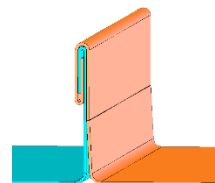
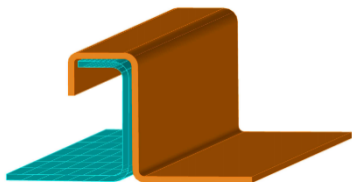


# SS4E OPERATORS MANUAL

RED RIVER MACHINERY  
1-800-229-0759  
<https://www.redrivermachinery.com>

Chapter	Description	Page
1	Specification	3
2	Precautions	3
3	General Maintenance	5
4	Machine Introduction	6
5	Electrical Controls and Operation	9
6	Reel and Reel Stand Assembly	12
7	Entry Guide Assembly	14
8	Shear Assembly	15
9	Drive System	16
10	Bead Roller Assembly	18
11	Clip Relief Assembly	20
12	Run Out Table	21
13	Remote Limit Switch	22
14	Electric Drawings	23
15	Warranty	24



# 1.0 Specifications

**Size:** Length 5' 4" (1.6m); Width 3' 5" (1.1m); Height 1' 9" (0.5m).

**Weight:** 1000\* lbs. (455 kg)

**Operational Speed:** Changeable 3 Speed (Change sprocket and chain)

Options 26 – 36 - 46 ft/min (8 - 11 - 14 m/min) Approx.

**Drive:** Polyurethane and lower steel forming Rollers

**Shear:** Manually Powered, Entrance end slitter

**Coil Width:** Width Adjust with simple crank in range of 15" to 28" (380mm to 711mm)

**Materials Formed:**

Steel 30 ga. to 24 ga. (.3mm to .6mm) (painted, galvanized, aluminized)

Aluminum .019" to .032" (.5mm to 08mm)

Copper 16 oz. to 20 oz. 3/4 Hard (.5mm to .7mm)

**Length Control:** limit switch

**POWER:** 1½ hp, 120v, 60hz, single phase electric motor

**FORMING ROLLERS:** Chrome plated steel

**CONTROLS:** Push button entry and exit end manual controls with "JOG" feature and power interruption safety wiring.

## 2.0 PRECAUTIONS

1. READ THIS ENTIRE MANUAL BEFORE ATTEMPTING TO OPERATE THIS PIECE OF EQUIPMENT.
2. ALWAYS keep covers, guards, and lids on during machine operation and storage.
3. OBSERVE and obey all safety and warning signs affixed to machine.
4. STOP the machine and disconnect the power supply before attempting to make any adjustments, do any maintenance or perform any changeover procedures.
5. ALWAYS have a trained person operating the machine that has read this manual in its entirety prior to attempting to operate this equipment.

6. DO NOT wear loose clothing, jewelry, etc. that could become entangled in the moving parts of the machine while in operation.
7. ALWAYS adhere to and follow all local and national safety codes concerning the operation of loading and unloading of reeled coils. Always use a properly rated device for lifting reeled coils into or out of the reel rack.

## 3.0 GENERAL MAINTENANCE

### DO'S

1. DO keep your machine clean and free of debris and foreign matter. A clean machine will provide a clean end product.
2. DO visually inspect machine each day prior to operating.
3. DO lubricate shear daily with waterproof lube.
4. DO clean and lubricate tooling Carriage Rods monthly with waterproof lube
5. DO re-tension and lubricate chains at least twice a year with waterproof lube.
6. DO store machine indoors whenever possible.

### DON'TS

1. DO NOT store or transport your machine with material loaded in the drive and forming tools. This only collects water, dirt, and debris that can cause damage.
2. DO NOT over tighten the chains. Keep chains tensioned correctly, and lubed with dry type chain lube for long life. Chains should be just snug.
3. DO NOT store machine uncovered and exposed to the elements outdoors for long periods of time. Cover over with a tarp, and provide good ventilation to help prevent condensation and rust.

# 4.0 MACHINE INTRODUCTION

## 1. MACHINE ORIENTATION (Fig. 1, Pg. 5)

The SS4E machine components are identified according to which side of the machine they are on and where they are relative to the entry end of the machine. The left and right sides of the machine are identified when looking from the entry end of the machine toward the exit end of the machine. The rails, drives, tooling stations, etc. are numbered beginning from the entry end of the machine.

## 2. MOUNTING FOOT DETAIL (Fig. 2, Pg. 6)

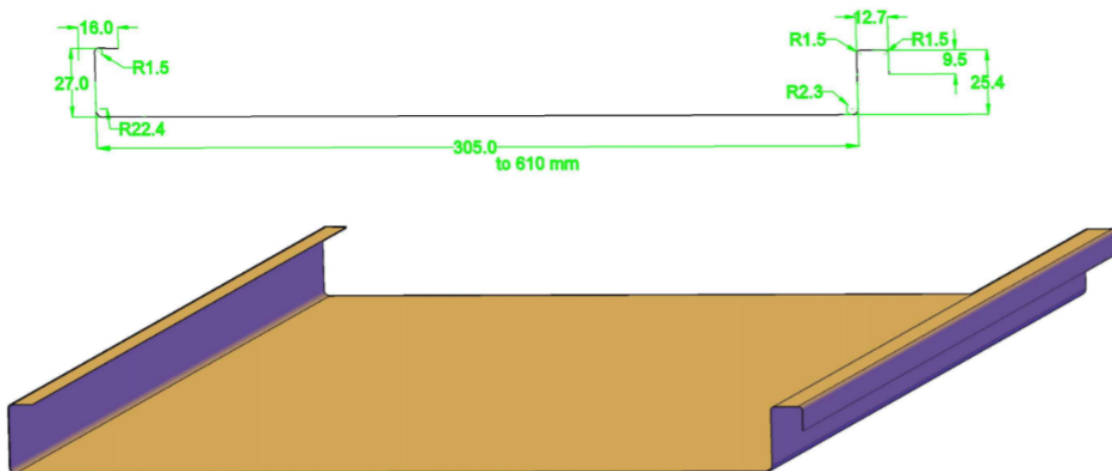
The SS4E can be ordered with an optional trailer that is configured to locate the machine for proper hitch/axle loading.

Liberty assumes no responsibility for proper trailer/hitch loading for a non-Liberty supplied trailer.

Past experience has shown that the SS4E and the Liberty supplied trailer can be towed with most  $\frac{3}{4}$ -Ton pickup trucks although a 1-Ton pickup may be required in some instances. It is the responsibility of the machine owner to consult with the motor vehicle manufacture to insure the proper trailer/vehicle combination.

## 3. PROFILE DRAWINGS (Fig. 3, Pg. 7)

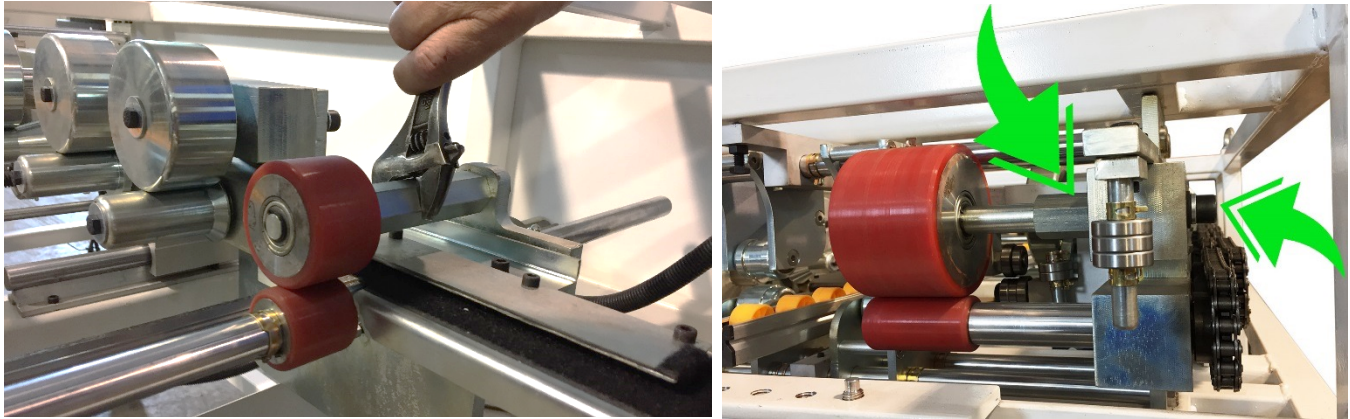
You should refer to Figure 3 for the finished panel dimensions on the profiles that can be installed in the SS4E



**To adjust tension of between driving urethane rollers:**

Loosen bolt on the side of the hexagonal shaft

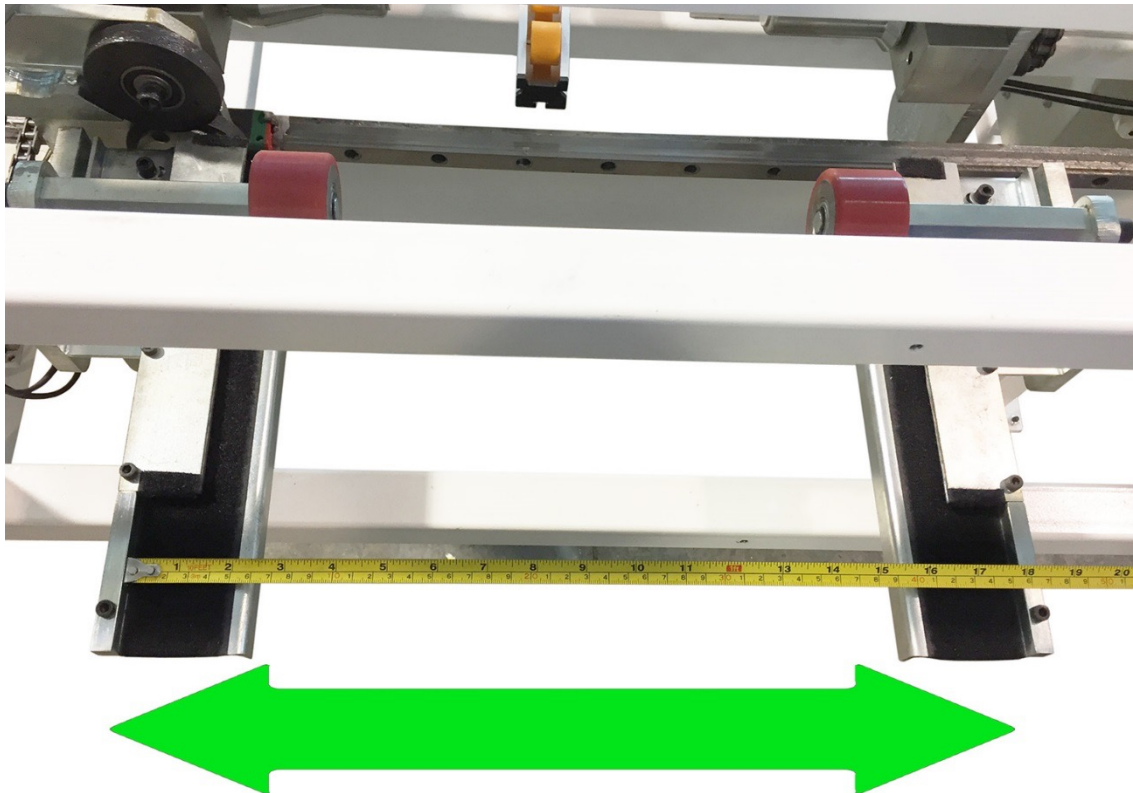
Turn hexagonal shaft with wrench (it's made with eccentric so while turning the shaft – upper urethane roller will move up / dawn)



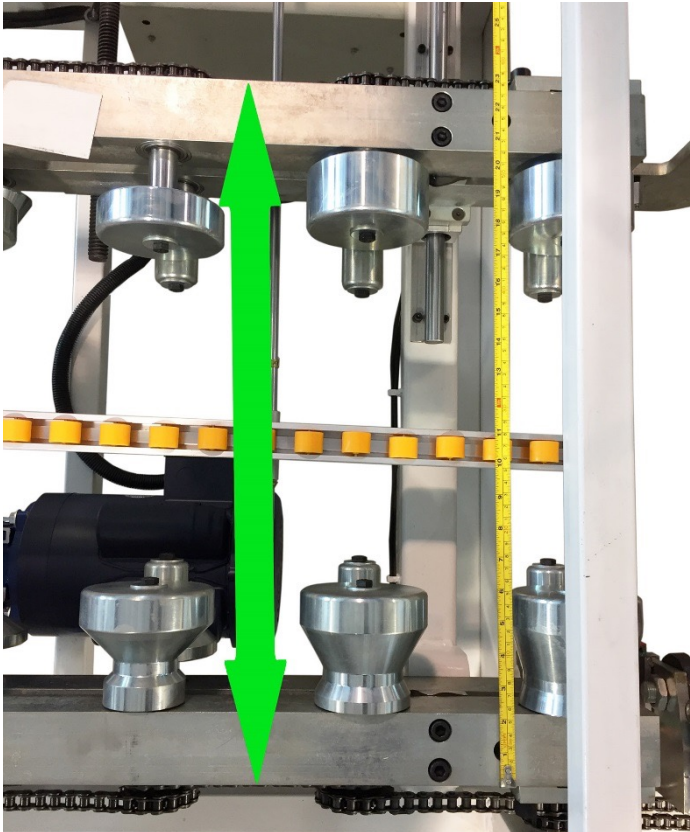
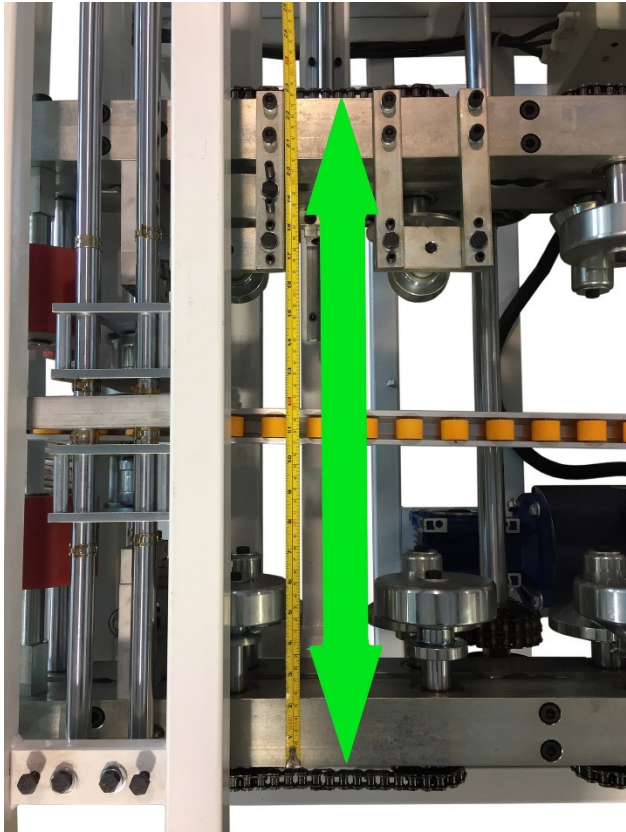
**To adjust machine for operation with different material width:**

Measure width of your metal coil / strip;

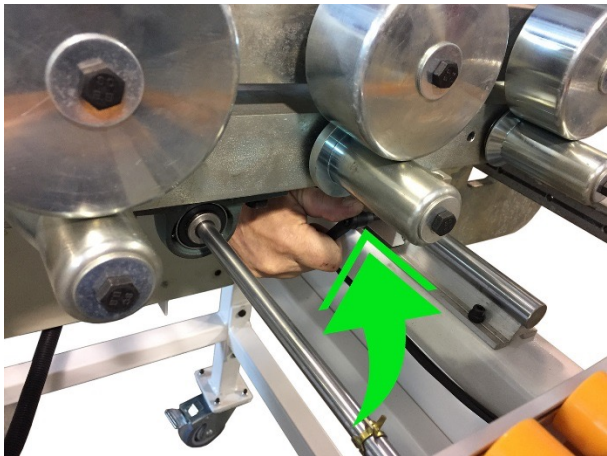
Using side handle - set the same distance between feeding guidance as your coil +1~2mm;



Check / adjust rollforming side bars to be parallel to each other (measure the distance between rollforming side bars – should be same).



Fix movable rollforming side with two handles for front and back sliding shafts.





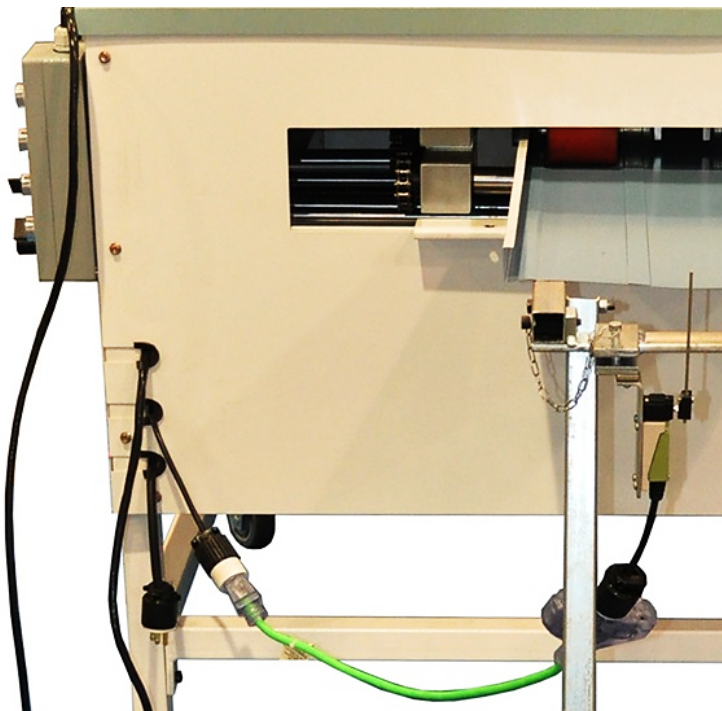
# 5.0 ELECTRICAL CONTROLS AND OPERATION

## 2. POWER CORD REQUIREMENTS

It is very important to follow the power cord requirement prescribed by the motor and electrical control manufacturers to maintain their respective warranties. Make sure the cord you are using is marked properly. Do not assume that because an extension cord looks heavy enough that it is the right gauge. Always make sure the cord has a factory mark of 10/3. Use of the wrong gauge extension cord will void the warranty on motor and electrical controls.

Your SS4E machine should be connected to the power source with a 10 gauge 3 wire 20 amp cord (not supplied). The power cord should be plugged into a 20-amp circuit to avoid tripping breakers. Replacement cords should be of the same gauge and rating as the one supplied with your machine.

## 2. CONTROL PANEL OPERATION: (Fig. 4, Pg. 9)

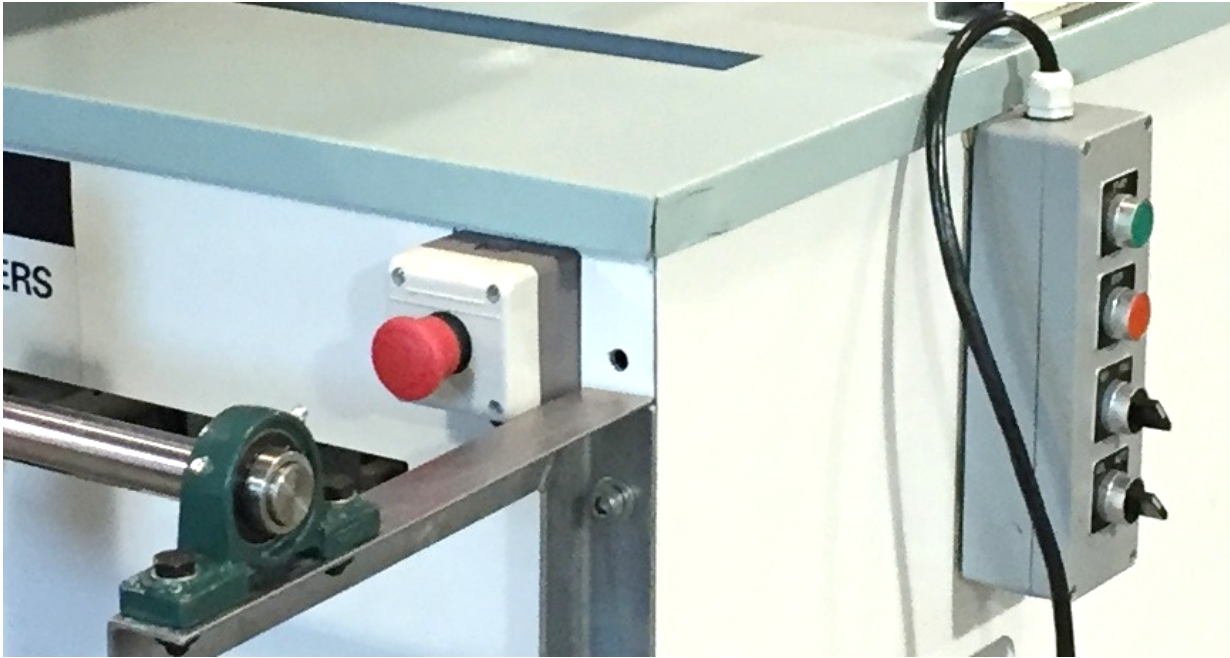


A. Forward - Reverse Switch This selector switch controls the direction of movement of the material through the machine. Select forward to feed material and run panel through the machine. NOTE: For operator safety, your machine will not run continuously in reverse.

B. Jog-Run Switch This selector switch allows you to run the machine continuously, or jog material through the machine. Select JOG to load coil into machine and to move material through the machine in small increments until it clears the shear dies. Select run after material has cleared the shear, and you are ready to run panel. NOTE: Limit switch must be plugged in to run continuously.

C. Green Start Button (Entry and Exit End) This button is used to activate the drive system of the machine.

D. Red Stop Button (Entry and Exit End) This button acts as an emergency stop, and pressing either the entry or exit button will stop the drive system of the machine in case of an emergency.



NOTE: For operator safety the machine is designed to JOG only in reverse regardless of the position of the RUN- JOG switch

REMOTE LIMIT SWITCH (Fig. 5, Pg. 11) Note: Your machine will not run continuously in the forward direction unless the REMOTE LIMIT SWITCH is plugged into the machine. The Remote Limit Switch is used for panel length control. It is designed to attach to the right side of the optional RUN OUT TABLES available for your machine. Plug the female end of a 3-wire 14-gage extension cord into the limit switch, and the male end into the female plug of the machine. The length of the panel you intend to run determines length of the extension cord needed. Run out a panel to the desired length and stop the machine. Slide the Remote Limit Switch onto the tube on the right side of the run out table so that the ARM of the switch is against the end of the panel. Pull the limit switch back toward the shear until you hear a click in the Limit Switch Head and secure the limit switch at this location. Cut and remove the set up panel from the table. Push the start button and run the next panel allowing the limit switch to stop the machine. Measure this second panel, and make any necessary adjustment to the limit switch to obtain the desired length. Repeat as necessary.





# 6.0 OPTIONAL REEL & REEL STAND ASSEMBLY

CAUTION: Always use properly rated lifting devices to load and unload coils.

Maximum Capacity / Reel: 3,000 lbs. (2000 lbs if mounted on SS4E)

1. The reel axles must rest in the cradles on the reel rack. Keep the cradles lubricated with synthetic lube to minimize wear.
2. Use the Hold Down Brackets on each cradle to secure the coil and reel to the reel stand during both operation and transit of the machine. The Hold Down Bracket can be used to keep the coil from uncoiling to fast during the fabrication of panels. Apply just enough drag to keep coil tensioned.

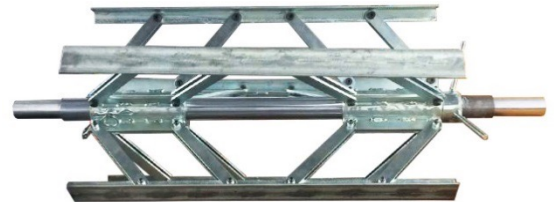
Caution: Do not over tighten Hold Down Brackets during machine operation. This will cause excessive load on the drive and electrical systems and premature failure will result. Do tighten Hold Down Brackets tightly prior to transport of the machine.



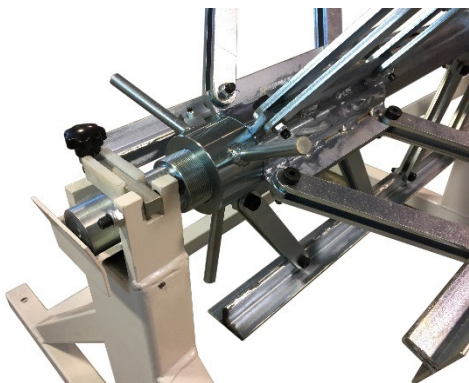
## EXPANDABLE ARBOR

The Expandable Arbor adjusts to accommodate coil with 16" to 20" inside diameters by expanding into the ID of the coil.

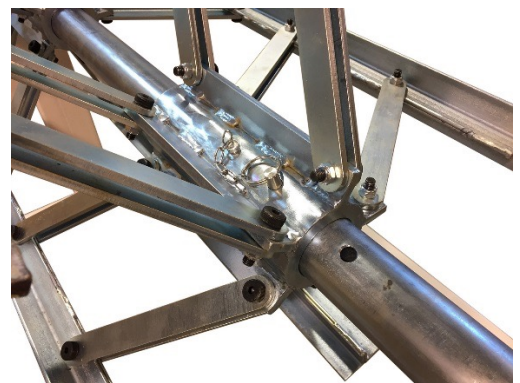
Also there is a pin on the one center tubes for changing for a 16" ID coil or 20" ID coil, making the Expandable arbor reel very versatile.



## THREADED NUT



After adjusting the pin for 16" or 20" ID, the threaded nut is used to increase or decrease the outside diameter of the arbor. Turning the nut clockwise will increase the outside diameter of the arbor, and counter-clockwise rotation will decrease the arbor size.



## **LOADING EXPANDABLE ARBORS WITH COIL**

1. Using the Threaded Nut, collapse the arbor small enough to fit into the inside diameter of the coil.
2. Slide the Expandable Arbor into the center of the coil.
3. Turn the Threaded Nut clockwise until the Support Bars on the arbor are just snug against the inside of the coil.
4. Finish by rotating the Threaded Nut clockwise until the Support Bars are very tight against the inside of the coil. Verify that material is in proper alignment with machine. The Coil and Arbor are now ready for loading.

## **LOADING REELED COIL**

Caution: Always use a forklift or other approved lifting device to load or unload reels and coils.

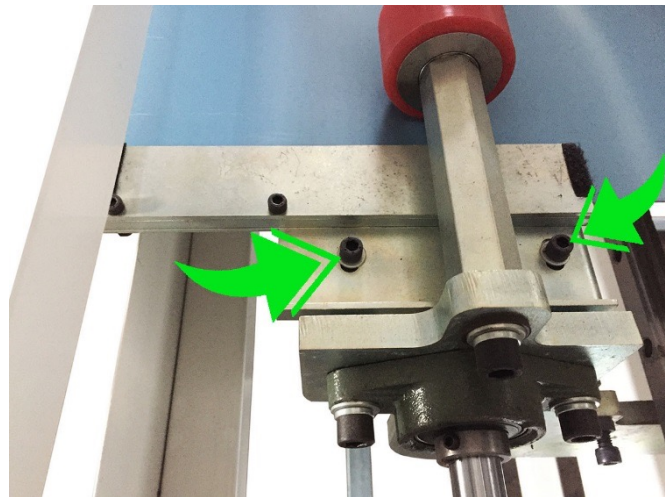
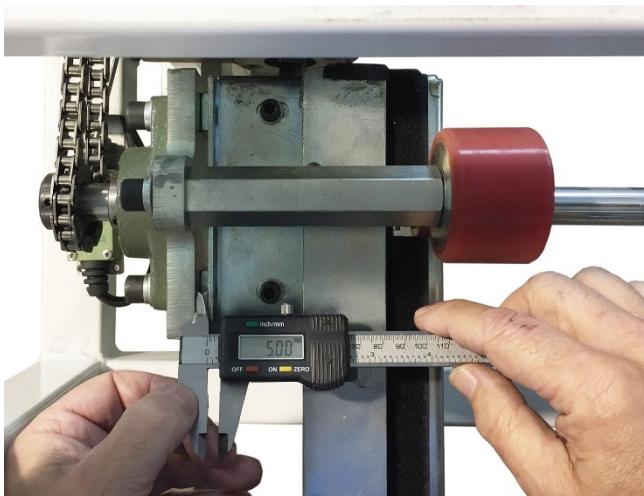
1. Prepare the reel stand by making sure the Hold Down Brackets are in the unlocked and open Position.
2. Using an approved lifting device, lift the reeled coil into the cradles on the reel stand making sure that the tail of the coil is in the correct position for the profile you are running, then remove the lifting device.
3. Rotate the Hold Down Brackets to the closed position and thread the handle onto the hold down bolt. If you are going to run panel from this coil, tighten the left and right handle just snug. Final adjustment of tension should be made while running a panel to keep reel from unwinding material to fast. As the coil becomes smaller, re-adjustment may need to be made. Caution: DO NOT over tighten Hold Down Brackets. Drive and/ or Electrical System Failure may occur.
4. If you are going to transport the machine after loading coil, tighten the Hold Down Brackets securely to keep coil from unwinding during transport, and secure the loose end of the material to the coil.
5. Before transporting the loaded Expandable Arbor, you should also secure the coil around the outside edges through the inside diameter using a strap, rope, etc to prevent the coil from telescoping.

NOTE: Make sure Hold Down Brackets are tightened securely and coil is properly tied off before transporting machine.

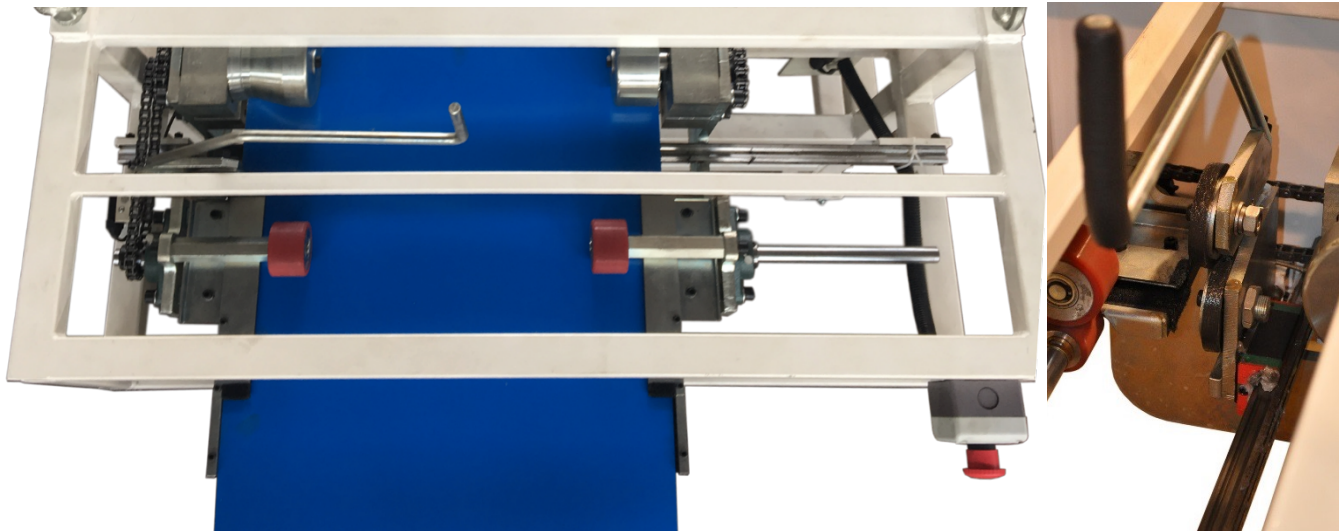
# 7.0 ENTRY GUIDE ASSEMBLY

1. Both Left and Right Guides adjust in the same manner. They are used to guide the material into the machine in the correct lateral position, and keep it straight through the machine.
2. Cut corners of the leading edge of material about 2" you will be running as shown below
3. Loosening bolts on the Left or Right Entry Guide allows the assembly to slide left or right to the required position.
4. Loosen the bolts on the Left Entry Guide, and slide it to the right capturing the coil between the Right and Left Entry Guides. Tighten bolts.

Check position of the feeding sides – for standard double standing seam lock our factory standard position is a gap of 5mm as noted below;  
Loosen two bolts to set required feeding depth.



## 8.0 SHEAR ASSEMBLY



### OPERATION

The shear is a rolling slitter, it is activated by pulling and slitting the coil. (See above and below pictures). The magnet will hold the shear at start position while machine operation. End limit switch will switch of the machine once shear returns to its home position.

### SHEAR ADJUSTMENTS

### MAINTENANCE

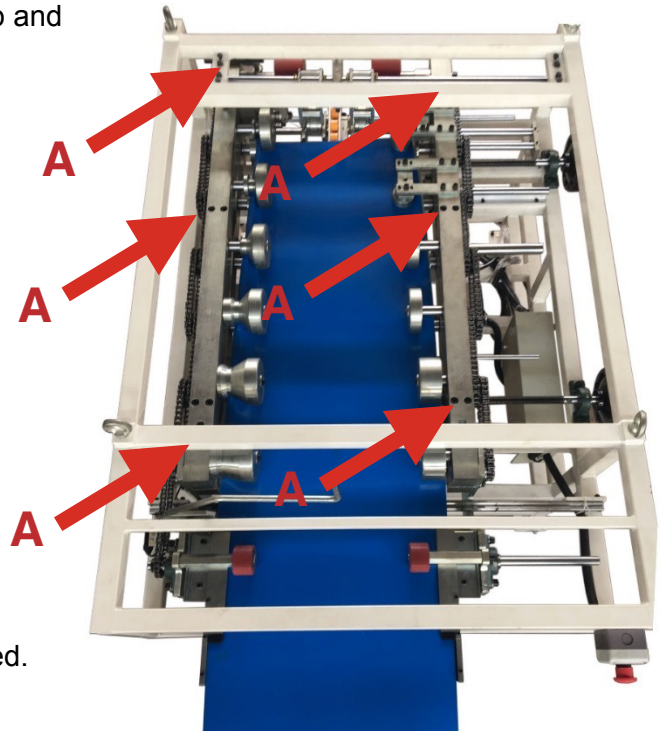
1. Proper lubrication is essential to clean cuts, rust prevention and longevity.  
Recommended lubricant: Super Lube-A Loctite™ product 11 oz. Aerosol Can

## 9.0 DRIVE SYSTEM

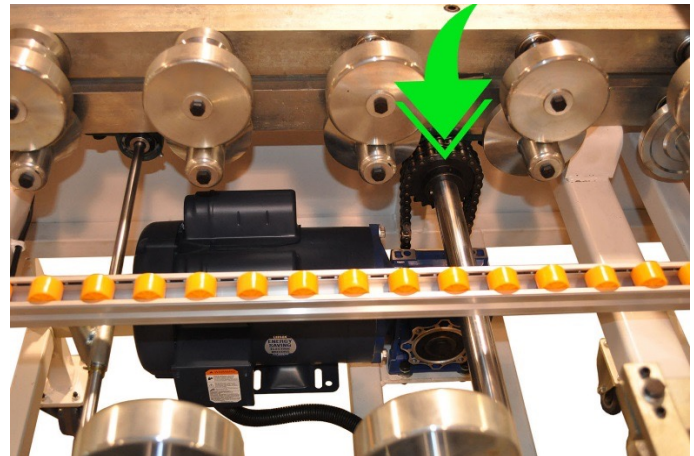
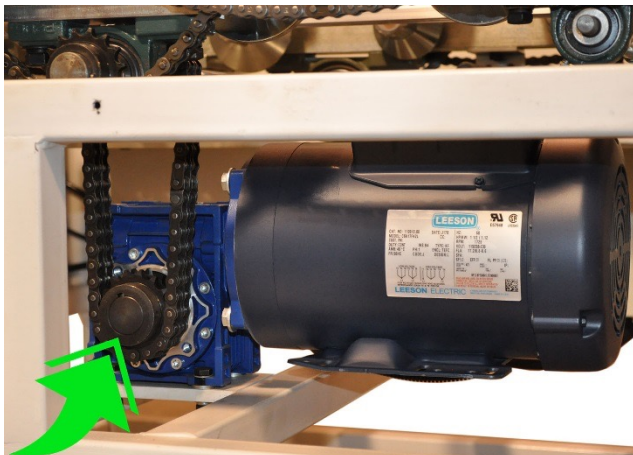
1. There are right and left drive assemblies powered by chains and sprockets. The pressure between the top and bottom rollers has been factory set. The top forming rollers can be adjusted in depth by raising or lowering the square top side bars. To adjust, you must loosen 3 bolts on each side and then tighten 3 sets of hex head bolts (A) on the top of the square side rails to increase pressure if material is slipping, or loosen these 3 sets of hex head bolts (A) to raise if they are set too tight on your material. A rubber washer keeps some distance between.

Should adjustment become necessary due to slippage, adjust slightly with feeler gauge to make the gap between rollers smaller. Measure distance first, adjust to smaller gap if slippage occurs.

2. Try running panel to see if the slippage has stopped.



If you like to increase rollforming speed while using 24Gauge material, you may switch **smaller** main motor-reducer sprocket with **bigger** one on the main driving shaft.

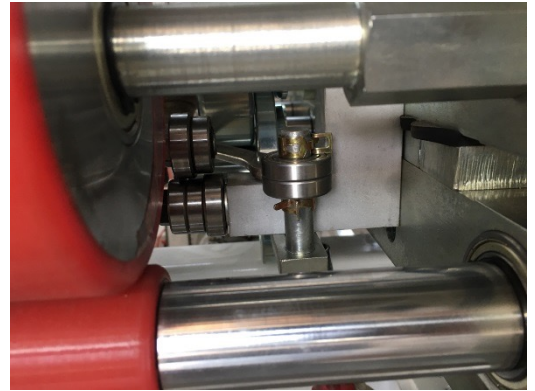




### Adjustment of the seam lock angles.

there is end adjustment on either side with bearing stacks to adjust the angle of your seam locks. Adjust as necessary as material exits the machine. You may need to reverse the material back before this station in order to adjust and then test again.

This adjustment should be checked when you change material thickness, tensile strength, or other changes in material. Once it is set for a particular coil, you should be good to go!

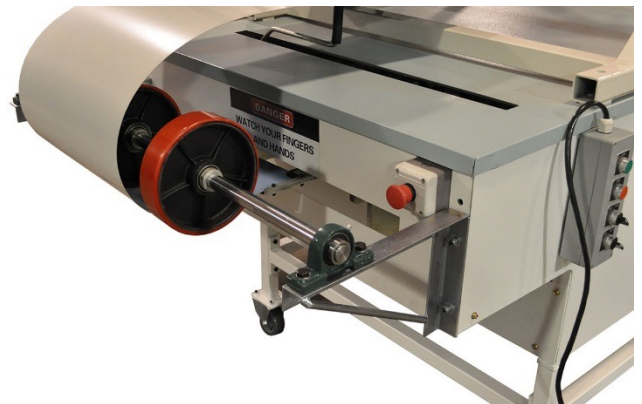


### Drive System Cleaning and Lubrication

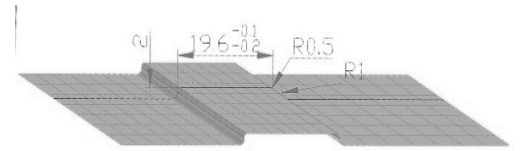
1. DO NOT use solvents such as paint thinners, acetone etc. to clean urethane drive rollers. Use of a cleaner such as 409 or mild soap and water is recommended.
2. Check tension of chain lubricate at least twice a year. Chains should have a minimum of 1/16" of play, but not too sloppy. As your chains wear, you can replace the chains as necessary.
3. Lubricate chains at least twice a year or whenever they appear dry. It is recommended that a dry lubricant be used to avoid sand, dirt, and foreign matter build up. See Shear Maintenance lubrication call out, Pg.22 for details.

Recommended lubricant: Super Lube-A Loctite™ product 11 oz. Aerosol Can  
Available from: MSC Supply at 1-800-645-7270 Catalog Item #00257048

### Reverse Rollers (optional)



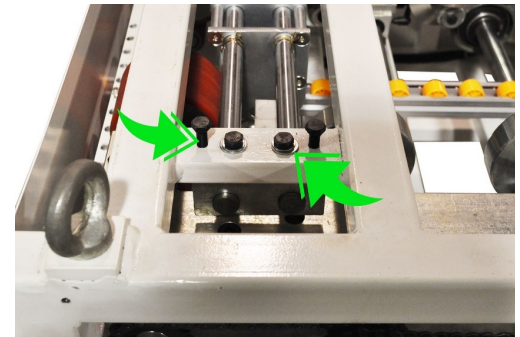
# 10. BEAD ROLLER ASSEMBLY



1. The Bead & Striation Roller Assembly is located near the exit and is accessed by removing Top Cover . The rollers can be engaged or disengaged as needed and can also be moved left or right to accommodate different panel widths.

SHUT OFF THE MACHINE AND DISCONNECT THE POWER BEFORE CONTINUING.

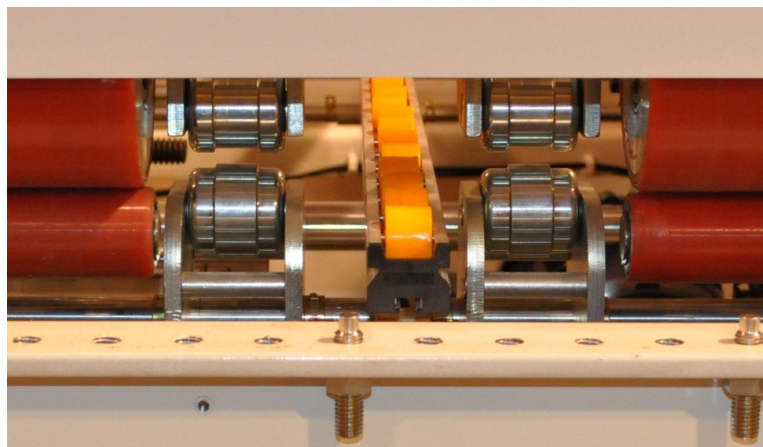
Adjust tension of the top rollers with bolts that apply pressure. These are at the right and the left side of the machines, shown by arrow at top picture.

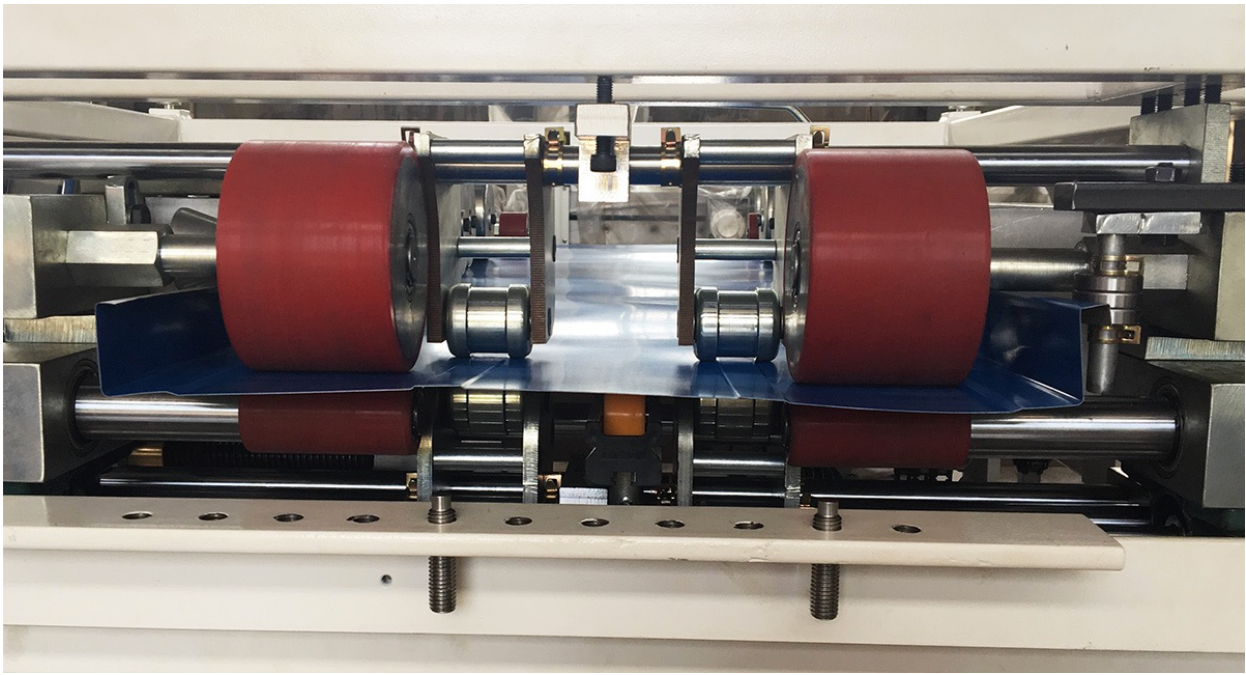


DO NOT go below .045" minimum clearance; excessive bead depth will distort your panel. Re-tighten screws "C".

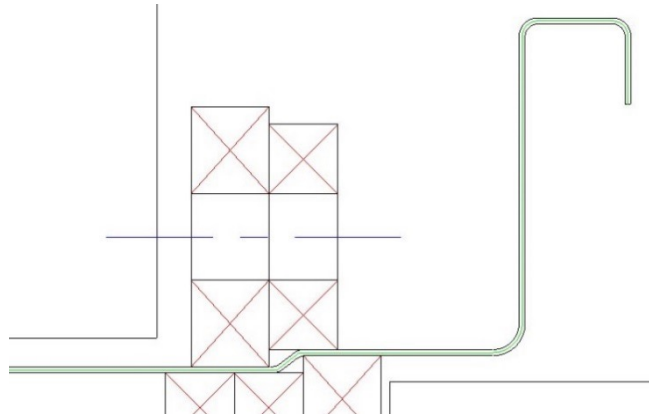
4. Keep slide bars lightly greased to allow bead or striation assemblies to slide smoothly.

If you do not need bead grooves on your panel, expand distance between beading rollers. You can see this in the picture below. Bead rollers are raised so that no pressure is on the material between bead rollers top and bottom.



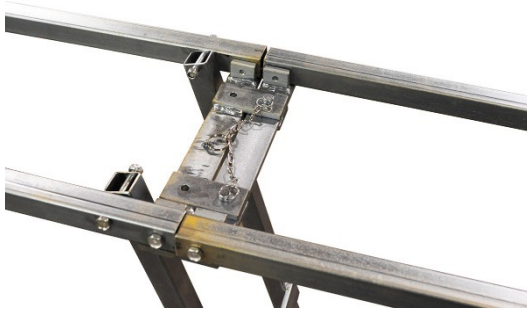


## 11.0 CLIP RELIEF ASSEMBLY



1. Clip Relief Rollers are optional and can be engaged or disengaged as required.
2. To engage Clip Relief Rollers.
  - A. Refer to tooling rail setup sheet (Figures 18-22, Pages 33-37) that corresponds to the profile you are forming.
  - B. Note the location of clip relief assemblies on left and right rail, and locate them on your tooling set.
3. To engage the clip relief rollers loosen lock down screw “A” and insert a 3/16” allen wrench into either small hole on the upper eccentric shaft “B”.
4. Rotate the eccentric shaft to engage or disengage the top roller assembly from the bottom roller assembly. Adjust both left and right bead assemblies to the desired depth.

## 12.0 RUN OUT TABLE



The Run Out Table (see above pictures ) attaches to the Exit End of the Shear assembly, and is used to support the panel as it exits the machine. It is available in 10 ft. long sections that fasten together, and have adjustable legs so they can be set to the correct height. The Remote Limit Switch is designed to be used with the run out tables for controlling panel length.

1. Set the first Run Out Table on its side and in front of the machine with the leg assembly away from the shear.
2. Open the leg assembly bolt it together and set it upright on the ground.
3. Bolt sections together
4. Attach to machine.
5. Repeat the above procedures for each succeeding table and attach it to the bracket on the end of the previous table.

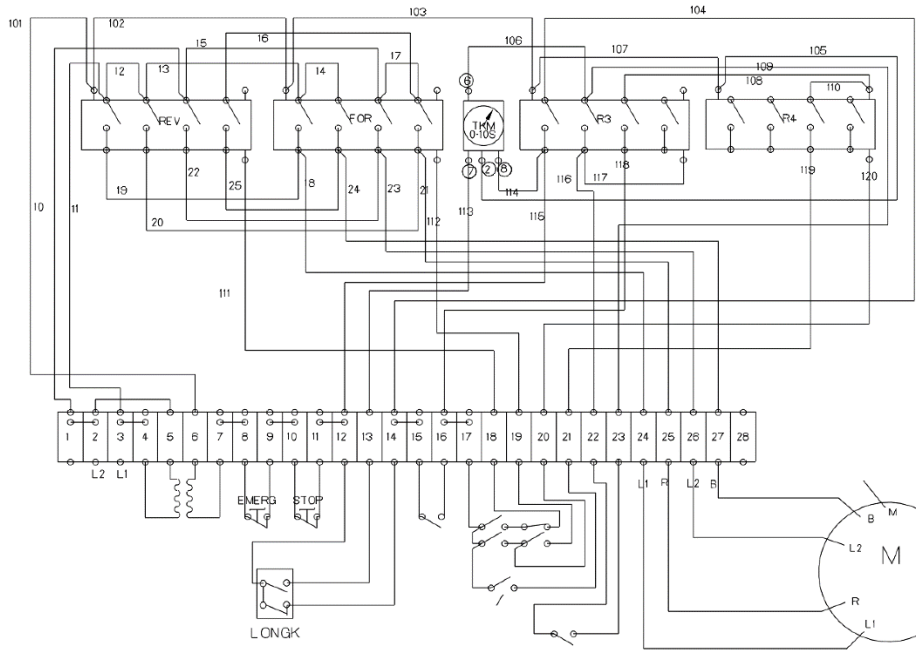
## 13.0 Remote Limit Switch

The Remote Limit Switch is designed to be used with the run out tables for controlling panel length. It must be connected to the female plug on the exit end of the machine. It can be connected with a standard USA 3 prong 120v extension cord. When material hits this limit switch the machine will stop. Once the machine stops, and you shear, the machine will be able to run forward with limit switch engaged while material exits the machine.

When material exits the machine you remove the material, from the table and the limit switch then can stop the next piece of roofing.

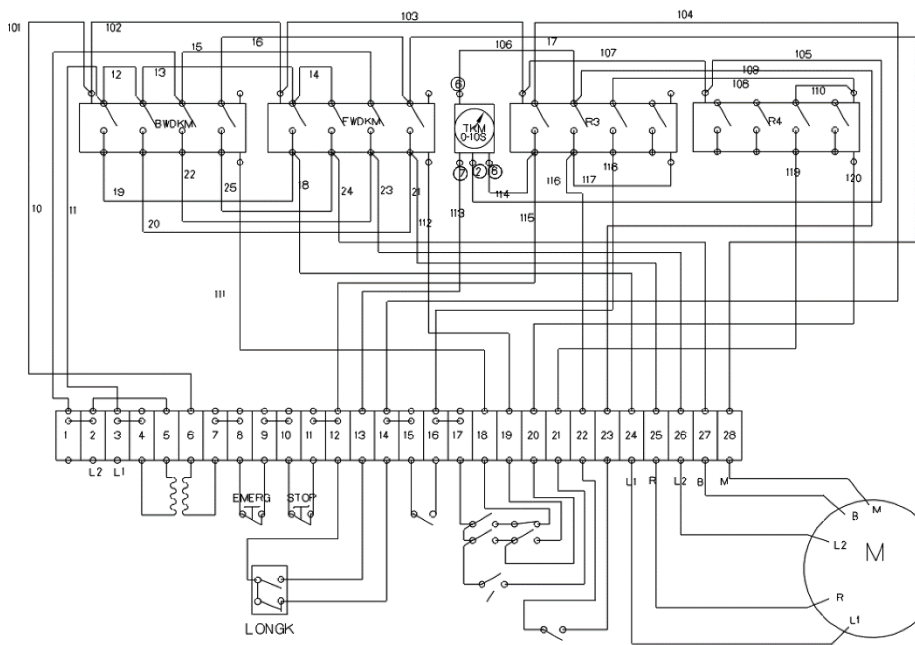


# 13.0 Electrical Drawings



120V

SS4E 120V



220V

SS4E 220V

## Warranty

Liberty Seamless Enterprises, Inc. warrants to its customers that machine made under control of the company are free from defects in design, material, and workmanship when operated under required operating conditions and in accordance with manual for machine, for a period of one year from date of shipment. During this period company obligates to repair or replace any part or assembly of the machine, which is considered defective by company or its representative or independent expertise, or refund purchase price thereof the part or assembly of the machine at company option and expense, but not thereafter. The Warranty is limited to a maximum of 5 replacements on any given order. The defective parts or assembly must be returned to manufacturer.

Subject to the above warranty, in the event that your machine fails to operate satisfactorily, please call us so that we can troubleshoot the issue and authorize your item for warranty replacement if necessary. Please provide our representative with your order number and a detailed explanation of the difficulty you are experiencing with the machine and/or its parts or components.

Do not send any product to us unless you have spoken to a Liberty Seamless Enterprises, Inc. representative first. This can lead to confusion and may result in the loss of your item, and therefore the forfeiture of your replacement. Freight must be prepaid.

Liberty Seamless Enterprises, Inc. will not responsible for labor cost incurred by purchaser during the warranty time period. This is a limited parts warranty only, and there is no warranty or reimbursement for labor costs of removing or installing parts, or any other kind of costs incurred for labor. Liberty Seamless Enterprises, Inc. is not carry on warranty to following: parts manufactured not by Liberty, labor for the machine or parts adjustment, any anticipated lost profit, wear parts (like cutting blades, friction, chains & belts).

Liberty Seamless Enterprises, Inc. reserves the right to make changes and improvements to their machines at any time without notice. Liberty Seamless Enterprises, Inc. shall not be obligated to incorporate such changes or improvements in machines previously sold or supplied to any purchaser, not be obligated to replace previously sold machines with machines incorporating such changes or improvements.

Defects or damage caused by any of the following will void this warranty:

- Modification or alteration of machine by any persons or company without written agreement with Liberty Seamless Enterprises, Inc. ;
- Physical abuse to, or misuse of the product or operation thereof in a manner inconsistent with the use indicated in the machine instruction manual; or
- Any use of the product other than that for which it was originally intended.

Any express warranty not provided herein, and any remedy other than the warranty contained herein that might arise by interference or operation of law, is hereby excluded and disclaimed including the implied warranties of merchantability and of the fitness for a particular purpose. Replacement or repair of product is your exclusive remedy under this warranty.

Please note that Liberty Seamless Enterprises, Inc. does not cover shipping or any other costs incurred during the replacement process. Shipping costs paid at the time of purchase are not eligible for a refund.