PHARMAFILL™

DEITZ COMPANY, WALL, NJ, USA

Model NB1 Neck Bander

Operation Manual

Rev A

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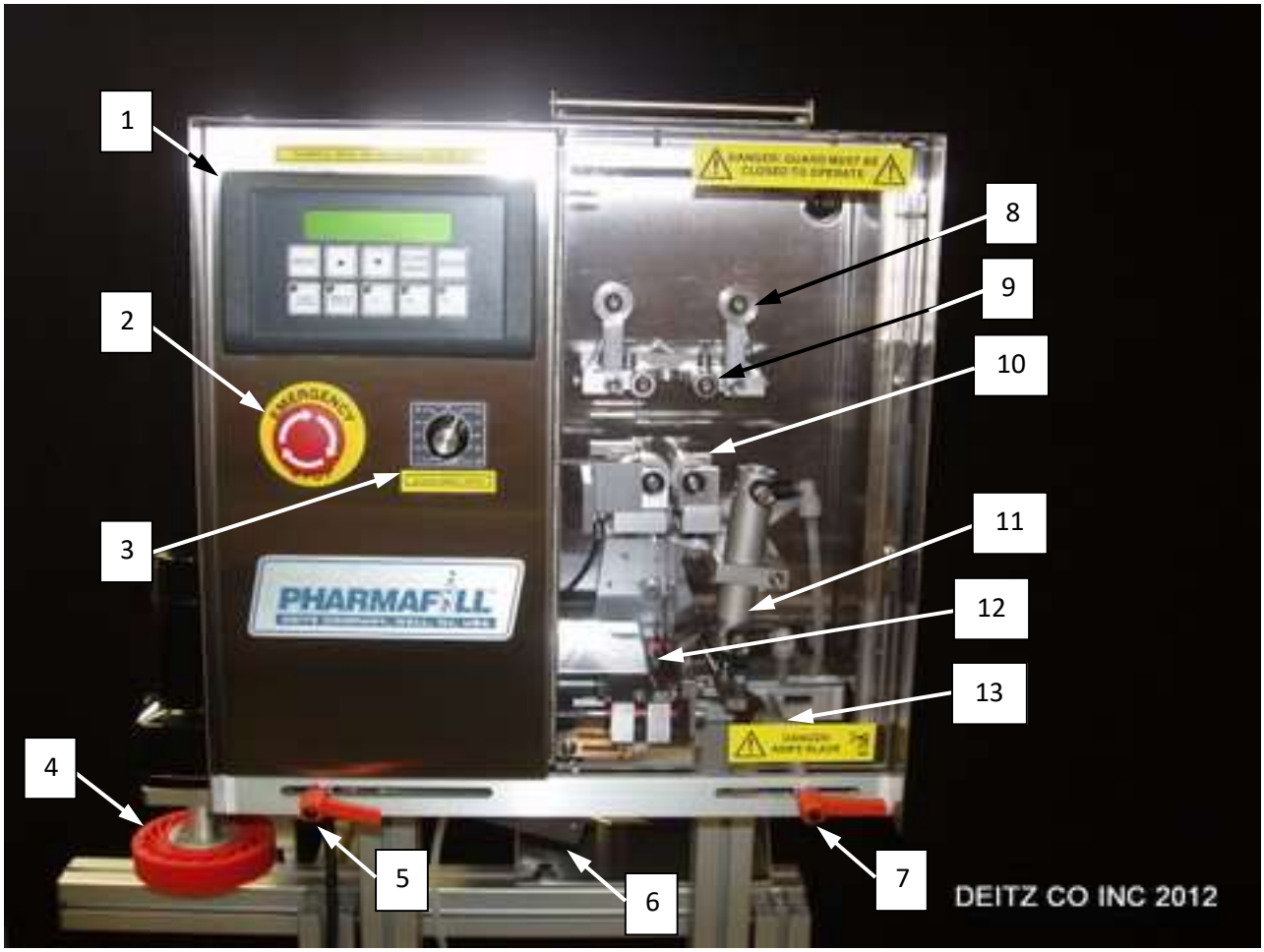

NB1 Neck Bander – Front View

1. HMI (Human Machine Interface) – Control/Display panel
2. E-stop (Emergency Stop Button) – Main power on/off. Press to stop, twist CW to release.
3. Speed Setting Knob for Spacing Wheel.
4. Spacing Wheel
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6. Start Sensor – optical retro-reflective
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11. Plunger assembly
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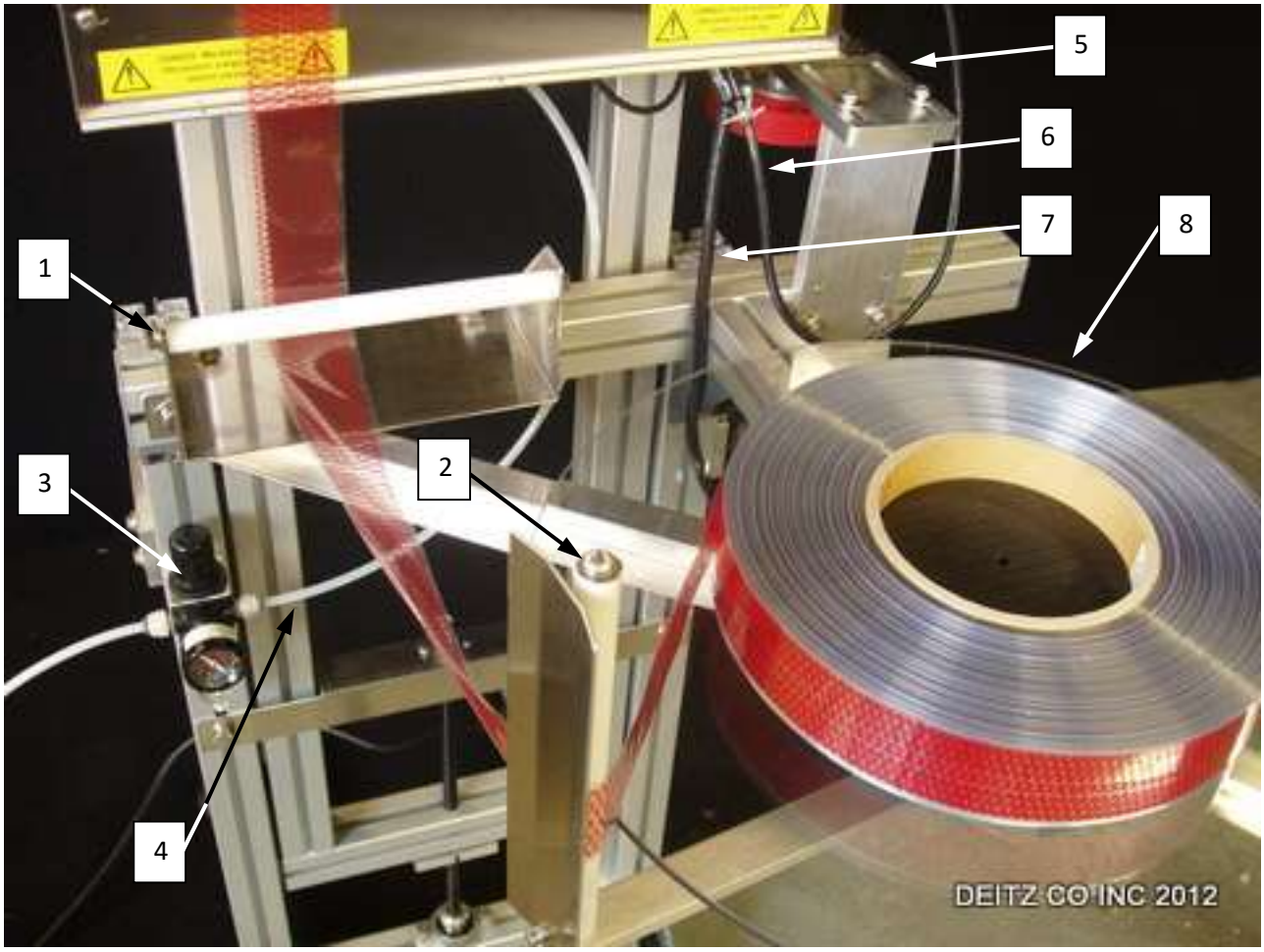
Section 1 - GENERAL ILLUSTRATIONS (cont'd)



NB1 Neck Bander – Rear View – Lift Stand with vertical Unwind Assembly and Spacing Wheel

NOTE: Photo shows horizontal Unwind Assembly. Machines made after 2012 have a vertical Unwind Assembly.

1. Lift Stand Horizontal Roller
2. Tension Bar Vertical Roller
3. Air Pressure Regulator/Filter
4. Air supply tube to machine
5. Spacing Wheel
6. Power cord for Spacing Wheel
7. Main power cord to machine
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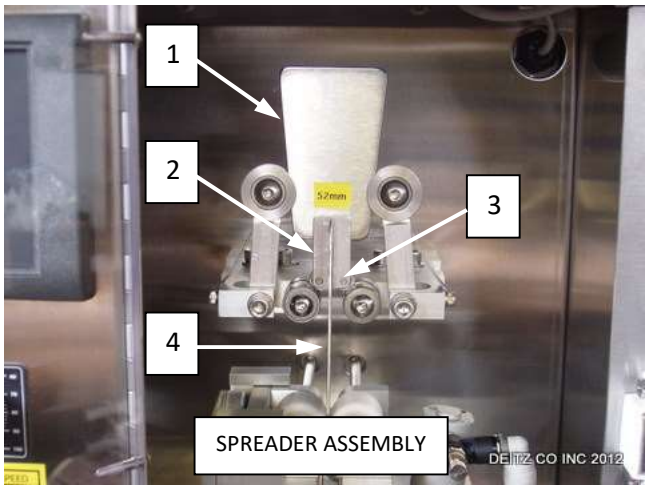
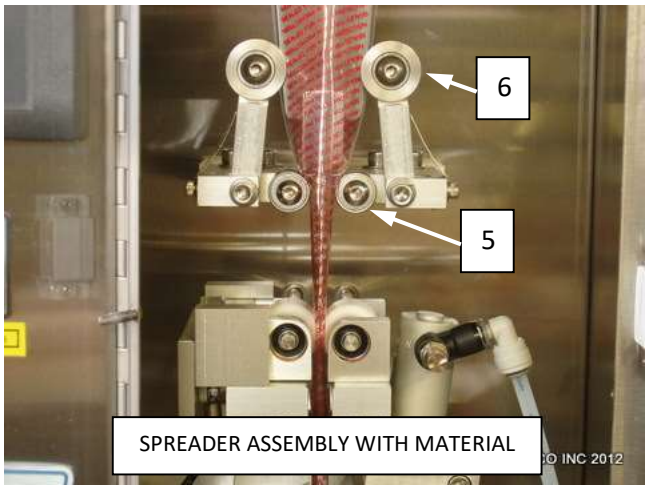
Section 1 - GENERAL ILLUSTRATIONS (cont'd)





NB1 Neck Bander – Spreader Assembly (typical, 52mm shown))

1. Upper Blade
2. Hub (Small Hub shown)
3. Spreader Hub Rollers
4. Lower Blade
5. Hub Support Rollers (2) (not part of spreader)
6. Spreader Guide Wheels (2) (not part of spreader)

Section 2 - SAFETY REMINDER

Warning

This machine contains moving parts and operates automatically. This may present a hazard to personnel.

Never operate this machine with any covers or guards removed or any guard switches or safety devices removed or bypassed.

Only people who have been correctly trained should operate or clean this machine.

Only people who are correctly qualified and trained should carry out maintenance, installation or any other service work.

Never clean or service the machine without isolating the electrical supply and isolating the air supply.

Always test for the presence of voltage before touching or working on electrical components.

Note that there might be other requirements that could apply.

Refer to the manuals supplied by the component manufacturers for further safety instructions.

Section 3 - INTRODUCTION

Thank you for purchasing a Pharmafill Model NB1 Neck Bander. We at Deitz Company hope you will find that the Model NB1 meets or exceeds your expectations and requirements for an affordable, reliable and innovative addition to your packaging operation.

Pharmafill products are designed and manufactured by Deitz Company Inc., in Wall, NJ, USA. We have manufactured machinery for the bottle filling industry since 1966 and started our Pharmafill line in 1993. We are a small (but growing) family-owned business that emphasizes quality, innovation and superior customer service.

If you have any questions or comments, please contact us by phone or visit our website. Chances are someone whose last name is Deitz will handle your inquiry personally.

Deitz Company Inc.
PO Box 1108
1750 Route 34
Wall, NJ, USA 07719

Tel 732-681-0200
Fax 732-681-8468

E-mail support@deitzco.com or
support@pharmafill.com

Web site deitzco.com or
pharmafill.com

The operation manual is designed to make it easier for you to know the machine and to make use of its intended range of operation. It contains important instructions on how to operate the machine safely, adequately and economically. Observing these instructions helps to avoid risks, to reduce cost for repair work and machine downtime, and enhances the machine's operational reliability and lifetime.

The operation instructions are to be supplemented by further instructions due to existing national regulations on accident prevention and environmental protection.

Section 3 – INTRODUCTION (cont'd)

If used in compliance with the instructions contained in this manual and provided that safety devices are regularly maintained and properly working, this machine is not dangerous to the operator.

This manual is to be kept accessible to all operators using this machine and it is assumed that before use the operator will read fully, and understand this manual and will follow instructions stated within.

As this machine may be used in the packaging of hazardous substances the operator should be aware of the precautions required for these substances.

In addition to the operating instructions and the binding regulations on accident prevention valid in the country where the machine is being used and at its operational site, the recognized technical rules on safe and proper working have to be observed as well.

These operating instructions and the information contained therein have been compiled with due care and attention. However, DEITZ COMPANY does not take any responsibility for misprints, translation errors or other errors and any damages resulting there from.

DEITZ COMPANY retains the right to make changes in the described products to improve functionality, reliability and other design considerations. The measurements or data shown on schematics, sketches and photos are not binding. They are for description purposes.

Section 4 - SPECIFICATIONS (Also see technical information at end of manual)

GENERAL

Model	NB1 Neck Bander
Type	AD1178
Product Capability	All heat-shrinkable materials intended for tamper evident neck banding Minimum lay flat width (LFW): 25 mm (.98 in.) Maximum lay flat width (LFW): 123 mm (4.84 in.) Minimum length of band after cutting: .63 in (16 mm) Maximum length of band after cutting: 4.00 inch (102 mm)
Roll Core Diameter	5” (12.7cm)
Maximum Rate	100 applications/minute (or more)

INPUTS

Voltage	110 VAC[1]
Cycles	50/60 HZ
Phase	1
Amperage	2.0A
Compressed Air[2]	0.5 CFM at 60 psi (14 LPM at 400 kPa)
Room Humidity	85% RH non-condensing

DIMENSIONS

Floor Foot Print	26” wide x 39” deep (66cm X 99cm)
Height[3]	Variable 55” to 64” (140cm to 163cm)
Container Height	From 1” to 9” (2.5cm to 23cm) [3]
Weight	Fully assembled: 90 lbs (42 Kg) Bander Unit alone: 45 lbs (21 Kg) Lift Stand with Spacing Wheel: 45 lbs (21 Kg)

OTHER

Ideal conveyor height	36” +/- 1” (92cm +/- 2.5cm)
Construction Materials	See Section 10 – Contact Compliance Document

Notes:

1. Other input voltages are available as factory options if specified at the time of order

2. Compressed air must be clean and dry, free of impurities, moisture (water) and oil.

3. May be adjusted further by adjusting or modifying leveling feet.

Section 5 – GENERAL INFORMATION – Getting to know the machine

1. WHAT IT DOES

The Model NB1 Neck Bander is designed to convert rolls of heat-shrinkable flat tubing into individual round cut bands and apply those bands onto containers as they pass through the machine via conveyor. The containers then pass through a heat tunnel, where the bands will shrink around the containers. The bands can be tamper evident neck bands or partial- or full-body labels.

The raw material is flat tubing (typically PVC or PET) of various widths, supplied in roll form with a round core (typically 5" diameter). The roll is installed laying flat (on its side) on a supporting wheel. The loose end of the roll is threaded through a tension release bar and then into the machine. An unfolding assembly (the spreader), which is matched to the size (width) of the tubing, is installed inside the end of the tubing. The tubing will pass over the spreader and into the feed rollers. The feed rollers deliver an exact length of material to the knife. The knife cuts the material, producing a band, and a suction cup holds that cut band, waiting for a container. As a container passes under the machine, it is detected by a photoelectric sensor. A pnuematic arm then pushes the cut band onto the container. Finally, the machine produces another band and waits the next container.

The Model NB1 applies bands "on the fly"; it does not stop or slow down the bottle. In order to work properly, the incoming bottles must be separated by a few inches, proportional to the conveyor speed (faster speed requires longer spacing). Every Model NB1 comes with a built-in bottle spacing wheel with speed control to create space when there is none.

2. FEATURES AND CAPABILITIES – (for specifications, please see Section 4)

The NB1 Neck Bander automatically produces and applies neckbands (100+/min) or short full body sleeves (50-60/min). It is designed primarily for the pharmaceutical, nutraceutical and cosmetic industries. It is designed to comply with FDA and GMP rules, using approved materials and methods to aid in cleanliness and cleanablility. All mechanical and electrical components are easily accessed for maintenance and service. The clear, hinged guard door is electronically interlocked to stop the machine when opened. The machine is self-contained and includes everything you need to position it over any conveyor and to begin making bands in the shortest time possible.

The machine is controlled by a PLC (Programmable Logic Controller). The operator interacts with the PLC via a membrane-switch type HMI (human machine interface) with two-line alpha-numeric display screen. The display screen shows prompts to aid the operator each step of the way. All functions are accessed through an easy-to-use menu system. In addition to the basic function of selecting manual or automatic operation, the menu includes features that aid in set-up and testing, such as one-step jog operation and direct control of individual mechanical actions. The control panel includes a mushroom-head, twist-to-unlock Emergency Stop Switch, which (when pressed) cuts-off main electrical power and compressed air. There is also a rotary potentiometer that controls the speed of the Spacing Wheel. An adjustable photo-electric start sensor is integrated into the machine, which will detect the container and start a machine cycle.

Section 5 – GENERAL INFORMATION – (cont'd)

The NB1 Neck Bander is mounted on a manually-adjustable-height lift stand (LS-NB1), which includes an air pressure regulator/filter and two brackets to connect the stand to a conveyor. Also mounted on the lift stand is the roll Unwind Assembly and the Spacing Wheel. The purpose of the Spacing Wheel is to control the flow of containers into the machine, assuring a minimum gap between containers.

3. OPTIONAL FEATURES

Perforators – Horizontal and vertical perforators may be added to the machine at the factory or in the field. Please contact Deitz Company for more details.

Section 6 – INSTALLATION AND COMMISSIONING

NOTE: PLEASE RETAIN THE PACKING CRATE AND MATERIALS UNTIL THE MACHINE IS FULLY OPERATIONAL, TESTED AND APPROVED.

1. Unpacking

   a. Carefully remove the cardboard cover from the pallet.

   b. Remove all packing materials and any additional boxes that may be inside.

   c. Cut the plastic straps that hold the lift stand to the pallet.

   d. Remove the LS-NB1 Lift Stand from the pallet and place it on the floor.

   e. Cut the plastic straps that hold the banding machine to the pallet.

   f. Place the NB1 Neck Bander on a working surface (typically a table or sturdy cart).

   g. Remove any shrink-wrap, bubble wrap and/or protective cardboard inserts from the lift stand and banding machine.

   h. Inspect all supplied equipment for damage.

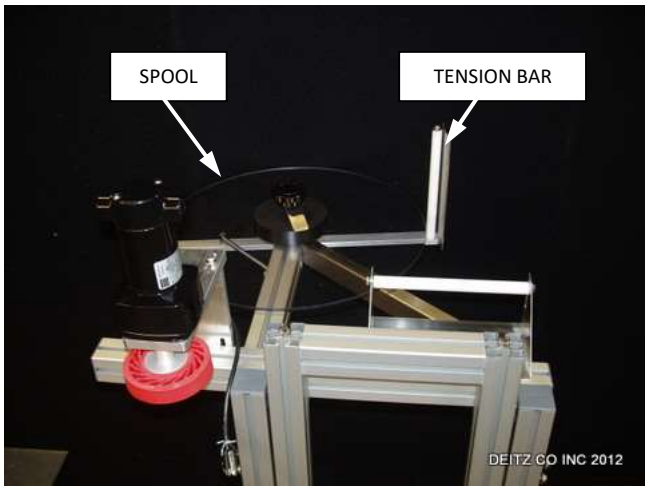
   i. If any damage is present please notify DEITZ COMPANY immediately. If possible, send a photo.

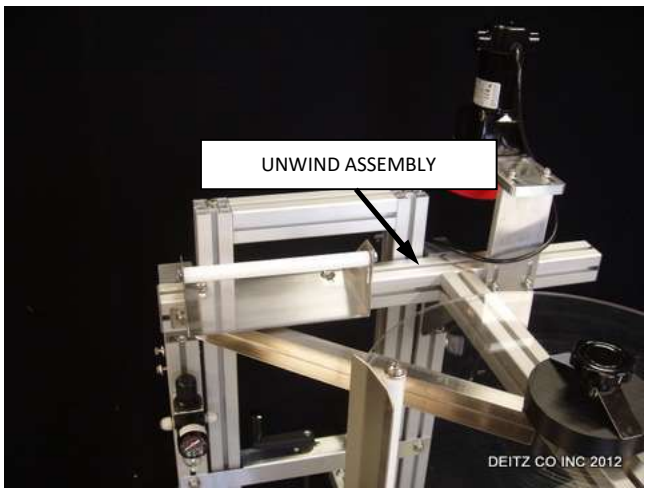
   j. Follow the procedures on the following pages to assemble and test the machine.

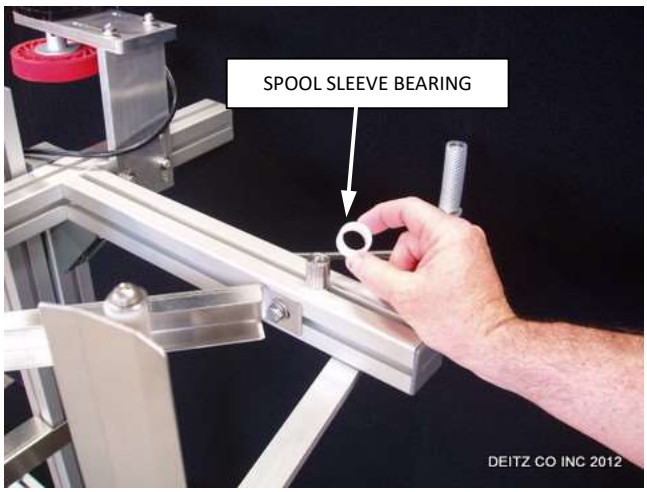
Section 6 – INSTALLATION AND COMMISSIONING (cont'd)

2. Set up the LS-NB Lift Stand

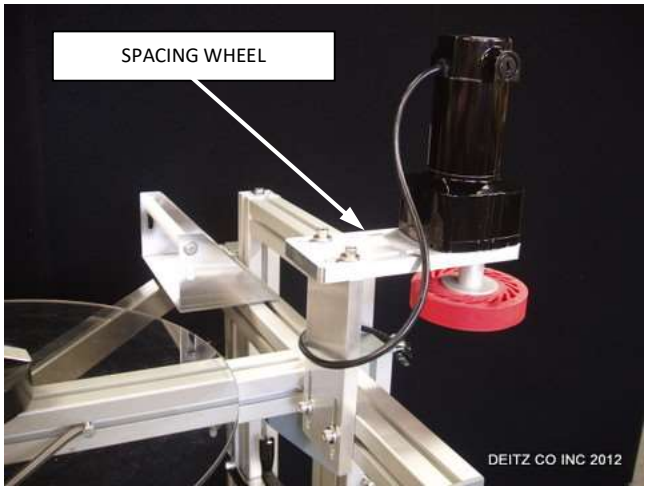
a. Remove the Lift Stand Main Frame from the pallet.
b. Place lift stand on floor. The air filter/regulator is on the back side.
c. Install the Unwind Assembly where indicated by yellow labels, using the screws that are already in place.
d. Remove the tape holding the Spool Sleeve Bearing on to the spool post (horizontal unwind only).
e. Install the spool onto the spool post
f. Install the Spacing Wheel where indicated by a yellow label, using the screws that are already in place.
g. Install the Conveyor Alignment Bars where indicated by yellow labels, using the screws that are already in place. (Note: The standard bars are made for a conveyor that is 5-1/2" wide. Contact Deitz Company if you require a different size.)

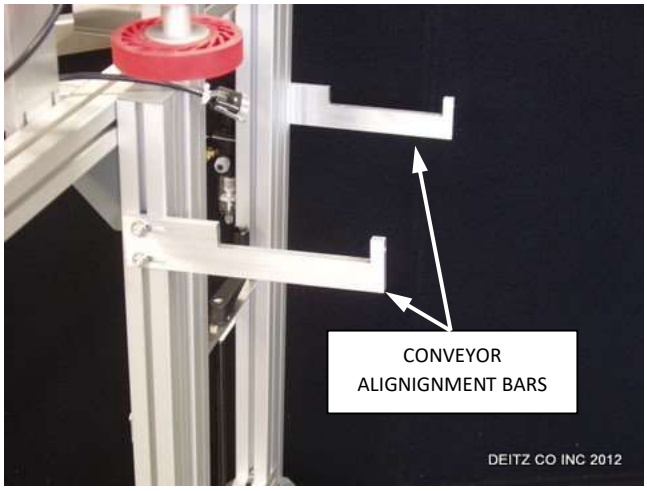






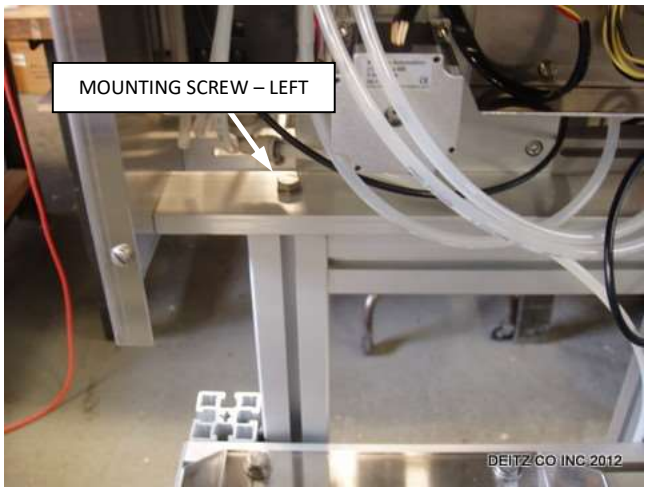
Section 6 – INSTALLATION AND COMMISSIONING (cont'd)

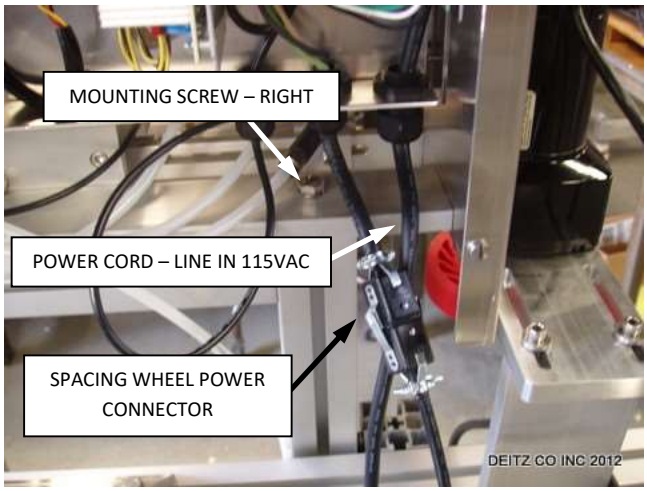




3. Install NB1 Neck Bander onto Lift Stand

   a. Remove two (2) mounting screws and washers from top of lift stand.
   b. Place NB1 Neck Bander on work table
   c. Remove rear panel by taking out four (4) screws and washers.
   d. Place the Neck Bander on top of the Lift Stand. Have a helper steady the machine (from the front).
   e. Install the two (2) mounting screws (from the back). Tighten securely.





Section 6 – INSTALLATION AND COMMISSIONING (cont'd)

4. Apply Electric and Air Service

a. Cut wire tie holding power cord and air supply tube.
b. Attach air supply tube to right side (as viewed from back) of the air filter/regulator.
   - Attach compressed air from your in-house system to the left side of the air filter/regulator.
   - Set regulator to 60 psi.
c. Plug in Spacing Wheel power cable to connector on short cord next to main power cord.
d. Before attaching to power, press emergency stop button (E-stop) until latched.
e. Plug main power cord into 115 VAC outlet.
f. Release E-stop by twisting the red knob CW.
   - Confirm the that the HMI (front panel) lights up and after 4 seconds the display reads "Model NB1 Neck Bander, Press Menu"
   - Confirm that there is the sound of air escaping from the vacuum generator (this is normal).
g. Open the guard door. Confirm that the HMI reads "Guard Door Open".
h. Close the guard door. HMI reads "Press Menu" again.
i. Press E-stop. HMI will turn off, and air sound will go silent.

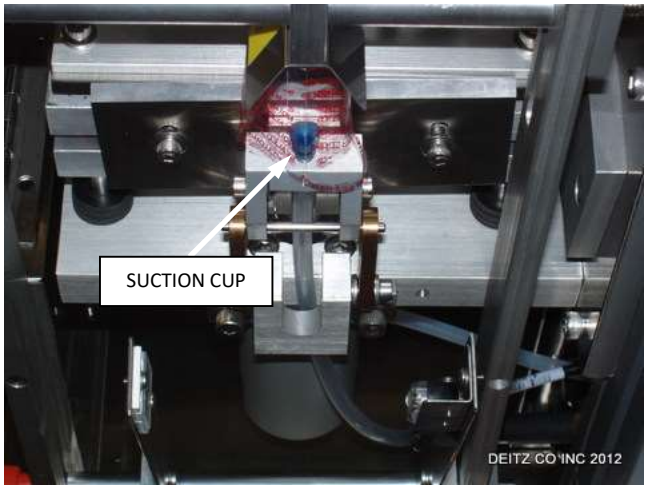
HMI UPON POWER UP – MAIN MENU

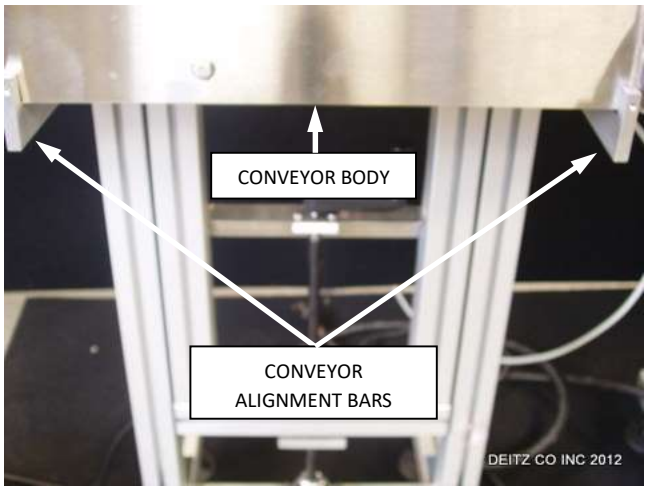
HMI WITH GUARD DOOR OPEN

Section 6 – INSTALLATION AND COMMISSIONING (cont'd)

5. Integrate the assembled NB1 Neck Bander to the conveyor

   a. Use the hand crank on the lift stand to raise the machine high enough to clear the conveyor and conveyor guide rails.
   b. Position machine next to the conveyor. Visually locate the blue suction cup under the knife.
   c. Center the machine front-to-back so that the blue suction cup is directly over the center of the conveyor belt and so that the machine is parallel to the conveyor
   d. With the conveyor and machine aligned, adjust the Conveyor Alignment Bars so that they hook underneath the conveyor body. Tighten the mounting screws on the lift stand. (Note: The standard bars are made for a conveyor that is 5-1/2" wide. Contact Deitz Company if you require a different size.)
   e. Confirm the machine is still aligned as in step 4.
   f. Loosen the left hand orange handle (below the control panel) and swing down the optical start sensor assembly a few inches so you can access it. Re-tighten the orange handle. The orange handle should be all the way to the left in the adjustment slot.





Section 6 – INSTALLATION AND COMMISSIONING (cont'd)

6. Basic operational test

a. Turn on the power by releasing the E-stop (twist). Wait for the initial display to read "Model NB1 Neck Bander, Press Menu"
b. On the HMI, press MENU. The display reads "1. Apply Bands, Enter/Arrow/Clear"
c. Press ENTER. The display reads "1. Apply Bands Mode, Press Auto or Manual"
d. Press MANUAL CYCLE. The machine will cycle once at normal speed. Confirm the following actions take place. Press MANUAL CYCLE several times if needed.
   - Plunger extends and retracts.
   - Knife opens.
   - Feed rollers turn (partial revolution).
   - Knife closes.
e. Press AUTO CYCLE (the LED on the button will stay on). The display reads "Auto Mode STAY CLEAR, Start Time .xx (F1)"
f. Staying completely clear of the knife, pass an object across the path of the optical START sensor. The machine will cycle once at normal speed.
g. Press AUTO again. The LED will go out.
h. Press CLEAR. The display will return to the initial message. This completes the test.

HMI – MENU ITEM 1

HMI – APPLY BANDS MODE

Section 7 – CONTROLS

1. Control Panel – This is the panel at the front of the machine that contains the HMI, the E-stop and the Spacing Wheel speed setting knob.

- HMI (Human Machine Interface) – this is a software-configured, menu-driven interactive control module, with 10 membrane-switch push-buttons and 2-line LCD display. All functions of the machine (other than the E-stop and Spacing Wheel speed) are controlled using this unit. The display shows the user interactive prompts when needed.

- E-stop (Emergency Stop Button) - The control panel includes a mushroom-head, twist-to-unlock Emergency Stop Switch, which (when pressed) cuts-off main electrical power and compressed air.

- Speed setting for Spacing Wheel – This is a rotary potentiometer that controls the speed of the Spacing Wheel. The Spacing Wheel only turns on when the machine is in AUTO mode. The speed should be set in conjunction with the conveyor speed to provide the container spacing and rate of entry that is appropriate for the application.

Section 7 – CONTROLS (cont'd)

2. Using the HMI (Human Machine Interface)

USING THE HMI – THE BASICS

This is the main screen. It will appear upon initial power up and also whenever the CLEAR button is pressed.

Whenever the guard door is opened, the bottom message will read "Guard Door Open" and the machine will not operate.

Press MENU to access any function. This is always the first button to push. There are 5 functions:

1. Apply Bands
2. Adjust Settings
3. Manual Control
4. Jog
5. Technician Only

Section 7 – CONTROLS (cont'd)

3. Apply Bands Mode

MENU 1 - APPLY BANDS

Press MENU. The display will read: "1. Apply Bands". The first menu item is always Apply Bands, so you do not need to use the selection arrows.

Press ENTER.

Press CLEAR at any time to exit the mode.

There are two types of operation in this mode: MANUAL and AUTO

MANUAL OPERATION:

Press and release MANUAL CYCLE. The machine will cycle once, applying a band and producing a new one

Press and hold MANUAL Cycle. The machine will cycle continuously until you release the button.

(cont'd)

Section 7 – CONTROLS (cont'd)

3. Apply Bands Mode (cont'd)

MENU 1 APPLY BANDS (Cont'd)

AUTOMATIC OPERATION

WARNING: KEEP HANDS CLEAR OF THE AREA UNDER THE MACHINE WHEN IN AUTO MODE.

Press and release AUTO CYCLE. The LED light on the button will stay on and the current "Start Time" will be displayed. In AUTO mode, when the start sensor detects a container, first the "Start Time" delay will time out and then the machine will cycle once, applying a band and producing a new one.

Press CLEAR at any time to exit the mode.

START TIME

Start Time is a time delay. The time delay starts after the container (trailing edge) passes the Start Sensor. When the time has passed, the machine will apply the band. This feature means you don't have to move the Start Sensor physically to find the right timing. Simply adjust the Start Time.

While in AUTO CYCLE mode, you may adjust Start Time quickly and easily by pressing and releasing the F1 button. AUTO mode will be suspended and the spacing wheel will stop.

To increase Start Time, press the up arrow Δ. If the band is being applied too early, the delay is too short. Increase the Start Time.

Section 7 – CONTROLS (cont'd)

3. Apply Bands Mode (cont'd)

MENU 1 APPLY BANDS (Cont'd)

To decrease the Start Time, press down arrow ∇. If the band is being applies too late, the delay is too long. Decrease the start time.

When you have adjusted the Start Time (or not), press ENTER to accept the change and resume AUTO mode.

If the guard door is opened while in AUTO mode, machine operation will not cycle and the message will appear "Guard Door Open". When to door is closed, AUTO mode will resume.

(This concludes Apply Bands Mode.)

Section 7 – CONTROLS (cont'd)

4. Adjust Settings Mode

MENU 2 – ADJUST SETTINGS

There are only two (2) values to be set in this mode.

Press MENU. The first menu item (Apply Bands) appears.

Press the down arrow key ∇ until you see "2. Adjust Settings".

Press ENTER.

Press CLEAR at any time to exit the mode.

The first value is the length of band to be cut, or SEAL LENGTH. Adjust the value (in inches) by using the up arrow Δ and down arrow ∇ keys.

Press ENTER to save the value.

The second value is START TIME (see explanation on page 16). Adjust the value (in inches) by using the up Δ and down ∇arrows keys.

Press ENTER to save the value.

(This concludes Adjust Settings Mode.)

Section 7 – CONTROLS (cont'd)

5. Manual Control Mode

MENU 3 – MANUAL CONTROL

In this mode you can individually control the mechanical motions of the machine for purposes of testing and setup.

Press MENU. The first menu item (Apply Bands) appears.

Press the down arrow key ∇ (or the up arrow key Δ) until you see "3. Manual Control".

Press ENTER to select this mode.

Press CLEAR at any time to exit the mode.

You may now use keys F1, F2 and F3 to control the actions of the machine.

F1 – Manual Plunger Control

F2 – Manual Knife Control

F3 – Manual Feed Control

F1 - MANUAL PLUNGER CONTROL

Press the F1 key to extend the plunger. Press F1 again to retract the plunger.

When the plunger extends, the suction for the suction cup will stop (the audible hissing from the vacuum generator stops also). When the plunger withdraws, the suction will resume.

(cont'd)

Section 7 – CONTROLS (cont'd)

5. Manual Control Mode (cont'd)

MENU 3 – MANUAL CONTROL (cont'd)

F2 - MANUAL KNIFE CONTROL

WARNING: KEEP HANDS CLEAR OF THE AREA UNDER THE MACHINE WHEN IN THIS MODE.

Press the F2 key to open the knife. Press F2 again to close the knife.

When the knife opens, the suction for the suction cup will stop (the audible hissing from the vacuum generator stops also). When the knife closes, the suction will resume.

F3 - MANUAL FEED CONTROL

Press and release the F3 key to cause the feed rollers to rotate (equal to one seal length as set in Adjust Settings)

NOTE: F3 will not feed if the knife is closed.

You can manually make one complete cycle by pressing keys in this order:

F1 – extend plunger

F1 – withdraw plunger

F2 – open knife

F3 – feed material

F2 – close knife (cut)

(This concludes Manual Control Mode.)

Section 7 – CONTROLS (cont'd)

6. Jog Mode

MENU 4 – ONE STEP (JOG)

In this mode you can step through each of the mechanical motions of the machine, in order, for testing and setup.

Press MENU. The first menu item (Apply Bands) appears.

Press the down arrow key ∇ (or the up arrow key Δ) until you see "4. One Step (Jog)".

Press ENTER to select this mode.

Press CLEAR at any time to exit the mode.

Press F1 repeatedly to go through one cycle step-by-step, in this order.

First – extend and withdraw plunger

Second – open knife and feed material

Third – close knife (cut)

(This concludes One Step Mode.)

Section 7 – CONTROLS (cont'd)

7. Technician Only Mode

MENU 5 – TECHNICIAN ONLY

This feature is password protected and can only be used under the instructions of a qualified Deitz Company technician.

The purpose of this feature is to allow a technician or a user (under guidance of a technician) access to internal memory locations in the PLC, without using a laptop computer. This can be used to make changes to the timing and speed of various machine actions.

Normally, the user will never need this feature, but it can be quite useful in certain circumstances.

(This concludes Technician Only Mode.)

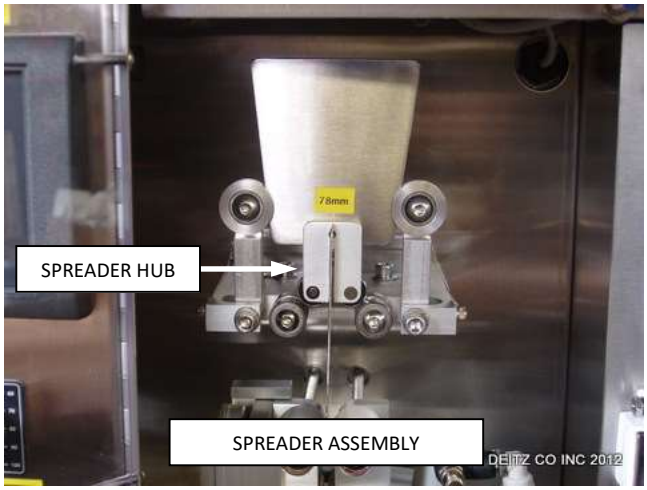
Section 8 – SET UP

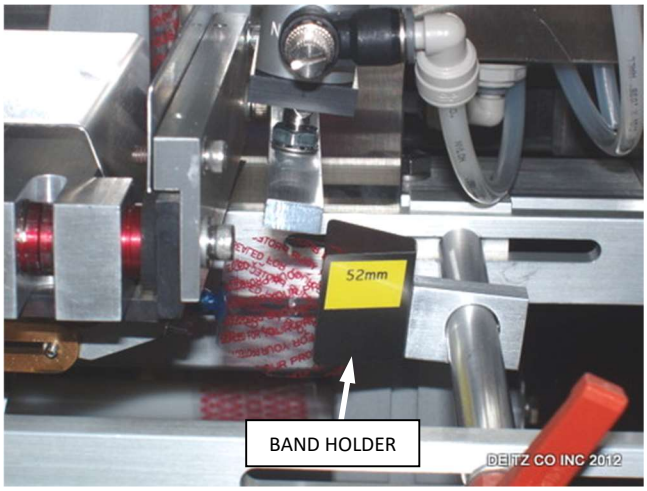
SET UP CHECK LIST

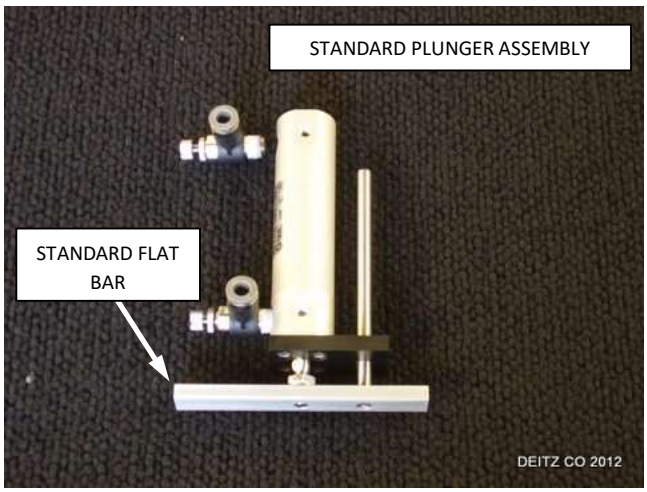
- ❑ SELECT CHANGE PARTS
- ❑ ADJUST MACHINE HEIGHT
- ❑ ADJUST START SENSOR HEIGHT
- ❑ ADJUST CONVEYOR RAILS AND SPACING WHEEL
- ❑ LOAD MATERIAL
- ❑ ADJUST SPREADER SUPPORT ROLLER SPACING
- ❑ ADJUST SPREADER GUIDE WHEELS
- ❑ INSTALL SPREADER ASSEMBLY
- ❑ MAKE BANDS
- ❑ ADJUST BAND HOLDER
- ❑ ADJUST SUCTION CUP ANGLE (IF NEEDED)
- ❑ ADJUST PLUNGER ASSEMBLY ANGLE (IF NEEDED)
- ❑ ADJUST PLUNGER ASSEMBLY POSITION
- ❑ ADJUST PLUNGER ASSEMBLY HEIGHT
- ❑ START PRODUCTION AND FINE TUNE

Section 8 – SET UP (cont'd)

1. SELECT CHANGE PARTS – There are three types of change parts
   a. Spreader Assembly – designed to cause the flat tubing to open and re-fold as it goes through the feed rollers, in such a manner as to "iron out" the creased edges and produce a rounder band. Each spreader is sized to match the Lay Flat Width of the banding material. In general, you need a different spreader assembly for each different width.
   b. Band Holder – a simple V-shaped bracket to steady the band after it is cut. One size will work for a wide range of bands. See Section 9 for installation instructions.
   c. Plunger Assembly – a combination of an air cylinder of certain stroke length and a pusher end designed for the particular band being applied. For most typical neck bands for flat caps, only one standard plunger is need for all sizes. In the case of tall caps, dropper caps and longer seal lengths, additional plungers are need with longer stroke length or special ends. See Section 9 for installation instructions.

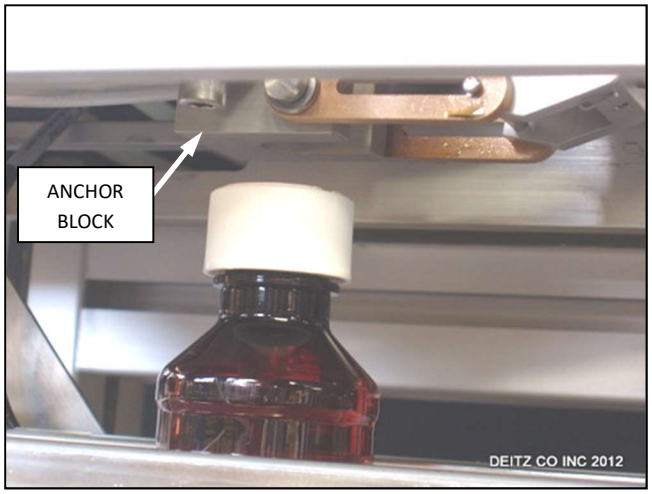


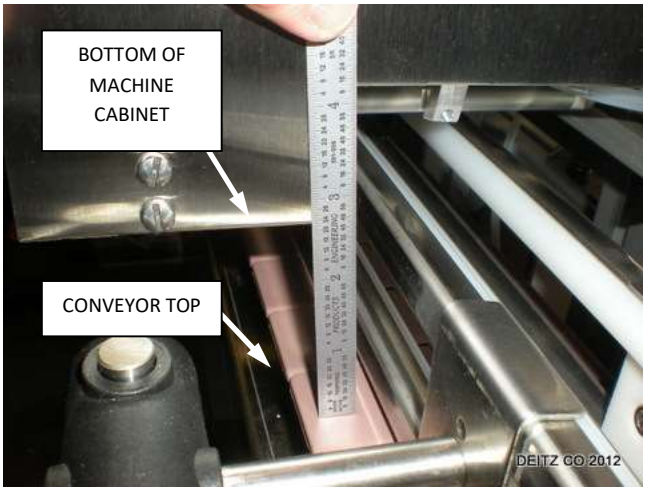




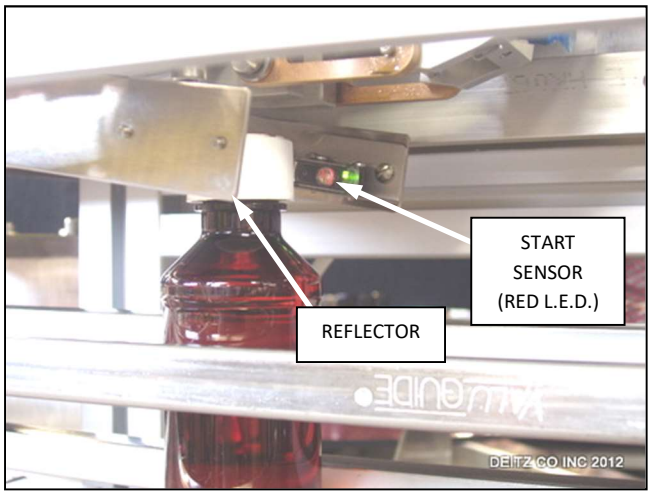
Section 8 – SET UP (cont'd)

2. ADJUST MACHINE HEIGHT
   a. Place container on conveyor, under the lowest point of the knife assembly, which is the Anchor Block.
   b. Use the hand crank on the lift stand to raise or lower machine to allow the container to pass under the knife assembly with approximately ½" clearance under the Anchor Block (to be fine tuned later).
   c. When the correct height is established, measure the distance from the conveyor top surface to the bottom of the machine cabinet. Save this information for future set ups.





3. START SENSOR HEIGHT - Adjust start sensor height so that passing container cap will interrupt beam.
   d. The Start Sensor is a reflective-type photoelectric sensor. It is infrared, so the light is not visible. The green LED is power, the yellow LED is signal and the round clear area is the light source/receiver.
   e. With a container on the conveyor, loosen the orange handle on the left and move start sensor down to a height that will cause the cap or the body of the container to interrupt the sensor.

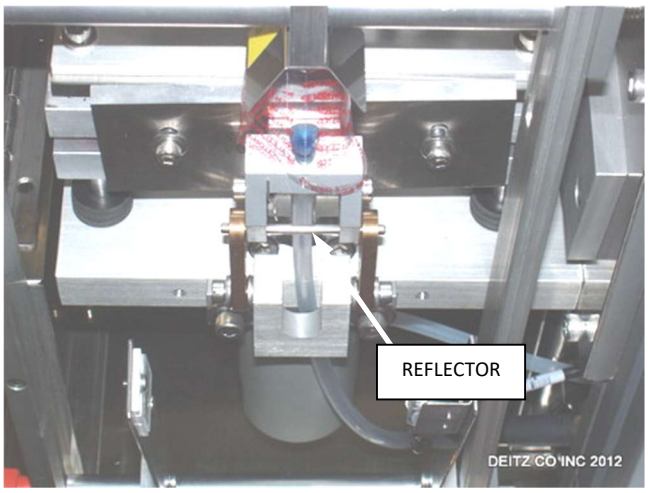


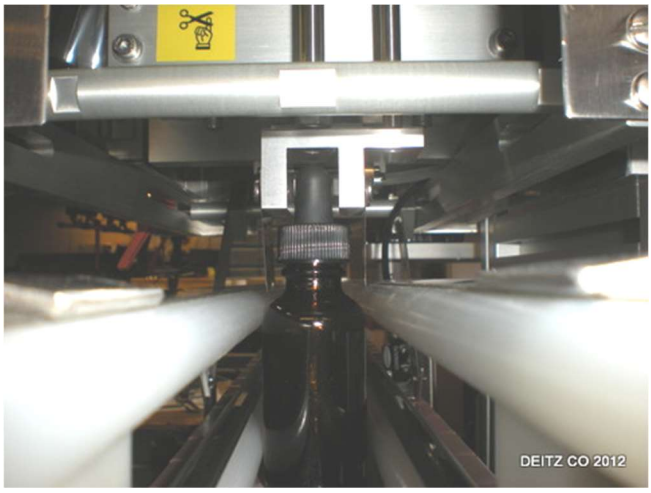
Section 8 – SET UP (cont'd)

4. CONVEYOR RAILS and SPACING WHEEL

NOTE: Conveyor rails may pass under the machine, but are not required under the machine where the band is applied. The rails need go only as far as the Spacing Wheel, because bottles will accumulate upstream from there. What is important is that the container is guided to the center of the conveyor as it enters the machine.

a. Adjust conveyor rails or guides to make sure the container passes directly under the center of the knife assembly. If the container is even slightly to the front or back, the bands will not apply correctly.
b. Adjust the Spacing Wheel so that wheel will apply light pressure on the container, pushing it against the opposing guide rail.
c. With the conveyor running and the Spacing Wheel not turning, containers should not pass.
d. With the conveyor running and the Spacing Wheel turning (must be in AUTO mode), containers should exit the wheel at a steady rate with uniform spacing.

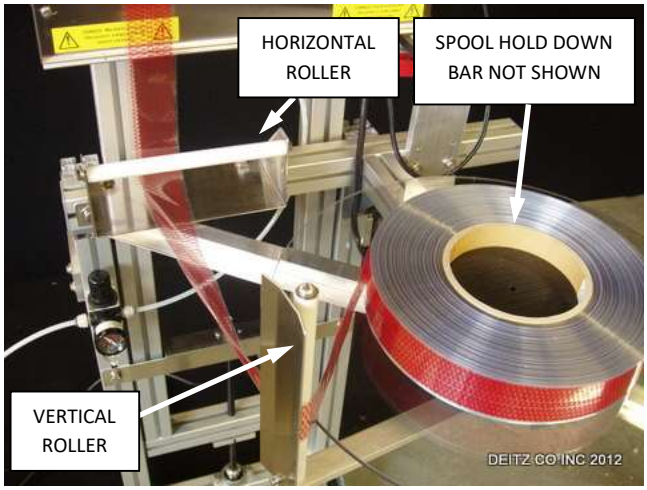


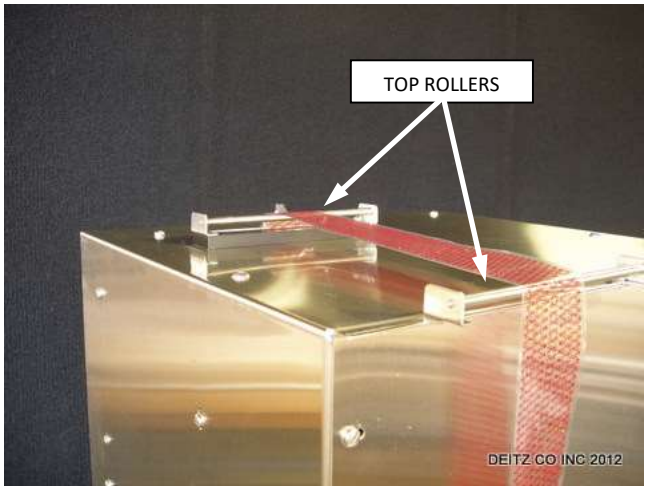


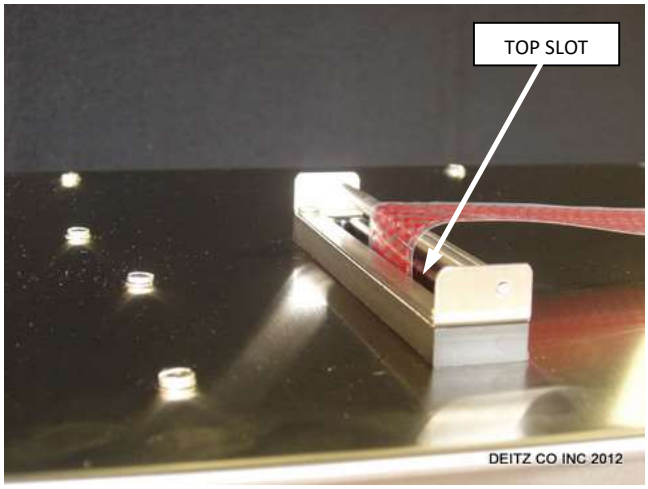
Section 8 – SET UP (cont'd)

NOTE: Photo shows horizontal Unwind Assembly. Machines made after 2012 have a vertical Unwind Assembly.

5. LOAD MATERIAL - Install banding material supply roll on Unwind Assembly.
   a. Load roll so it will unwind in counter-clockwise direction.
   b. Install Spool Hold Down Bar and tighten clamping knob.
   c. Thread material into machine.
      - Feed loose end of band material around tension bar vertical roller,
      - under lift stand horizontal roller,
      - over rear top roller at top rear edge of machine,
      - over front top roller and down through slot into machine.

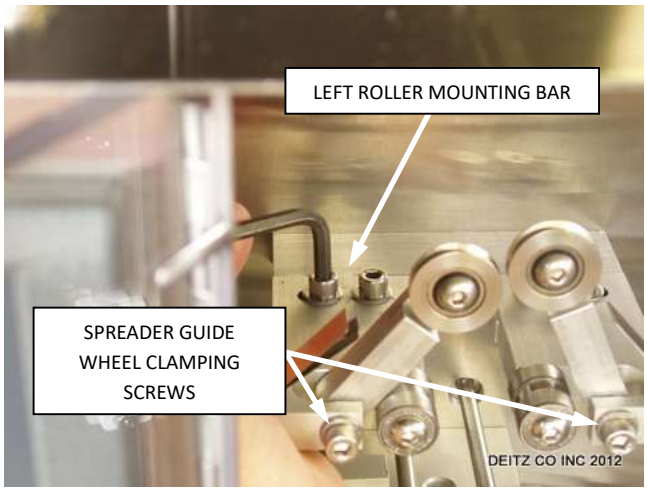


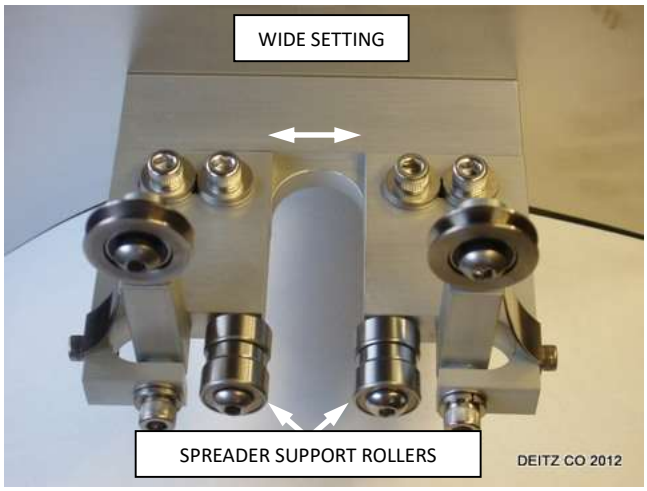




Section 8 – SET UP (cont'd)

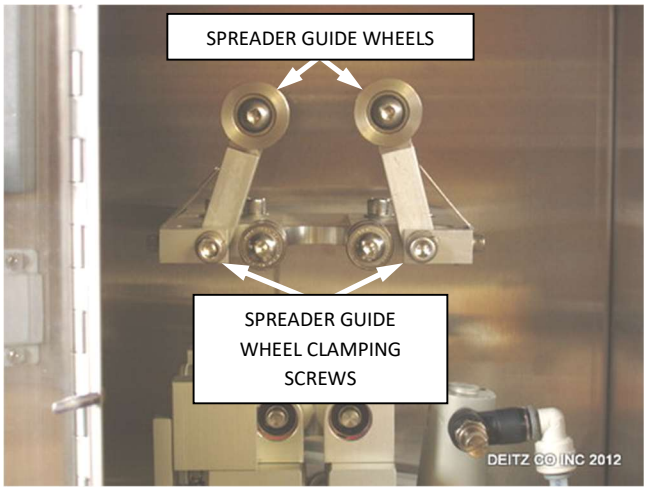
6. ADJUST SPREADER SUPPORT ROLLER SPACING - Set to match hub of Spreader Assembly (2 sizes - Wide or Narrow)
   a. Press the E-stop and open the guard door.
   b. Use the long "T"-handle 3/16" hex key (supplied) to loosen two Spreader Guide Wheel clamping screws just enough so that the wheels spring to the center.
   c. Use a 3/16" L-shaped hex key to loosen 4 screws holding the Roller Mounting Bars
   d. For Wide Hub, adjust Roller Mounting Bars to widest position (fully open).
   e. For Narrow Hub, adjust to most narrow position (fully closed).
   f. Tighten 4 screws holding the Roller Mounting Bars.
   g. Tighten 2 Spreader Guide Wheel Clamping Screws.

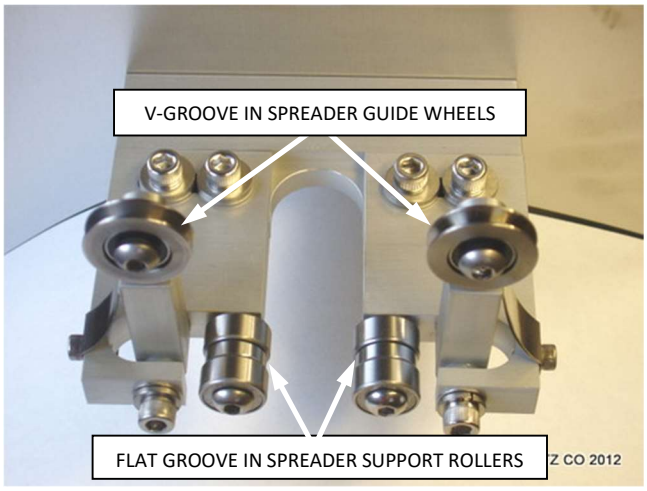


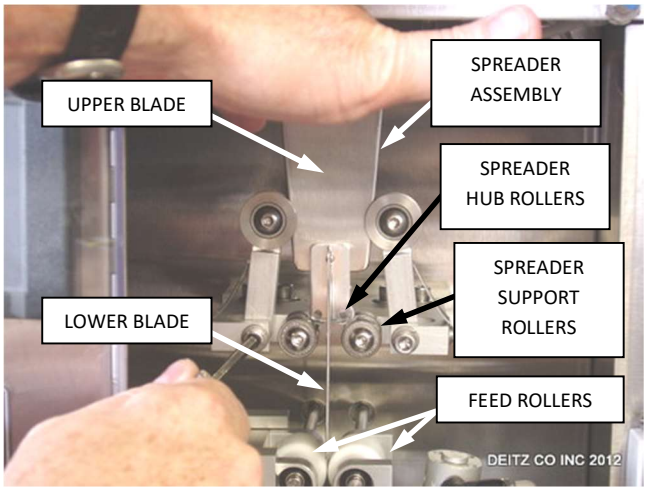


Section 8 – SET UP (cont'd)

7. ADJUST SPREADER GUIDE WHEELS – Set to match upper blade of Spreader Assembly.
   a. With power on and air pressure on, release the E-stop and open the guard door.
   b. Use the long "T"-handle 3/16" hex key (supplied) to loosen two Spreader Guide Wheel clamping screws just enough so that the Spreader Guide Wheels spring towards the center.
   c. Place the Spreader Assembly between the Spreader Guide Wheels so that the Upper Blade is engaged with the V-grooves in both Spreader Guide Wheels and the Spreader Hub Rollers are engaged in the FLAT groove formed by the Spreader Support Rollers.
   d. Rock spreader to left until lower blade touches right feed roller. Tighten left Clamping Screw.
   e. Rock spreader to right until lower blade touches left feed roller. Tighten right Clamping Screw.
   f. Spreader should move freely side to side approximately 1/8" between roller wheels.

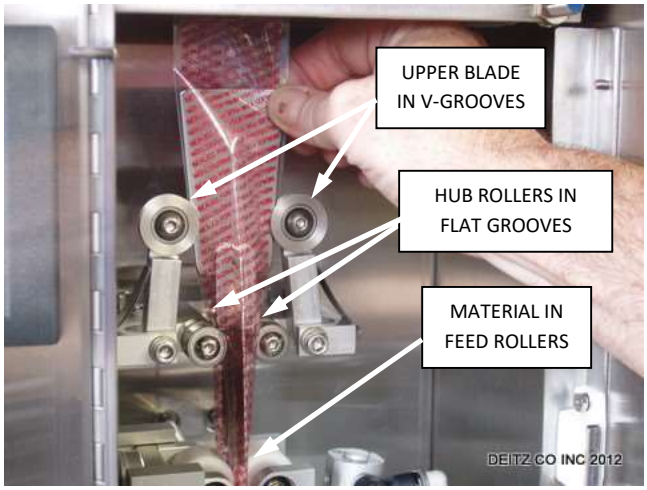




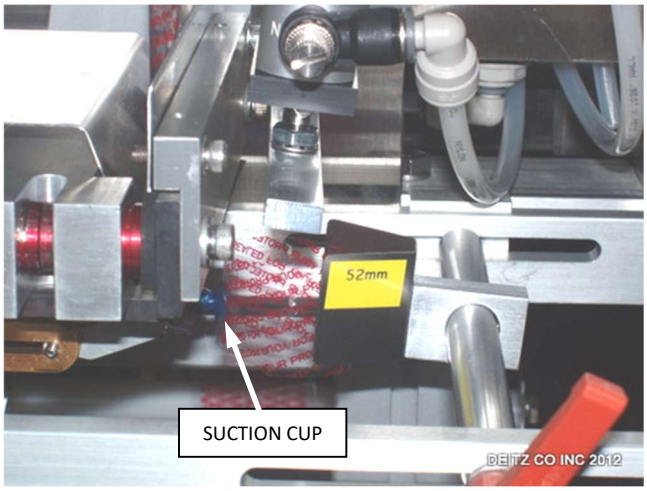


Section 8 – SET UP (cont'd)

8. INSTALL SPREADER ASSEMBLY – Spreader assembly goes inside the band material first.
   a. Press the E-stop and open the guard door.
   b. Take Spreader Assembly out of machine.
   c. Pull loose end of band material down through slot in cover to create slack.
   d. Feed Spreader Assembly up inside the tubing, until material is 2 inches past bottom of lower blade.
   e. Install Spreader Assembly into machine, feeding material at bottom of spreader into the feed rollers.
   f. Make sure spreader is properly engaged with the grooves in the guide wheels and support rollers.

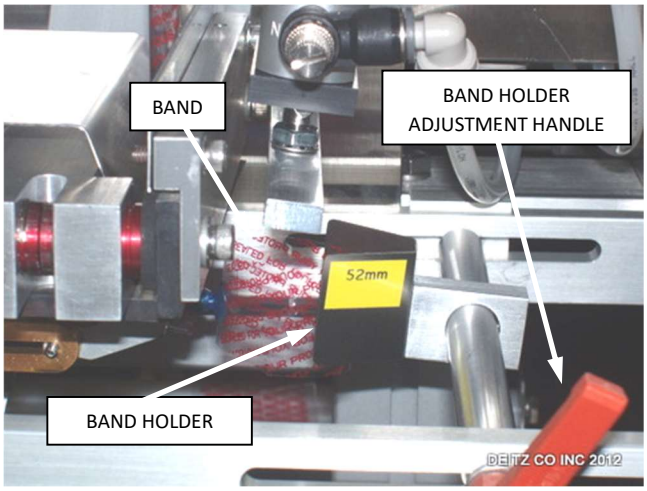


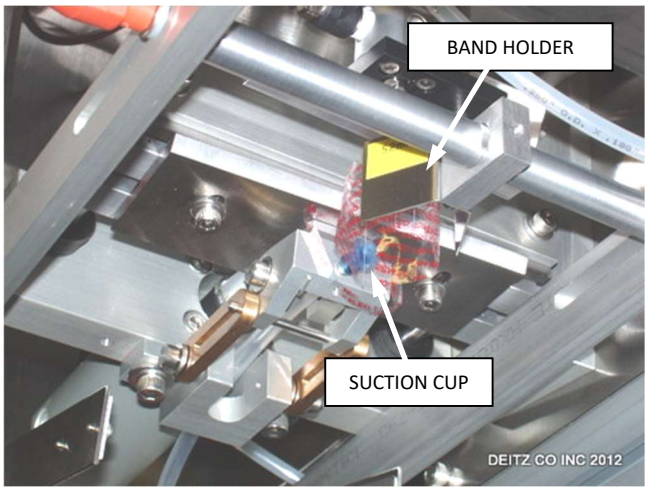
9. MAKE BANDS –
   a. Close guard door and release E-stop to turn on machine.
   b. Use the HMI menu to enter Apply Bands Mode and press MANUAL several times until bands are being cut and continue until the bands take a uniform shape at the suction cup.



Section 8 – SET UP (cont'd)

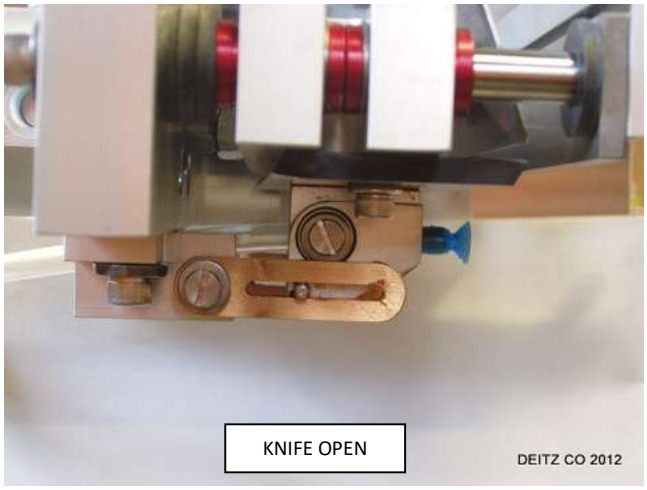
10. ADJUST BAND HOLDER - The Band Holder is used to steady larger, more floppy bands. For small bands (50 mm LFW or less), it may not be needed. In that case, simply move it out of the way or remove it.
    a. Press the E-stop and open the guard door.
    a. If there is no band at the suction cup, enter Apply Bands Mode and press MANUAL to produce a band.
    b. Using the right hand orange Adjustment Handle, adjust the Bander Holder so that the band (held on the suction cup) is lightly touching the "V" of the band holder. The band holder must be above the level of the applied band so it will not interfere with the movement of the container down the conveyor.

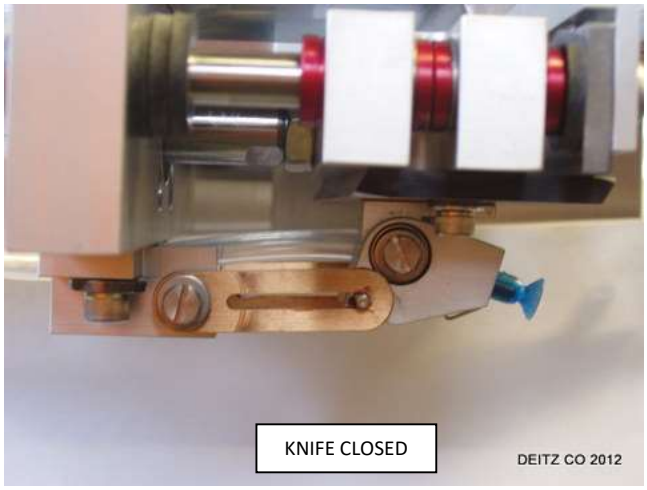


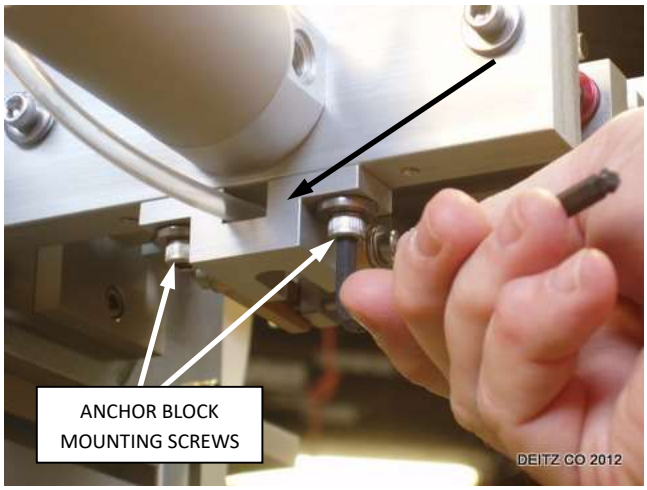


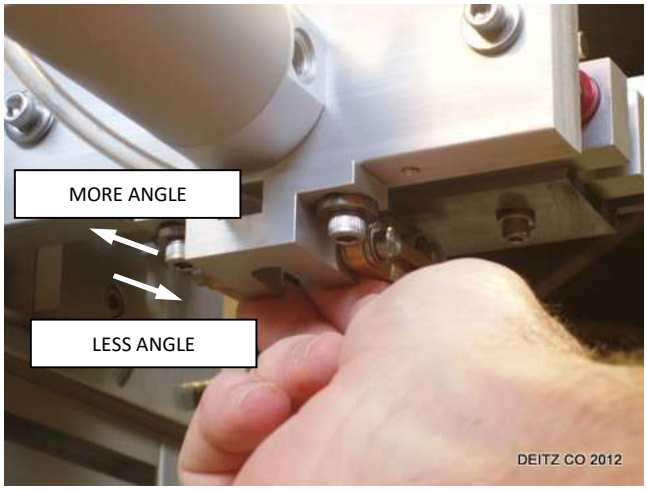
Section 8 – SET UP (cont'd)

11. ADJUST SUCTION CUP ANGLE (IF NEEDED) – The suction cup holds the band as it is cut and keeps it in place until application. When the knife is open the suction cup is vertical. When the knife is closed, the suction cup can remain vertical or it can automatically tilt down at an angle. This angle aids in the smooth application of the band to the container. An angle of approximately 15˚ is good for most cases and as a general rule this does not need to be changed.
    a. Press the E-stop and open the guard door.
    b. Make sure the knife is in the closed position.
    c. Use a 3/16" L-shaped hex key to loosen the two Anchor Block mounting screws. The spring action of the mechanism will cause the Anchor Block to slide forward, making the suction cup angle zero.
    d. Pull the Anchor Block back (or to the left) to increase the angle. The correct angle is determined through trial and error based on actual test application of bands.
    e. When the angle is correct, tighten the Anchor Block mounting screws.



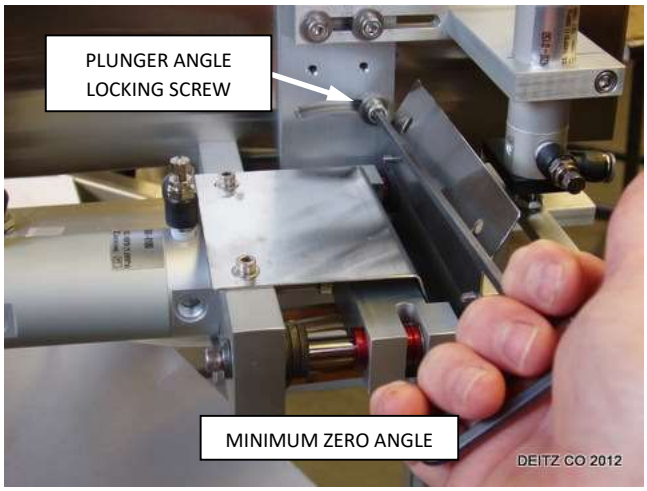


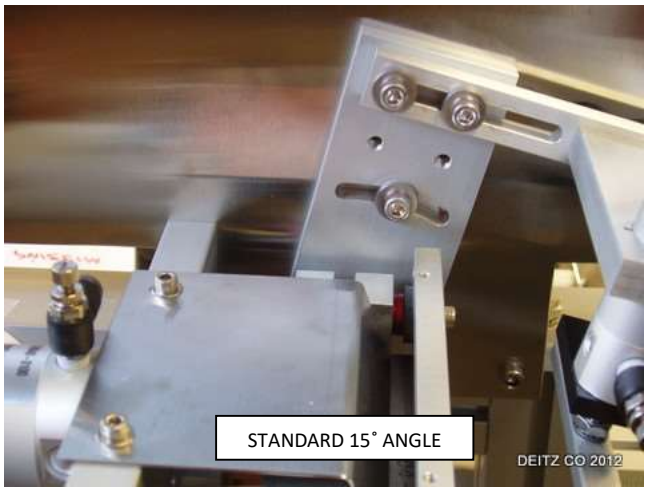


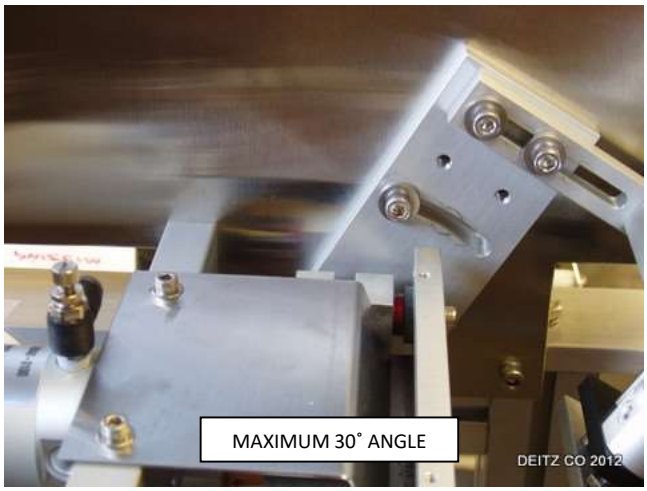


Section 8 – SET UP (cont'd)

12. ADJUST PLUNGER ASSEMBLY ANGLE (IF NEEDED) – The plunger action which applies the band to the container can be set to plunge vertically or at up to a 30˚ angle. This angle aids in the smooth application of the band to the container. The standard angle of approximately 15˚ is good for most neck bands and need to be changed only for very long bands or full body seals.
    a. Press the E-stop and open the guard door.
    b. Use the long "T"-handle 3/16" hex key (supplied) to loosen the Plunger Angle locking screw.
    c. Move the plunger to the desired angle. The correct angle is determined through trial and error based on actual test application of bands.
    d. When the angle is correct, tighten the locking screw.

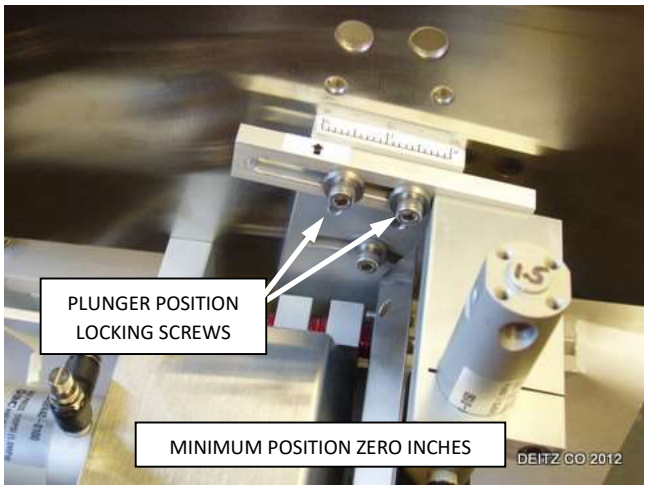


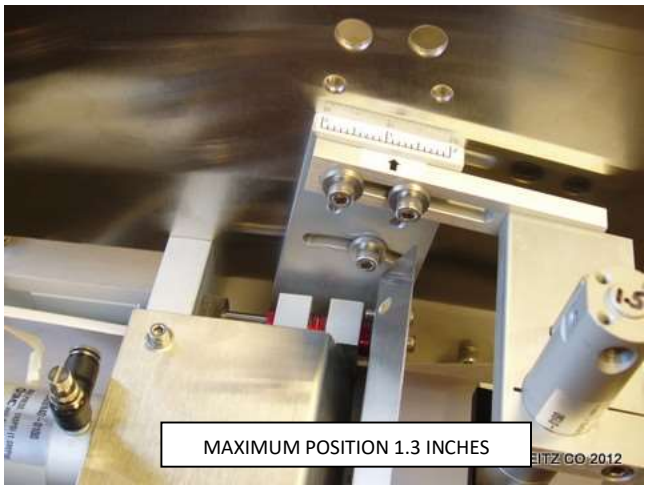


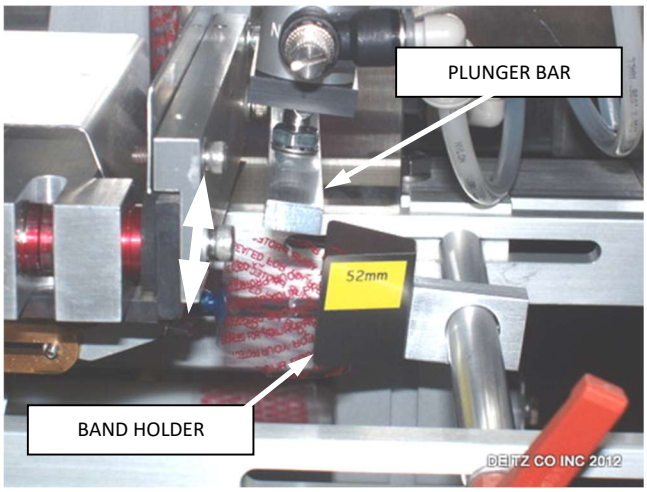


Section 8 – SET UP (cont'd)

13. ADJUST PLUNGER ASSEMBLY HORIZONTAL POSITION – this sets where the Plunger Bar pushes on the band as it is applied. Ideally, it will push the band in the middle. With a smaller band, the position is set close to the suction cup. With a larger band the position is more to the right.
    a. Press the E-stop and open the guard door. This will release the air pressure so you can move the Plunger Bar by hand.
    b. Use the long "T"-handle 3/16" hex key (supplied) to loosen the two (2) Plunger Position locking screws.
    c. Move the Plunger Assembly to the desired position
    d. Move the Plunger Bar up and down by hand, making sure the plunger will not strike the Band Holder.
    e. When the position is correct, tighten the locking screws.



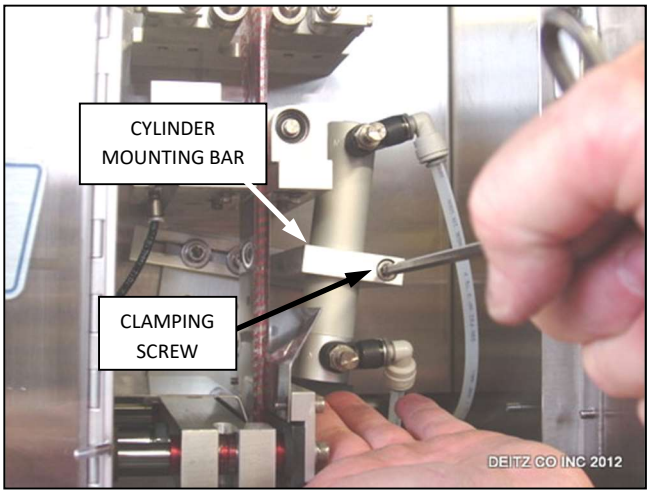


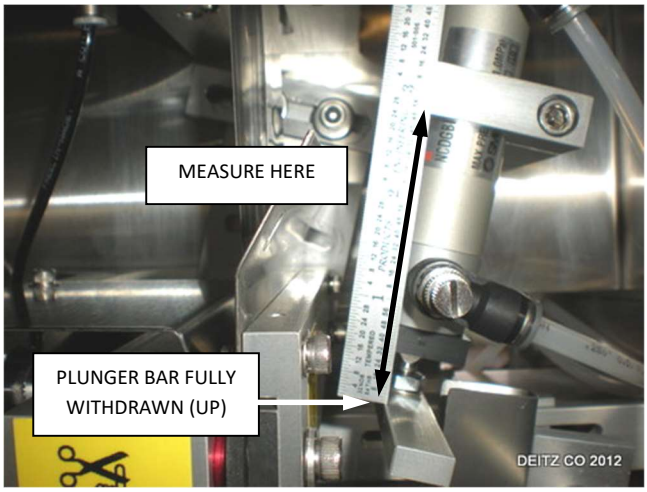


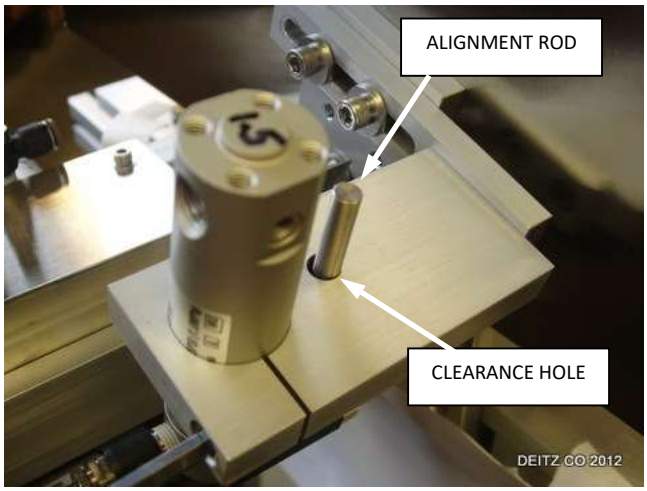
Section 8 – SET UP (cont'd)

14. ADJUST PLUNGER ASSEMBLY HEIGHT – The Plunger Cylinder Height must be such that when fully extended, the Plunger Bar stops at a point just above the top of the neck band after it is applied to the container.
    a. Press the E-stop and open the guard door. This will release the air pressure so you can move the Plunger Bar by hand.
    b. Take a band off of the suction cup, place it on the container and position it under the plunger bar.
    c. Open the guard door and manually extend the plunger bar all the way down.
    d. Use the long "T"-handle 3/16" hex key (supplied) to loosen the Plunger Cylinder clamping screw.
    e. Adjust the height of the Plunger Cylinder so that it stops just above the band (approx. 1/8 ").
    f. When the correct height is established, move the bar fully up and measure the distance to Cylinder Mounting Bar. Save this information for future set ups.

    NOTE: Make sure the alignment rod on the alignment rod on the plunger bar goes through the clearance hole in the Cylinder mounting bar without interference.





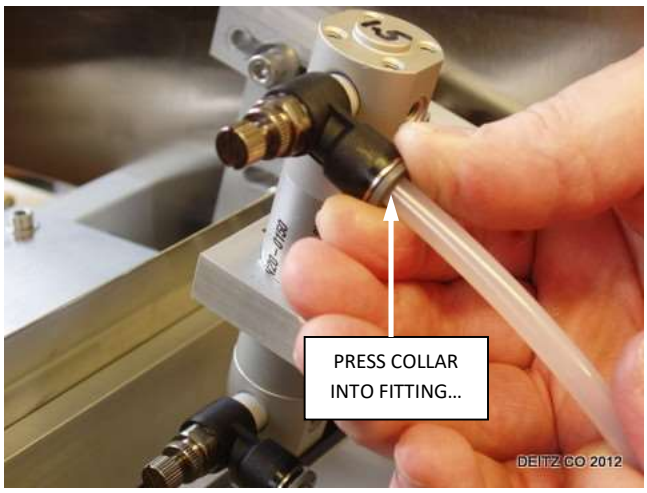


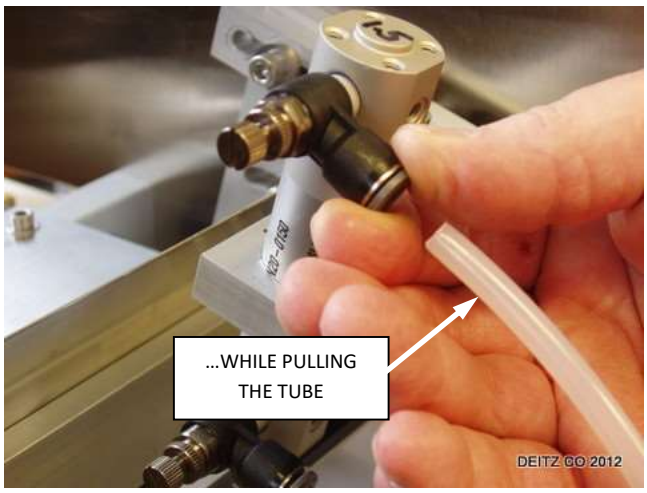
Section 8 – SET UP (cont'd)

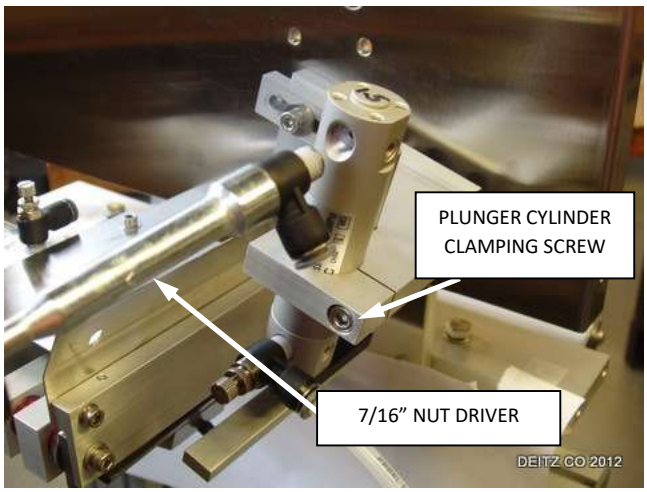
15. START PRODUCTION AND FINE TUNE
    a. Turn on the conveyor and set the desired conveyor speed.
    b. Put the machine in Apply Bands mode.
    c. Press AUTO. The Spacing Wheel will begin turning. The machine will now apply a band each time a container is detected by the Start Sensor.
    d. Send a container through the machine. Observe when the band is applied, note if it is too early or too late.
    e. To adjust the start time while in AUTO mode, press F1. This will suspend AUTO mode, and stop the Spacing Wheel.
    f. If the band was applied too early, increase the start time. If the band was late, decrease the start time. Press ENTER to resume AUTO mode. Use trial and error to find the correct start time.

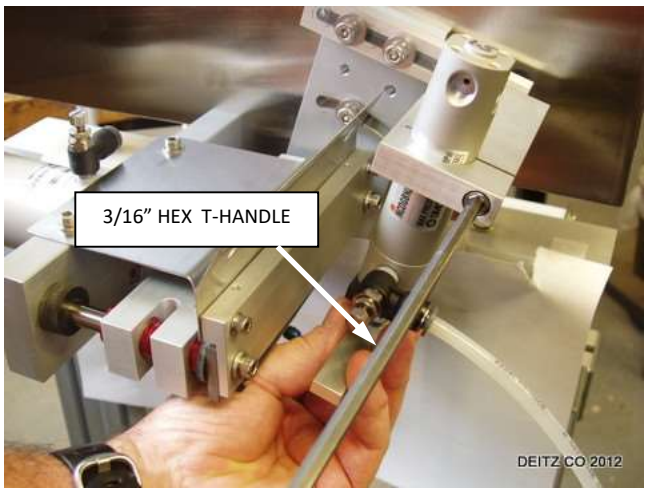
Section 9 – MAINTENANCE

1. CHANGING THE PLUNGER AIR CYLINDER ASSEMBLY
   a. Press the E-stop and open the guard door. This will release the air pressure.
   b. Remove the air line tubing from the fitting at the top of the Plunger Cylinder.
      - Push the grey collar towards the fitting.
      - Pull the tubing out of the fitting.
      - To re-connect, simply push the tubing firmly into the fitting.
   c. Use the 7/16 nut driver (supplied) to unscrew and remove the fitting.
   d. While supporting the Plunger Assembly with one hand, use the long "T"-handle 3/16" hex key (supplied) to loosen the Plunger Cylinder clamping screw.



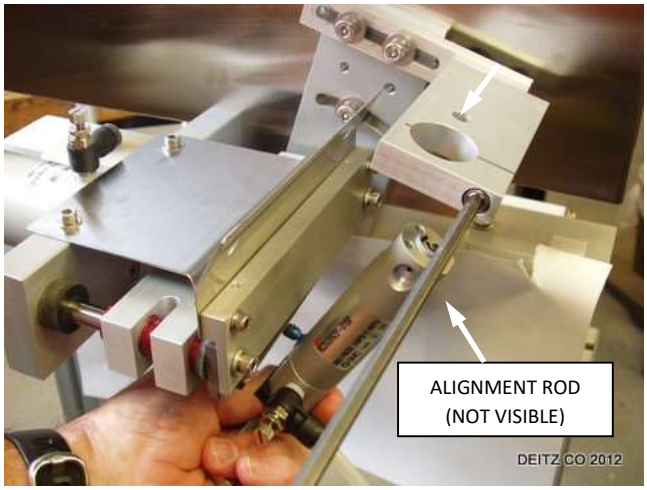


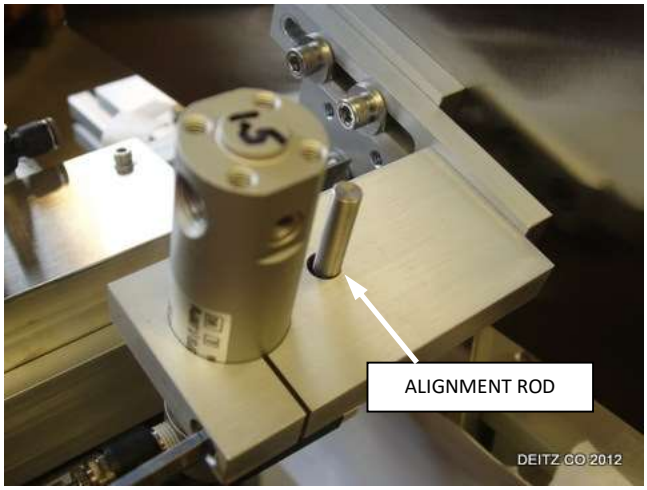




Section 9 – MAINTENANCE (cont'd)

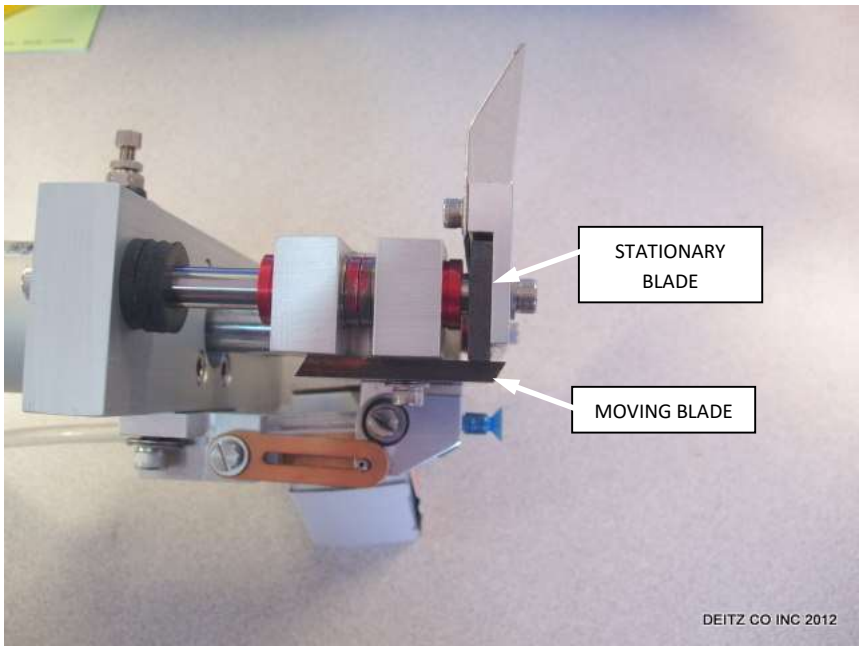
e. Slide the Plunger Assembly down to remove
f. Remove the air line tubing from the fitting at the bottom of the Plunger Cylinder.
   - Replace the removed air fitting and store the Plunger Assembly as is.
g. Install the new Plunger Assembly (with upper fitting removed)
h. Make sure the Alignment Rod passes through the hole in the mounting bar without interference.
i. Re-install upper air fitting and attach air lines.
j. Set the height as described in Section 8.14 Adjust Plunger Assembly Height.



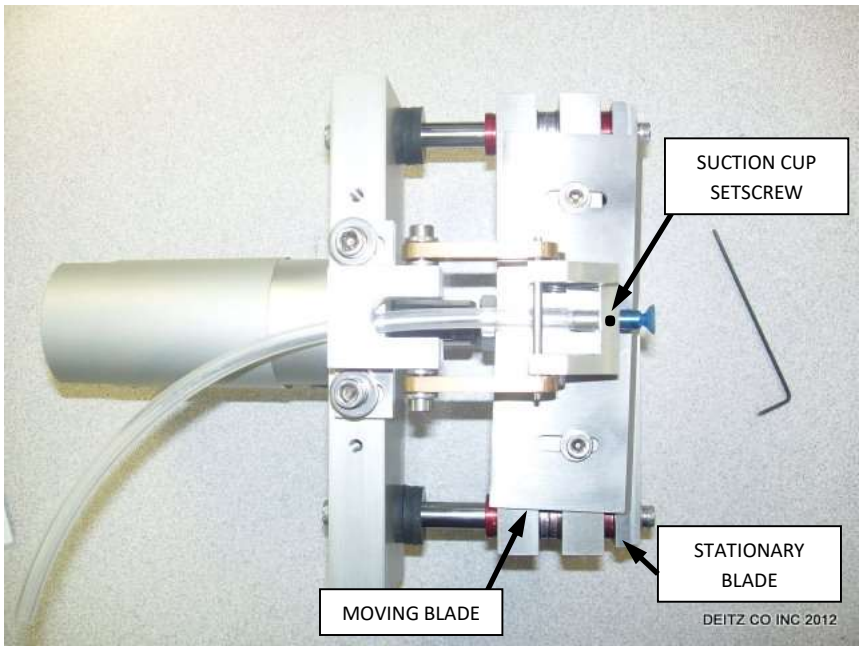


Section 9 – MAINTENANCE (cont'd)

2. CHANGING THE KNIFE BLADES



Knife Assembly – outer end (shown with top guard removed for clarity). The horizontal blade at the bottom is called the **Moving Blade**. The vertical blade is called the **Stationary Blade**.



Knife Assembly – bottom view – outer end is at top.

Section 9 – MAINTENANCE (cont'd)

a. Remove knife assembly from machine
    - Disconnect two (2) air lines from large knife air cylinder.
    - Disconnect one (1) air line from vacuum generator.
    - Remove rear access cover from back of machine.
    - Have a helper hold the knife assembly from the front.
    - Locate two (2) knife mounting screws, below electrical panel and to the right of motor.
    - Using a 3/16 hex ley, remove two (2) knife mounting screws.
    - Remove knife assembly from machine and place on table upside down (movable blade up)

b. Remove the Suction Cup Assembly
    - Manually pull off suction cup from end of suction tube.
    - Loosen set screw holding suction tube in place and remove suction tube with air line.
    - Remove one (1) mounting screw (at center of movable blade) to disconnect pivot block assembly from knife.
    - Leave opposite end of pivot block assembly attached to anchor block.

c. Remove the Movable Blade
    - Remove two (2) screws holding movable blade and carefully remove blade.

d. Remove the Stationery Blade
    - Remove two (2) screws holding fixed blade and carefully remove blade.

e. Install new blades
    - Install and re-assemble in reverse order of above procedure
    - Leave knife blade mounting screws hand tight until adjusted properly.

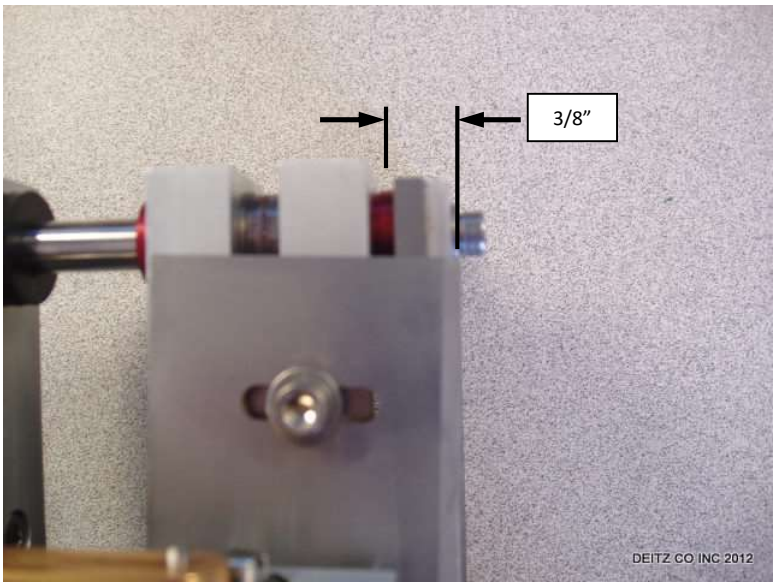
f. Adjust and test using the following procedure.

Section 9 – MAINTENANCE (cont'd)

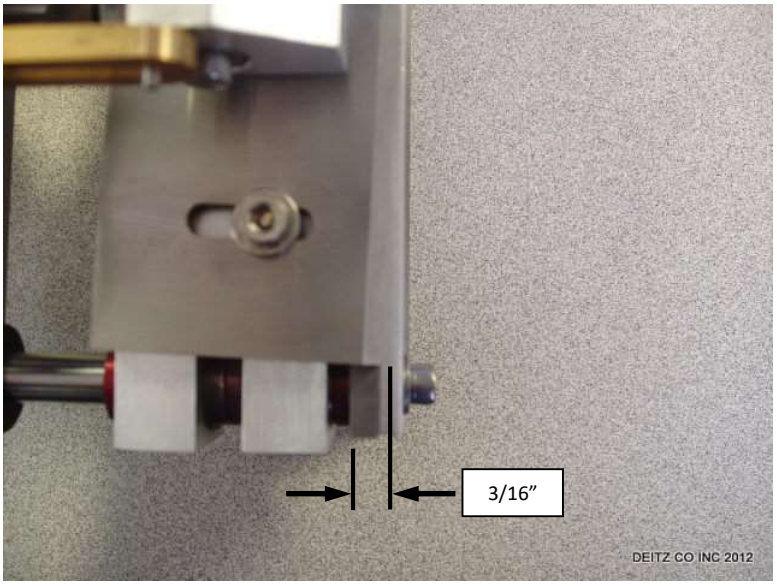
3. SETTING MOVABLE BLADE ANGLE

ALWAYS DISCONNECT FROM THE COMPRESSED AIR SUPPLY BEFORE PROCEEDING!

Movable Blade – Set at correct angle and tighten mounting screws.



Knife Assembly – bottom view – outer end.
The outer end overlaps the **Stationary Blade** by approximately 3/8".



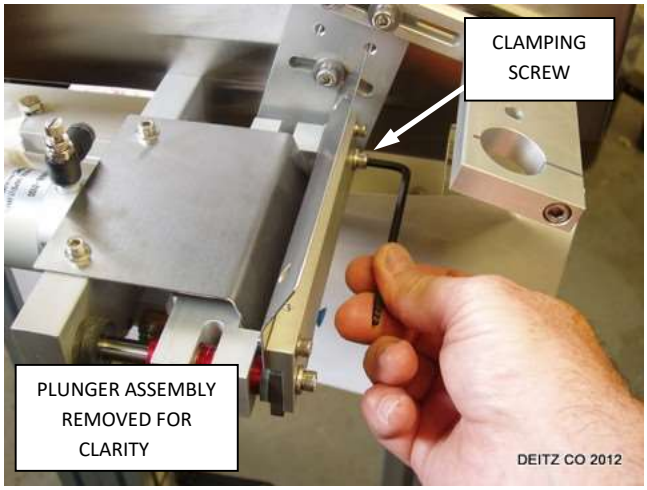
Knife Assembly – bottom view – inner end.
The inner end overlaps the **Stationary Blade** by approximately 3/16".

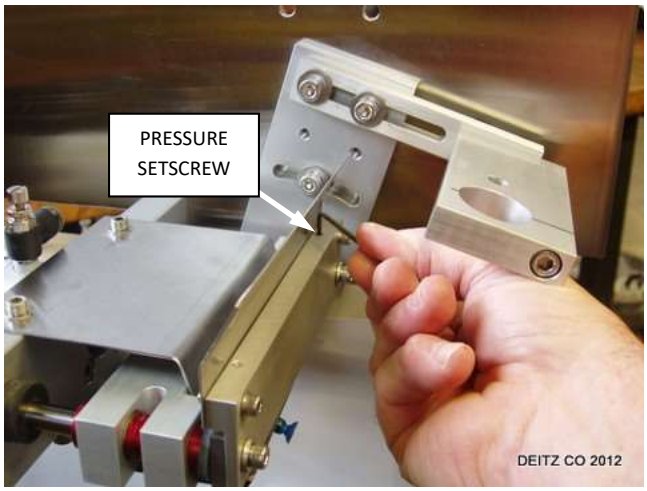
Section 9 – MAINTENANCE (cont'd)

4. ADJUSTING THE KNIFE BLADE PRESSURE – After changing the blades or if the knife is not cutting well. (May be done in the machine or, with knife assembly removed, on a work table)

ALWAYS DISCONNECT FROM THE COMPRESSED AIR SUPPLY BEFORE PROCEEDING!

a. Make sure the knife is closed all the way
b. Use a 5/32 hex key to loosen the Fixed Blade Clamping Screws.
c. Retighten the same screws until just hand tight.
d. Use a 5/64 hex key to turn the two Fixed Blade Pressure Setscrews approximately 1/8 turn clockwise.
e. Use the 5/32 hex key to fully tighten the Fixed Blade clamping screws.
f. By hand, using the suction cup block, open and close the knife.
    - Knife should open and close fully with moderate hand pressure.
    - To test, place a piece of neck band material in the knife and hand cut.





Section 9 – MAINTENANCE (cont'd)

5. CLEANING RECOMMENDATIONS

a. WASHDOWN - This machine is not waterproof and is not intended for full wash down. If full washdown is performed on the equipment near the machine, it must be completely protected by a waterproof cover or by other means. Washdown will void the warranty.

b. CLEANING SOLUTIONS - Glass and stainless steel are resistant to most cleaning solutions. Other contact materials such as aluminum and nonmetallics (plastics, or rubber) are generally less corrosion-resistant and care should be exercised in their cleaning. Aluminum is readily attacked by acids as well as highly alkaline cleaners, which can render the surface non-cleanable. Plastics are subject to stress cracking and clouding from prolonged exposure to corrosive cleaning agents. Use a USDA approved sanitizing solution that is safe for all materials listed below, in a spray bottle, by lightly wiping down all contact surfaces. In the absence of such a cleaner, recommendations follow.

c. STAINLESS STEEL: This material is resistant to damage from most cleaners. Routine cleaning can be done with soap and water, alcohol or acetone.

d. ANODIZED ALUMINUM: Any highly acidic or alkaline cleaner will etch the aluminum over time and damage it. Soap and water, or alcohol is acceptable.

e. CLEAR PLASTIC: The clear plastic material is polycarbonate (known as Lexan). Cleaning with alcohol or acetone will damage it and should never be used. Ammonia or any strong cleaner will make it cloudy over time. It may be safely cleaned with soap and water.

f. OTHER PLASTIC (NOT CLEAR): All other manufactured plastic parts are made from acetal (known as Delrin). It is resistant to damage from most cleaners. Routine cleaning can be done with soap and water, or alcohol. White acetal will yellow over time due to exposure to ultraviolet light in the environment. This is normal and cannot be removed by cleaning. Some cleaner may accelerate this process. Purchased items may contain or be enclosed in plastic of unknown composition, therefore it is recommended that these parts be cleaned with soap and water.

g. ELECTRICALS/ELECTRONICS: Do not clean electrical or electronic components with any kind of solution. DO NOT WET! Compressed air may be used to gently blow off dust. Aerosol contact cleaner may also be used.

Section 9 – MAINTENANCE (cont'd)

6. PREVENTATIVE MAINTENANCE

See the following document at the end of Section 10, under Technical Notes/Drawings

AD1178-PM Model NB1 Neck Bander – Preventative Maintenance

Section 10 – TECHNICAL INFORMATION

1. PRINCIPLE OF OPERATION

The Pharmafill Model NB1 converts flattened tubular roll stock into circular bands and applies them to the top of a container. The roll is loaded onto a spool and through a tension release mechanism. Step motor-drive pinch rollers drawn the flat stock into the machine. The flat roll stock is pulled over a spreader assembly which opens the tube and refolds it offset by 90˚. After passing through the rollers the stock is cut to length by a reciprocating knife assembly. The cut band is held in place below the knife by a suction cup. When a bottle passes under the cut band, a photoelectric sensor triggers the machine to release the band from the suction cup as a reciprocating arm pushes the band down onto the container. A new band is then produced and the cycle is complete.

2. CYCLE OF OPERATION – Apply Bands Mode

(Connected to electrical power and compressed air)

Release E-stop button

- Electronics power up (4 second delay before PLC and HMI become functional)
- Air pressure enters system, applying positive pressure to feed rollers (closed), knife (closed), plunger (up).

Enter Apply Bands Mode (using HMI)

MANUAL CYCLE

- Press MAN
- Plunger extends down. Knife opens.
- Plunger retracts up. Roller feed a length of material through open knife.
- Knife closes, new cut band is held by suction cup.
- END OF CYCLE

AUTOMATIC CYCLE

- Press AUTO
- Container passes photoelectric sensor, triggering adjustable time delay.
  (Time delay allows container to move from sensor position to application position)
- When time delay times out, plunger extends down. Knife opens.
- Plunger retracts up. Roller feed a length of material through open knife.
- Knife closes, new cut band is held by suction cup.
- END OF CYCLE

TROUBLESHOOTING

a. No power overall or to some components.
   - ❑ Check power cord is plugged in and in good condition.
   - ❑ Check Emergency Stop Button is released.
   - ❑ Check main fuse F1.

b. Front control panel does not light up.
   - ❑ Check component fuse for HMI. (LED”on” indicates blown fuse).
   - ❑ Check 24 VDC power connections at panel and at power supply.
   - ❑ Check that PS1 24 VDC power supply is working.

c. Have power but no response to action keys on front control panel.
   - ❑ Check component fuse for PLC. (LED”on” indicates blown fuse).
   - ❑ Check PLC is in run mode and terminal position.
   - ❑ Check PLC is connected to front control panel via data cable.

Index of Technical Notes/Drawings (document section begins after this page)

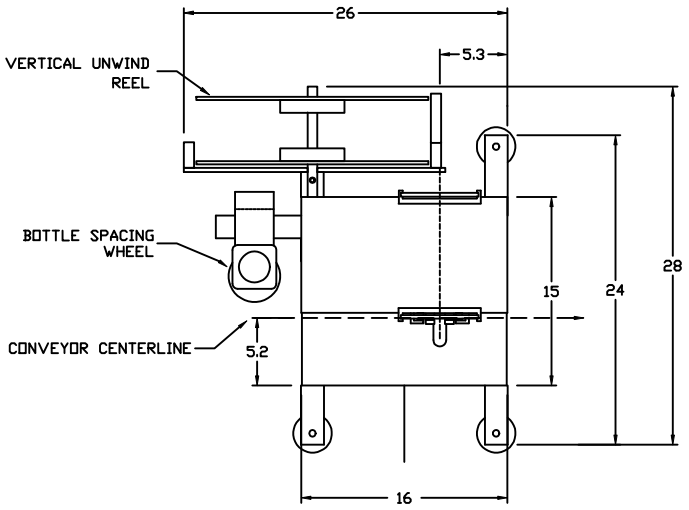
Doc. No.	Title	No. of Pages
NB1-AD1178-DIM	Dimensions and specification	1
NB1-AD1178-PM	Preventative Maintenance	1
NB1-0012	Setup Reference Drawings	14
	(Last page is blank Setup Record for copying)	

Addendums or additional technical data

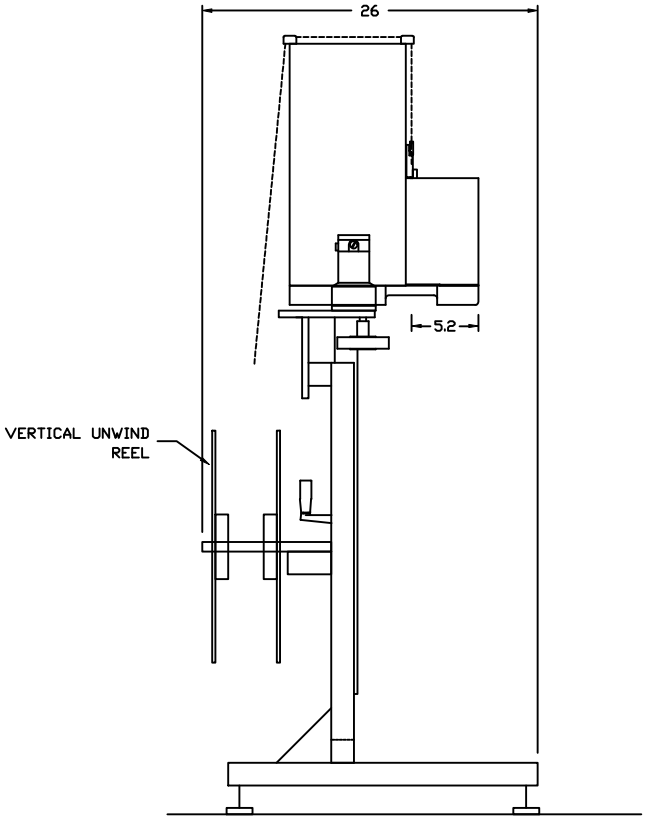
_____	_____	__
_____	_____	__
_____	_____	__
_____	_____	__
_____	_____	__
_____	_____	__
_____	_____	__
_____	_____	__

PHARMAFILL MODEL NB1 (Series II)
NECK BANDER

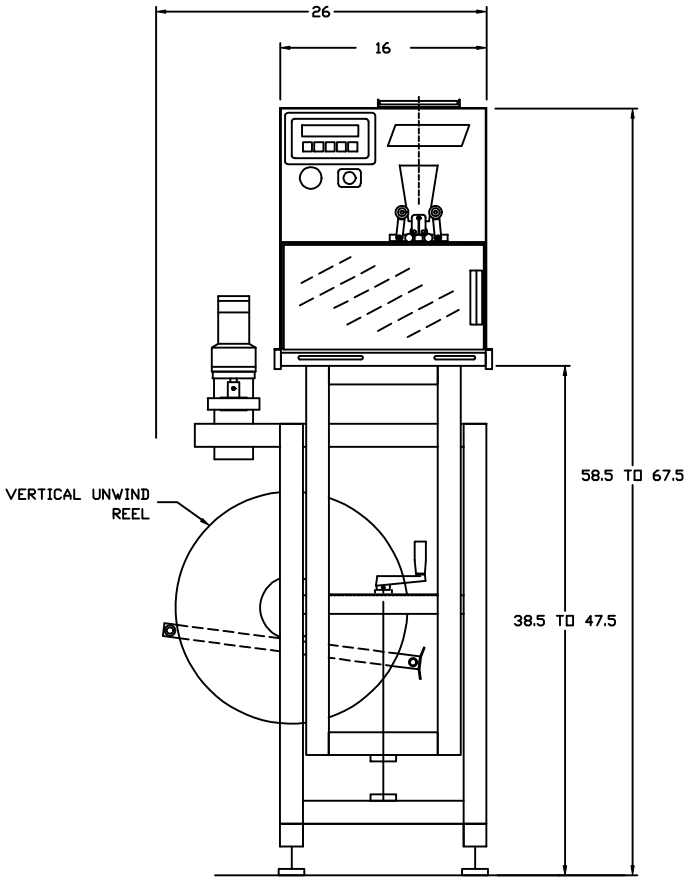
- SPEEDS UP 100 PER MINUTE
- SIZE RANGE 25–123mm LAY FLAT
- BAND LENGTHS UP TO 4”
- SPACING WHEEL INCLUDED
- UNWIND REEL INCLUDED
- AIR FILTER REGULATOR INCLUDED
- CHANGE PARTS INCLUDED (1 SET)
- 110 VAC 60 HZ 3A, 0.5 CFM AIR
- 90 LBS NET WEIGHT



OVERHEAD



LEFT SIDE



FRONT

DIMENSIONS ARE IN INCHES. SPECIFICATIONS ARE PRELIMINARY AS 9/16/2013 AND MAY BE SUBJECT TO CHANGE AT ANY TIME.

JOHN DEITZ
President

Deitz Company Inc.
1750 Route 34 PO Box 1108
Wall, NJ USA 07719

Tel 732-681-0200
Fax 732-681-8468
Email sjd2@deitzco.com

AD1178 Model NB1 Neck Bander – Preventative Maintenance

Monthly

1. Knife Assembly (must be disconnected from air pressure)
    a. Inspect condition of suction cup. Replace if worn.
    b. Check spring action of suction cup ass'y, by opening and closing blade assembly by hand. Suction cup ass'y should spring up against knife blade when knife is open. Replace spring if faulty.
    c. Inspect condition of blades for wear or nicks. Rotate, replace or sharpen as needed.
    d. Inspect condition of knife air cylinder, by opening and closing blade assembly by hand. It should move smoothly. If jumpy or difficult to move, replace or rebuild air cylinder.
2. Plunger Assembly (must be disconnected from air pressure)
    a. Inspect condition of plunger air cylinder, by extending and retracting by hand. It should move smoothly. If jumpy or difficult to move, replace or rebuild air cylinder.
3. Roller Drive (internal, remove rear cover)
    a. Inspect condition of drive gearbelt. If loose, tighten. If worn, replace.
    b. Inspect roller spur gears for presence on lubricant. Apply standard lithium grease if needed.
4. Spacer Wheel Assembly
    a. Inspect condition of urethane crush wheel. If worn, replace.
5. Miscellaneous
    a. Inspect air filter/regulator clear bowl. If moisture is present, drain. Find cause of moisture within compressor system.
    b. Check all external hardware for tightness.
    c. Check condition of all external electrical wires and sensor cables for wear or damage. Replace if necessary.

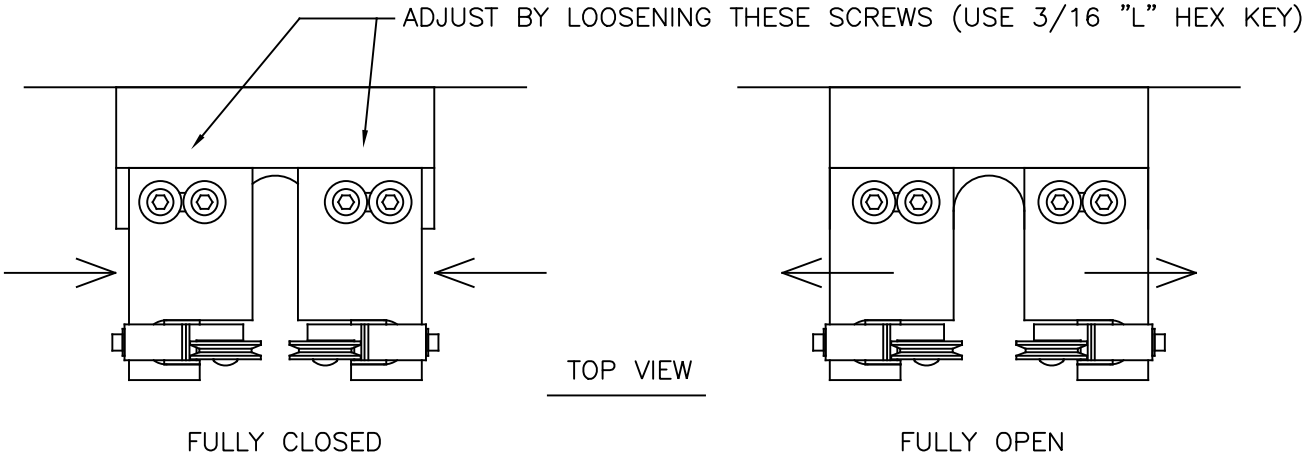
Annually

6. Roller Drive (internal, remove rear cover)
    a. Replace drive gearbelt, if it has 2000+ operating hours (or one year of normal daily operation).

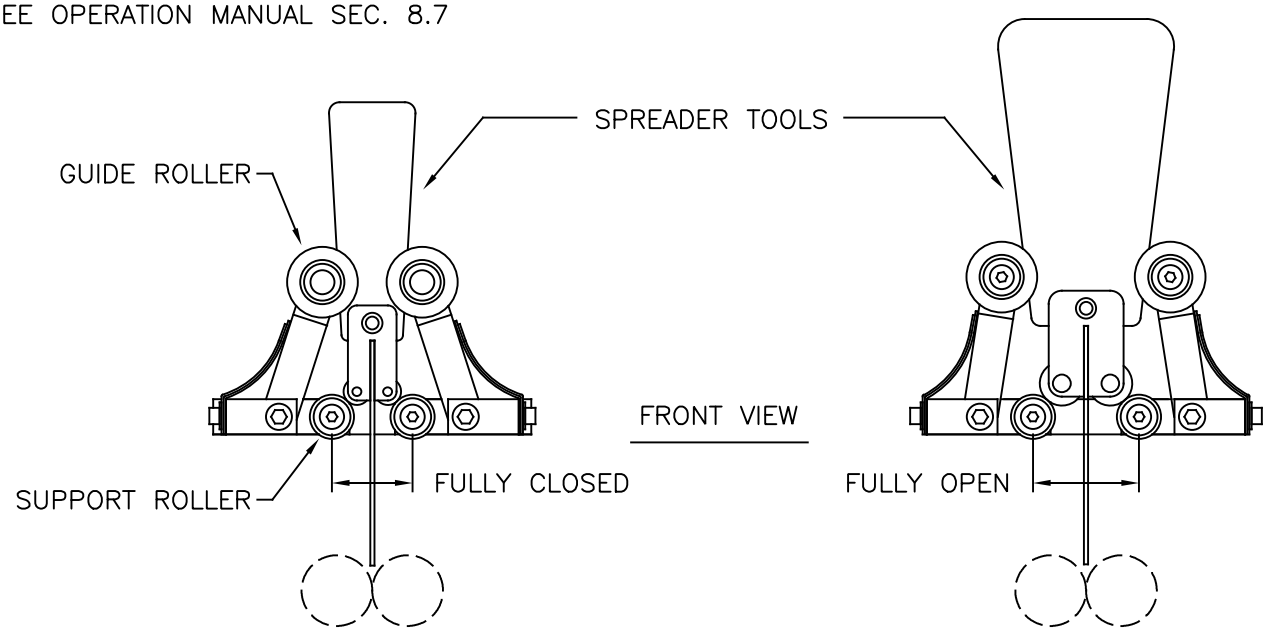
SUPPORT ROLLER SPACING (SRS) – ADJUST ACCORDING TO SPREADER TOOL SIZE

CLOSED FOR SMALL TOOL UP TO 60 MM

OPEN FOR LARGE TOOL 61 MM & UP

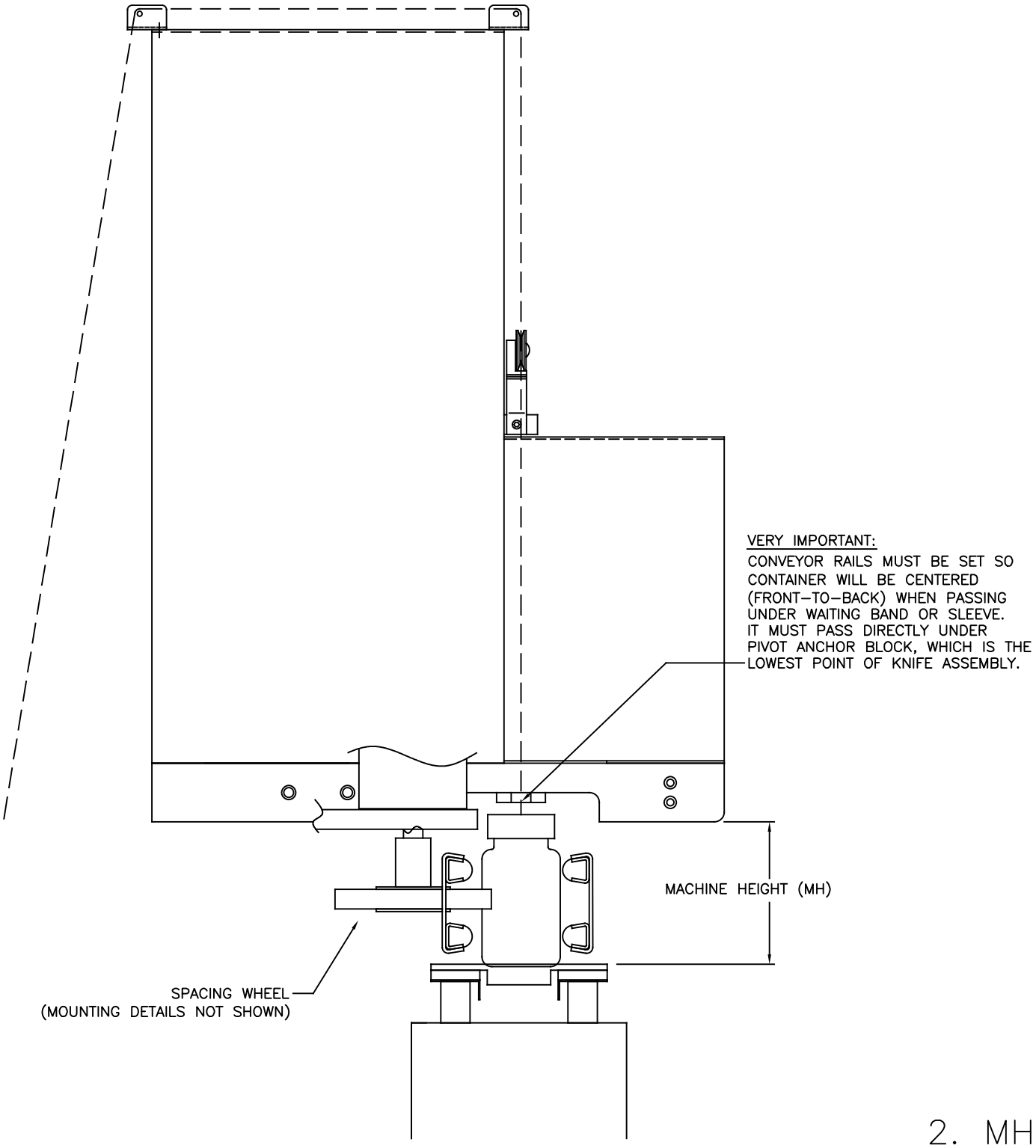


TO ADJUST GUIDE ROLLERS
FOR DIFFERENT TOOLS SIZES
SEE OPERATION MANUAL SEC. 8.7



1. SRS

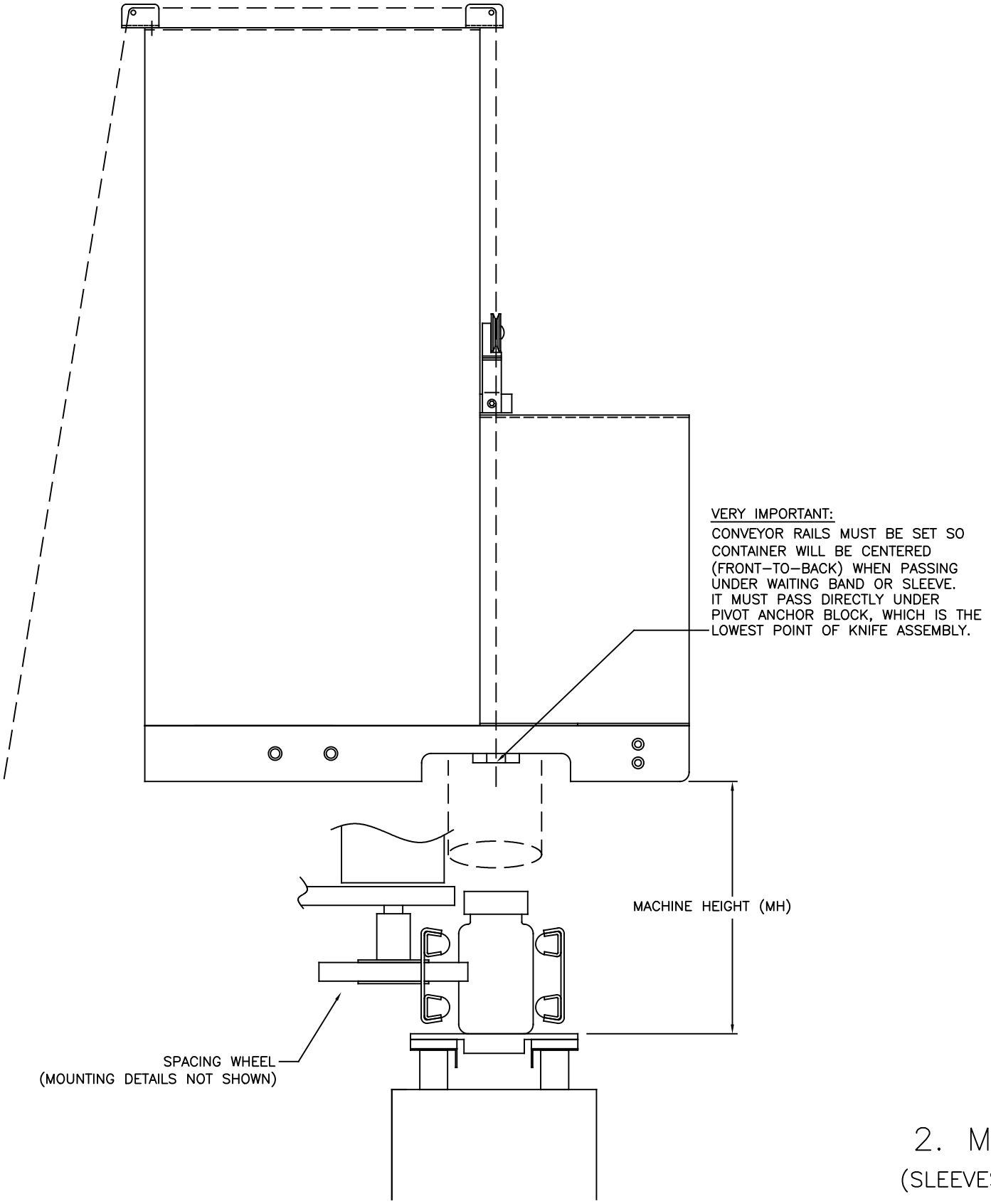
DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–02–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE SUPPORT ROLLER SPACING	SHEET 1 OF 13	
		NUMBER NB1–0012	REVISION A



2. MH

(NECK BANDS)

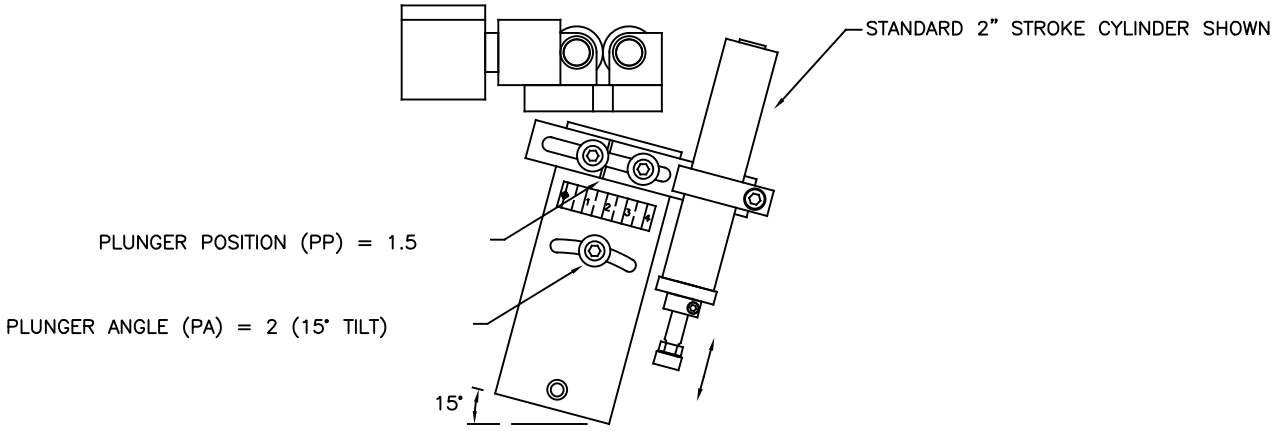
DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–02–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE MACHINE HEIGHT 1	SHEET 2 OF 13	
		NUMBER NB1–0012	REVISION A

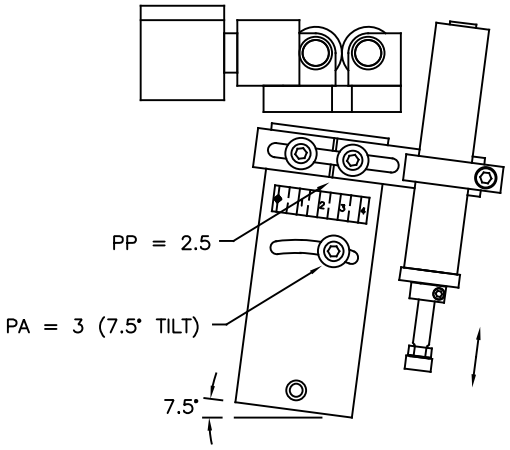


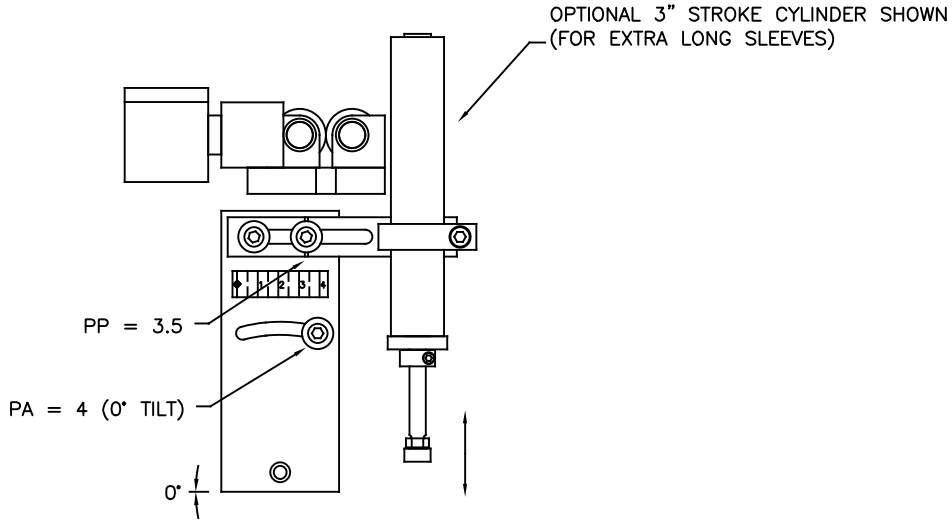
2. MH
(SLEEVES)

DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–02–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE MACHINE HEIGHT 2	SHEET 3 OF 13	
		NUMBER NB1–0012	REVISION A

ADJUST THE PLUNGER POSITION (SIDE–TO–SIDE) AND PLUNGER ANGLE (TILT) USING THE SUPPLIED "LONG T" 3/16 HEX KEY



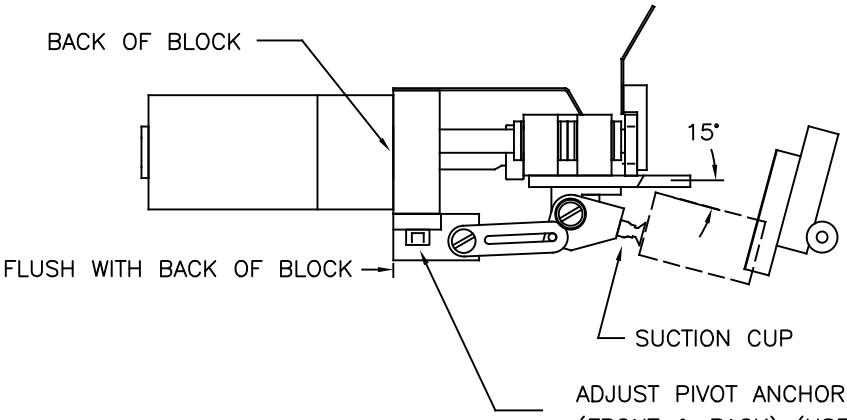




3. PA
4. PP

DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–02–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE PLUNGER SETUP	SHEET 4 OF 13	
		NUMBER NB1–0012	REVISION A

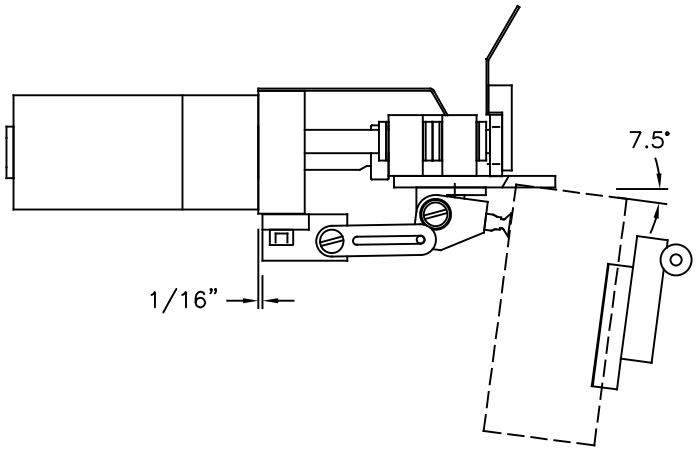
THE SUCTION CUP TILTING DOWN CAN AID IN PLACEMENT OF NECK BANDS AND SLEEVES



SUCTION CUP ANGLE (SCA)
FLUSH WITH BLOCK = 15° TILT

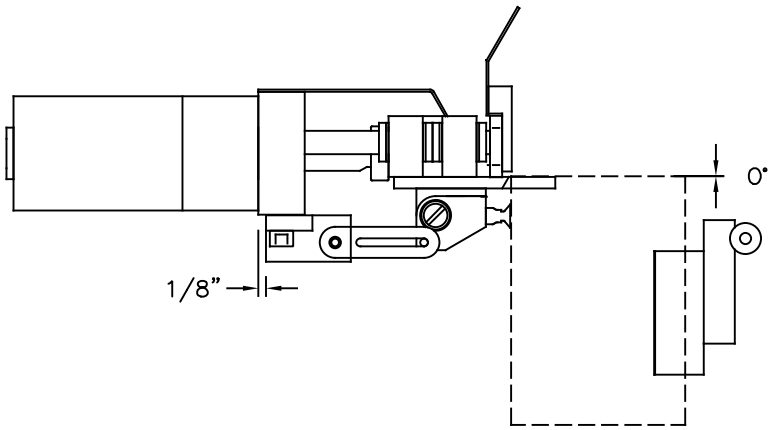
THIS IS THE STANDARD SETTING,
GOOD FOR MOST APPLICATIONS

ADJUST PIVOT ANCHOR BLOCK BY LOOSENING TWO (2) SCREWS
(FRONT & BACK) (USE 3/16 "L" HEX KEY)



1/16" = SCA 7.5°

SOMETIMES SLEEVES REQUIRE LESS ANGLE,
OR NO ANGLE AT ALL

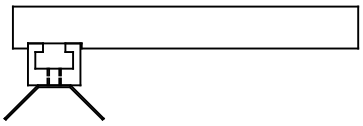


1/8" (NO SPRING TENSION) = SCA 0°

5. SCA

DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–02–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE SUCTION CUP ANGLE	SHEET 5 OF 13	
		NUMBER NB1–0012	REVISION A

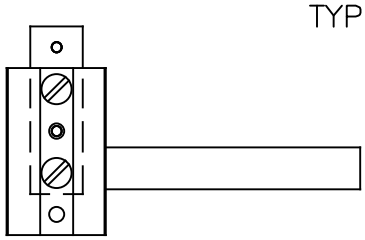
TOP VIEW



ADJUST THE POSITION (HIGH OR LOW) USING THE SUPPLIED 7/16 OR 11 MM NUT DRIVER

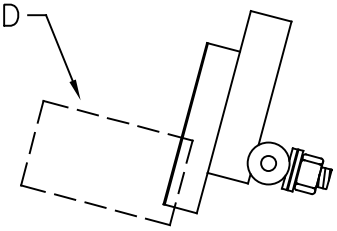
FRONT VIEW
HIGH POSITION

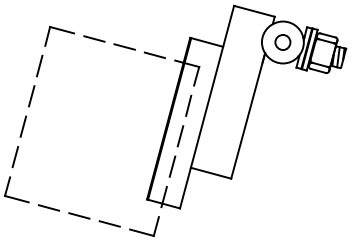
FRONT VIEW
LOW POSITION



SIDE VIEW

TYPICAL BAND

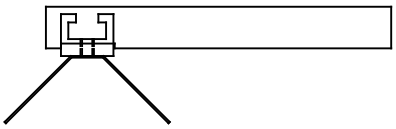




SMALL BAND HOLDER

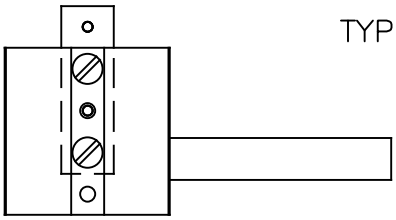
LARGE BAND HOLDER

TOP VIEW



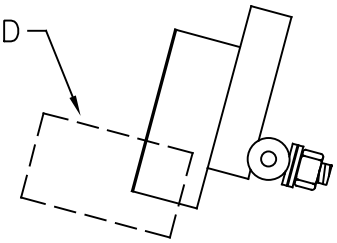
FRONT VIEW
HIGH POSITION

FRONT VIEW
LOW POSITION

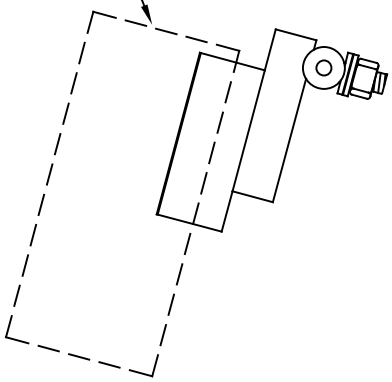


SIDE VIEW

TYPICAL BAND



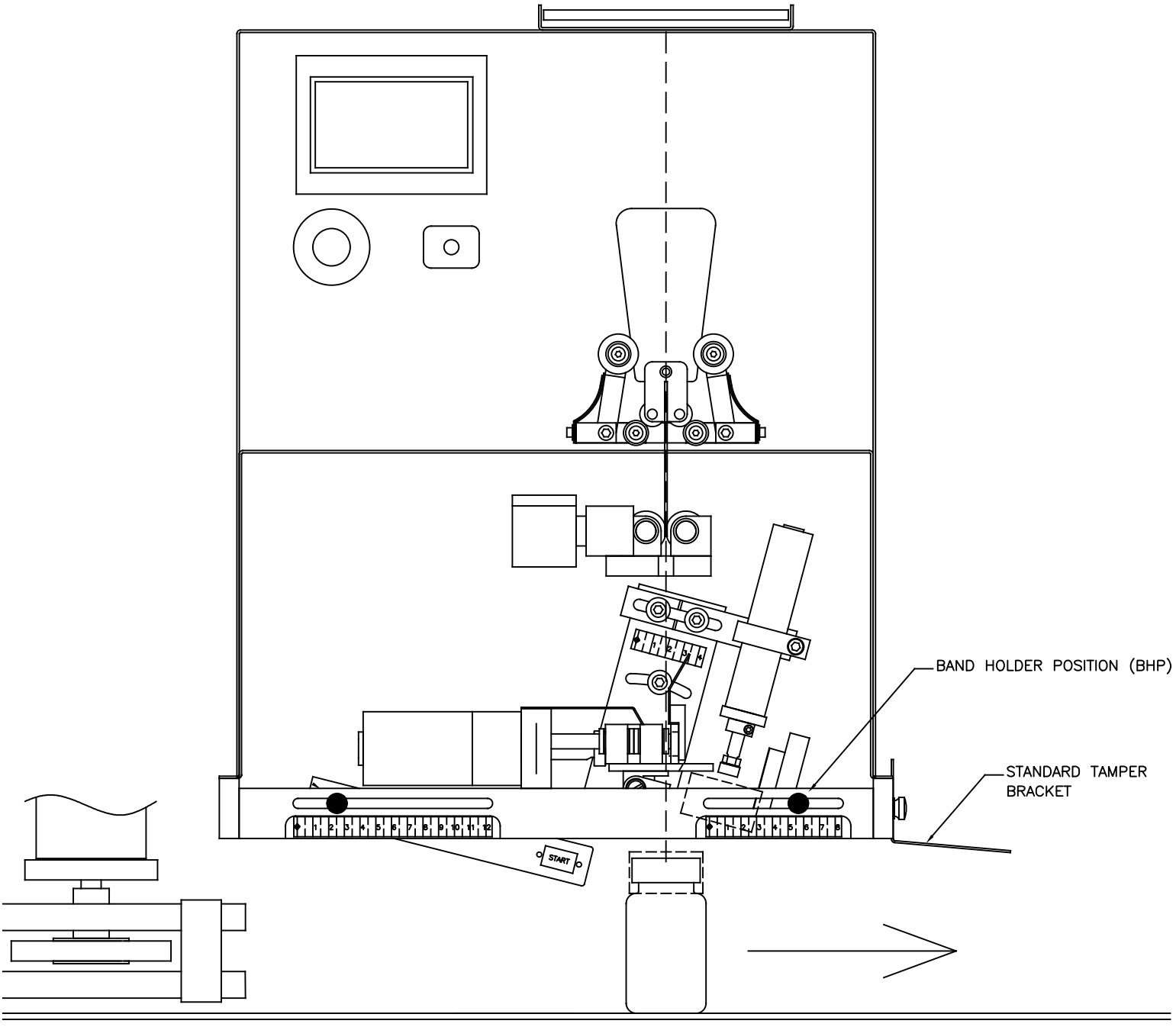
TYPICAL SLEEVE



NOTE: THE BAND HOLDER ANGLE SHOULD MATCH THE SUCTION CUP ANGLE

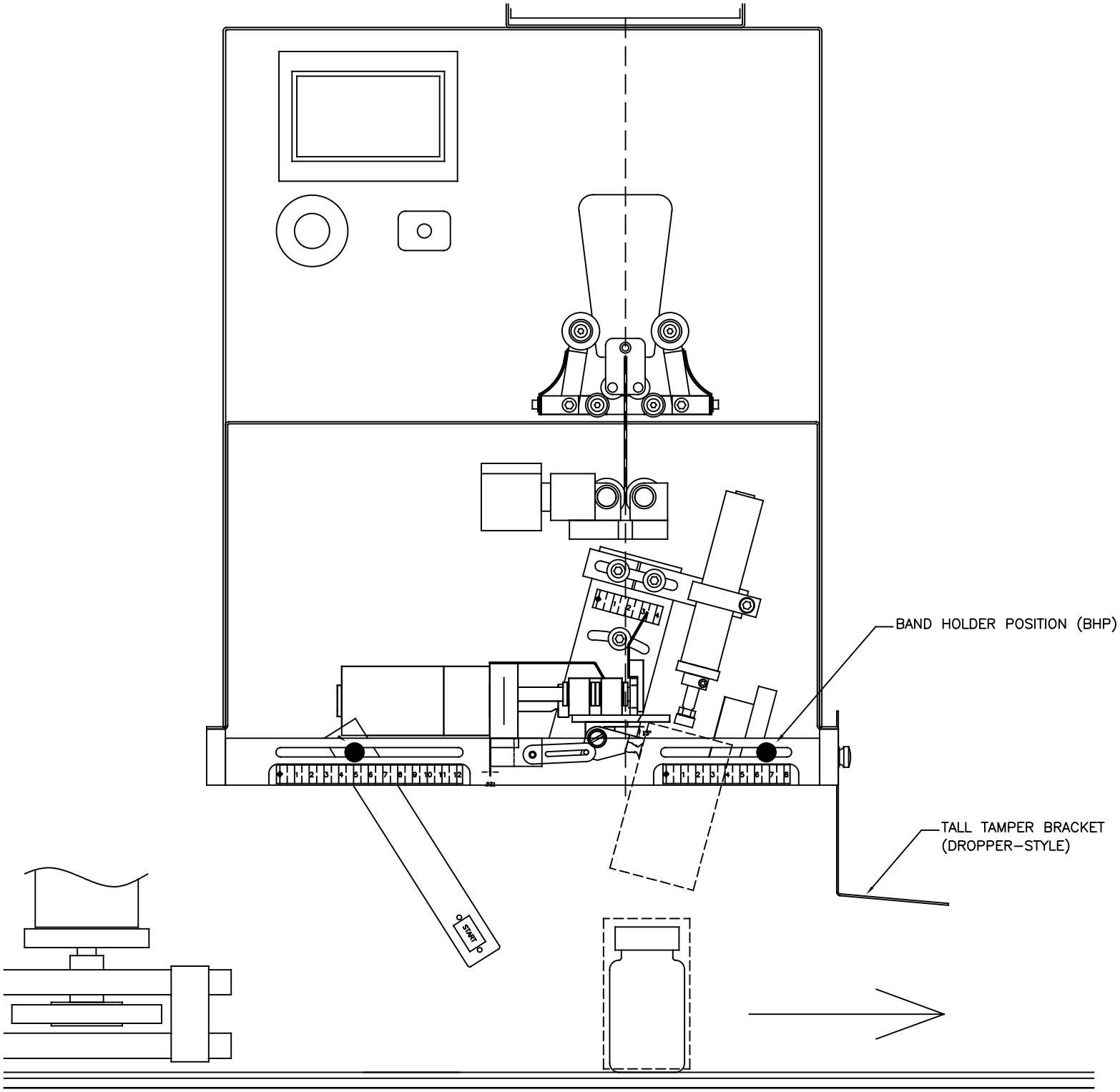
6. BHS

DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–02–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE BAND HOLDER SETUP	SHEET 6 OF 13	
		NUMBER NB1–0012	REVISION A



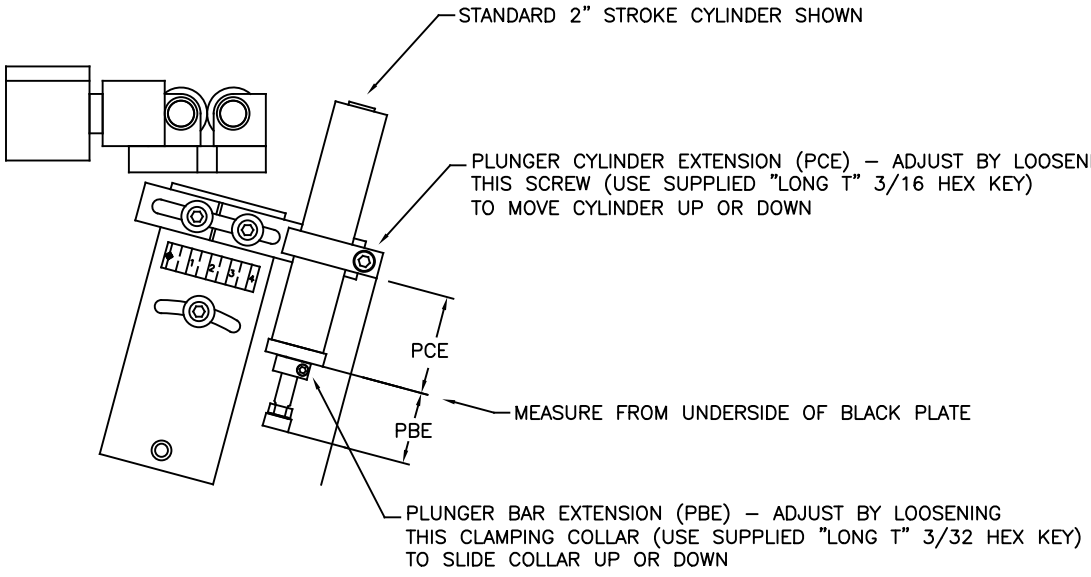
7. BHP (NECK BAND)

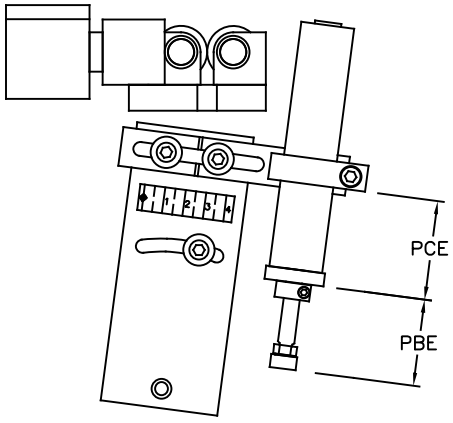
DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019-02-04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE BAND HOLDER POSITION 1	SHEET 7 OF 13	
		NUMBER NB1-0012	REVISION A

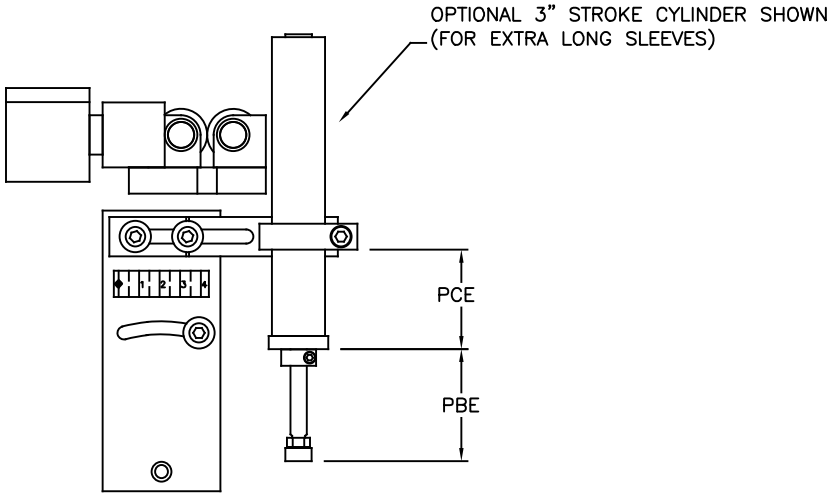


7. BHP
(SLEEVE)

DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD DATE: 2019–02–04	
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE BAND HOLDER POSITION 2	SHEET 8 OF 13	
		NUMBER NB1–0012	REVISION A

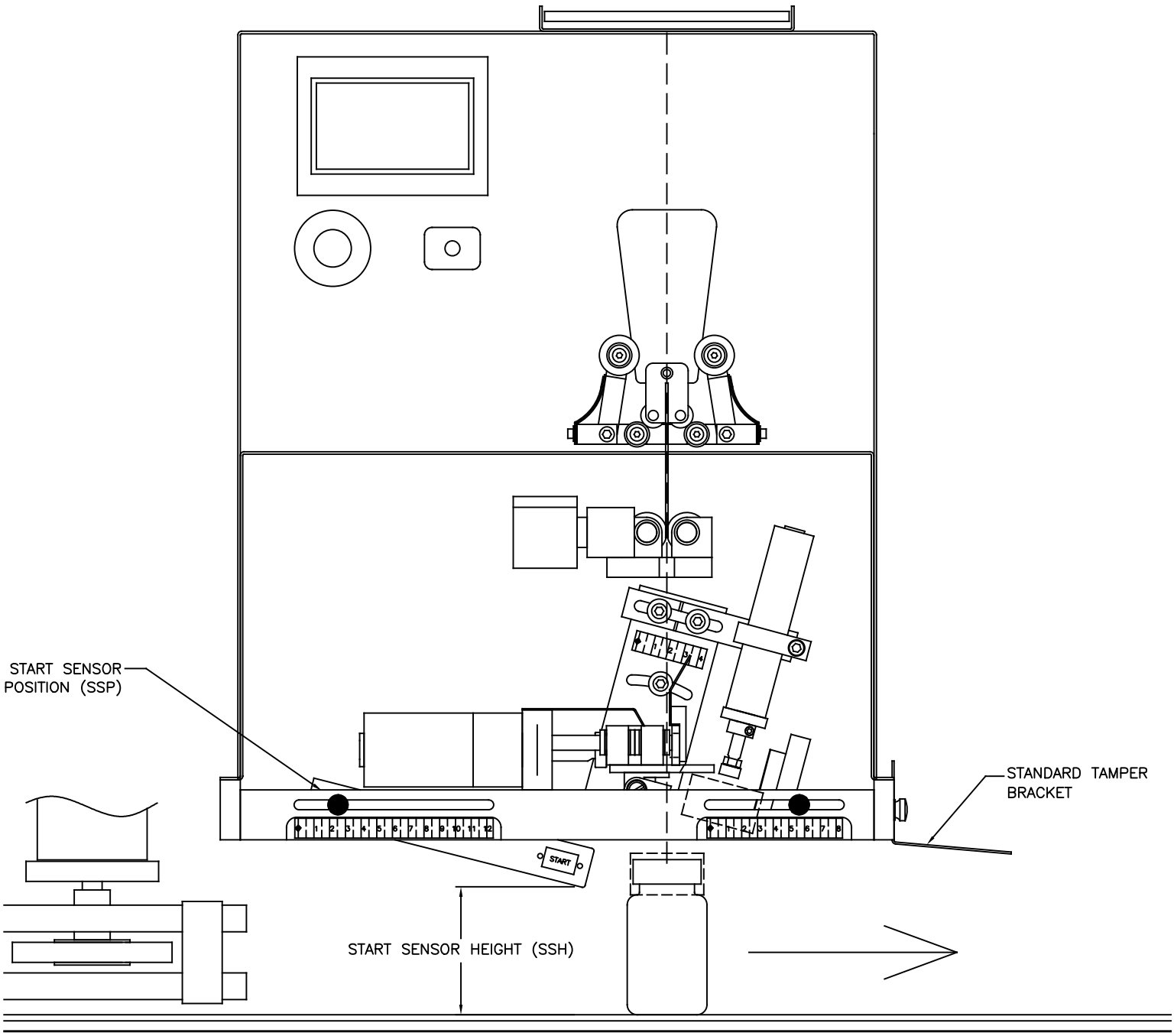






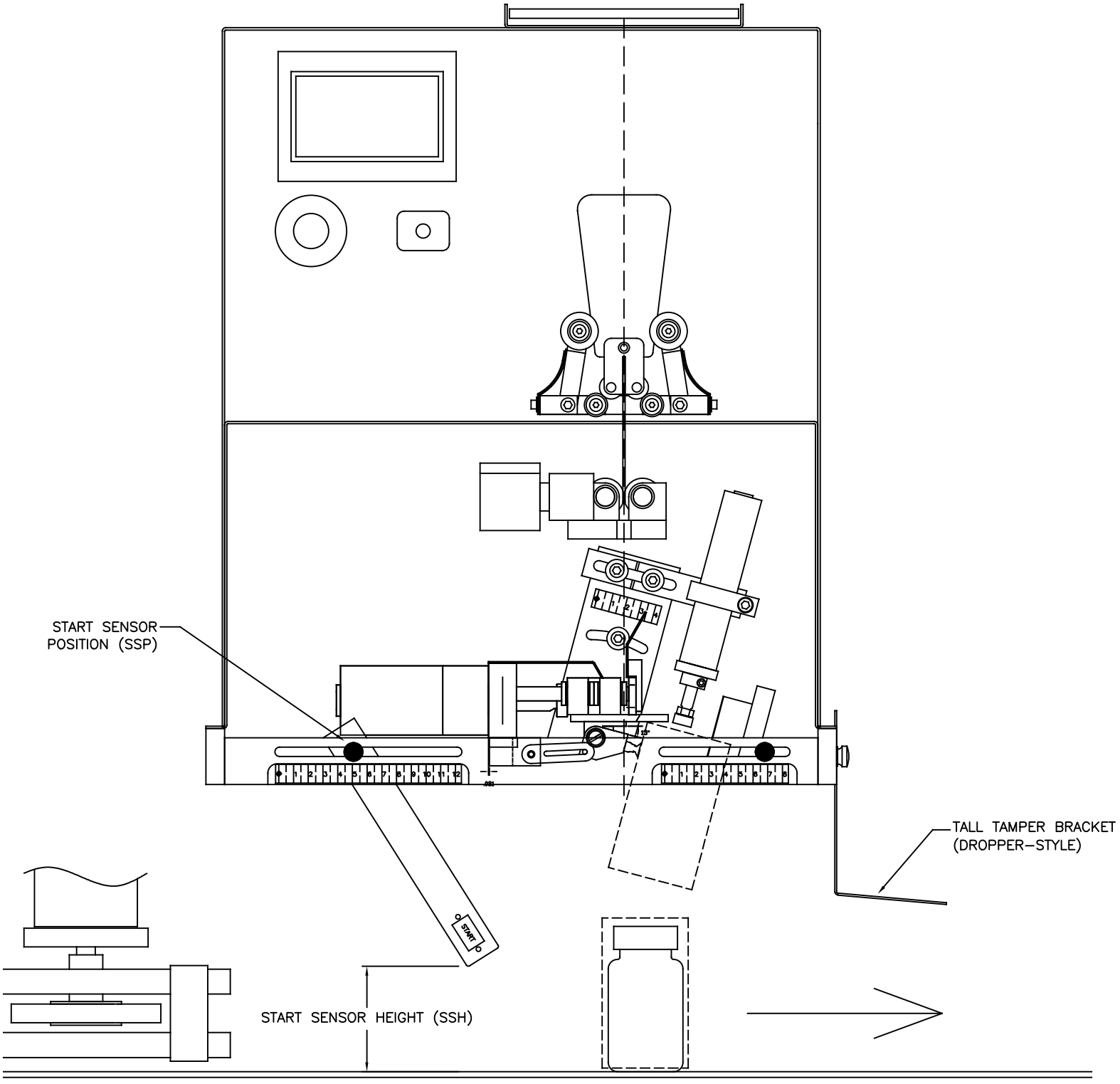
8. PCE
9. PBE

DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–02–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE PLUNGER EXTENSION SETUP	SHEET 9 OF 13	
		NUMBER NB1–0012	REVISION A



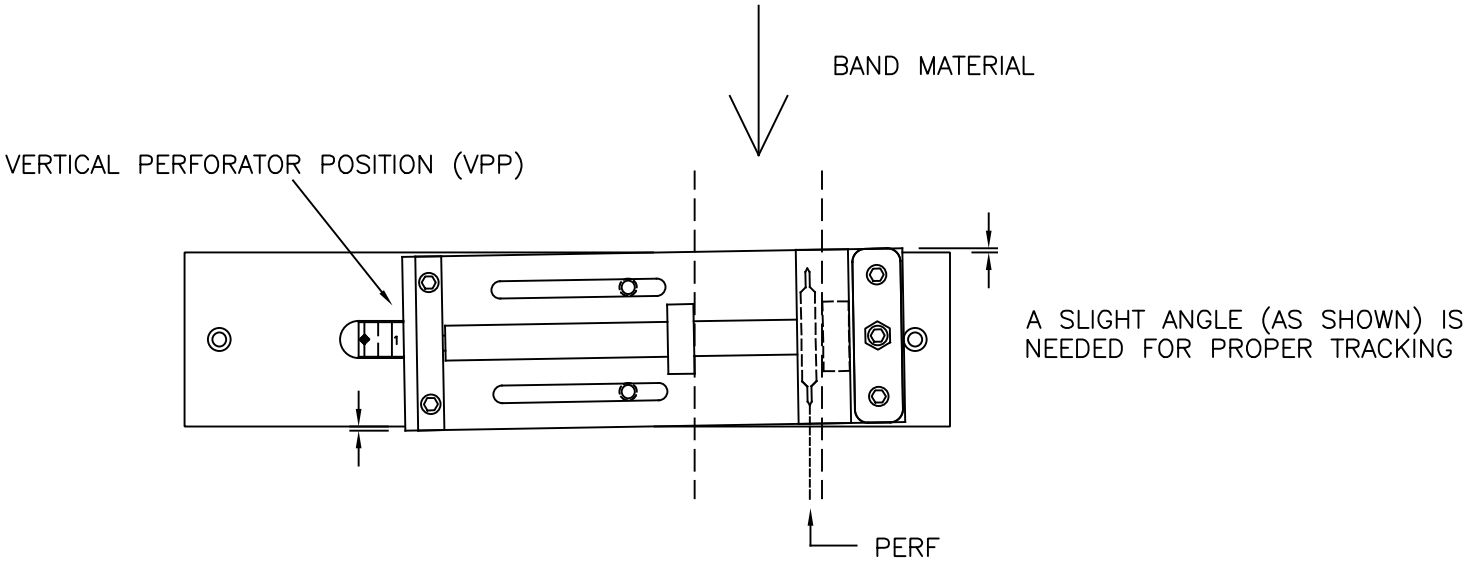
10. SSP
11. SSH
(NECK BAND)

DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–02–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE START SENSOR SETUP 1	SHEET 10 OF 13	
		NUMBER NB1–0012	REVISION A

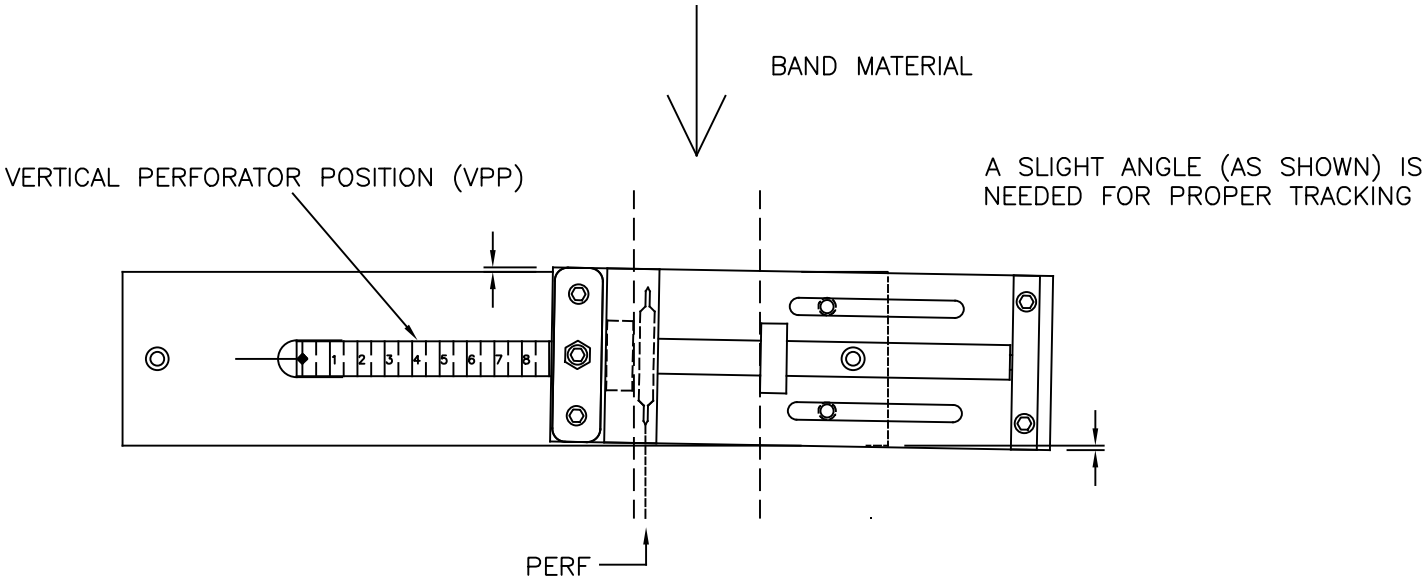


10. SSP
11. SSH
(SLEEVE)

DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–02–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE START SENSOR SETUP 2	SHEET 11 OF 13	
		NUMBER NB1–0012	REVISION A



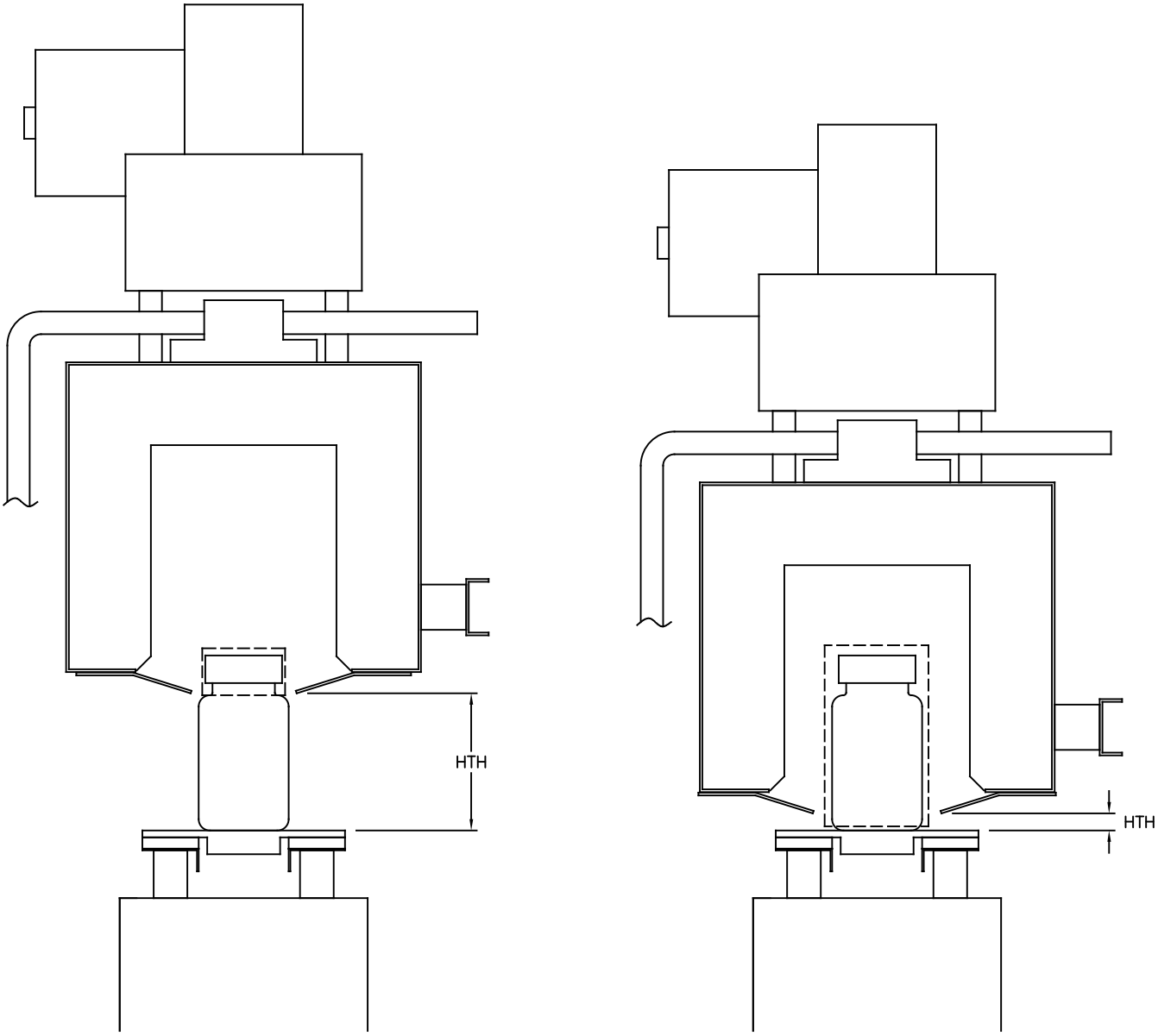
VERTICAL PERFORATOR – OVERHEAD VIEW – SET UP FOR RIGHT HAND PERF



VERTICAL PERFORATOR – OVERHEAD VIEW – SET UP FOR LEFT HAND PERF

12. VPP

DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD DATE: 2019–02–04	
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE VERTICAL PERFORATOR SETUP	SHEET 12 OF 13	
		NUMBER NB1–0002	REVISION A



HEAT TUNNEL HEIGHT (HTH)
ABOVE CONVEYOR

13. HTH

DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–02–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE HEAT TUNNEL HEIGHT	SHEET 13 OF 13	
		NUMBER NB1–0002	REVISION A

NB1 SET-UP RECORD	Date _____		Serial No. _____		Pg ___ of ___
Customer:					
		1	2	3	4
Container					
Seal Type (Neck or Sleeve)					
Band Material LFW (mm)					
Band Spreader Tool (mm)					
Seal Length (inches)					
Start Time (secs)					
CV Speed (feet/min)					
Spacing Wheel Speed (dial)					
Perforator (Y/N & Right/Left)					
See setup drawings	* measured with ruler in inches			** set to number on machine	
1. Support Roller Spacing	**SRS**				
2. NB Height	**NBH***				
3. Plunger Angle Setting	**PAS****				
4. Plunger Position (L-to-R)	**PP****				
5. Suction Cup Angle (visual)	**SCA**				
6. Band Holder Setup (visual)	**BHS**				
7. Band Holder Positon	**BHP****				
8. Plunger Cyl Extension	**PCE***				
9. Plunger Bar Extension	**PBE***				
10. Start Sensor Position	**SSP****				
11. Start Sensor Height	**SSH***				
12. Vertical Perforator Pos.	**VPP****				
13. HT Height	**HTH***				
.					