Servo Round Bottom PS-18804

Features:

-Servo controlled seal time for increased seal accuracy and quality.

-4.5" Radius is the only shape currently designed for the Servo.

-Other shapes designed for Pneumatic Round Bottom <u>but additional parts would need to be</u> designed to install these shapes onto Servo Round Bottom

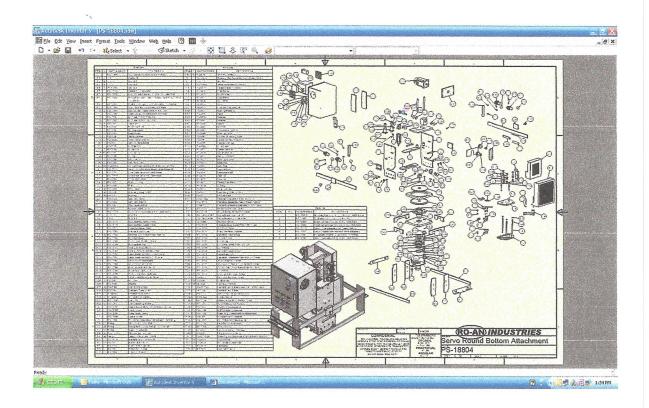
 4.5"
 Radius
 PS-17850

 4"
 Radius
 PS-3819

 2.5"
 Radius
 PS-4114

 Multiple Shaped Radius
 PS-17845

- -Stand alone unit which can be mounted into any machine.
- -Stand alone electrics, only signals required are
 - -Pulse 120 Volt
 - -Voltage is 220 Volt single phase
- -Push button for manually jogging the unit through its cycle for setup.
- -Push button for doing 1 cycle at run speed.
- -Potentiometer controlled dwell time
- -Automatic run mode detection, if no pulse is received within 3 sec then the attachment assumes the machine has stopped.



Operation:

When the power is first applied to the Round Bottom the Emergency Stop mode will be engaged and nothing will occur as long as the Round Bottom is in this state. When the reset button is pressed (see Fig 3) the servo will continue to rotate until the sensor is turned on, the sensor will turn on at top dead center or 0 degrees, once turned on the servo will stop rotating and the Round Bottom will now be aligned for proper operation. This will occur every time the Round Bottom is reset which ensures proper alignment if the timing belt is replaced or the unit was rotated while the power was off. If the sensor was already on when the reset button is pressed then the servo will not rotate as it is already in the correct position.

The Round Bottom is triggered by the pulse from the bag machine which begins the cycle. When the pulse is activated the air cylinder which lowers the seal head into position will extend to the run position if it was in its stop or idle position. The servo will then rotate the seal head and stop at the bottom of the stroke (180 Degrees or sealing position), when the pulse from the bag machine is gone the servo will rotate the seal head and stop at the top of the stroke (0 Degrees), this cycle will continue to repeat every time the pulse occurs. If 7 seconds goes by without another pulse from the bag machine then the Round Bottom will assume that the machine has stopped and the air cylinder which lowers the seal head into the run position will retract to its stop or idle position. The length or duration of the pulse controls the amount of seal time for the Round Bottom.

The air blast which blows out the waste material is controlled by the servo position and is not adjustable by the operator, its timing is such that the blast occurs as the seal head begins to lift off of the material (181 Degrees) and shuts off when the seal head reaches its stop or idle position (0 Degrees).

The signal which rotates the sealing pad is also controlled by the servo position and is not adjustable by the operator, its timing is such that the blast occurs as the seal head is on its way up to the stop or idle position and begins at 300 Degrees of the cycle and shuts off when the seal head reaches its stop or idle position (0 Degrees).

The Round Bottom has a potentiometer on the electrical panel (see Fig 3) which is labeled Dwell, this adjustment will increase the dwell or seal time and is intended to be a fine tune adjustment, although the dwell is controlled by the bag machine pulse as described above this potentiometer will increase the dwell by increasing the speed of the servo move so that the seal head gets into its sealing position (180 Degrees) sooner, the speed of the servo will be increased as the potentiometer is rotated clockwise.

When the Round Bottom is running the leading edge of the cut out has a tendency to fold over as the speed of the machine is increased, to correct this we have installed a air finger which will apply a stream of air across this area preventing the edge from flipping over, the quantity of air is adjusted via a needle valve. The air finger is located on an adjustable arm which should be adjusted for different bag lengths and optimum performance.

The Round Bottom has a switch labeled Man/Run on the front of the electrical panel (see Fig 3), the Round Bottom will not cycle when the machine is running if this switch is not in the Run mode. If the switch is in the Manual mode then the seal head can be jogged by pressing the jog button, this is useful when setting up the seal heads and checking the penetration. The panel also has a 1 cycle button, when this button is pressed the Round Bottom will do 1 complete cycle extending the air cylinder to run mode, sealing the material, blast out the waste, rotate the sealing pad and retract the run mode cylinder. The panel also has a heat controller and a on off switch for the heat.

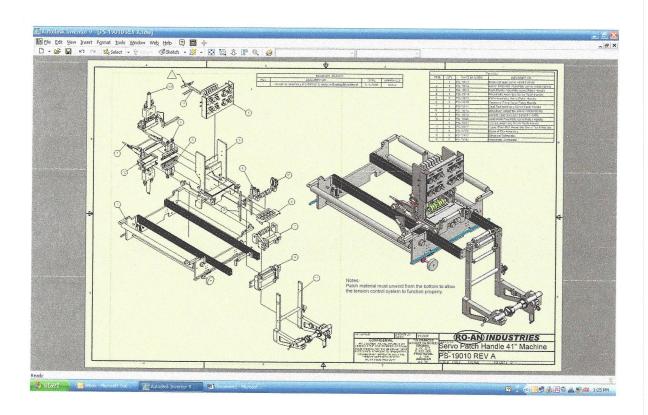
Fig 3

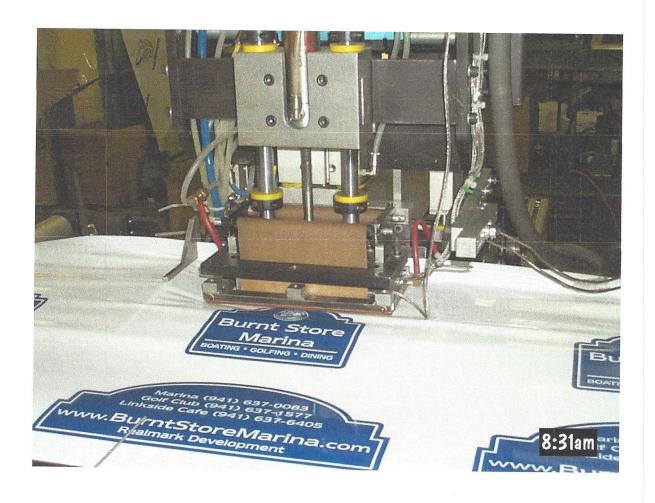


Servo Patch Handle PS-19010

Features:

- -Currently running at 80 BPM.
- -Stand alone unit which can be mounted into any machine.
- -Servo controlled patch draw rollers for increased speed and length accuracy.
- -4 selectable patch lengths via rotary switch.
- -Stand alone electrics, only signals required are
 - -Pulse, Draw and Run
 - -Voltage is 220 Volt Single Phase
- -Push button for manually drawing patch material.
- -Push button for manually cutting patch material.
- -ON/Off switch.
- -Potentiometer controlled Dwell time for Patch seal.
- -Air controlled tension system for Patch material
- -Gear rack with carriage for accurate placement of patch onto center of bag with air cylinders for positive locking of unit into position. Air cylinders controlled by mechanical switch for quick adjustment.
- -Easy access and threading of material.
- -Patch is delivered while bag machine is drawing film.
- -Blow down to assist in delivering patch into the bag.
- -41" wide machine is the only attachment currently designed.





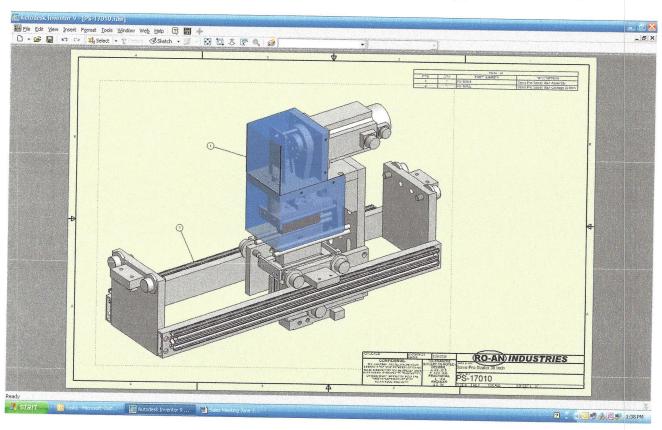
Servo Pre-Sealer PS-17010

Features:

- -Designed to run at 300 BPM, was proven at 325 BPM.
- -Attachment is supplied with new machine only because it needs to integrate into the Emerald controller of the machine.
- -Servo controlled seal time for increased seal accuracy and quality.
- -Seal dwell is controlled through the touch screen.
- -Lower Sealing pad is raised and lowered via air cylinder to allow for skips.
- -Carriage assembly for placement of Pre-Seal within the sync section.
- -30" wide machine is the only attachment currently designed.
- -Servo is direct drive to Seal head to eliminate belts and pulleys.
- -Seal head has 1 Inch of lift.
- -Cooling tube to blow air on material to prevent the web from melting when machine is stopped.
- -Available in mechanical lockdowns and manual positioning for both carriages or air cylinder lockdowns and hand wheels for precise positioning.

Mechanical Lock downs

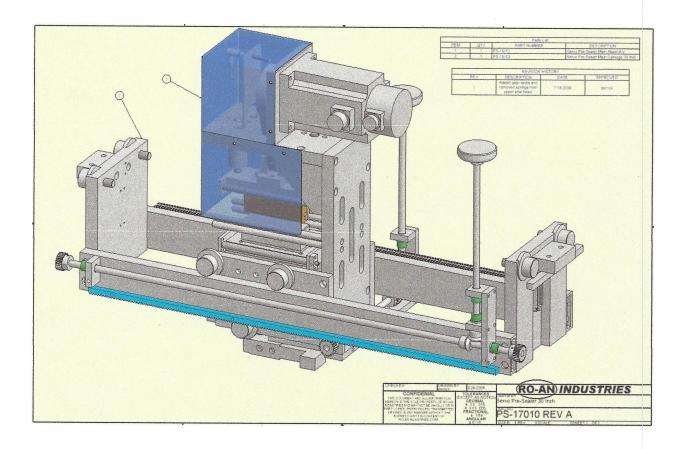
Tools are used to lock 2 separate carriages once the unit has been manually positioned on the web.



Air Cylinder Lock down

Tiny air cylinders are used to lock 2 separate carriages into position once the unit has been precisely positioned via hand wheels and gear racks, lock downs are activated by flipping a switch.

Hand wheels extend straight up so as not to interfere with sync cabinets which may or may not have been mounted in the sync section of the machine.

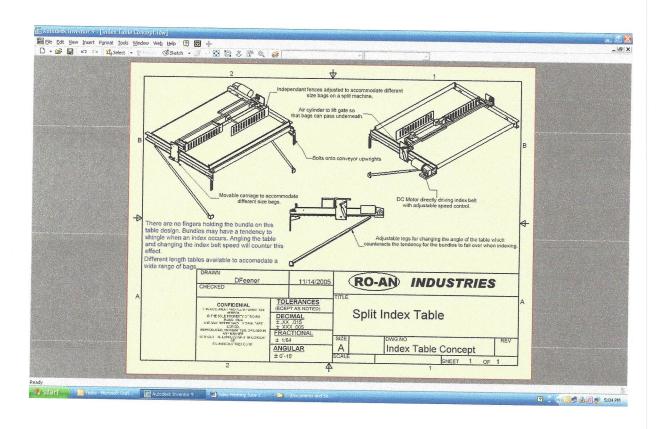


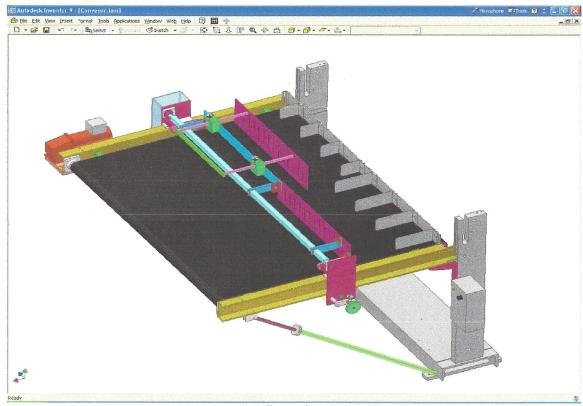
Stackers

PS-18857	56" Split Stacker
PS-19133	56" Solid Stacker
PS-18942	41" Split Stacker
PS-19132	41" Solid Stacker
PS-18971	30" Solid Stacker

Features:

- -Can stack up to 28 Inch long draw.
- -Can stack 2 different size bags with the longest size on the inboard side.
- -Air cylinder to lift gate so that bags can pass underneath.
- -DC Motor directly driving index belt with adjustable speed control to vary the speed of the index.
- -There are no fingers holding the bundle.
- -Bundles may have a tendency to shingle when an index occurs. Angling the table and changing the index belt speed will counter this effect.
- -Adjustable legs for changing the angle of the table which counteracts the tendency for the bundles to fall over when indexing.
- -At high speeds 4 or 5 skips may be required depending on the index amount.
- -Different table lengths could be available but have not been designed yet.





56" Split Version shown

MATERIAL

- 1. A solid stacker is capable of stacking multiple webs all with the same draw length.
- 2. If a split stacker is ordered then you are capable of stacking multiple webs with two different draw lengths. The longest draw length should be stacked on the inboard side and the shorter draw length on the Outboard side of the Stacker
- 3. Multiple webs can be stacked in fact you can stack as many webs as you can fit across the width of the machine.
- The size of bag which can be stacked is the widest bag which the machine can produce by 28" draw length.
- 5. The smallest size of bag is determined by the machines specifications.
- 6. The stack height is limited to 3 Inch maximum.

CONTROLLING THE STACKS

- 1. The bundles of bags can be isolated or shingled to give the packer the maximum amount of time before the bundles need to be removed from the table. The amount of shingle is controlled by the operator.
- 2. The stacker is equipped with adjustable legs that control the angle of the table surface. This allows the packer to control the quality of the stack. In a case where the bundle of bags has a tendency to slide forward when indexing, the table can be angled upward to compensate. In the situation where the bundle of bags has a tendency to slide backwards the table can be lowered to compensate.
- 3. There is one other adjustment available to the operator which controls the quality of the stacks, this is the index belt speed. The operator is capable of adjusting the speed at which the table moves.

OPERATION

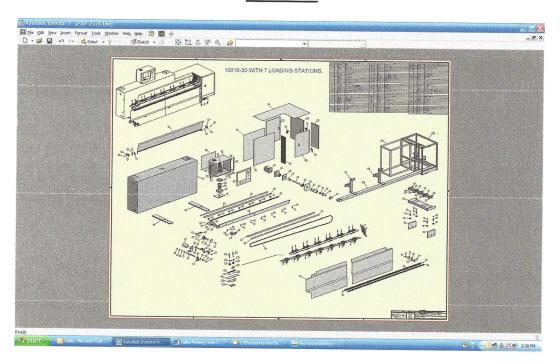
- 1. The operator moves the fence to the desired position at the back of the bag with the hand wheel provided then locks the adjustment to prevent unwanted movement.
- 2. The bag dividers are then slid along the stationary fence until they are positioned at the edges of the bag. Two different lengths of dividers are provided to accommodate different bundle draw lengths.
- 3. When the machine is running the bags will be stacked onto the table. Once the counter has reached the bundle count the machine will lift the fence via the air solenoid. When the fence reaches the top of its travel the belt will turn on and begin to move the bundle, the speed of the belt is adjustable by the operator. The amount of movement is controlled by the operator as well. Once the bundle has moved the correct amount the air solenoid will turn off which will lower the fence, when the fence lowers the belt will turn off. We can now begin to stack the next bundle of bags.
- 4. Amount of shingle effect is controlled by the amount of belt movement.

Wicketer with 7 loading stations 10016-30

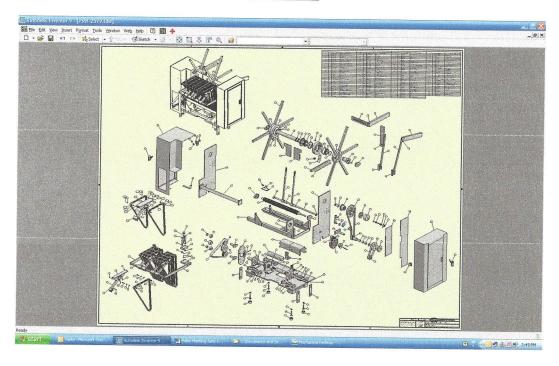
Features:

Index Chain and all mechanical components have been lengthened to allow for one additional bag loading station. A standard machine has six stations available for stacking bags while this design incorporates 7 stations.

PSW-2578



PSW-2579

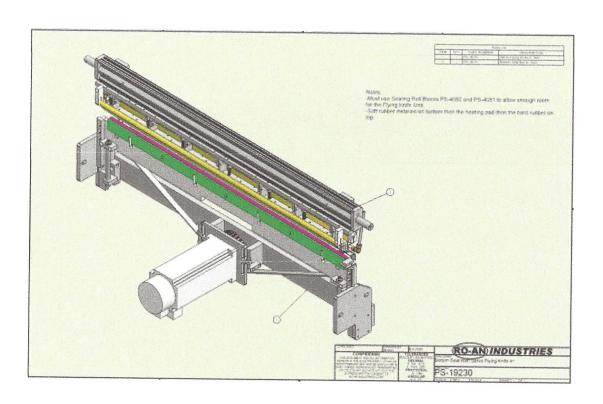


Servo Bottom Seal PS-19230

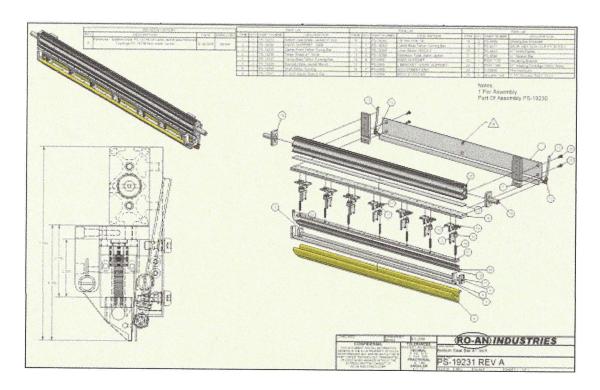
Features:

- -Flying knife is controlled by a servo motor
- -Razor blade utilizes a start stop motion which allows the flying knife to remain in the upper position while the film is in motion.
- -In skip mode the sealing bar is lifted via the cylinders on the locator assembly preventing a seal and the blades are stopped so that the film will not be cut.
- -The flying knife unit remains inside the machine and can be raised into position via screws or lowered to allow the installation of the sealing roll for side weld operation.
- -Lower sealing pad contains a heating pad.
- -Upper sealing bar has a blade made from Mehanite allowing the temperature to go as high as 800 degrees without warping but recommended to run at 600 max to prolong the life of the Teflon.
- -Sealing bar is constructed with adjustment points for maintaining even pressure along its length.
- -Machine can be switched from side weld to bottom seal in less than 1 hour.
- -Max speed is 120 BPM in bottom seal mode.
- -Automatic timing of razor blades is achieved by a sensor upon resetting the machine.
- -The leading edge of the bag is the open end.
- -Nylon guide to assist the blade in making a straight cut.

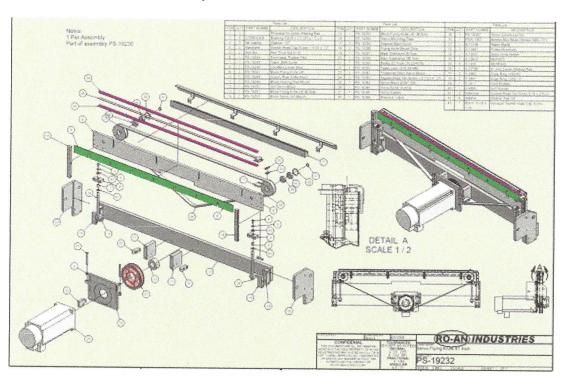
Operations Manual for PS-19230 Bottom Seal with Servo Flying Knife



Upper Seal Bar Assembly PS-19231

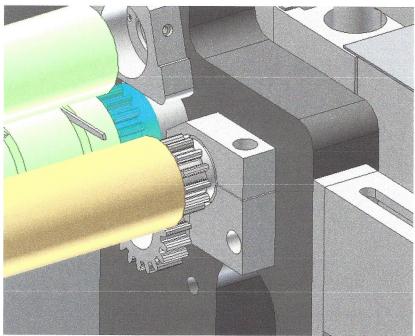


Servo Flying Knife Assembly PS-19232

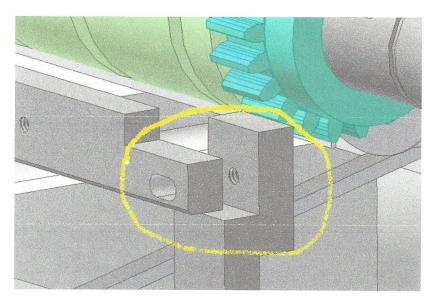


Switching From Side Weld to Bottom Seal

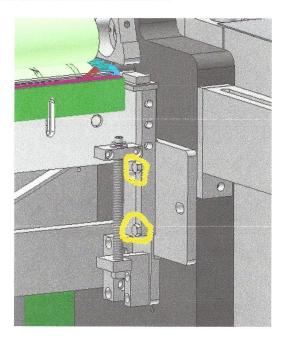
- 1. Place the machine into Emergency Stop Mode.
- 2. Remove the Side weld sealing Bar.
- 3. Remove the Side Weld water jacket.
- 4. Remove the Sealing Roll by removing the cap securing the bearing, there is a cap on each side of the machine.
- 5. Remove the sealing roll blocks one on each side which are attached to the inside frame of the Hot Knife.



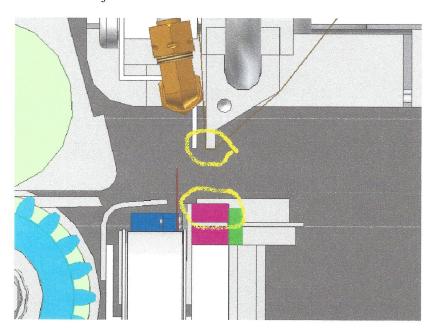
6. Install a ½" spacer between the lower finger bar and the mounting block as shown below, this is necessary so that the lower fingers do not hit the Razor Blade guard on the Flying Knife unit.



7. The Flying Knife unit can now be lifted into position, this is done by rotating the hex head 1/2-13 by 6" long screw as shown below, continue to raise the unit adjusting each side a little at a time until the correct position is reached, the correct position is when the 2 hex head bolts highlighted below are aligned with there threaded holes. Just before the unit is all the way up mesh the flying knife belt with the pulley on the servo motor be careful not to cut yourself, secure the unit into place by locking up the hex head bolts shown below.

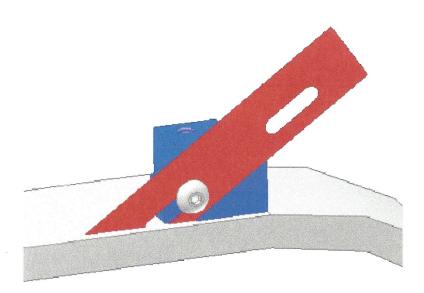


- 8. Install a Razor blade into the holder, please refer to the section called Installing the Razor Blade for installation procedure.
- 9. Install the Bottom Seal Sealing Bar and adjust the heat as required. Adjust the tilt on the seal bar so that the sealing surface of the bar is parallel with the Lower rubber pad. Connect the water lines to the Bottom Seal water jacket.



- 10. Adjust the lower pickoff so that the belts are as close to the Flying Knife unit as possible this will place them at the ends of the slots in the Conveyor Channels.
- 11. Reset the machine and the Flying Knife will automatically rotate to its home position.
- 12. The machine is now ready to run.

Installing the Razor Blade

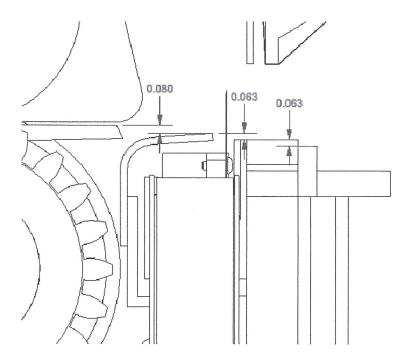


- 1. Place machine into Emergency Stop Mode.
- 2. From underneath the Conveyor rotate the Flying Knife Timing belt by hand being very careful not to cut yourself with the Razor Blade. Rotate until the blade holder is in plain view and so that the blade can be changed.
- 3. Using a pair of side cutters or needle nose pliers we will now snap the bottom portion of the blade off as per the drawing above, grasp the blade with the pliers and press the blade against a hard surface to snap the blade at the point where the pliers are holding it.
- 4. Install the blade into the holder as shown above and secure with a 2-56 screw.
- 5. Reset the machine and the Flying Knife will automatically rotate to its home position.
- 6. The machine is now ready to run.

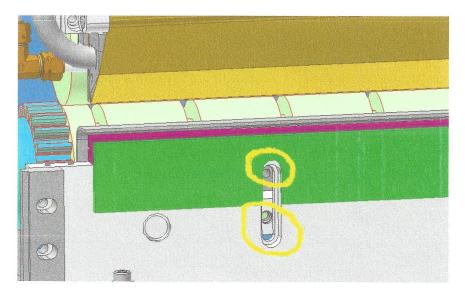
Setup Procedure for Flying Knife Unit

With the Flying Knife unit raised into position you want to make sure the film will be delivered properly without jamming. Proper setup of the lower assembly is essential and should be adjusted as follows.

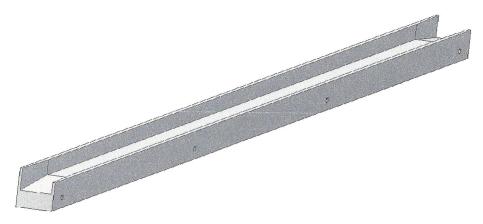
1. The Lower Finger should be adjusted so that the top of the finger is flush with the top of the lower draw roller.



2. The Razor Blade Guard should now be adjusted so that the top of the guard is 0.08" below the top of the lower fingers. This adjustment is made from under the conveyor as shown below. The Lower highlighted section is for the Guard and once the bolt is loosened it can be adjusted for the dimension shown above 0.08"



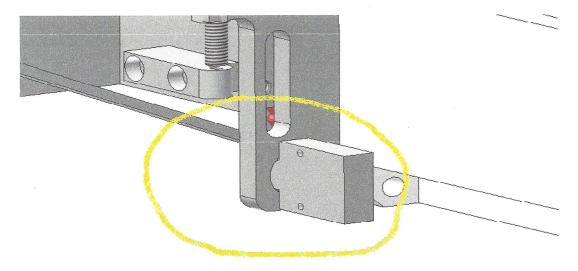
3. The next item is the Mylar Belt guide which is hard to see but this adjustment will aid in supporting the Razor Blade as it travels across the material, by raising the guide you will help the razor blade to make a straight cut as it travels across the web. The lower highlighted bolt shown in the picture above is used to adjust this guide, I have shown this guide below so you can see how it is designed.



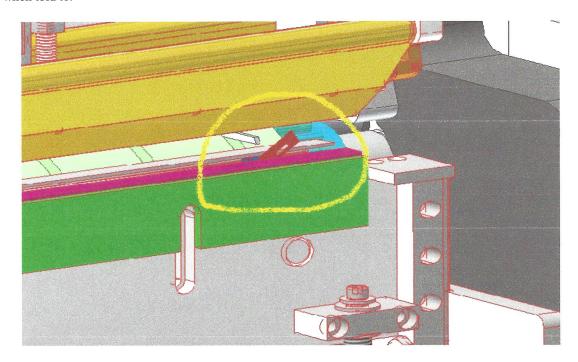
- 4. The next item to adjust is the steel plate which is used to hold the lower rubbers into position, it should be adjusted so that it is at least 0.0625" below the top surface of the rubber.
- 5. Once each piece is set up in this manor the film will guide itself from the draw rollers over the lower unit and into the conveyor.

Operation

When the machine is reset the servo will rotate the flying knife belt, this belt will continue to move until the homing sensor is activated by the Razor Blade.



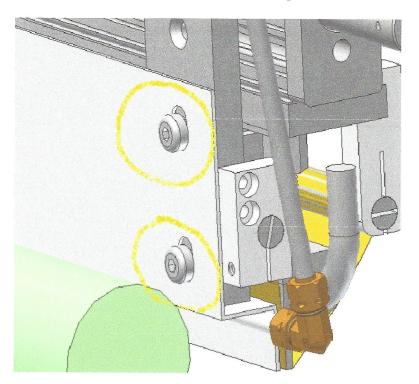
Once activated the servo is now homed and the Blade will be moved to its offset position which is entered through the touch screen, the offset is used to set the blades position so the blade is ready to make a cut when told to.



When the machine is run the film will be drawn into the conveyor and with the constant pull of the conveyor belts the material is held taunt. As the sealing bar starts to come down you will notice the water jacket hangs down below the sealing surface this is intentional and serves two functions.

- 1. The first function is to hold the material down while the Razor Blade makes its cut. Without the water jacket you could possibly see a tare in the seal at the edge of the bag, this is caused by the razor blade as it starts to make its cut the seal was molten hot and as the blade enters the material the tension of the blade entering the material would pull apart the seal for the first ½" until the blade had no choice but to start cutting the film.
- 2. The second function is to strip the material from the seal bar when the seal bar begins to lift. Without the Water Jacket as the seal starts to lift off of the lower sealing pad the material would be stuck to the sealing surface of the upper bar and as the conveyor pickoff pulls the bag the seal would distort.

The water Jacket is held on with shoulder bolts and Belleville disc springs which allow the jacket to float up and down, the amount of disc springs installed on each shoulder bolt will vary and should be set up so that the jacket is held tight to the seal bar but still allowed to float up and down.



As the seal bar approaches the lower sealing pad the water jacket will make contact with the material and hold it tight, the bar will continue to come down until making contact with the lower sealing pad trapping the material between the two surfaces. The Razor blade will now start to makes it cut in the material and will travel exactly 1 revolution and come to a stop again waiting for the next bag.

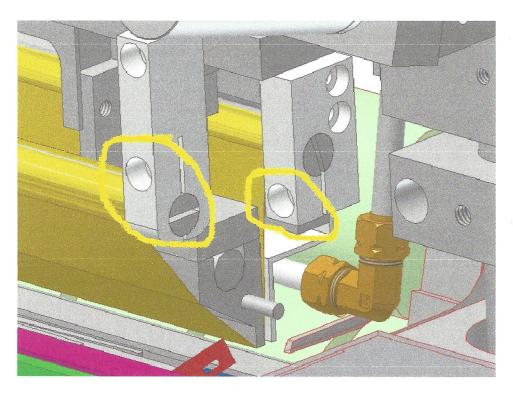
As the seal bar makes its seal, there are 5 parameters which can affect the quality of the seal they are as follows

- 1. Pressure, there must be significant pressure on the material to form a good and consistent seal.
- 2. The Lower sealing pad has a heating pad trapped between the two rubber surfaces to heat up the material from the bottom side which will increase the seal quality and integrity as the film thicknesses are increased.
- 3. The Dwell which has been selected on the Hot Knife cams should be set up so that there is adequate sealing time to form a quality seal, a setting of 3 or 4 will usually suffice but you may need to go higher as the material thickness or speed of the machine is increased. It is also important to know that if a longer dwell is used then less heat is required and generally a stronger more consistent seal will result.

- 4. The temperature of the upper sealing bar should be adjusted so that a quality seal is obtained. This seal bar is not made of aluminum and therefore can take up to 1000 degrees of heat but the Teflon which covers the sealing surface is only rated for 500 to 600 degrees and will need to be rotated quicker as the heat is increased.
- 5. The angle of the seal bar as it makes contact with the lower sealing pad is very important as you can change the appearance of the seal. When the seal bar is parallel with the lower pad the best seal will be achieved, if the blade is slightly tilted towards the conveyor then there will be more pressure on the trailing edge of the seal and the leading edge will be weak, the reverse is also true.

As the seal bar begins to rise the conveyor pickoff should be set up so that the bag remains on the lower seal pad or the upper seal bar until the sealing bar has lifted approx. ½" that's when the conveyor belts should come together and pull the bag away.

As the machine is run it will be necessary to rotate the Teflon periodically, this is done by loosening the bolts holding the shaft and with a screw driver you can rotate the Teflon turning bar to a new and clean portion of Teflon. When the bolts are tightened make sure the Teflon is wound taunt across the seal bar surface as this will make the best seal.



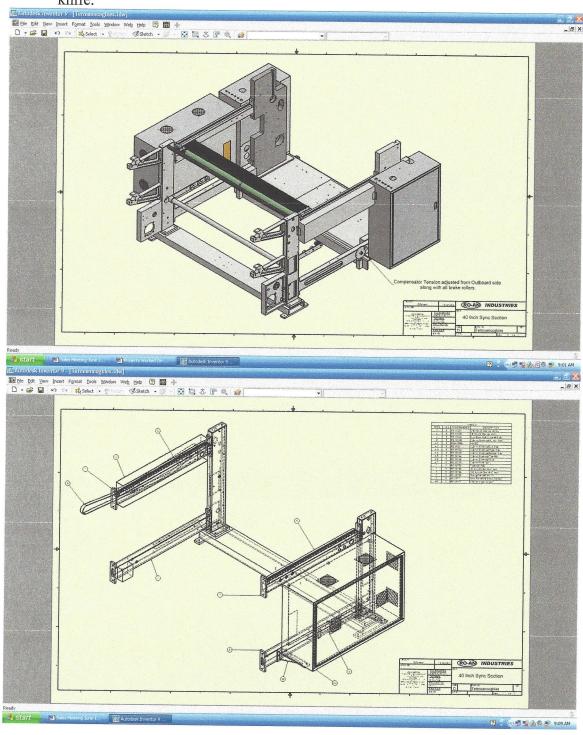
Timing

The Touch screen has 3 adjustments which control the Flying Knife, they are offset, scaler and BS Tilt. The offset is used to position the Razor Blade at the edge of the material so that the blade is ready to make a cut as soon as the Water Jacket traps the material. The second adjustment is the scaler which is used to control how far the blade will travel, the scaler should be set up so that the blade always stops in the exact same position, if over the course of several hours the blade starts to drift off of its desired position then the scaler must be adjusted to fix this. Once the scaler is set it should never need to be adjusted again. The third is the BS Tilt which is the pulse that tells the Servo to start its cut.

40 Solid Sync Section

Features:

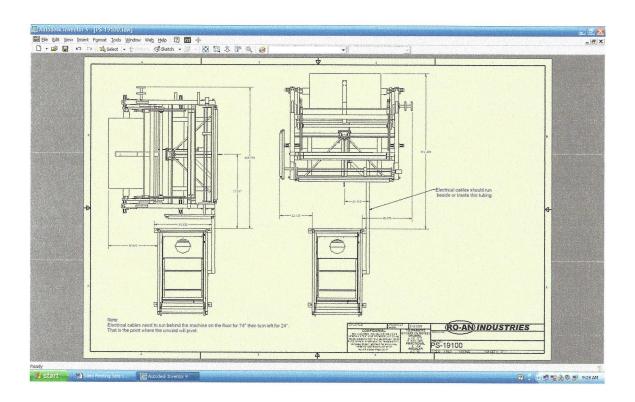
- -Belt driven rear driven roller
- -Condensed sync section with only 40" between Hot knife and Sync upright.
- -28" of space available for attachments between the Rear Driven roller and Hot knife.



Pivoting Unwind Stand

Features:

- -Allows the customer to run sheeting or J-Film simply by pivoting the unwind.
- -Unwind bolts into position at 90 degrees and straight on with the machine.
- -Minimizes setup time and scrap by eliminating the time it takes to line up a second unwind.
- -Eliminates the need for a second unwind.
- -Currently designed for a PS-15454 80 " unwind and attaches to a Webmaster Left Hand Machine.



Diaper Bag Attachment PS-19373

Attachments have been designed to fit onto a 41" Wicketer.

Max web width is 35"

Min web width is 9"

Max repeat is 26"

Min repeat is 18"

The attachments are listed in order below.

Main Assembly

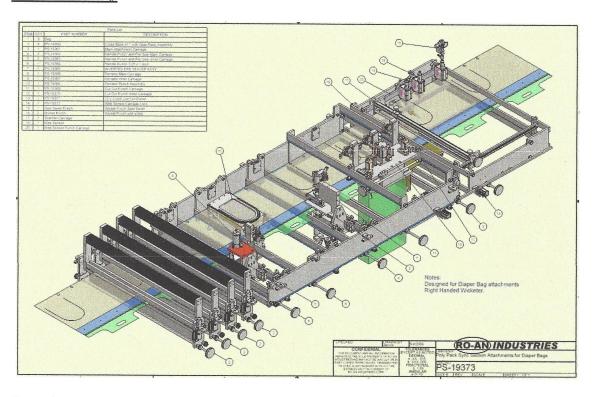
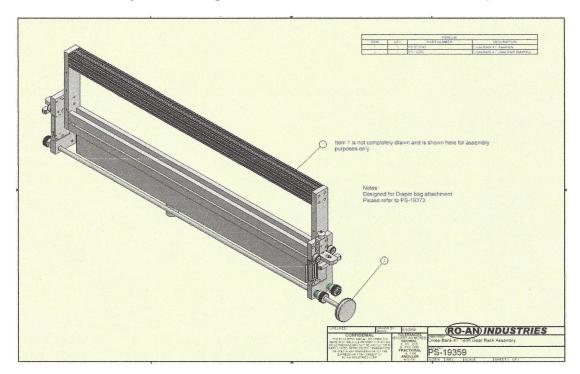


Chart of Bag sizes which can be achieved and have been verified.

							Closed	Market de la constanta de la c	
	Repeat		Length		Opened Gusset		Gusset	Lip	
Conversion	Metric	Inches	Metric	Inches	Metric	Inches		Metric	Inches
25.40	500.00	19.69	360.00	14.17	170.00	6.69	3.35	38.00	1.50
25.40	483.00	19.02	387.00	15.24	188.00	7.40	3.70	38.00	1.50
25.40	456.00	17.95	430.00	16.93	120.00	4.72	2.36	38.00	1.50
25.40	548.00	21.57	445.00	17.52	200.00	7.87	3.94	42.00	1.65
25.40	550.00	21.65	445.00	17.52	200.00	7.87	3.94	42.00	1.65
25.40	550.00	21.65	460.00	18.11	200.00	7.87	3.94	42.00	1.65
25.40	558.00	21.97	460.00	18.11	200.00	7.87	3.94	42.00	1.65
25.40	480.00	18.90	545.00	21.46	220.00	8.66	4.33	42.00	1.65
25.40	495.00	19.49	545.00	21.46	220.00	8.66	4.33	42.00	1.65
25.40	445.00	17.52	558.00	21.97	200.00	7.87	3.94	42.00	1.65
25.40	527.00	20.75	565.00	22.24	256.00	10.08	5.04	42.00	1.65
25.40	535.00	21.06	565.00	22.24	256.00	10.08	5.04	38.00	1.50

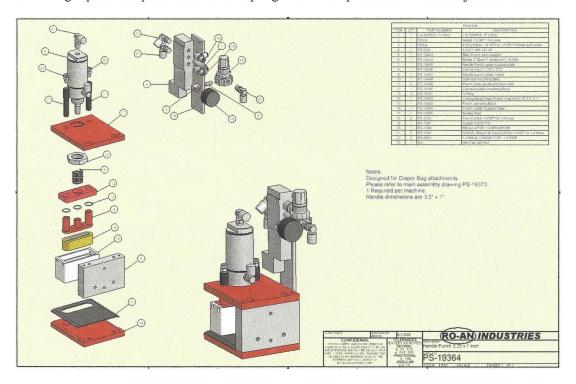
Cross Bank with Air Locks and Precise placement via hand wheel

Hand wheel adjustment is designed to come out of the side of the machine for easy access.



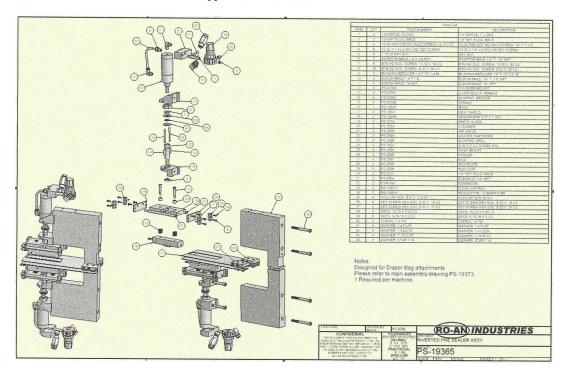
Handle Punch 3.5" x 1"

High speed cold punch with built in spring loaded clamp and blow off air to eject the cut out.



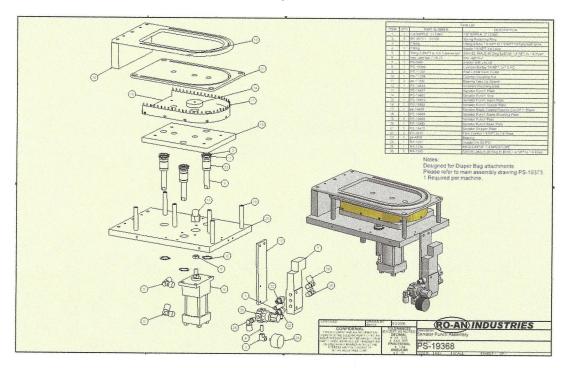
Pre sealer ½" x 1-1/4"

Air activated Pre sealer with upper and lower heat.



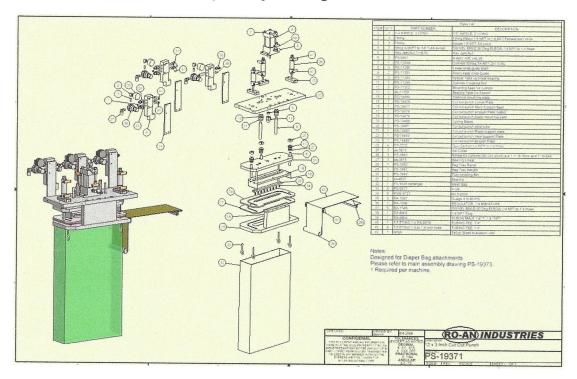
Serrator Punch 9.875" Long by 7" Wide

Air activated with built in clamp, horse shoe serration shape. Designed to only punch through 1 layer of material (base is inserted in between the film).



Cut Out Punch 12" x 3"

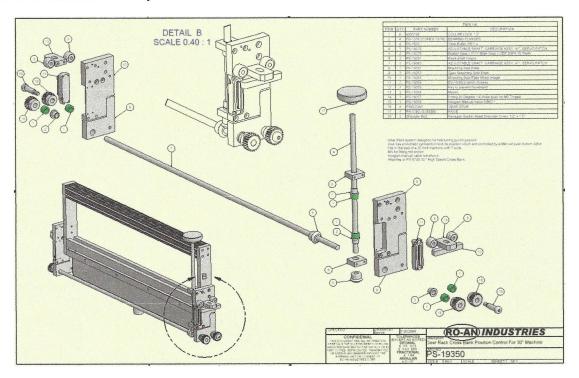
Air activated punch with built in clamp and blow off air to eject the cut out. The punch is designed to cut the edge of the material and can go 3" deep x 12" long.



Cross Bank Precise Positioner

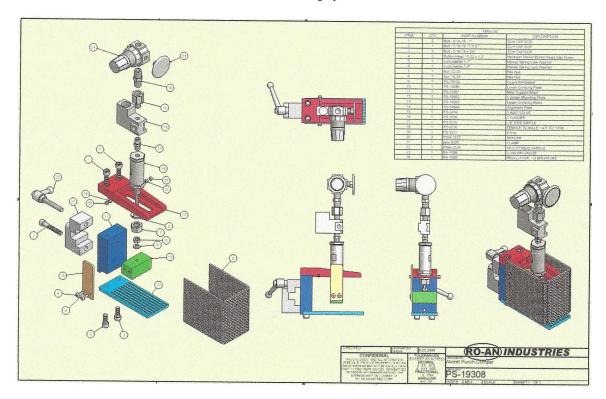
Tiny air cylinders are used to lock 2 separate carriages into position once the unit has been precisely positioned via hand wheels and gear racks, lock downs are activated by flipping a switch.

Hand wheels extend straight up so as not to interfere with sync cabinets which may or may not have been mounted in the sync section of the machine.



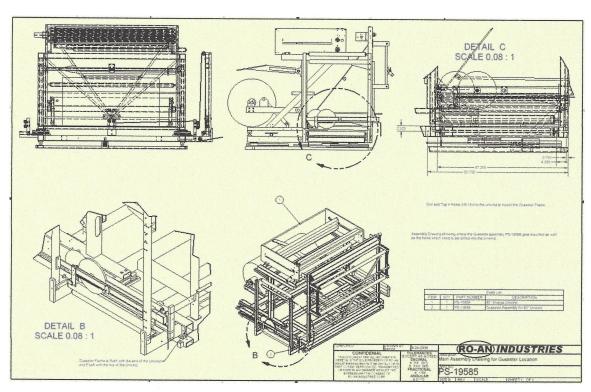
Crimper

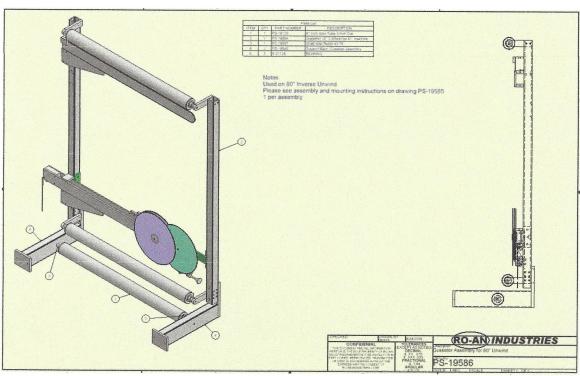
Air activated crimper which will wrinkle the top layer of material for easy opening of the finished bag. Can be mounted on the Wicketer web sensor carriage punch rail.



Vertical Separator and Gusseter for 80" Inverse Unwind

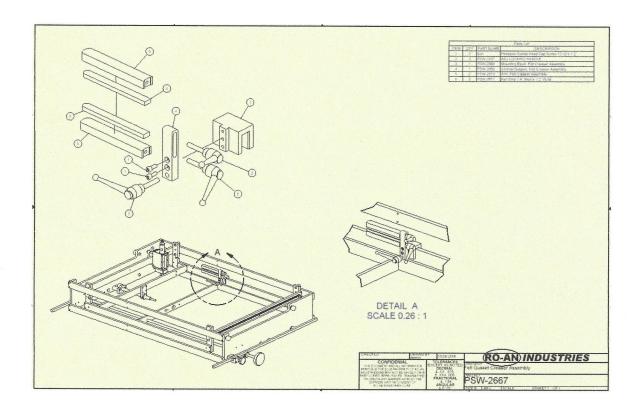
-Mounted to the moving center-folding section of the Unwind so that when the film is moved via the electric motor the gusseter attachments moves with it to keep the gusset in the correct position.





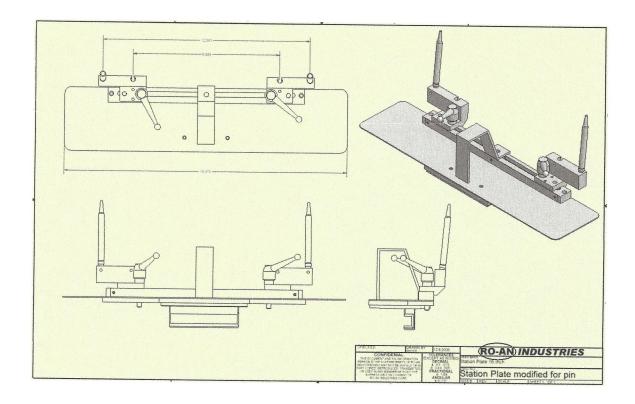
Felt Gusset Creaser

Creaser assembly which is meant to replace cardboard which customers tend to put onto the machines. Mounted in the web sensor carriage the creaser moves with the film and is fully adjustable, pressure is created by felt pads which help to keep the gusset closed.



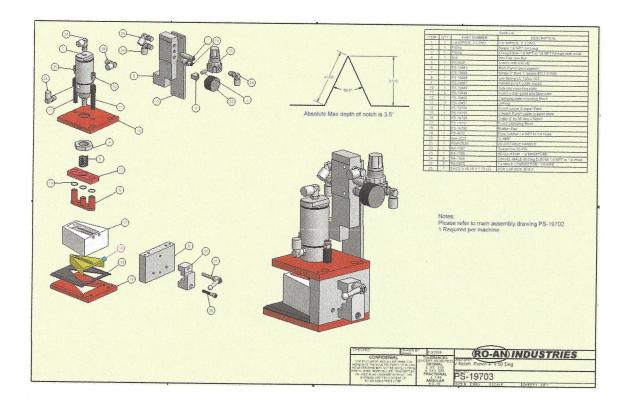
Pin Modification 16" Station plate 12" wicket Centers

This modification will allow the customer to achieve 12" centers on a 16" bag.



V Notch Punch 3-1/2" Depth x 55 Degrees

This is a air activated punch with a built in clamp and blow off to eject the cut out which is designed to cut from the edge of the material. The cut will be a V shaped and will have a 55 Deg angle. The unit will mount to the web sensor carriage.



Continuous Punch Mount 60" Unwind

This frame was meant to mount a continuous punch from QMI. The frame consists of an encoder mount, electric eye mount and the punch mount. QMI will be supplying everything except the mechanical mounts including a controller which will be able to give the operator the ability to punch a pattern of holes that are triggered by an eye mark on the film, the encoder is used to guarantee the position of the pattern.

The pattern can be maintained while the film is changing speed.

The unit was mounted prior to the center folder so that air holes could be put into the gusset only.

Mounts to existing holes in the unwind.

