI and tighten the lock nut.
4. **Lock-Out and Tag-Out** the baler per the instructions.
5. Remove the **Lock-Out and Tag-Out** provisions and turn the power on to the baler.

Hydraulic System Pressure Setting: 720 Power Unit (20 hp/ 49 gpm) & 830 Power Unit (30 hp/ 75 gpm)

720 & 830 pressure switch setting = 2300 psi

720 & 830 relief valve setting = 2500 psi

720 & 830 unloading valve setting = 800 psi

950A pressure switch setting=2800

950A relief valve setting=3000

950A unloading valve setting=900

1. **Lock-Out and Tag-Out** the baler per the instructions.
2. Remove the set screw cover from pressure switch 1 circuit 1 and turn the set screw 3 or 4 turns counterclockwise.
3. Remove the Lock-Out provisions and turn the power on to the baler. Turn the FORWARD/REVERSE selector switch to the FORWARD position and hold it. The ram will fully extend and build pressure. Using valve RV2, set the pressure to 800PSI on the pressure gauge installed in port BG.
4. Back the set screw out on valve PS1 3 or 4 turns and then turn it clockwise until you hear the motor pitch change. Tighten the lock nut on PS1.
5. Adjust the relief valve RV2 until the pressure reads 2300PSI for the 720 & 830, and 2800PSI for the 950A.
6. Turn the setscrew on pressure switch 1 circuit 1 clockwise until the input on the PLC for the pressure switch comes on. Refer to the schematic provided with the baler for the correct input. The bale made pressure is now set.
7. Loosen the top on the pressure switch and pull the cover up so that the switch cannot be activated.
8. Adjust the relief pressure using RV2 until the pressure on the gauge reads 2500PSI for the 700 & 830, and 3000PSI for the 950A and tighten the lock nut. The main relief pressure is now set.
9. Replace the cover on the pressure switch.

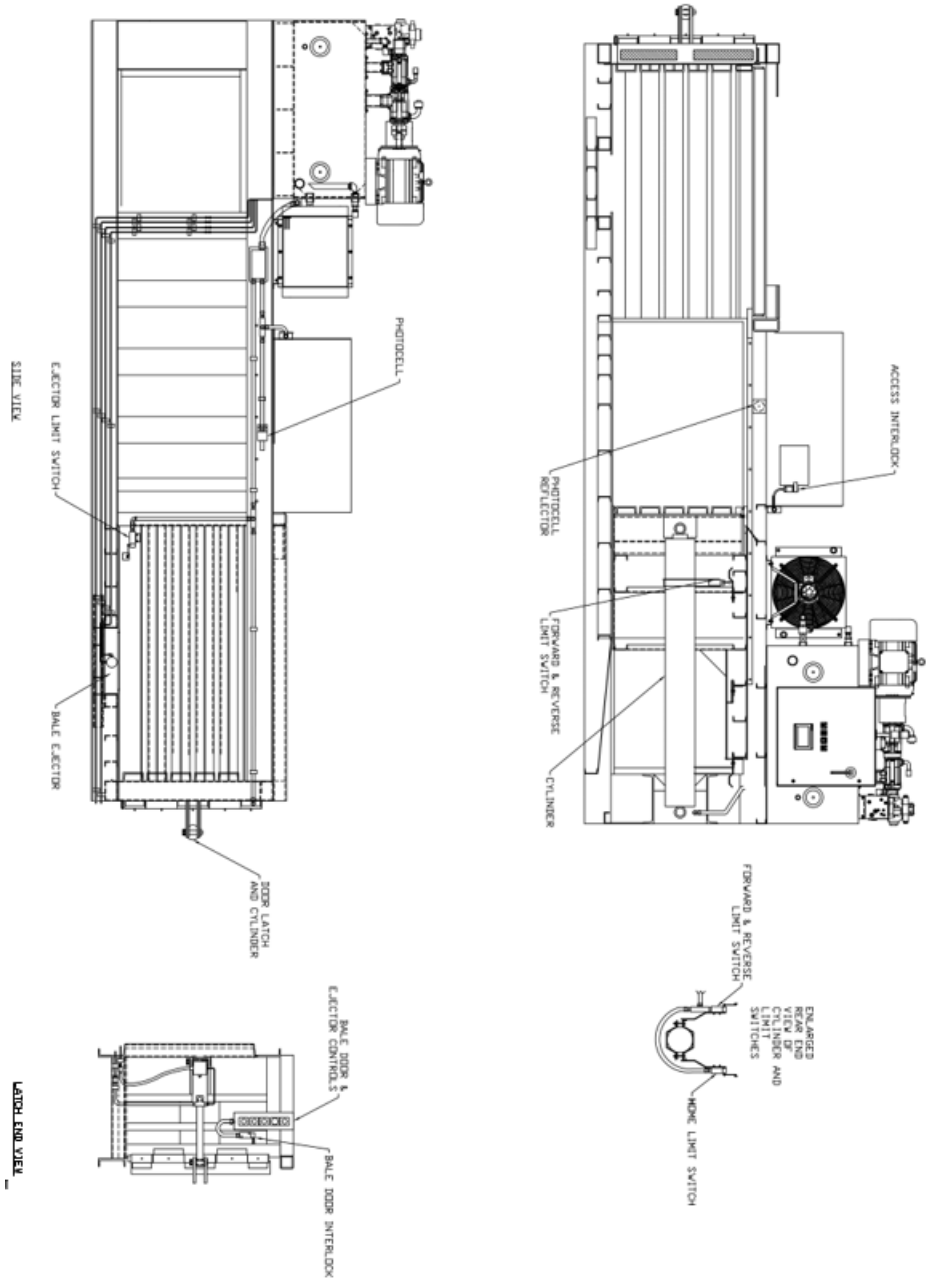
PHOTOCELL, INTERLOCK, & LIMIT SWITCH PROCEDURES

Photocell, Interlock, And Limit Switch Testing

The procedures found on the following pages describe the proper testing of the automated photocell, the interlock, and the limit switches found on the side-eject baler. Only authorized and trained service personnel should perform any testing or repairs to the photocell, interlocks or limit switches. The diagram below shows the location of the photocell, interlocks, and limit switches.

⚠ WARNING

NEVER OVERRIDE THE PHOTOCELL, INTERLOCKS OR LIMIT SWITCHES! TAMPERING WITH THESE ITEMS COULD RESULT IN SERIOUS DAMAGE TO THE BALER, SERIOUS PERSONAL INJURY, OR DEATH!



PHOTOCELL, INTERLOCK, & LIMIT SWITCH PROCEDURES (CONTINUED)

⚠ WARNING

NEVER OVERRIDE THE PHOTOCELL, INTERLOCKS, OR THE LIMIT SWITCHES FOR ANY REASON!

⚠ WARNING

TAMPERING WITH THE PHOTOCELL, INTERLOCKS, OR THE LIMIT SWITCHES COULD RESULT IN SERIOUS DAMAGE TO THE BALER, SERIOUS PERSONAL INJURY, OR DEATH!

⚠ DANGER

NEVER ENTER ANY PART OF THE BALER UNLESS THE DISCONNECT SWITCH HAS BEEN TURNED OFF AND PAD LOCKED PER THE **LOCK-OUT AND TAG-OUT** 6 INSTRUCTIONS. DO NOT MAKE ANY ADJUSTMENT TO THE PHOTOCELL, INTERLOCKS, OR THE LIMIT SWITCHES UNTIL THE DISCONNECT SWITCH HAS BEEN TURNED OFF AND PADLOCKED PER THE LOCK-OUT AND TAG-OUT INSTRUCTIONS.

Photocell Testing

1. Start the baler using the AUTO CYCLE or FORWARD/REVERSE controls. The main ram must be fully retracted and on the rear limit switch before the baler can be placed into photocell mode. Place the baler in photocell mode by touching the PHOTOCELL MODE button on the touch screen (see **Touch Screen Controls** 31). The baler will not cycle until the photocell light beam has been blocked.
2. To test the photocell place something solid (small piece of cardboard or paper) in front of the photocell.

⚠ WARNING

DO NOT ENTER THE BALER OR REACH INSIDE THE HOPPER TO BLOCK THE PHOTOCELL! DOING SO MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH!

3. The baler will react after the photocell delay timer setting is completed and make a complete cycle. The baler will continue to cycle as long as the light beam on the photocell is broken.
4. If the photocell does not perform as specified, **Lock-Out and Tag-Out** 6 the baler and thoroughly clean the photocell lens and the photocell reflector.

⚠ WARNING

IF THE PHOTOCELL IS NOT WORKING PROPERLY, DISCONNECT THE POWER AND **LOCK-OUT AND TAG-OUT** 6 THE BALER UNTIL REPAIRS CAN BE MADE.

Interlock Testing (Feed Hopper Door)

1. This baler is equipped with a keyed safety interlock switch.
2. To check the switch, turn the key switch to the ON position. When the feed hopper door is open, the power on light should not operate. When the feed hopper door is closed, the power on light should operate
3. If further testing is required a volt meter, set to read 120 volts, may be connected to terminal #5 and terminal #7 in the panel box. The meter should read zero volts with the door open and 120 volts with the door closed. Always refer to the schematic supplied with the baler for the correct terminal numbers as these terminal numbers may change.

PHOTOCELL, INTERLOCK, & LIMIT SWITCH PROCEDURES (CONTINUED)

⚠ WARNING

IN NO INSTANCE SHOULD THE BALER OPERATE IN ANY MODE WITH THE HOPPER DOOR OPEN.

⚠ WARNING

IF THE INTERLOCK IS NOT WORKING PROPERLY, DISCONNECT THE POWER AND **LOCK-OUT AND TAG-OUT** 6 THE BALER UNTIL REPAIRS CAN BE MADE.

⚠ WARNING

NEVER OVERRIDE THE PHOTOCELL, INTERLOCKS, OR THE LIMIT SWITCHES FOR ANY REASON!

⚠ WARNING

TAMPERING WITH THE PHOTOCELL, INTERLOCKS, OR THE LIMIT SWITCHES COULD RESULT IN SERIOUS DAMAGE TO THE BALER, SERIOUS PERSONAL INJURY, OR DEATH!

⚠ WARNING

NEVER ENTER ANY PART OF THE BALER UNLESS THE DISCONNECT SWITCH HAS BEEN TURNED OFF AND PAD LOCKED PER THE **LOCK-OUT AND TAG-OUT** 6 INSTRUCTIONS. DO NOT MAKE ANY ADJUSTMENT TO THE PHOTOCELL, INTERLOCKS, OR THE LIMIT SWITCHES UNTIL THE DIS-CONNECT SWITCH HAS BEEN TURNED OFF AND PAD LOCKED PER THE **LOCK-OUT AND TAG-OUT** 6 INSTRUCTIONS.

Push button Interlock Testing & Adjustment (Bale Door)

The baler has one push button interlock that prevents forward movement of the ram when the bale chamber door is open.

To test this interlock, the baler must be empty.

1. Turn the key switch to the "ON" position and depress the "POWER ON" button. Start the baler using the FORWARD/ REVERSE controls and retract the main ram completely. Open the bale door latch and bale door completely using the controls located at the front end of the baler. See **Controls Description - Main, Controls Description - Ejector & Door Latch** 26 and **Touch Screen Controls** 31 of this manual for complete instructions.
2. At the main controls, touch the AUTO CYCLE button on the touch screen. The main ram should not move and an alarm should appear on the touch screen accompanied by an audible alarm. Next, touch the FORWARD button on the touch screen or turn the FORWARD/REVERSE selector switch to the FORWARD position. The same alarm should appear on the touch screen accompanied with the audible alarm. If the main ram moves forward in either attempt shut the baler down and follow the Lock-Out Tag-Out procedures 6. Call Marathon Equipment's field service department for assistance.

Limit Switch Adjustment

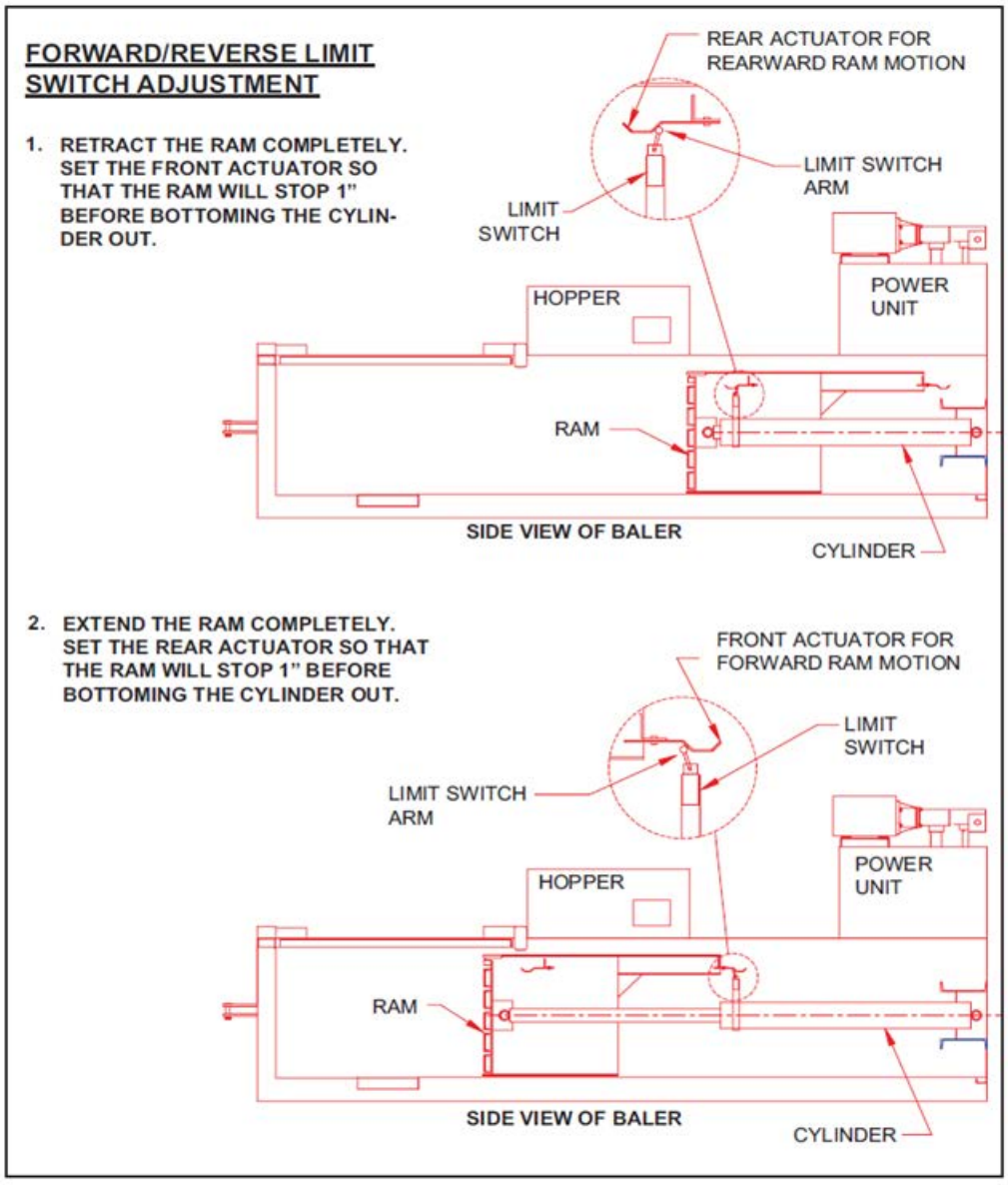
The side-eject baler has three limit switches:

1. Forward/Reverse Limit Switch - This switch signals that the main ram is either fully extended or fully retracted. The switch is located on the left side of the main ram cylinder when viewed from the rear of the baler looking towards the front of the baler and is attached to the main ram cylinder.
2. Home Limit Switch - This switch signals that the main ram is at the HOME position and prevents the ejector from extending unless the main ram is at the HOME position. This switch is located on the right side of the main ram cylinder when viewed from the rear of the baler looking towards the front of the baler and is attached to the main ram cylinder.
3. Ejector Limit Switch - This switch signals that the ejector (server island) is completely retracted and prevents the main ram from extending if the ejector is not completely retracted. This switch is located on the back side of the baler behind the ejector when viewed from the bale chamber door. See next page for directions on adjusting each of these limit switches.

PHOTOCELL, INTERLOCK, & LIMIT SWITCH PROCEDURES (CONTINUED)

⚠ WARNING

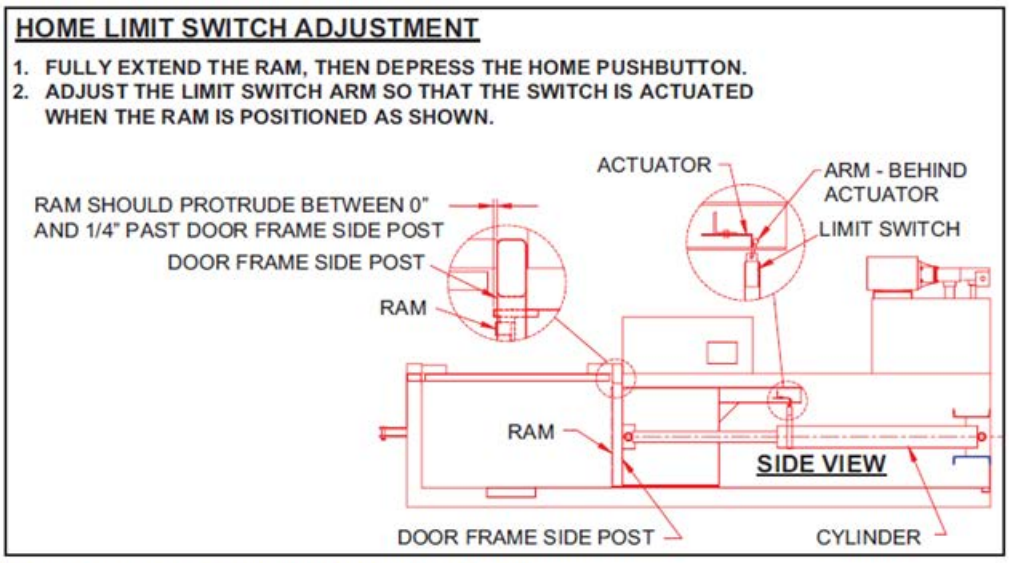
DO NOT MAKE ANY ADJUSTMENT TO THE PHOTOCELL, INTERLOCKS, OR THE LIMIT SWITCHES UNTIL THE DISCONNECT SWITCH HAS BEEN TURNED OFF AND PADLOCKED PER THE **LOCK-OUT AND TAG-OUT** 6 INSTRUCTIONS.

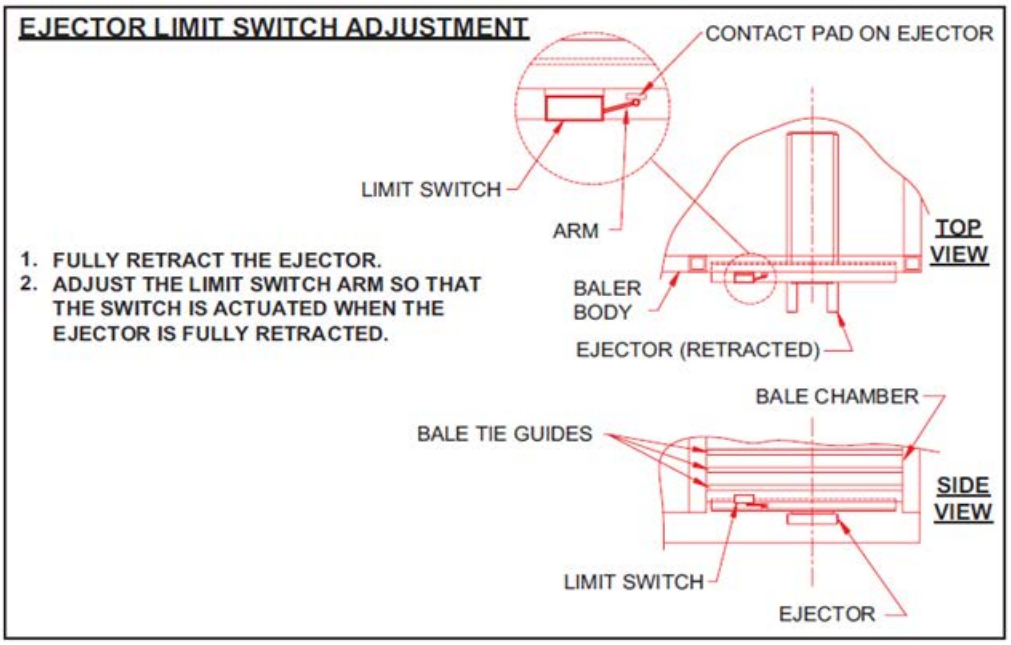


PHOTOCELL, INTERLOCK, & LIMIT SWITCH PROCEDURES (CONTINUED)

⚠ WARNING

DO NOT MAKE ANY ADJUSTMENT TO THE PHOTOCELL, INTERLOCKS, OR THE LIMIT SWITCHES UNTIL THE DISCONNECT SWITCH HAS BEEN TURNED OFF AND PADLOCKED PER THE **LOCK-OUT AND TAG-OUT** 6 INSTRUCTIONS.





HOLD DOWN BAR MAINTENANCE

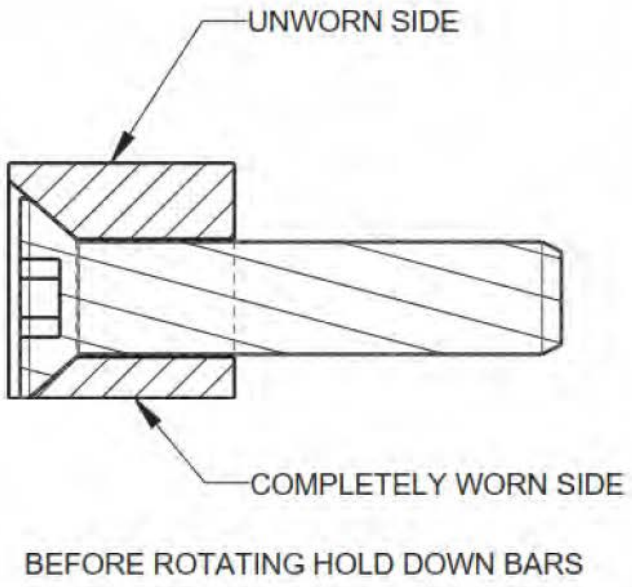
⚠ WARNING

Do not perform any maintenance to the hold down bars until the disconnect switch has been turned off and padlocked per the **Lock-Out and Tag-Out** 6 instructions.

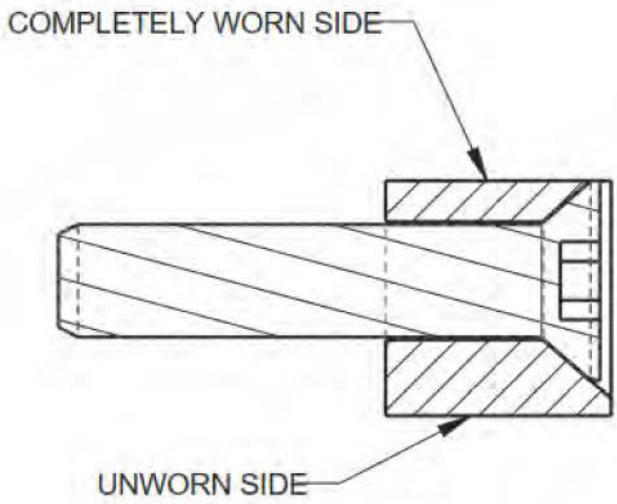
NOTICE

It is critical that the hold down bars are always in contact with the ram top. If a gap develops between the hold down bar and the ram top which exceeds the gap between the shear blades, then the shear blades will collide and cause serious damage to the baler.

The hold down bars need to be inspected to see if the bottom surface contacting the ram top is wearing evenly. If the wear is not even, this usually indicates that the hold down bars are not contacting the ram throughout the ram cycle and need to be adjusted downward to contact the ram throughout the cycle. The hold down bars need to also be inspected to see if the wear has reached the bolt heads.



BEFORE ROTATING HOLD DOWN BARS



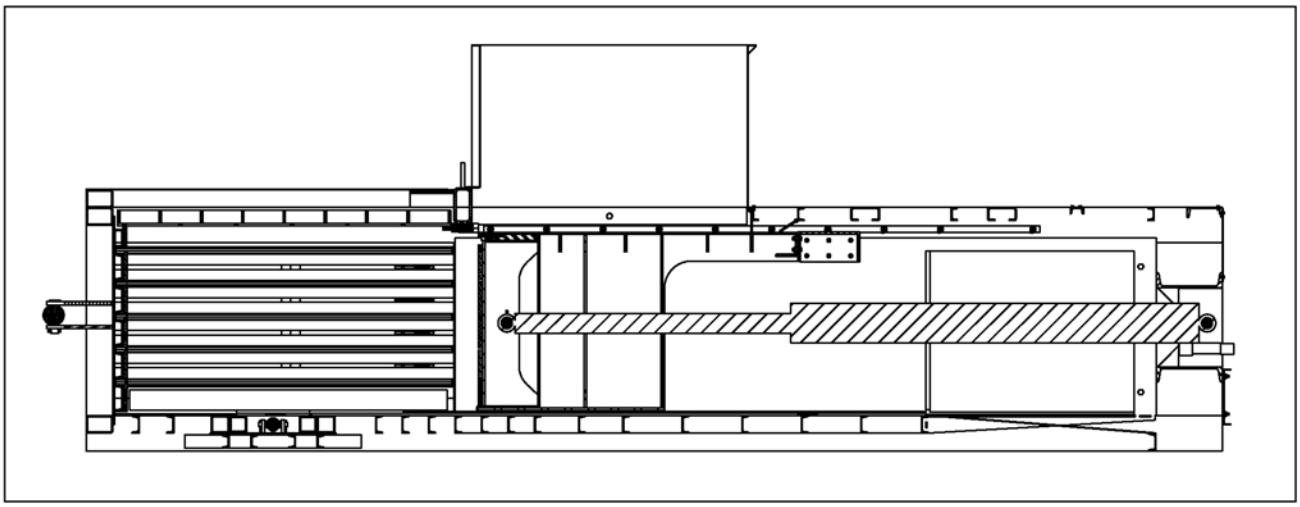
AFTER ROTATING HOLD DOWN BARS

HOLD DOWN BAR MAINTENANCE (CONTINUED)

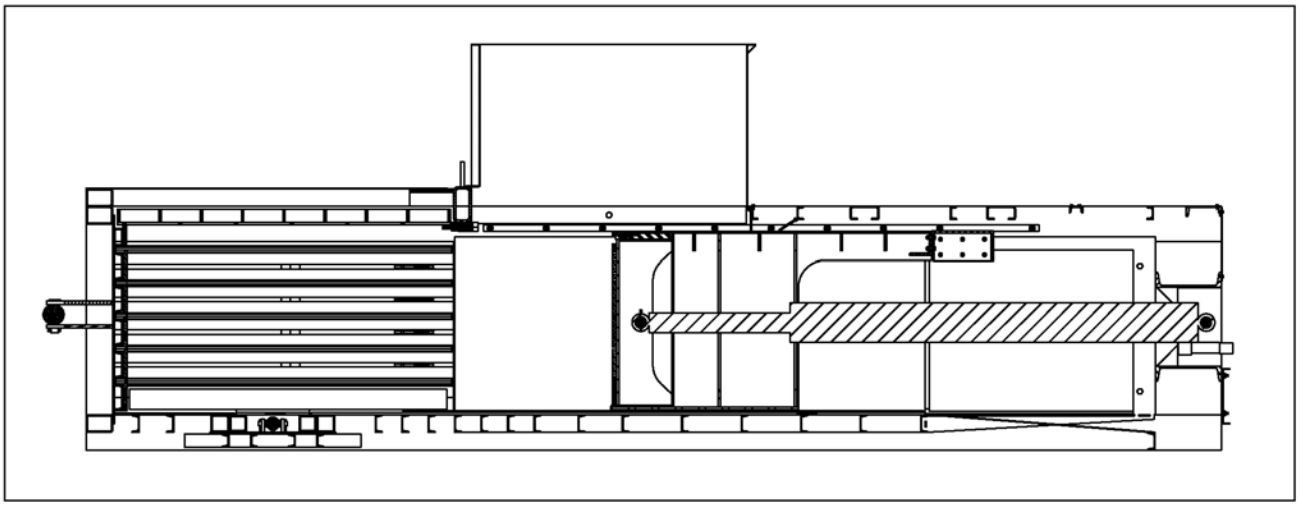
Hold Down Bar Adjustment

To adjust the hold down bars:

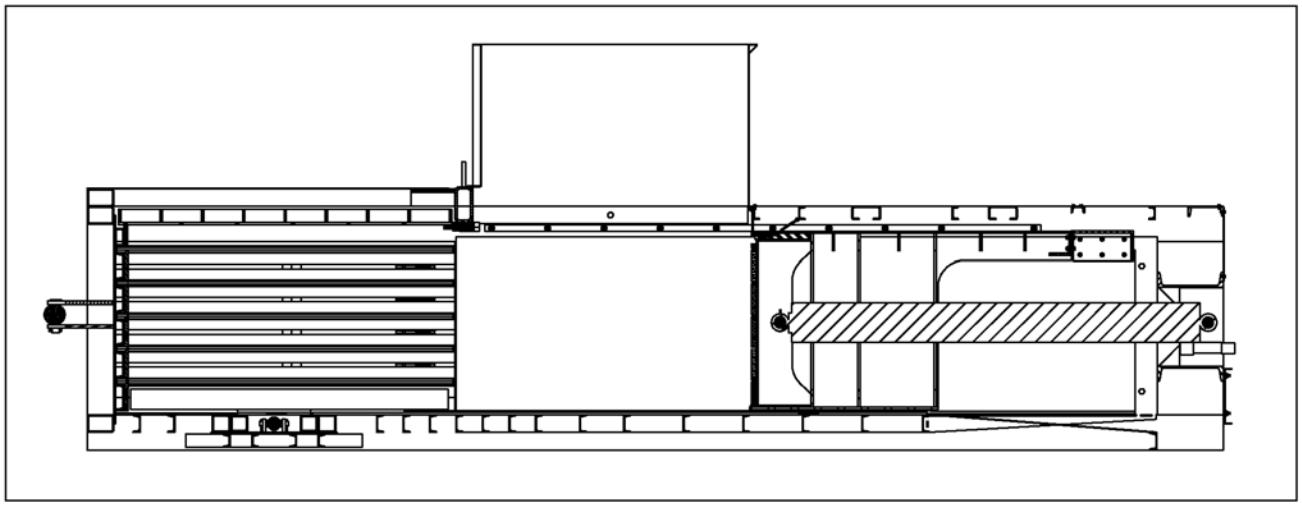
1. Move the ram to position 1 (see diagram below), then Lock-Out the baler per the Lock-Out and Tag-Out instructions 6.
2. Loosen all of the bolts and nuts on each bar. Place a .005” shim between the ram shear blade and the hold down bar. Press the bar down against the shim and tighten the front hold down bolt.
3. Restore power to the machine and move the ram to position 2. After the ram is in position 2, Lock-Out per the Lock-Out and Tag-Out instructions 6.
4. Place a .005” shim between the ram shear blade and the hold down bar. Press the bar down against the shim and tighten the hold down bolt above ram shear blade. Tighten all bolts between position 1 and position 2.
5. Restore power to the machine and move the ram to position 3. After the ram is in position 3, Lock-Out per the Lock-Out and Tag-Out instructions 6.
6. Place a .005” shim between the ram shear blade and the hold down bar. Press the bar down against the shim and tighten the hold down bolt above ram shear blade. Tighten all bolts remaining bolts.
7. Ensure all bolts are torqued to 150 ft/lbs.
8. Restore power to the baler and cycle the ram. The ram should not bind during cycling. If binding occurs restart the hold down bar adjustment process.



Position 1
Ram extended to the body shear blade.



Position 2
Ram at center of charge box



Position 3
Ram in full retracted position

SHEAR BLADE MAINTENANCE

⚠ WARNING

Do not perform any maintenance to the ram blade or the body blade until the disconnect switch has been turned off and padlocked per the **Lock-Out and Tag-Out** 6 instructions.

Sharpening of Shear Blades

There are two shear blades on the side eject baler: The “fixed” body shear blade and the Ram shear blade, which moves with the ram. The shear blades in the baler must have the proper cutting edge and shear gap to assure optimum cutting of the baled materials. When the blade cutting edge becomes worn, rounded, or nicked, the blade needs to be sharpened.

Each edge of the Ram shear blade can be used as a cutting edge. As one edge comes dull, remove the countersunk-head screws in the top of the blade and flip the blade over. When all four edges are dull, the blade can be sharpened using a standard shop grinder.

NOTICE

The ram should be positioned about midway of the charge box when servicing this blade and the hold down bars will need to be loosened before removing the Ram shear blade.

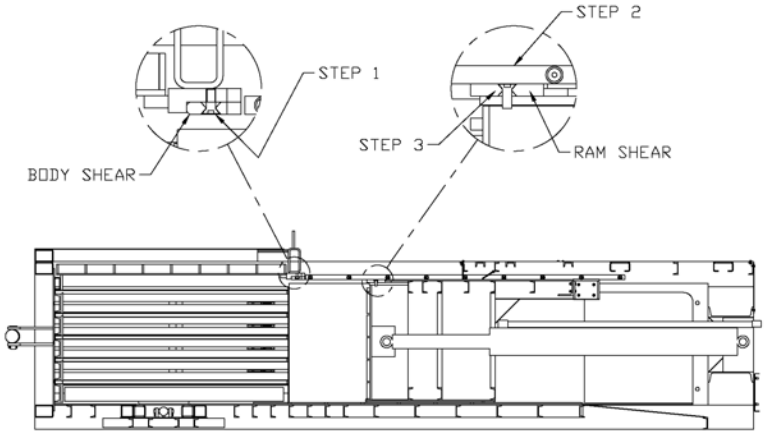
The Body shear blade can be sharpened with a hand-held shop grinder. Care should be taken to maintain the same angles on this blade as originally provided. In sharpening either blade, remove only the least amount of material required to sharpen the edge.

When replacing blades, torque all shear blade bolts to 290 ft-lbs, lubricated.

STEP 1 - The body shear can be removed for sharpening or sharpened with a hand-held grinder. Blade cannot be rotated. Torque shear bolts to 290 ft-lbs, lubricated.

STEP 2 - Before removing the ram shear, the hold down bars on each side of the body will need to be raised. Loosen all bolts on each bar. When the blade has been replaced, the hold down bars must be pressed down onto the ram top and all of the bolts torqued to 150 ft-lbs, lubricated. See **Hold down Bar Maintenance** 57 for more information on hold down adjustment.

STEP 3 - The ram shear can be rotated so that either of the 4 cutting edges can be used. The blade can also be sharpened while it is still mounted using a hand-held grinder. Torque shear blade bolts to 290 ft-lbs, lubricated



SECTIONAL SIDE-VIEW OF BALER

SHEAR BLADE MAINTENANCE (CONTINUED)

Checking the Shear Blade Gap

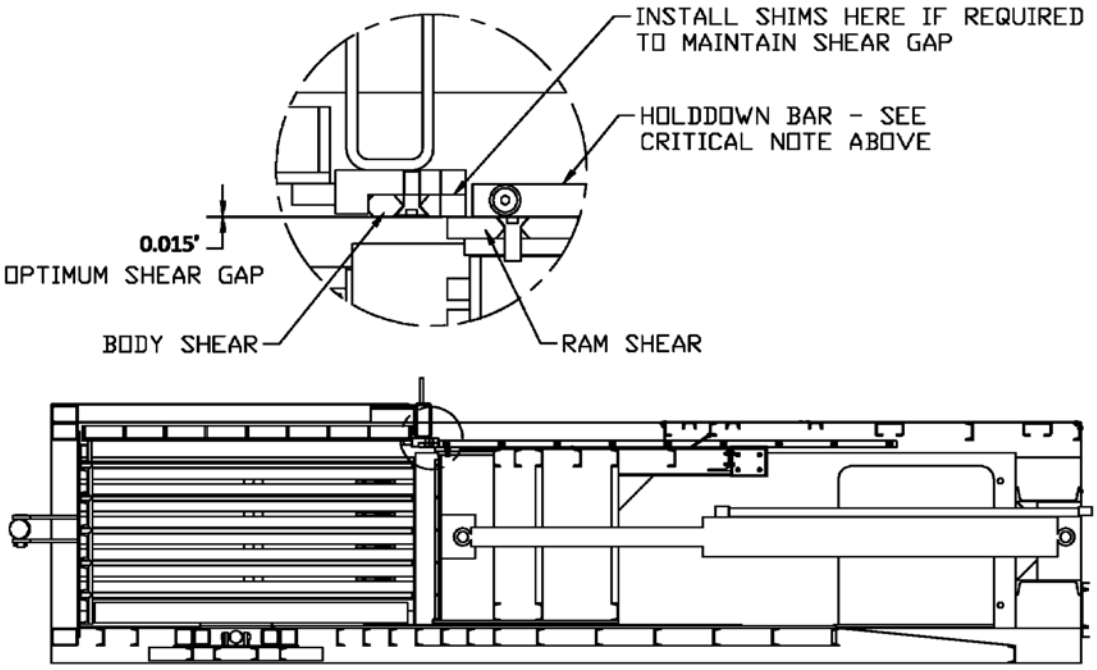
Over time, it is normal for the floor liner in the baler and the floor liner on the ram to wear so that a gap develops between the blades. Some materials will shear with a gap between the blades and some will not. The optimum shear gap for many materials is 0.015" (see diagram below) measured with a feeler gauge and the ram positioned 2” – 4” past the cutting edge of the body shear blade.

Adjusting the Shear Blade Gap

Shim kits are available from the factory for shimming the body blade downward so that the shear gap can be maintained. Shim stock can also be obtained from automotive supply stores. The shims must completely cover the entire area of the blade top surface. After installing shims, torque the body blade shear bolts to 290 ft-lbs, lubricated.

NOTICE

It is critical that the hold down bars are always in contact with the ram top. If a gap develops between the hold down bar and the ram top that exceeds the gap between the shear blades, the shear blades will collide and cause serious damage to the baler.



SECTIONAL SIDE-VIEW OF BALER

PRINCIPLES OF OPERATION

Side-Eject Baler Operating Characteristics

Electrical

The Marathon Side-Eject Horizontal Balers are equipped with a programmable logic controller (PLC). This controller is a computer that monitors inputs, determines what action is needed, and turns on outputs to make the baler function. The PLC is made up of three basic parts: inputs, outputs, and the central processing unit.

All of the inputs and outputs on the horizontal side-eject baler are digital. They are either on or off. They are also all equipped with LED lights to tell the operator if an input is on or off.

The central processing unit (CPU) is the brain of the PLC. The CPU takes the information supplied by the input devices and decides when to open and close the output contacts. In the event that a problem should arise in the CPU or its program, the CPU FAULT light will be illuminated. The baler cannot run until the fault has been cleared. To clear the fault, turn off the power and wait 60 seconds. Then turn the power back on. If the fault light remains on, call the service department at Marathon Equipment Co. If the fault light goes out and the RUN light is illuminated, the baler will run properly.

The sequence of operation which the baler should follow is stored electrically as a program in an E-PROMM memory module that plugs into the front of the PLC. If the CPU loses power, the program may be lost. For this reason, the CPU has a battery backup. The battery should be replaced once a year and is available from Marathon. If the LOW BATTERY light is illuminated, change the battery as soon as possible to avoid memory loss.

The baler can be started by depressing one of the function buttons (AUTO CYCLE, FORWARD, REVERSE, or HOME) for twenty seconds, or the PHOTOCELL button momentarily. After twenty seconds, the PLC will start the motor.

Once the motor is running, the machine can be cycled by pushing any of the function buttons. The functions are described below.

Autocycle

The baler may be started with this button by depressing and holding the button for twenty seconds. During this time, the warning buzzer will sound and the flashing light will be flashing. This button will automatically cycle the baler. The forward solenoid on the hydraulic control valve will be energized and will direct the fluid to the base end of the cylinder, causing the ram to move forward until the limit switch is actuated in the clockwise direction energizing its input on the PLC (lighting the indicator for its input). This input will cause the reverse solenoid to be energized and direct the hydraulic fluid to the rod end of the cylinder, causing the ram to reverse. The ram will reverse until the limit switch is actuated in the counter-clockwise direction energizing its input on the PLC (lighting the indicator for its input). The ram will stop and wait in this position. The motor will continue to run and the baler will be ready for another cycle.

Forward

Touching the FORWARD button on the touch screen tells the PLC to turn on the output for the forward solenoid (SV1A), extending the ram. The ram will stop as soon as the FORWARD button is released. If the FORWARD button is depressed while the unit is not running, the warning buzzer and flashing light will be energized for twenty seconds and the baler will start.

Reverse

Touching the REVERSE button on the touch screen tells the PLC to turn on the output for the reverse solenoid (SV1B), retracting the ram. The ram will stop as soon as the REVERSE button is released. If the REVERSE button is depressed while the unit is not running, the warning buzzer and flashing light will be energized for twenty seconds and the baler will start.

PRINCIPLES OF OPERATION (CONTINUED)

Photocell On

The baler can automatically make a bale in the photocell mode of operation. To initiate the photocell mode, start the baler and touch the PHOTOCELL MODE button on the touch screen. This will activate the logic in the program, telling the PLC that the photocell is active. Once the baler power unit is running, the baler will wait for the photocell to be blocked. When the material fills the hopper and breaks the photocell light beam, the photocell will activate its input, telling the PLC that the photocell is blocked. After the photocell delay time has elapsed, the PLC will initiate a cycle. This sequence will repeat until a bale is made.

Bale Made Light

When a bale is made, pressure switch 1 (PS1) will close, energizing its input. When the pressure switch input is energized, the PLC will sound the buzzer, turn on the flashing light, and the BALE MADE light will indicate that a bale has been made. The motor will shut off and the ram will remain in the extended position, holding the completed bale in place for tying.

Home

After the bale has been tied, pushing the HOME button will retract the ram until the home limit switch is actuated, turning on its input. This causes the PLC to energize the HOME light indicating that the ram is in the home position.

Hydraulic

Description of hydraulic valves - To allow for a sensible description of the hydraulic system used in the Marathon Side Eject 720 and 830 balers, the following nomenclature has been assigned to the valves in the hydraulic system. Refer to this information when reading the Pressure Setting Procedures, Principals of Operation and using the hydraulic schematic provided with the baler.

SV1A - Controls pilot pressure to shift the D08 valve and extend the main ram.

SV1B - Controls pilot pressure to shift the D08 valve and retract the main ram.

SV2A - Extends the ejector.

SV2B - Retracts the ejector

SV3A - Extends the door latch.

SV3B - Retracts the door latch.

CV1 - Low volume pump check valve.

CV2 - Check valve. Keeps the low volume pump flow from returning to tank.

CV3 - Pilot operated check valve. Opens during main ram retract to allow oil to quickly return to tank.

PS1 - Sequence valve. Opens at 800PSI to unload high volume pump through EV1

EV1 - Unloading valve. Directs flow from high volume pump to tank.

RV2 - Relief valve. Sets system pressure to 2500PSI.

CP1 Relief Valve - Sets pressure for ejector and door latch to 2500PSI.

CP3 Check valve - Pilot operated check valve that prevents door latch cylinder from drifting open.

PSW 1 - Pressure switch 1. Used to sense bale made pressure.

PRINCIPLES OF OPERATION (CONTINUED)

Description of hydraulic valves - To allow for a sensible description of the hydraulic system used in the Marathon Side Eject 950A balers, the following nomenclature has been assigned to the valves in the hydraulic system. Refer to this information when reading the Pressure Setting Procedures, Principals of Operation and using the hydraulic schematic provided with the baler.

SV1- Base to Tank.

SV2- Rod to Tank.

SF2- Base to Pressure.

SF3- Rod to Pressure.

SV4- Decompression.

SF1- Low Volume Pump Unload.

SV5- High Volume Pump Unload.

SV6A- Extends the Ejector.

SV6B- Retracts the Ejector.

SV3A- Extends the Door Latch.

SV3B- Retracts the Door Latch.

CV2- Check Valve. Keeps the Low Volume Pump Flow from returning to Tank.

PS1- Sequence Valve. Opens at 900PSI to Unload High Volume Pump through EV1.

EV1- Unloading Valve. Directs Flow from High Volume Pump to Tank.

RV2- Relief Valve. Sets System Pressure to 3000PSI.

RV3- Relief Valve. Sets Pressure for Ejector and Door to 3000PSI.

CP3- P.O. Check Valve for Door Latch.

PS1 Cir. 1. Used to sense Bale Made Pressure.

PRINCIPLES OF OPERATION (CONTINUED)

HI/LO Pump Operation - All of the side-eject balers are equipped with a HI/LO hydraulic pump system. The purpose of this system is to maximize the efficiency of the baler by providing high flow at low pressures, and then reduce the flow to achieve high pressure for dense bales. This system is active only on the main ram cylinder. The HI/LO system uses two pumps to operate the main cylinder:

SE 830 =	25 GPM	SE 720 =	18 GPM	SE 950A =	32 GPM
	52 GPM		32 GPM		62 GPM

Using the SE 830 as an example, the 25 GPM pump is contributing flow throughout the pressure range from 0-2500 PSI. The larger pump contributes to the system from 0-800 PSI only. When the pressure reaches 800 PSI, sequence valve PS1 will allow unloading valve EV1 to open and allow only the larger pump (52GPM) to flow back into the tank. This allows the system to continue to build pressure with the smaller pump, up to 2500 PSI. Check valve CV2 prevents the 25 GPM pump from going back to tank.

When sequence valve PS1 senses the system pressure has dropped below 800 PSI it will close causing the unloading valve EV1 to close. The low pressure pump (52GPM) will then push check valve CV2 open and its flow will rejoin the system.

See the **Hydraulic Schematics** 73 in this section of the manual.

Side Eject Horizontal Balers
Service

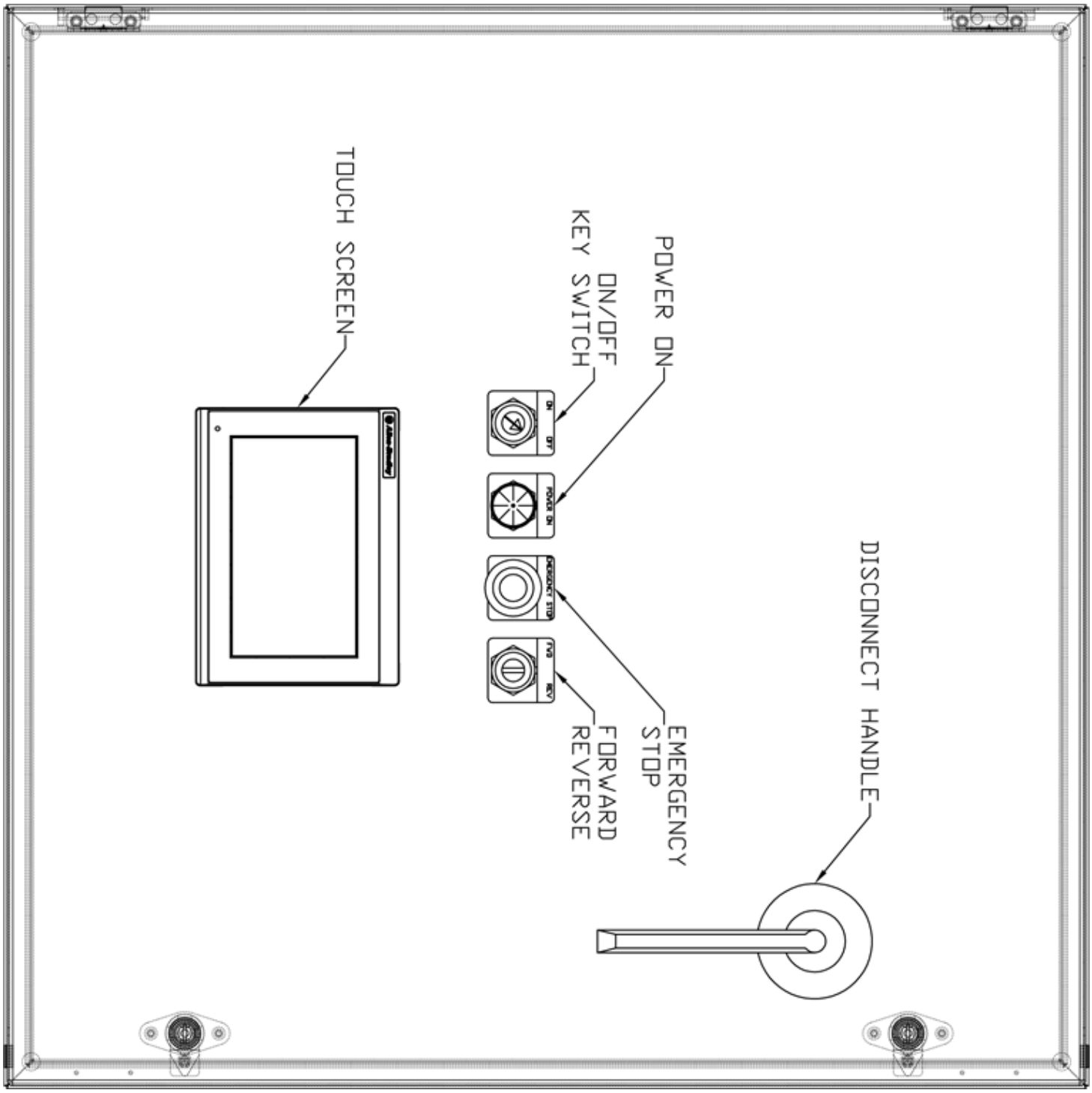
CHARTS

PRESSURE SETTINGS			
MODEL	**HP**	**GPM**	**RELIEF VALVE (psi)**
SE-830	30	75	2500
SE-720	20	50	2500
950A	50	100	3000

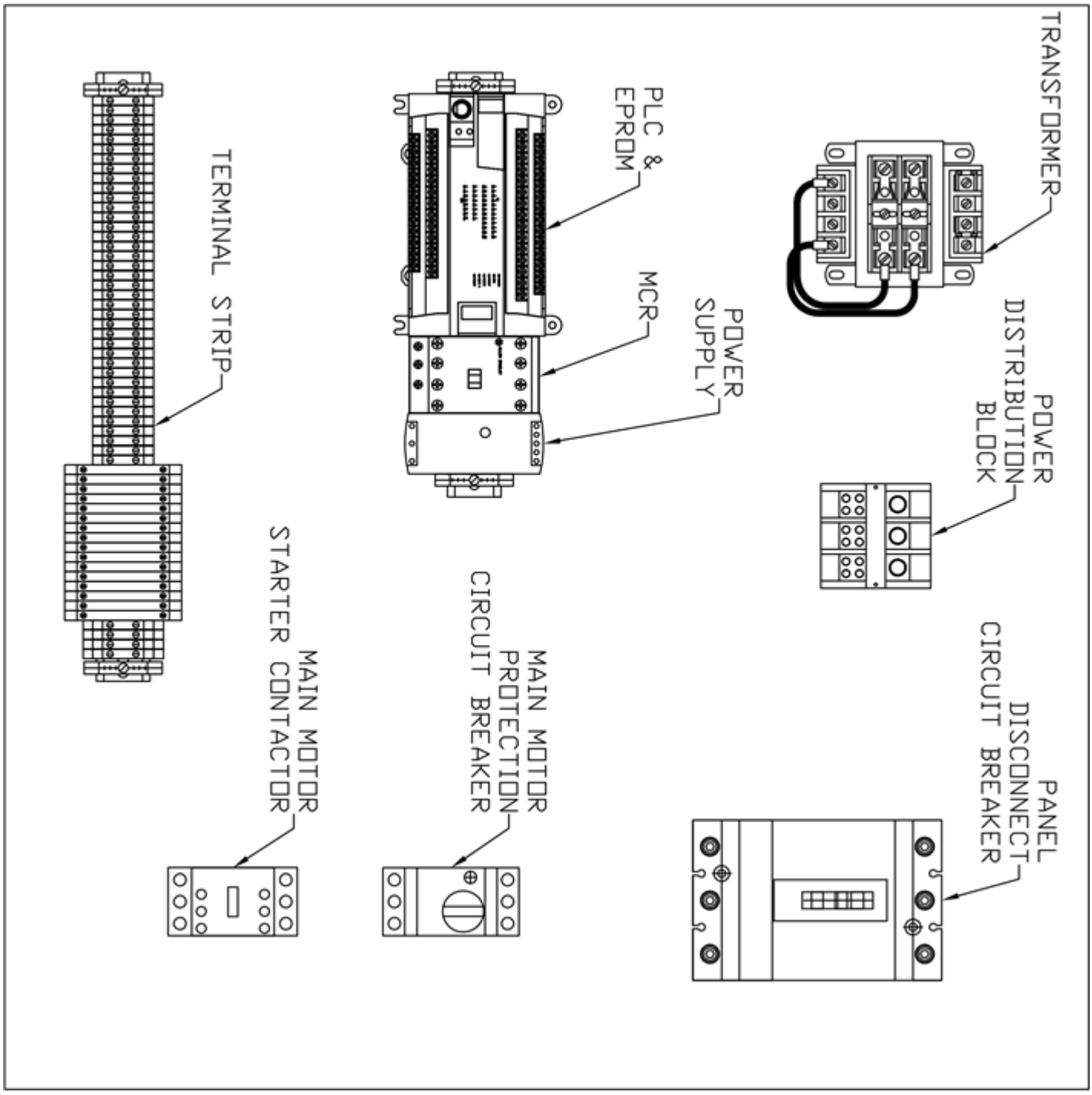
FUSES AND CIRCUIT BREAKERS					
MOTOR SIZE	**VAC**	**FULL LOAD AMP.**	**DUAL ELEMENT FUSE MAX. SIZE**	**CIRCUIT BREAKER MAX. SIZE**	**SERVICE DISCONNECT AMP.**
20 HP, 3 PH	208	59.4	100	125	100
	230	54.0	90	125	100
	460	27.0	45	60	60
30HP, 3PH (Calculation includes 3hp oil cooler motor)	208	88.0	150	225	200
	230	80.0	150	200	200
	460	40.0	70	100	100
50HP, 3PH (Calculation includes 1/2hp oil cooler motor)	208	145.7	250	350	300
	230	132.2	225	300	300
	460	66.1	110	150	200

WIRE SIZES THW Copper 75°C (165°F)				
MOTOR SIZE	**VOLTAGE**	**TO 100'**	**LENGTH TO 200'**	**TO 300'**
20 HP, 3 PH	208	4	3	2
	230	4	3	2
	460	10	8	6
30HP, 3PH (Calculation includes 3hp oil cooler motor)	208	1	1/0	2/0
	230	2	1	1/0
	460	6	6	4
50HP, 3PH (Calculation includes 1/2hp oil cooler motor)	208	3/0	4/0	250
	230	2/0	3/0	4/0
	460	4	3	2

PANEL BOX



PANEL BOX (CONTINUED)

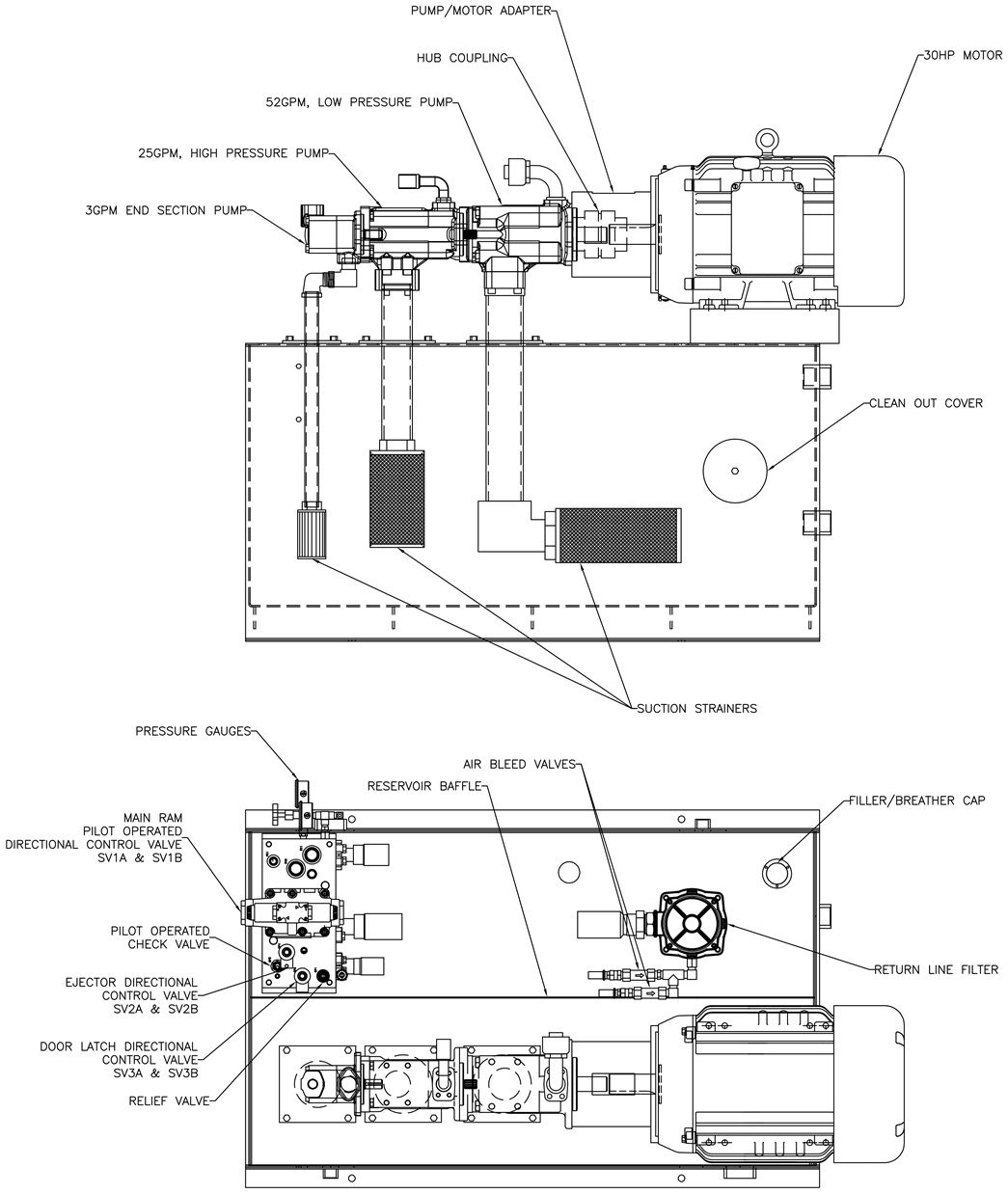


ELECTRICAL SCHEMATIC

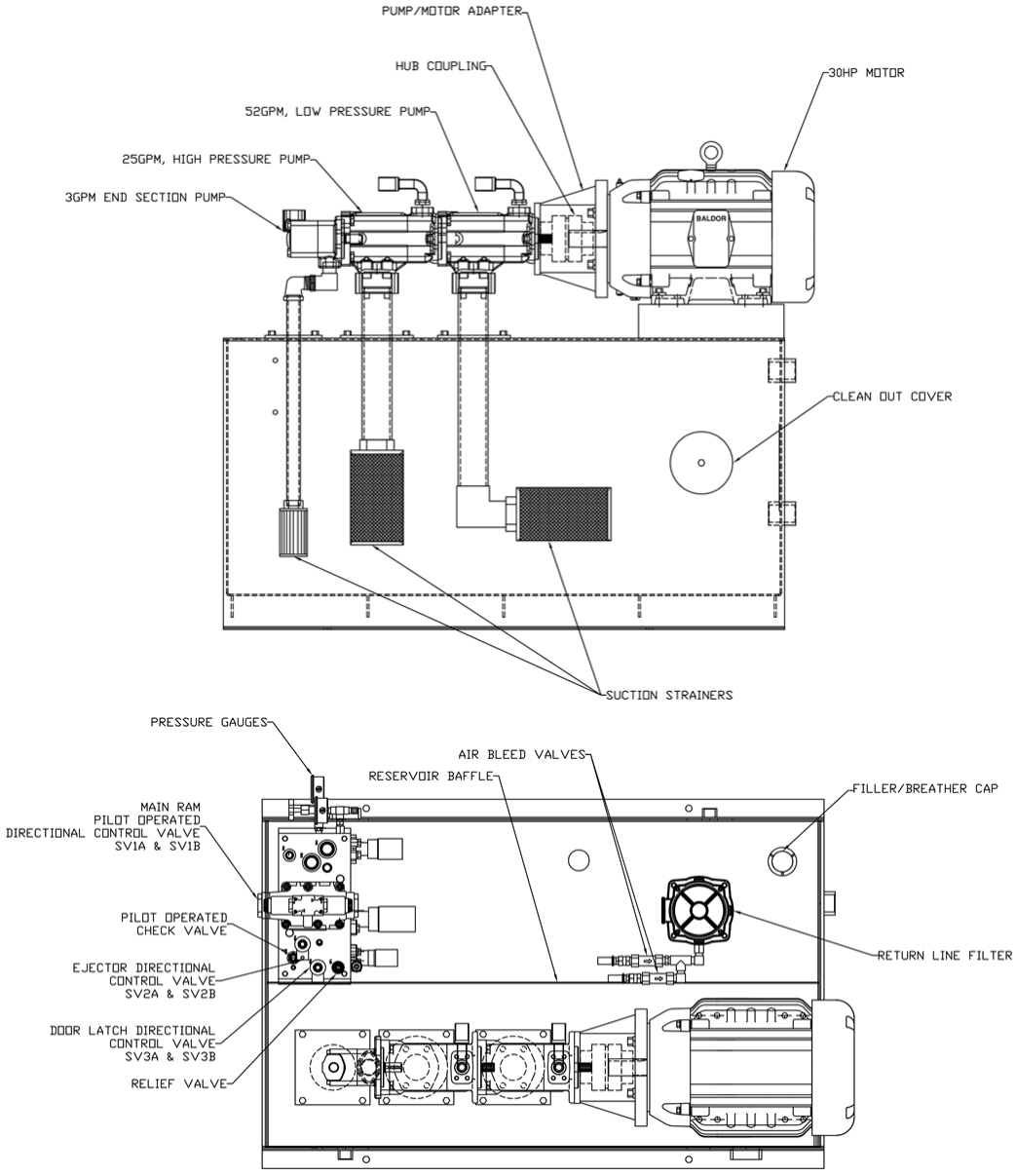
Refer to the electrical schematic shipped with your side-eject baler or contact Marathon Equipment Co. Service Department at 800-633-8974.

POWER UNITS

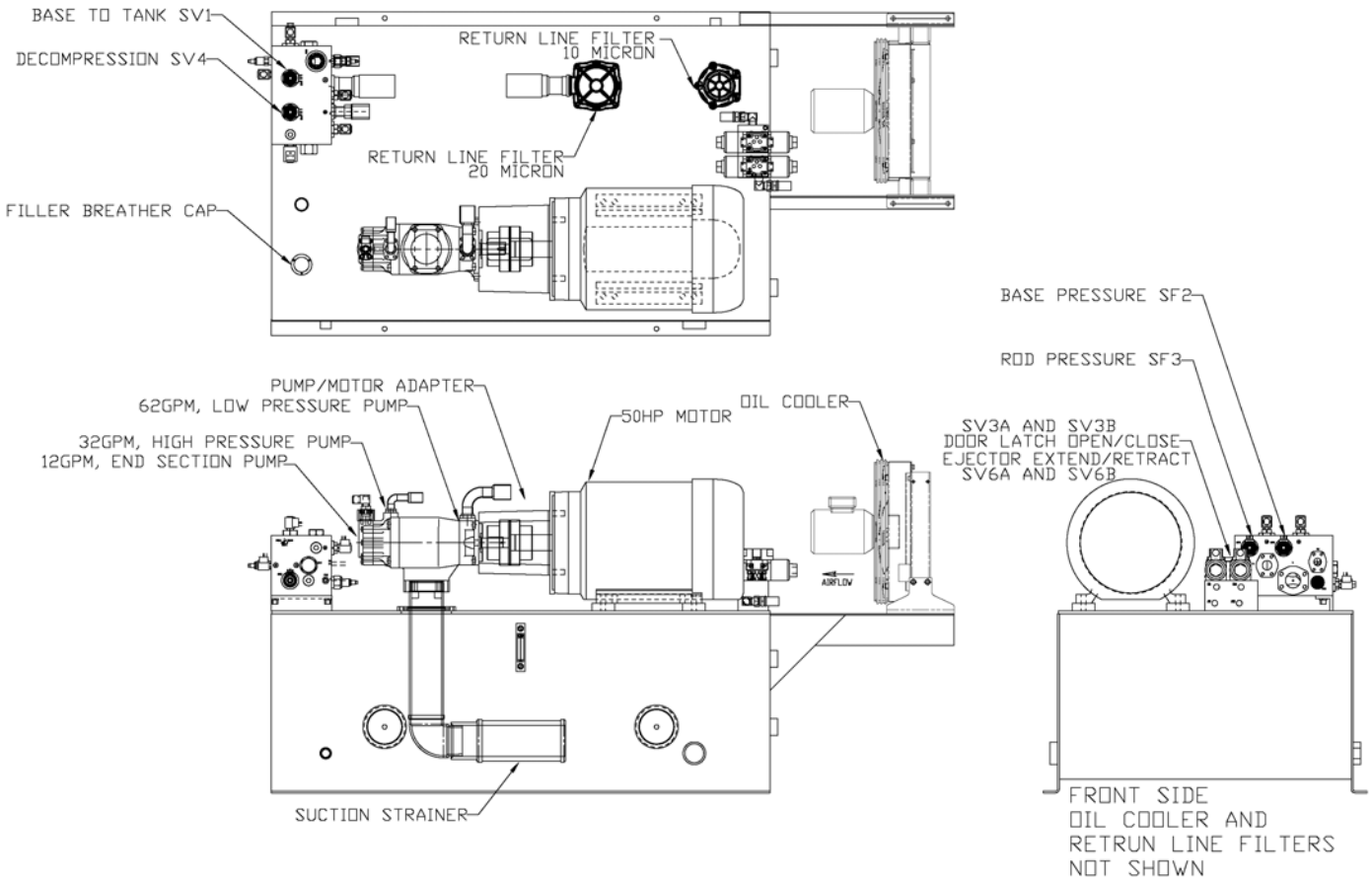
POWER UNIT FOR 830 (30 HP/75 GPM)



POWER UNIT FOR 720 (20 HP/49 GPM)

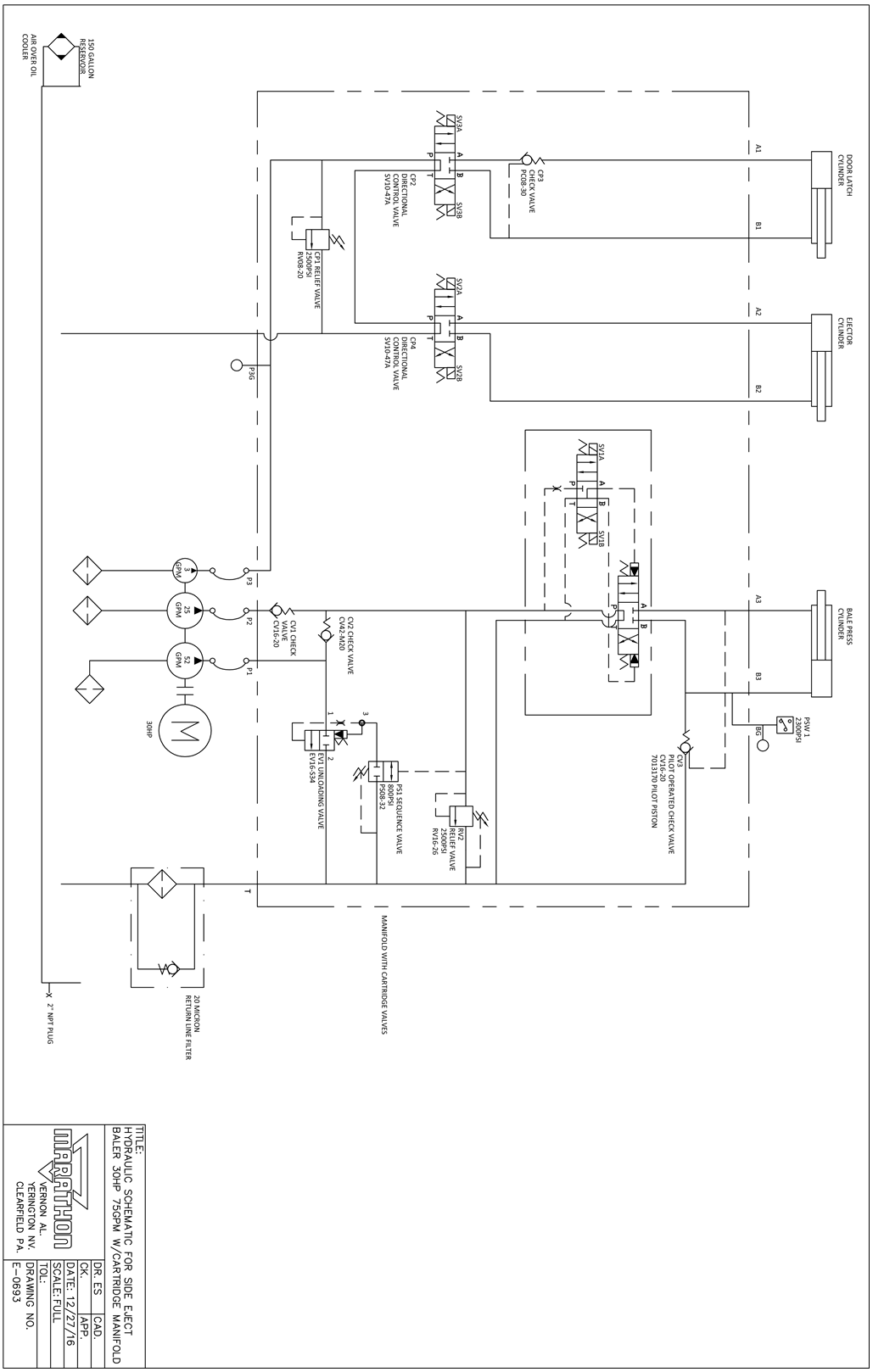


Power Unit for 950A (50 HP/100 GPM

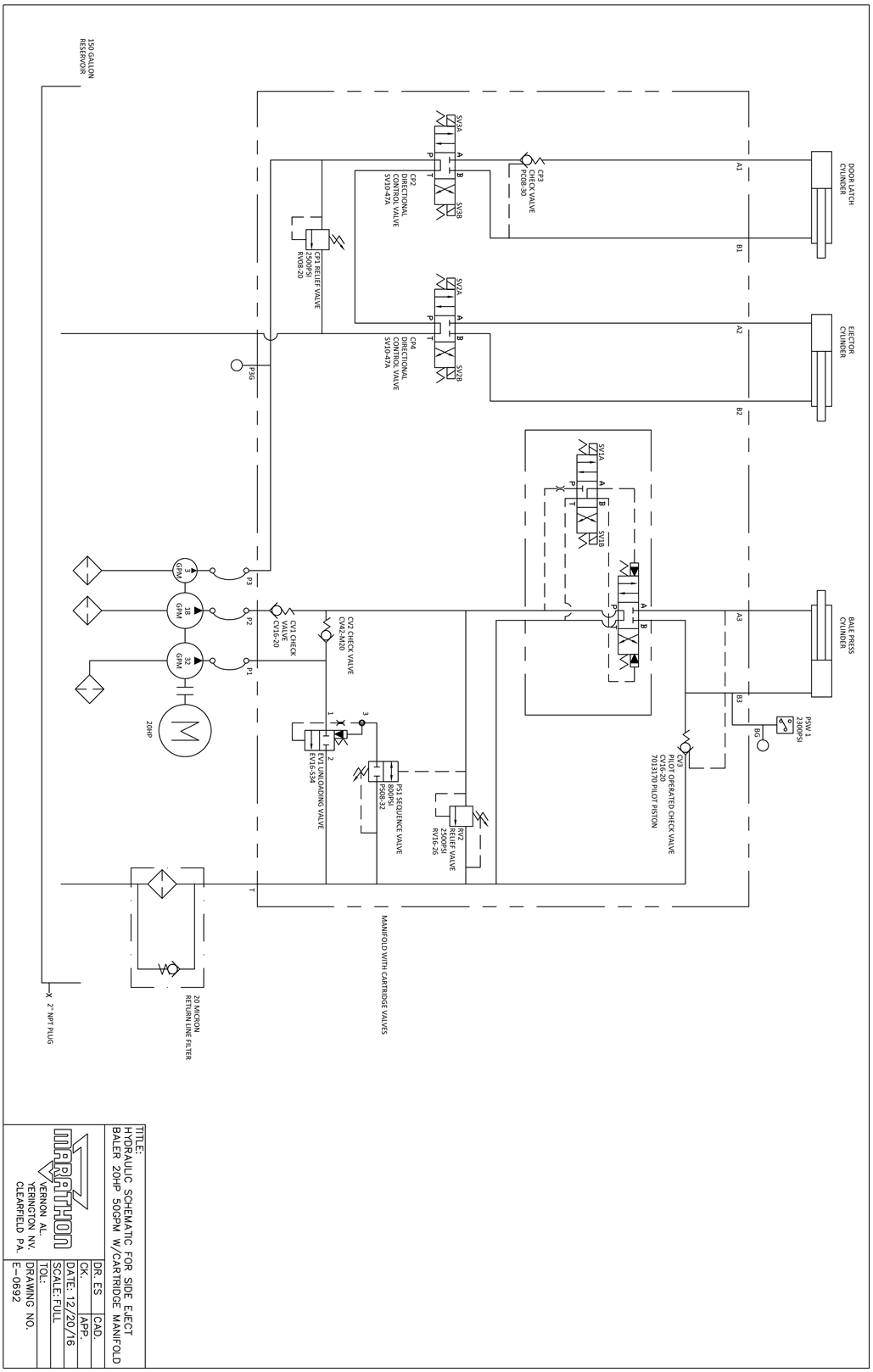


HYDRAULIC SCHEMATICS

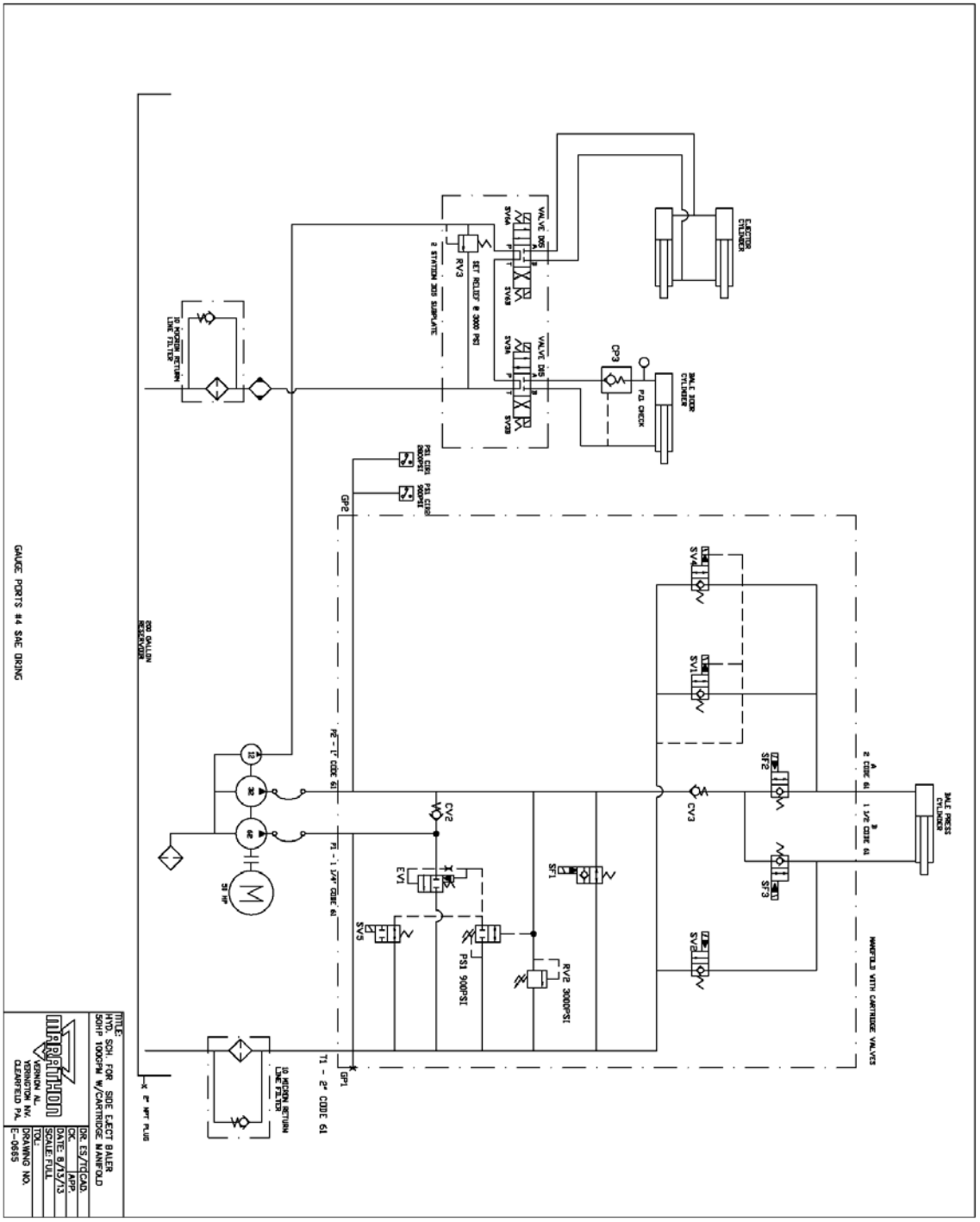
HYDRAULIC SCHEMATIC FOR 830 (30 HP/75 GPM)



HYDRAULIC SCHEMATIC FOR 720 (20 HP/49 GPM)



HYDRAULIC SCHEMATIC FOR 950A (50 HP/100GPM



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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)

Side Eject Horizontal Balers
Replacement Parts

Side Eject Horizontal Balers Replacement Parts				
PART NO.	**DESCRIPTION**	**SE-950A**	**SE-830**	**SE-720**
020662	PUMP MOTOR ADAPTER		X	
020624	PUMP MOTOR ADAPTER			X
020647	BREATHER, 2" WITH STRAINER		X	X
026111	FILTER, RETURN LINE 20 MICRON		X	X
020050	FILTER, SUCTION 1" 100 MESH		X	X
020623	FILTER, SUCTION 2 1/2" 100 MESH		X	X
020668	FILTER, SUCTION 3 NPTF 100GPM		X	
020215	GAUGE, SIGHT 5"		X	X
025768	HUB COUPLING 1-1/4 X 1 5/8-3/8			X
020664	HUB COUPLING 1 3/8-5/16 X 1 7/8-1/2		X	
025734	PUMP, VANE 2 SECTION 50GPM 32/18 SPLIT			X
025735	PUMP, VANE 2 SECTION 75GPM 52/25 SPLIT		X	
025736	PUMP, VANE 3GPM REAR SECTION		X	X
026189	MANIFOLD ASSY HI-FLOW D08 1 STN W/CART VALVES		X	X
026190	VALVE, 4-WAY 08 T 3-POS HI FLOW		X	
020680	VALVE, 4-WAY 08 T 3-POS			X
025730	VALVE CARTRIDGE 4 WAY 3 POS TANDEM CENTER 115VAC SIZE 10		X	X
025731	VALVE CARTRIDGE PO CHECK SIZE 08		X	X
025732	VALVE CARTRIDGE RELIEF DIRECT ACTING POPPET SIZE 08		X	X
020700	GAUGE PRESSURE 1/4 NPTM 0-5000PSI	X	X	X
020690	VALVE CHECK PILOT OPERATED		X	X
030010	LIMIT SWITCH ARM WITH ROLLER		X	X
030011	LIMIT SWITCH NC-NO 15 DEGREE PRE-TRAVEL		X	X
030012	LIMIT SWITCH 5 DEGREE PRE-TRAVEL		X	X
030013	PRESSURE SWITCH, SINGLE		X	X
030129	PHOTOCELL ASSY		X	X
030130	PHOTOCELL MOUNTING BRACKET		X	X
030761	REFLECTOR RECTANGULAR		X	X
030174	INTERLOCK, PUSH BUTTTON SWITCH		X	X
031470	INTERLOCK SWITCH, KEYED TYPE		X	X
033719	EXTENSION, ALUMINUM 4" F/STACK LIGHT		X	X
033638	LIGHT STROBE MODULE 120V RED		X	X
034283	ALARM STACK MODULE 120VAC 100DB		X	X
030139	OPERATOR 30 SELECTOR 3 RTN CNTR		X	X
030197	OPERATOR 30 PUSH BUTTON BLK		X	X
030593	OPERATOR 30 PUSH BUTTON ILL AMBER		X	X
030269	OPERATOR 30 SELECTOR 2 KEYED MAINT		X	X
030201	OPERATOR 30 PUSH/PULL MHD RED		X	X
030687	OPERATOR 30 PUSH BUTTON ILL GREEN		X	X
030477	LEGEND 30 'ON OFF'		X	X

Side Eject Horizontal Balers
Replacement Parts

Side Eject Horizontal Balers Replacement Parts				
PART NO.	**DESCRIPTION**	**SE-950A**	**SE-830**	**SE-720**
030193	LEGEND 30 'EMERG STOP'		X	X
030846	LEGEND 30 'POWER ON'		X	X
037161	LEGEND 30 'FORWARD REVERSE'		X	X
030594	LEGEND 30 'HOME'		X	X
030595	LEGEND 30 'RETRACT EJECT'		X	X
030640	LEGEND 30 'OPEN CLOSE'		X	X
030127	LEGEND 30 'HOLD TO RUN RELEASE TO STOP'		X	X
030205	ENCLOSURE P5 NEMA 4 30MM		X	X
030288	TRANSFORMER 150VA 208/230/460VAC PRI 120VAC SEC		X	X
030488	FUSE 1.5 AMP		X	X
030191	FUSE 2 AMP		X	X
034448	FUSE 2 AMP 5M X 20MM		X	X
031540	RELAY 4 POLE N.O. 120VAC 25A		X	X
034832	MOTOR STARTER IEC 9A CONTACTOR		X	
034832	MOTOR STARTER IEC 4-6.3A MPCB		X	
034835	MOTOR STARTER IEC 50A CONTACTOR		X	
035718	MOTOR STARTER IEC 37-50A MPCB		X	
034748	MOTOR STARTER IEC 32A CONTACTOR			X
034762	MOTOR STARTER IEC 24-32A MPCB			X
034827	BREAKER MECHANISM ROTARY HANDLE		X	X
037717	PLC AB MICRO LOGIX 1400	X	X	X
031956	PLC AB CABLE MICRO LOGIX 1400 TO HMI.	X	X	X
035999	OPERATOR INTERFACE PANEL VIEW 800	X	X	X
034732	POWER SUPPLY 24VDC 60W 85-264VAC INPUT		X	X
034291	PLC MICRO LOGIX 1400 EXPANSION INPUT CARD	X	X	X
020810	PUMP MOTOR ADAPTER.	X		
998140	HUB COUPLING 1 1/4-1/4 X 2 1/8-1/2 M600.	X		
021053	FILTER, SUCTION 4" NPT 300GPM.	X		
020852	VALVE 4-WAY 05 T SOFT SHIFT.	X		
025628	FILTER, RETURN LINE 10 MICRON.	X		
026110	FILTER, RETURN LINE 20 MICRON.	X		
026590	MANIFOLD ASSY W/CART VALVES.	X		

* Spares ** Decals Descriptions are listed in alphabetical order.

Side Eject Horizontal Balers
Replacement Parts

CYLINDERS AND SEAL KITS

BALER MODEL	PART NO.	BORE	ROD	STROKE
SE-504842-830				
RAM	04-3641 Cylinder	8"	4.5"	68"
	04-3660 Seal Kit			
EJECTOR	04-0490 Cylinder	2.5"	1.75"	50"
	04-0491 Seal Kit			
SE-504242-830				
RAM	04-3641 Cylinder	8"	4.5"	68"
	04-3660 Seal Kit			
EJECTOR	04-0480 Cylinder	2.5"	1.75"	44"
	04-0481 Seal Kit			
SE-503042-830				
RAM	04-3641 Cylinder	8"	4.5"	68"
	04-3660 Seal Kit			
EJECTOR	04-0470 Cylinder	2.5"	1.5"	32"
	04-0471 Seal Kit			
SE-503042-720				
RAM	04-3679 Cylinder	7"	4.5"	68"
	04-3680 Seal Kit			
EJECTOR	04-0470 Cylinder	2.5"	1.5"	32"
	04-0471 Seal Kit			
SE-503042-950				
RAM	04-3693 Cylinder	9"	6"	78"
	04-3694 Seal Kit			
EJECTOR	04-0470 Cylinder 2	1/2"	1 1/2"	32"
	04-0471 Seal Kit			

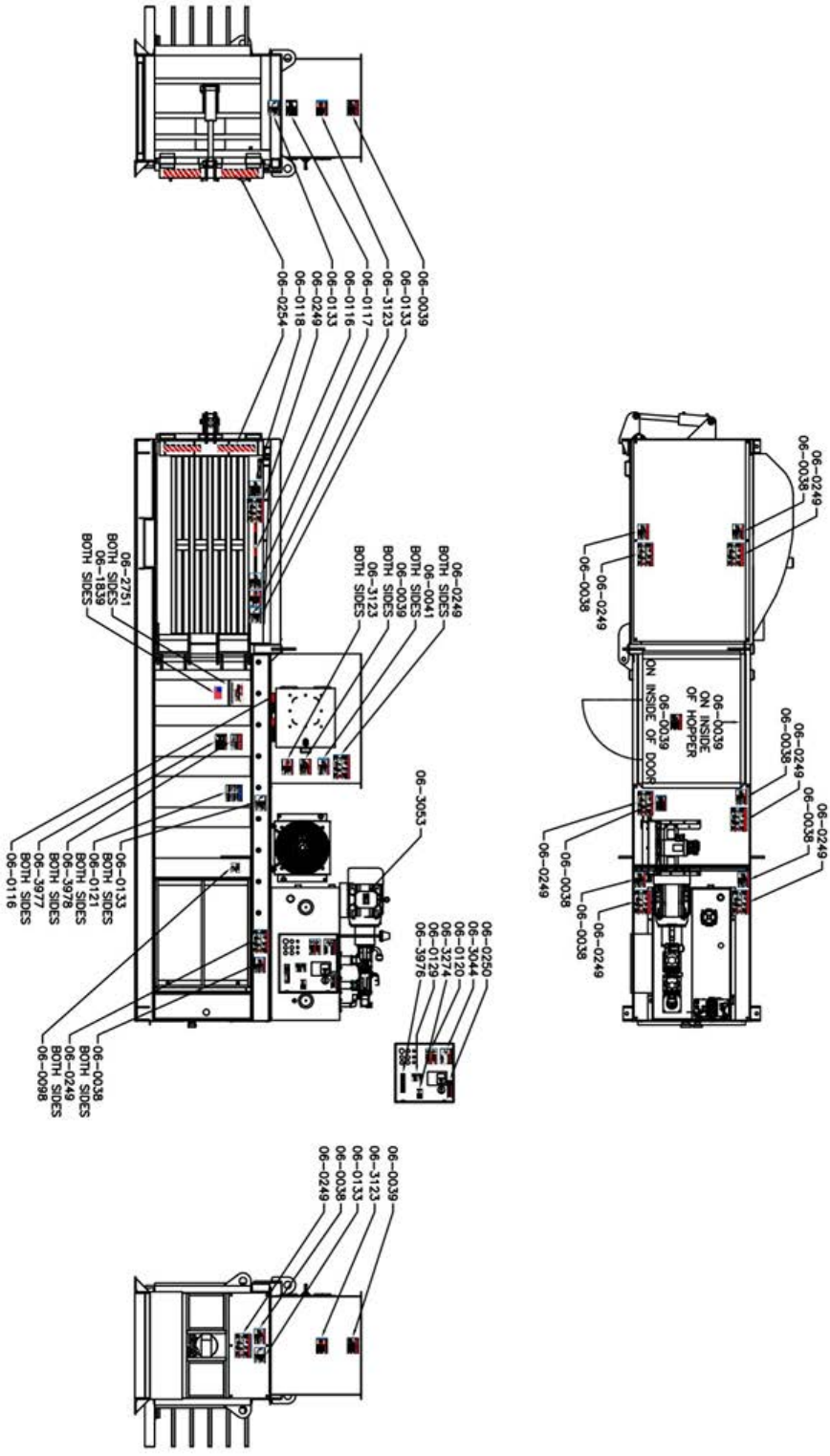
DECALS

Warning Decal Requirements

When your Closed-End Baler 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 directly from Marathon Equipment Company by either calling the parts department at 800-633-8974. Refer to the chart below and the images on the next page when ordering.

Part #	Description	Qty
060116	DECAL DANGER KEEP HANDS OUT	3
062751	DECAL MARATHON COMP & RECYCLE	2
060133	DECAL WARNING STAY OFF..DO NOT	4
060120	DECAL DANGER DISCONNECT & LOCK	1
060121	DECAL NOTICE FEDERAL REGULATION	2
060118	DECAL WARNING STAND CLEAR WHILE	1
060117	DECAL WARNING STAND CLEAR WHEN	3
060249	DECAL DANGER HAZARDOUS VOLTAGE	12
060250	DECAL DANGER LOCK OUT POINT DA	1
061839	DECAL AMERICAN FLAG	2
060097	DECAL SERIAL NUMBER PLT	1
063044	DECAL DANGER VOLTS W/BLANK SPA	2
060254	DECAL RED/WHITE STRIPED 3X15.5	4
063123	DECAL DANGER CONFINED SPACE	5
063274	DECAL WARNING "FLASH HAZARD" B	1
060038	DECAL DANGER DO NOT REMOVE AC	9
063976	DECAL WARNING SHOCK ARC FLASH	1
063977	DECAL WARNING DO NOT OPERATE	2
063978	DECAL DANGER DO NOT OVERRIDE OR	2
060039	DECAL DANGER DO NOT ENTER E/S	6
060041	DECAL DANGER THIS MACHINE STAR	2

DECAL PLACEMENT



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Side Eject Horizontal Balers
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www.marathonequipment.com

Customer Care:
800-633-8974

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

Technical Service and Warranty:
877-258-1105

Customer Support:

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