

Always keep this manual in a safe readily accessible location.

MODEL	 	
SERIAL		
SERVICE COMPANY	 	
TELEPHONE NUMBER		

## For Operating Instructions or Technical Support Call 1-507-886-6666

Last Revision: 1/31/12 Starting with Ser. # M60STD-4265

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#### SAFETY-READ BEFORE OPERATING

#### **Safety Instructions**

A. <u>Warning:</u> Any changes to the original construction, components, programs, wiring and or documents of any kind in any way related to the compactor without authorization from Harmony Enterprises Incorporated will void the warranty and any liability immediately.

**Marning:** It is the responsibility of the end user to properly install the compactor in accordance with all local, state, and federal codes, and within manufacture's guidelines unless it is requested by the end user that a representative of Harmony Enterprises conduct the install. Consult your distributor or the factory with any questions before attempting installation. Locate and install compactor to meet all **OSHA** and **ANSI Z245.5** safety requirements.

warning: It is the responsibility of the end user to take appropriate action to insure all employees and operating personnel understand and adhere to all safe operating procedures of the compactor. In the event that the operator of the compactor is unable to read in English, it is the employer's responsibility to translate these instructions either verbally or in writing so that the operator fully understands the operation procedures.

D. Warning: No one under the age of 18 may operate the compactor. No one under 16 may load material into the compactor. Failure to abide may violate federal law.

**Warning:** Safety of the operator is of prime importance in operation of the compactor. The compactor is equipped with several standard safety features. Switches are used to monitor all access doors to ensure they are closed and secured before any automatic movements are allowed. This prevents access to the chamber area, protecting the operator from potential injury.

F. Warning: Do not attempt to process unauthorized materials such as glass, concrete, steel, wood, tanks, or containers could cause serious injury and damage to the baler.

**G.** Warning: Do not compact any volatile or combustible materials in the baler.

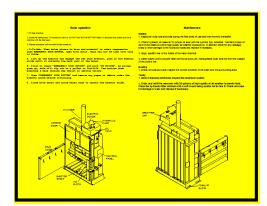
Marning: Do not attempt to enter the chamber area. Do not put hands or feet in or near the chamber when the machine is in operation. Stand clear of the compactor while the compactor is cycling or when ejecting a bale. Keep working area clean and dry with no obstructions. Do not stack things on baler.

- **Warning:** Remove the key from the key switch on the machine after use to prevent any unauthorized use of the baler.
- J. <u>Warning:</u> The baler is intended to compact and bale recyclable materials including high and low-density recyclable plastics. Any materials other than these common commodities should be authorized and verified by your local distributor.

Warning: Repair work should be performed by a Harmony Enterprises certified service technician only. Contact local distributor for instructions on how to proceed when defects are suspected.

#### SAFETY-READ BEFORE OPERATING

#### **Decals**



#120



MAIN FUSE OR CIRCUIT BREAKER SUPPLIED BY CUSTOMER

#111



#42

PLATEN MUST BE IN
DOWN POSITION
WHEN MOVING BALER

#4



#107





#196



Arc Flash and Shock Hazard

**WARNING** 

Appropriate PPE and Tools Required when working on this equipment.

DEC-221



#221

CAUTION! REPLACE FUSES ONLY WITH: .150KVA

F1- 208vac = KLDR-2 230vac = KLDR-2

400vac = KLDR-8/10 460vac = KLDR-8/10

F2- 208vac = KLDR-2 230vac = KLDR-2 400vac = KLDR-8/10 460vac = KLDR-8/10

**F3-** 115vac = CCMR-2

#152

WARNING! Risk of Fire or Electric Shock - The opening of the branch-circuit protective device may be an indication that a fault current has been interrupted. All current-carrying parts and other components protected by this device should be examined and replaced if damaged. If burnout of a current element of and overload relay occurs, the complete overload relay must be replaced.

Short circuit current: \_\_\_\_\_ kA rms symmetrical, \_\_\_\_\_

#151

#### BALER OPERATION

1. Fill bale chamber.

Close the loading door. Turn selector switch to "Auto". Push
"DOWN BUTT ON". Baler will complete one preset cycle time and
stop with the door open.

3. Repeat procedure until the bale full light comes on.

4. TO TIE BALE-When baler platen is down and material is under compression push "EMERGENCY STOP BUTTON". Open both doors. Bale may now be tied with wire or twine.

 $5.\,Lift$  up the ejector handle and engage the red bale ejector. Push in the ejector slide until it contacts the back wall of the baler.

6. Twist to reset "EMERGENCY STOP BUTTON" and push "UP BUTTON". As platen goes up bale will tip out on to a pallet or forklift. Use caution while ejecting bale. Failure may result in serious injury.

7. Push "EMERGENCY STOP BUTTON" and remove any paper or debris under the ejector plate before continuing.

8. Close both doors and cycle baler once to cancel the ejector slide.

M60STD

V maximum

#113

## OPEN UNLOADING DOOR BEFORE ENGAGING EJECTOR

#18



## **CAUTION**

DO NOT BALE VOLATILE,
FLAMMABLE OR TOXIC MATERIALS
HAZARDOUS CONDITIONS
COULD RESULT

#168

#80

- #4 This decal informs the operator that the platen must be fully extended before moving the baler.
- #18 This decal informs the operator that the unloading door must be open before ejecting a bale.
- # 42 This decal lets the operator know what type of hydraulic oil to use in the baler hydraulic circuit and how to read the oil level properly.
- #80 This decal alerts the operator to the presents of dangerous voltage higher than 120 volts.
- #81 This decal informs the operator that the baler meets or exceeds the requirements for ANSI standard Z245.5 Safety Requirements for Baling Equipment.
- #107 This decal is the decal for Harmony Enterprises Inc, the manufacturer of the baler.
- #111 This decal informs the operator that the main electrical disconnect shall be supplied by the customer who purchased the baler. The disconnect on the baler electrical panel is not the main electrical disconnect.
- #113 This decal informs the operator on the correct procedure for operating the baler.
- #120 This decal informs the operator on the correct procedure for operating the baler as well as the recommended preventative maintenance schedule.

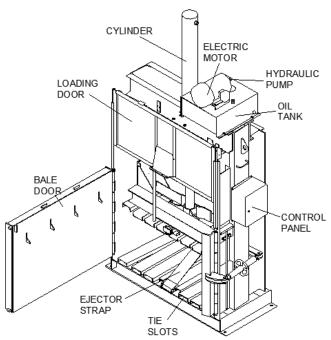
#151 – WARNING: RISK OF FIRE OR ELECTRIC CHOCK – THE OPENING OF THE BRANCH CIRCUIT PROTECTIVE DEVICE MAY BE AN INDICATION THAT A FAULT CURRENT HAS BEEN INTERUPTED. ALL CURRENT CARRYING PARTS AND OTHER COMPONENTS PROTECTED BY THIS DEVICE SHOULD BE EXAMINED AND REPLACED IF DAMAGED. IF BURNOUT OF AN OVERLOAD RELAY OCCURS, THE COMPLETE OVERLOAD RELAY MUST BE REPLACED.

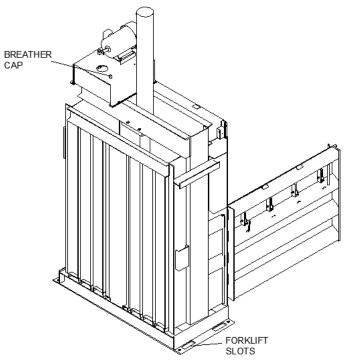
This decal informs the operator that in the event of a sudden loss of power or surge all current carrying devices including relays shall be examined and replaced if damaged to avoid the risk of fire or electric shock once power is restored.

- #152 This decal informs the operator of the proper fuses to use based on the voltage supplied in the event that one or multiple fuses need to be replaced.
- #168 This decal informs the operator that it is hazardous to bale any volatile, toxic or flammable materials in the baler.
- #196 This deal lists the information for model, serial number, corresponding wiring schematic, and voltage and amp draw of the machine.
- #219 This decal informs the operator as well as surrounding personnel that they must be at least 18 years of age to operate the machine.
- #221 This decal informs the operator that proper PPE (Personal Protective Equipment) must be warn when operating the machine.

### **PRODUCT DESCRIPTION**

#### **Baler Components**





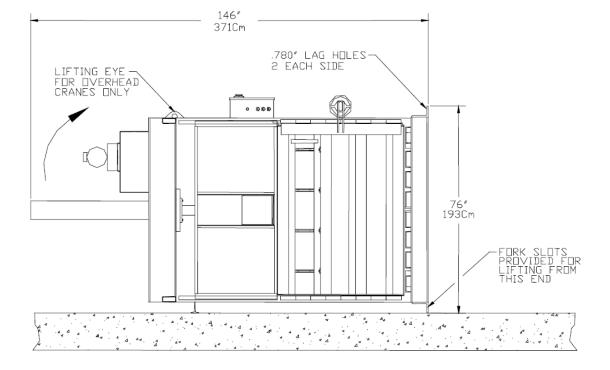
#### INSTALLATION AND SETUP

#### **Baler Unit Set-Up**

- The baler is shipped with the hardware for setup packaged inside the chamber.
- The M60STD baler requires a minimum 8-ft x 10-ft operating area.
- The M60STD baler is shipped on its side unless special circumstances are arranged prior to the shipping process.
- Use the figure below as a reference when standing the baler upright
- Use the forklift tine slots provided to assist in moving the baler to the desired location. A forklift with a minimum 6,000lb capacity is recommended.
- It is recommended by Harmony Enterprises that a professional rigger be used to erect the baler. This can be coordinated by your local distributor.
  - 1. Once the baler has been stood up, remove the banding from the door handle on the loading door.
  - 2. Remove the restraints on the counter balance weights to allow the loading door to open.
  - 3. Remove the clean out rod from the chamber area.
  - 4. Open the control panel and remove the breather cap and keys.
  - 5. Remove the hydraulic tank cap and replace it with the breather cap.

**IMPORTANT:** Do not operate the machine until the breather cap has been installed

- 6. Give the baler a thorough visual inspection for any damage during transit.
- 7. Coat the inside of the chamber with paraffin wax. This will aid in the bale eject process.
- 8. Place a sheet of cardboard at the bottom of the chamber that covers the entire floor. This will aid in the bale tying process.



#### **INSTALLATION AND SETUP**

#### **Electrical Set-Up**

<u>Warning</u>: The incoming voltage must be the same as the baler voltage, and the circuit must be capable of handling the electrical demand. The use of any phase conversion is not recommended.

- The M60STD baler comes standard from the factory wired for 3-phase voltages of 208, 230, or 460 VAC.
- The M60STD baler will arrive pre-wired for the voltage specified at the time of purchase.
   Use the chart below to determine wire size, fuse size and the receptacle required for this voltage.
- The M60STD baler must be connected to a properly installed and inspected branch circuit. All wiring must comply with local codes as well as the National Electric Code.

#### **BASED ON UL508A**

3- Phase	10.0 HP	208V	230V	480V
Wire Size	Gauge (Minimum)	8	8	12
Current Protection	Amp (Maximum)	40	37	19.2
Full Load Amps	Amp (Maximum)	32	29.3	15.3
Motor FLA	Amp FLA	30.8	28	14
NEMA Plug		L15-30P	L15-30P	L16-20P
NEMA Receptacle		L15-30R	L15-30R	L16-20R

**NOTE:** The above information is for reference only. All wiring must comply with local as well as National Electric Code.

#### INSTALLATION AND SETUP

#### **Initial Testing**

Warning: No one under the age of 18 may operate this compactor. No one under 16 may load material into this unit. Failure to abide may violate federal law.

<u>Warning</u>: Do not operate this unit until you have completely read and fully understand the instructions in this manual. Make sure all access covers are closed and secured and all safety devices are engaged. Clear all persons from the operating area before testing.

Warning: Avoid all contact with hydraulic fluid. If injury results from contact with fluid consult a doctor immediately. Do not operate compactor if hydraulic fluid is leaking in any area.

- 1. Confirm that the electrical setup has been completed.
- 2. Confirm that the loading and unloading doors are closed.
- 3. Insert the key into the key selector switch on the control panel and turn it to the "AUTO" position
- 4. Press the "DOWN" button on the control panel to cycle the baler. The platen will move down for a predetermined amount of time and return to the fully retracted position automatically. The loading door will open automatically when the platen begins to retract.

NOTE: The standard down stroke time is set from the factory to be 30 seconds. This value is adjustable based on compacted material densities

5. See the section entitled TROUBLESHOOTING AND SERVICE if the cycle time needs to be adjusted.

#### **BALER OPERATIONS**

Warning: No one under the age of 18 may operate this compactor. No one under 16 years of age may load material into this unit. Failure to abide may violate federal law.

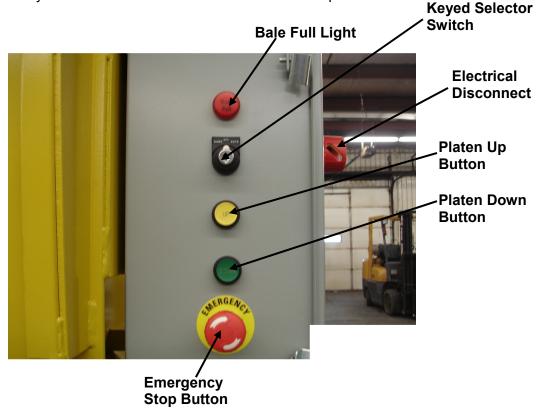
 $\triangle$ 

Warning: Do not compact any volatile or combustible materials in this compactor.

Warning: Any attempts to process unauthorized materials such as glass, concrete, steel, wood, tanks, or containers could cause serious injury and damage to the compactor.

#### **Compacting Material**

- 1. Open the loading door by pushing up on the loading door handle.
- 2. Place refuse in the chamber via the loading door.
- 3. Close the loading door.
- 4. Insert the key in to the keyed selector switch and turn it to the "AUTO" position



- 5. Press the green "DOWN" button. The platen will cycle for a predetermined amount of time and automatically return to the fully retracted position. The loading door will reopen automatically when the platen begins to retract.
- 6. Repeat the process until the Bale Full Light comes on.

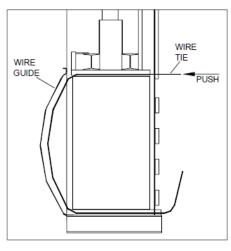
#### **BALER OPERATIONS**

Warning: Stand clear of the compactor while in operation and when ejecting a cube. Keep working area clean and dry with no obstructions. Do not stack things on compactor.

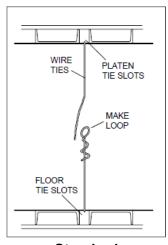
Warning: No one under the age of 18 may operate this baler. No one under 16 may load material into this unit. Failure to abide may violate federal law.

#### Tying A Full Bale

- It is recommended that 14 gauge wire ties be used to tie a bale. Different gauges may be necessary depending on the material being baled.
  - 1. Insert the key into the keyed selector switch and turn it to the "HAND" position.
  - 2. Press the yellow "UP" button to retract the platen a few inches.
  - 3. Open the loading door and place a flat sheet of cardboard on top of the bale.
  - 4. Press the green "DOWN" button. When the platen stops moving press the EMERGENCY STOP button.
  - 5. Open the unloading door.



Option 302



**Standard** 

- 6. From the rear, feed one end of the wire ties through the tie slots under the bale.

  NOTE: If Option 302 is included. Feed the wire ties from the front.
- 7. Feed the other end of the wire ties through the tie slots in the platen.
- 8. Form a loop in the wire ties as shown, feed the remaining end through the loop and pull tight.
- 9. Twist to secure.

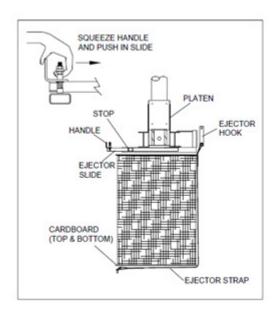
#### **BALER OPERATIONS**

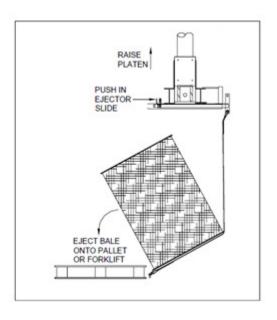
Warning: Stand clear of the compactor while in operation and when ejecting a cube. Keep working area clean and dry with no obstructions. Do not stack things on compactor.

Warning: No one under the age of 18 may operate this baler. No one under 16 may load material into this unit. Failure to abide may violate federal law.

#### **Ejecting A Full Bale**

- 1. Follow the procedure for **Tying A Full Bale** before proceeding.
- 2. Position a pallet in the opening of the unload door. The bale will be tipped on to the pallet during the bale eject process.
- 3. Grab the red and black handle located in the center of the platen.





Pull up on the black handle and push the red ejector slide back until it makes contact with the rear wall of the chamber.

**NOTE:** When the bale full light is on the platen will automatically stop in the proper location to engage the ejector.

- 5. Turn and hold the keyed selector switch to the "HAND" position and press the yellow "UP" button. The platen will retract and tip the ejector plate forward, tipping the bale onto the pallet.
- 6. Retract the platen all the way to cancel the bale ejector handle and plate.
- 7. Perform steps 5 and 6 in the section **Baler Unit Set-Up** to prepare for the next bale.

#### **MAINTENANCE**

#### Recommended Lock-Out/Tag-Out Procedure

Warning: Access panels, limit switches and devices shall be maintained to function at all times to protect personnel and meet safety requirements.

<u>Warning:</u> Avoid all contact with hydraulic fluid. If injury results from contact with fluid consult a doctor immediately. Do not operate compactor if hydraulic fluid is leaking in any area.



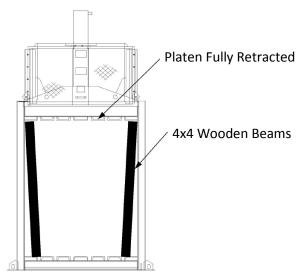
Warning: Lock-out/Tag-out procedures must be in accordance with OSHA and ANSI Z245.5 requirements.

<u>Warning</u>: It is the responsibility of the employer whose employees are engaged in installing, repairing, adjusting, inspecting, operating, or maintaining the compactor to develop, document, and implement a policy and procedure for locking / tagging out any potentially hazardous energy source. This is of paramount importance and must be completed before any work is done to the compactor.

- 1. Disconnect electrical power from the baler by switching off the disconnect located on the control panel.
- 2. Place an appropriate padlock on the disconnect switch and place a warning tag that reads UNDER REPAIR DO NOT USE on the power source and on the baler control panel.



3. With the loading and unload door fully open, place two (2) 4x4 wooden beams underneath the platen for support, one in each corner as shown below.



- 4. Double check that the compactor has no electrical power by testing for voltage on the power source with a voltmeter.
- 5. Test the compactor for power by attempting to operate it.
- 6. Remove all stored hydraulic energy by manually relieving pressure in the directional valve. Press in on the ends of the valve to relieve pressure.
- 7. When the job is complete, clear the area of all unauthorized personnel before removing the lock and tags.
- 8. Reconnect all electrical power to the baler.

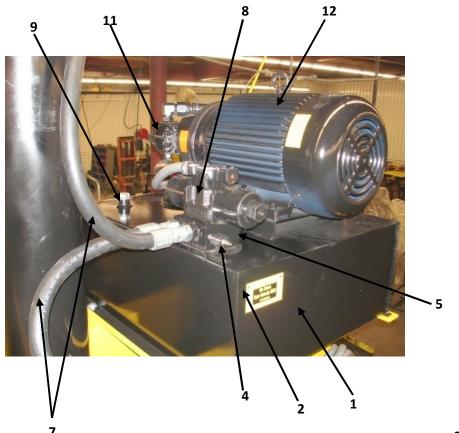
#### **Maintenance**

#### **Preventative Maintenance**

The following chart displays the recommended tasks for preventative maintenance of the baler.

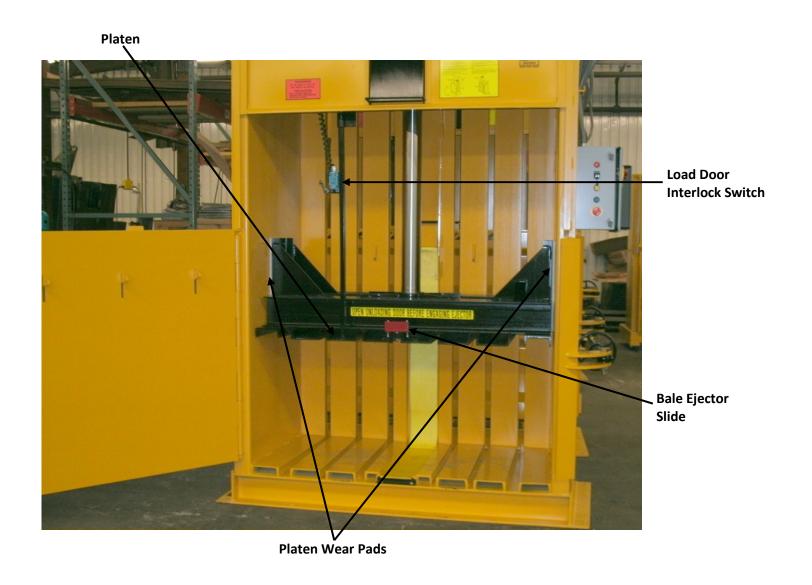
• The term **CHECK** refers to a visual inspection for correct operation of and damage to the components of the baler.

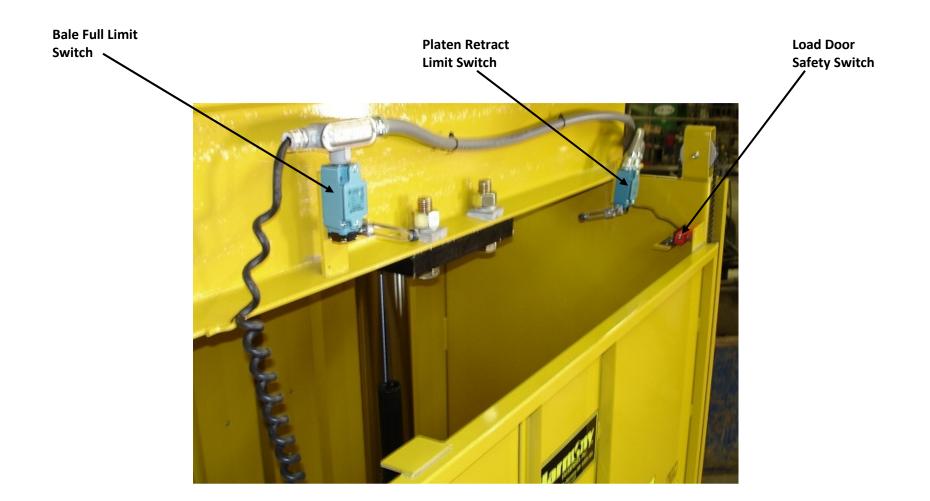
Item	Reference	Frequency		у	Lubricant/Notes
		Weekly	Monthly	Annually	
Oil Tank Level	Page 18	Check			MV32 Hydraulic Oil
Hydraulic Hoses	Page 18	Check			
Limit Switches	Pages 19, 20	Check			
Oil	Page 18			Change	MV32 Hydraulic Oil
Suction Filter	Page 18			Change	
Platen	Page 19		Clean		
Oil Return Filter			Replace		Option 326
Platen Wear Pads	Page 19	Check			
Desiccant Breather	Page 18		Replace		
					·

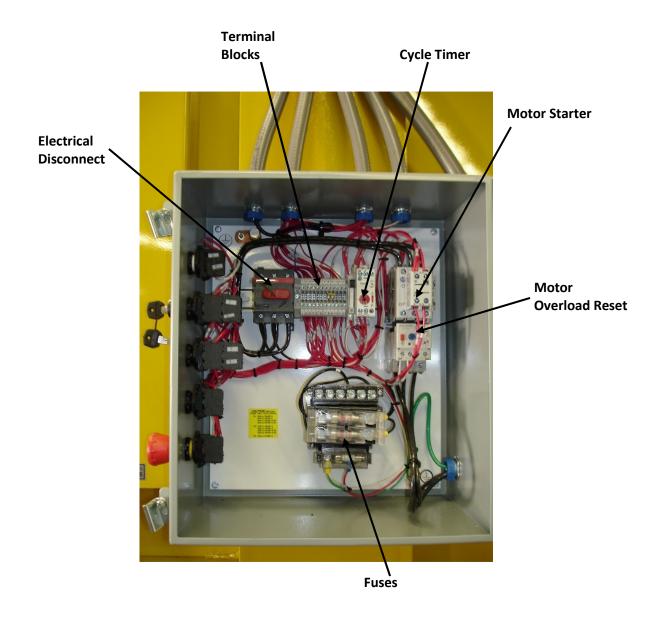


		Notes
1	Oil Tank	
2	Oil Tank Sight Screw	Remove to view oil level, platen must be retracted to read oil level properly
3	Suction Filter Location	Suction filter is located inside the oil tank
4	Pressure Relief Valve	Adjust to make sure pressure gauge always reads 1800psi
5	Pressure Gauge Fitting	Install pressure gauge here
6	Motor Rotation Wiring	
7	Hydraulic Hoses	Inspect for leaks, damage
8	Directional Valve	
9	Descent Breather Connection	
10	Motor Nameplate	
11	Hydraulic Pump	
12	Baler Motor	









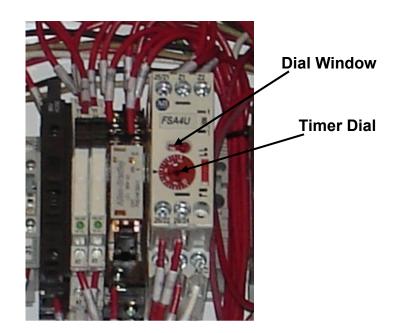
#### TROUBLESHOOTING AND SERVICE



Warning: Troubleshooting and or service are to be performed by a Harmony Enterprises certified service technician only.

#### **Adjusting The Cycle Timer**

The function of the cycle timer is to have the ability to adjust the amount of time it takes for the baler to complete the down stroke of a baling cycle. Different materials can require more or less time to compact due to varying densities.



- 1. The dial window can be set to the desired unit of measure including: seconds, minutes, and hours.
- 2. The timer dial is used to set a certain percentage of the units chosen in step 1. The dial is labeled 0 10 with 10 equal to 100% of the duration and 5 equal to 50% of the duration chosen in step 1. The standard setting is 1M (1 minute) and the dial is set to 50% of 1 minute which is 30 seconds.

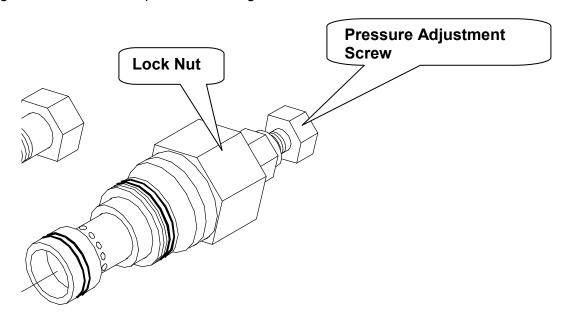
#### **Adjusting The Pressure Relief Valve**

The function of the Pressure Relief Valve is to control and set the maximum allowed hydraulic system pressure to 2000psi.



Warning: Troubleshooting and or service are to be performed by a Harmony Enterprises certified service technician only.

- 1. Install a hydraulic pressure gauge rated from 0 3000psi into the fitting on the manifold.
- 2. Loosen the lock nut.

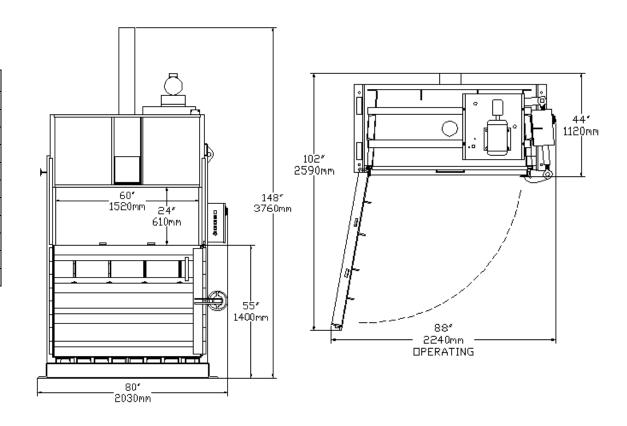


- 3. Turn the selector switch to the "HAND" position. Press the "DOWN" button to send the platen in the downward direction. When the platen is fully extended the gauge should read 1800psi.
- 4. Turn the screw out to lower the pressure until the gauge reads 1800psi or in to raise the pressure until the gauge reads 1800psi and retighten the lock nut on the Pressure Relief Valve.
- 5. Remove the pressure gauge and run a test cycle.

## **APPENDIX**

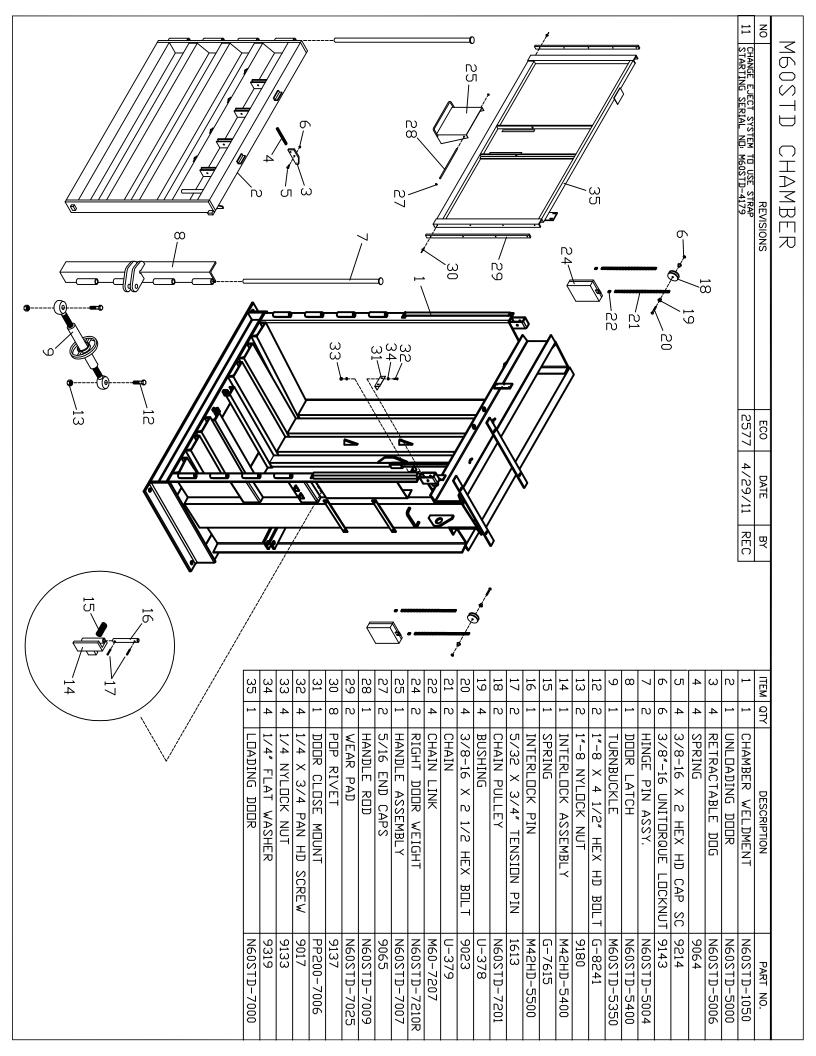
## **Specifications and Dimensions**

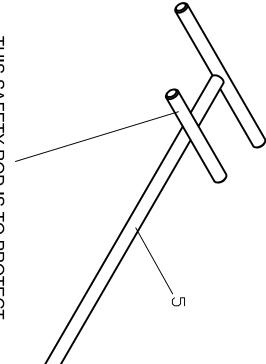
3 - Phase		
	USCS	Metric
Width	80 in	2030 mm
Height	148 in	3760 mm
Depth	44 in	1120 mm
Cube Capacity	53 cu-ft	1504.5 L
Reduction Ratio	25:1	25:1
Motor	10 hp	7460 W
Ram Total Force	56550 lbs	25651 kg
Cycle Time	49 sec	49 sec
Cylinder (BxRxS)	(6x4x48) in	(152x102x1219) mm
Electrical Power	208V/230V/460V	208V/230V/460V
Net Weight	5100 lbs	2313 kg



## **APPENDIX**

**Assembly Drawings and Schematics** 





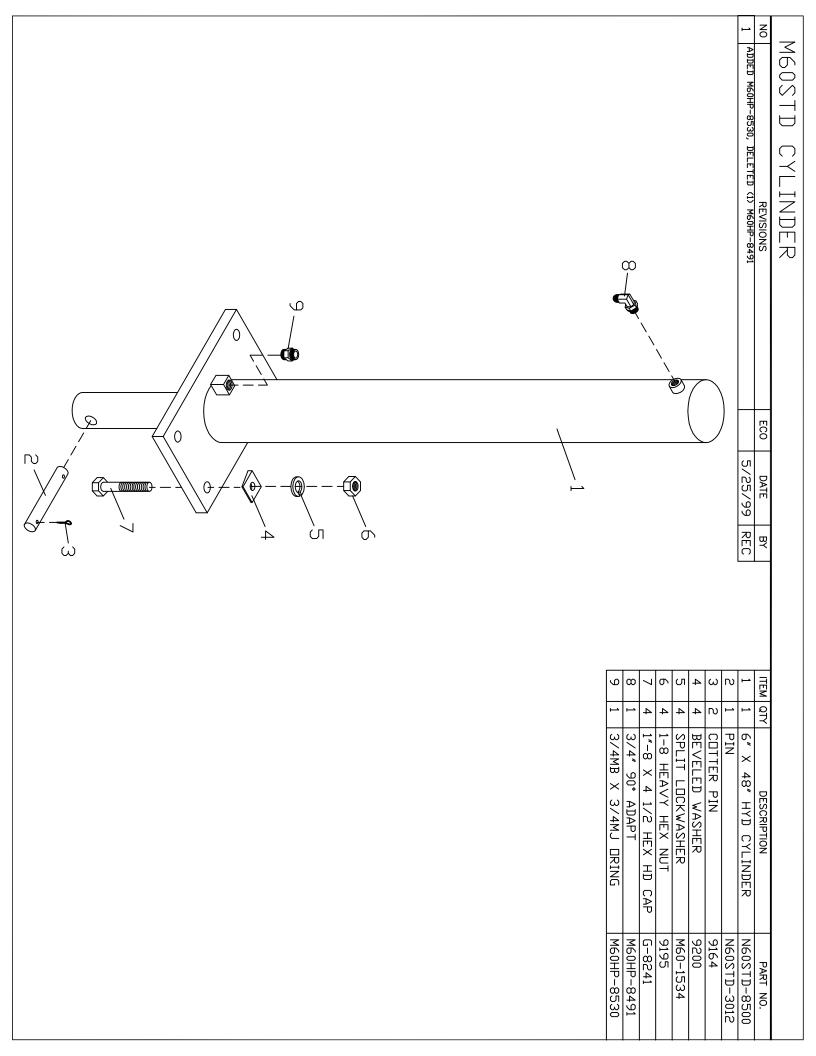
CLEAN-OUT ROD. YOUR HANDS WHEN OPERATING THIS SAFETY ROD IS TO PROTECT

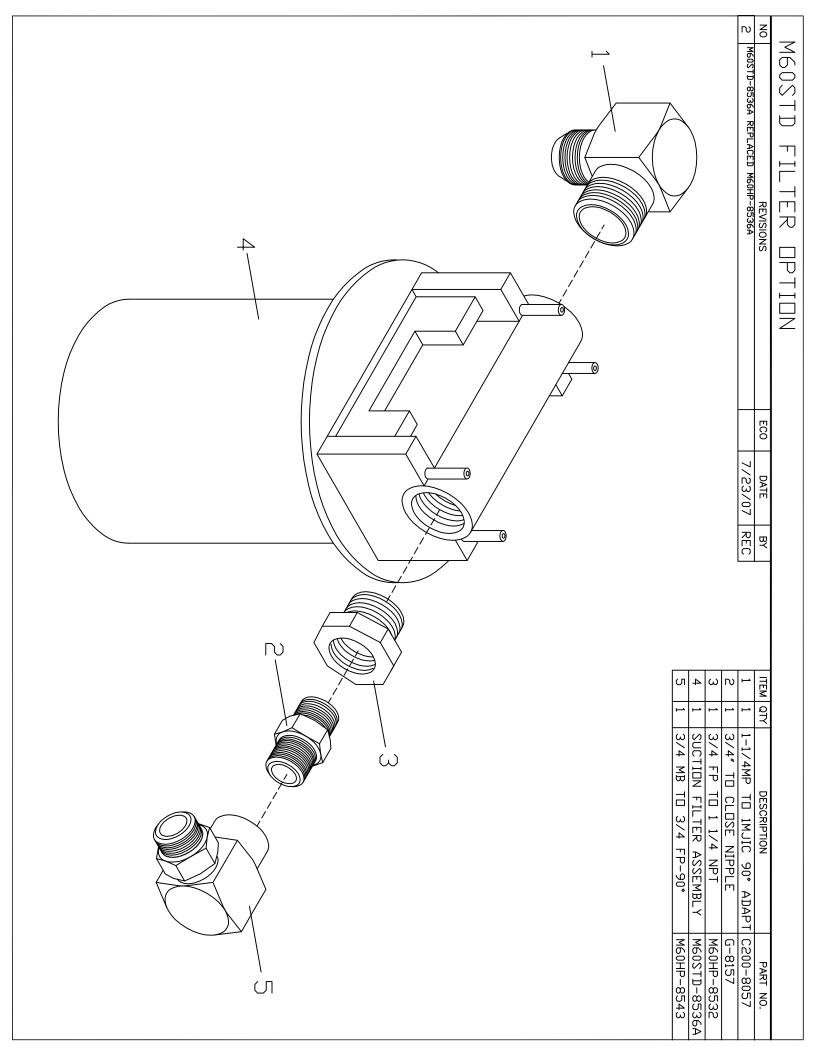
> PULL WIRE THROUGH HOLE AND WIRE THROUGH DEBRIS. TIE. THIS WILL HELP IN PULLING

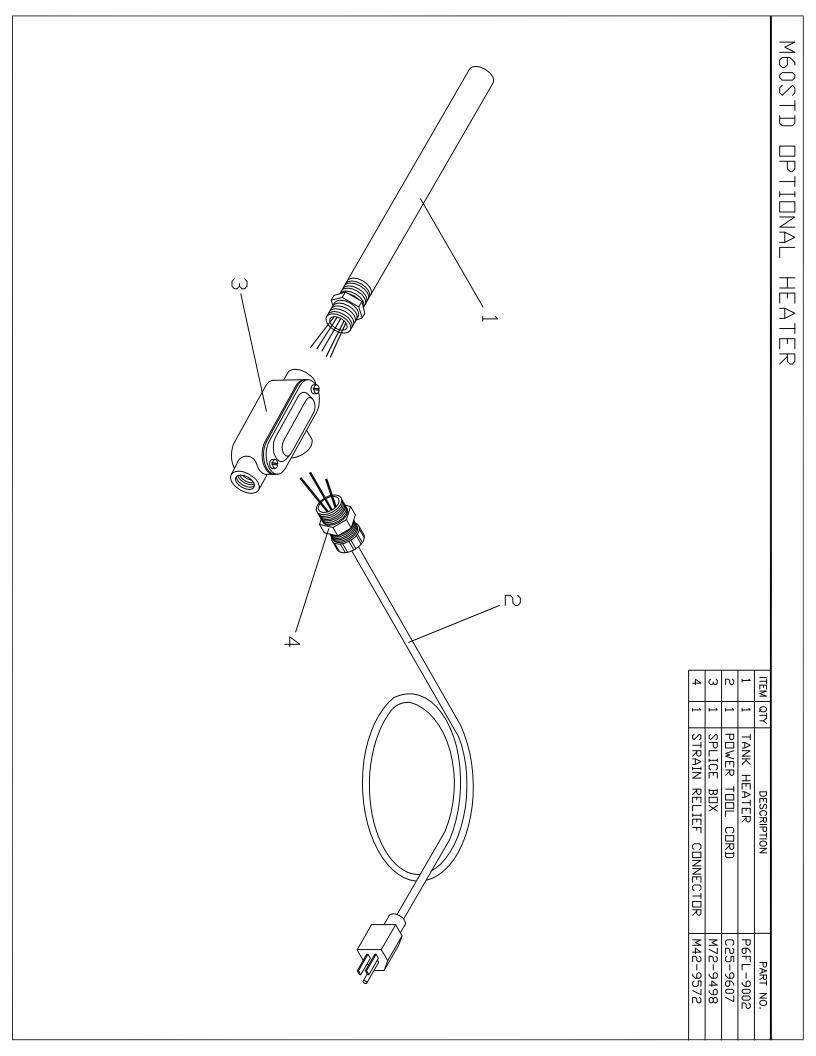
# NOTE:

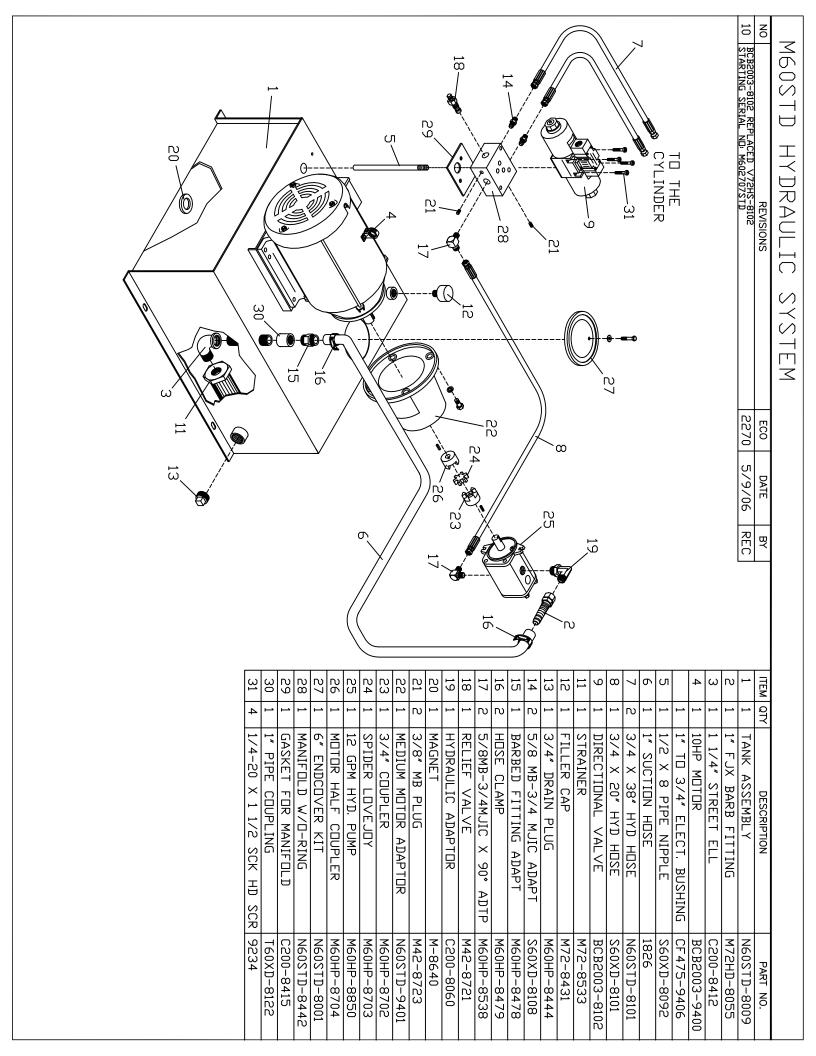
USE CLEAN OUT ROD TO REMOVE ANY DEBRIS IN THE WAY OF SLIDING WIRE TIES THROUGH WIRE

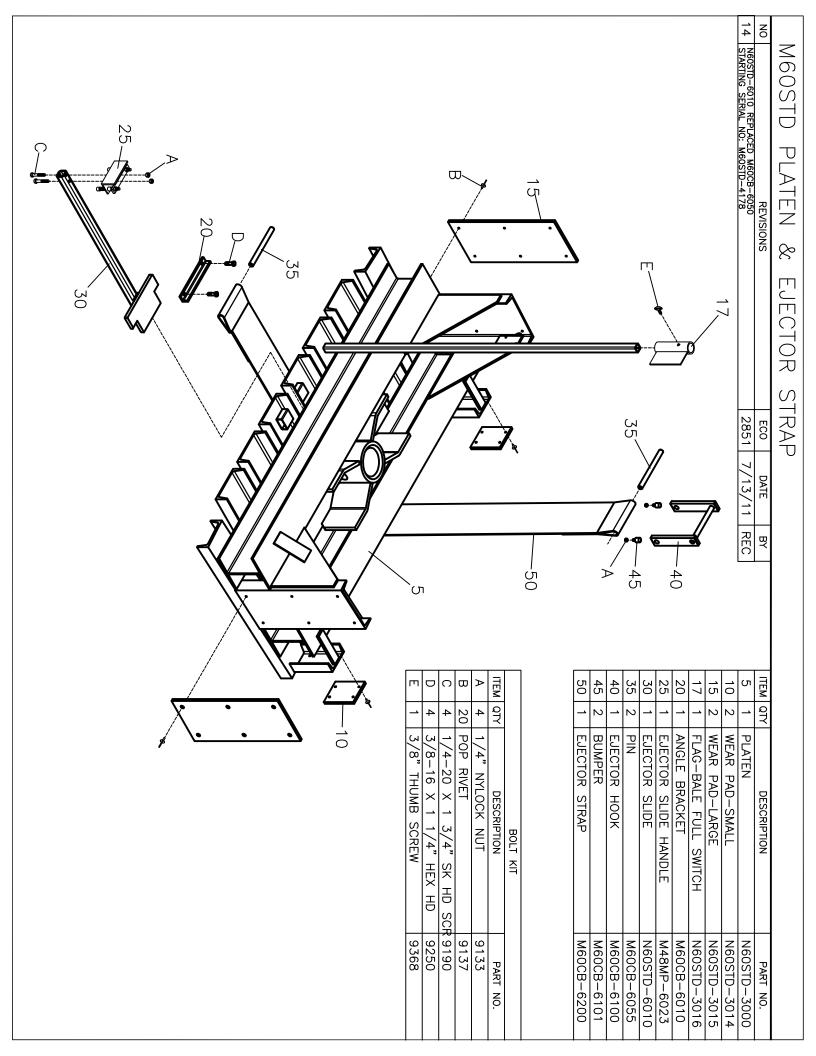
GUIDE TRACKS IN FLOOR OR PLATEN.

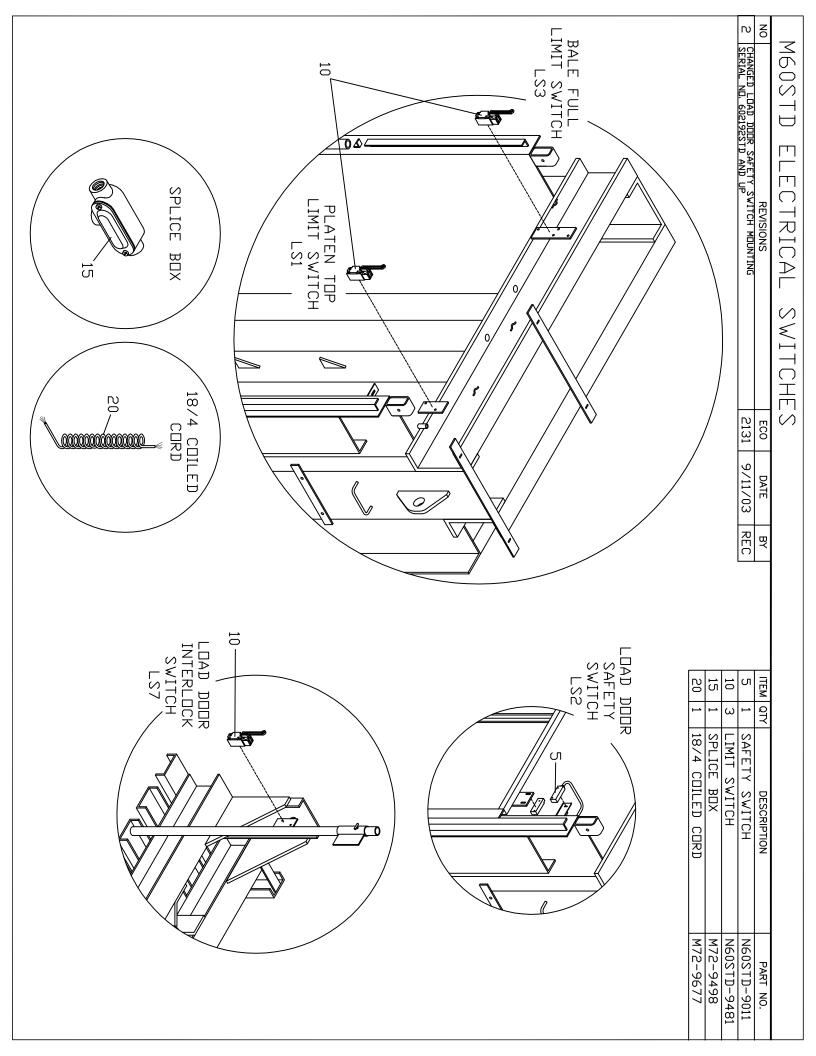


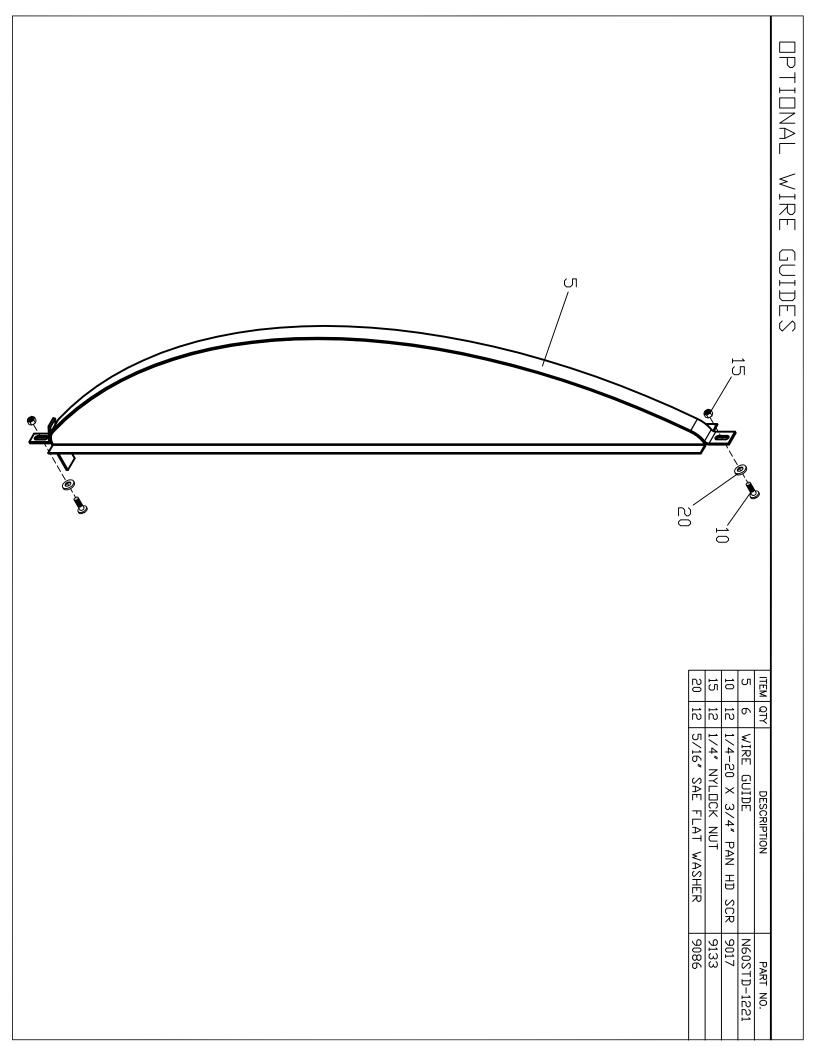


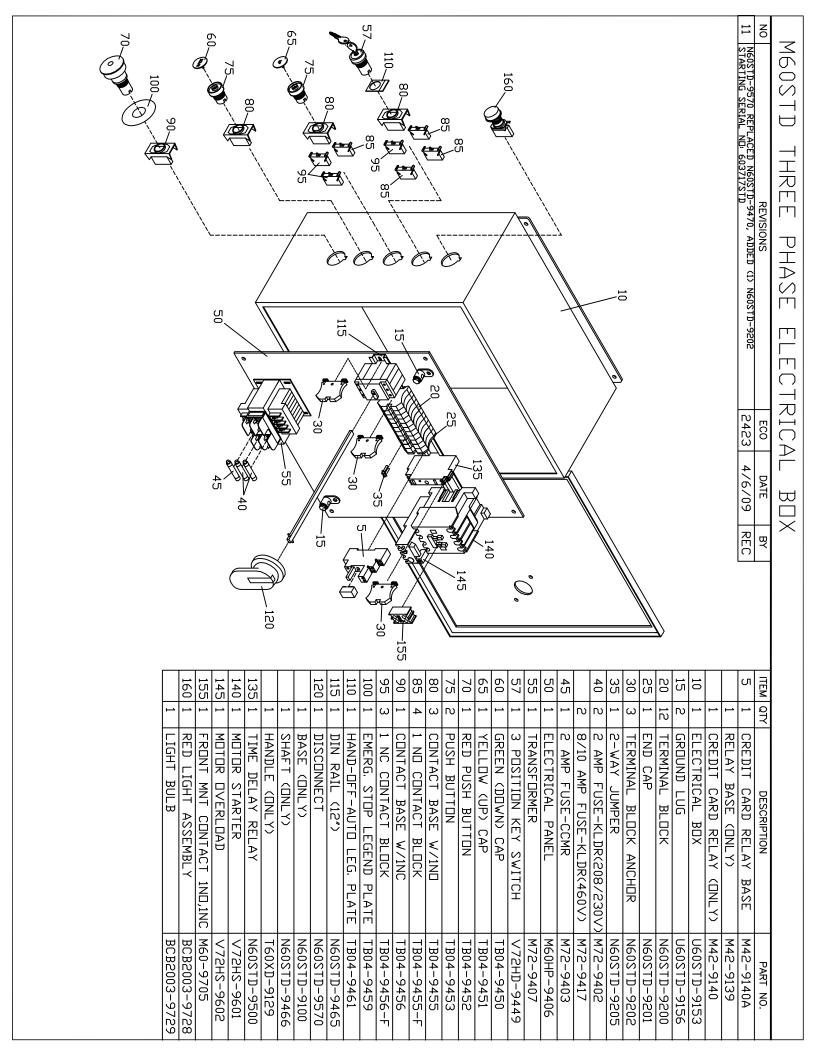












		PANEL
AME	NAME	CONTROL

INDEX	Α						
MODIFICATION	NEW LAYOUT						
DATE	1-20-12						
DRAWING	CCA						
VERIFIED APPROVED							
APPROVED							



DATE OF CREATION:	VERIFIED:	DRAWING:
TION:		CCA
1-20-2012		

1. STARTING SERIAL NUMBER: M60STD-4265

## VERTICAL BALER

**HARMONY M60STD** 

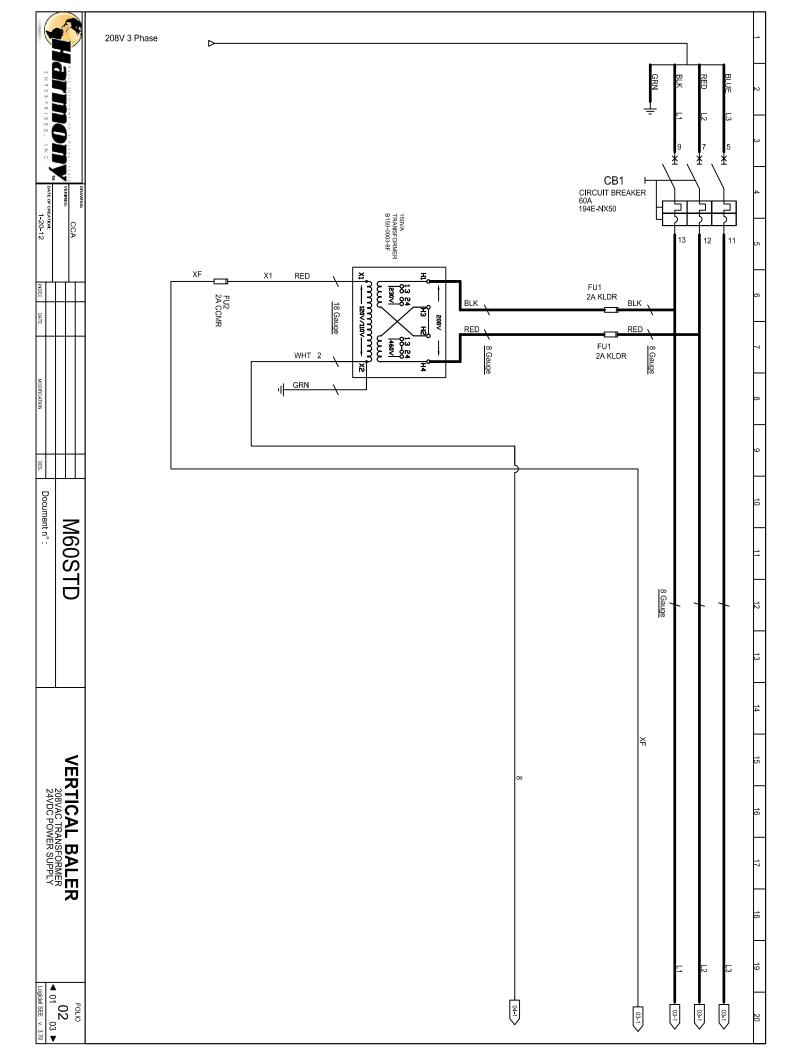
ELECTRICAL SCHEMATICS
PAGE 1

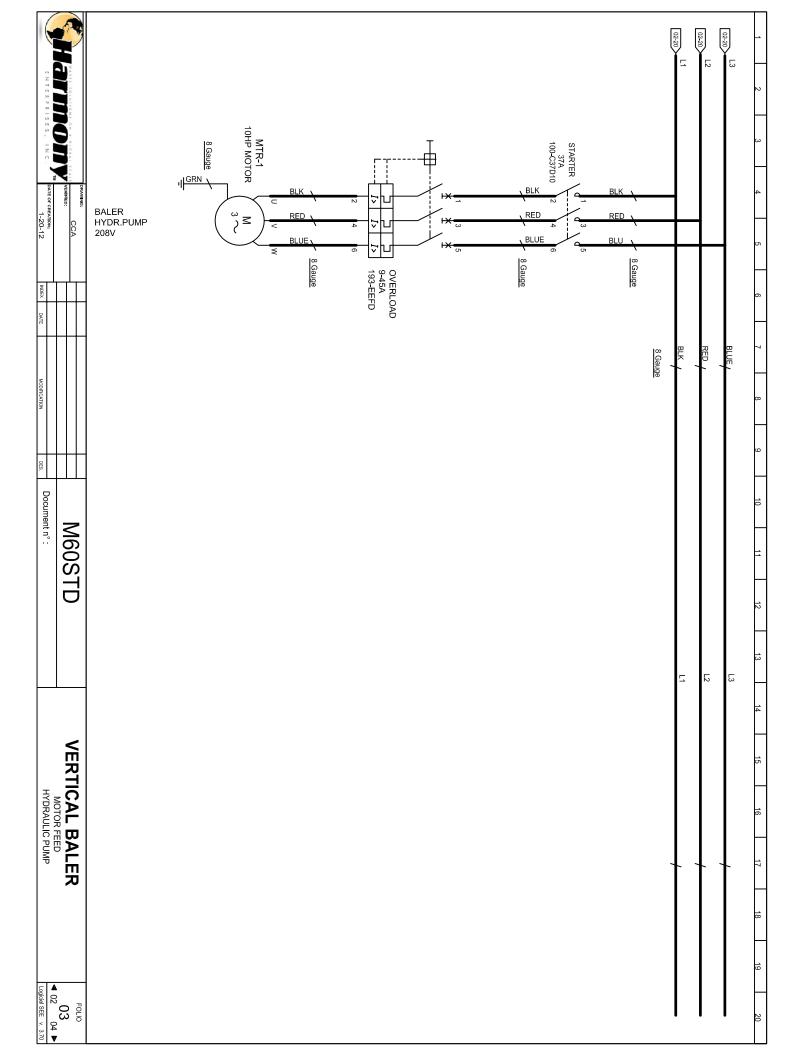
DOCUMENT N°: M60STD-S93208-0112

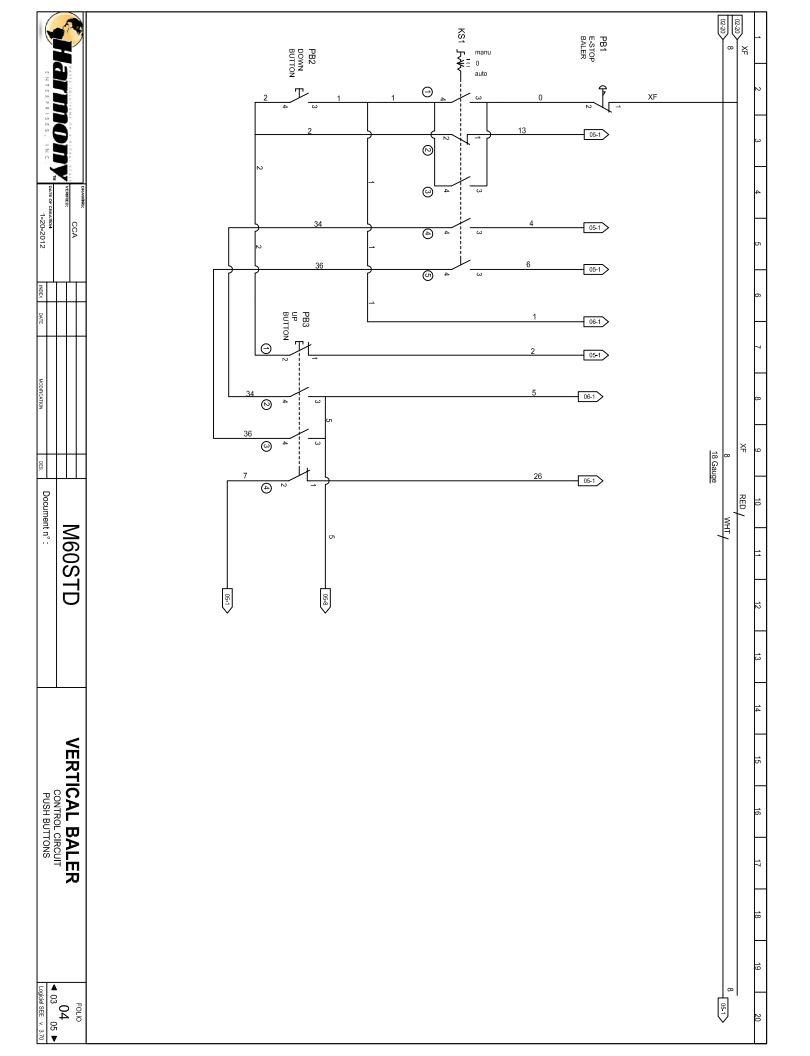
01 / 06

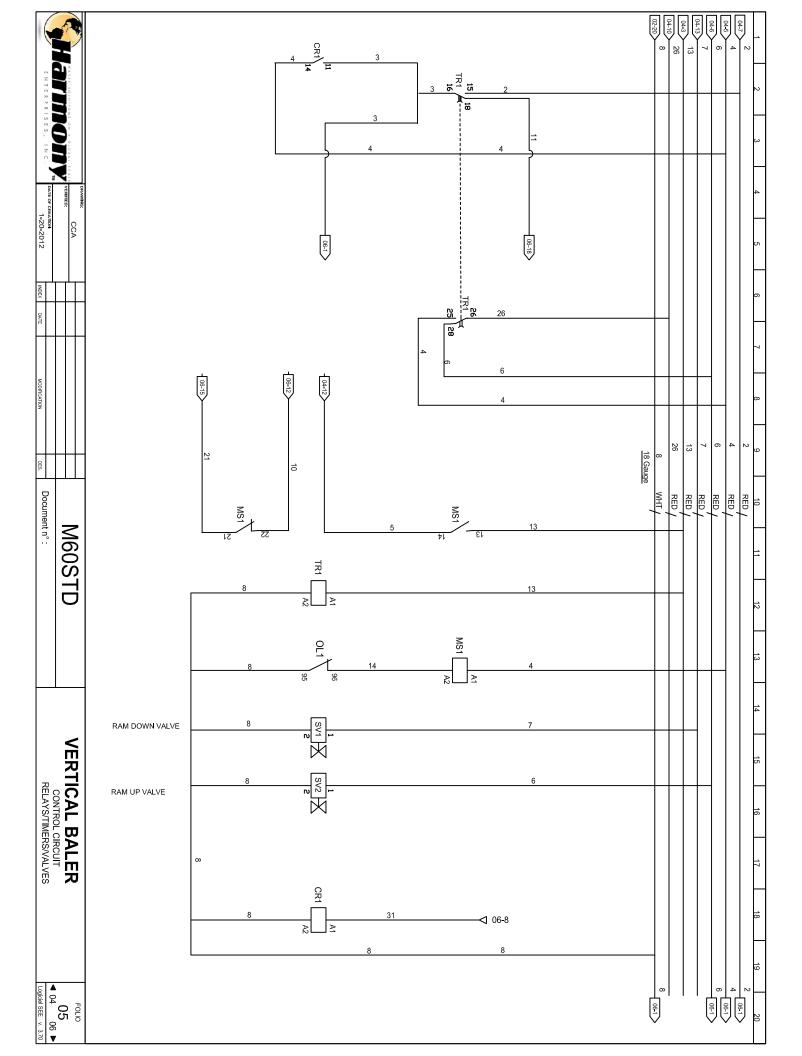
WARNING! Any changes to the original construction, components, programs, wiring and or documents of any kind in any way related to this BALER without authorization from Harmony Enterprises Incorporated will void the warranty and any liability immediately.

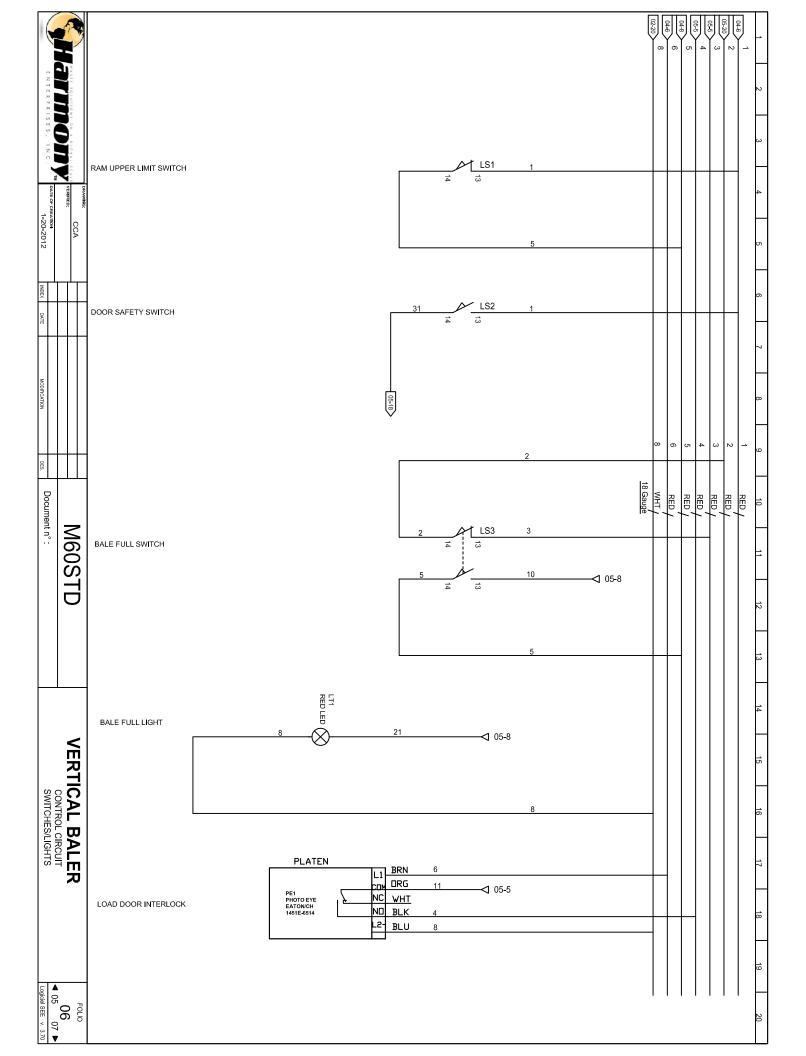
Production Copy











		PANEL
AME	NAME	CONTROL

INDEX	Α						
MODIFICATION	NEW LAYOUT						
DATE	1-20-12						
DRAWING	CCA						
VERIFIED APPROVED							
APPROVED							



DATE OF CREATION:	VERIFIED:	DRAWING:
TION:		CCA
1-20-2012		

1. STARTING SERIAL NUMBER: M60STD-4265

## VERTICAL BALER

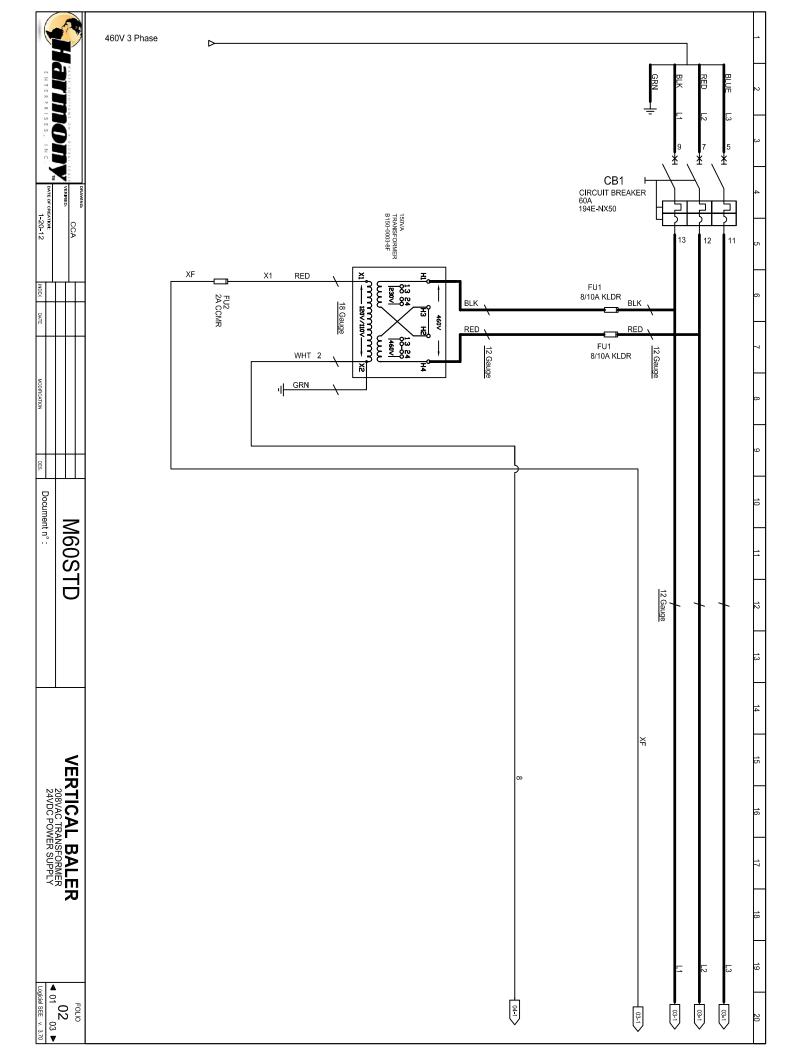
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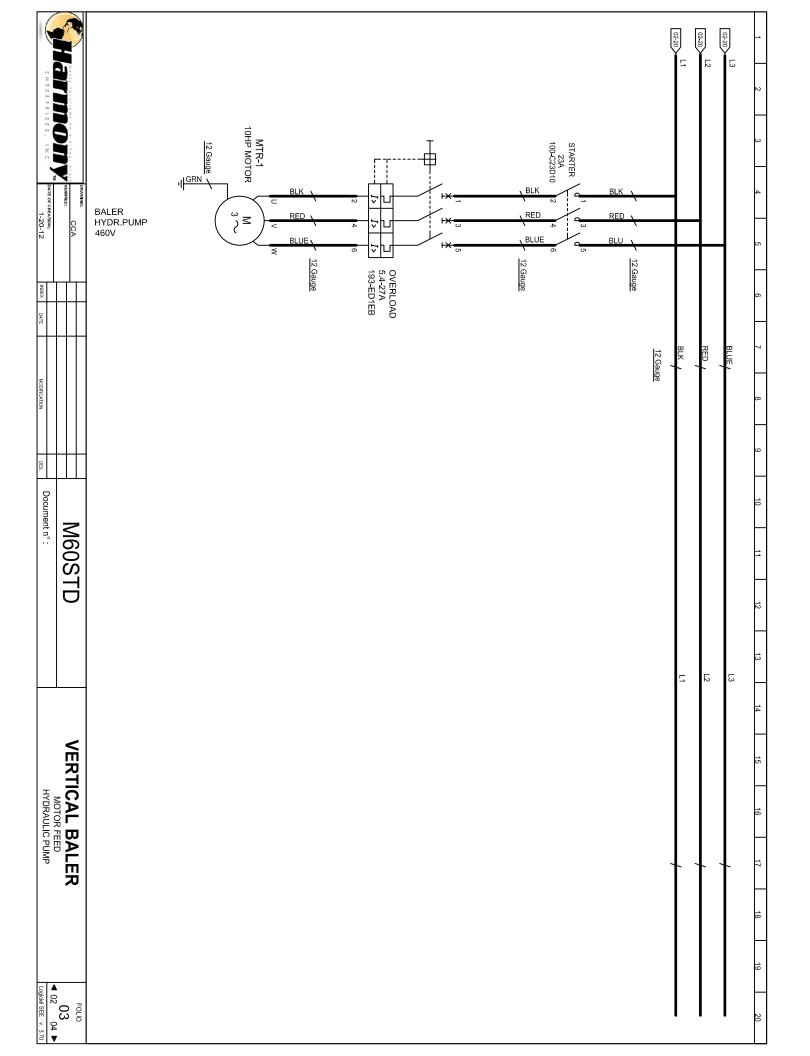
ELECTRICAL SCHEMATICS
PAGE 1

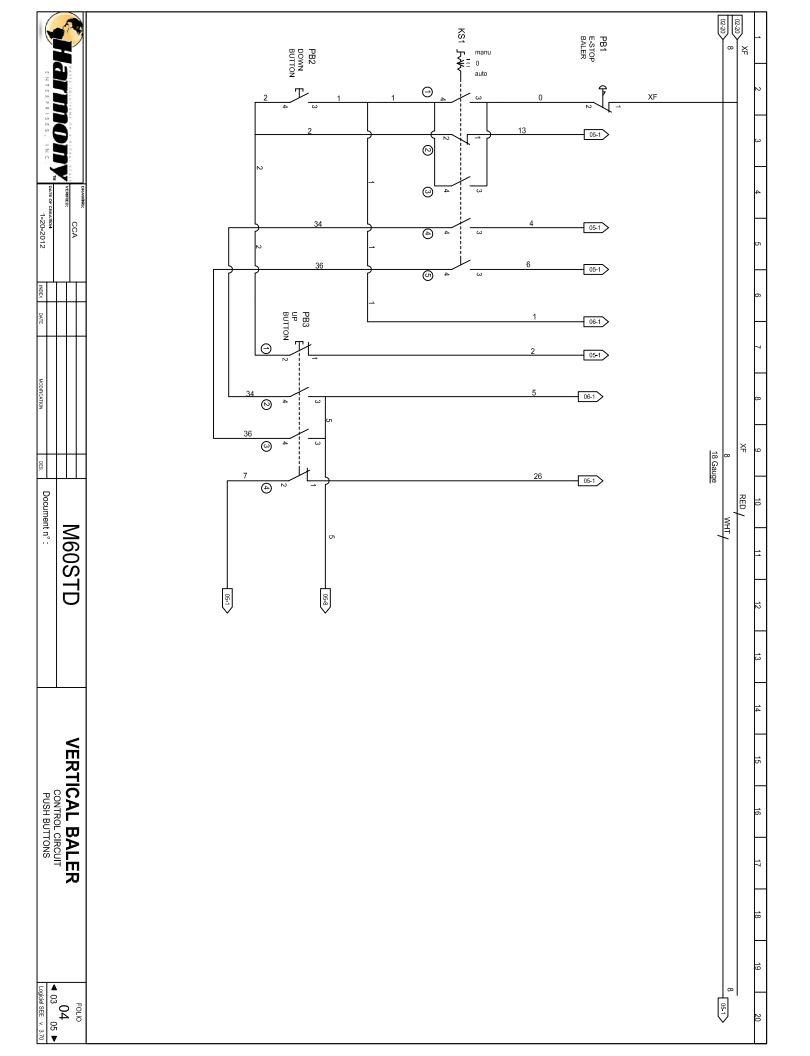
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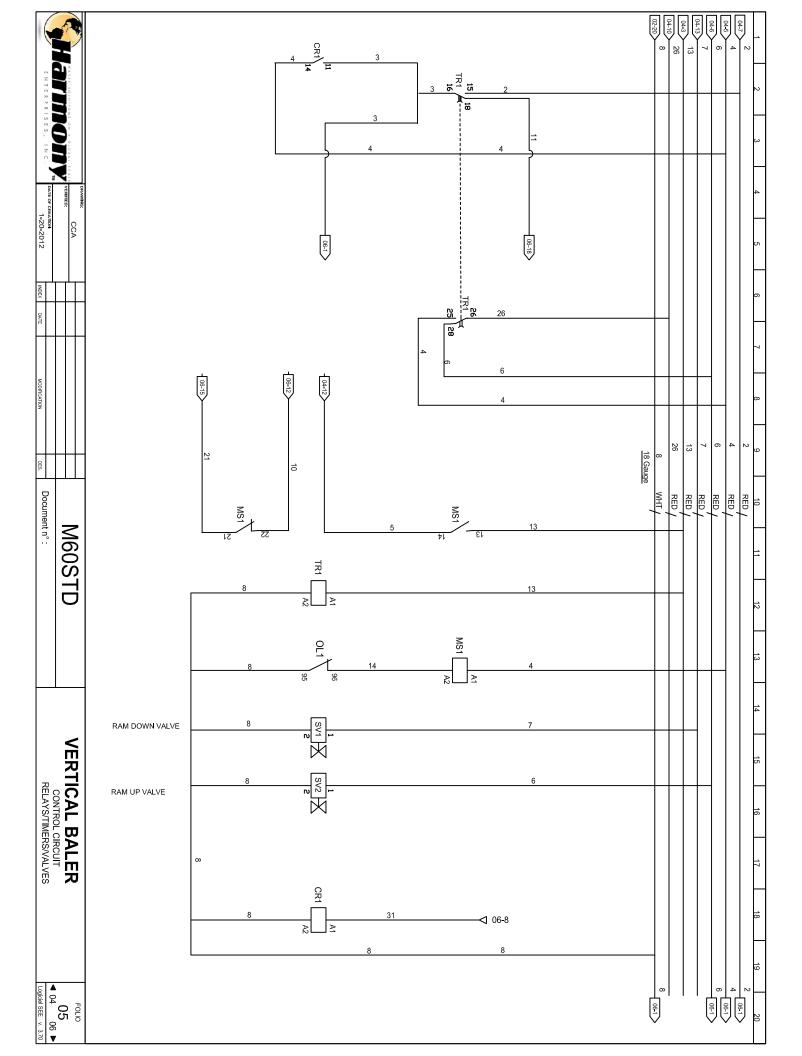
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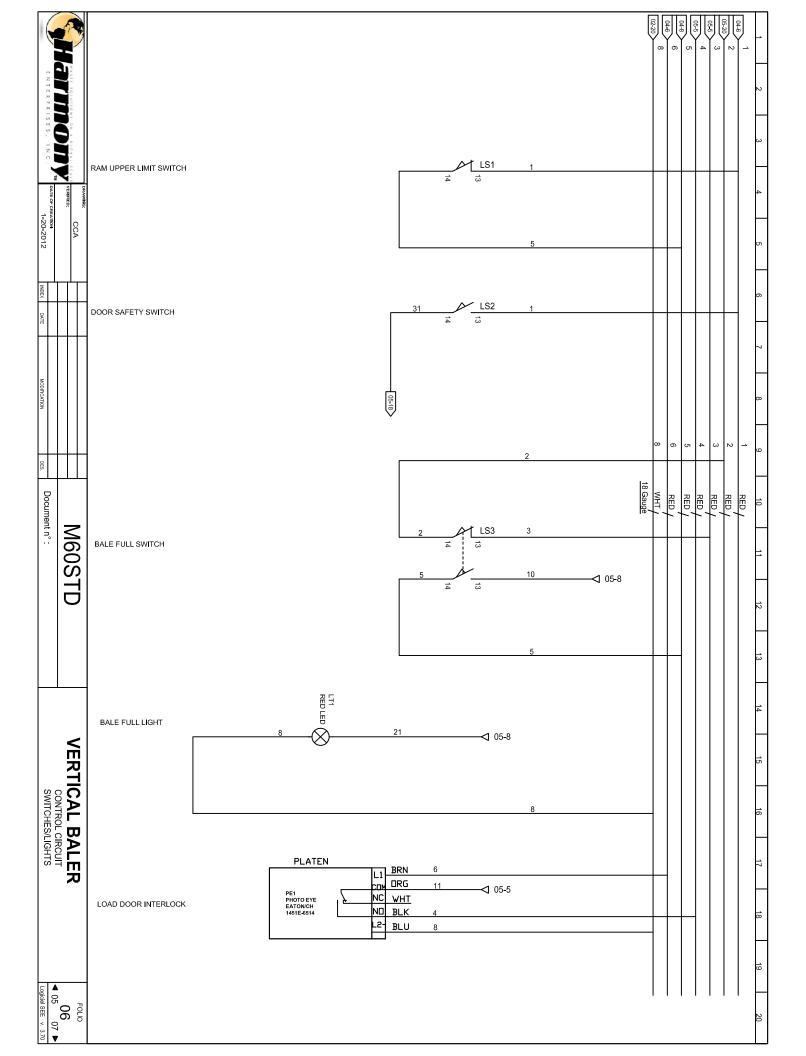
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## **NOTES**
