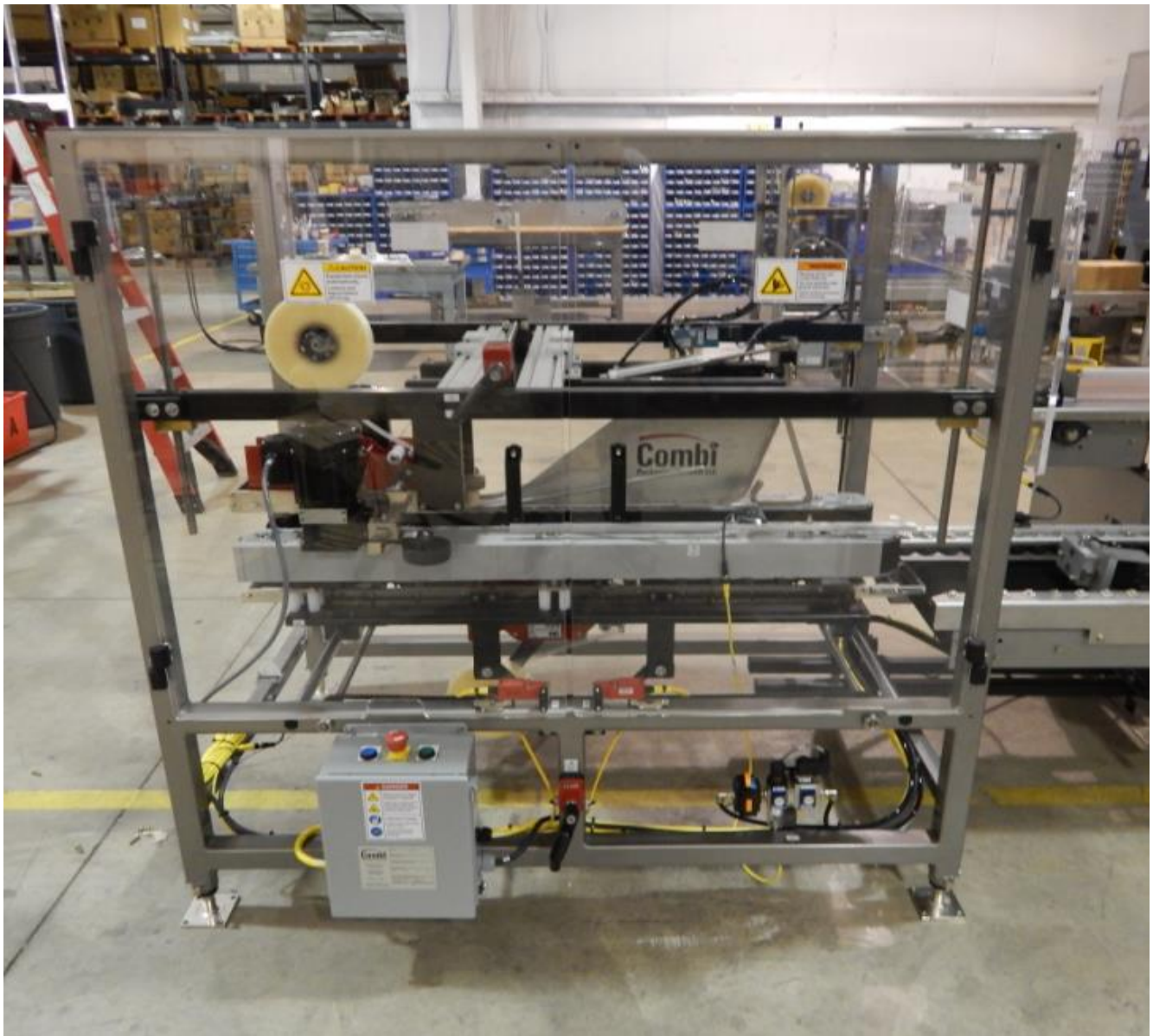


## **INTRODUCTION**

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.



**TBS100FC**

## STANDARD TBS100FC CASE SEALER DESCRIPTION

This **COMBI PACKAGING SYSTEMS LLC TBS100FC CASE SEALER** is a medium speed automatic case sealer. This sealer is designed to seal standard **RSC (Regular Slotted Case)** type cases in the vertical position. Cases can be sealed top and bottom with pressure sensitive tape. (Hot melt glue options can be purchased also.) The case, when presented to the machine, is belt driven through the sealer with precise and positive application.

Due to deviations in case dimensions and product sizes, minor adjustments and variations in set up procedures may be required.

Machine speeds are dependent on case size and construction.

### 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.

This machine has been manufactured to be used in conjunction with a variety of automatic case erecting and loading equipment, providing a complete packaging system.

Main components consist of frame, covers, upper FC 4-point adjust assembly, 0-line or center-line adjust assembly, scale adjust assembly, pneumatics, tape head, electrical components and belt drive.

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

### IMPORTANT:

**Adjust the belt drives to accommodate the desired case. There are two different types of drive side orientation. One is the center-line, where both sides move when adjusted. The other is the Zero-line, where only the outer side and tape head(s) move when adjusted. Using the adjustment handle, adjust the belt drive assembly to accommodate the desired case. If adjustments are needed for Zero-line systems, move outer belt drive so case is secure against side, but not tight. Adjust the height of the taping head for machines with a top taper. Place an erected case in the system and jog belts until the case is under the upper tape head. Crank the taping head to the desired position.**

## 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 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 are located on each subpanel 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, 80 psi minimum supply, to the filter regulator.

Air connections between equipment are generally via polyglot 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).

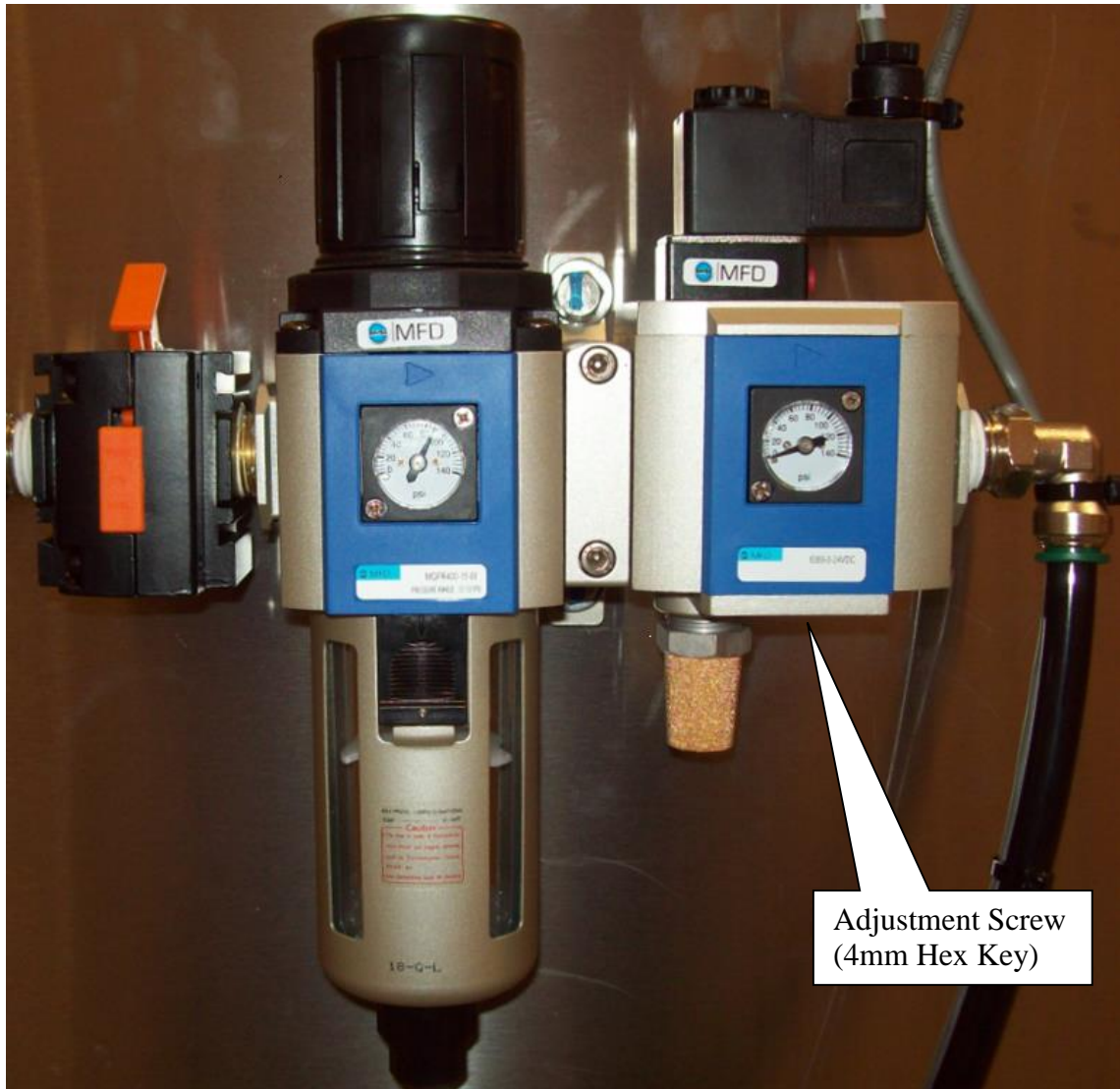
## TBS100FC CASE SEALER DESCRIPTION AND SET UP PROCEDURES TBS100FC OPERATOR CONTROL PANEL



The operator control panel is used to control of the system.

1. **“SAFETY RESET”** – Blue push button. Push to reset safety devices.
2. **“EMERGENCY STOP”** - Red “mushroom” button. Push in for Emergency Stop. Twist and pull out to reset.
3. **“SEALER START”** – Green push button. Push to begin operation

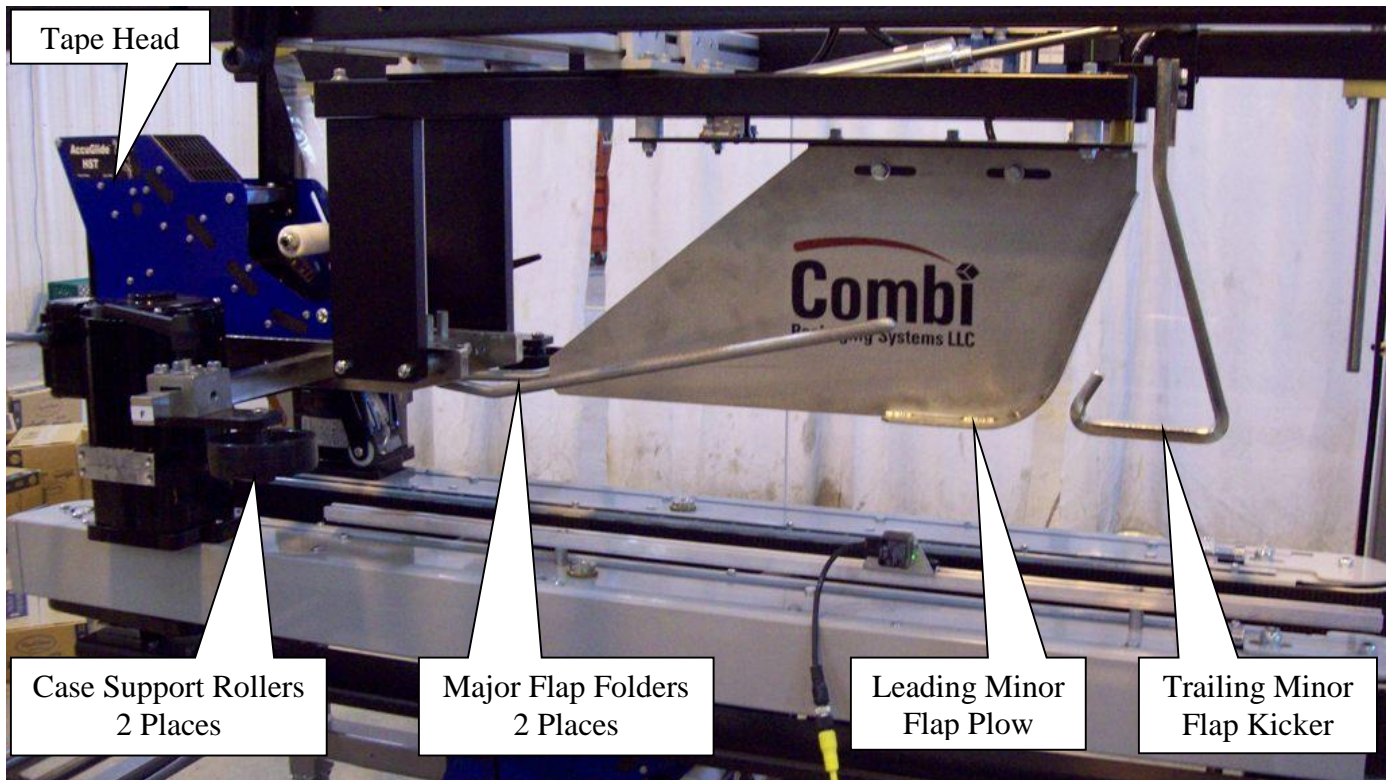
## TBS100FC CASE SEALER DESCRIPTION AND SET UP PROCEDURES FILTER REGULATED SOFT START



**Soft Start Adjustment Screw**

The Soft Start Valve controls how fast that full line pressure is provided to the system. Should your air pressure come up extremely fast or slow you can adjust the valve with the adjustment screw shown above.

## UPPER RACK ASSEMBLY



**Upper Rack Assembly**

The upper rack assembly consists of the following:

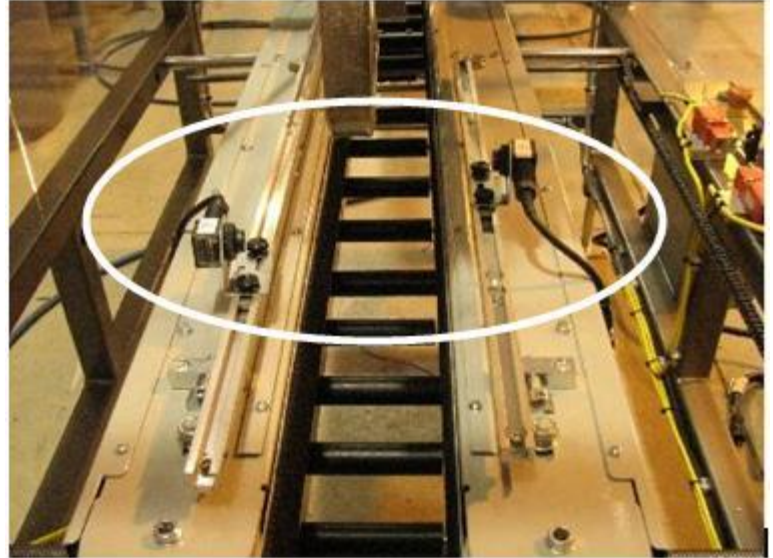
1. Trailing Minor Flap Kicker
2. Leading Minor Flap Folder
3. Major Flap Folders
4. Tape Head
5. Case Support Rollers

## TBS100FC CASE SEALER DESCRIPTION AND SET UP PROCEDURES

### BELT DRIVE AND MOTORS



**Belt Drive and Motors.**



**Flap Kicker and Indexer Photo Eyes**

**Belt Drives and Motors** – Supply a positive drive system for directing cases through the Tape Heads

**Flap Kicker and Indexer Photo Eyes** – Act as the Trigger for activating the Trailing Minor flap Kicker and the Index Gate functions.

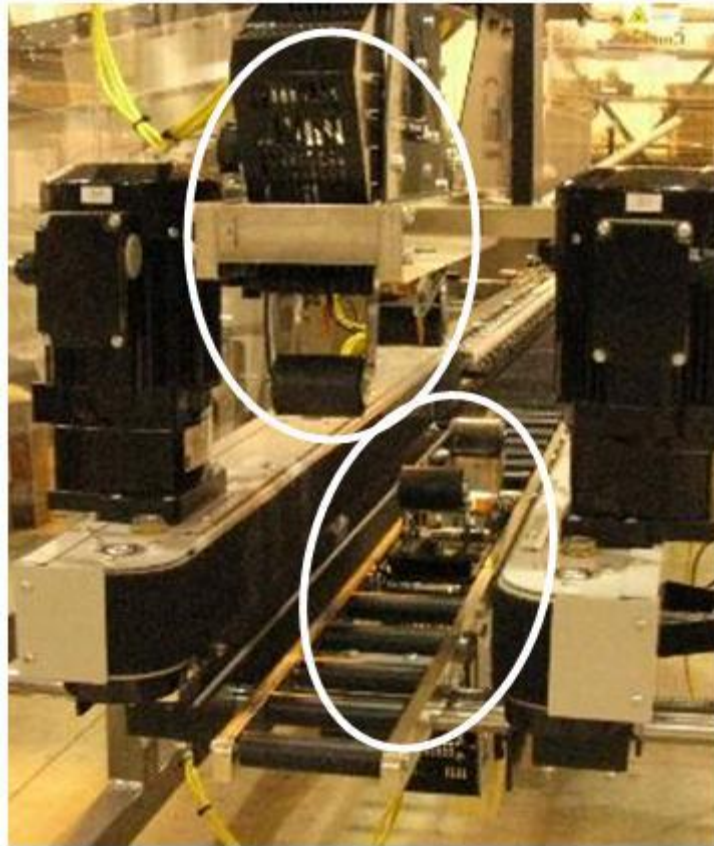
**Note:** Depending on the application your individual machine may not be equipped with an Index Gate.



## TBS100FC CASE SEALER DESCRIPTION AND SET UP PROCEDURES

### TAPING UNIT

The TBS100FC Case Sealer can be purchased with bottom only taper, top only taper or top and bottom taper. The taping unit precisely secures tape onto case before discharging the case onto awaiting conveyor. Refer to tape head manual in section five for specific set up, maintenance and safety procedures.

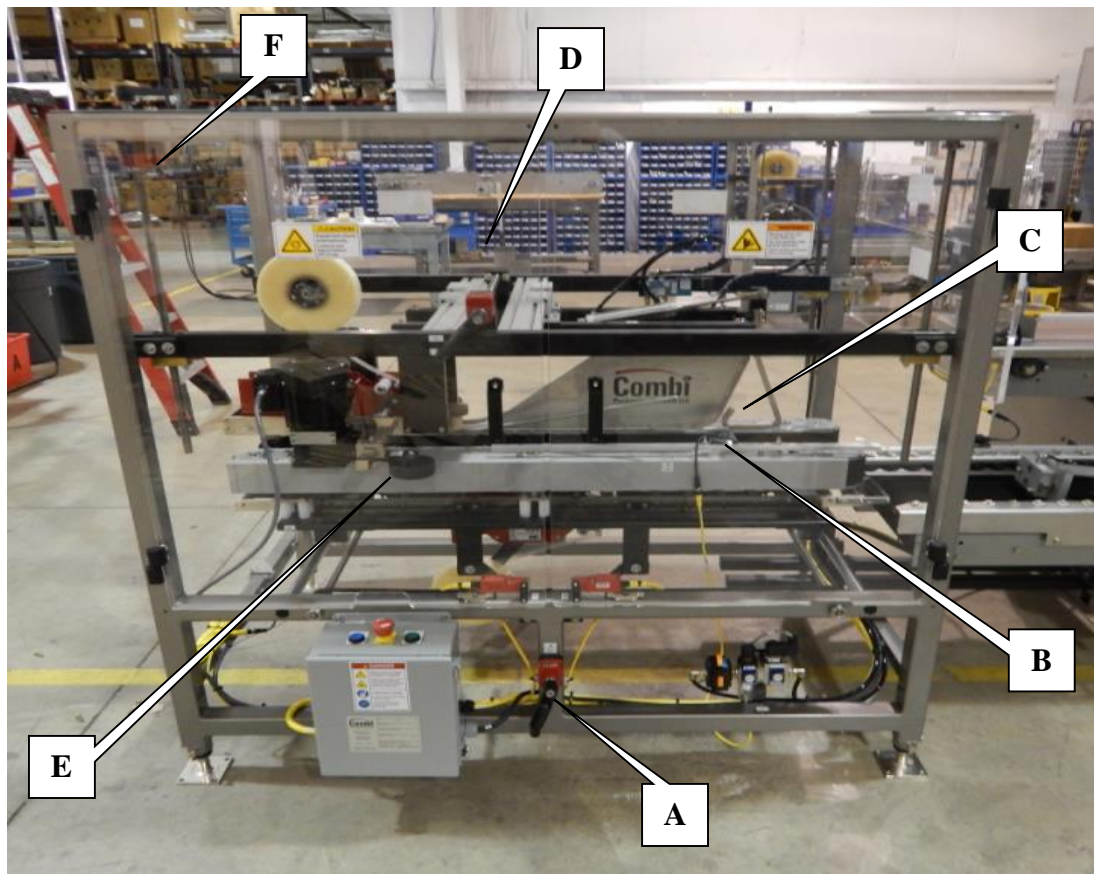


Upper and lower tape head

## CASE SEALER SET UP AND MACHINE ADJUSTMENTS

**CAUTION:** BEFORE ATTEMPTING TO SET UP OR CHANGE OVER THE TBS100FC SEALER, BE SURE THE EMERGENCY STOP BUTTON HAS BEEN DEPRESSED.

**Warning!** Carefully follow the Combi installation and set up procedures. The manufacturer will not be responsible for damages caused by improper installation and set up. Photos may be mirror image of system, depending on direction of machine execution purchased.



**Adjustment Overview**

- A. Sealer Belt Drive and Bottom Tape Head adjustment (case width)
- B. Sealer Trailing Minor Flap Kicker photo eye adjustment
- C. Sealer Index Gate photo eye adjustment (**If Applicable**)
- D. Sealer Top Tape Head and Center Plow adjustment (case width)
- E. Sealer Case Support Roller adjustment
- F. Sealer Upper Rack assembly adjustment (case height with top and bottom flaps folded)

### **WARNING!**

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

## TBS100FC CASE SEALER DESCRIPTION AND SET UP PROCEDURES

### 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 Erector Start button to start operation.

#### *OPERATOR CONTROL PANEL*

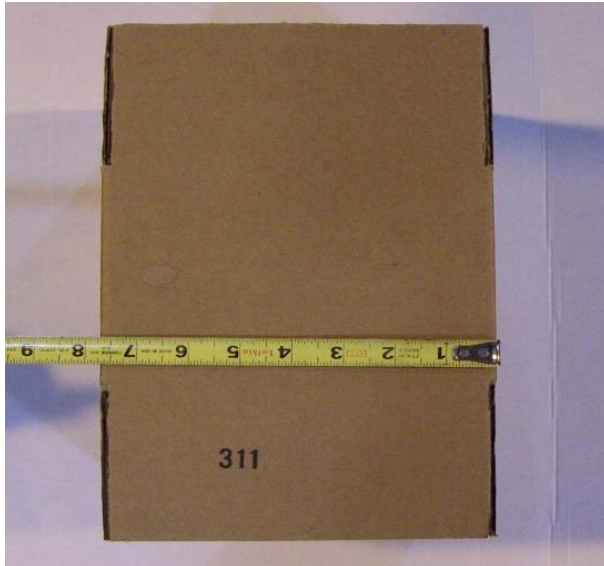


**NOTE:** SOME PANEL LAYOUTS AND SWITCH LABELS MAY VARY SLIGHTLY FROM MACHINE TO MACHINE

1. **SEALER START:** GREEN push button. Push in to start Sealer.
2. **EMERGENCY STOP:** RED “mushroom” button. Push in for Emergency Stop. Twist and pull out to reset.
3. **SAFETY RESET:** BLUE push button resets the safety circuit.

TBS100FC CASE SEALER DESCRIPTION AND SET UP PROCEDURES

**Step #2**  
**Measure & Record Case Dimensions**



**Case Width (erected)**



**Case Height w/ Top & Bottom Folded**

**Fraction to Decimal  
Conversion Chart**

$1/8 = .12$

$1/4 = .25$

$3/8 = .37$

$1/2 = .50$

$5/8 = .62$

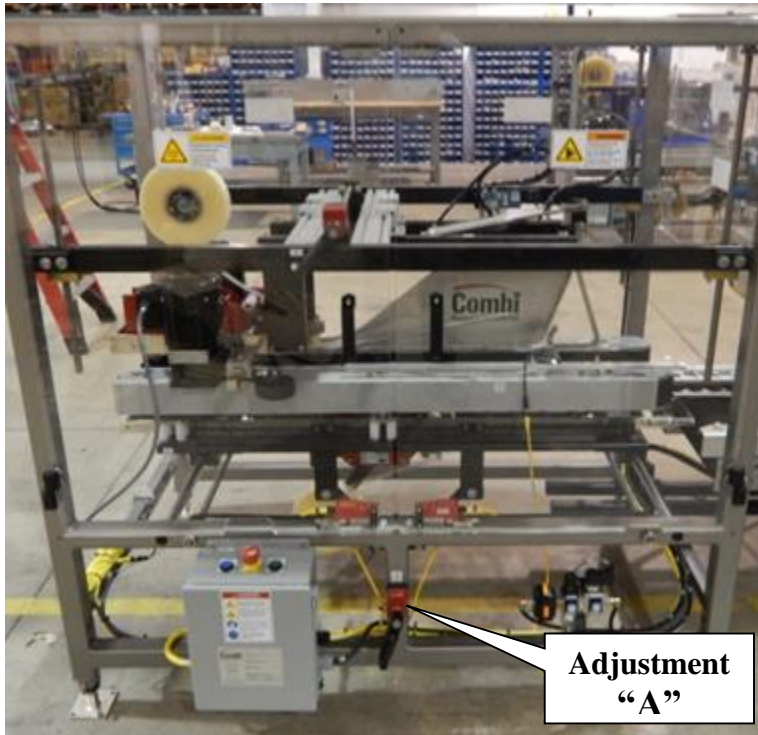
$3/4 = .75$

$7/8 = .87$

Example  $8 \frac{3}{8}'' = \mathbf{008.37}$

**NOTE: Measure and record the case dimensions shown above to aid in your change over.**

## Step “A” Belt Drive Adjustment



**Belt Drive Adjustment Location**

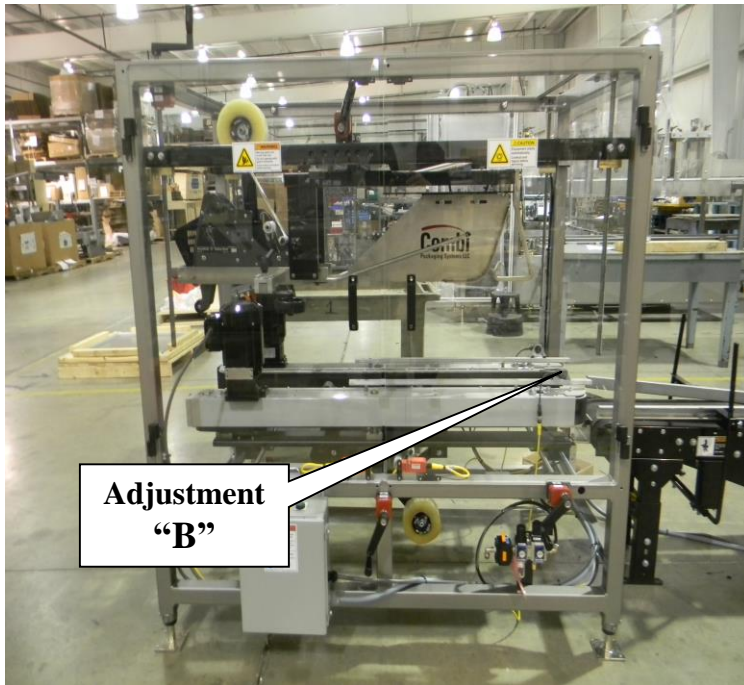


**Adjustment Handle Indicator**

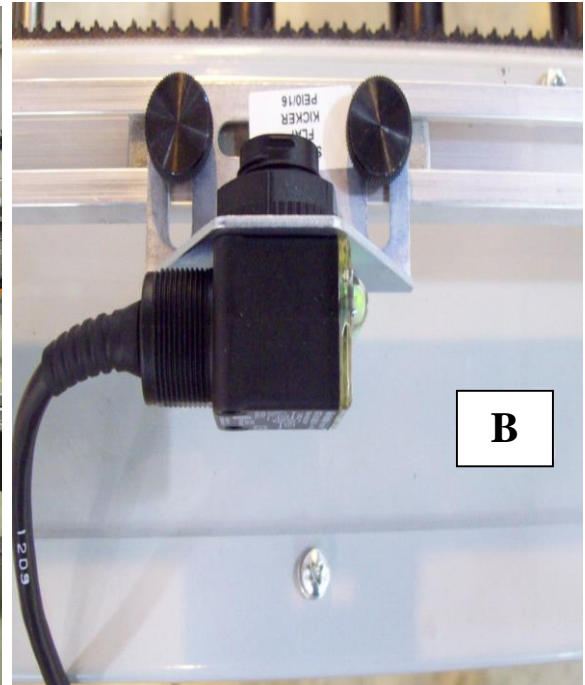
To adjust, crank the Adjustment Handle “A” until Value on the Indicator equals the Case Width dimension.

The purpose of this adjustment is to position Belt Drives and the Tape Head in the proper location as to drive the case and place the tape in the center of the case.

## Step "B" Trailing Minor Flap Kicker Photo Eye Adjustment



**Adjustment  
"B"**

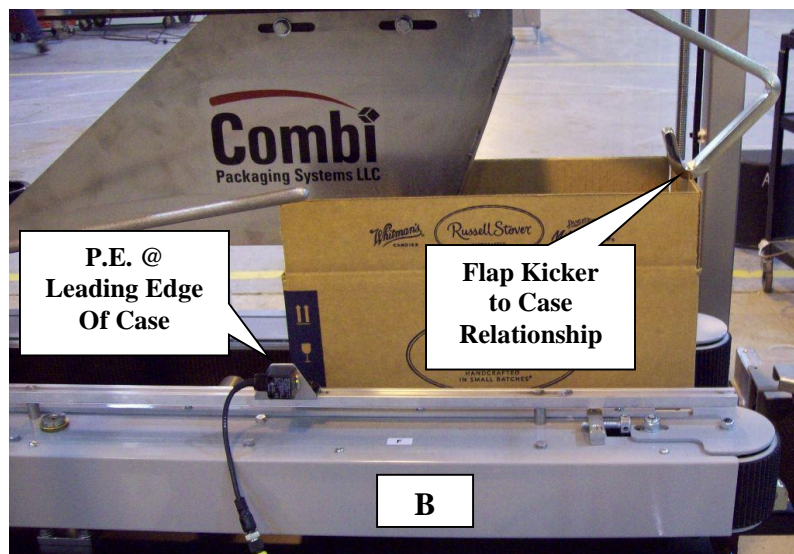


**B**

**Flap Kick Photo Eye Adjustment Location**

**Photo Eye**

To adjust, position a case as shown below where the radius of the Flap Kicker rests on top of the Rear Minor Flap, now loosen the 2 Thumb Screws and adjust the Photo Eye to the Leading Edge of the case.



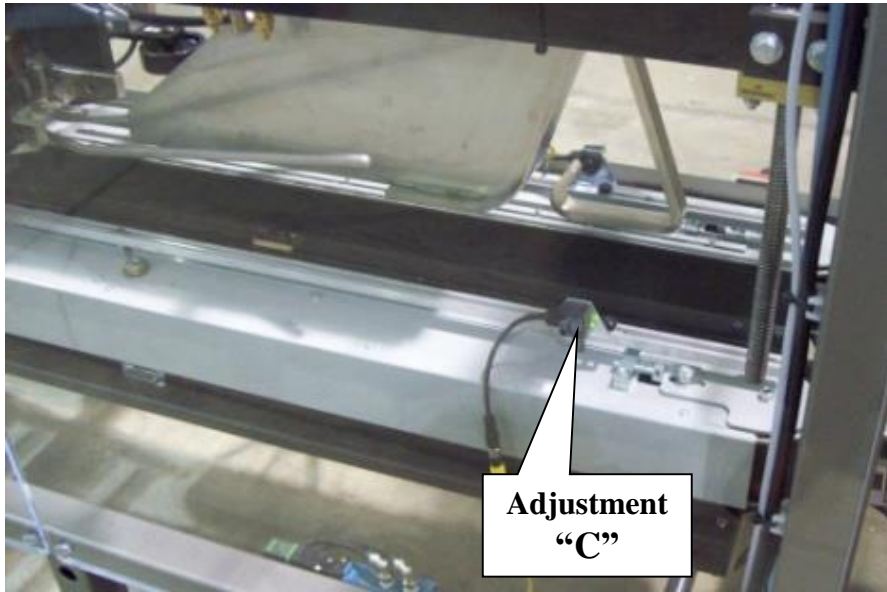
**P.E. @  
Leading Edge  
Of Case**

**Flap Kicker  
to Case  
Relationship**

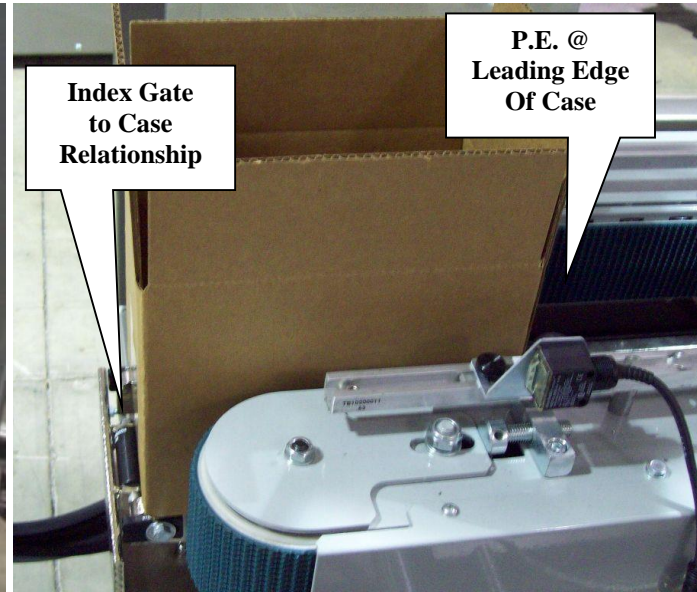
**B**

**Proper Position**

## Step “C” Index Gate Photo Eye Adjustment (If Applicable)



**Index Gate Photo Eye Adjustment Location**



**Photo Eye & Index Gate Relation to Case**

To adjust, position a case as shown below where the Trailing Edge of the case is just past the Index Gate, now loosen the 2 Thumb Screws and adjust the Photo Eye to the Leading Edge of the case.

The purpose of the Index Gate adjustment is to prevent 2 cases from entering the Sealer back to back.

## Step “D” Upper Tape Head / Plow Assembly Adjustment



**Upper Tape Head / Plow Assembly Adjustment Location**



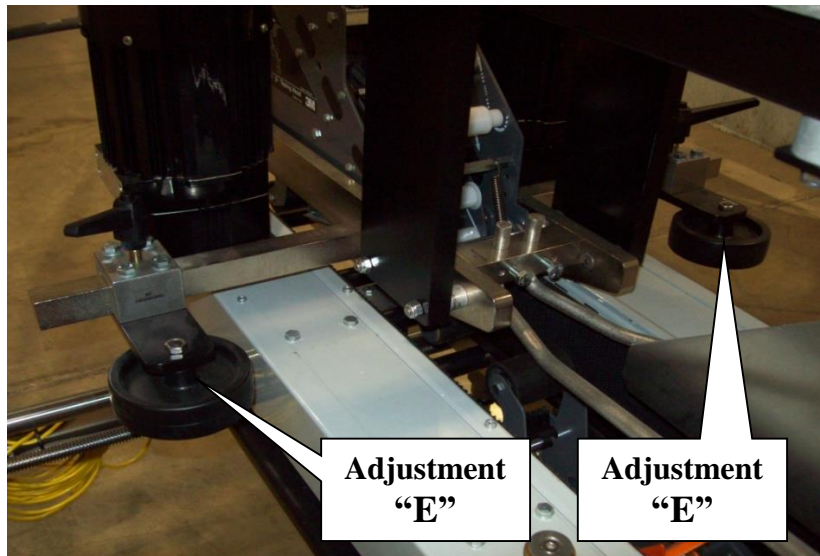
**Adjustment Handle Indicator**

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

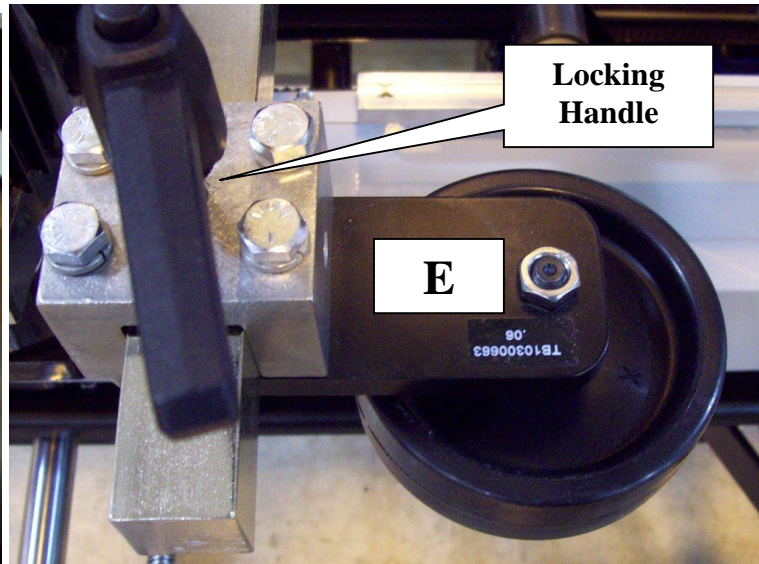
The purpose of this adjustment is to position the Upper Tape Head and Plow Assembly to the center of the case.



## Step “E” Case Support Rollers Adjustment



**Case Support Rollers Adjustment Location**

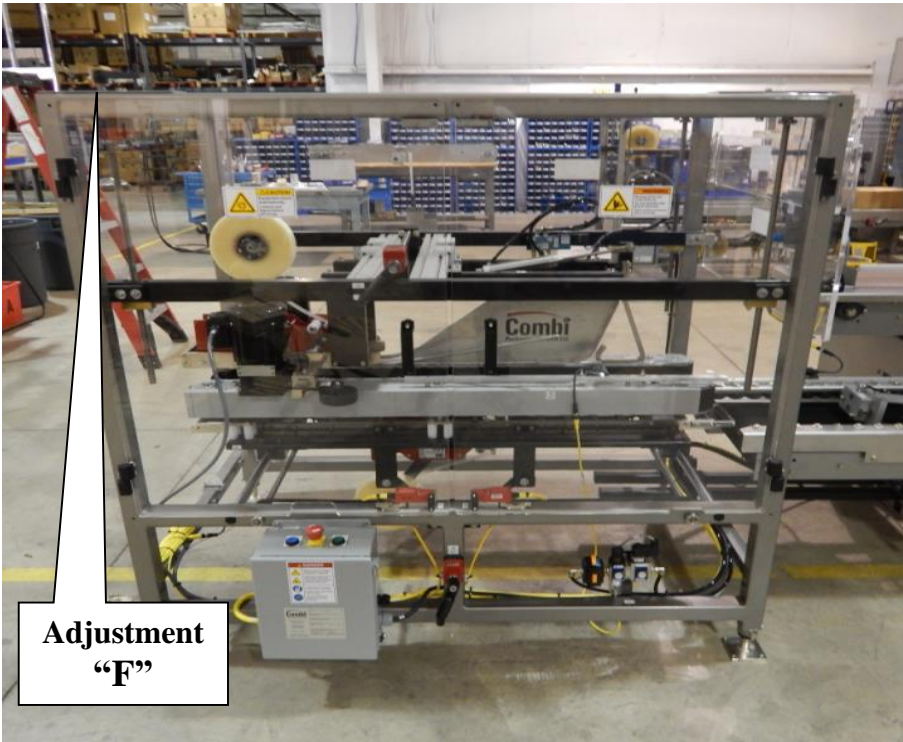


**Roller and Locking Handle**

To adjust, position a case at the tape head position and loosen the Locking Handles “E” and position the rollers against the case applying slight pressure to the case and tighten the Locking Handles.

The purpose of this adjustment is to minimize the amount of Flap Gap between the Major Flaps.

## Step “F” Upper Rack Assembly Adjustment



**Upper Rack Assembly Adjustment Location**



**Adjustment Handle Indicator**

To adjust, crank the Adjustment Handle “F” until Value on the Indicator equals the Case Height dimension.

The purpose of this adjustment is to position the Upper Rack Assembly to the top of the closed case that you are setting up for.

**NOTE: Should the Width of the Case vary greatly between changeovers it will be necessary to adjust the position of the Major Flap Folders to insure they are captured as the case passes through them.**

## **SEQUENCE OF OPERATION**

### Taper Sequence

The case, when presented to the sealer, is guided through the machine by belts located on both sides of the case. The leading edge of the case actuates a photo eye which energizes the rear minor flap kicker. A plow is simultaneously closing the front minor flap. The major flaps are then plowed closed. The case enters the taping head where tape is applied. Depending on system options purchased, tape can be applied top and bottom or top only to the case. The cycle is then repeated.