



2EZSB L.H. SET UP GUIDELINES

INTRODUCTION

In order to achieve maximum production and reliability from this system, it is necessary to be familiar with its capabilities. Knowledge of installation, components and set up are essential to initiate operations and maintain the machine. Keep manual near machine for easy reference. This information will provide steps to improved operations and enhanced production. Thorough understandings of these basics are essential.

2EZSB CASE ERECTOR GENERAL DESCRIPTION

This **COMBI PACKAGING SYSTEMS MODEL 2EZSB CASE ERECTOR** is an automatic case erector and pack station for **RSC (Regular Slotted Case)** type cases that erects the case, and stages it at a packing conveyor where operators can manually pack the product into the case.

This machine is designed for easy change over from one size case or product size to another.

CAUTION: ALL ADJUSTMENTS SHOULD BE MADE WITH THE **EMERGENCY STOP** BUTTON DEPRESSED. THIS MACHINERY CAN CYCLE **AUTOMATICALLY** WITHOUT MANUAL MANIPULATION. TO PREVENT INJURY, DURING NORMAL OPERATION, KEEP **ALL SAFETY COVERS** IN PLACE AND **DO NOT** DISENGAGE SAFETY SWITCHES.

Due to variations in RSC type cases, minor adjustments in set up procedures may be required.

Machine speeds are dependent on case size and construction.

Main components consist of frame, vacuum device, covers, plow, carriage, magazine, emergency stop button, control panel, pneumatic cylinders and guide. Refer to section three for detailed drawings of the components.

Note: The photos in this manual may vary slightly or be mirrored image of actual machine, depending on systems' direction of execution and options purchased.

2EZSB CASE ERECTOR SEQUENCE OF OPERATIONS

1. Upon pressing the Erector Start button a case is extracted from the Magazine and initially formed by the Squaring Arm.
2. The Rear Minor Flap is folded to 90° and the Leading Minor Flap Folder extends (if case is 8” or more in width) towards the case.
3. Upon placing the machine in the auto mode the case is transferred into the Drive Belts where the Leading Minor and Major Flaps are folded, and the Bottom of the Case is taped before discharging the case from the machine.
4. The Carriage then returns to its Home Position and another case is extracted from the Magazine and the cycle is repeated.
5. When the machine is in the OFF position the case is extracted and formed where it will wait for the machine to be turned to the AUTO position before proceeding.

GENERAL INSTALLATION INSTRUCTIONS

1. SITE LOCATION

Ideally, the main electrical enclosure should be located away from direct heating and cooling or windows where it can “bake” in direct sunlight. Equipment should be located convenient to the required utilities, such as compressed air and power, as well as being convenient to related production facilities.

There should be ample room around the case magazine to provide access for corrugated delivery and loading. There should be clearance around the equipment to accommodate production and maintenance functions. A minimum of 36” clearance must be left to the front of the electrical enclosure (check your local electrical codes).

The flooring must be suitable to secure the proper anchor bolts, as they are required to maintain structural alignment and keep the equipment from “walking”.

2. STRUCTURAL ERECTION

When the exact location has been determined, the location for the anchor bolts should be marked on the floor.

The use of tightly drawn wire as a “centerline”, and a plumb bob to transfer the stations and centerline to the floor, is an excellent way to begin the anchor bolt layout.

Proper use of a transit and/or triangulation may be used to determine the exact anchor bolt locations. The use of a transit could make it possible to note and record the variation in floor elevation at each anchor location.

The structure should be leveled both longitudinally and transversely by means of the adjustable foot bolts in each leg. Connecting brackets, provided by Combi Packaging Systems, are used to interconnect equipment. Most connections will be labeled.

Exercising proper care in this phase of erection will help to assure that all sections will fit together properly, will contribute to the reliability of the system, and to minimize unnecessary damage.

GENERAL INSTALLATION INSTRUCTIONS CONT.

3. ELECTRICAL CONNECTIONS

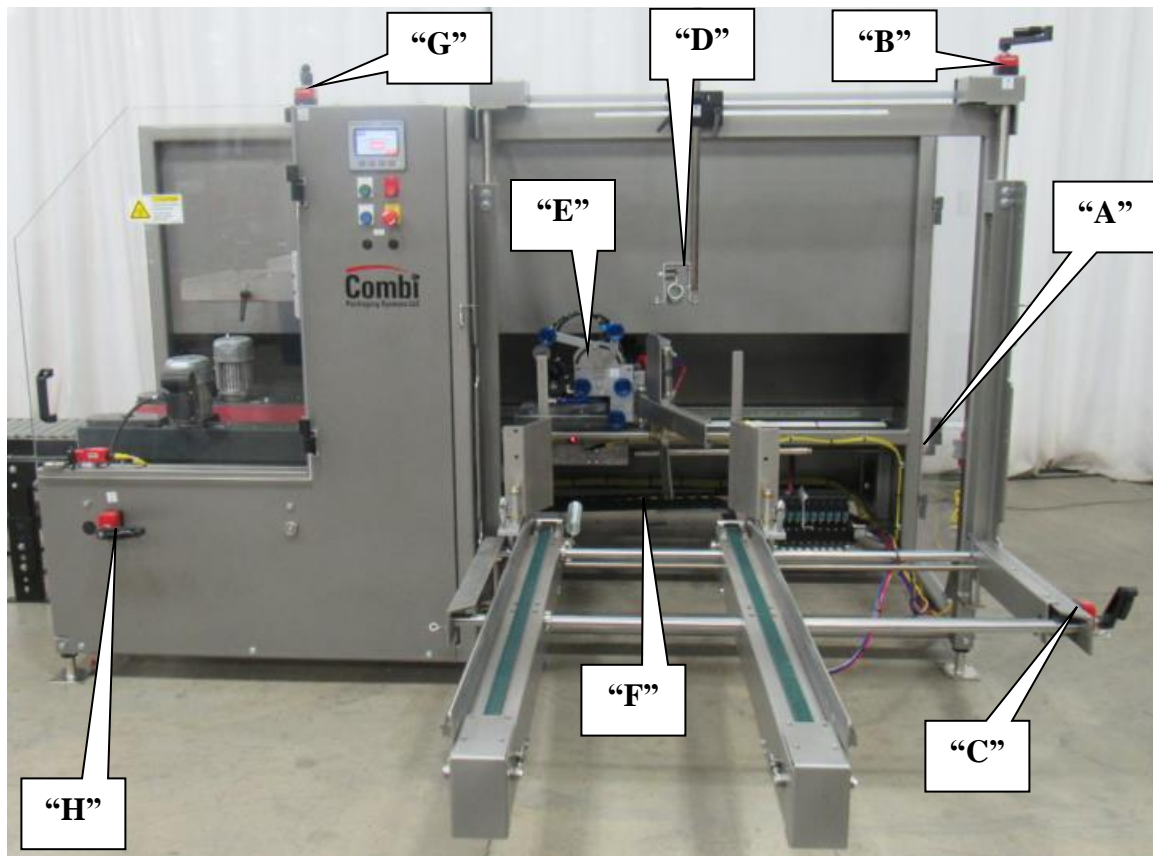
All electrical connections between equipment are made terminal to terminal. A junction box is provided on each piece of equipment, other than that which has the main enclosure. A set or row of terminal strips is located on each sub panel in each terminal box. The terminals are prewired with the internal wiring to that specific component. The terminals are numbered to coincide with the external wiring, which is also numbered. The wiring is disconnected at one end and left generally in flexible conduit ready to reconnect. Check the electrical schematic located in the electrical enclosure for incoming power required.

4. COMPRESSED AIR CONNECTIONS

Compressed air is brought in to one or more locations (see your equipment layout). Air should be delivered via a 3/4" or larger air line at 80 psi minimum supply, to the filter regulator.

Air connections between equipment are generally via poly-flow tubing. These must be reconnected directly into the valve or cylinder via a quick connect fitting. Both ends, fitting and tube, will frequently be labeled, (unless connection is obvious).

2EZSB Case Erector Setup Guidelines



Adjustment Point Overview

The following instructions are guidelines and will serve as a starting point for the setup of the case erector. Depending on the corrugate, fine tuning of the settings may be required.

A – Carriage Home Position (case length)
B – Magazine Height Position (case width)
C – Magazine Side Guide (knock down length)
D – Upper Case Opening device (adjust to case)
E – Vacuum Cups (adjust to case)

F – Major Flap Opener (adjust to case) (If Applicable)
G – Hold-down Plate Adjustment (height with bottom flaps closed)
H – Plow Tape Head & Side Belt Adjustment (case width)

Step #1 E-Stop Machine

Follow all lockout and tag-out procedures per your company's policies

Push emergency Stop (E-Stop) Before Starting Setup! When set up is complete, release E-Stop, press the BLUE Safety Reset button and then push the GREEN System Start button to initiate operation.

Push Button Station w/ HMI



Operator Control Panel

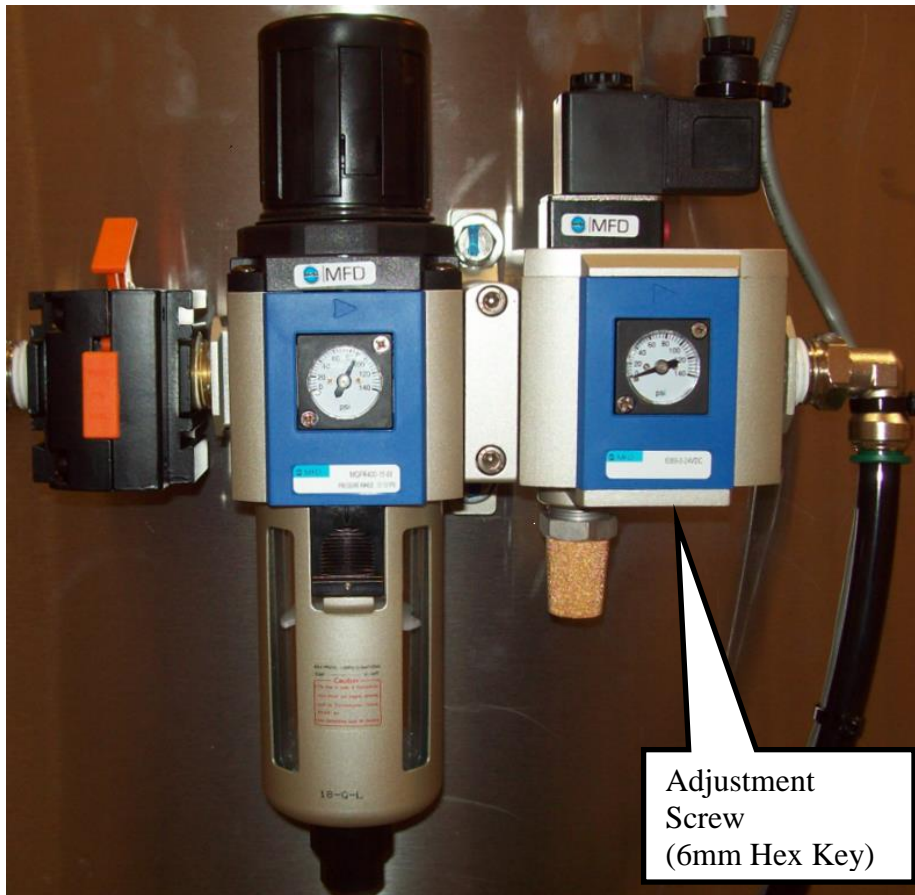
NOTE: SOME PANEL LAYOUTS AND SWITCH LABELS MAY VARY SLIGHTLY FROM MACHINE TO MACHINE

1. **ERECTOR START:** GREEN push button. Push in to start Case Erector.
2. **ERECTOR STOP:** RED push button which stops Case Erector.
3. **SAFETY RESET:** BLUE push button resets the Emergency Stop (E-Stop) and all safety switches.
4. **EMERGENCY STOP:** RED “mushroom” button. Push in for Emergency Stop. Twist and pull out to reset.

WARNING!

Carefully follow the Combi installation and setup procedures. The manufacturer will not be responsible for damages caused by improper installation and setup.

MAIN AIR

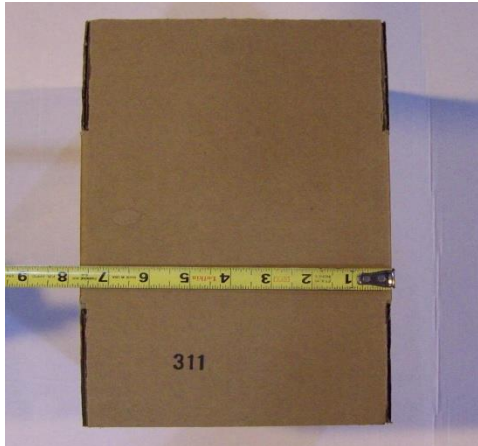


Filter Regulated Soft Start (FRSS)

Photo may vary from actual machine.

1. Push the **E-Stop** before starting set up.
2. Close the Main Air Shutoff Valve at the FRSS Main Air handling unit. (Push Orange Tab Down).
NOTE: Airflow to the machine must be stopped to manually set up the machine.
3. Stopping the Main Air releases air pressure to all Pneumatic Components and allows them to be moved manually.

Step #2
Measure & Record Case Dimensions



Case Width (erected)



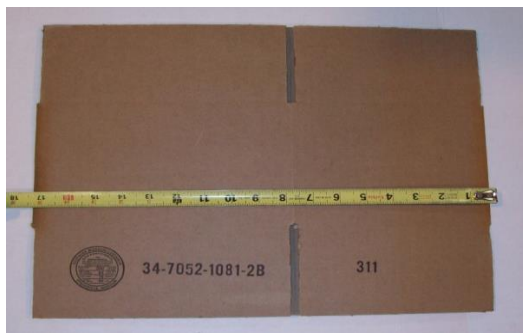
Case Length (erected)



Case Height w/ Bottom Folded



Case Height w/ Top & Bottom Folded



Knockdown Length

**Fraction to Decimal
Conversion Chart**

1/8 = .12

1/4 = .25

3/8 = .37

1/2 = .50

5/8 = .62

3/4 = .75

7/8 = .87

Example 8 3/8" = **008.37**

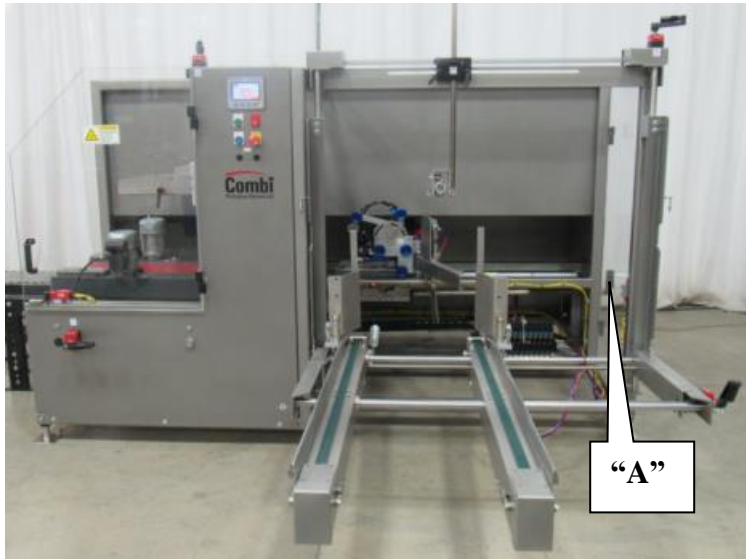
NOTE: SPECIAL INSTRUCTIONS FOR CASES WITH MEETING MINORS

If minor flaps meet in middle, use Case Length instead of Case Width for Magazine Height adjustment “A”.



Meeting Minor Flaps

Adjustment “A” Carriage Home Position



Carriage Home Adjustment Location

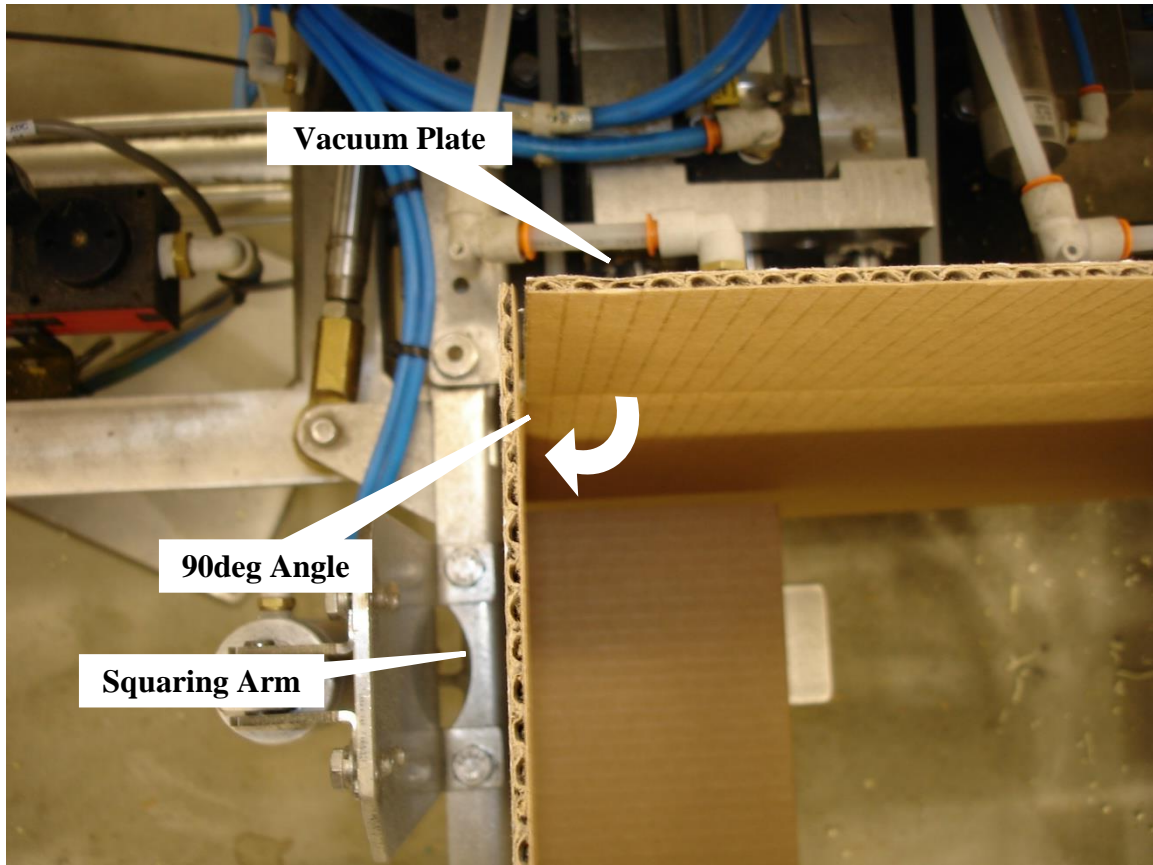


Handle and Indicator

To adjust, crank the Adjustment Handle “A” until Value on the Indicator equals the case length dimension.

The purpose of this adjustment is to position the squaring arm in the proper location so the case is square.

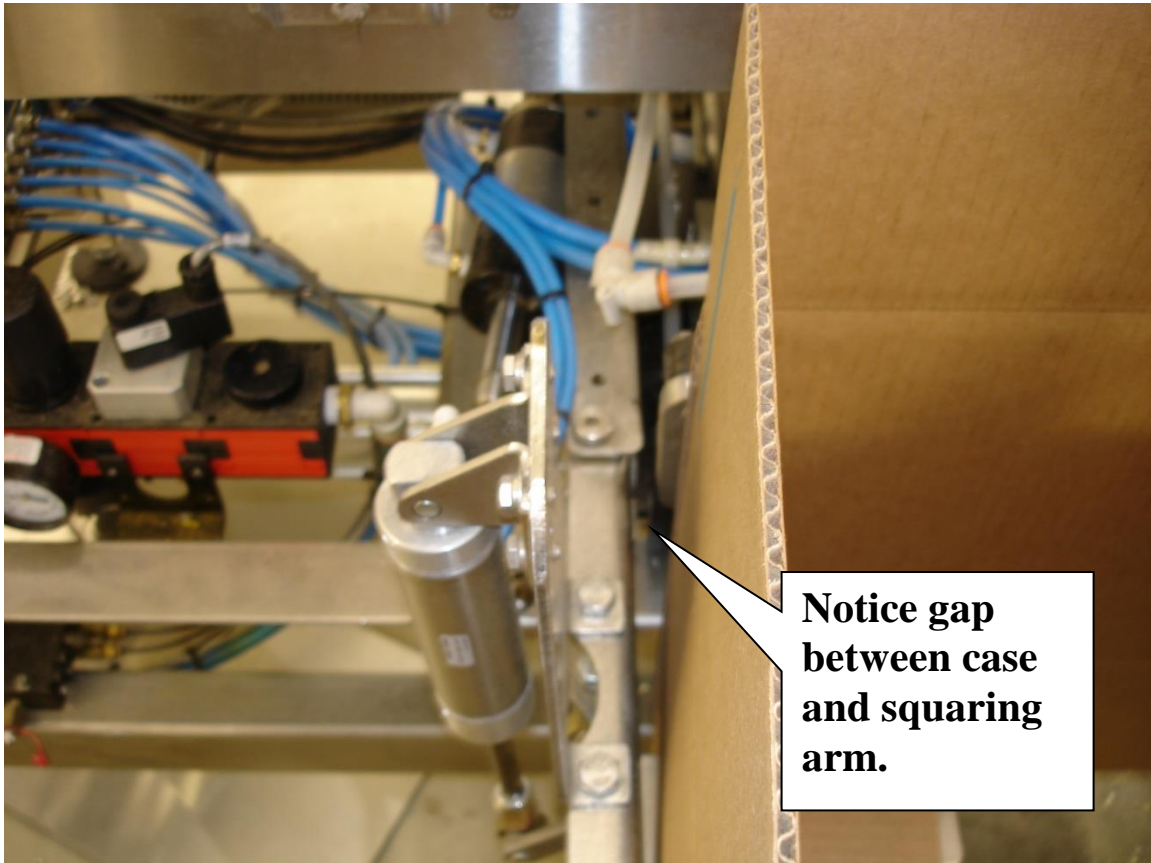
CORRECT POSITION



Correct Case Placement

When adjusted properly the case should set square in the 90deg angle that is formed by the Squaring Arm and the Vacuum Plate.

INCORRECT POSITION

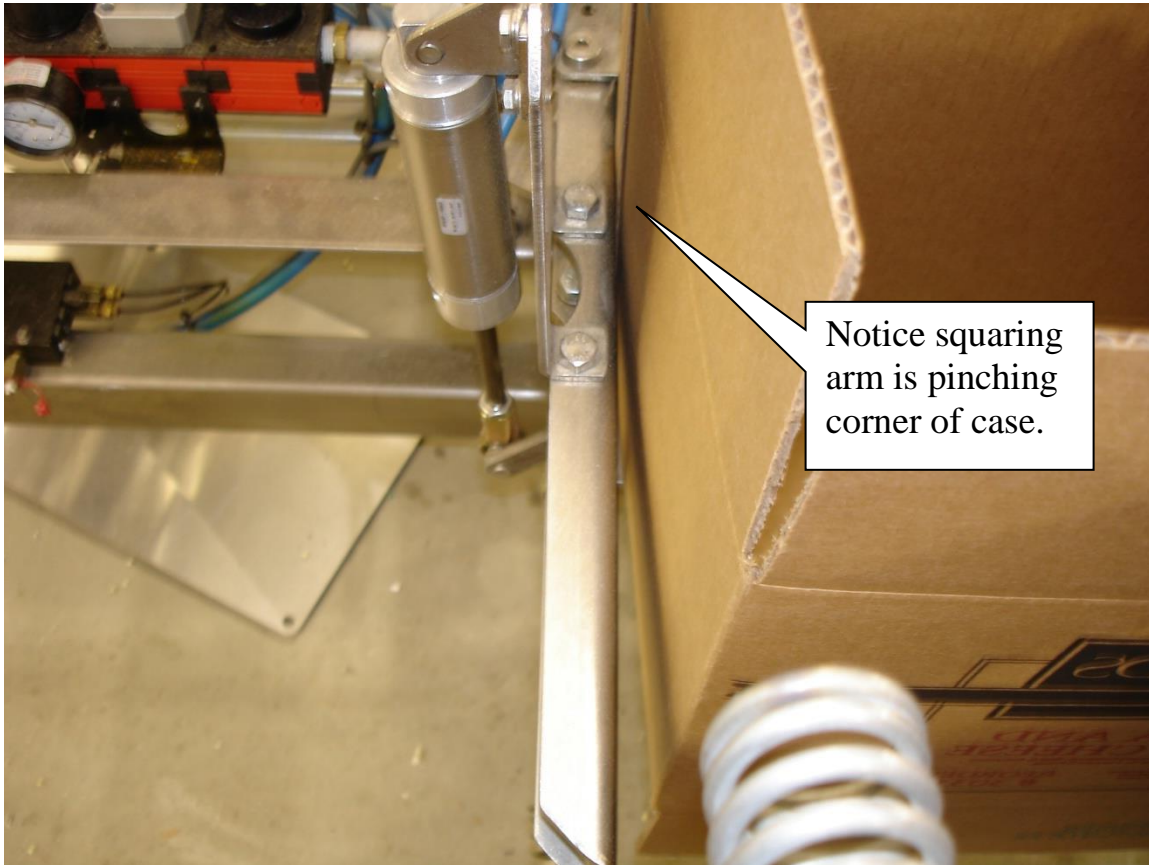


Incorrect Case Placement

Notice the gap between case and squaring arm indicating that the magazine is too far away from the squaring arm.

To correct, adjust the magazine in the direction towards the Squaring Arm and pull another case to verify that there is no more than a 1/8" gap between the corner of the case closest to the Vacuum Plate and the Squaring Arm.

INCORRECT POSITION



Incorrect Case Placement

Notice how the back corner of the case is being pinched causing the front corner of the case to pull away from the Squaring Arm.

To correct, adjust the magazine in the direction away from the Squaring Arm and pull another case to verify that there is no more than a 1/8" gap between the corner of the case closest to the Vacuum Plate and the Squaring Arm.

Adjustment “B” Magazine Height



Magazine Height Adjustment Location



Handle and Indicator

To adjust, crank the Adjustment Handle “B” until Value on the Indicator equals the Case Width dimension. (SEE NOTE)

The purpose of this adjustment is to position the lower score line of the case to the same plane or height as the trailing minor flap kicker.

Note: For cases with Meeting Minors use Case Length dimension.

CORRECT POSITION



Correct Case to Flap Kicker Placement

When adjusted properly the bottom of the case should be positioned to sit on the Minor Flap Kicker.

INCORRECT POSITION



Incorrect Case to Flap Kicker Placement

Notice gap between case and Flap Kicker. The case is not sitting on Flap Kicker indicating that the Magazine adjustment is too high. To correct, lower magazine and pull another case to verify your adjustment to insure that there is no more than a 1/8" gap between the bottom of the case and the Flap kicker.

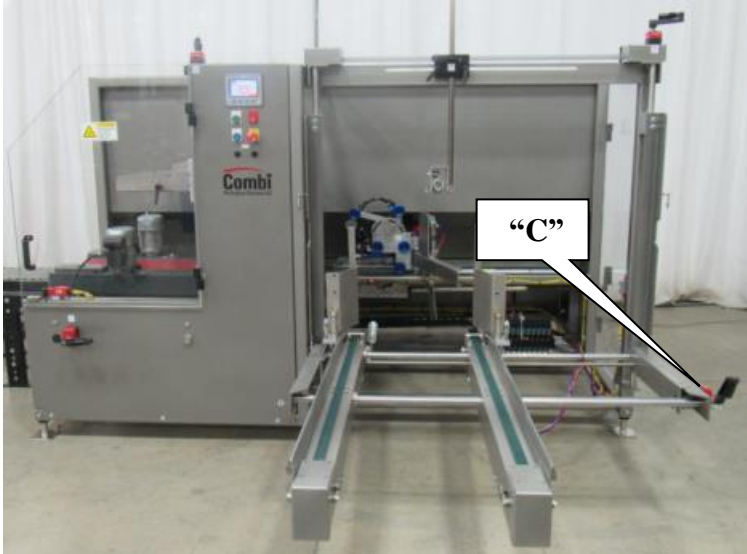
INCORRECT POSITION



Incorrect Case to Flap Kicker Placement

Notice how the bottom of the case has been deformed by the Flap Kicker indicating that the Magazine adjustment is too low. To correct, raise magazine and pull another case to verify your adjustment to insure that there is no more than a 1/8" gap between the bottom of the case and the Flap kicker. Another indicator that the adjustment is too low is that the case will lift upwards when the Flap kicker extends to the case.

Adjustment “C” Magazine Side Guide



Magazine Guide Rail Adjustment Location

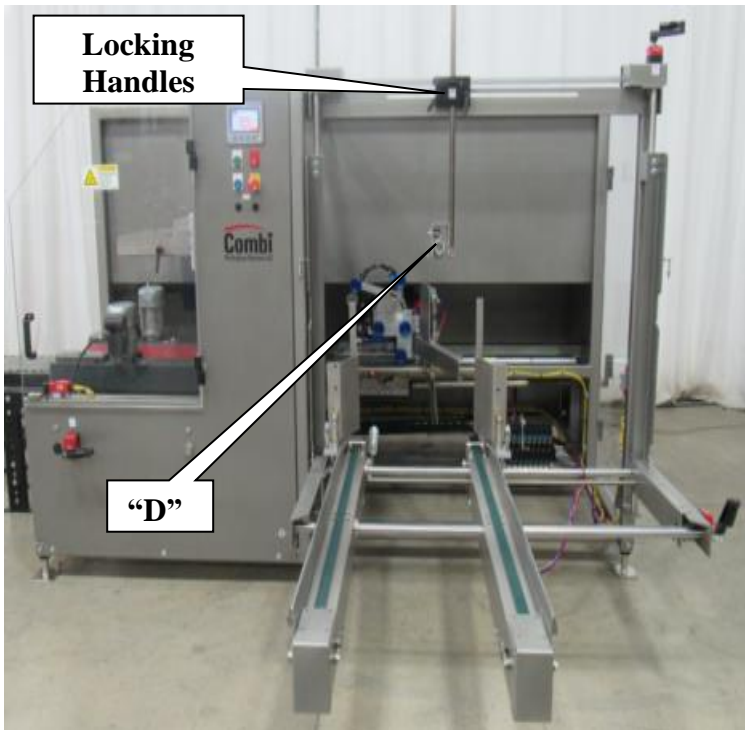


Handle and Indicator

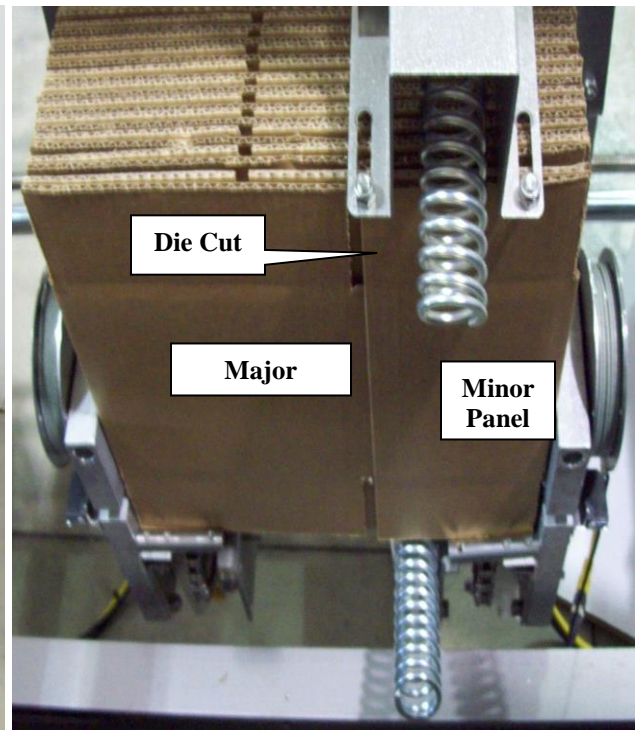
To adjust, loosen the Locking Handles “C” and slide the Magazine Guide Rail until value on the Scale / Pointer equals the Case Knock Down Length dimension.

The purpose of this adjustment is to position the case inside the magazine

Adjustment “D” Upper Case Opening Device



Upper Case Opening Device Adjustment Location

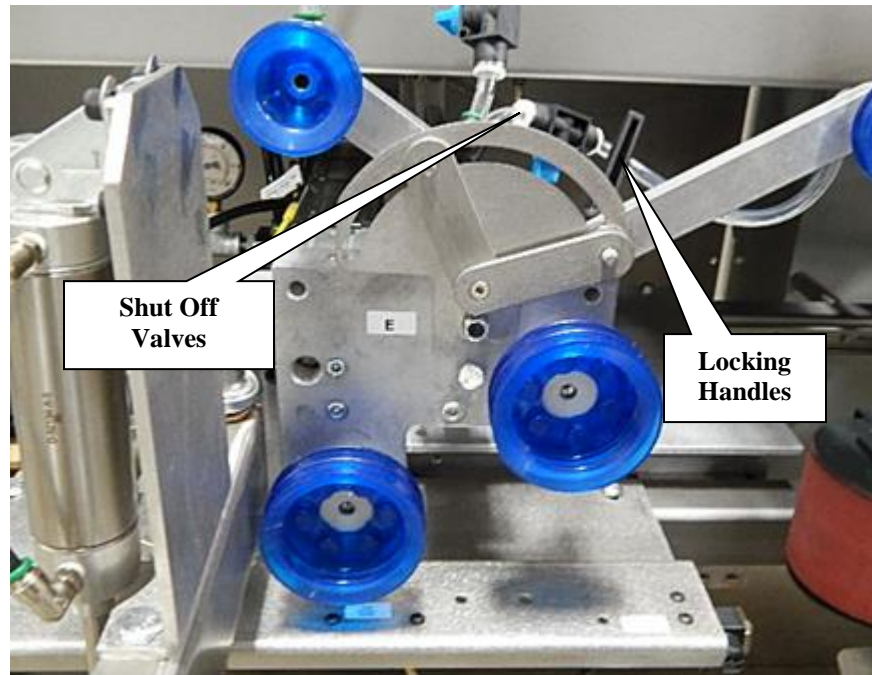


Correct Position

Adjust the Upper Case Opening Device “D” by loosening the Locking Handles; lower the Device until it rests on the top of the cases. Position the device left or right until the spring is located on the Minor Panel with the Button Head Screw located in the Die Cut.

When dealing with cases of inferior construction that allows the panel of the case to break vertically as it is pulled from the Magazine, it may be necessary to move the left to right position of the device further over towards the end of the Minor Panel or reduce the amount of downward pressure being applied to the case.

Adjustment “E” Vacuum Cup Placement

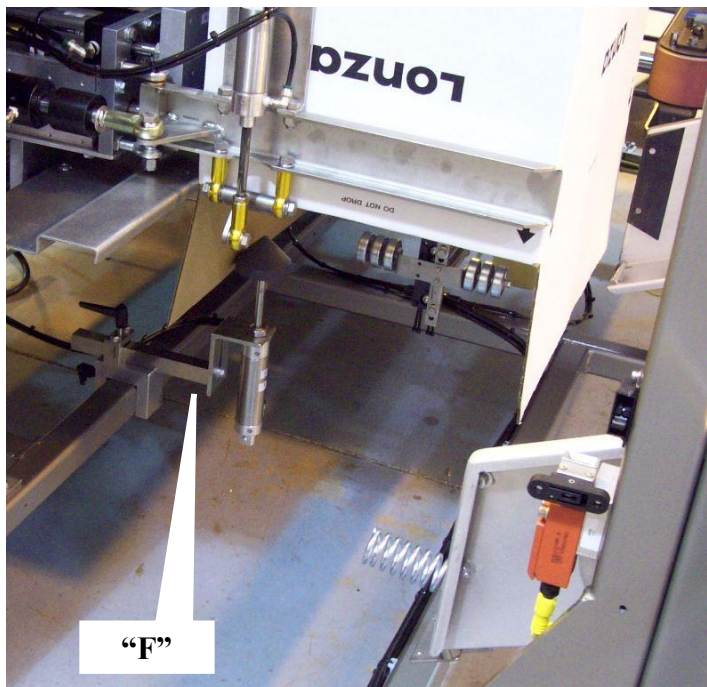


Vacuum Cup Adjustment Location Shut Off Valves & Locking Handles

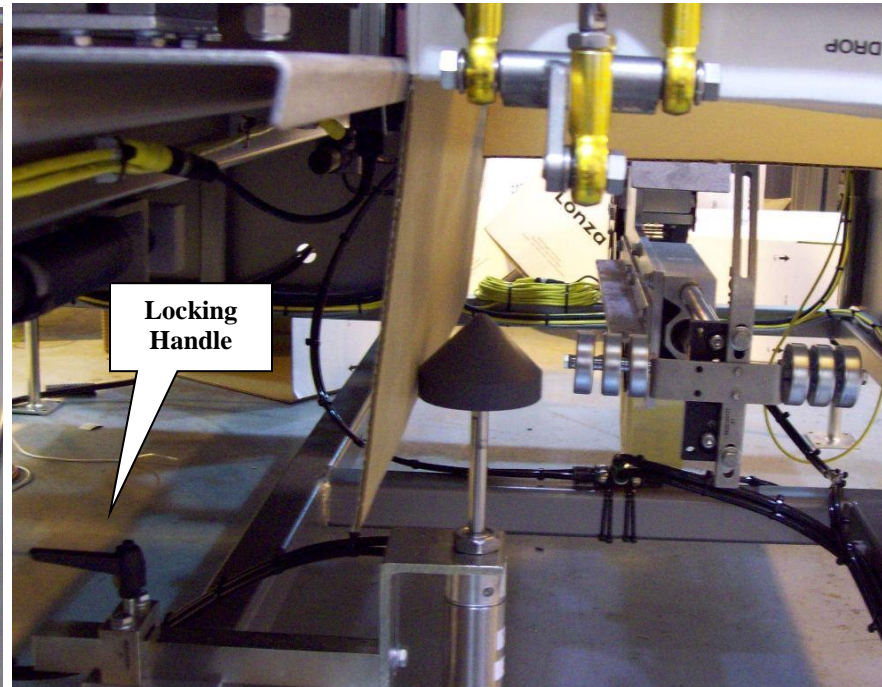
To adjust Vacuum Cup Placement “E” reset the e-stop and press safety reset button (blue). Go into the HMI to the Step Cycle Screen and start the Case Erector Step Cycle. Now you can single step machine till the vacuum plate is extended. In this position you can place a single case in the magazine and visually see the position of the case in relation to the cups to determine where the cups will need to be adjusted. To adjust top cups press the e-stop button and loosen the mounting hardware and rotate so that the largest amount of the major panel body is grabbed by the Vacuum Cups. (Spread Vacuum Cups out as far as you can on major panel). In the event you are running a case too small to utilize all of the vacuum cups turn off the Shut Off Valve “if applicable” on the cups not being used, you will also want to manually fully extend the Carriage to insure there is no interference between the Vacuum Cups and the Hold Down Plate.

NOTE: When adjusting Vacuum Cups avoid placing the cups on the Score Line as this may result in a loss of vacuum.

Adjustment “F” Major Flap Opener “If Applicable”



Major Flap Opener Adjustment Location

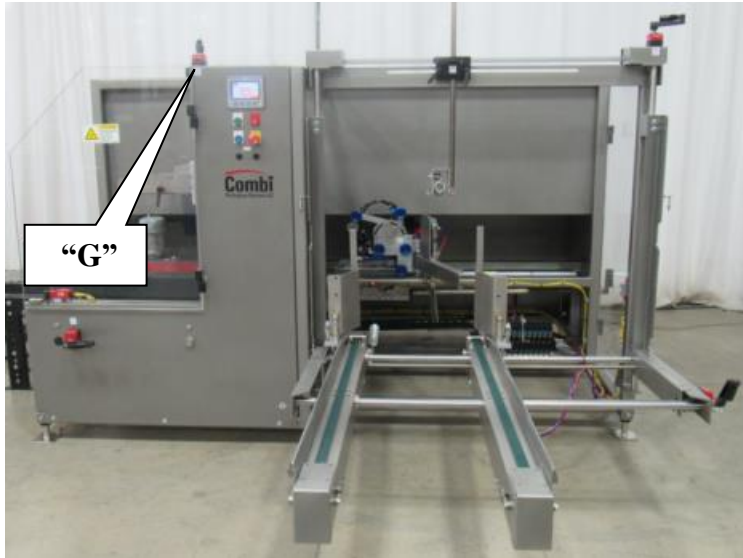


Correct Position

To adjust the Major Flap Opener “F”, loosen the Locking Handle and position the device so that it makes contact with the Major Flap pushing it back slightly which will create clearance between the Major Flap and the Leading Minor Flap. This device is typically used on case that are wider the 12” where there may be interference between the 2 flaps causing the case to collapse as the Minor Flap is folded.

Note: If up or down adjustment of this device is necessary you can loosen the fastener behind the cylinder and adjust it within the given slot.

Adjustment “G” Hold Down Plate



Hold Down Plate Adjustment Location

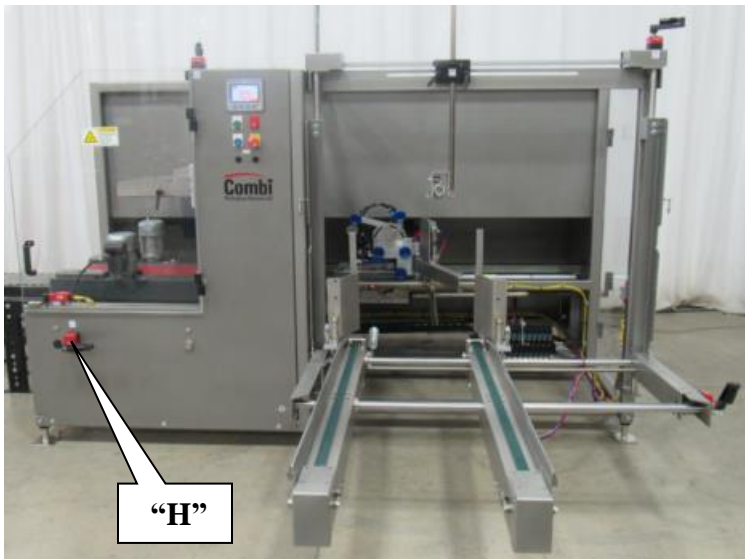


Handle and Indicator

To adjust, crank the Adjustment Handle “G” until the value on the Indicator equals the Case Height With Bottom Flaps Folded dimension.

The purpose of this adjustment is to position the Hold Down Plate over the top of the case to hold the case down as it passes over the tape head.

Adjustment “H” Plow / Tape Head / Side Belt



Plow / Tape Head / Side Belt Adjustment Location



Handle and Indicator

To adjust, crank the Adjustment Handle “H” until the value on the Indicator equals the Case Width dimension.

The purpose of this adjustment is to position the Plow Assembly & Tape Head to the center of the case while positioning the adjustable Side Belt Drive to the correct position to allow the case to drive across the Tape Head.

Note: Proper adjustment is indicated by the case entering and then exiting the drives without any hesitation throughout the transfer. Also check the case for any indication of case deformation where the case makes contact with the drives which would be an indication that the drives are adjusted too tight on the case.

Startup Procedure



Operator Control Panel

1. Close all Safety Doors and Release all E-Stop Buttons.
2. Push the blue Safety Reset Button; you should now see Manual Mode displayed on the HMI Banner.
3. Push the Green System Start Button: the machine should now extract a case from the magazine and erect the case.
4. Place your finger in the Call For Case switch located at the end of the Product Conveyor: the erected case will now be transferred into the Side belt Drives.
5. Inspect the case and make any needed fine adjustments.