PHARMAFILL™

DEITZ COMPANY, WALL, NJ, USA

Model NB1 Neck Bander

Operation Manual

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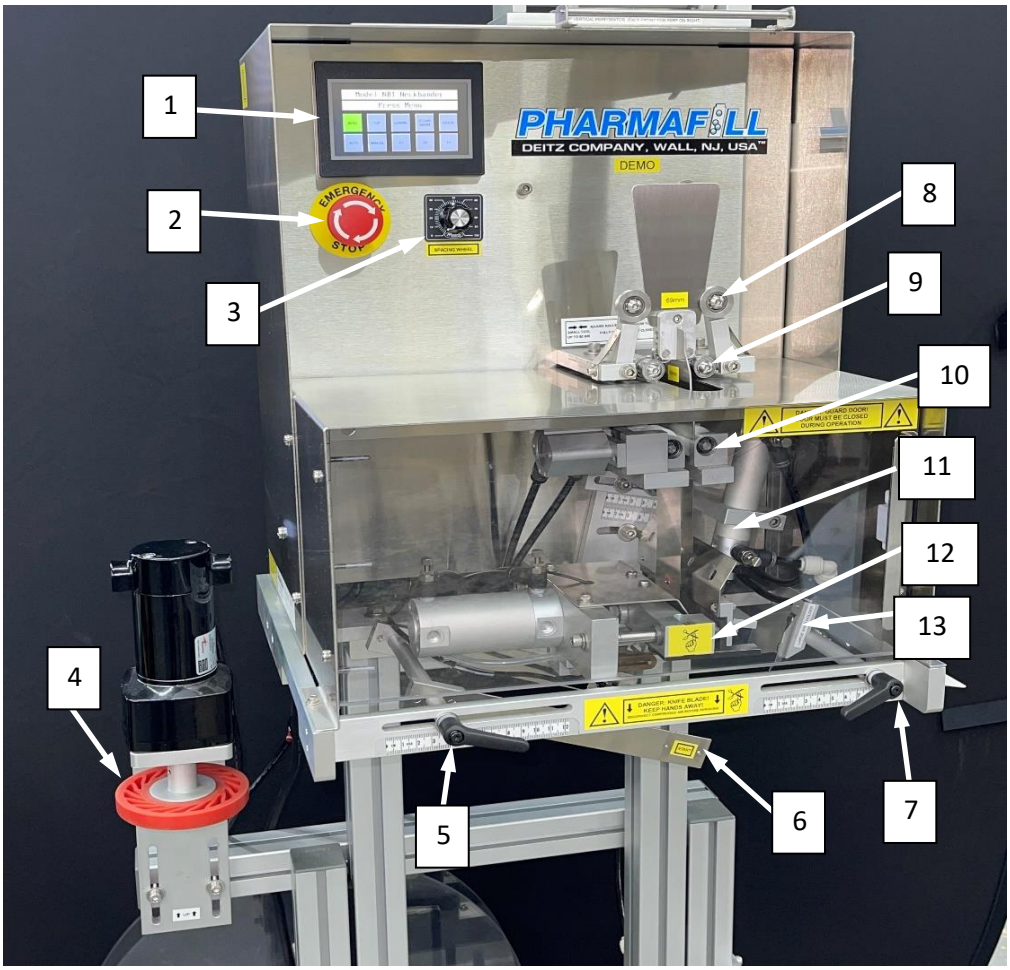

NB1 Neck Bander – Front View

1. HMI (Human Machine Interface) – Touch Screen Operator Control/Display panel
2. E-stop (Emergency Stop Button) – Main power on/off. Push to stop, twist CW to release
3. Speed Setting Knob for Spacing Wheel
4. Spacing Wheel
5. Adjustment handle – Start Sensor assembly
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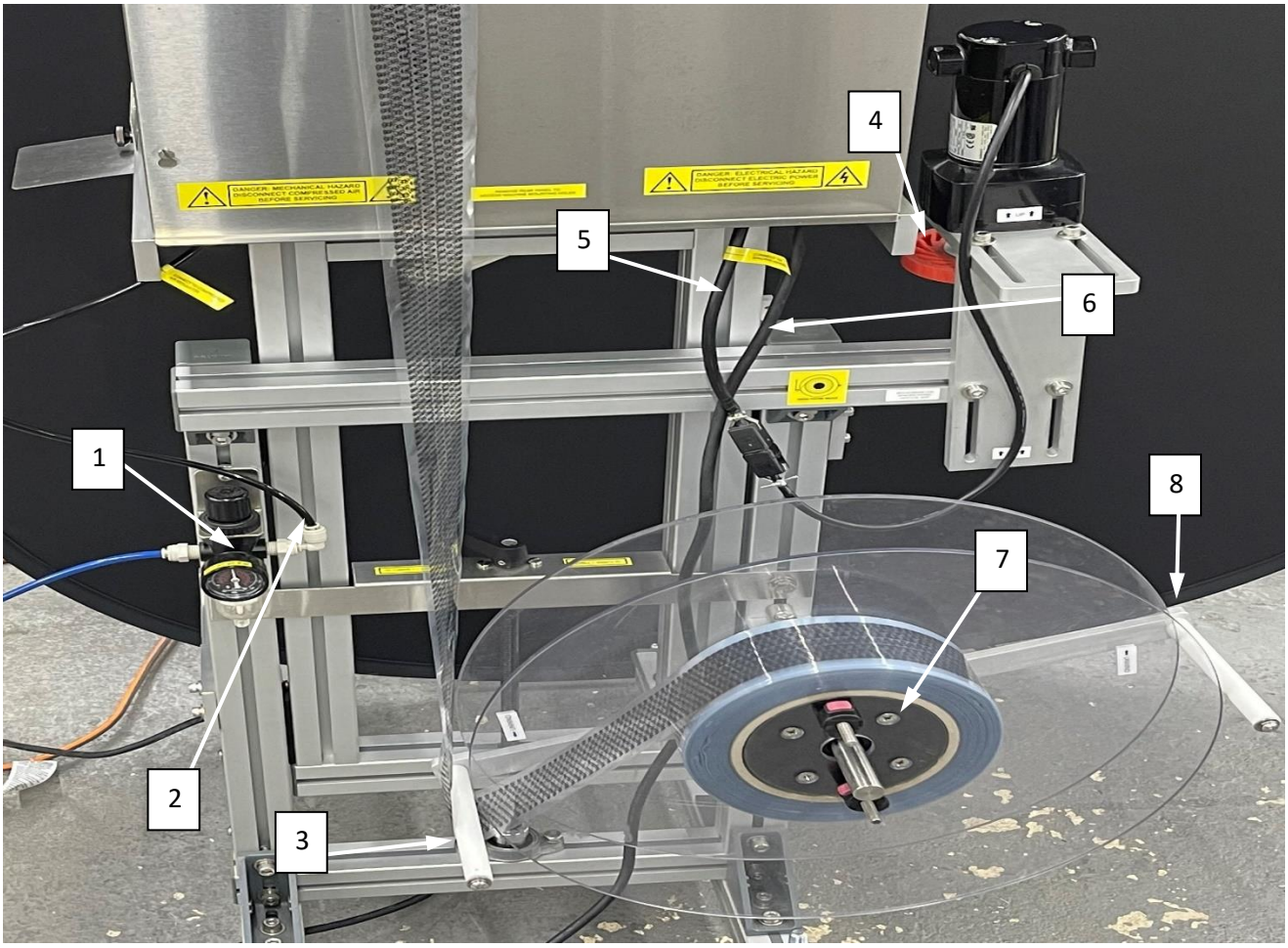
Section 1 - GENERAL ILLUSTRATIONS (cont'd)

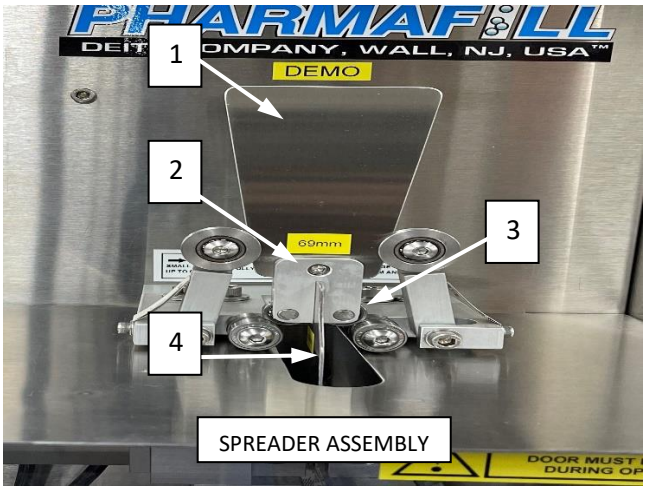


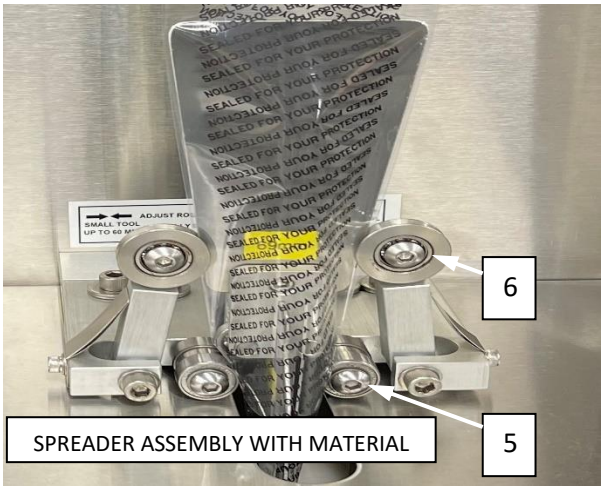
NB1 Neck Bander – Rear View – Lift Stand with vertical Unwind Assembly and Spacing Wheel

NOTE: On machines made prior to March 2013, the Unwind Assembly is a different design (horizontal).

1. Air Pressure Regulator/Filter
2. Air supply tube to machine
3. Dancer Tension Roller
4. Spacing Wheel
5. Power cord for Spacing Wheel
6. Main power cord to machine
7. Spool for Band Material Roll
8. Dancer Brake Roller

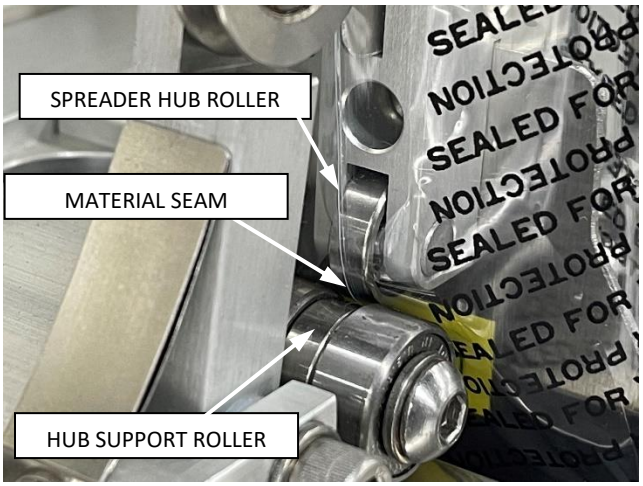
Section 1 - GENERAL ILLUSTRATIONS (cont'd)





NB1 Neck Bander – Spreader Assembly (typical, 69mm shown)

1. Upper Blade
2. Hub (Large Hub shown)
3. Spreader Hub Rollers
4. Lower Blade
5. Hub Support Rollers (2) (part of machine)
6. Spreader Guide Wheels (2) (part of machine)



NOTE THE ORIENTATION OF THE BAND MATERIAL.

The seam of the band material should travel at the center of the Hub Rollers.

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.

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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 must 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 REV A
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: .70 in (18 mm) Maximum length of band after cutting: 9.99 inch (253 mm)
Roll Specifications	Core Diameter 5” (12.7cm) Maximum O.D. 17” (43.2 cm)
Maximum Rate	up to 100 applications/minute

INPUTS

Voltage	110 VAC[1] (Optional 220VAC)
Cycles	50/60 HZ
Phase	1
Amperage	2.0A
Compressed Air[2]	0.5 CFM at 80 psi (14 LPM at 550 kPa)
Room Humidity	85% RH non-condensing

DIMENSIONS

Floor Footprint	28” wide x 29” deep (71cm X 74cm)
Height[3]	Standard Variable 56” to 68” (142cm to 173cm) Tall Variable 64” to 76” (162cm to 193cm)
Container Height	Standard from 1” to 10” (2.5cm to 25cm) [3] Tall from 9” to 18” (23cm to 46cm)
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	Stainless Steel (303, 304), Anodized Aluminum, Acetal, Polycarbonate

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 vertically (upright) on a supporting wheel (unwind spool). The loose end of the roll is threaded under a tension release bar and then over 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 pneumatic arm then pushes the cut band onto the container. Finally, the machine produces another band and awaits 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 and full or partial body sleeves. 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 cleanability. 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 touch screen HMI (human machine interface). The display screen gives 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 motorized Spacing Wheel Assembly. 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 - may be added to the machine at the factory or in the field. Please contact Deitz company for more details

NB-VP Vertical Perforator	Makes a continuous vertical perforated line in the band or sleeve to ease removal of the seal by the end user.
NB-PR Print Registration	For bands or sleeves with custom graphics, the NB-PR option adds a sensor which detects the clear gap between print repeats and assure that the cut is made at the gap.
NB-SBS Shoulderless Bottle System	A conveyor-mounted system that allows bands and partial sleeves to be applied to the upper portion of the bottle even if there is no shoulder to hold the band or sleeve up. Combines a compact hugger belt to hold the band up upon application and a heat gun to apply a tack shrink to keep the band up, before it is released to go through the heat tunnel.
LST-NB1 Tall Lift Stand	For applications where the bottles or containers are all taller than 9" (23cm). Absolute high and low are 8" (20 cm) higher than a standard LS-NB1 lift stand

Section 6 – INSTALLATION AND COMMISSIONING

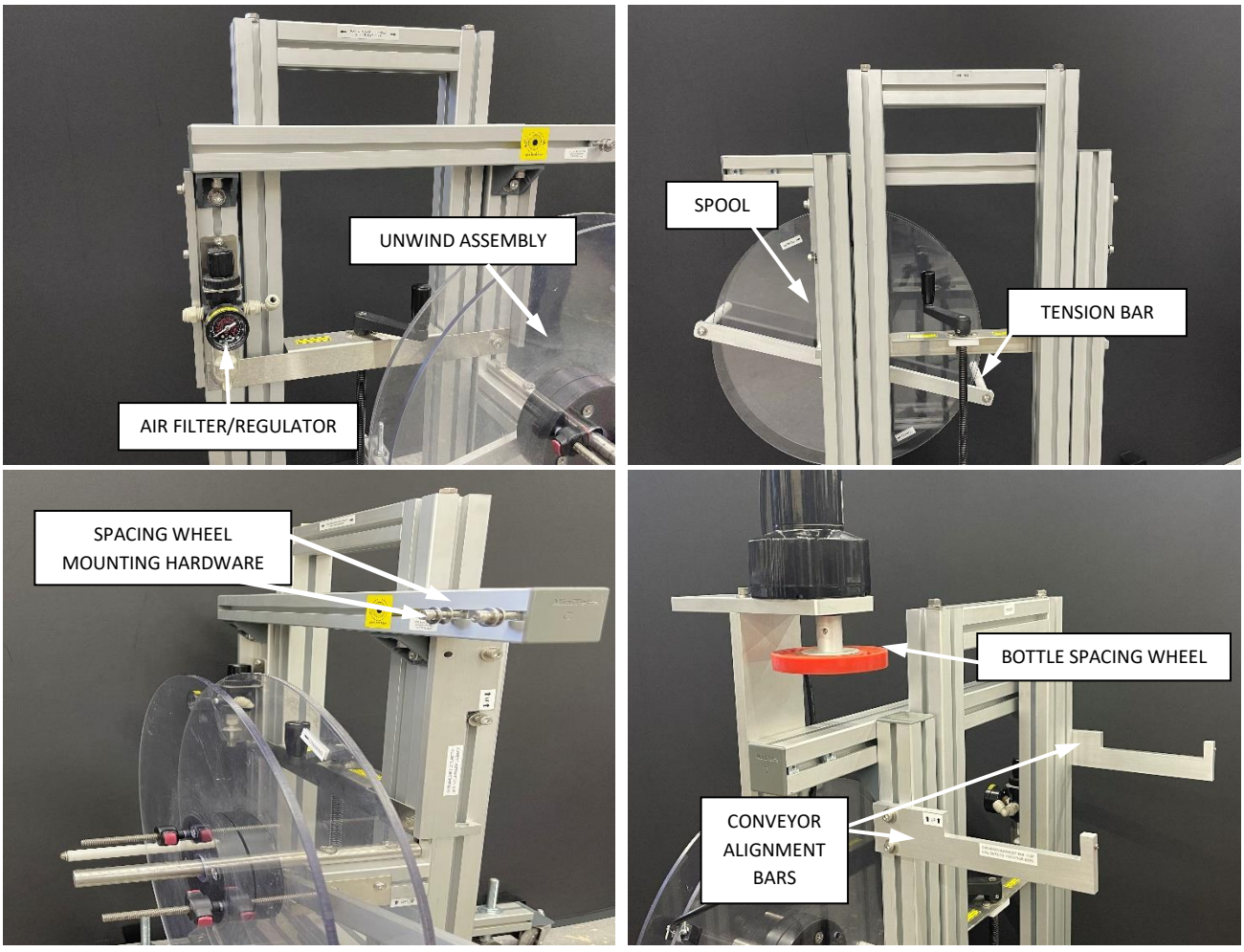
NOTE: PLEASE RETAIN THE PACKING CRATE AND MATERIALS UNTIL THE MACHINE IS FULLY OPERATIONAL, TESTED AND APPROVED.

1. Unpacking
   a. Carefully remove the cardboard cover from the pallet.
   b. Remove all packing materials and any small items that may be inside, such as:
      - Cardboard box containing the spacing wheel assembly
      - Cardboard box containing the operator manual, tooling and accessories
      - Large clear plastic bag containing a packing check list and important set-up information
   c. Cut the plastic straps that hold the NB-LS Lift Stand to the pallet.
   d. Remove the 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 Neck Bander.
   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

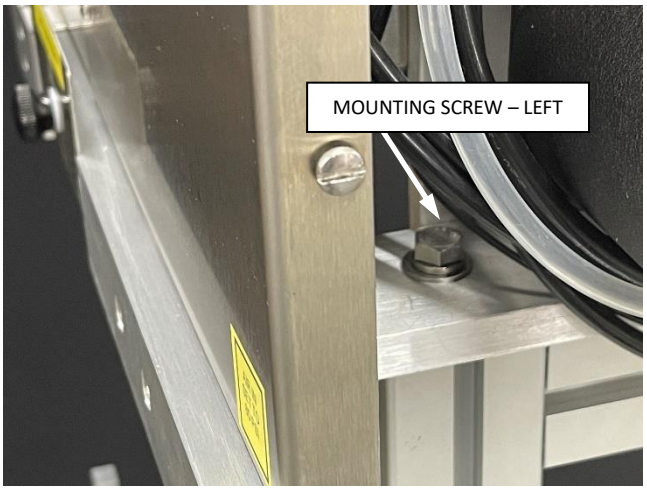
a. Remove the Lift Stand from the pallet.
b. Place lift stand on floor. The air filter/regulator is on the back side.
c. The Unwind Spool assembly is pre-installed.
d. Install the Spacing Wheel, where indicated by a white label, using the screws that are already in place.
e. Conveyor Alignment Bars are installed but must be repositioned prior to operation. Remove the free socket head screw and loosen Conveyor Alignment Bars with provided socket driver and swing so "UP" stickers are readable and horizontal. Reinstall previously removed socket head screw in available hole on each Conveyor Alignment Bar (Note: The standard bars are made for a conveyor that is 5-1/2"wide. Contact Deitz Company if you require a different size.)

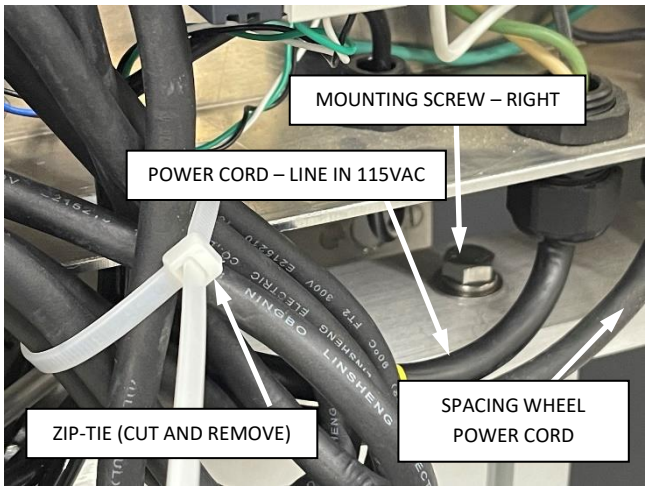


Section 6 – INSTALLATION AND COMMISSIONING (cont'd)

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 worktable.
c. Access mounting bar by loosening four (4) screws and removing Rear Access Panel.
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 with lock washers (from the back). Tighten securely.
f. Replace Rear Access Panel.

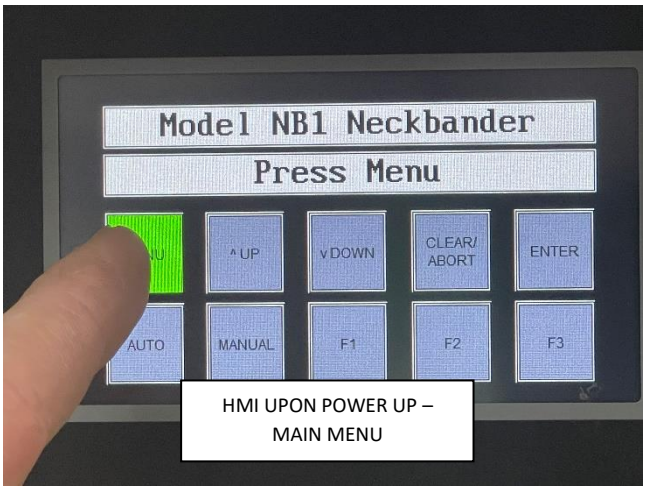




Section 6 – INSTALLATION AND COMMISSIONING (cont'd)

4. Apply Electric and Air Service

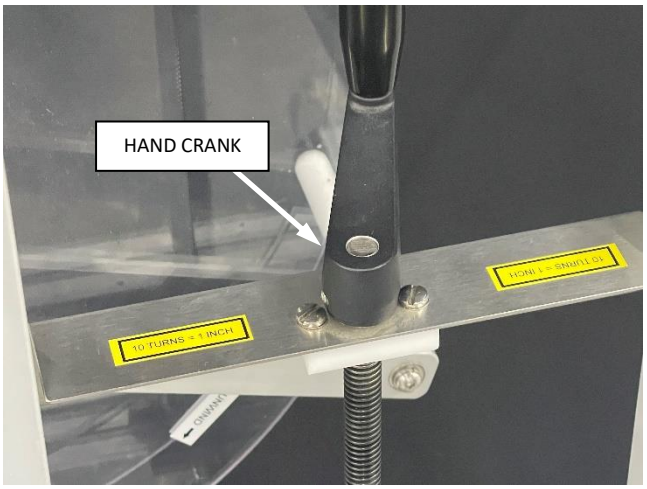
a. Cut wire tie holding power cord and air supply tube.
b. Attach air supply to right side (as viewed from back) of the air filter/regulator.
   - Attach compressed air from your in-house system to the left side of the air filter/regulator.
   - Factory setting for regulator is 80 psi.
c. Plug in Spacing 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.
g. Confirm the that the HMI (front panel) lights up and after 4 seconds the display reads "Model NB1 Neck Bander, Press Menu"
h. Confirm that there is the sound of air escaping from the vacuum generator (this is normal).
i. Open the guard door. Confirm that the HMI reads "Guard Door Open".
j. Close the guard door. HMI reads "Press Menu" again.
k. Push E-stop. HMI will turn off, and air sound will go silent.

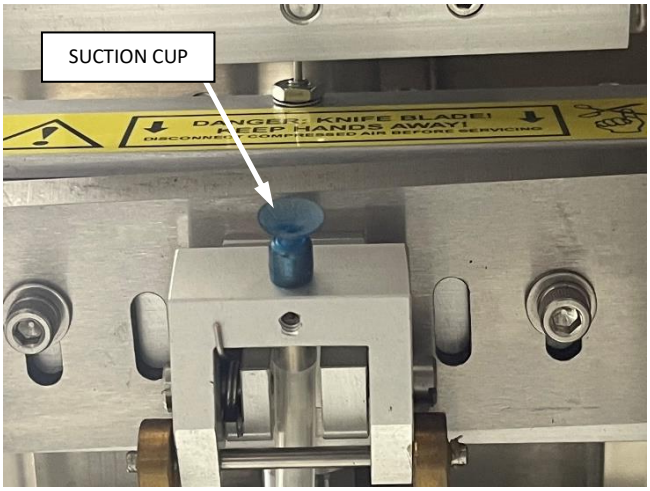


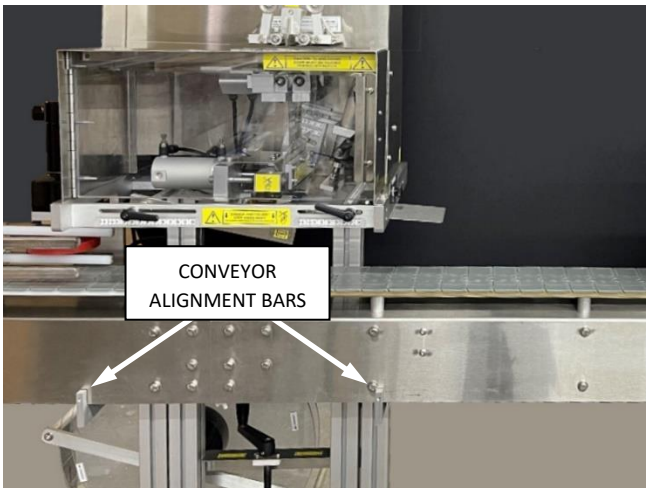
Section 6 – INSTALLATION AND COMMISSIONING (cont'd)

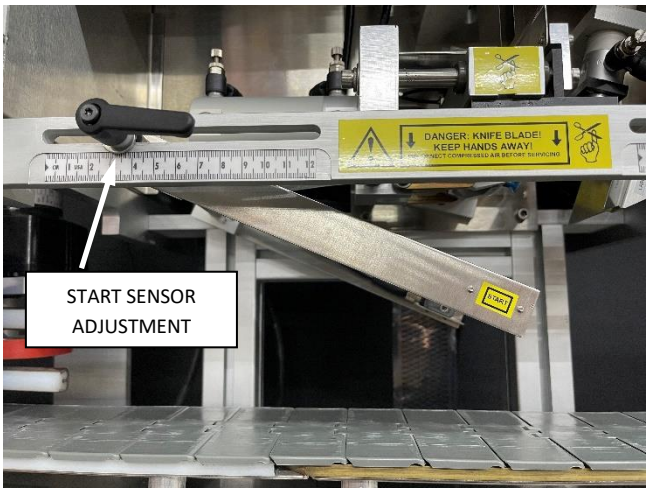
5. Integrate the assembled NB1 Neck Bander to the conveyor

   a. Use the hand crank on the lift stand to raise the machine high enough to clear the conveyor and conveyor guide rails. 10 turns = 1" (2.54cm).
   b. Position machine next to the conveyor. Visually locate the blue suction cup under the knife.
   c. 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.) The blue suction cup is now directly over the center of the conveyor belt and the machine is parallel to the conveyor
   d. Loosen the black handle on the left (below the control panel) and swing down the optical start sensor assembly a few inches so you can access it. Re-tighten the black handle. For now, we don't care where the black handle is positioned in the adjustment slot.



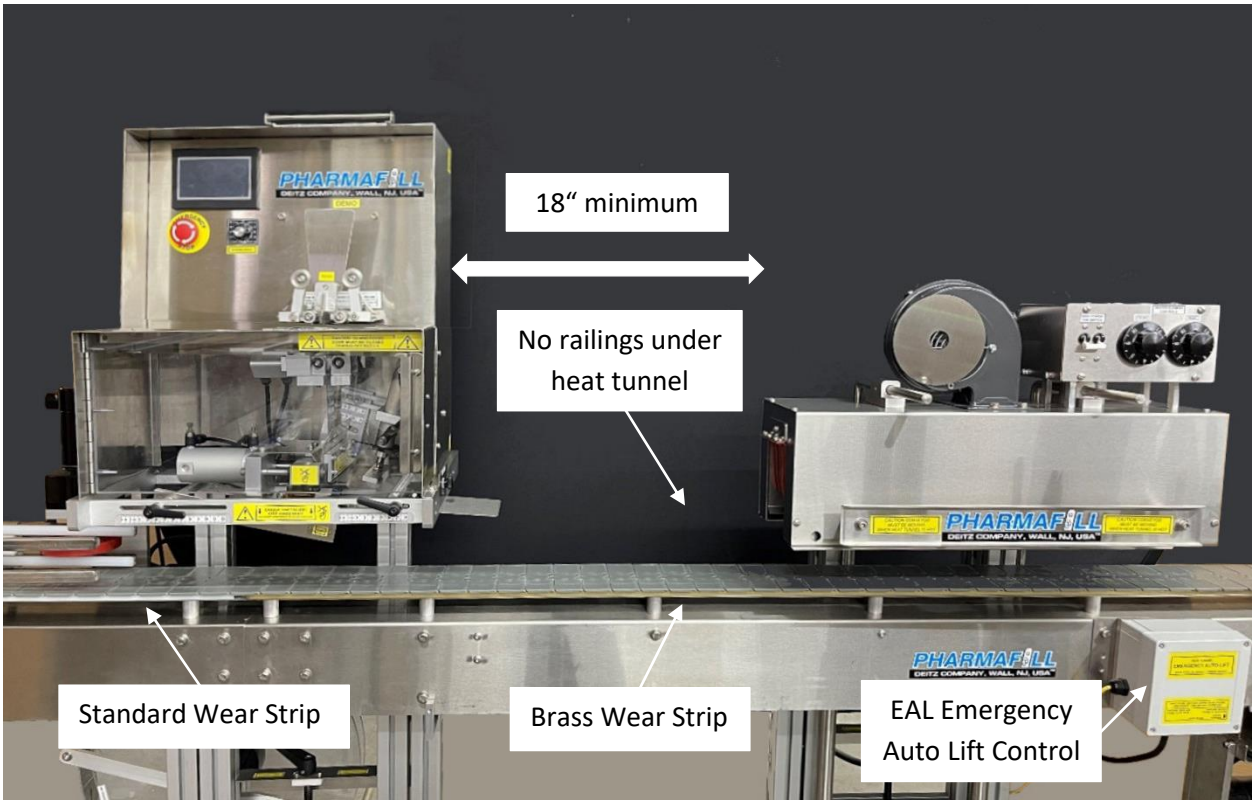






Section 6 – INSTALLATION AND COMMISSIONING (cont'd)

6. Conveyor Set Up Information with Heat Tunnel

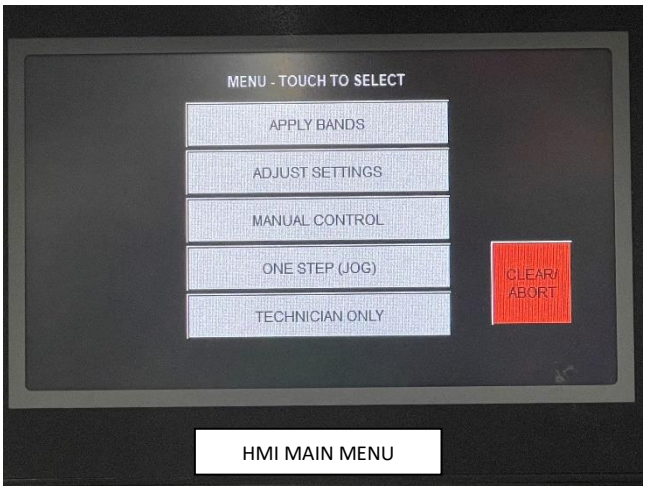


- This is an example of a standard conveyor set up (NB1/ HT6/ CV4.5-HT). We recommend a minimum of eighteen inches (18") of space between the Neck Bander unit and the Heat Tunnel. If the machines are too close, the hot air can adversely affect the application of the seal, causing it to partially shrink before it comes to rest on the bottle.
- There must be no railings under the Heat Tunnel (they will get very hot). Railings under the Neck Bander and between the Neck Bander and the Heat Tunnel are generally not needed.
- You must have a conveyor that can handle the high temperatures, like the CV4.5-HT conveyor, which has brass wear strips on the starter section (motor end) which replace the standard plastic wear strips. The heat tunnel should be positioned over the starter section.
- The heat tunnel can melt the plastic conveyor belt if the conveyor is stopped (or going very slowly) while the heat tunnel is in operation down close to the belt. If you must stop the conveyor with a hot tunnel, always move the tunnel away from the conveyor belt before stopping. The HT6B can be ordered with the Emergency Auto Lift (EAL) option, which will automatically lift the heat tunnel to its maximum height whenever the conveyor stops or is going very slowly.

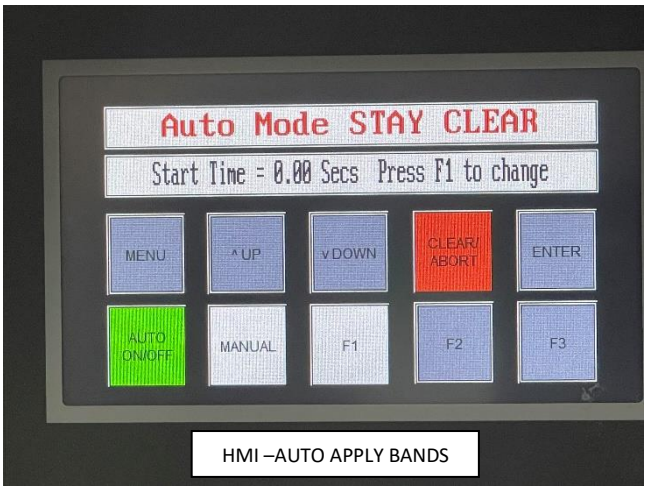
Section 6 – INSTALLATION AND COMMISSIONING (cont'd)

7. Basic operational test

a. Turn on the power by releasing the E-stop (twist). Wait for the display to read "Model NB1 Neck Bander, Press Menu"
b. On the HMI (Human Machine Interface), press MENU. The display reads "Apply Bands /Adjust Settings / Manual Control / One Step (Jog) / Technician Only"
c. Push "Apply Bands". Push "Enter". The display reads "Apply Bands Mode, Press Auto or Manual"
d. Push MANUAL. The machine will cycle once at normal speed. Confirm the following actions take place.
   - Plunger extends and retracts.
   - Knife opens.
   - Feed rollers turn.
   - Knife closes.
e. Push AUTO ON/OFF. 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. Push AUTO again.
h. Push CLEAR/ABORT. The display will return to the initial message. This completes the test.



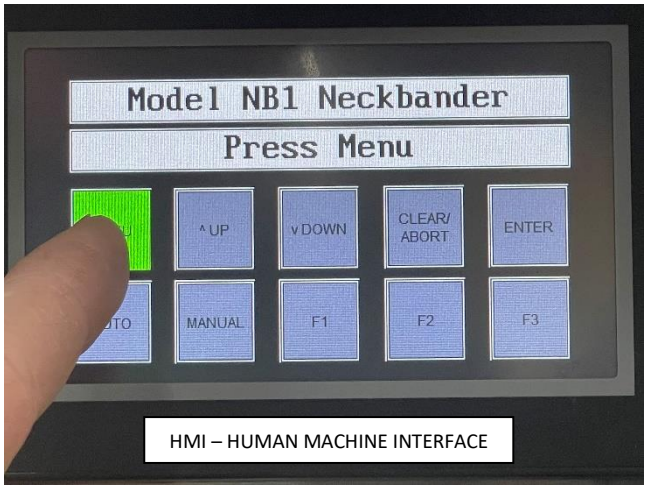
HMI MAIN MENU



HMI –AUTO APPLY BANDS

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, touch screen interactive control panel. All functions of the machine (other than the E-stop and Spacing Wheel speed) are controlled using this unit. The display highlights only the buttons that are needed for the selected function and shows the user interactive prompts as 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 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.

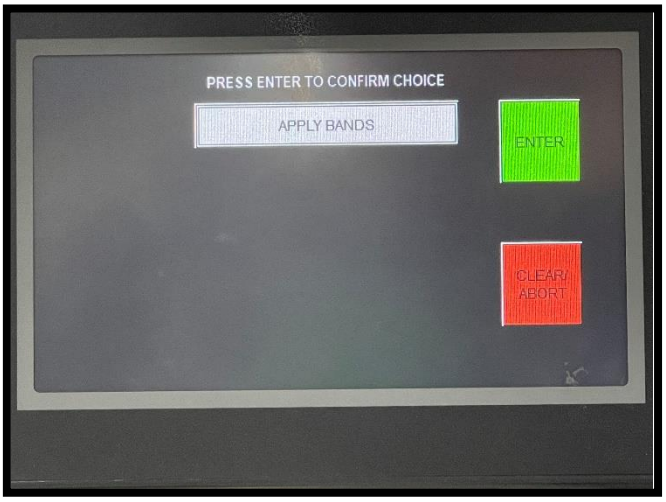
Press MENU to access any function. This is always the first button to press. There are 5 functions:

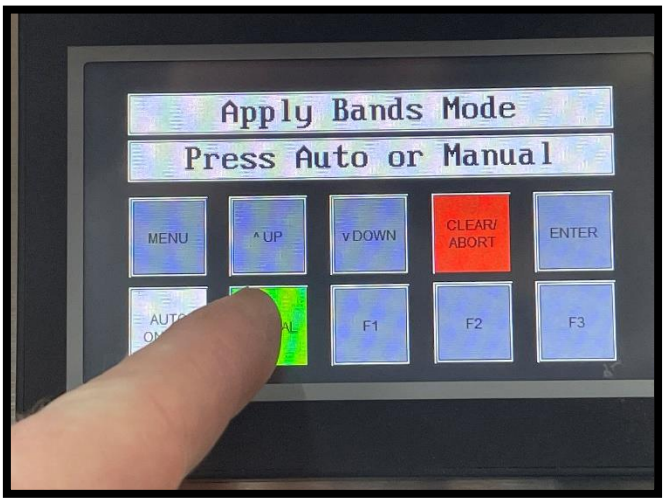
1. Apply Bands
2. Adjust Settings
3. Manual Control
4. One Step (Jog)
5. Technician Only

(This concludes The Basics)

Section 7 – CONTROLS (cont'd)

3. Apply Bands Mode





MENU 1 - APPLY BANDS

Press APPLY BANDS.

The display will read: "Apply Bands".

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:

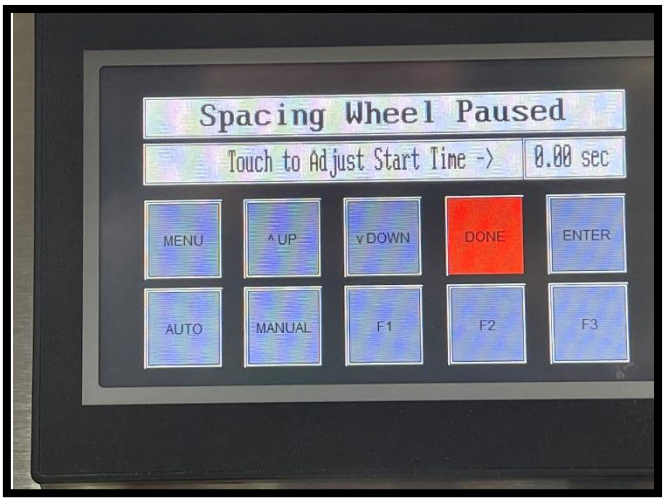
Press and release MANUAL. The machine will cycle once, applying a band and producing a new one

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

(continued)

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 AUTO ON/OFF. The button will turn green. In AUTO mode, when the start sensor detects a container, first the "Start Time" delay will time out (normally zero) 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

This is a legacy function held over from early versions of the machine. It is not needed for most applications, and we recommend it be set to 0.0 seconds

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

To change the Start Time, press the Start Time numerals. A pop-up keyboard will appear. Clear the current value, enter the new value and press ENTER. The spacing wheel will turn on and AUTO mode will resume.

(continued)

Section 7 – CONTROLS (cont'd)

3. Apply Bands Mode (cont'd)

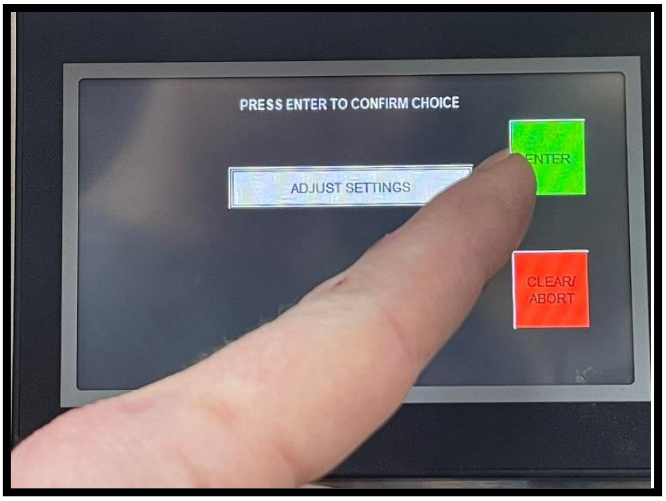
MENU 1 APPLY BANDS (Cont'd)

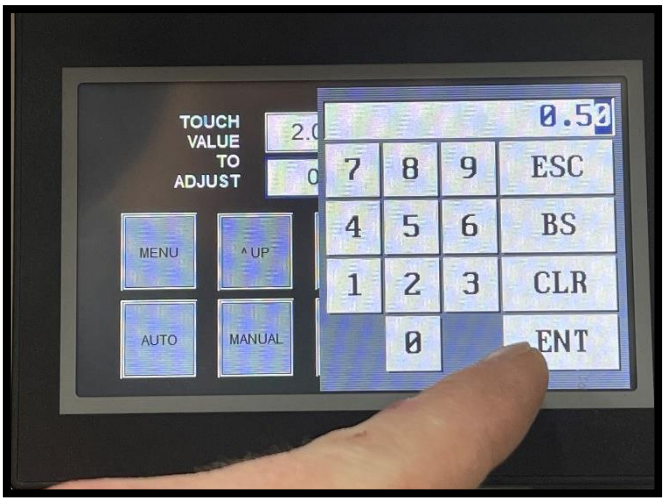
If the guard door is opened while in AUTO mode, machine operation will not cycle and the message will appear "Guard Door Open". When the door is closed, AUTO mode will resume.

(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 Main Menu appears.

Press "Adjust Settings".

Press ENTER.

Press CLEAR at any time to exit the mode.

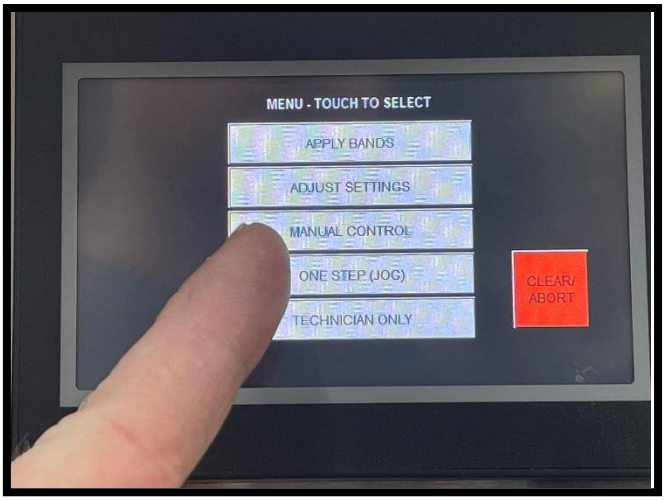
The first value is the length of band to be cut, or SEAL LENGTH. Adjust the value (in inches) by pressing the Feed Length numerals. A pop-up keyboard will appear. Press CLR to clear the current value, enter the new value, and press ENT.

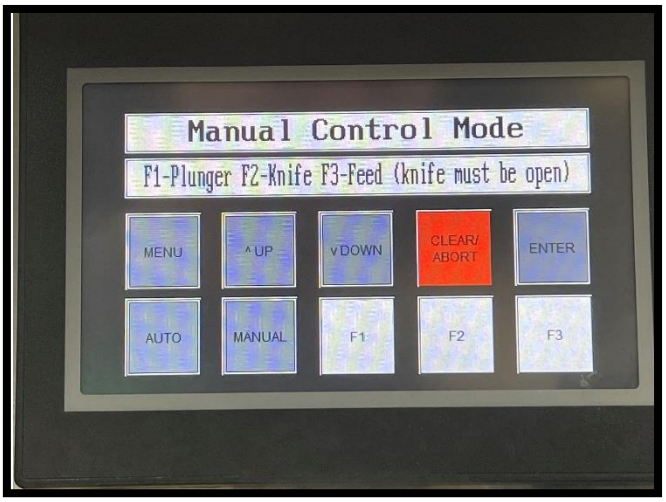
The second value is START TIME (value is normally 0.00). Adjust the value (in inches) by pressing the Start Time numerals. A pop-up keyboard will appear. Press CLR to clear the current value, enter the new value, and press ENT.

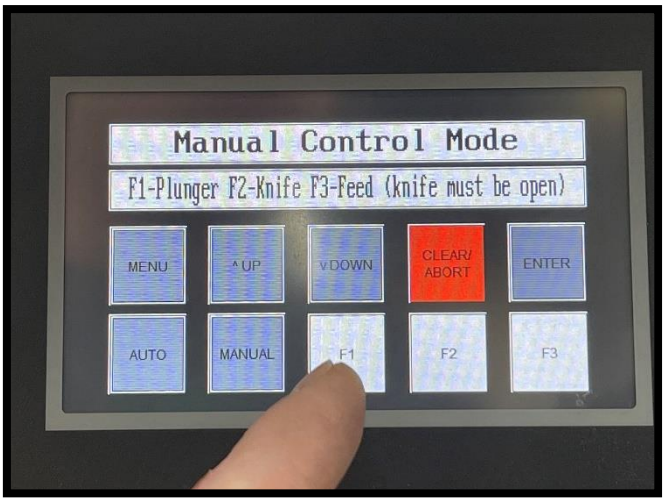
(This concludes Adjust Settings Mode.)

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 Main Menu appears.

Press MANUAL CONTROL.

Press ENTER to select this mode.

Press CLEAR at any time to exit the mode.

You may now use 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 F1 to extend the plunger. Push 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.

(continued)

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 F2 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

NOTE: Press F2 to open the knife before proceeding. The rollers will not feed if the knife is closed.

Press and release F3 to cause the feed rollers to rotate.

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

F1 – extend plunger

F1 – withdraw plunger

F2 – open knife

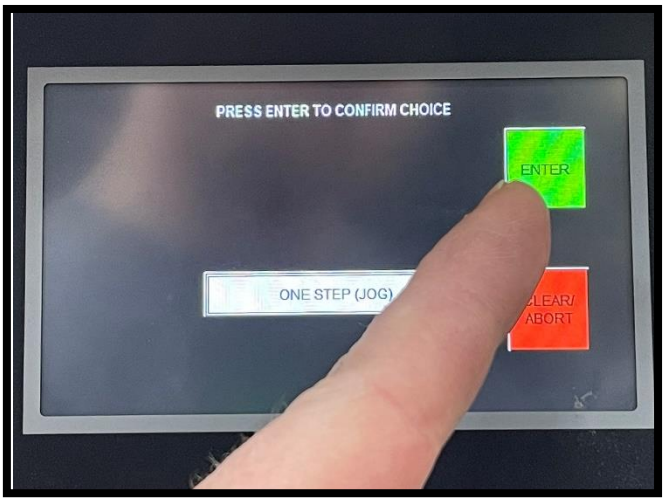
F3 – feed material (through knife)

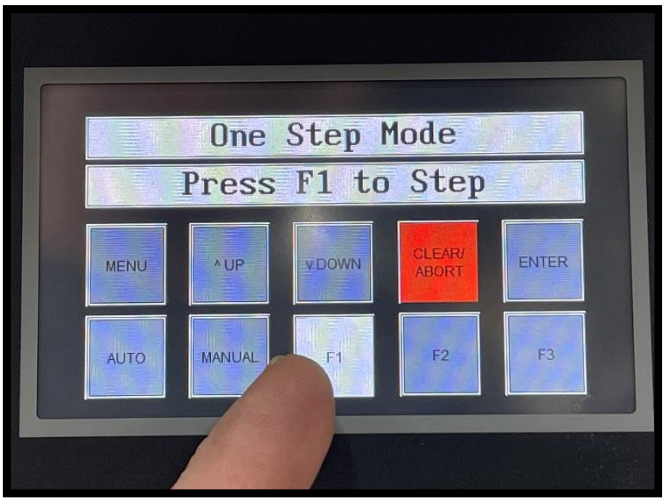
F2 – close knife (cut)

(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 Main Menu appears.

Press 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.

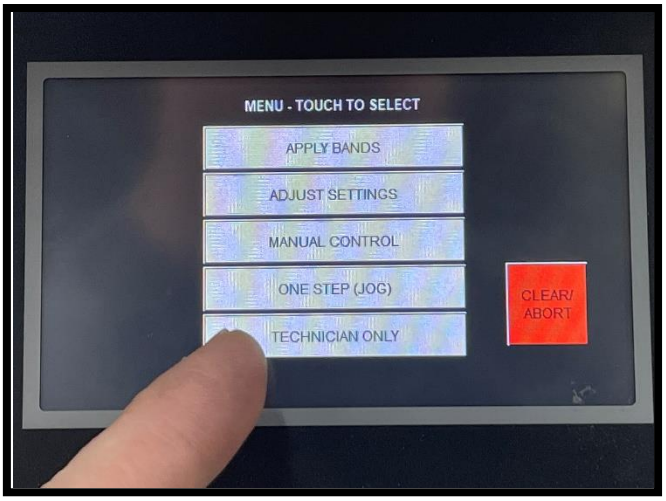
First press – extend / withdraw plunger
open knife
feed material

Second press – 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.)

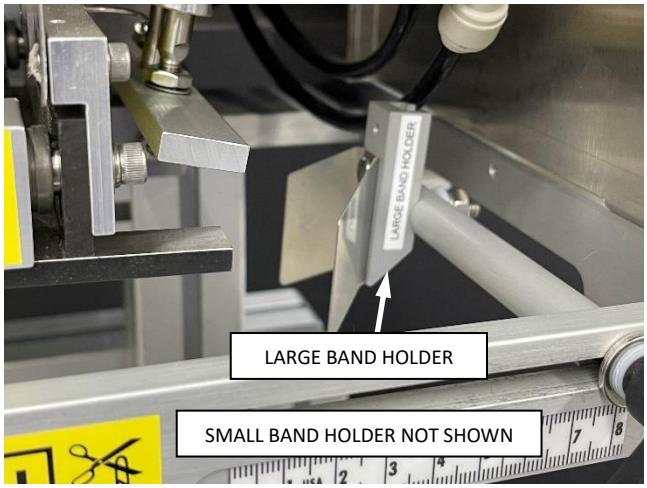
Section 8 – SET UP

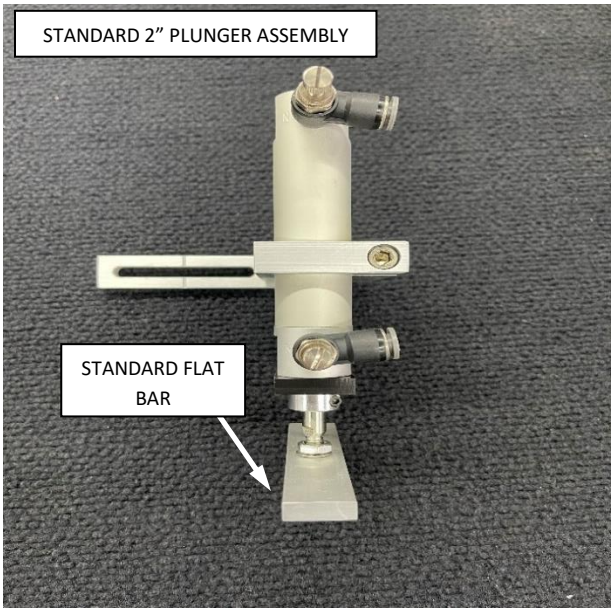
SET UP CHECK LIST

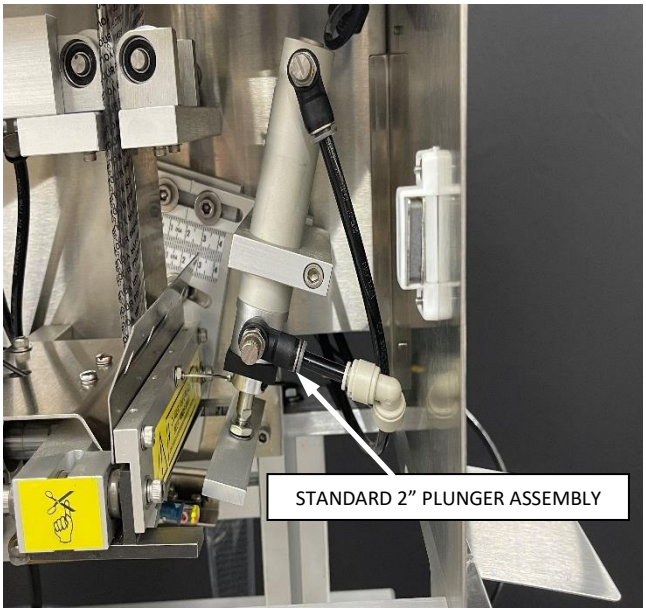
- ❑ SELECT CHANGE PARTS
- ❑ ADJUST MACHINE HEIGHT
- ❑ ADJUST START SENSOR HEIGHT
- ❑ ADJUST CONVEYOR RAILS AND SPACING WHEEL
- ❑ LOAD MATERIAL
- ❑ ADJUST SPREADER SUPPORT ROLLER SPACING
- ❑ ADJUST SPREADER GUIDE WHEELS
- ❑ INSTALL SPREADER ASSEMBLY
- ❑ MAKE BANDS
- ❑ ADJUST BAND HOLDER
- ❑ ADJUST SUCTION 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
   - 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 (+/- 3mm).
   - Band Holder – a simple V-shaped bracket to steady the band after it is cut. Large and Small Band Holders are provided and work for a wide range of bands. See Section 9 for installation instructions.
   - Plunger Assembly – a combination of an air cylinder of certain stroke length and a pusher bar. 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 available with longer stroke length. See Section 9 for installation instructions.

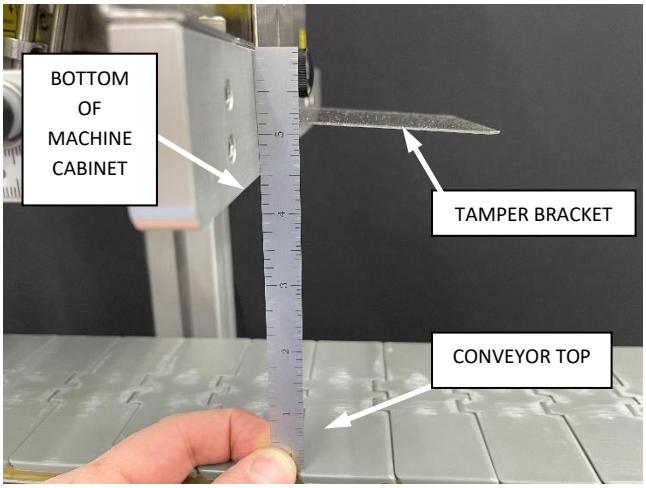




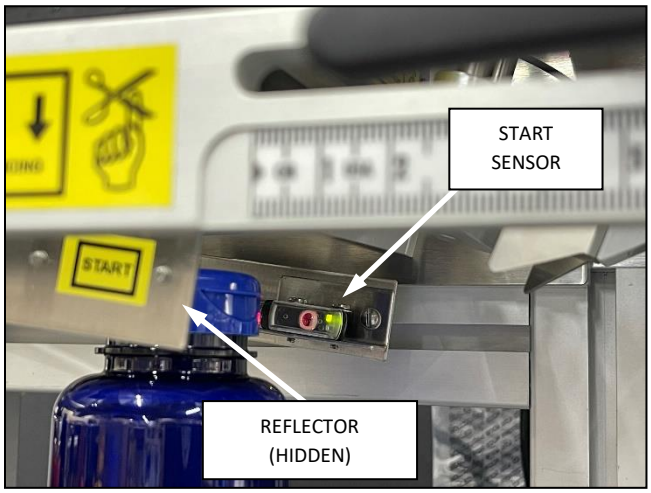


Section 8 – SET UP (cont'd)

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 black 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.

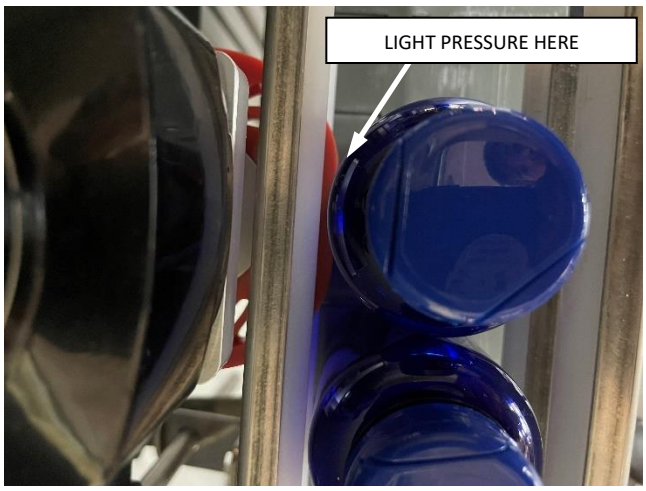


Section 8 – SET UP (cont'd)

4. CONVEYOR RAILS and SPACING WHEEL

   NOTE: Conveyor rails may pass under the machine but are not required when 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 under the center of the machine.

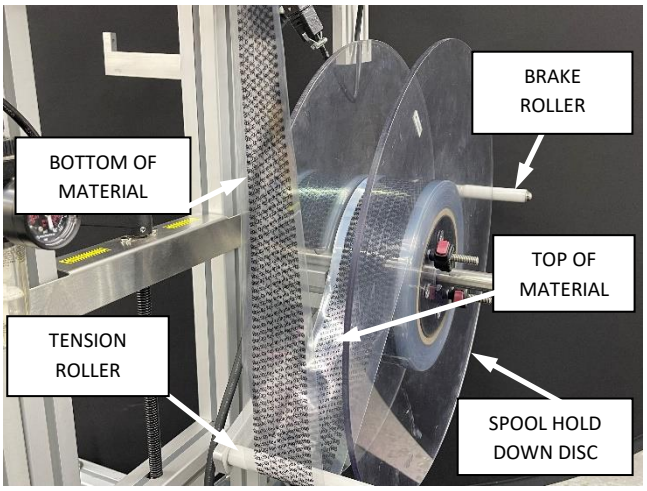
   a. Adjust conveyor rails or guides to make sure the container passes directly under the center of the knife assembly. If the container is even slightly to the front or back, the bands will not apply correctly.
   b. Adjust the Spacing Wheel so that the wheel will apply light pressure on the container, 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.

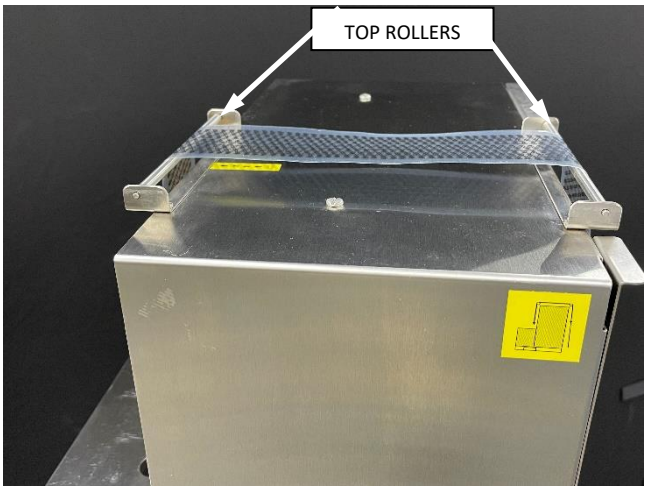


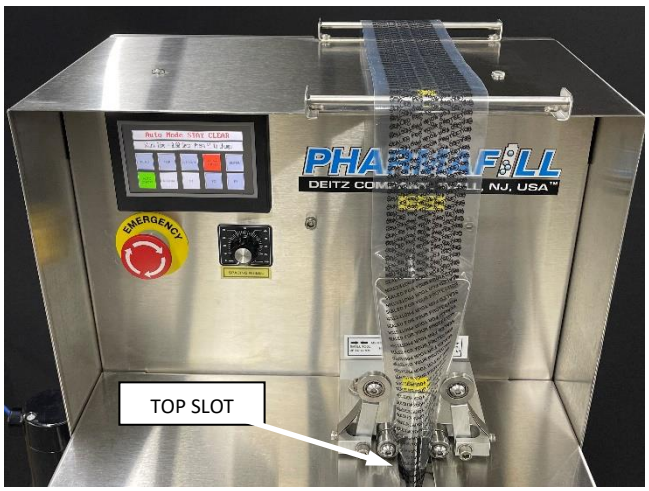
Section 8 – SET UP (cont'd)

NOTE: On machines made prior to March 2013, the Unwind Assembly is a different design (horizontal).

5. LOAD MATERIAL - Install banding material supply roll on Unwind Assembly.
   a. Load roll so it will unwind in counterclockwise direction (as viewed from the back).
   b. Install Spool Hold Down Disc and tighten clamping knobs.
   c. Thread material into machine.
      - Feed loose end of band material under roller tension bar
      - Twist material so the side facing up on the spool continues to face up as it goes over the machine.
      - Over Rear Top Roller at rear edge of machine
      - Over Front Top Roller at front edge of machine
      - Insert Band Spreader Tool into material
      - Down through top slot into machine

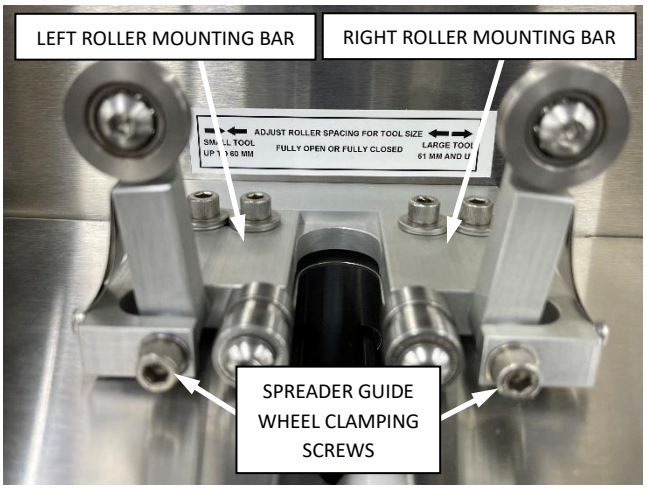


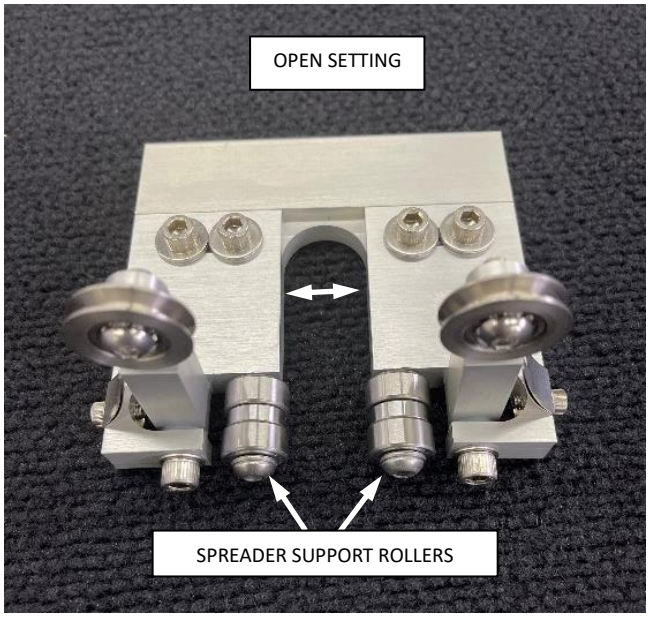




Section 8 – SET UP (cont'd)

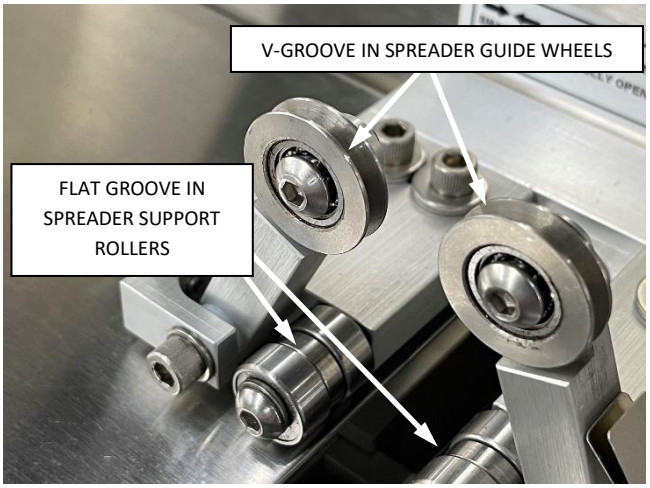
6. ADJUST SPREADER SUPPORT ROLLER SPACING - Set to match hub of Spreader Assembly (Open or Closed)
   a. Push the E-stop and open the guard door.
   b. Use the long "T"-handle 3/16" hex key (supplied) to loosen two Spreader Guide Wheel clamping screws just enough so that the wheels spring to the center.
   c. Use a 3/16" L-shaped hex key to loosen 4 screws holding the Roller Mounting Bars
   d. For Large Hub, adjust Roller Mounting Bars to widest position (fully open).
   e. For Small 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.

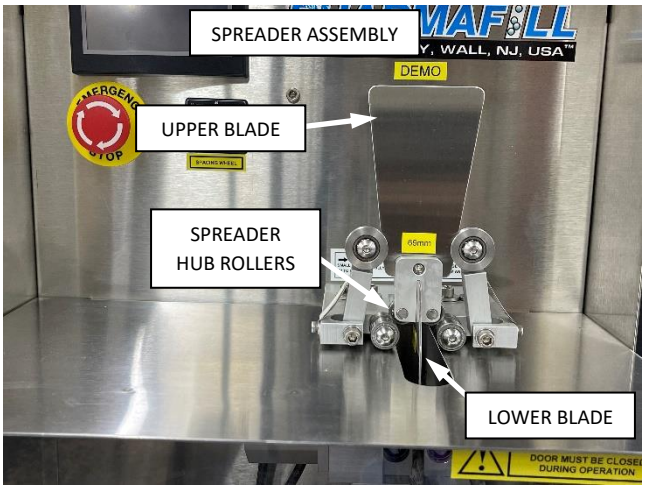


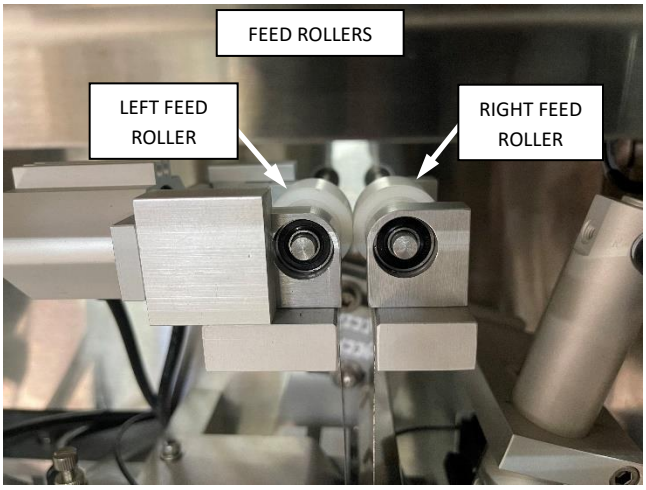


Section 8 – SET UP (cont'd)

7. ADJUST SPREADER GUIDE WHEELS – Set to match upper blade of the Spreader Assembly.
   a. With power on and air pressure on, release the E-stop (machine turns on).
   b. Use the long "T"-handle 3/16" hex key (supplied) to loosen the 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 the left until the lower blade touches the right feed roller. Tighten the left Clamping Screw.
   e. Rock spreader to the right until the lower blade touches the left feed roller. Tighten the right Clamping Screw.
   f. Spreader should move freely side to side approximately 1/8" between roller wheels.

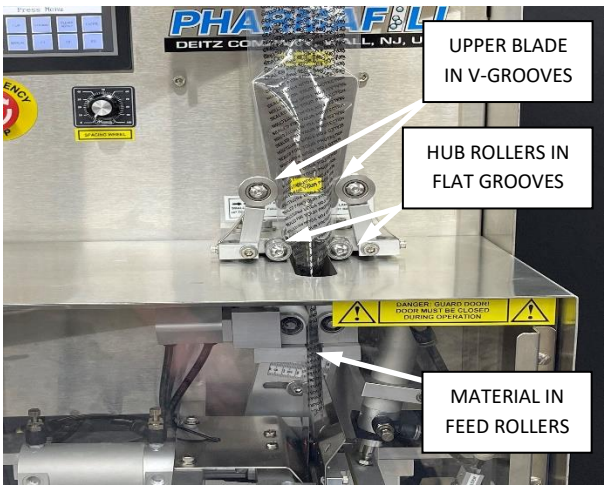




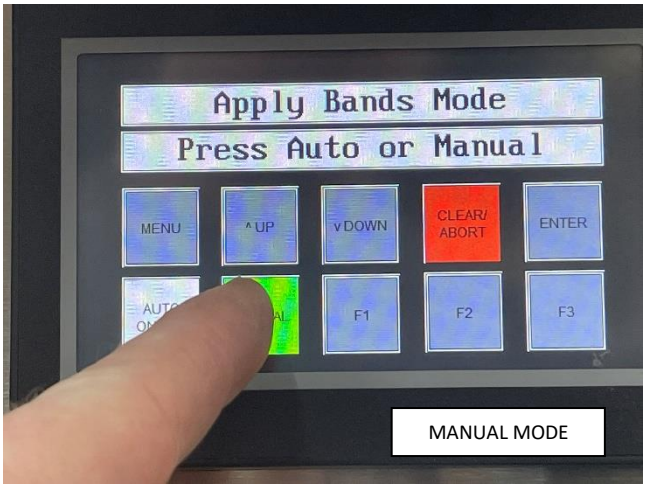


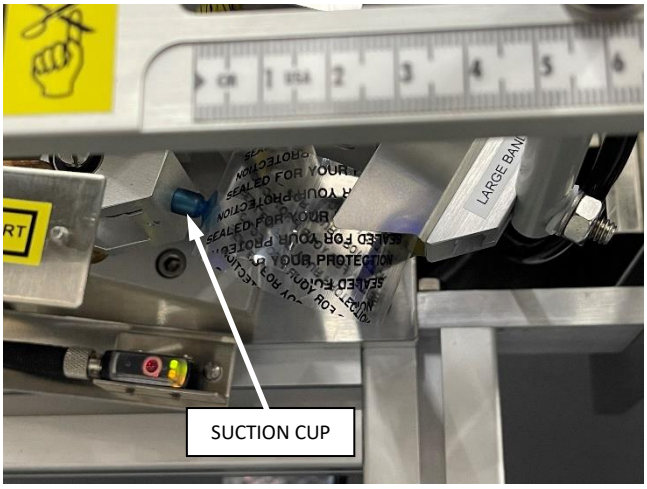
Section 8 – SET UP (cont'd)

8. INSTALL SPREADER ASSEMBLY – Spreader assembly goes inside the band material first.
   a. Press and latch the E-stop.
   b. Take Spreader out of machine.
   c. Slide the Spreader up inside the tubing, until material is 2" or 3" past bottom of lower blade.
   d. Open the Guard door so you can guide the material into the rollers.
   e. Install Spreader into machine, feeding the material through the top slot and into the feed rollers.
   f. Make sure spreader is properly engaged with the grooves in the guide wheels and support rollers.



9. MAKE BANDS – typically, the first few bands will not be perfect. It is the nature of the material.
   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.

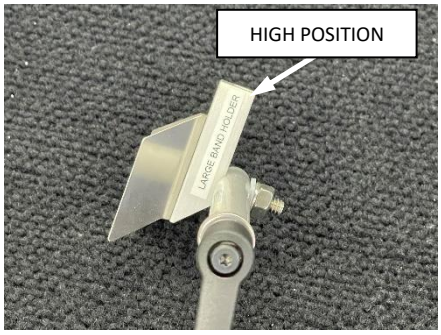


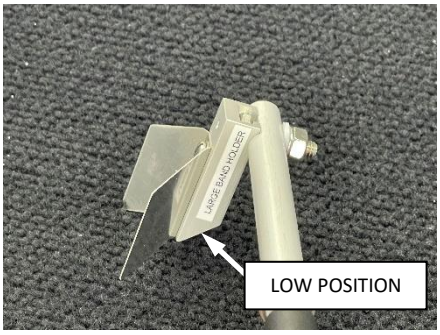


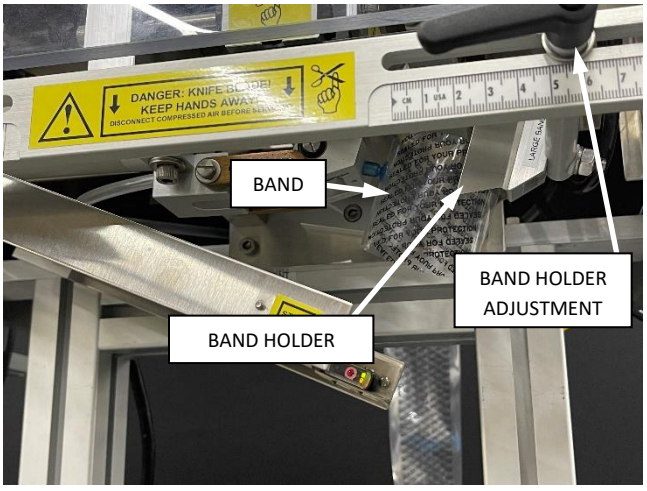
Section 8 – SET UP (cont'd)

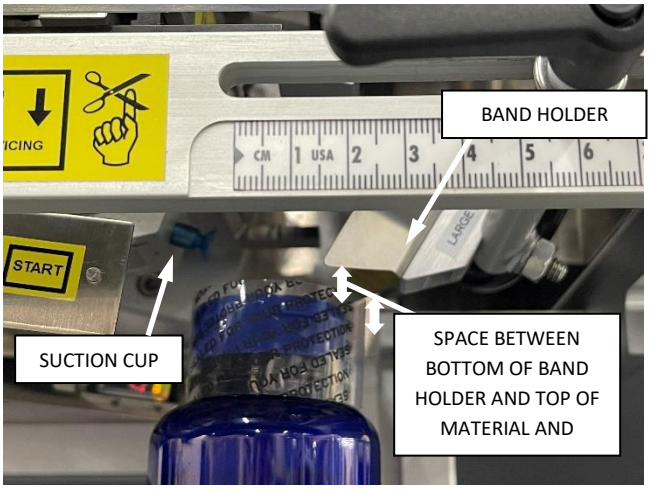
10. ADJUST BAND HOLDER - The Band Holder is used to steady larger, more floppy bands. For small bands (50 mm LFW or less), it may not be needed. In that case, simply move it out of the way or remove it.

    a. If no band is on the suction cup, enter Apply Bands Mode and press MANUAL to produce a band.
    b. Push the E-stop and open the guard door.
    c. To change band holder or adjust band holder height, use 7/16 nut driver.
        - Raise band holder for High position
        - Lower band holder for Low position
    d. Using the right-hand black Adjustment Handle, adjust the Band Holder so that the band (held on the suction cup) is lightly touching the "V" of the band holder. The lowest point of the band holder must be above the top of the applied band so it will not interfere with the movement of the container down the conveyor.



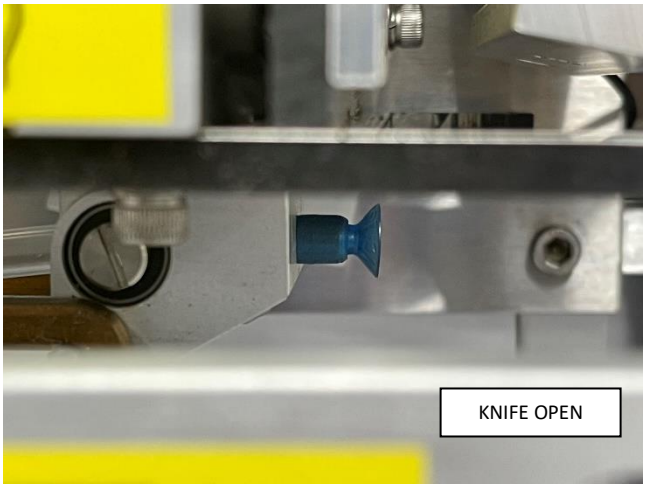


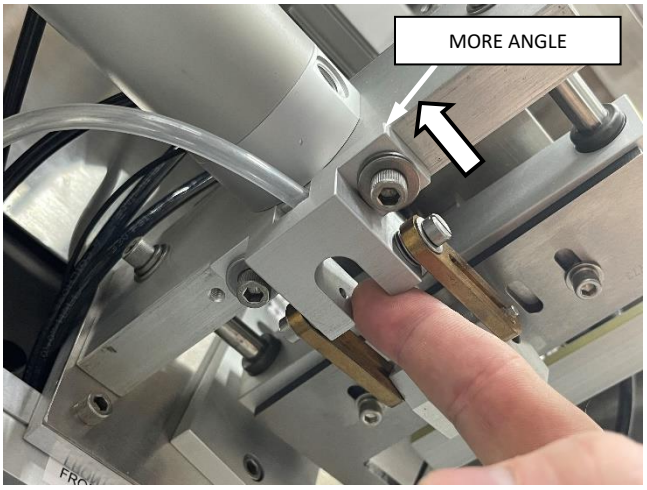


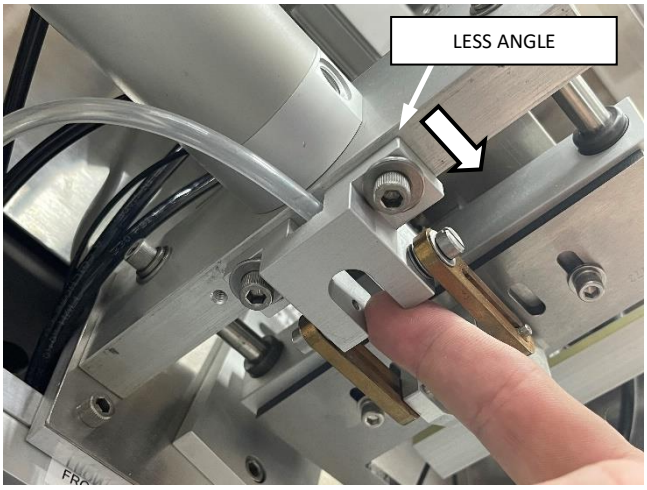


Section 8 – SET UP (cont'd)

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˚-20˚ is good for most cases and, generally, 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 0˚.
    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.

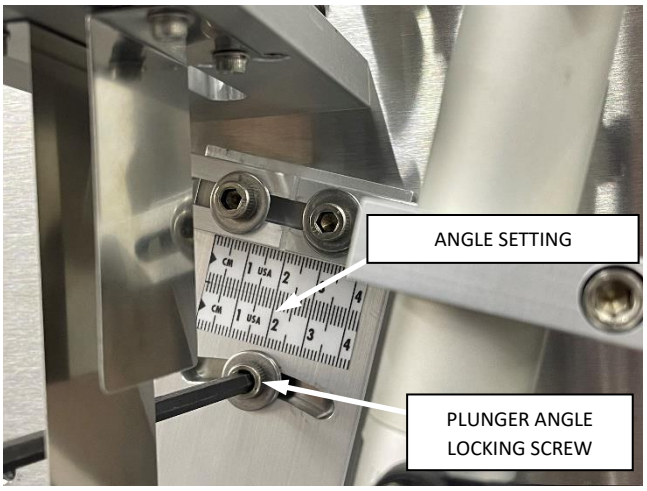






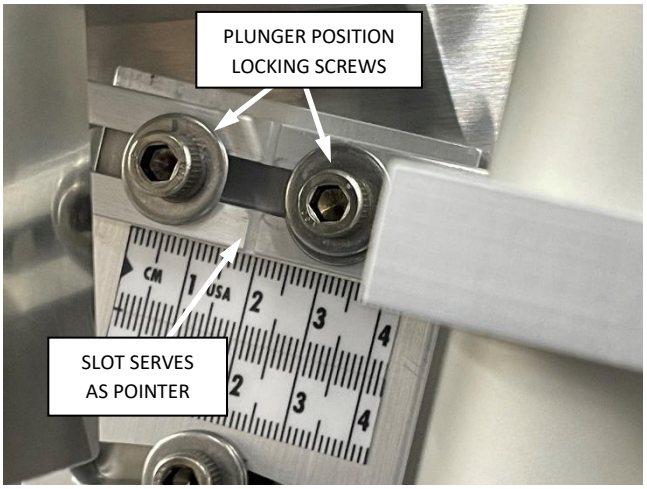
Section 8 – SET UP (cont'd)

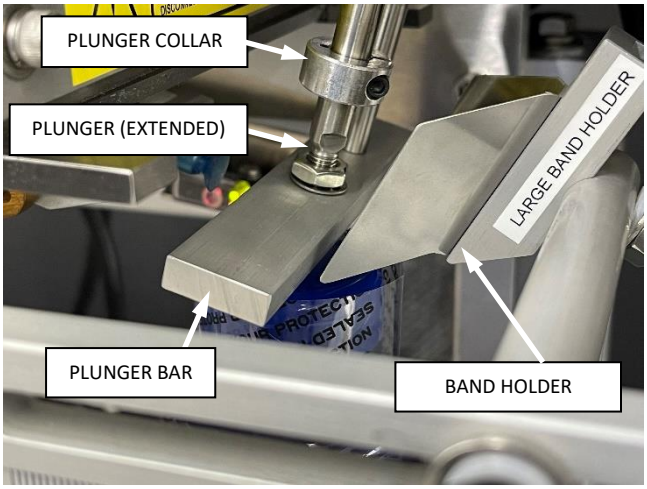
12. ADJUST PLUNGER ASSEMBLY ANGLE (IF NEEDED) – The plunger action, which applies the band to the container, can be set to plunge vertically at position four (4) or at up to a 30˚ angle at position one (1). This angle aids in the smooth application of the band to the container. The standard angle setting of two (2) is approximately 15˚ and good for most neck bands.
    a. Push 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. Push the E-stop. This will release the air pressure so you can move the Plunger Bar by hand.
    b. Open the guard door.
    c. Use the long "T"-handle 3/16" hex key (supplied) to loosen the two (2) Plunger Position locking screws.
    d. Move the Plunger Assembly to the desired position
    e. Move the Plunger Bar up and down by hand, making sure the plunger will not strike the Band Holder.
    f. When the position is correct, tighten the locking screws.

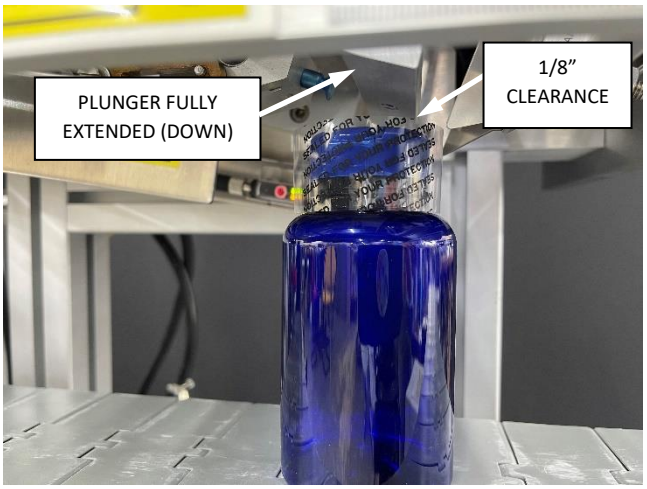


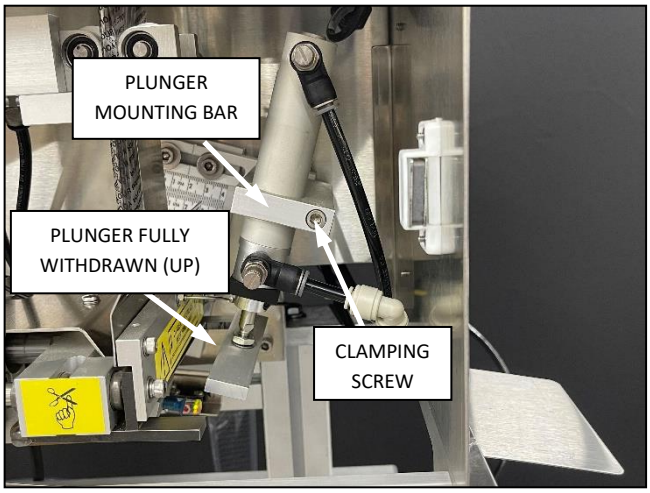


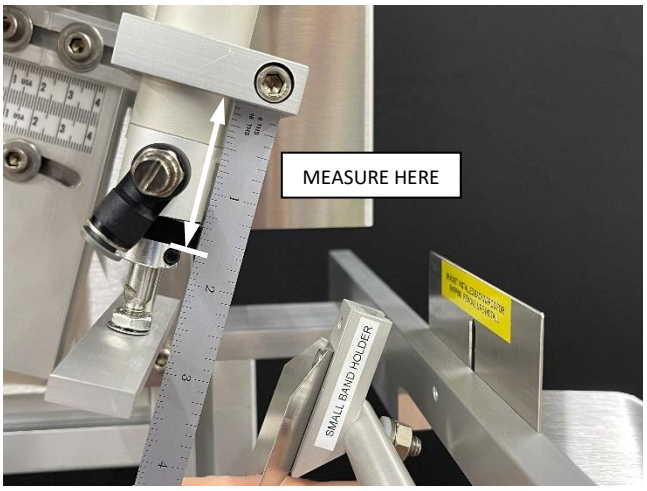
Section 8 – SET UP (cont'd)

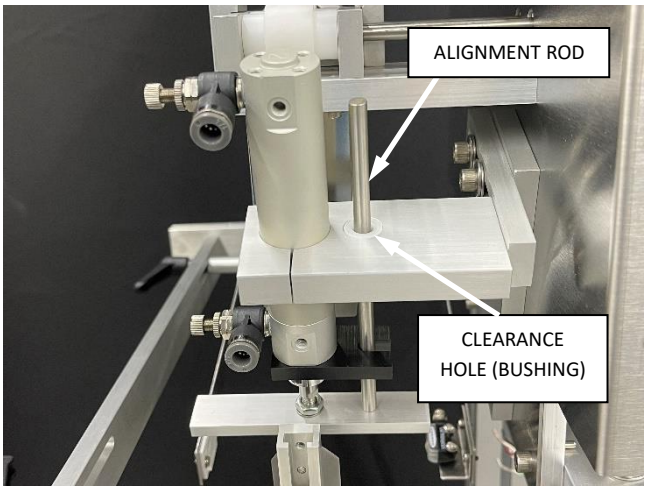
14. ADJUST PLUNGER ASSEMBLY HEIGHT – The Plunger Cylinder Height must be such that when fully extended, the Plunger Bar stops at a point just above the top of the neck band after it is applied to the container.
    a. Press the E-stop. This will release the air pressure so you can move the Plunger Bar by hand.
    b. Open the guard door.
    c. Take a band off the suction cup, place it on the container and position it under the plunger bar.
    d. Extend the plunger bar all the way down.
    e. Use the long "T"-handle 3/16" hex key (supplied) to loosen the Plunger Cylinder clamping screw.
    f. Adjust the height of the Plunger Cylinder (with the plunger bar all the way down) so that it stops just above the band (approx. 1/8 ").
    g. 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 plunger bar goes through the clearance hole in the Cylinder mounting bar without interference.



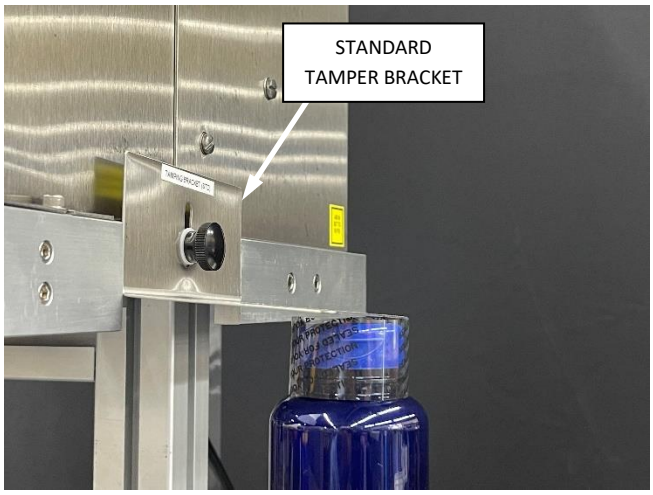




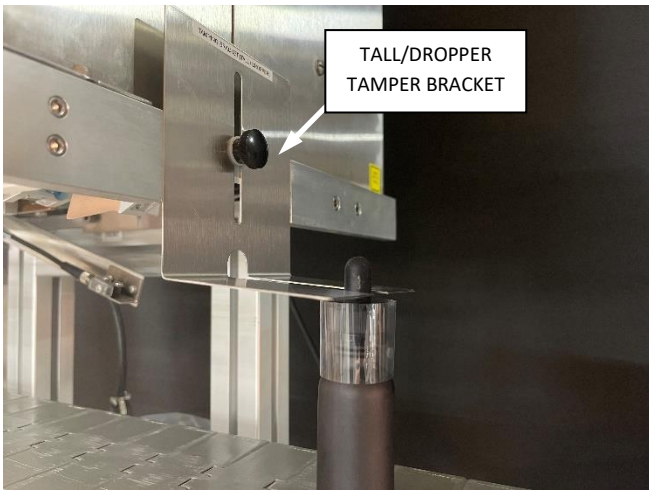


Section 8 – SET UP (cont'd)

15. TAMPER BRACKET - ensures material will arrive at its final position for consistent band application.
    a. Standard Bracket
        - Place bottle with band material on the conveyor.
        - Loosen Tamper Bracket knob and raise Tamper Bracket to allow bottle to pass underneath.
        - Lower bracket so the lowest point is just above the top of the band material, not touching it.
        - Tighten Tamper Bracket knob.

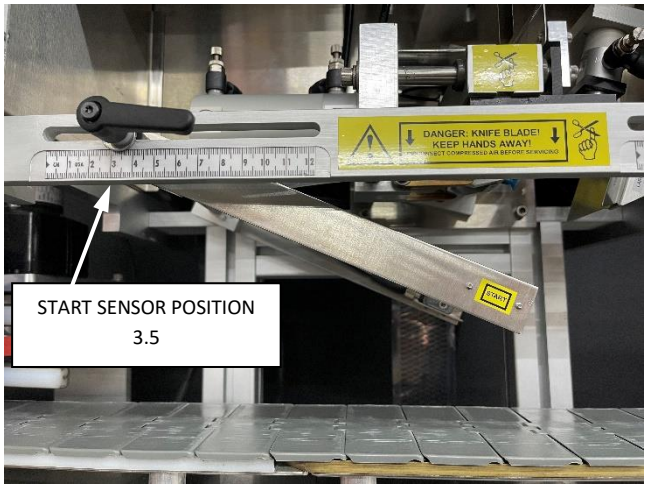


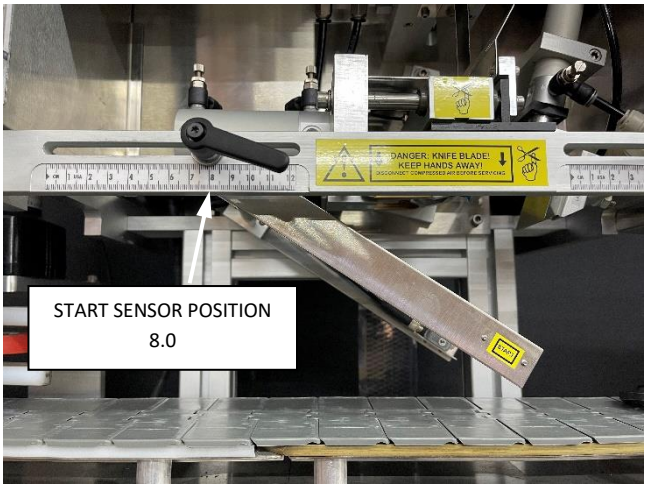
    b. Tall/ Dropper Bracket- The Plunger Bar can only travel as far as the top of the bottle, despite the final position of the top of the band being lower than that (such as on a dropper bottle).
        - Place bottle with band material on the conveyor.
        - Loosen Tamper Bracket knob and raise Tamper Bracket to allow bottle to pass underneath.
        - Lower bracket so the lowest point is just above the top of the band material, but high enough that the top of the dropper will pass through the gap.
        - Tighten the Tamper Bracket knob.



Section 8 – SET UP (cont'd)

1. START PRODUCTION AND FINE TUNE
   a. Turn on the conveyor and set it to the desired speed. Bottles should accumulate at the Spacing Wheel.
   b. Set Spacing Wheel speed to zero (fully CCW).
   c. Put the machine in Apply Bands mode (MENU / APPLY BANDS / ENTER).
   d. Push AUTO. The machine will now apply a band each time a container passes the Start Sensor.
   e. Set Spacing Wheel to 10%. The Spacing Wheel will turn slowly, and bottles will be delivered widely spaced.
   f. Observe when the band is applied. Note if it is early or late.
      - If the band is applied too soon, move the Start Sensor to the right.
      - If the band is applied too late, move the Start Sensor to the left.
   g. Once the bands are being applied satisfactory, increase the Spacing Wheel speed.





Section 9 – MAINTENANCE

1. CLEANING RECOMMENDATIONS

- 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.

- 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.

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

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

- 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.

- 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 cleaners 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.

- 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)

2. PREVENTATIVE MAINTENANCE

Monthly

a. Knife Assembly (must be disconnected from air pressure)
   - Inspect condition of blades for wear or nicks. Replace or sharpen as needed.
   - Apply a very thin coat of FDA-approved grease to top surface of movable blade.
   - Inspect condition of knife air cylinder, by opening and closing blade assembly using Manual Control Mode (Section 7). It should move smoothly. If jumpy or difficult to move, replace or rebuild air cylinder.
   - Inspect condition of suction cup. Replace if worn or excessively cupped or misshapen.
   - Check spring action of suction cup assembly, by opening and closing blade assembly by hand. Suction cup assembly should spring up against knife blade when knife is open. Replace spring if faulty.

b. Plunger Assembly (must be disconnected from air pressure)
   - 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.

c. Roller Drive (internal, remove rear cover)
   - Inspect condition of drive gear belt. If loose, tighten. If worn, replace.
   - Inspect roller spur gears for presence of lubricant. Apply standard lithium grease if needed.

d. Spacer Wheel Assembly
   - a. Inspect condition of urethane crush wheel. If worn, replace.

e. Miscellaneous
   - Inspect air filter/regulator clear bowl. If moisture is present, drain. Find cause of moisture within compressor system.
   - Check all external hardware for tightness.
   - Check condition of all external electrical wires and sensor cables for wear or damage. Replace if necessary.

Annually

a. Roller Drive (internal, remove rear cover)
   - Replace drive gear belt, if it has 2000+ operating hours (one year of normal daily 1-shift operation).

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 draw the flat material into the machine, pulling the material over a spreader assembly which opens the tube. 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 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 MODE

- Push MANUAL
- 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 MODE

- Push AUTO
- Container passes photoelectric Start Sensor, triggering time delay.
    - Standard setting uses time delay of 0.0 (zero) seconds, so the machine will perform all commands as soon as the container moves past Start Sensor.
    - If using Start Time Delay, set time will pass before machine performs commands.
- Plunger extends down. Knife opens.
- Plunger retracts up. Roller feeds a length of material through open knife.
- Knife closes, new cut band is held by suction cup.
- END OF CYCLE

Section 10 – TECHNICAL INFORMATION (cont'd)

3. 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 the 24 VDC power supply.
- ❑ Check that the 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 (mode switch fully to the left).
- ❑ Check PLC is connected to front control panel via data cable.

d. Have power but Spacing Wheel does not spin.
- ❑ Check mode. Spacing wheel only turns when in APPLY BANDS – AUTO.
- ❑ Check Spacing Wheel power connector is attached to Spacing Wheel.
- ❑ Check Spacing Wheel Speed Setting is above ZERO.

e. Have power but no response from Knife Assembly, Plunger Assembly or Left Feed Roller.
- ❑ Check Air Regulator is connected to in-house clean-air compressor system.
- ❑ Check Air Regulator is connected to air manifold in the electrical panel.
- ❑ Check Air Regulator is set to 80 psi.
- ❑ Check Black/Red wires are properly connected to electric air valves.
- ❑ Test electric air valve function by pressing small blue button on each air valve.

f. Knife not cutting or making incomplete cuts in APPLY mode (AUTO or MANUAL).
- ❑ Inspect condition of blades for wear or nicks. Replace or sharpen as needed.
- ❑ Make test cuts using Manual Control Mode (Section 7)
- ❑ If test cuts are not good, increase the Knife Blade Pressure slightly (see technical documents in Section 10). If Manual Control Mode test cuts are good but normal cuts are not, contact Deitz Company for technical help.

g. Knife action makes squeaking sound.
- ❑ Make sure the knife blades are clean and free of material debris.
- ❑ Apply a very thin coat of FDA-approved grease to top surface of movable blade.

h. Band does not stick to suction cup
- ❑ Inspect condition of suction cup. Replace if worn or excessively cupped or misshapen.
- ❑ Confirm that suction cup is installed properly (see technical documents in Section 10).
- ❑ Inspect the vacuum generator (inside) and confirm that it is producing suction.

Section 10 – TECHNICAL INFORMATION (cont'd)

i. Bands or sleeves are wrinkled or creased (not just the first few which is normal with new roll).
   - ❑ Make sure the size label on the spreader tool matches the nominal LFW of the material.
   - ❑ Make sure the spreader can slide freely inside of the material with no resistance.
   - ❑ Make sure the material is running true and wrinkle free over the spreader tool.

Make sure the original crease from the roll travels across the center of the spreader rollers as shown at the bottom of page V in Section 1.

Section 10 – TECHNICAL INFORMATION (cont'd)

4. INDEX OF TECHNICAL NOTES/DRAWINGS (document section begins after this page)

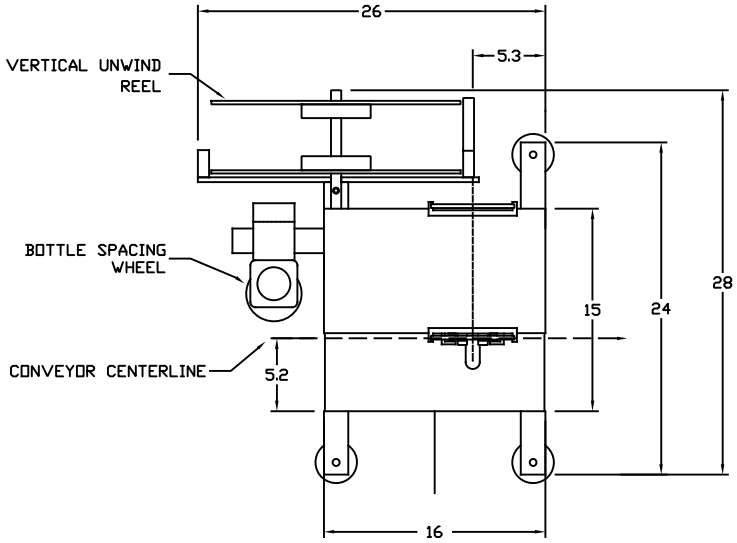
Doc. No.	Title	No. of Pages
NB1-AD1178-DIM	Dimensions and specifications	1
---	Blank Setup Form	1
NB1-0012	Setup Reference Drawings	13
SC1014	Electrical Schematic	9
WD1022	NB1 Point-To-Point Wiring Diagram	1
TD-NB1-010a	Suction Cup Detail	1
TN0112	NB1 Knife Quick Adjust	9
TN0113	Testing NB1 Blade Pressure	1
TN0122-4	NB1 PR How to use Print Registration	1

Addendums or additional technical data

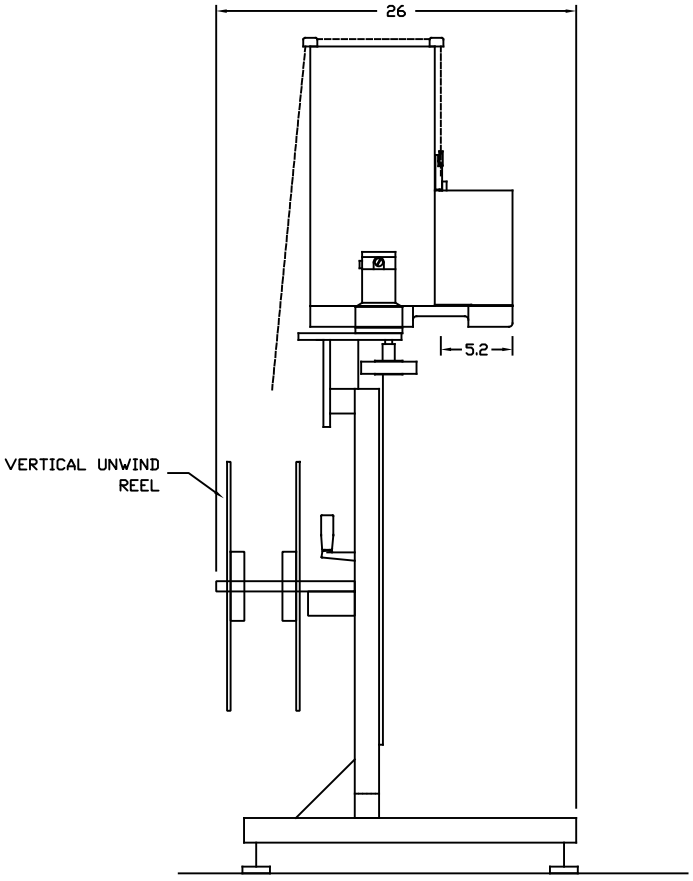
_____	_____	__
_____	_____	__
_____	_____	__
_____	_____	__
_____	_____	__
_____	_____	__
_____	_____	__
_____	_____	__

PHARMAFILL MODEL NB1 (Series II)
NECK BANDER

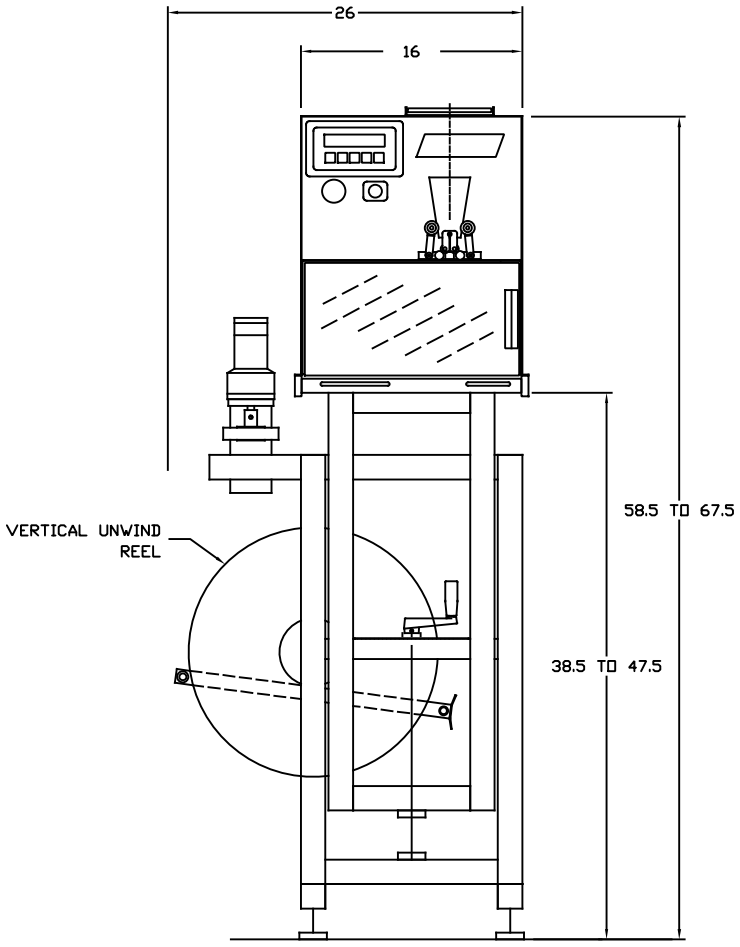
- SPEEDS UP 100 PER MINUTE
- SIZE RANGE 25–123mm LAY FLAT
- BAND LENGTHS UP TO 9”
- SPACING WHEEL INCLUDED
- UNWIND REEL INCLUDED
- AIR FILTER REGULATOR INCLUDED
- CHANGE PARTS INCLUDED (1 SET)
- 110 VAC 60 HZ 5.0A, 0.5 CFM AIR
- 95 LBS NET WEIGHT



OVERHEAD



LEFT SIDE



FRONT

DIMENSIONS ARE IN INCHES. SPECIFICATIONS ARE CURENT AS 9/10/2017 AND MAY BE SUBJECT TO CHANGE AT ANY TIME.

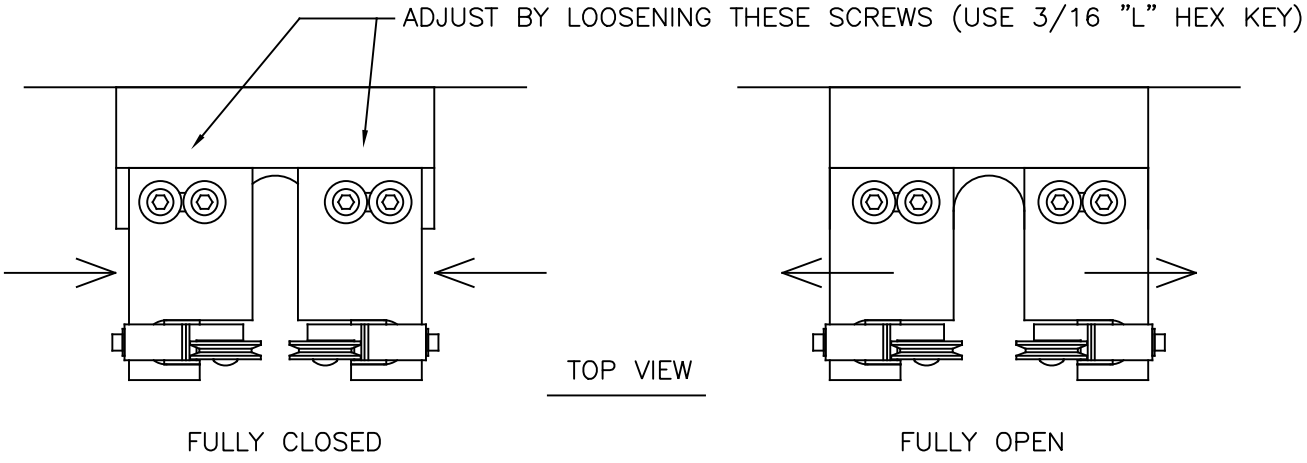
DOC. NO. NB1-AD1178-DIM

DEITZ COMPANY INC.	MODEL NB1 NECK BANDER - FACTORY SETUP RECORD					
NOTES:	**CUSTOMER: _____**					
	Date:		**Serial No. :**	_____	**Page:**	
		1	2	3	4	5
Test containers						
Container Height (inches)						
Seal Type (Neck or Sleeve)						
Max Outside Diameter (mm)						
Calculated LFW (mm)						
Band Spreader Tool (mm)						
Test Material LFW (mm)						
Seal Length (inches)						
Start Time (secs)						
CV Speed (feet/min)						
Perforator (None/Right/Left)						
See setup drawings:	* measured with ruler in inches			** set to number on machine		
1. Support Roller Spacing	**SRS**					
2. NB Height (inches)	**NBH***					
3. Plunger Angle Setting (tilt)	**PAS****					
4. Plunger Position (L-to-R)	**PP****					
5. Suction Cup Angle (visual)	**SCA**					
6. Band Holder Setup (visual)	**BHS**					
7. Band Holder Pos. (L-to-R)	**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****					

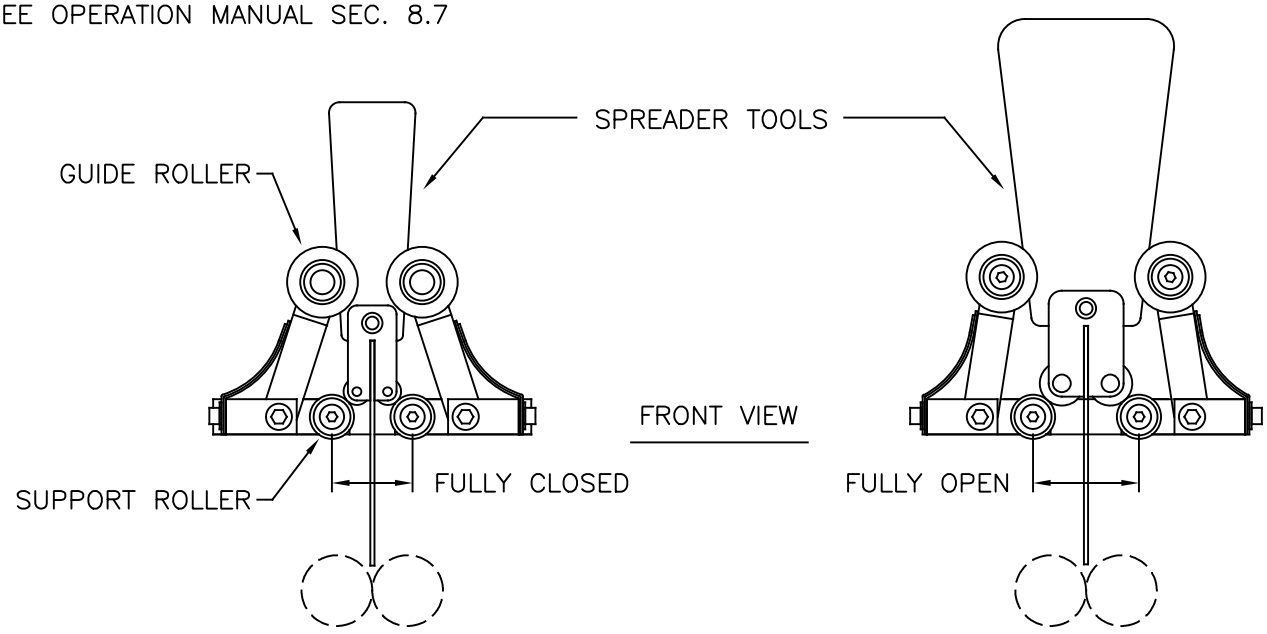
SUPPORT ROLLER SPACING (SRS) – ADJUST ACCORDING TO SPREADER TOOL SIZE

CLOSED FOR SMALL TOOL UP TO 60 MM

OPEN FOR LARGE TOOL 61 MM & UP

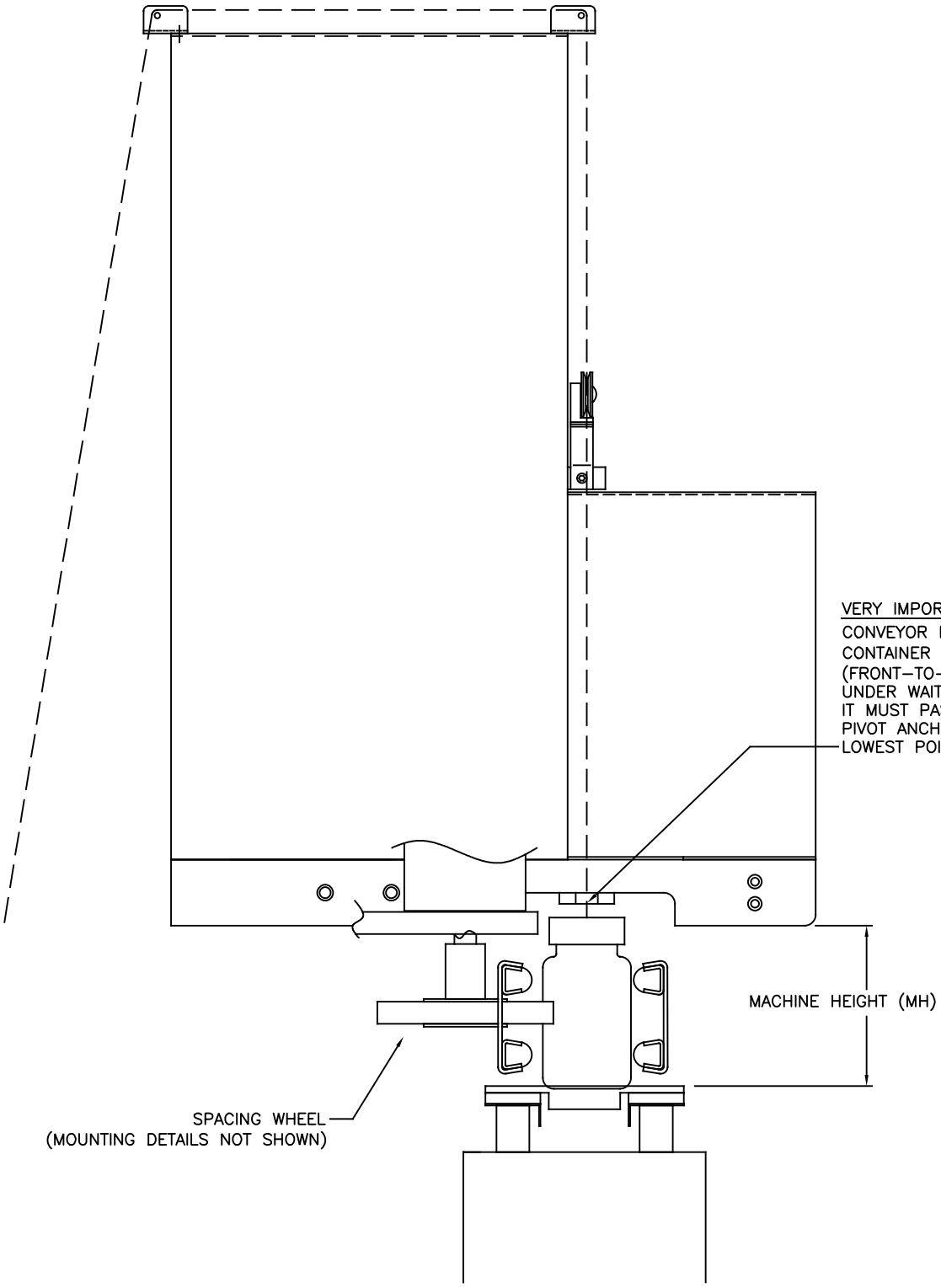


TO ADJUST GUIDE ROLLERS
FOR DIFFERENT TOOLS SIZES
SEE OPERATION MANUAL SEC. 8.7



1. SRS

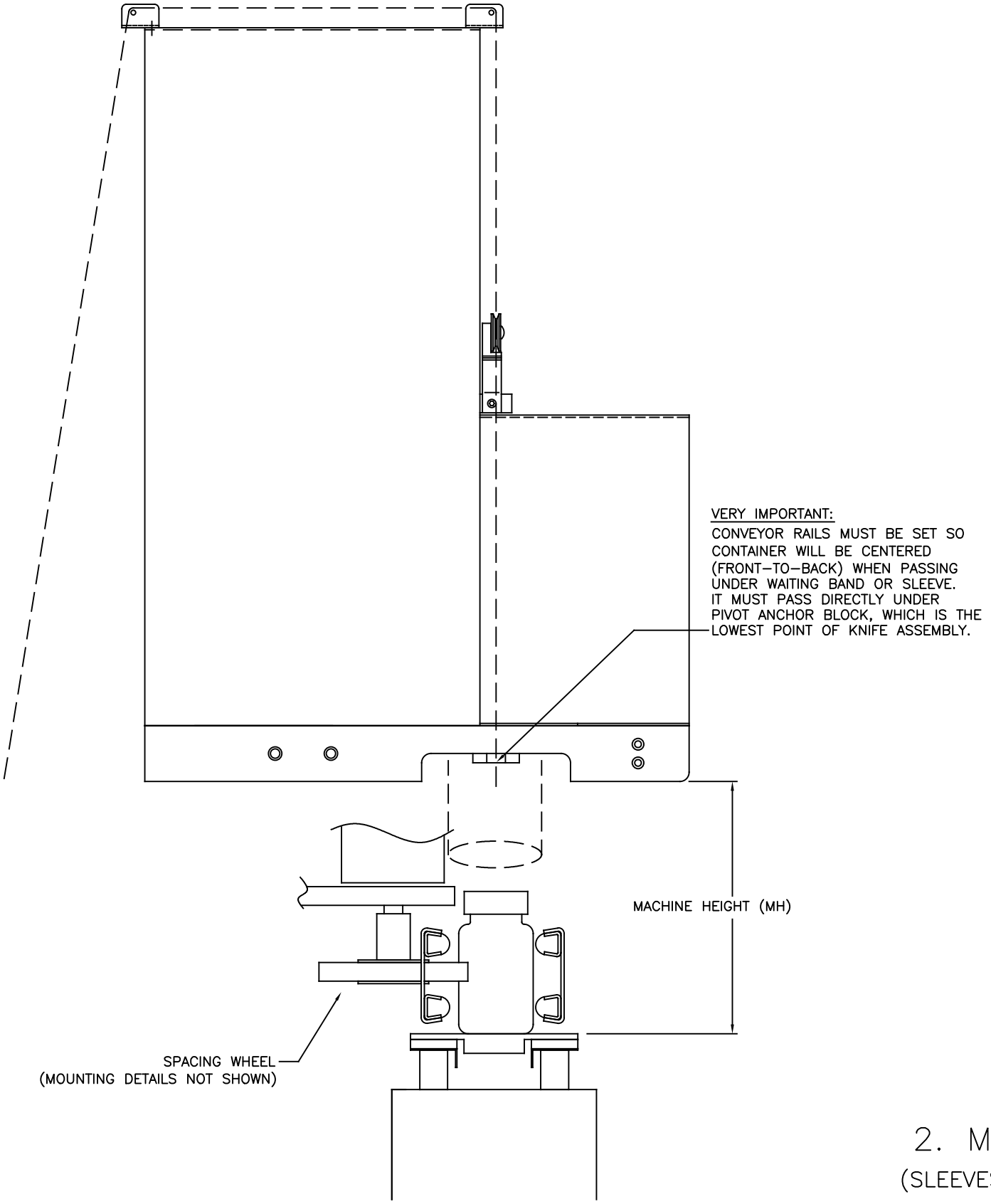
DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–02–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE SUPPORT ROLLER SPACING	SHEET 1 OF 13	
		NUMBER NB1–0012	REVISION A



2. MH

(NECK BANDS)

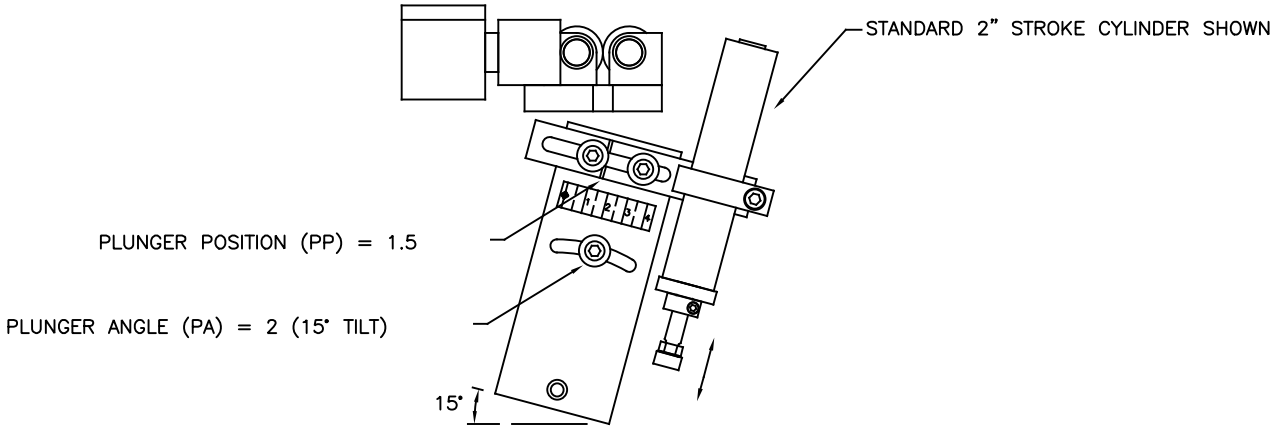
DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–02–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE MACHINE HEIGHT 1	SHEET 2 OF 13	
		NUMBER NB1–0012	REVISION A

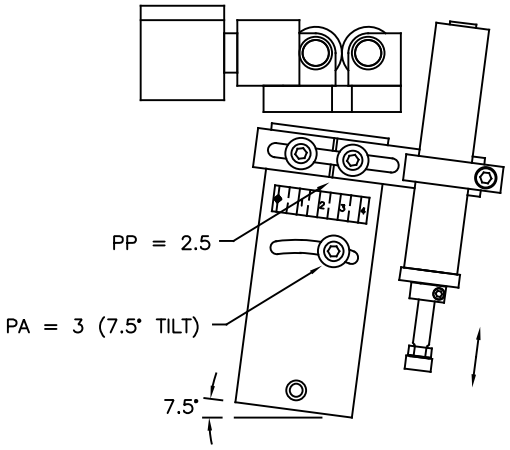


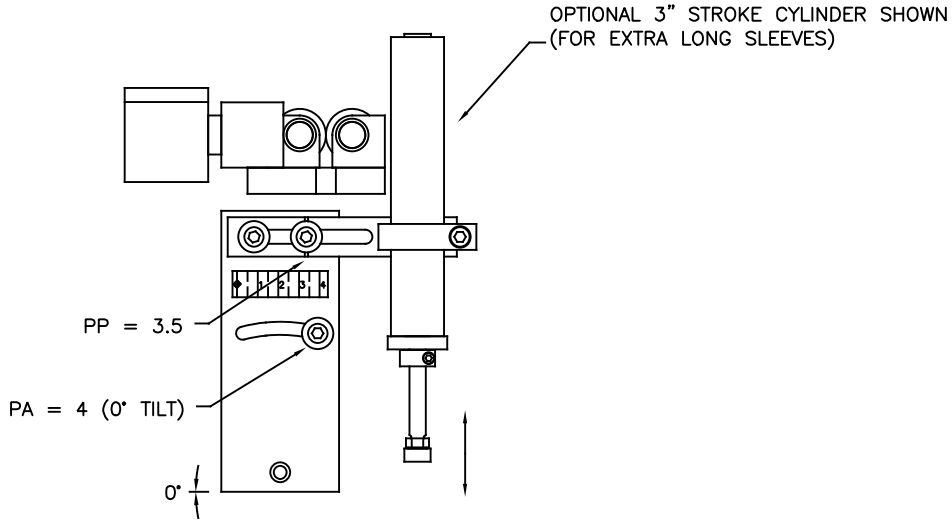
2. MH
(SLEEVES)

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



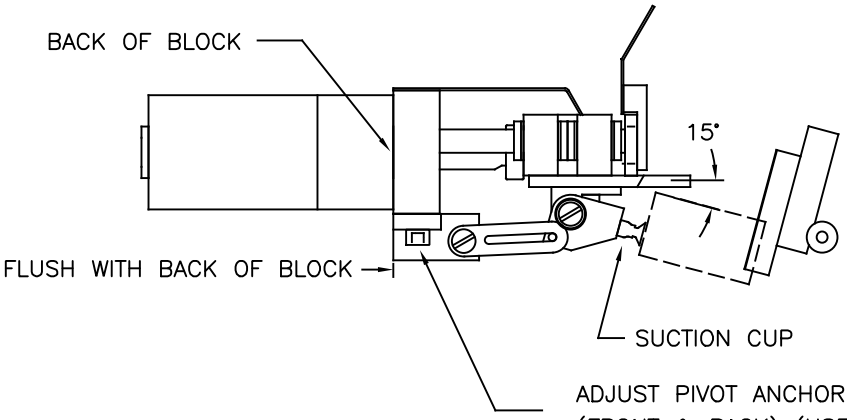




3. PA
4. PP

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

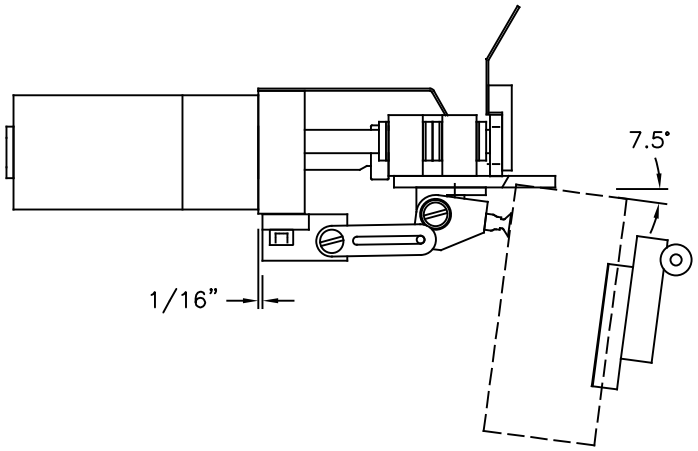
THE SUCTION CUP TILTING DOWN CAN AID IN PLACEMENT OF NECK BANDS AND SLEEVES



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

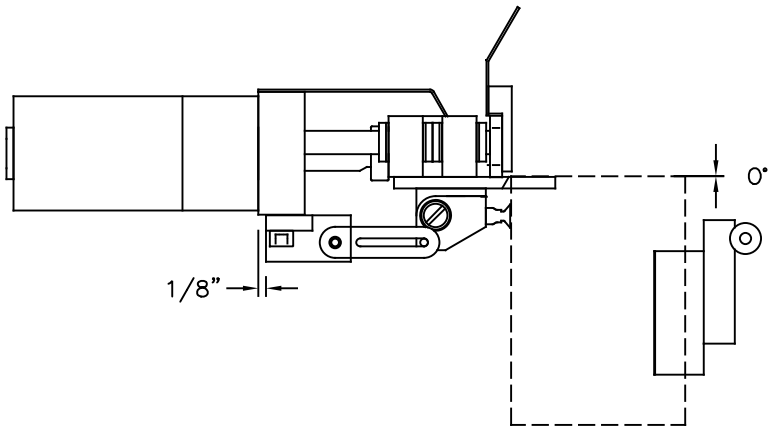
THIS IS THE STANDARD SETTING,
GOOD FOR MOST APPLICATIONS

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



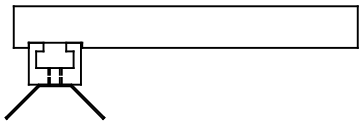
1/8" (NO SPRING TENSION) = SCA 0°

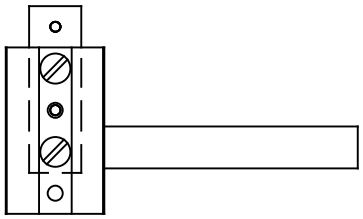
5. SCA

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

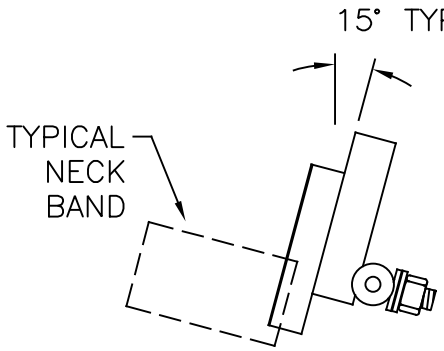
ADJUST THE POSITION (HIGH, MIDDLE OR LOW) USING THE SUPPLIED 7/16 OR 11 MM NUT DRIVER

TOP VIEW



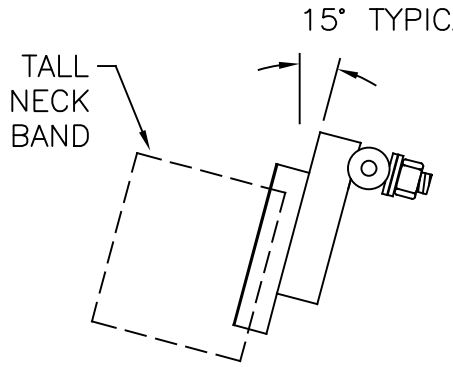


SIDE VIEW



FRONT VIEW
HIGH POSITION

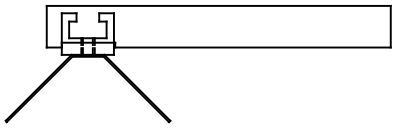
FRONT VIEW
LOW POSITION

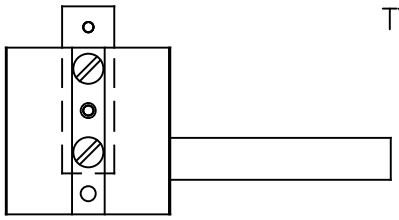


SMALL BAND HOLDER (LFW 60 OR LESS)

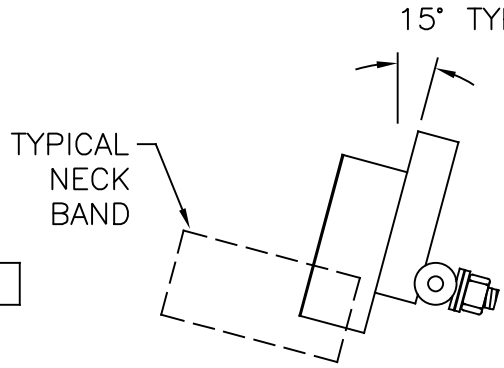
LARGE BAND HOLDER (LFW GREATER THAN 60)

TOP VIEW



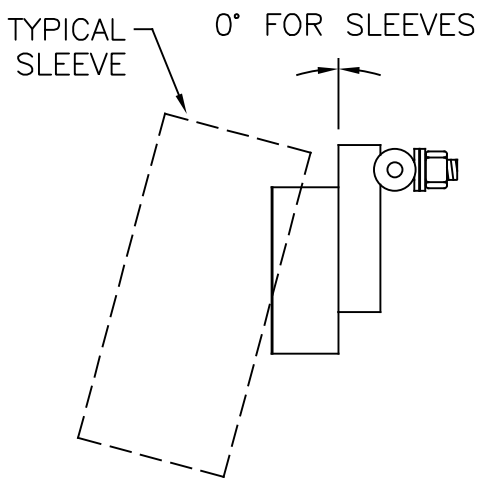


SIDE VIEW



FRONT VIEW
HIGH POSITION

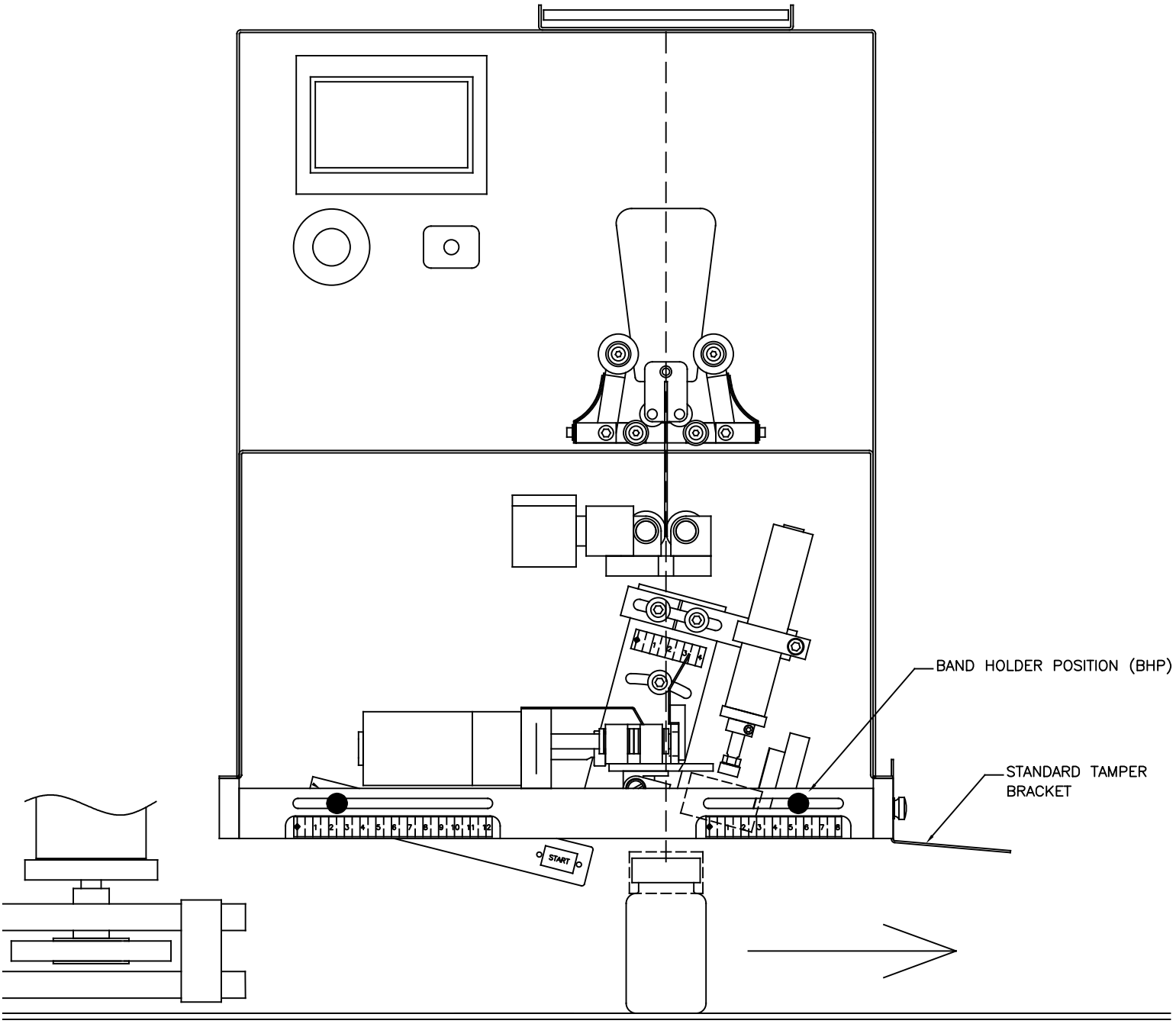
FRONT VIEW
LOW POSITION
(SLEEVE)



FOR MOST NECK BANDS, THE BAND HOLDER ANGLE SHOULD MATCH THE SUCTION CUP ANGLE
FOR MOST SLEEVES, THE BAND HOLDER SHOULD BE VERTICAL (0°)

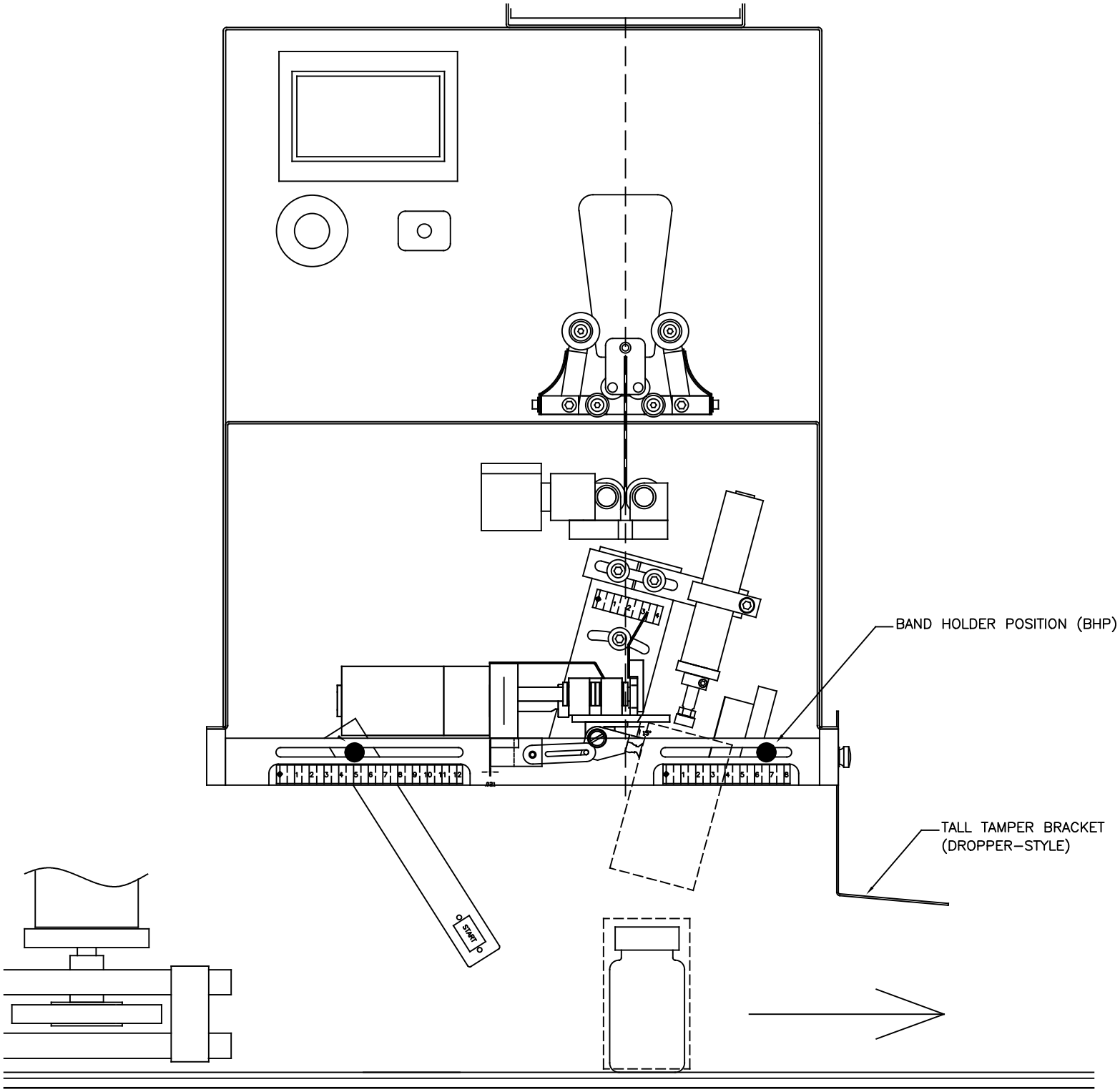
6. BHS

DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019–03–04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE BAND HOLDER SETUP	SHEET 6 OF 13	
		NUMBER NB1–0012	REVISION B



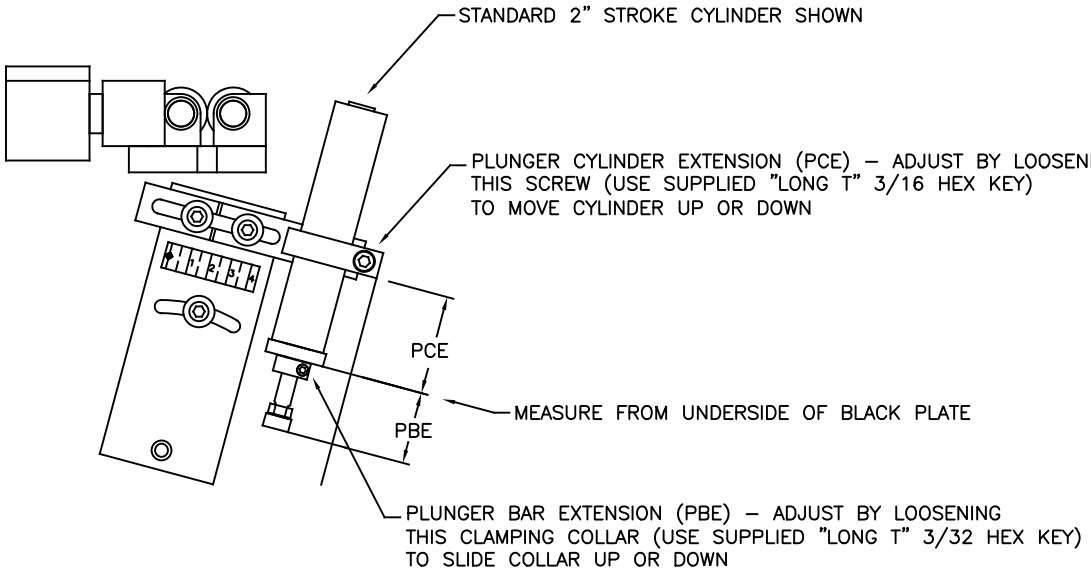
7. BHP (NECK BAND)

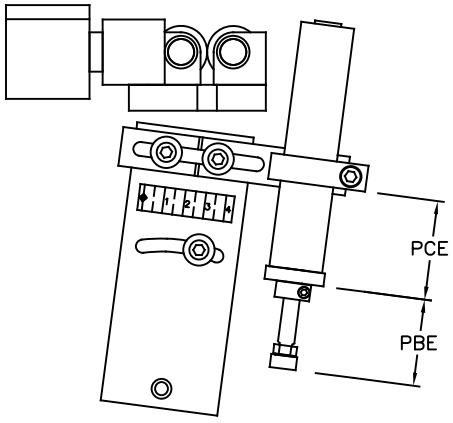
DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT –	BY SJD	DATE: 2019-02-04
	TITLE MODEL NB1 NECK BANDER SET UP REFERENCE BAND HOLDER POSITION 1	SHEET 7 OF 13	
		NUMBER NB1-0012	REVISION A

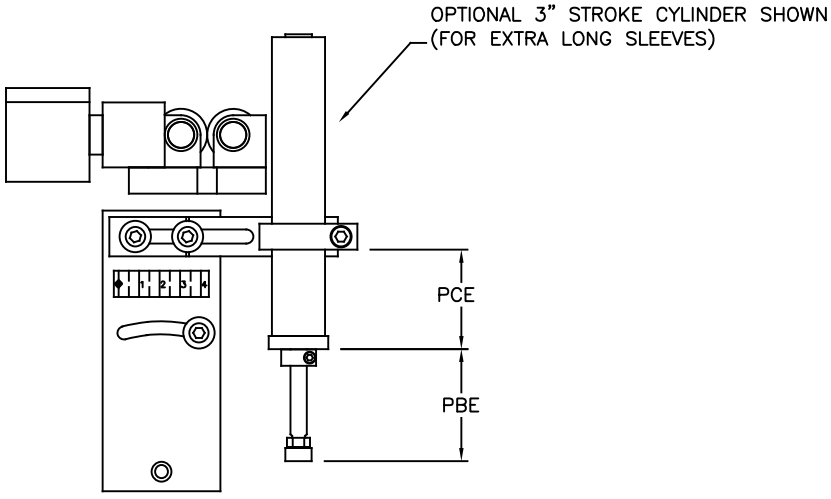


7. BHP
(SLEEVE)

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

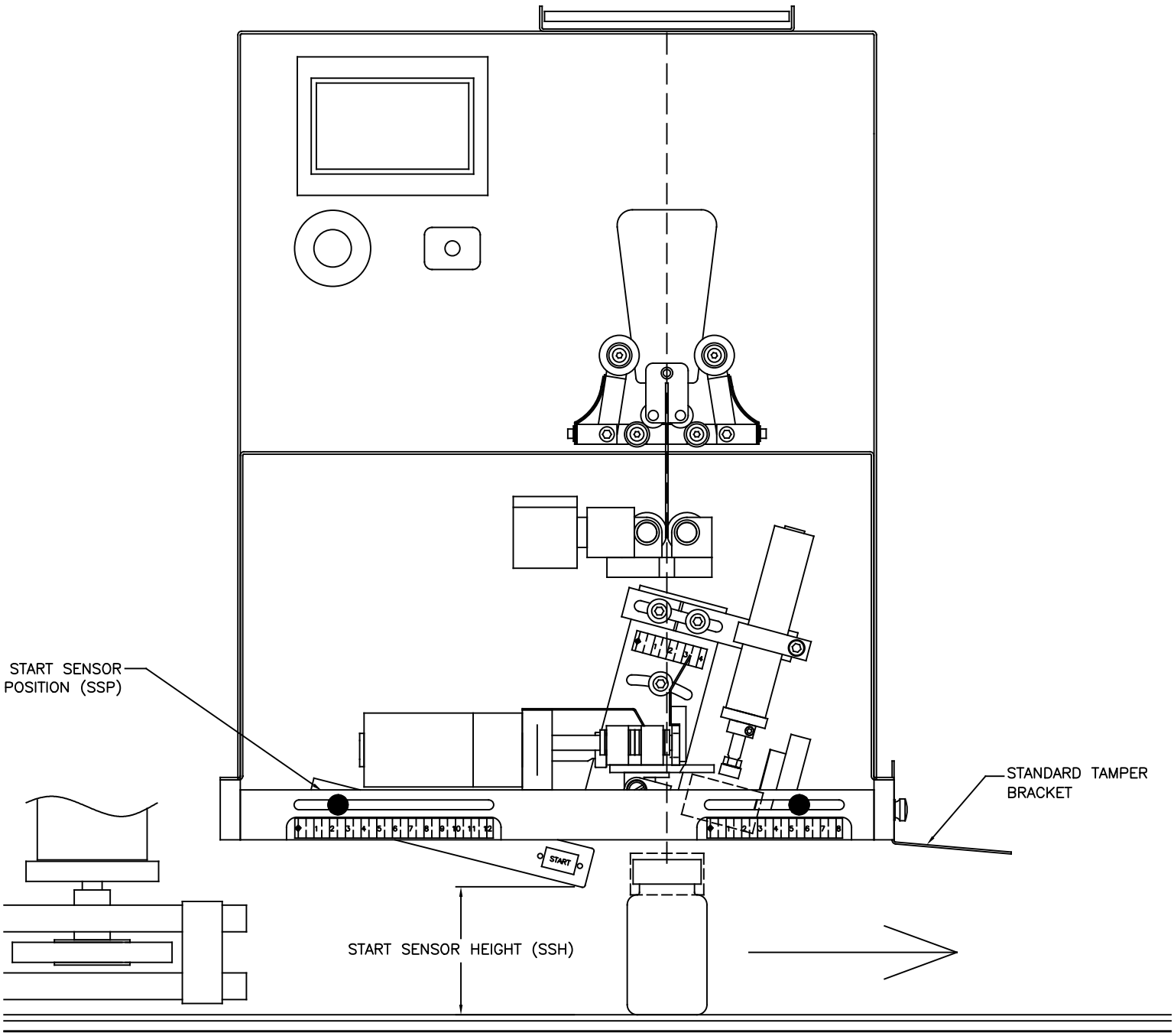






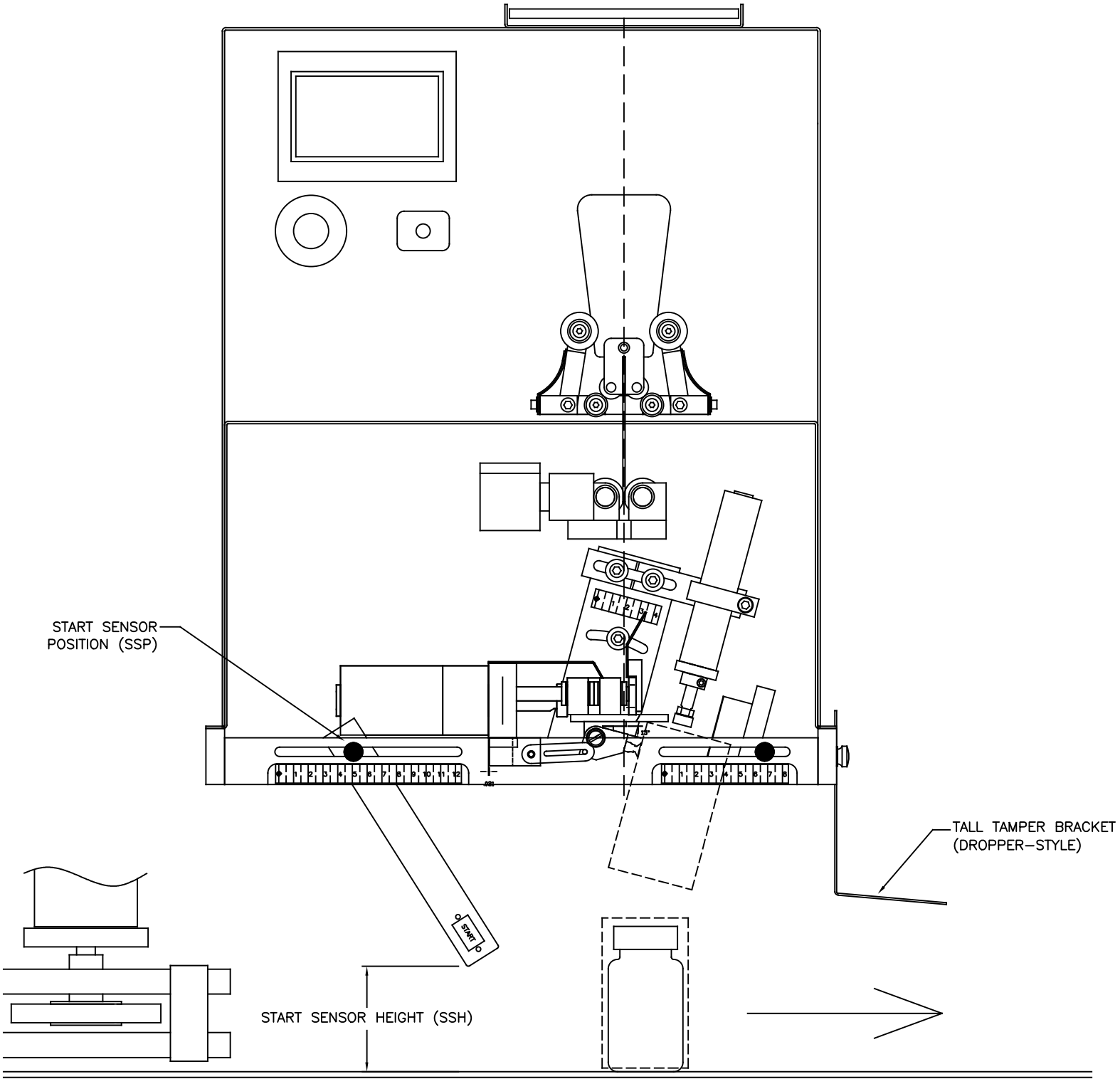
8. PCE
9. PBE

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



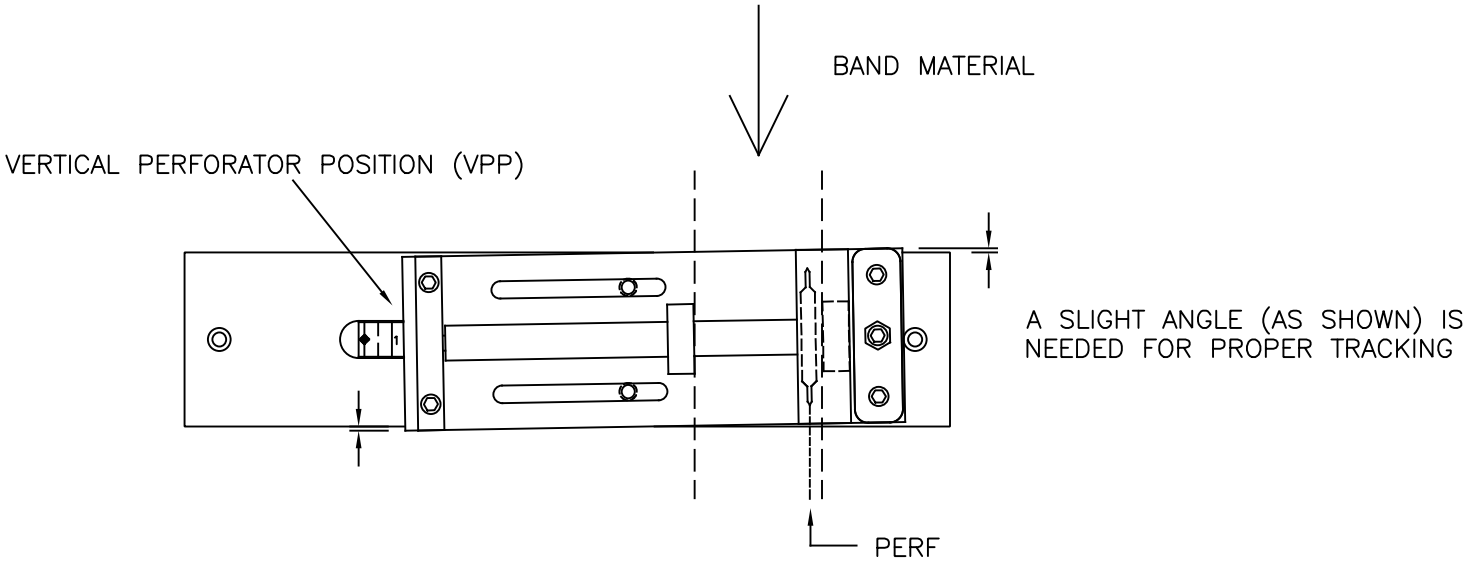
10. SSP
11. SSH
(NECK BAND)

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

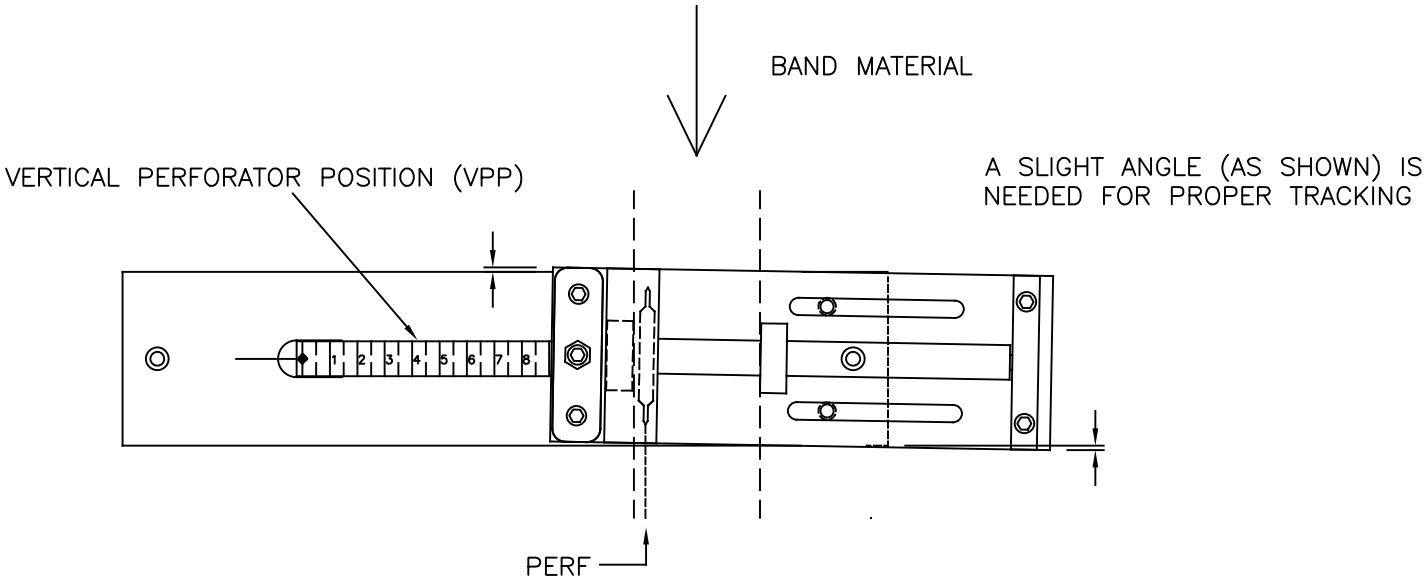


10. SSP
11. SSH
(SLEEVE)

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



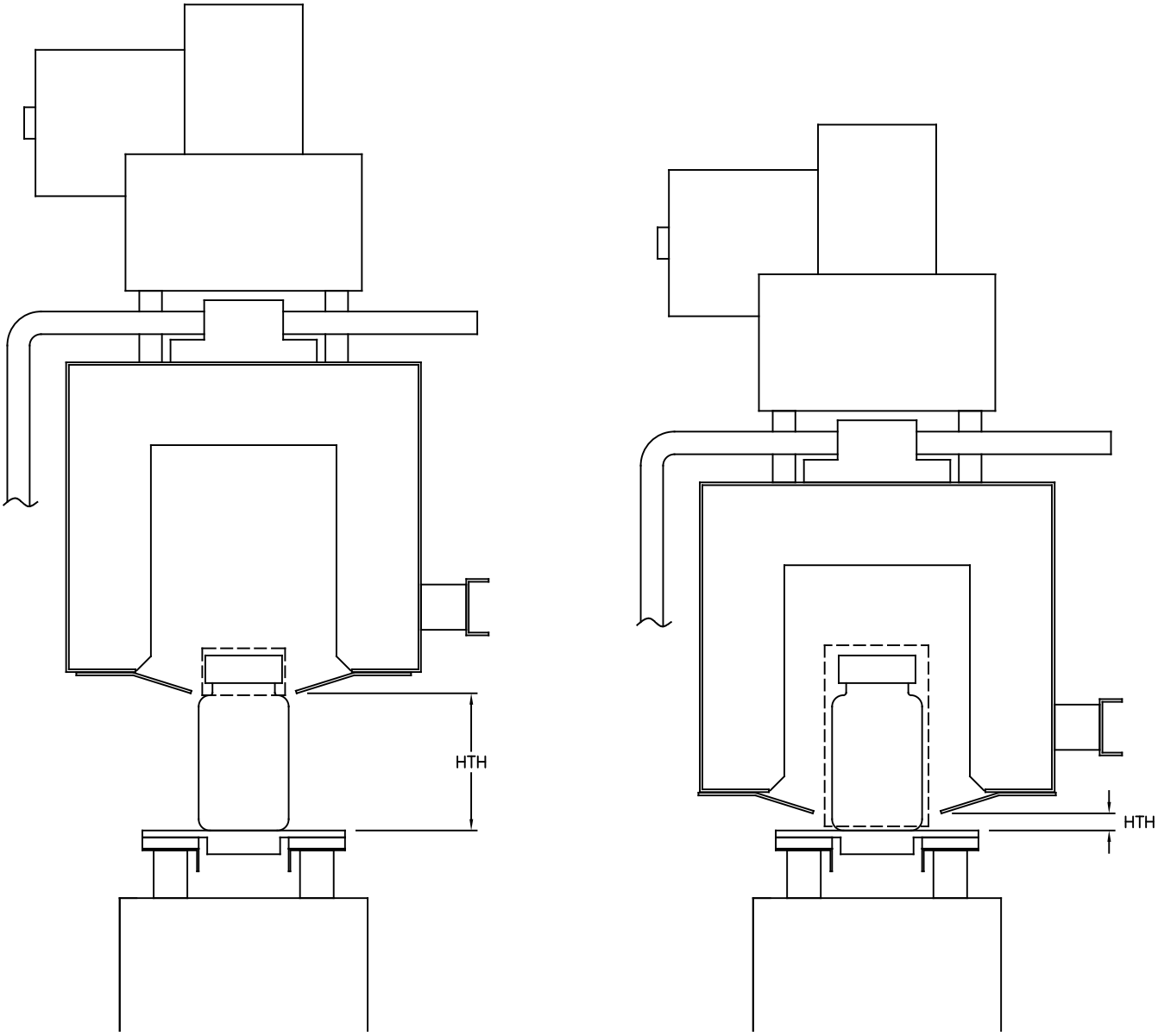
VERTICAL PERFORATOR – OVERHEAD VIEW – SET UP FOR RIGHT HAND PERF



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

1	2	3	4	5	6	7	8	9	10

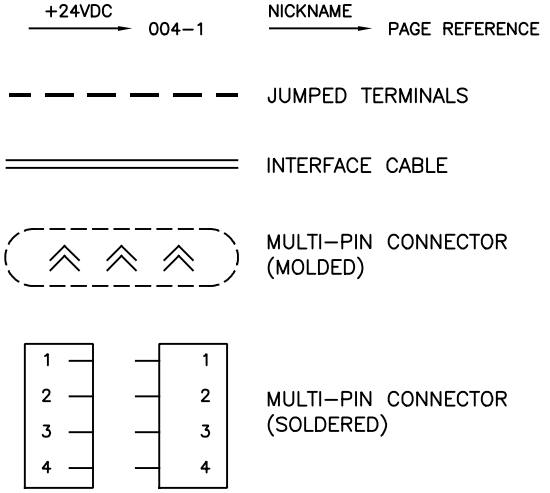
REVISIONS

A – 2015–11–04 (SN 017) – OMITTED 23–SERIES STEP MOTOR, SMALL DRIVER & OPEN POWER SUPPLY. CHANGED TO 34–SERIES STEP MOTOR, LARGER DRIVER, DIN–MOUNT POWER SUPPLY & ADDED TRANSFORMER.

B – 2019–07–02 ADDED "SN3 REGISTRATION OPTIC" (PG. 6 & 9)

CONTENTS

SYMBOL KEY



NOTE	REV	DESCRIPTION	DATE
–	–	–	--/--/--

NUMBER SC1011 PAGE 001

DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

SECTION NOTES AND REVISIONS

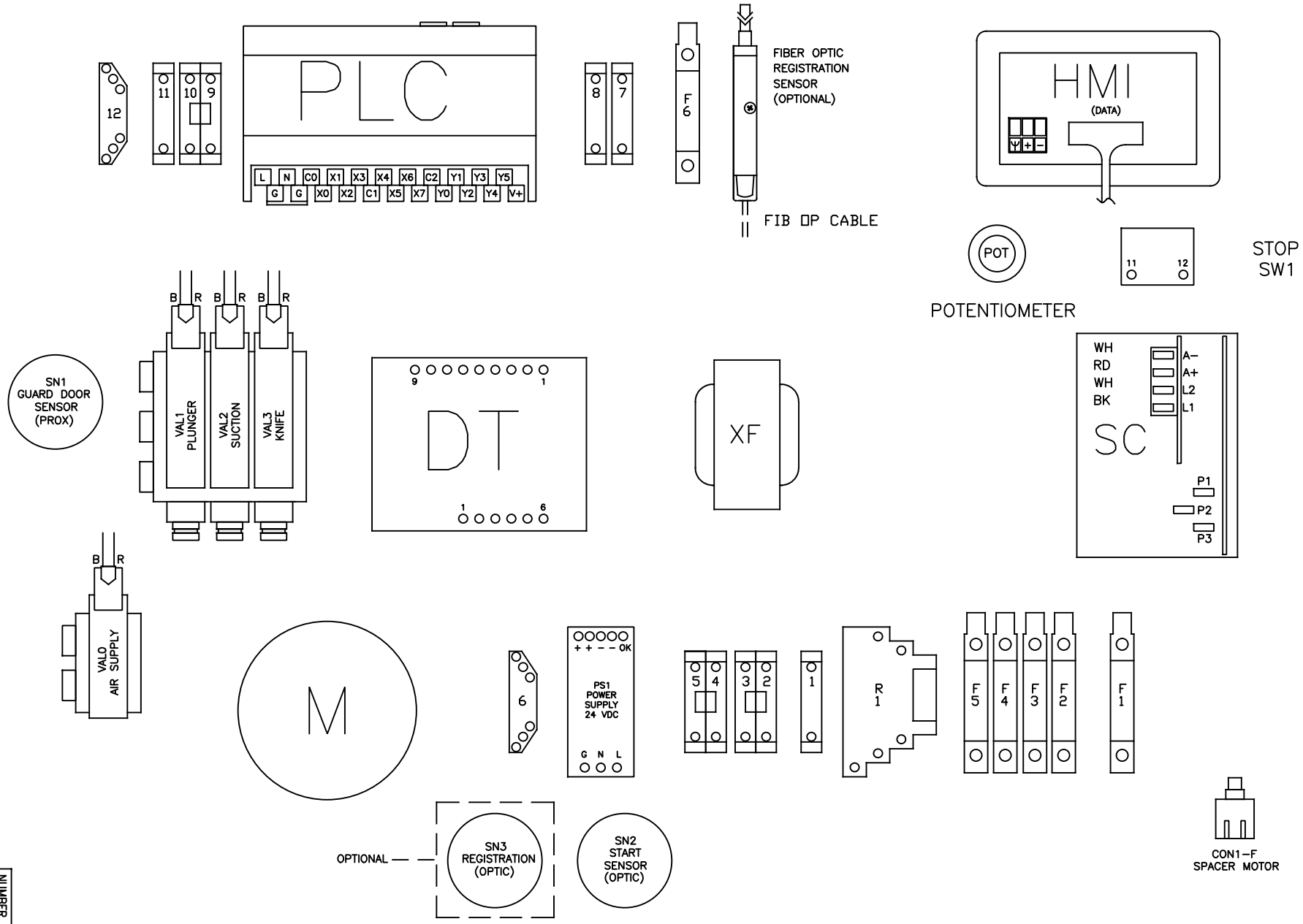
TITLE MODEL NB1 BANDER
WIRING SCHEMATIC
SERIAL NO. 034 AND UP

BY SJD2 DATE: 2015–11–04

SHEET 001 OF 010

NUMBER SC1014

REVISION B

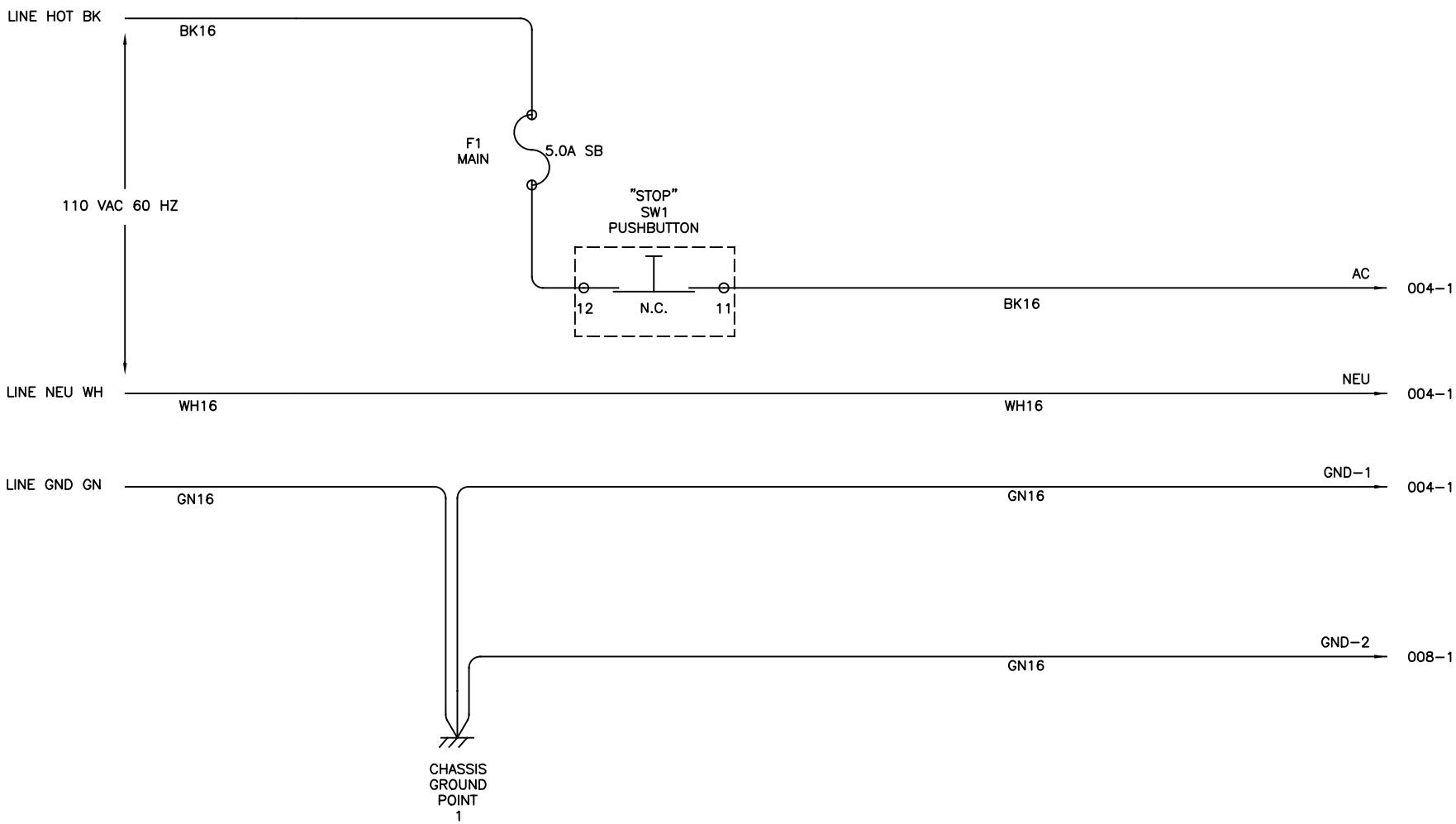


NUMBER	PAGE
SC1011	002

NOTE	REV	DESCRIPTION	DATE
–	–	–	--/--/--

DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

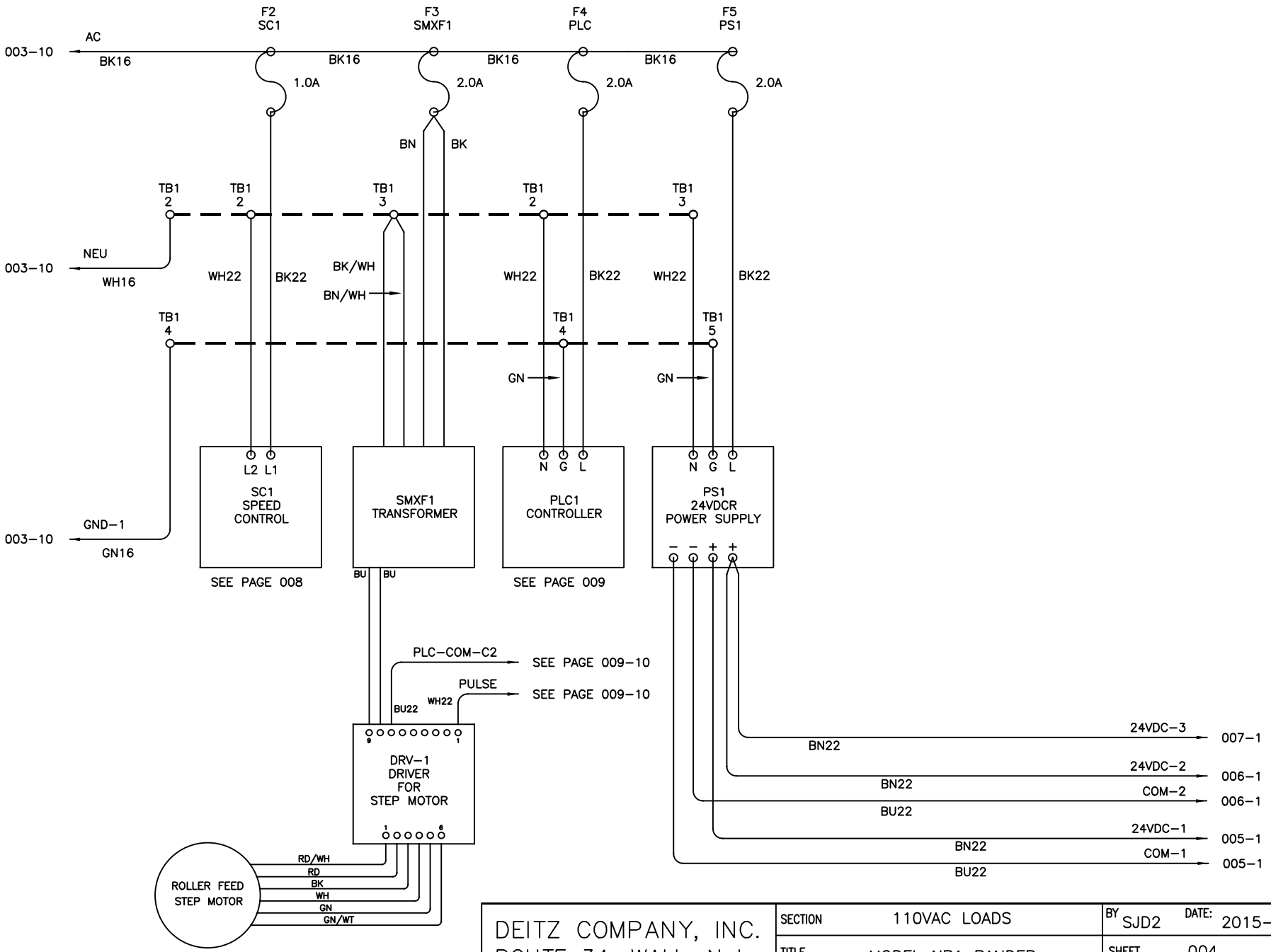
SECTION	COMPONENT IDENTIFICATION	BY SJD2	DATE: 2015–11–04
TITLE	MODEL NB1 BANDER WIRING SCHEMATIC SERIAL NO. 034 AND UP	SHEET 002	
		NUMBER SC1014	REVISION A



NUMBER	NOTE	REV	DESCRIPTION	DATE
SC1011	–	–	–	--/--/--
PAGE 003				

DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

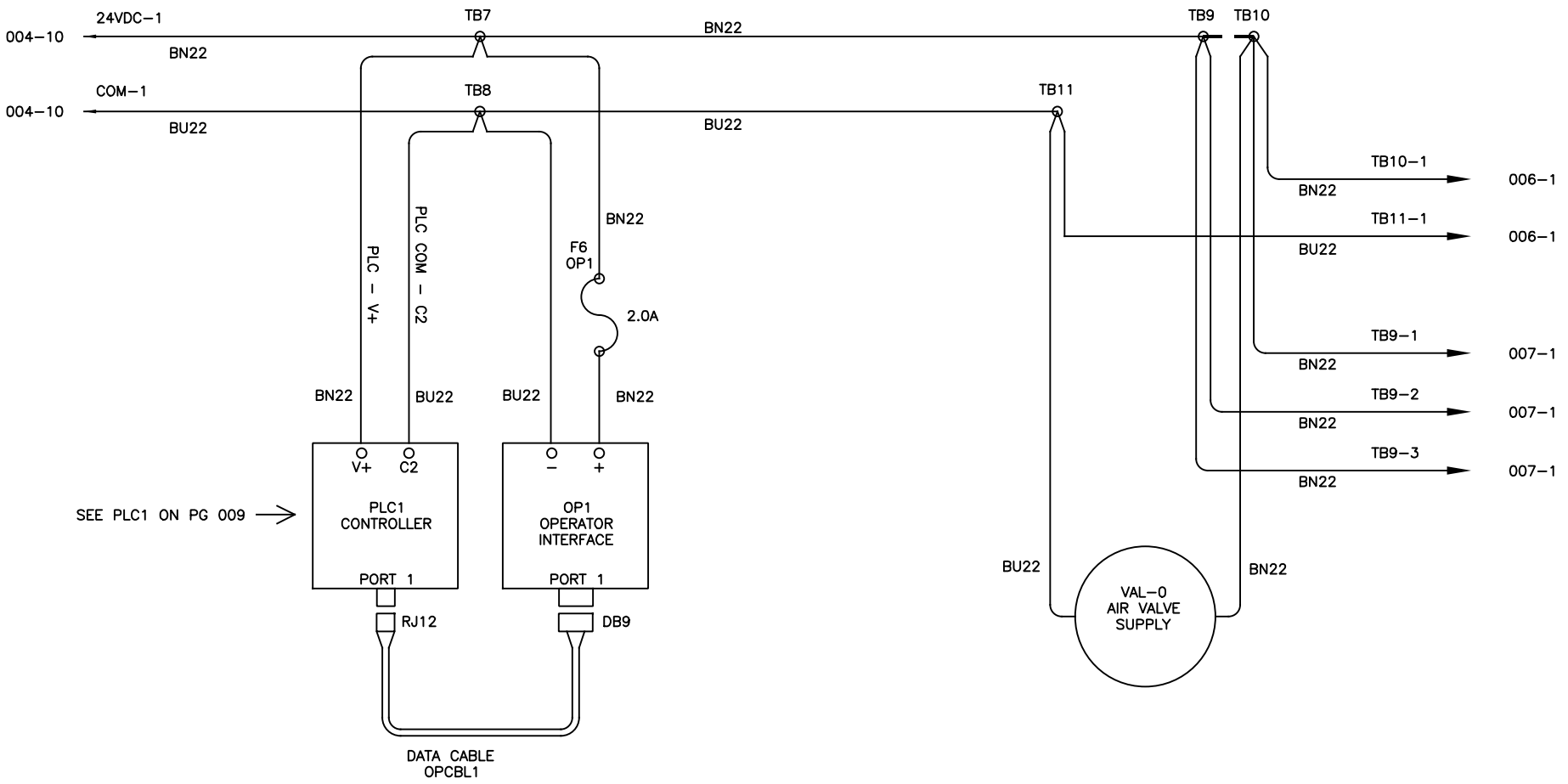
SECTION	110VAC POWER ENTRY	BY SJD2	DATE: 2015-11-04
TITLE	MODEL NB1 BANDER WIRING SCHEMATIC SERIAL NO. 034 AND UP	SHEET 003	
		NUMBER SC1014	REVISION A



NUMBER	NOTE	REV	DESCRIPTION	DATE
SC1011	–	–	–	--/--/--
PAGE 004				

DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

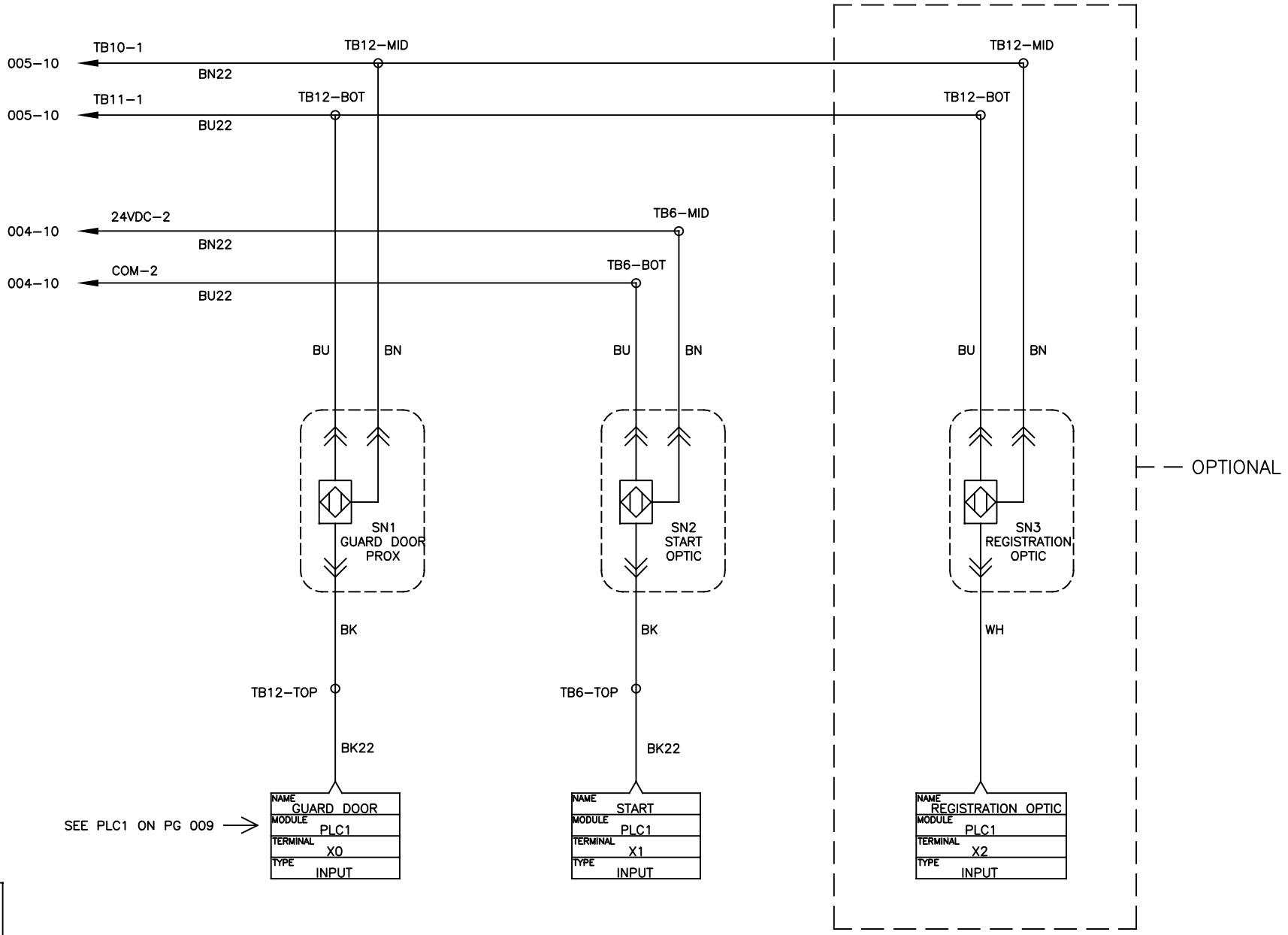
SECTION	110VAC LOADS	BY SJD2	DATE: 2015–11–04
TITLE	MODEL NB1 BANDER WIRING SCHEMATIC SERIAL NO. 034 AND UP	SHEET 004	
		NUMBER SC1014	REVISION A



NUMBER	NOTE	REV	DESCRIPTION	DATE
SC1011	–	–	–	--/--/--
PAGE 005				

DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

SECTION	24VDC DISTRIBUTION	BY SJD2	DATE: 2015–11–04
TITLE	MODEL NB1 BANDER WIRING SCHEMATIC SERIAL NO. 034 AND UP	SHEET 005	
		NUMBER SC1014	REVISION A

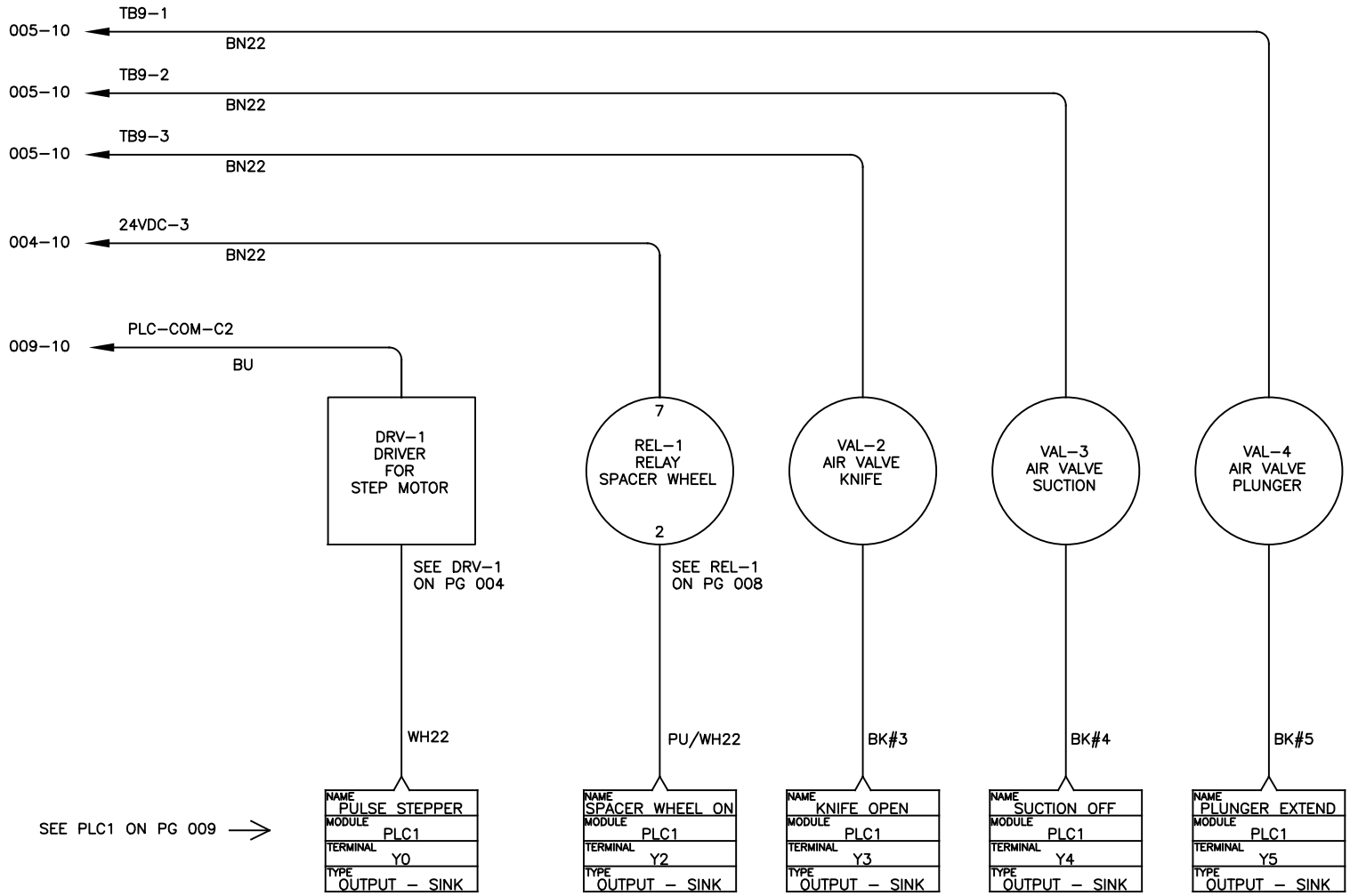


NUMBER	PAGE
SC1011	006

NOTE	REV	DESCRIPTION	DATE
–	–	–	--/--/--

DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

SECTION	INPUTS: X0 – X1	BY SJD2	DATE: 2015–11–04
TITLE	MODEL NB1 BANDER WIRING SCHEMATIC SERIAL NO. 034 AND UP	SHEET 006	
		NUMBER SC1014	REVISION B

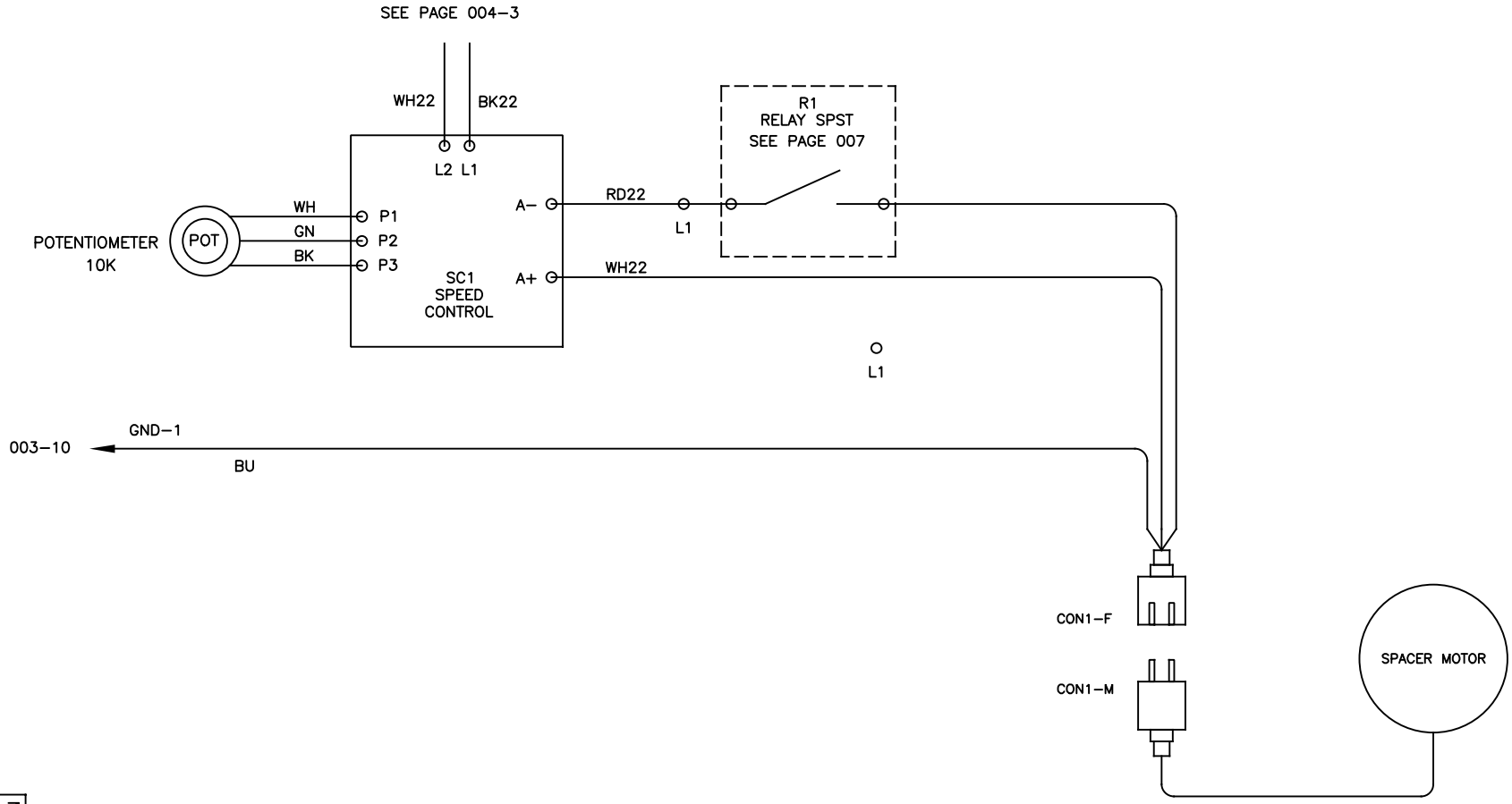


NUMBER SC1011
PAGE 007

NOTE	REV	DESCRIPTION	DATE
–	–	–	--/--/--

DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

SECTION	OUTPUTS: Y0 – Y5	BY SJD2	DATE: 2015–11–04
TITLE	MODEL NB1 BANDER WIRING SCHEMATIC SERIAL NO. 034 AND UP	SHEET 007	
		NUMBER SC1014	REVISION A

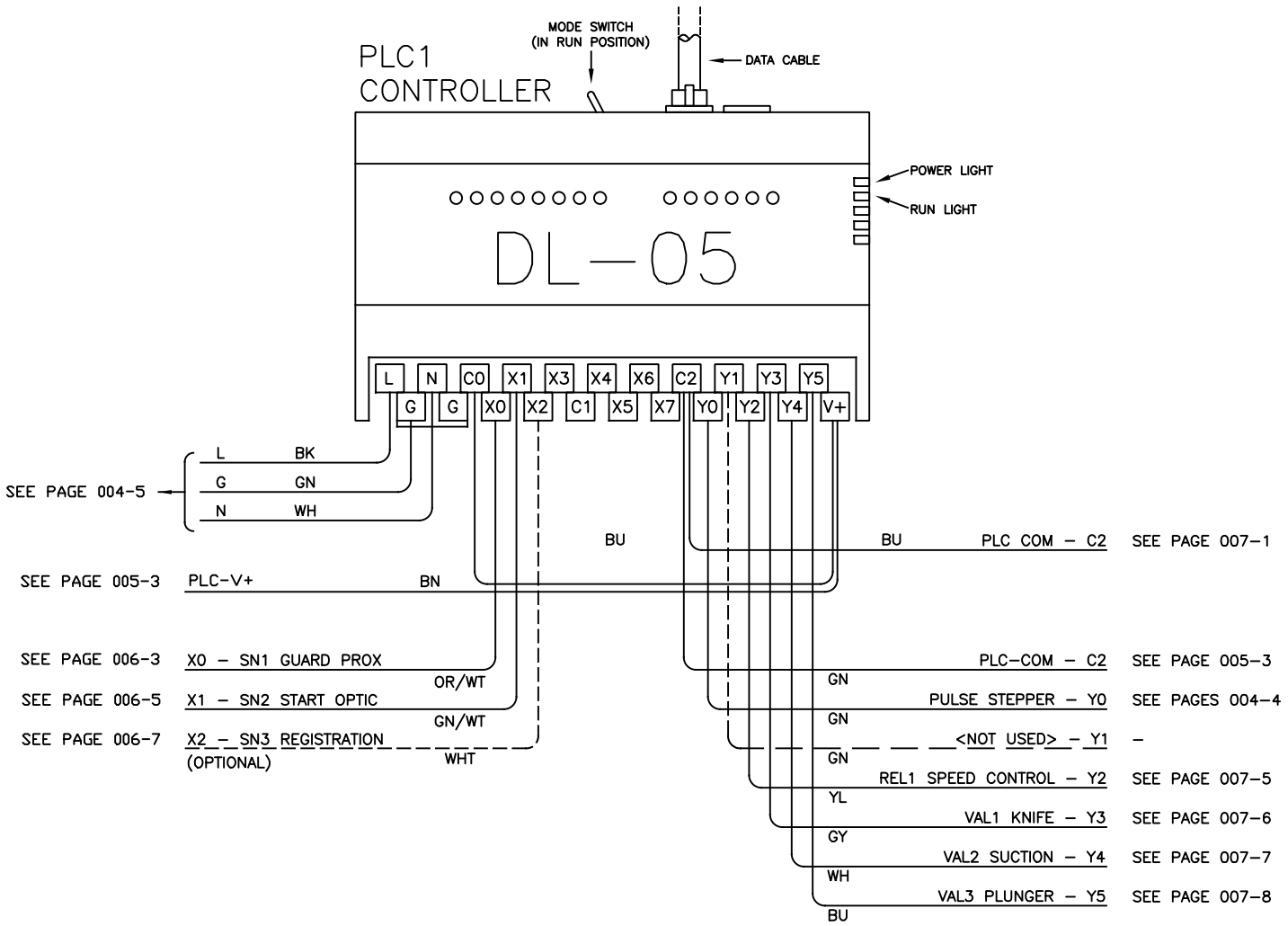


NUMBER	PAGE
SC1011	008

NOTE	REV	DESCRIPTION	DATE
-	-	-	--/--/--

DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING - PRODUCT INFO

SECTION	RELAY & SPEED CONTROL	BY SJD2	DATE: 2015-11-04
TITLE	MODEL NB1 BANDER WIRING SCHEMATIC SERIAL NO. 034 AND UP	SHEET 008	
		NUMBER SC1014	REVISION A

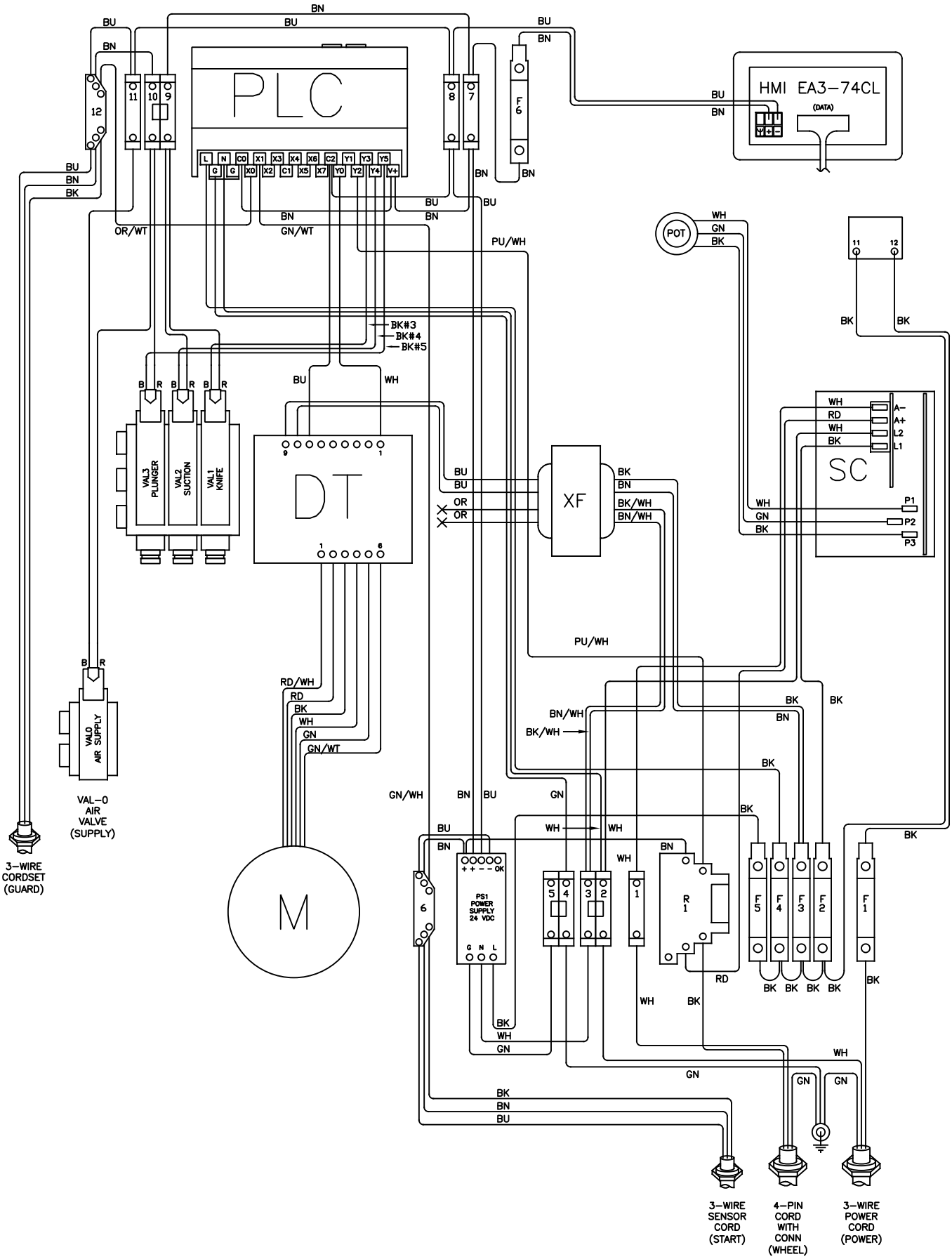


NUMBER	PAGE
SC1011	009

NOTE	REV	DESCRIPTION	DATE
–	–	–	--/--/--

DEITZ COMPANY, INC.
ROUTE 34, WALL, N.J.
TECHNICAL DRAWING – PRODUCT INFO

SECTION	SPEED CONTROLS DETAILS	BY SJD2	DATE: 2015-11-04
TITLE	MODEL NB1 BANDER WIRING SCHEMATIC SERIAL NO. 034 AND UP	SHEET 009	
		NUMBER SC1014	REVISION B



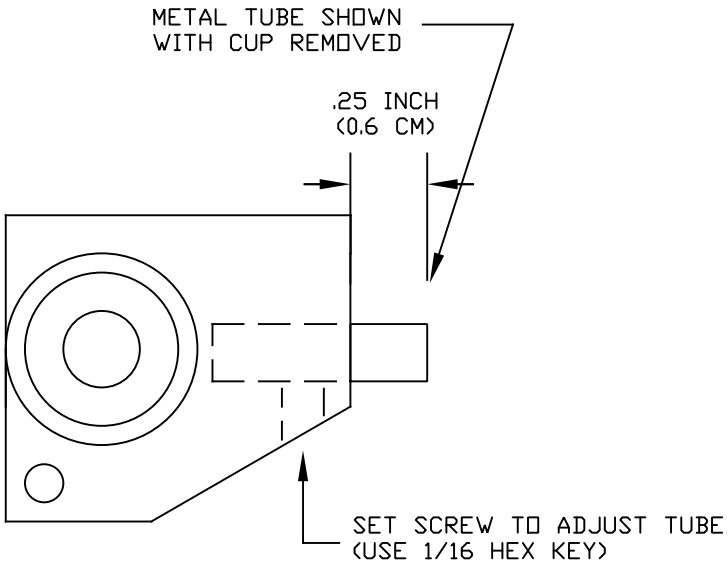
DEITZ COMPANY, INC. ROUTE 34, WALL, N.J. TECHNICAL DRAWING – PRODUCT INFO	BY SJD	DATE: 2019-11-19	SHEET 1 OF 1	
	TITLE POINT-TO-POINT WIRING DIAGRAM MODEL NB1 NECK BANDER		NUMBER WD1022	REVISION A

NOTE	REV	DESCRIPTION	DATE
–	–	–	--/--/--

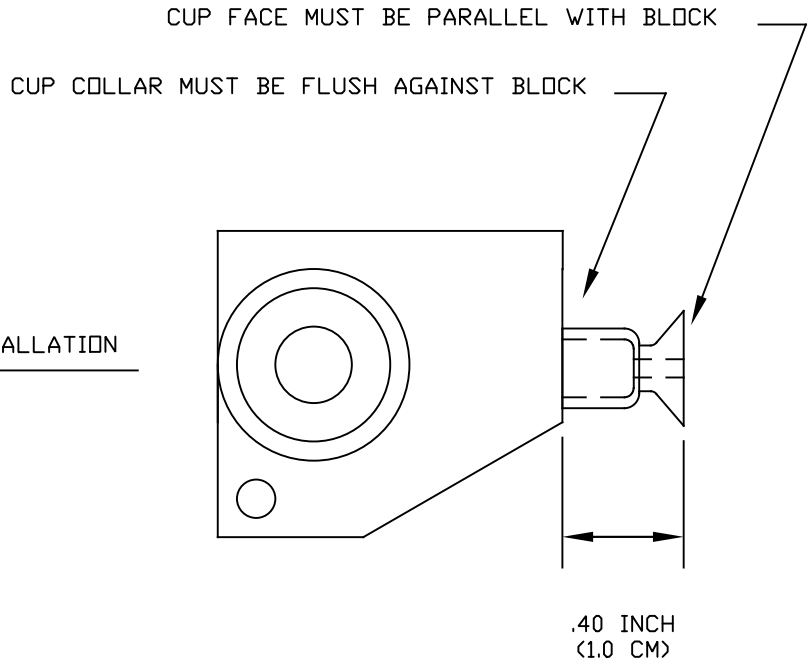
REVISION: –

NUMBER: –

BEFORE INSTALLATION



AFTER INSTALLATION



DEITZ COMPANY, INC. **ROUTE 34, WALL, N.J.** TECHNICAL DRAWING - PRODUCT INFO	PRODUCT NB1 NECK BANDER	BY SJD	DATE: 2019-11-19
	TITLE SUCTION CUP DETAIL PART OF KNIFE ASSEMBLY	SHEET 1 OF 1	
		NUMBER TD-NB1-010	REVISION –

TN 0012 NB1 BLADE PRESSURE QUICK ADJUST

(numbers correspond to photos)

1. Loosen band holder assembly. Note the position relative to the ruler for later.

2. Remove band holder assembly and place out of the way.

3. Locate two (2) plunger assembly position mounting screws (above the ruler). Note the position relative to the ruler for later.

4. Using long T-handle 3/16 hex wrench (supplied with machine), remove left mounting screw.

5. Remove right mounting screw.

6. Drape plunger assembly down and out of the way.

7. The fixed blade mounting plate is directly above the suction cup. Locate two (2) fixed blade mounting screws (lower corners) and four (4) blade pressure setscrews (along top edge).

8. Using a standard L-shaped 5/32 hex key, loosen the right mounting screw 1/2 turn CCW.

9. Loosen the left screw one-half turn CCW.

10. Insert a standard L-shaped 5/64 hex key into the left-most setscrew.

11. Tighten the first setscrew 1/8 turn CW (feel slight increase in pressure).

12. Repeat with the second setscrew (turn until pressure seems the same as the first)

13. Repeat with the third setscrew.

14. Repeat with the fourth setscrew.

15. Securely tighten the right mounting screw fully CW.

16. Securely tighten the left mounting screw fully CW.

Replace the plunger assembly and the band holder assembly.

PHOTO 1

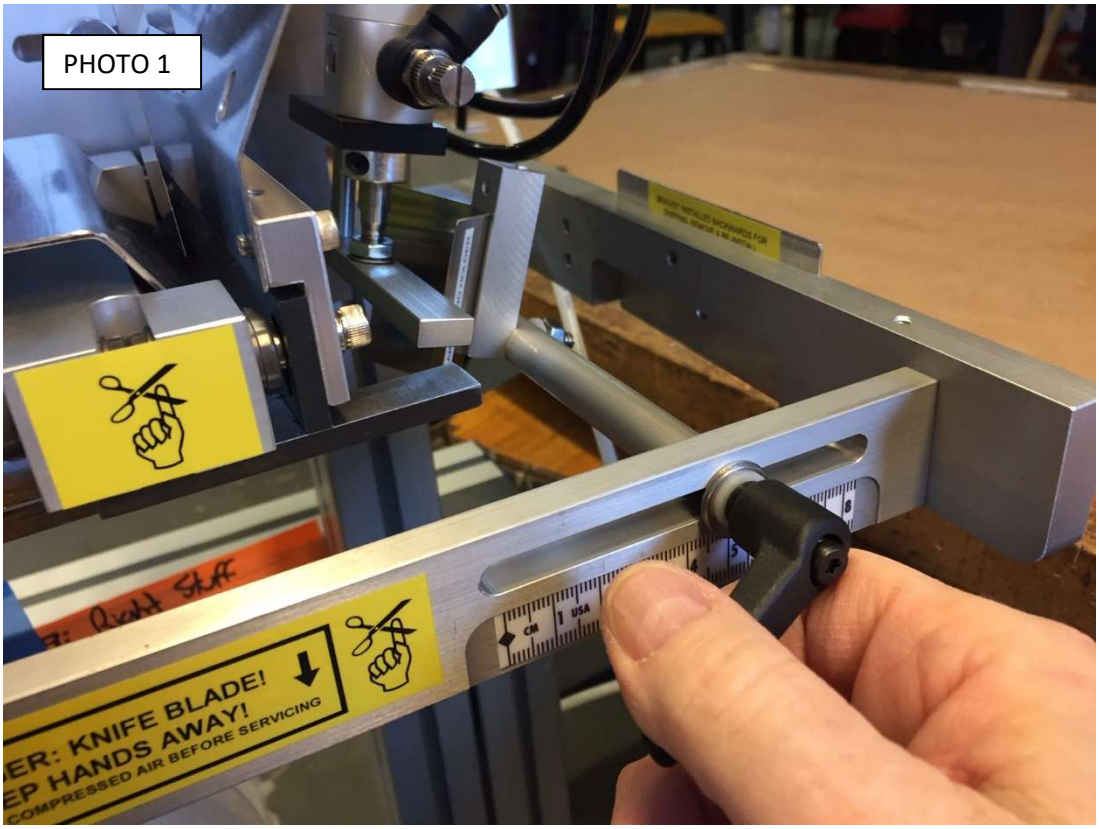
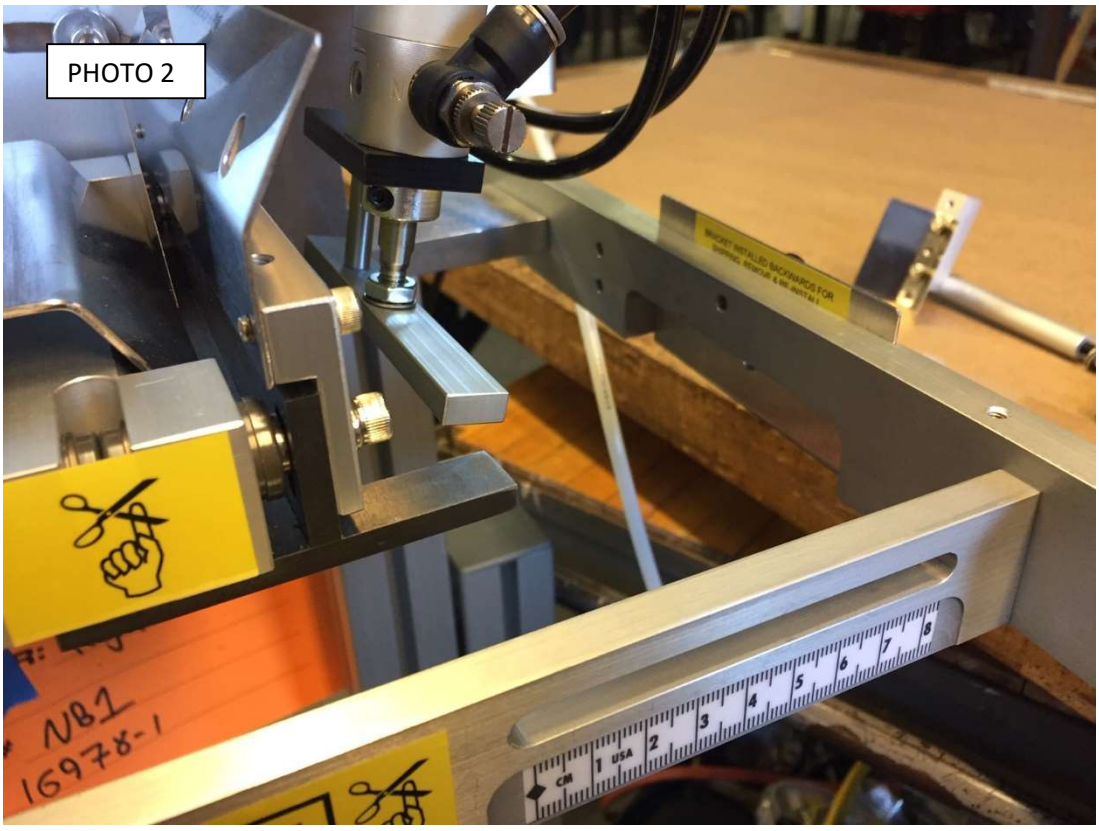


PHOTO 2



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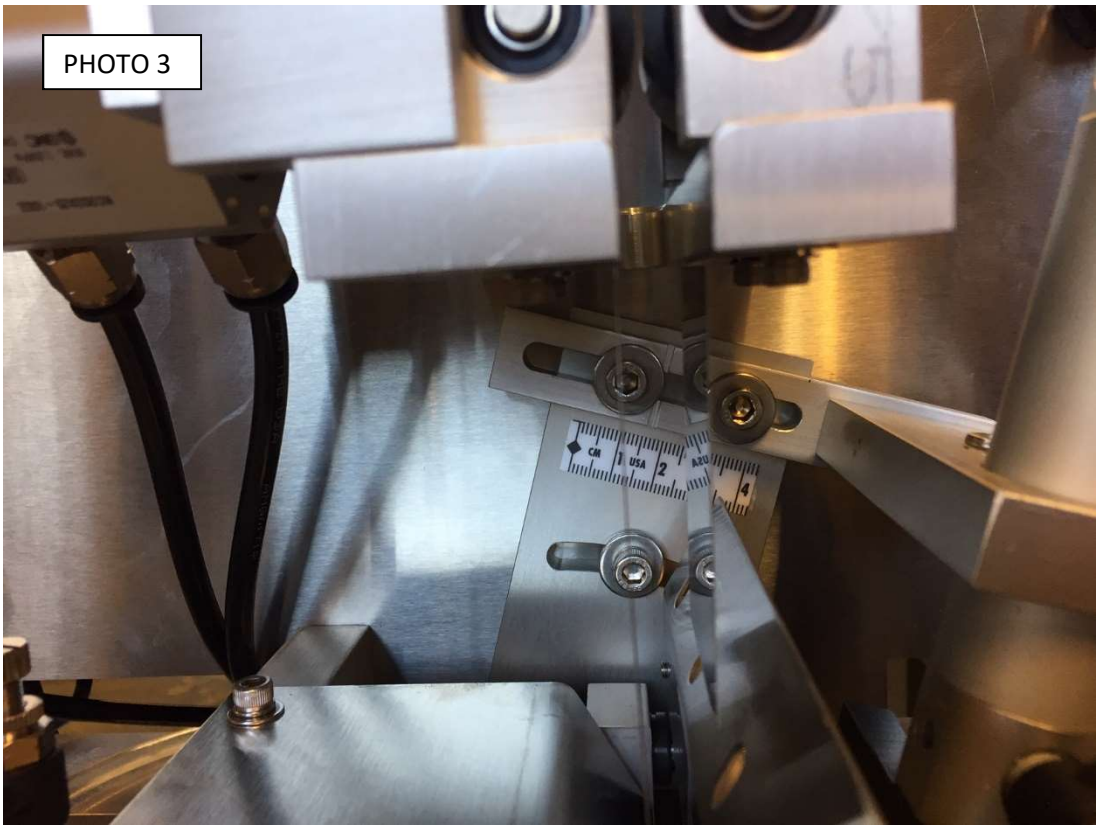

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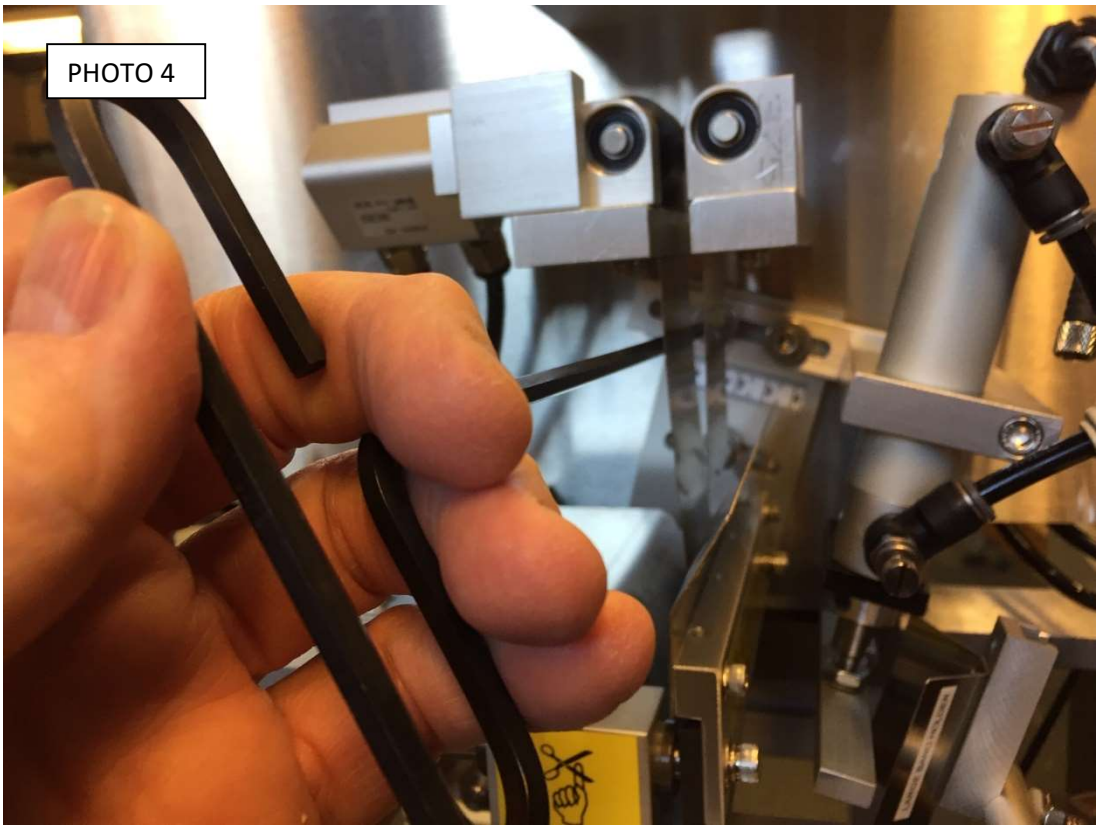
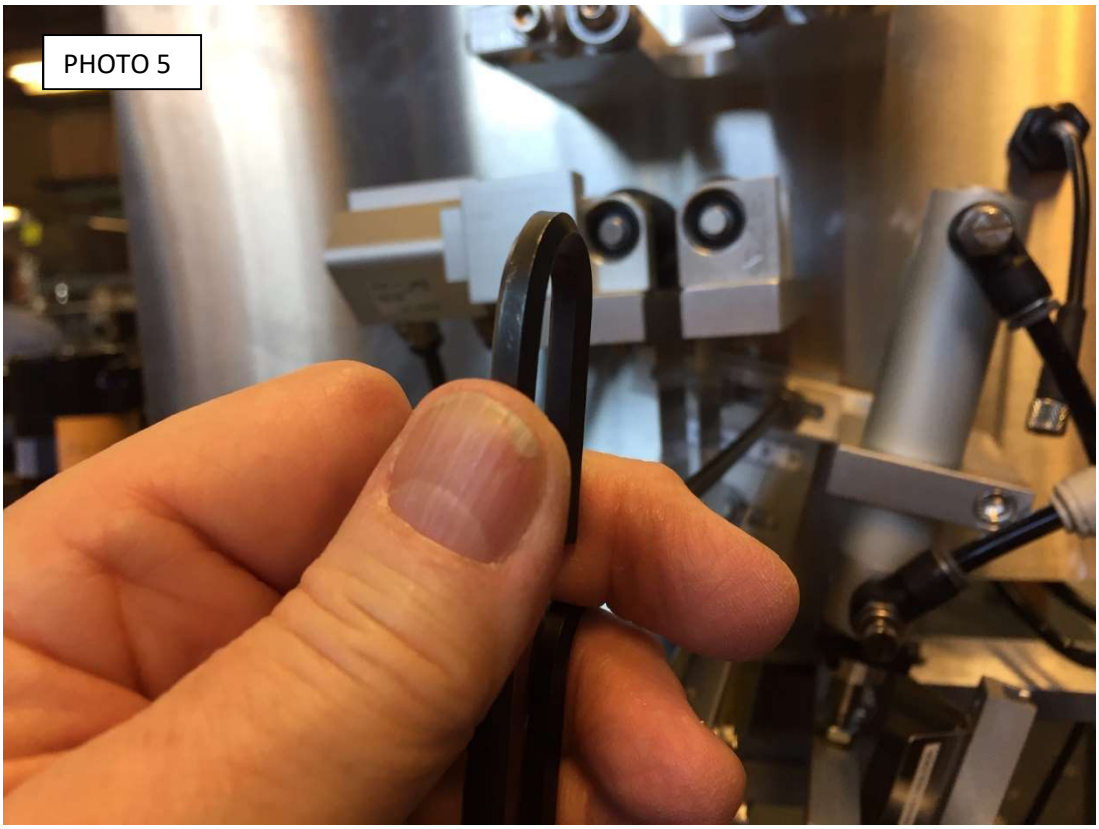


PHOTO 5



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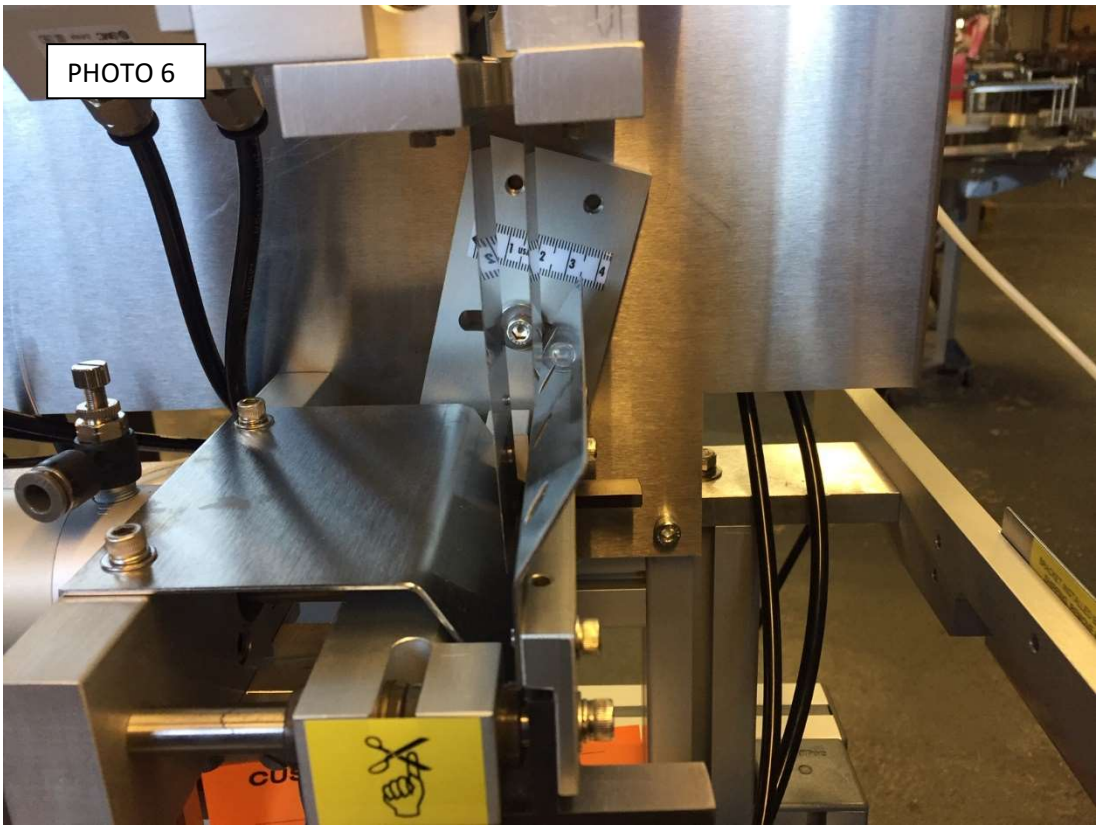

PHOTO 7

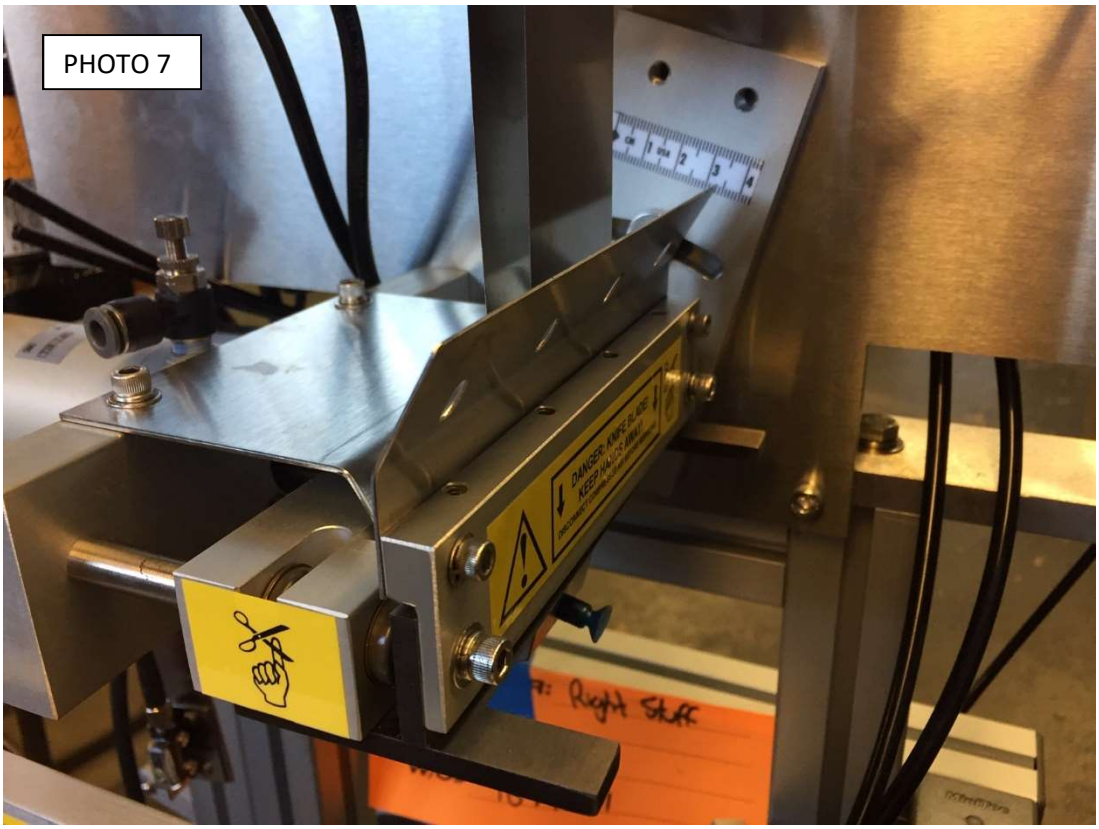

PHOTO 8

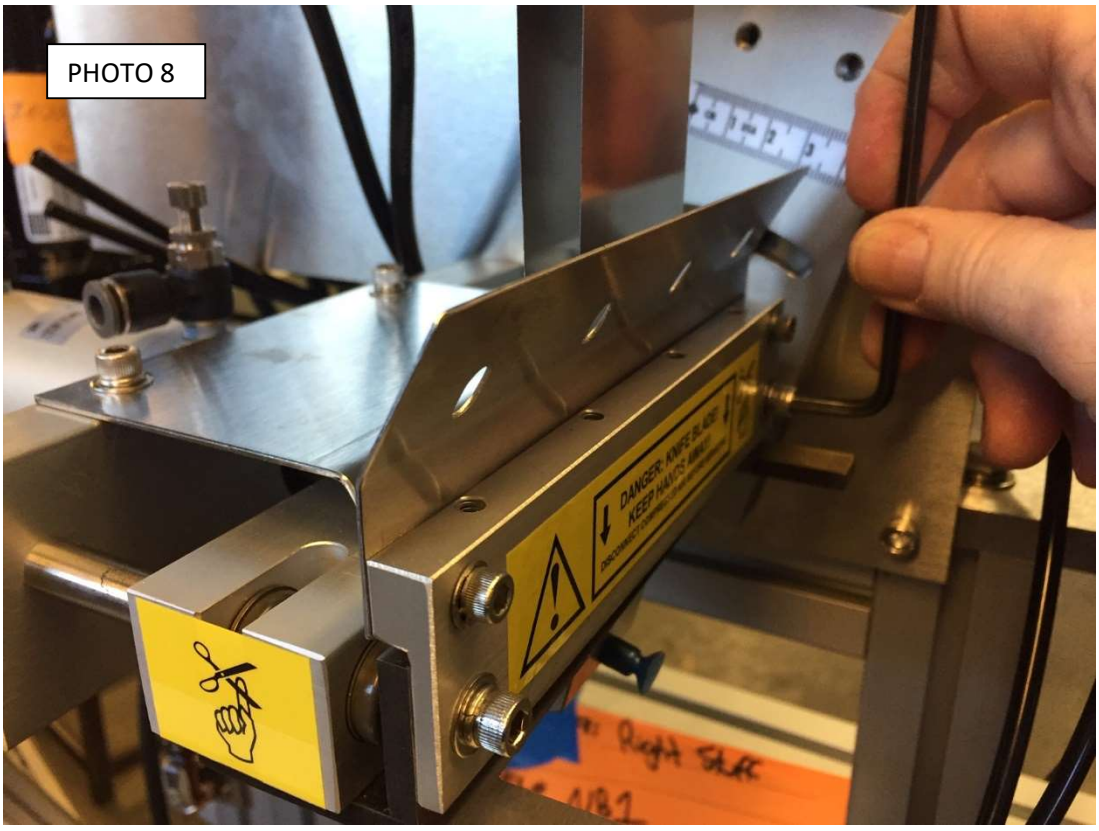

PHOTO 9

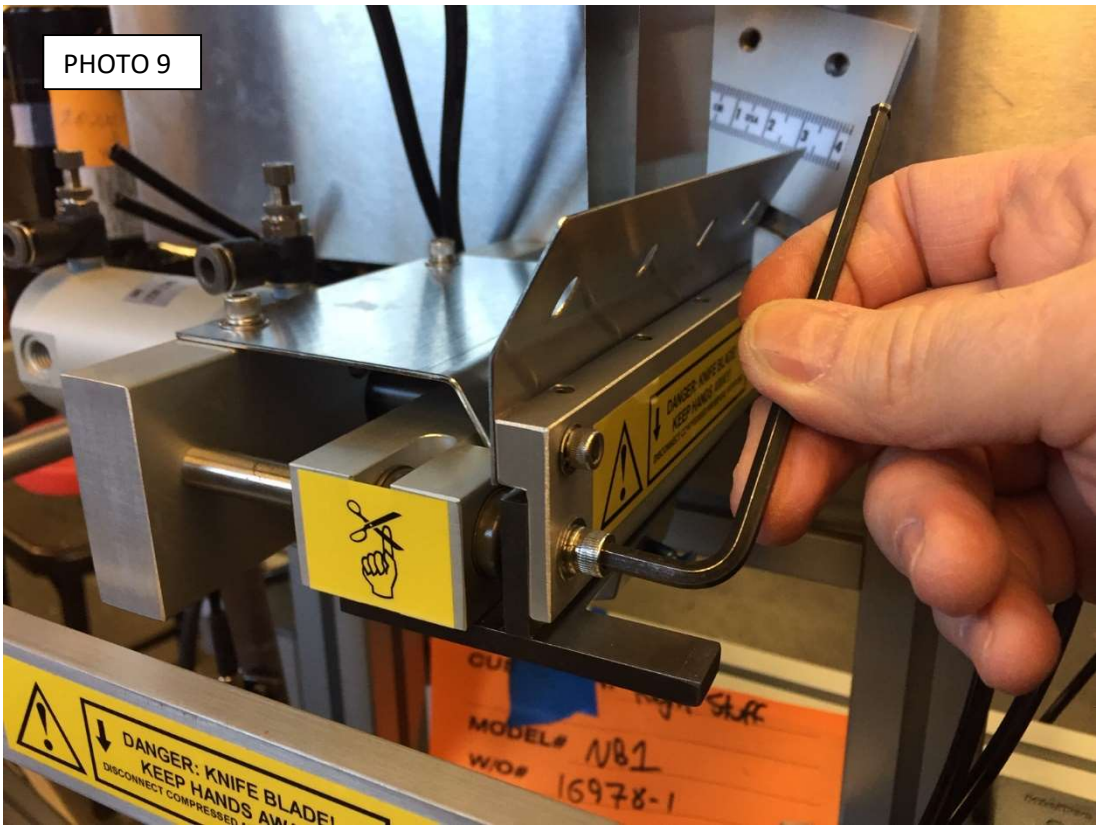

PHOTO 10

PHOTO 11

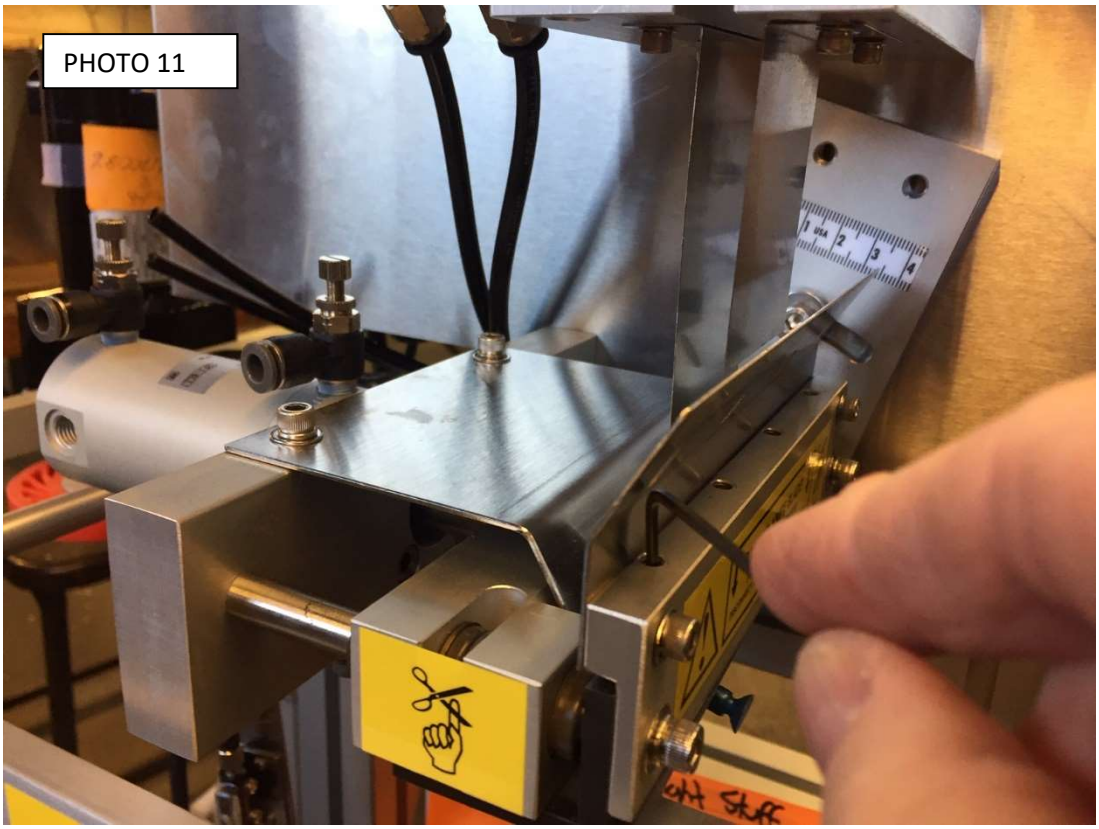

PHOTO 12

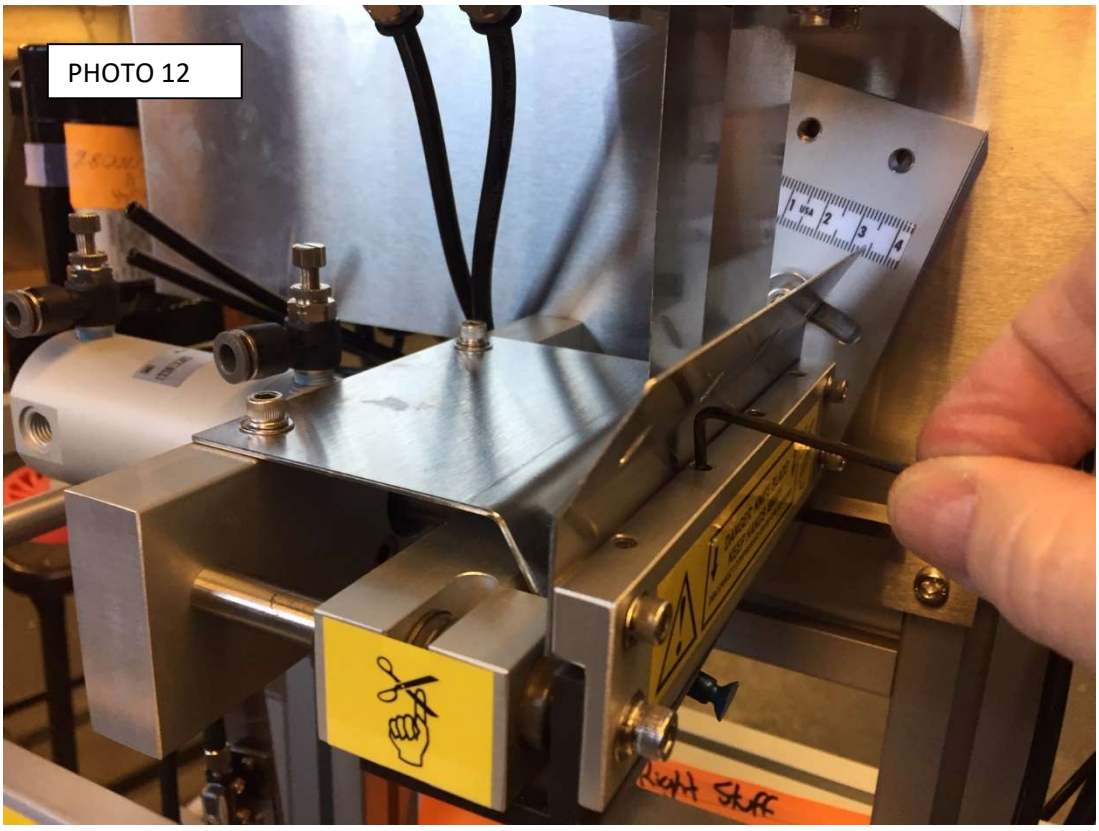

PHOTO 13

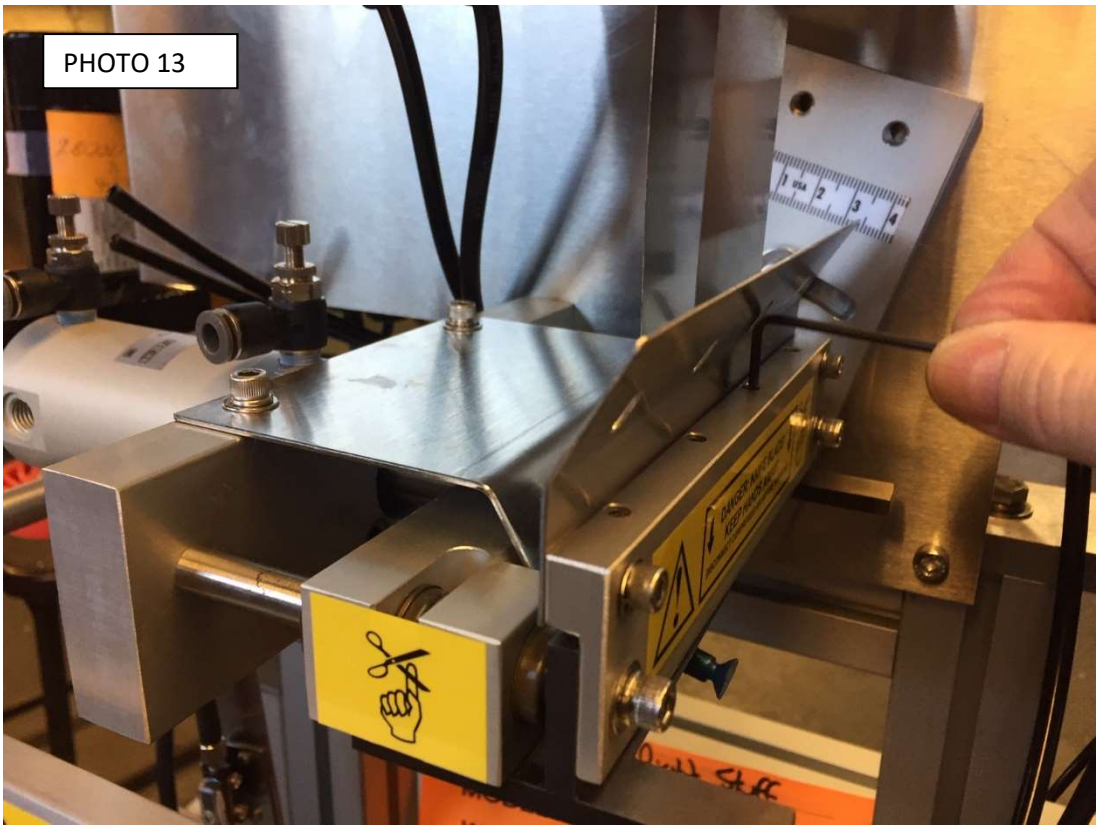

PHOTO 14

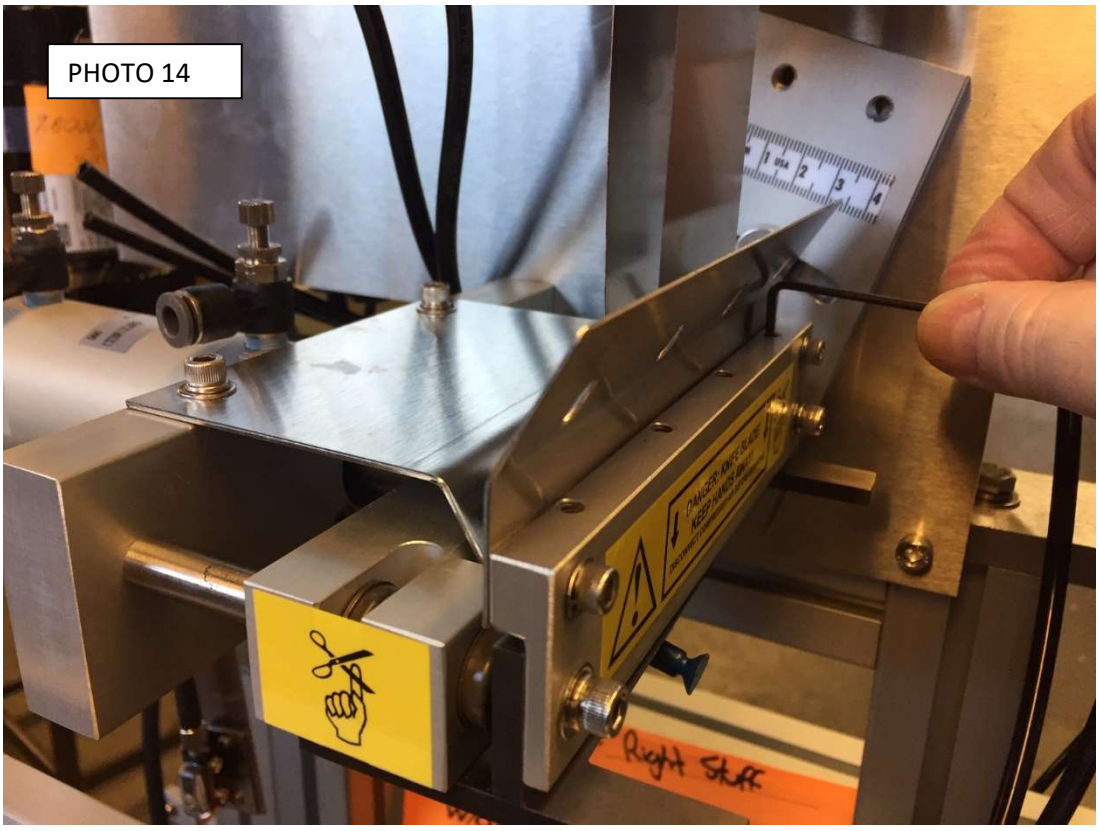

PHOTO 15

PHOTO 16

PHARMAFILL MODEL NB1 TAMPER EVIDENT BANDER

TESTING NB1 BLADE PRESSURE USING THE MACHINE'S BUILT-IN AIR PRESSURE REGULATOR & GAUGE

YOU WILL ALSO NEED DOCUMENT "TN0112 NB1 Knife Quick Adjust"

With machine on (E-stop released), test the knife pressure setting:

1. Set air pressure to 80 psi (always start test at 80 to close knife fully)
2. Turn pressure to less than 20 psi
3. Use HMI menu to select Manual Control mode.
4. Press F2 once (to open knife). Knife should not open.
5. Slowly turn up the air pressure regulator until the knife opens. Note the pressure reading on the gauge.

The knife should open at a pressure reading between 38 and 42 psi. If not, use TN0112 to make adjustments, particularly steps 7 to 16. After loosening the blade mounting screws:

- If the reading is below 38 psi, the four (4) pressure set screws should be turned CW very slightly ($1/12^{th}$ turn, like 1 hour on a clock, or less). Tighten the blade mounting screws and re-test from step 1 above.
- If the reading is above 42 psi, the four (4) pressure set screws should be turned CCW very slightly ($1/12^{th}$ turn, like 1 hour on a clock, or less). Tighten the blade mounting screws and re-test from step 1 above.

TN0122-4 How to use Model NB1 with Print Registration

Clear Film, Registered Print Film And Random Print Film

Machines with PLC program version **NB1_PLC_2020-03-09** (or later) and the optional print registration sensor can be used with both clear film and printed film. The default factory setting is for use with clear or random print film (SPEED 2 = 200). To use registered print film, you will need to change a setting, so that the fiber optic sensor will control the cut location (SPEED 2 = 9200). Either setting works with clear film.

To switch from factory default CLEAR or RANDOM PRINT to CLEAR or REGISTERED PRINT:

1. On the HMI (control panel), go to the **TECHNICIAN ONLY** menu.
2. The keypad will appear. Enter password **59** and press **ENTER**.
3. Find the entry for **SPEED 2** (factory default is 200)
4. Touch the value for **SPEED 2** and the keypad will appear.
5. On the keypad, press **CLEAR**, enter **9200**, then press **ENTER**.
6. Press **DONE** to accept.
7. Turn the machine off (press E-stop) and on (release E-stop) to update the system.
8. Test with REGISTERED PRINT FILM. With this type of film, the length setting determines how far the film will advance after the fiber optics detect the clear gap in the film. This length setting is a constant (approximately 1.25 inches). The final length of the film is determined by the space between clear gaps. Try LENGTH = 1.25 inches to start and make small adjustments up or down until the cut is in the desired place.