Designers and Manufacturers of Pressure Sensitive Labeling Equipment and Custom Product Handling

1800a PRINTER APPLICATOR MAINTENANCE & SERVICE MANUAL
(REVISION 1800a-1a1.xx)

TABLE OF CONTENTS

__INTRODUCTION__

The 1800a-PA printer applicator is a cost effective labeler used to thermally print and apply pressure sensitive labels to moving products. A thermal transfer printer is integrated into an applicator to form a self-contained unit that will print variable data onto a label. The printer/applicator can be mounted in almost any position adjacent to product flow to apply labels to top, sides or bottom of products as they pass by.

Labels are supplied on rolls that consist of a liner on which the labels are held with adhesive. The labels may be preprinted with the variable information added by the printer or blank labels with the printer printing the entire label.

The applicator can work in two different modes:
> **Normal Tamp Blow**
> **Inverted Tamp Blow**

In the Normal Tamp Blow mode, the label is printed, dispensed out onto the label pad and held there by vacuum. When the product detect sensor is made, the label and label pad are moved toward the product using a pneumatic slide. When the slide is extended, an air blast will blow the label off the pad and onto the product.

In the Inverted Tamp Blow mode, the label is printed, dispensed onto the label pad and the slide extends. The applicator will wait in this position until the product sensor is made. The label is then blown off the pad onto the product.

For safe and trouble free operation, the instructions in this manual must be followed carefully during the set-up, operation, media changes, cleaning and maintenance.   Also the specified environmental conditions must be maintained.

Electrical Supply: 108-132 Volts, 5 Amps, 50-60 Hertz, Single phase

A three-meter long, three wire cable with 1.00mm conductors rated at 10 amperes (in accordance with CENELEC HD-21) is provided for the electrical connection to the IEC 320 receptacle of the applicator. The end of the power cord is terminated with a NEMA 5-15 plug.

Air Supply: Clean and dry compressed air must be provided at pressures 80 P.S.I. with a flow rate of about 4 S.C.F.M.

Environment: Operating temperature range is 40 to 95°F (5 to 35°C).
Operating humidity range is 20 to 85% RH, non-condensing.

Note: The model 1800a-PA is not intended to be operated in an environment where flammable or explosive gases are present. The model 1800a-PA MUST not be used in direct contact with food products.

READ THE INSTRUCTIONS CAREFULLY AND COMPLETELY. This manual includes all of the information that you'll need to set up the applicator under normal operating conditions. The instructions include important safety precautions, which must not be ignored.

READ THE INSTRUCTIONS IN ORDER. The instructions are written as numbered steps that will take you safely and efficiently through the setup process. Any steps performed out of sequence may result in a hazard and the applicator may not operate properly.

WORK CAREFULLY. Although setting up the applicator is not difficult, it does take time. Do not rush through the process. Careful work will produce good results.

IF SOMETHING DOES NOT WORK PROPERLY TRY SETTING UP AGAIN. Although applicator malfunction is possible, most problems happen because the applicator was not setup correctly. If the applicator doesn't operate correctly, back-up and start over.

FOLLOW ALL SAFETY INSTRUCTIONS. The 1800-PA has been provided with a number of safety features. Observe all safety warning and under no circumstances attempt to remove or defeat safeguards or operate the machine in a manner contrary to the instructions.

MACHINE TERMS

Adhesive Strings: Label adhesive that attaches to the label and liner while the label is dispensing onto the label pad. They can cause the label position on the label pad to become inconsistent.

Air Assist Tube: A small diameter tube with small hole in it mounted under the peel edge. The purpose is to direct a stream of air to help the label onto the label pad.

Air Assist: The stream of air from the Air Assist Tube.

Air Blast: A blast of compressed air that moves the label from the label pad to the product. The duration of the blast is controlled by the Air Blast time accessible through the applicator display.

Air Filter: A device on the inlet of the air supply that removes debris from the air supply.

Critical Alarm: An alarm that will stop the applicator from applying labels. Critical alarms include end of web, out of labels (from printer) and no ribbon (from printer).

Cycle Time: The amount of time it takes for the applicator to print and apply a label to a product, starting from the product detect signal.

Dancer Arm: The function of the dancer arm is to release the brake on the unwind when labels are being printed and to stop the unwind mandrel when printing stops.

Detector Lockout: Time span after the applicator starts the labeling sequence that will cause the applicator to ignore any additional product signals. This is useful if a product triggers the product detect sensor more than once.

Extended Air Assist: The air assist is always on while the label is being printed (dispensed). Extended air assist allows the air assist to stay on longer to aid in putting the label on the pad.

Inverted Tamp Blow (ITB): A mode of operation in which the tamp pad is in the extended position waiting for the product detect signal to start the labeling sequence.

Label Feed: The moving of the label stock through the machine.

Label Liner: The backing material that supports the labels before dispensing.

Label Manifold: The aluminum block mounted under the tamp slide. The label pad is mounted to it. Vacuum and the air blast are channeled through it to the pad.

Label Pad: Mounted under the manifold and is usually made from white delrin. This part supports the label before application.

Label Placement: The time from when the product sensor is made to when the labeling sequence starts.

Label Sensor: The sensor that detects the leading or trailing edge of the label.

Label Size: The width and length (or feed) of a label. Length equals the distance from the leading edge of the label to its trailing edge. Width is the distance across the label.

Leading Edge: Refers to the signal sent from a sensor when the first edge of a product or label is detected.

LED: Light Emitting Diode

Normal Tamp Blow: A mode of operation where a label is dispensed onto the label pad and the applicator waits for the product detect sensor to turn on before starting the labeling sequence.

Parity: A data bit that provides a means of checking for errors in the data stream.

Peel Edge: A machined part just before the label pad used to transfer the label onto the pad as the liner is pulled around the part.

Rewind: This is the rotating mandrel that takes up the liner after the labels have been removed.

Static Stack: When labels are applied to a stationary target on top of each other to check repeatability of the applicator.

Tamp Extend Time: The time allowed for the tamp slide to fully extend.

Tamp Retract Time: The time allowed for the tamp slide to return from its extended position to its retracted position.

Trailing Edge: Refers to the signal sent from a sensor when the last edge of a product or a label is detected.

Unwind: The rotating mandrel where the roll of labels is placed to be printed and applied.

Valve Bank: The typical valve bank for a tamp has three valves in it. Each valve has a built in regulator and gauge. The assembly is made to be bolted on either side of the Uarm.

Warning Alarm: This alarm serves as a warning that the applicator is low on labels or ribbon.

Web Path: The path the label liner follows leading from the unwind, through the printer and ends at the rewind.

1800a TOUCH SCREEN DISPLAY

The following description provides general information about the display and will tell the operator how to change values, explain the meaning of different screens, and describe the different options and how to set them up.

TYPES OF KEYS
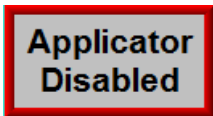
This key is for enabling and disabling the applicator. When enabled, the applicator will be ready to apply labels. Depending on the screen, either the center of the button will be green if enabled or just the frame.
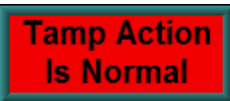
This type of button is used to turn options on and off. The label on the button will change to explain what is on.

This type of key is usually a "go to" button where it will take you to another screen. It also can be used for other functions such as "jog" or "alarm reset". Colors will change with function.
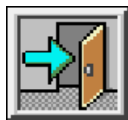
Pressing this key will take you back to the previous screen.

This button takes you back to the main menu.

ALARMS

There are two types of alarms generated in the 1800a applicator:

Warning Alarm
Critical Alarm
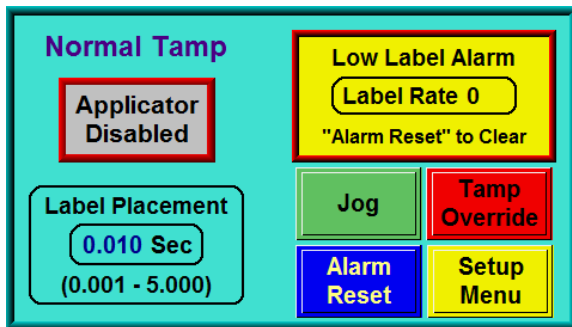
Warning Alarm Status Box | Critical Alarm Screen

Warning Alarms will appear in the upper right hand corner of the main menu in the status box. Since these alarms are not serious, the applicator will not be stopped with the exception of an inhibit warning. During a warning alarm, the amber light on the light-stack (if provided) will be turned on.

Critical alarms will stop the applicator (disable mode) and turn a red light on in the light-stack (if provided). The alarm screen will cover the current screen explaining the alarm type. An alarm reset button appears at the bottom of the page to clear the alarm.

Warning Alarms

The following are warning alarms monitored by the applicator:

Inhibit – This alarm occurs when an external device inhibits the applicator from dispensing a label by activating the inhibit input on I/O connector pin C2-12.

Low Label – This alarm occurs when the low label sensor detects that the unwind roll is nearly out of labels.

Low Ribbon – This alarm occurs when the applicator receives a signal from the print engine that the ribbon supply is low. If running direct thermal, this alarm should not occur.

Printer Not Ready – Will occur if the print engine is taken offline or is paused.

Critical Alarms

The following are the critical alarms monitored by the applicator:

End Of Web – This alarm occurs when the end of web sensor detects a break in the web.

No Media – This alarm occurs when the print engine runs out of labels or ribbon and sends a signal to the applicator PLC.

CHANGING VALUES

Values that may be changed are shown in boxes displaying the current value. In the example below, label placement is shown to have a value of 0.010 seconds. To change this value, the operator will touch the screen in the label placement field and a keypad will appear to the side of the variable. The figure to the right shows what the display should look like after touching the variable field. You can see the field that is being changed is highlighted. Also the numeric keypad has appeared to the right of the variable. As you touch numbers on the keypad, the new value is input to the variable box. Pressing "ENT" will finish the process and pressing "ESC" will allow you to escape without changing the value.

   Note: In most cases, an out-of-range value will not produce a warning message but the variable will return to the original value after pressing "ENT".
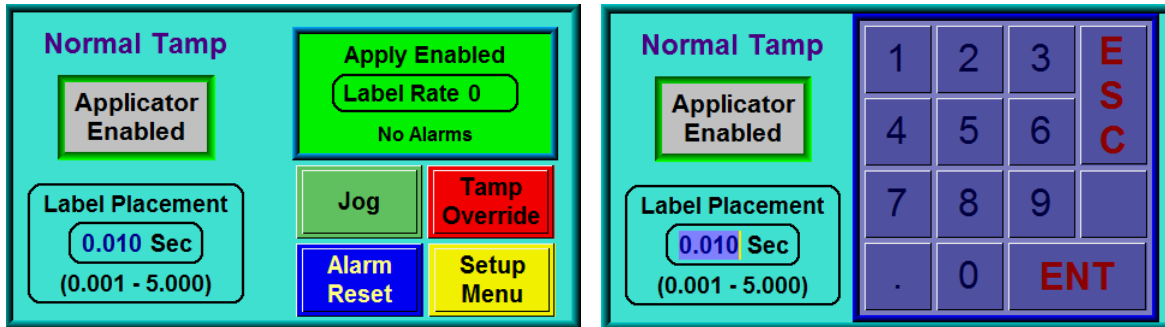
PASSWORD
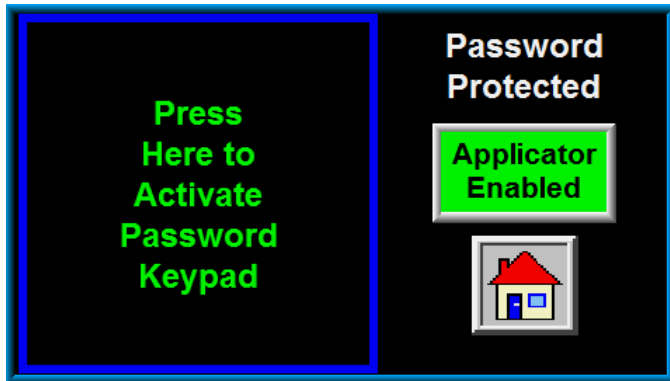
The Setup Section of the display is password protected. The standard 1800a password is "1800". Pressing the setup key at the main menu will cause the screen to the left to appear.

This screen notifies the operator that the area is password protected. Here the operator can choose to go back to the main menu or continue with password entry by touching within the box on the left to activate the keypad
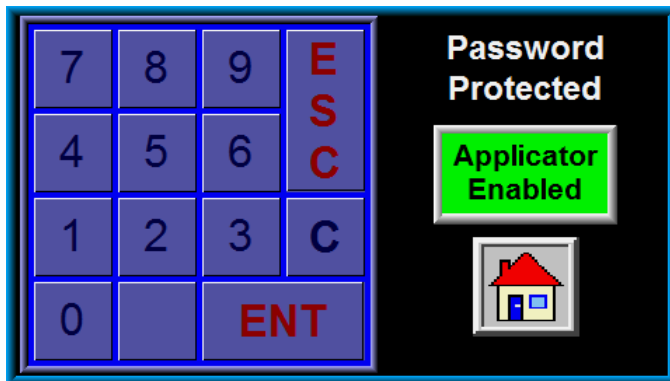
When you touch a number on the keypad, it will highlight. This is the only indication that a key was pressed since the password is not displayed. If you know you've entered a wrong number, press "C" to clear what you have and start again. "ENT" finishes the process.
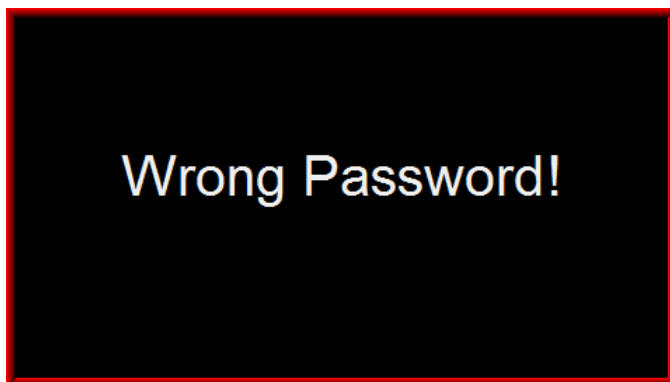
If the wrong password was entered, the screen to the left appears. The screen will appear for three second and then return to the first password screen.

MAIN MENU
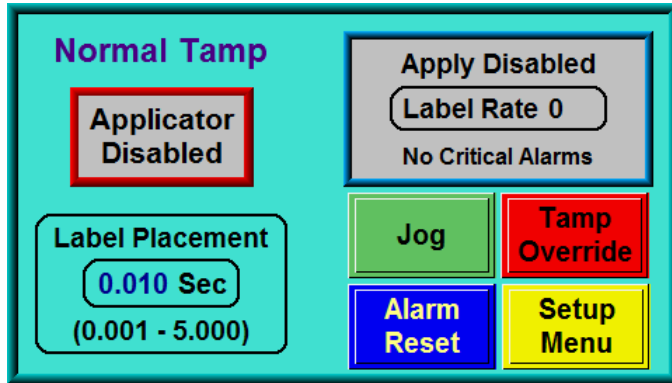
The main menu is divided into four sections. The upper right corner of the display is a status window. The purpose of this box is to inform the operator of the state of the applicator. The screen shown to the left appears immediately after going offline. If the applicator is online with no alarms, the status window will have a green background with the label rate displayed. If a warning alarm occurs, the background changes color and a message will appear indicating the nature of the alarm. Specific warning alarms were discussed previously.

The upper left side of the screen will change based on application type or whether the External Print option is on. The line of text above the enable/disable button describes the apply type or sequence so the operator knows how it is setup. The enable/disable button will be shown as above if External Print option is off. If this option is on the button above will be replaced with the following:


The ? was added because this option can add behavior that would not normally be expected. Pressing this key will take you to a help screen to describe the option and explain some of the issues you may be seeing.

The lower left corner is for label placement and is time-based only. This variable will delay the start of the label apply so it can be properly positioned on the product.

The lower right corner has buttons that gives access to important functions and variables needed to operate the applicator.

  Jog –If the applicator is enabled, the jog will cycle the applicator just like it was applying a label to a product. If the applicator was disabled, it would just blow and print another label.
  Tamp Override –When on, the tamp slide will extend which helps with setups and changing labels.
    Note: Not active while the applicator is enabled.
  Alarm Reset –Resets warning alarms.
  Setup Menu –Gives access to the setup parameters

The display is equipped with a backlight saver function that automatically turns off the backlight after 60 minutes of inactivity. Pressing any part of the display will turn the backlight on again. Also, the applicator will initiate a backlight wake-up in response to any critical alarm condition. The later feature insures that the operator has a visual indication of a critical alarm condition in systems without a light-stack assembly.

SETUP MENU

Because the setup menus are password-protected, pressing the setup key at the main menu will cause a password screen to appear. Entering the correct password will cause the setup menu to come up. From here the operator can go to the different setup sections. The operator can also bring the applicator online while making changes to the setups.
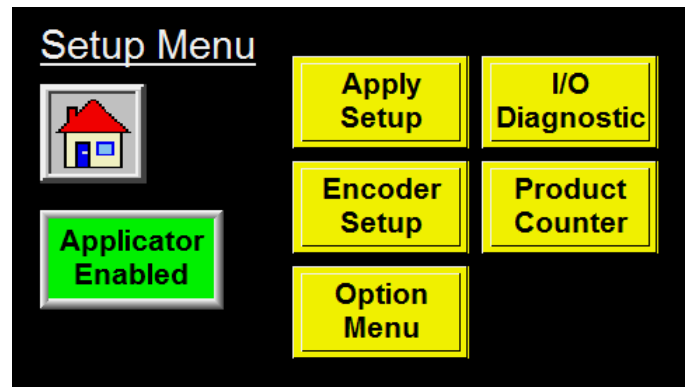
APPLY SETUP

The apply setup menu is accessed from the setup menu by pressing the apply setup key. The apply setup section gives the operator access to variables on the applicator that pertain to the applying a label.

The following items may be changed in this section:

Air Blast	Product Clearance	Apply Retract
Extended Air Assist	Apply Extend	
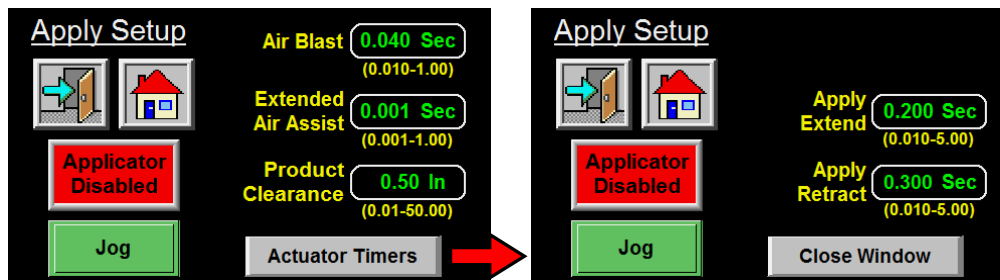
Air Blast -The air blast time is the interval of time that the air blast valve is turned on. Allowed values are .010 - 1 second.

Extended Air Assist -The extended air assist time is the interval of time after the print is complete until the air assist is turned off. It is used to help get the label in place on the label pad prior to being blown onto the product. Allowed values are between .001 - 1 sec.

Product Clearance –This is the time after a label has been applied until when the applicator will react to the product detect sensor. This is used to filter out multiple product detect signals from a single product.

Apply Extend –Extend timer is the allowed time for the actuator (rotary or linear) driving the label pad toward the product to get into position.

Apply Retract –The retract timer is the allowed time for the label pad to get home before a label is printed.

OPTION MENU

Here an operator can turn options on and off and if there are variables tied to the options, they can be changed.

Tamp Action –The 1800a can be setup to two different labeling sequences:

        Normal Tamp Action

        Inverted Tamp Action

The following is a description of the two sequences:

        Normal Tamp Action

         Apply Signal >>> Label Placement >>> Extend Actuator >>> Blow and Retract Actuator >>> Print Label

        Inverted Tamp Action

        Print Label >>> Extend Actuator >>> Apply Signal >>> Label Placement >>> Blow and Retract Actuator >>> Print Label

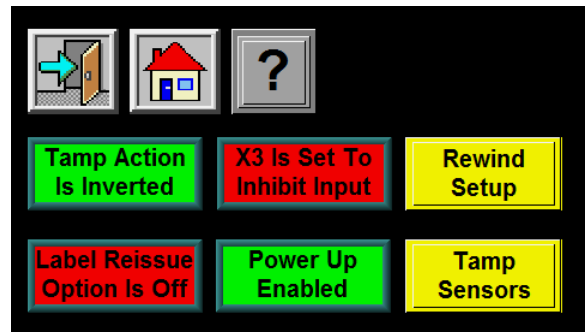**X3 Set To Inhibit/External Print** – The inhibit input on the applicator can be setup to inhibit the start of an apply cycle or it can be used to hold the printing of the label until a specific moment. If inhibiting the applicator, it is important to know that once a sequence starts, it will finish. It will not stop mid-apply. With it set to external print, the applicator will not print a label until this input is on.

Label Reissue -When the label reissue option is turned on it allows the applicator to reprint the last label format sent to the printer until another label format is received. The print engine will have to have the external reprint option turned on.

Power Up Disabled/Enabled - This option lets the operator chose whether the applicator is enabled or disabled on power-up.

Rewind Setup -When using the standard rewind, the delay on time starts when the print engine starts to move. After the delay on time, the rewind motor turns on. The delay off timer starts when the print engine stops moving and when complete, the rewind motor is turned off. The best setup is "0.00" for delay on and "1.00" for delay off.
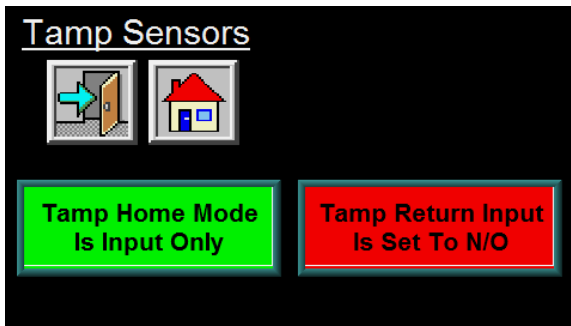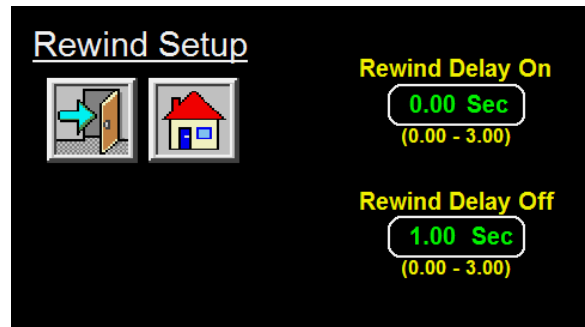
Tamp Sensors –For setting up tamp home and tamp return sensors.

Tamp Home Mode –With the tamp home mode off, the applicator will look at both the retract time and the tamp home sensor to turn the tamp home output on and to start printing another label. If the option is on, then the applicator only looks at the tamp home sensor. This is helpful when reaching into a machine to label and knowing when the label pad is home and out of the way is important.

Tamp Return Input –By default the applicator treats the tamp return input as if the sensor or switch is normally open. For those times when the logic is reversed, you can set the input to normally closed.

I/O DIAGNOSTICS

This section allows the operator to monitor inputs and to manually turn outputs on and off. This section will serve as a diagnostic tool for a technician.
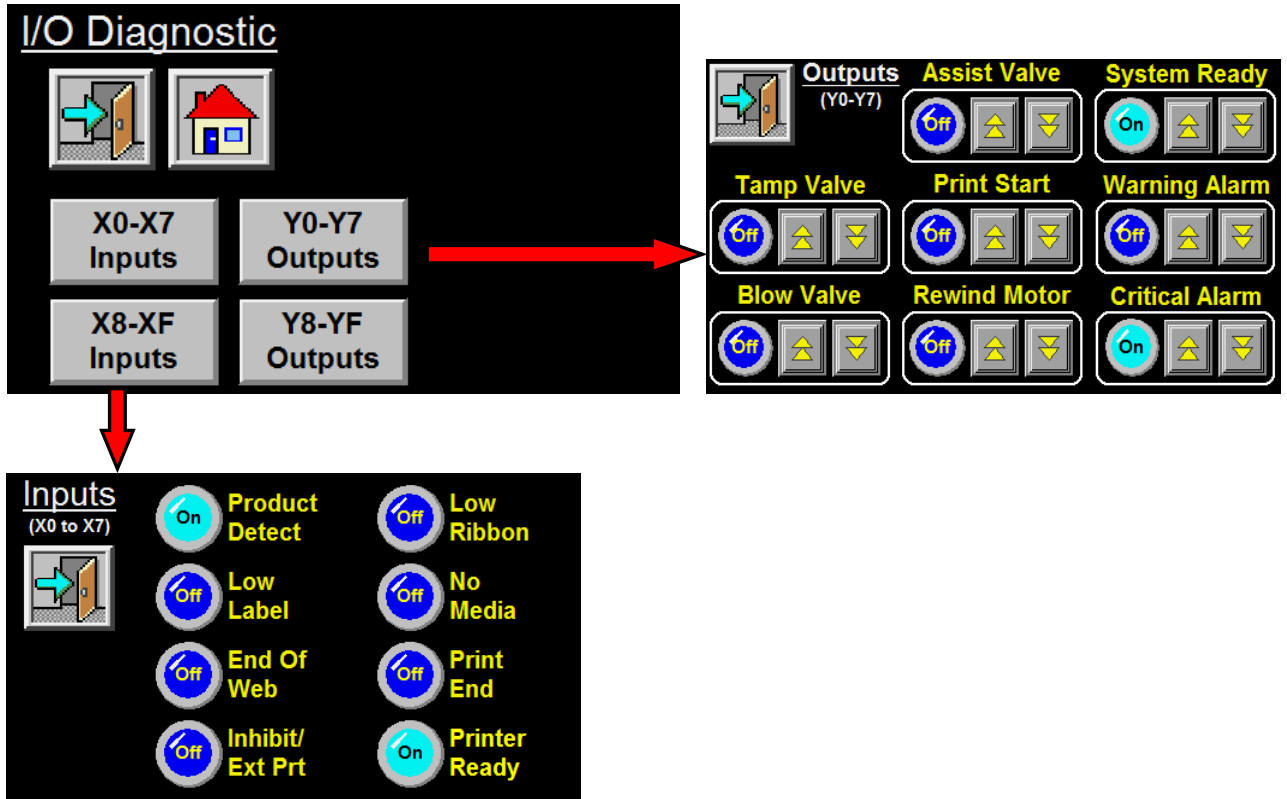
PRODUCT COUNTER

There is a product counter that acts like a totalizing counter. It will count every label cycle that was initiated by the product detect sensor but will not count jog sequences. The counter is saved and will be restored after a power cycle. It is only reset by using the counter reset key.

Note: This is not a preset counter where there is some logic tied to the counter value.
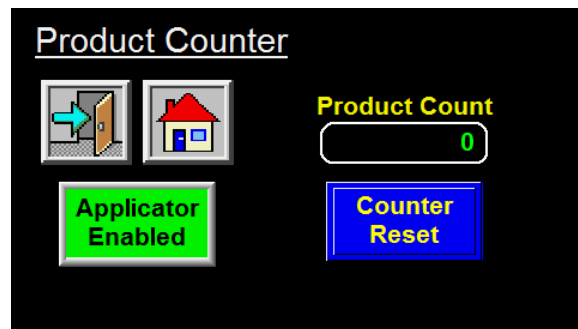
FACTORY DEFAULT

There are two places where touching the screen will cause the factory default screen to come up. One is on the software screen which appears on power up and one is on the option's menu. This is a password protected area and the password is "5115".

1800a Applicator
Software Version: 1800a-1a1.xx
(xx-xx-xx)
----- Restoring Variables -----

24

Or

| Tamp Action Is Normal | X3 Is Set To Inhibit Input | Rewind Setup |
| Label Reissue Option Is Off | Power Up Disabled | Tamp Sensors |
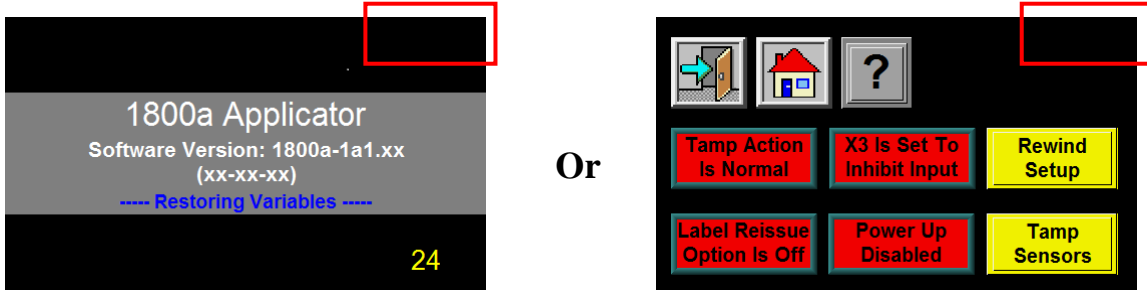
Pressing the factory default key will restore values that worked at the factory. This may be helpful if something was turned on that caused the applicator to stop working.

Factory Default

| Factory Default | Factory Checkout |
| Change Password | Display Setup Bar |

Are You Sure?

| Yes! Restore Factory Default Values | No! Exit Without Changing |

Loading Default Values

.... Please Wait ....

1800a Applicator
Software Version: 1800a-1a1.xx
(xx-xx-xx)
----- Restoring Variables -----

24

Setup Password

Custom Password
1800
(0 - 9999)

Set Password To Factory
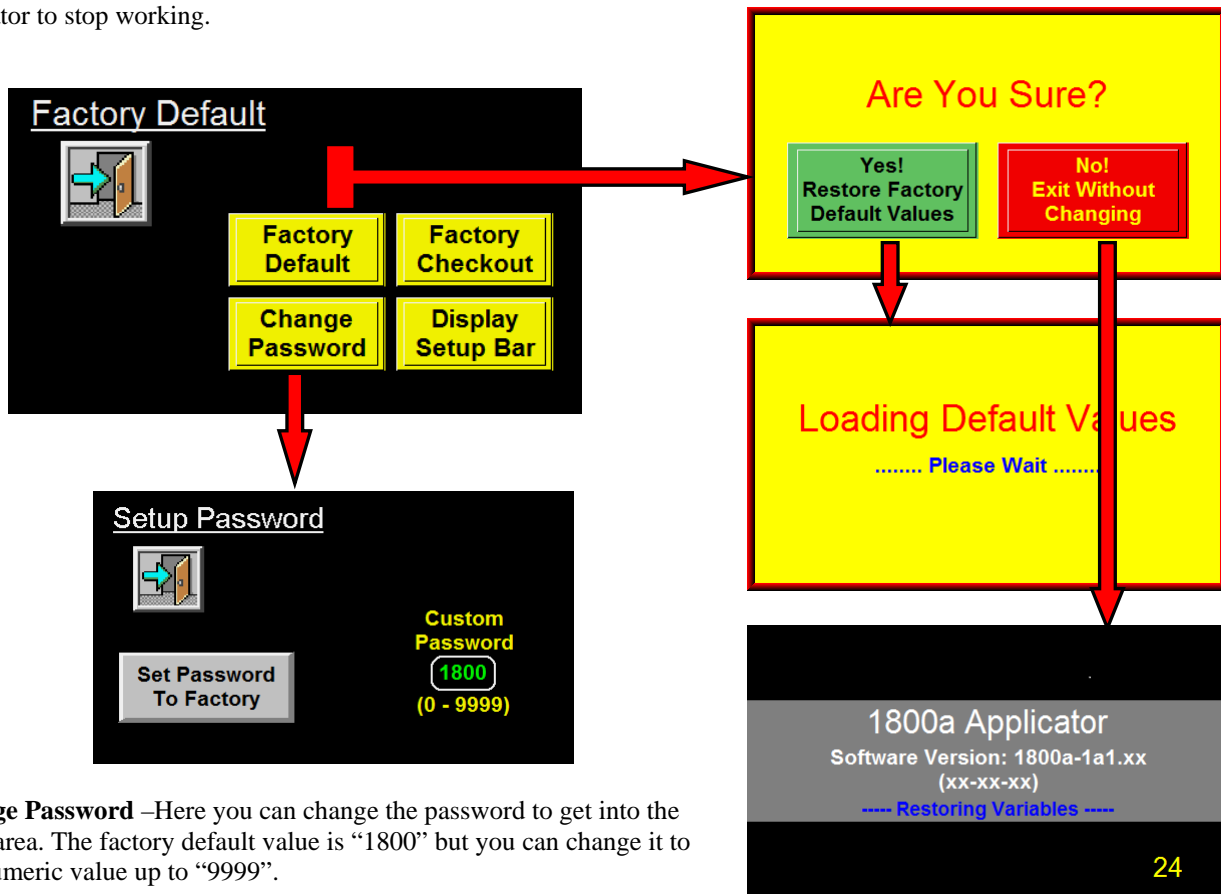
Change Password –Here you can change the password to get into the setup area. The factory default value is "1800" but you can change it to any numeric value up to "9999".

FACTORY CHECKOUT AND DISPLAY SETUP BAR IS ONLY FOR FACTORY USE.

1800a CONNECTORS

CONNECTOR DESCRIPTIONS

The connectors on this applicator will be on either side and on the back plate. Because this is an economy applicator, not all connectors are consider standard. Look at the description of each connector to determine if it will have to be ordered extra.

VALVE: Valve bank connector. The valve bank connector is located on the back panel of the applicator and will support a three station valve bank only. This connector comes standard with every applicator.

ALARM: Alarm light connector . The alarm light connector is also on the back panel and will support a three light alarm stack. This connector comes standard with every applicator.

PRODUCT: Product detect sensor connector. This is located on the unwind side of the applicator and comes standard.

LOW LBL: Low label sensor connector. Mounted with the product detect connector but it is not standard. The wiring harness is part of the low label option and is wired in if purchased with the applicator.

EOW: End of Web sensor connector. Mounted with the product detect connector but it is not standard. The wiring harness is part of the end of web option and is wired in if purchased with the applicator.

DISPLAY: For the display connection and is mounted on the apply-nose side. This connector is standard.

I/O: The I/O connector is not standard and must be ordered separately. This connector can be used for integrators to monitor applicator alarms and functions. It is important to remember that inputs to the 1800a are wired for 24 VDC NPN devices. This means when the device signal goes to 0 VDC, the applicator input will turn on. All outputs are 24 VDC NPN which means when they turn on, the applicator signal goes to 0 VDC.

Note: The max current for all the applicator outputs are 80ma. There are multiple outlets for some of the outputs so it is important to total the current draw of all devices using a certain output.
> *EXAMPLE: The applicator has an alarm light that uses 45ma and it tied to the critical alarm output. A customer wants to monitor the critical alarm output and ties a relay through the I/O port that draws 50ma. The two devices together can cause the critical alarm output to burn out.*

I/O Port Pin Definitions

The following is a list of the pre-wired functions of the I/O port. All outputs are NPN (sinking) with 80 ma load. Inputs are also for sinking devices.

- **Pin #1** (DC Power): 0 VDC

- **Pin #2** (DC Power): 24 VDC at 200ma

- **Pin #3** (System Ready): If there is no critical alarms, the tamp is enabled, inhibit input off, and the printer is online, the ready output is on.

- **Pin #4** (Warning Alarm): This output will turn on when the applicator receives a low label or low ribbon signal. The signal will stay low until the alarm is reset.

- **Pin #5** (Critical Alarm): This output will turn on when the applicator receives a no labels or no ribbon signal from the printer or if the end of web sensor is made. The signal will stay low until the alarm is reset.

- **Pin #7** (Tamp Home): The output turns on when ever the tamp home switch is made or the tamp retract timer times out.
    Note: Tamp home switch and the wired I/O is an option and is purchased separately

- **Pin #8** (Label on Pad): After a label has finished printing, the controller will look at the output of a vacuum switch to see if the label is on the pad. If so, the output turns on.
    Note: Vacuum switch and the wired I/O is an option and is purchased separately

- **Pin #11** (Product Detect): Taking this input low will start the labeling sequence of the applicator.

- **Pin #12** (Inhibit/External Print): This input will either stop the applicator from applying labels or will enable the print engine to print depending on how the input is configured.

APPLICATOR SETUP

When an applicator is shipped, it may be necessary to remove some assemblies in order to fit in the box. The following section will show different assemblies to aid in putting the applicator back together so it can be set up.

Unwind Assembly
The unwind assembly mounts to the applicator by fastening the two unwind mounting plates to the unwind and to the back of the applicator faceplate. The two plates are held together using four flat head screws. The end the unwind bolts to uses three flat head screws and the entire assembly is bolted to the backside of the applicator faceplate with four flat heads.
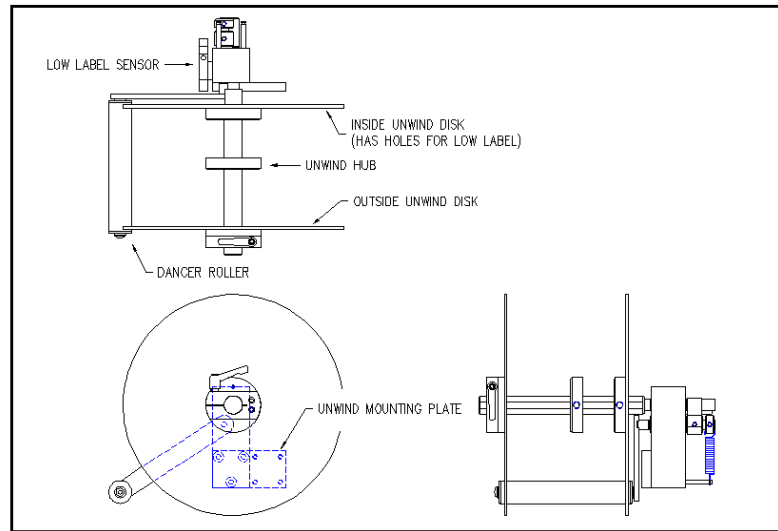
(unwind assembly)

Unwind disks
There will be two unwind disk assemblies per unwind. The inside unwind disk include a Lexan disk and hub screwed together. The inboard assembly will also have two holes in the disk for the low label sensor. The outboard assembly will have a solid disk and hub assembly that includes a ratchet handle for locking it in place. Place the inboard assembly so that the inside face of the disk is approximately 1/2" from the applicator face. This should match the web path of the print engine. When fastening the disk assembly to the unwind shaft, make sure the set screw is engaging against the flat of the shaft. Position the loose hub just short of the label width. This hub is for supporting the outboard end of the roll of labels. The outboard disk assembly will slide onto the shaft against the roll of labels and will lock in place by tightening down the ratchet handle.

Air Filter Installation
When the applicator is shipped, the air filter is off. The filter is sent with two 2" nipples and an elbow.
The attitude of the machine will determine how the filter should be plumbed.
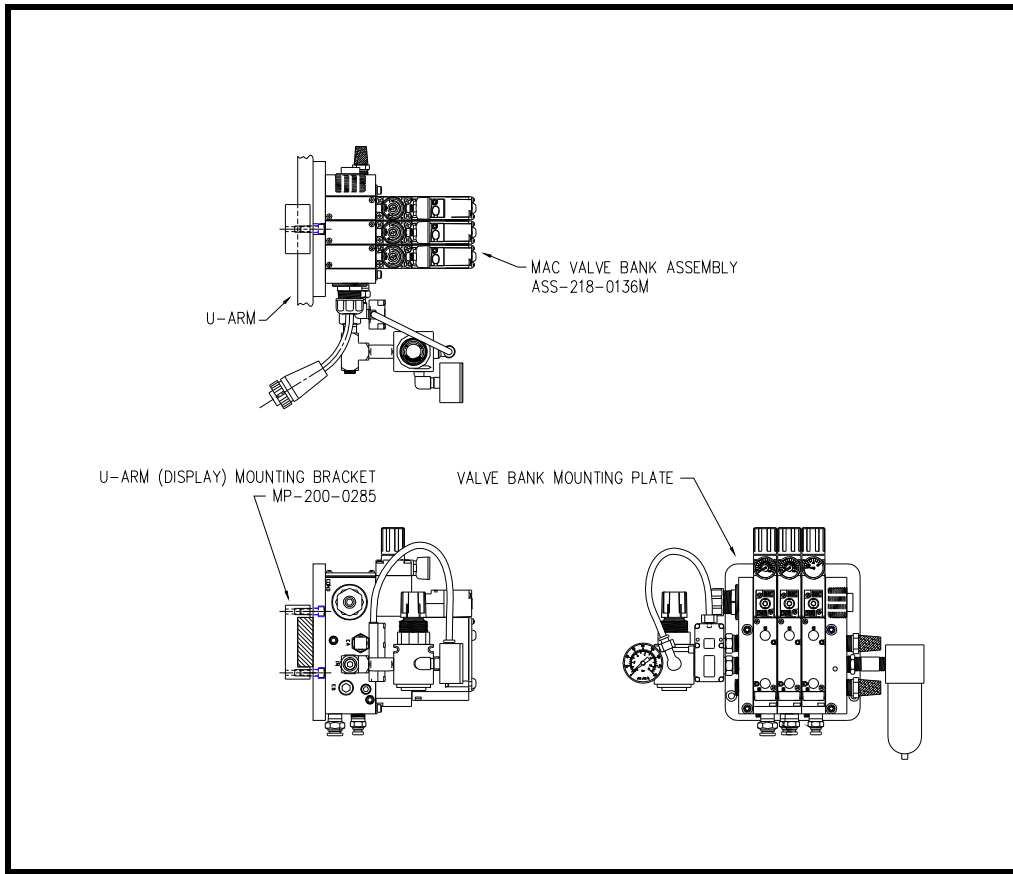
(Mac valve bank)

MAC Valve Bank
The figure above illustrates a MAC brand valve bank. The valve bank is mounted on the same side of the
applicator as the applicator nose. Mount the valve bank mounting plate to the u-arm by putting two ¼-20
shcs. through the two clearance holes on the mounting plate threading them into the tapped holes on the u-
arm mounting bracket. Then mount the valve bank to the valve bank mounting plate using (4) #10-32 x 2
1/2 " long shcs. with flat washers. Run the air lines directly into the appropriate connections on the actuator
or pneumatic device.

Tamp Assembly
This applicator only supports one tamp assembly compared to the 3600a series. It would be rare that it would be removed before shipping but even so it will have to be adjusted.
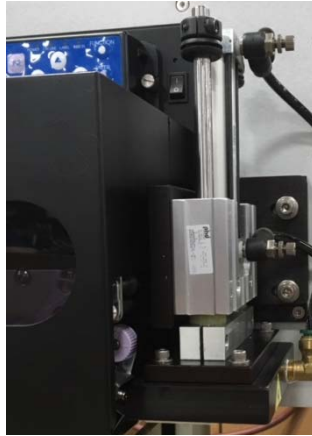
The assembly is held on by two ¼ shcs. marked as in/out adjustment in the figure below. These same two bolts will allow the label pad to be moved closer to the printer peel edge. To raise or lower the label pad, loosen two ¼ shcs. in the slide body (marked as up/down adjustment in the figure below). The label pad and manifold can be moved side to side using the four #10 shcs. in the manifold.

Run the air line from the "A" port of the tamp valve to the top cylinder port, and the "B" port of the valve to the bottom cylinder port. The label manifold is plumbed to the "A" port of the air blast valve. The "A" port of the air assist valve is connected to the assist tube.
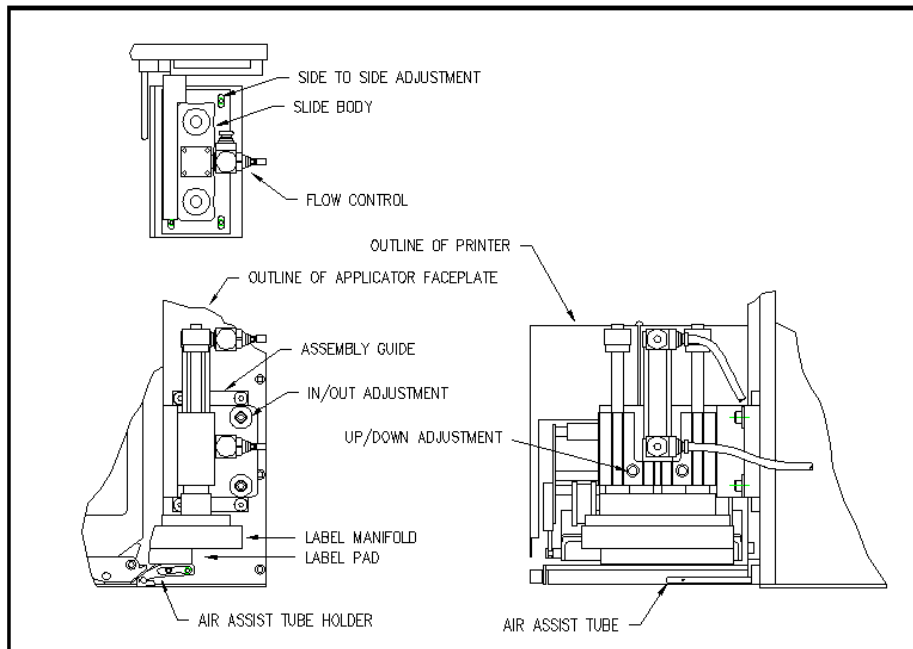
(standard tamp assembly)

Media Loading
The following are tips for loading labels and ribbon on the applicator.

Ribbon Loading
1- Press the tamp override key at the main menu on the HMI (refer to the display section of this manual). This will extend the tamp slide so the pad and manifold will not be in the way of opening the print-head.
2- Open the printer cover.
3- Refer to the printer manual for ribbon loading instructions.

Label Loading
1- Press the tamp override key at the main menu on the HMI (refer to the display section of this manual). This will extend the tamp slide so the pad and manifold will not be in the way of opening the print-head.
2- Loosen the ratchet handle that locks the outer unwind disk in place and remove disk.
3- Load a roll of labels onto the hubs on the unwind shaft. Make sure the labels are against the inner disk and are right side up.
4- Remove the first three feet of labels from the liner.
5- Thread the label stock around the dancer and guide rollers into the printer. Refer to the figure below for the web path from the unwind to the printer. Refer to the printer manual as to how to thread the printer. Make sure the liner passes between the peel edge and the air assist tube.

WEB PATH DIAGRAM
(RIGHT-HAND CONFIGURATION)
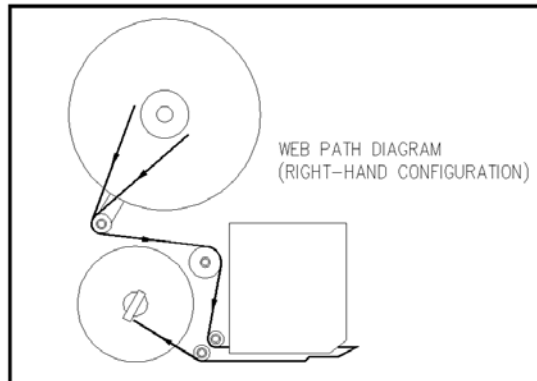
6- Remove the rewind pin and wrap the liner over the rewind mandrel. Replace the rewind pin and rotate the rewind mandrel to take the slack out between the rewind and printer.
7- Make sure the labels track straight from the unwind into the printer. Adjust the inner unwind hub if necessary.
8- Bring the guide collars within 1/64" of the liner.
9- Make sure the print head and any other latches are closed within the printer. Close the printer cover.

Applicator Nose Setup

1- Disable the applicator (refer to display section of this manual). This way adjustments can be made without the fear of the tamp slide actuating and injuring someone. Also load label formats into the print engine.

2- The label stop must be properly set for the applicator to work successfully. This is done through the printer and will be referred to as "Pitch Offset".
   a) With printing information in the buffer and the applicator disabled, press " **Jog** " to dispense a label.
   b) If the label stop is correct, the label should feed off the liner. If the next label out is flagged past the peel edge, the label stop must be decreased. If the label doesn't dispense completely off, then increase label stop. Refer to the printer manual as to how to change label stop

3- Tamp height needs to be set so a label feeds out in contact with the label pad. If the pad is too high, the label will not land consistently on the pad and the trailing edge of the label could come into contact with the peel bar of the printer when the tamp slide extends. If the label pad is too low, the label will dispense into the back of the pad and jam.

4- The inboard edge of the label pad must match the inboard side of the label. Refer to the side to side adjustments to move the pad.
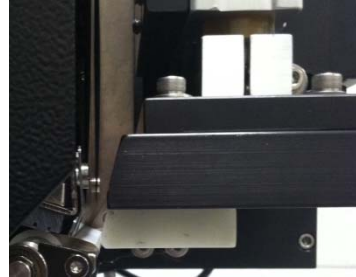
5- Position the air assist tube so the hole or holes are centered on the label and pointing approximately "¼" in from the front edge of the label pad. The air pressure should be set at 20-30 P.S.I. Press the jog key to dispense a label. If the label doesn't feed out against the label pad and the vacuum doesn't capture it, try increasing the air pressure. Continue until the vacuum captures the label.
   Warning: There are other factors that can keep the label from staying on label pad. You may need more vacuum, increased or decreased label dive, or the air assist tube may need to be rotated.

6- Air pressure for the tamp slide should start at 40 P.S.I., for the air blast at 30-40 P.S.I., and for the vacuum pump at 20-40 P.S.I.

7- Air blast time is set through the display and should be set long enough to apply a label firmly to the product. Setting the time too high will result in lower label rate. Start at .03 seconds.

Actuator Setup

Go to the display and enable the applicator. Press the jog key and observe the tamp action. The tamp slide should move smoothly. If the action is fast and slams into its stops, adjust the flow controls so the action slows. To slow down the extend speed, turn the bottom flow control clockwise. The retract flow control is on top. By turning counter-clockwise, the slide will move faster.

Actuator extend and retract times are changed through the applicator display. Refer to the display section of this manual as to where these menus are and how to change them. Tamp extend time needs to be set so the slide fully extends before the air blast turns on. If the blow off occurs too soon, the label application will not be accurate. If the time is too long, it adds to cycle time and will slow label rate. Tamp return time is the time allowed for the slide to return home before printing another label. If this time is too short, the label will dispense into the back of the label pad. If too long it will add to the cycle time of the machine.

   Note: If tamp switches are added, the tamp extend and retract times should be left high since the switches will over-ride time values.

Label Static Test

It's important to know if the applicator can repeat putting labels in the same place over and over. Without knowing this, when label placement problems occur on the line, you won't know whether the machine is not repeating or the problem lies with the product.

To test repeatability, position the applicator so when the tamp is extended the label pad is approximately 1/8" away from the product. Jog several labels onto the product. If the label stack is within the tolerances you have to work with go on to the product setup section. If not, go through the following suggestions to help find the problem.

1- Make sure the labels are consistently stopping in the same place on the label pad. If this is OK go to step 7; if not, go to step 2.

2- Check label stop. One label should be completely dispensed off the liner while the next label should not be touching it. If the label stop varies more than 1/32" with each cycle, refer to the printer manual to correct. When this is corrected, go back and try the static test again. If this was OK, go to step 3.

3- Make sure the label pad surface is clean. If clean, go to step 4 and if not, clean and try static test again.

4- Make sure the vacuum is set right. If the label flutters when feeding across the pad then the vacuum is too high. If the label falls off or moves after the label has left the liner, then it's not high enough. If the label feed looks smooth go to the next step.

5- Work with the air assist pressure and the position of the air assist tube until the label feeds more consistent onto the pad. Re-try the static test. If the results are still not good enough, go to step 6 but if they-re OK, go to 7.

6- Make sure you are working with good label stock. Try another roll of labels and see if you get the same results.

7- Check the distance from the label pad to the product. If the distance is too large, the labels may float too much. Try lowering the machine so the label pad just clears the product (within 1/8").

8- Is the label pad made for the label you're using? Look to see if the labels are laying down flat and stacking well. If the hole pattern does not match the label, results will be uncertain.

PRODUCT SETUP

The applicator should be setup and have successfully passed the static test before continuing with this section. If you have skipped the applicator setup section and have trouble with the application here, it will leave you with more areas to troubleshoot while fixing the problem.

Regardless of which type of applicator nose you are using, it is important to control the product prior to labeling. If you do not present the product to the applicator in the same position at uniform speed, label positioning may not be consistent on the product. If necessary, install guide rails to insure products follow the same path along the conveyor.

STANDARD PRODUCT SENSORS

The standard product detect sensors are barrel-type sensors that can be retro-reflective, diffused or a background suppression. The picture to the right is the diffused sensor but the retro-reflective is the same except there is no potentiometer to adjust the gain. The background suppression is a barrel-style but from a different model series. It will wire the same as the diffused when changing from light to dark or dark to light operated.

LEADING EDGE WIRING FOR RETROREFLECTIVE
TRAILING EDGE WIRING FOR DIFUSED

BRN (C4/1)
BLK (C4/4)
BLU (C4/3)
WHT (C4/2)

STABILITY LED
OUTPUT LED

GAIN (DIFFUSED ONLY)
OUTPUT LED

TRAILING EDGE WIRING FOR RETROREFLECTIVE
LEADING EDGE WIRING FOR DIFUSED

BRN (C4/1)
WHT (C4/4)
BLU (C4/3)
BLK (C4/2)
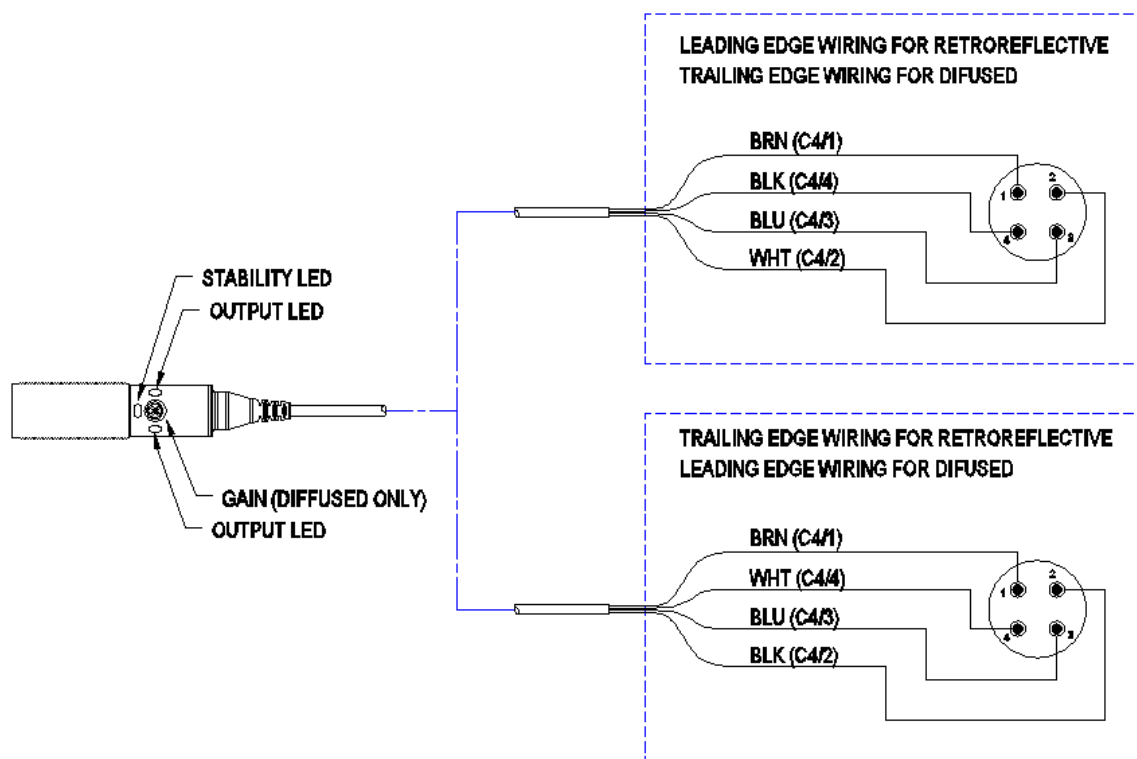
Note: The previous standard sensors had a rotary switch on the back of the sensor to change from Light Operate/Dark operate. The new sensors must have wires moved inside the hood of the sensor connector.

RETRO-REFLECTIVE SENSOR
1) Position the sensor and the reflector across from each other.
   (make sure the sensor is mounted slightly upstream of the label application point)

2) Plug the sensor into the back of the applicator.

3) Power the applicator on.

4) Make sure the stability light is steady. If not, move the reflector until it is.

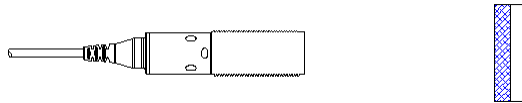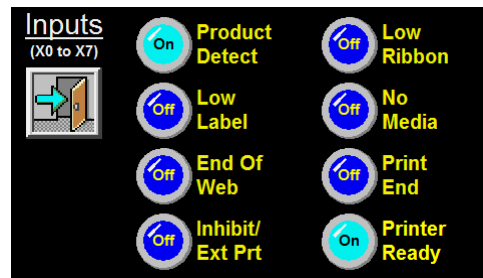5) Go to the I/O diagnostic and the X0 to X7 input page and put a product between the sensor and the reflector. If the product input turns on in the display, then the sensor is set to leading edge apply; if not trailing edge apply. If the sensor is not looking at the correct edge, reverse the wires on pins 2 and 4 on the connector that plugs into the applicator connector plate.

Inputs (X0 to X7)

On Product Detect	Off Low Ribbon
Off Low Label	Off No Media
Off End Of Web	Off Print End
Off Inhibit/ Ext Prt	On Printer Ready

DIFFUSED SENSOR
This sensor does not have a reflector but will follow a similar setup as the retro-reflective sensor.

1) Position the sensor slightly upstream of the label application point.

2) Plug the sensor into the back of the applicator.

3) Power the applicator on.

4) Put a product in front of the sensor and make sure the stability light is on. If it is not on or is blinking, turn the potentiometer until it is. Make sure the sensor does not see things in the background when the product is not in place. This can cause unwanted apply signals to the applicator.
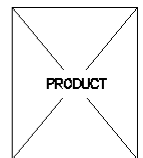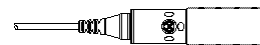
5) Go to the I/O diagnostic and the X0 to X7 input page and put a product in front of the sensor. If the product input turns on in the display, then the sensor is set to leading edge apply; if not trailing edge apply. If the sensor is not looking at the correct edge, reverse the wires on pins 2 and 4 on the connector that plugs into the applicator connector plate.

BACKGROUND SUPPRESSION
This sensor has a 50mm far limit cut-off. This means it will see objects that are less than 2" away and ignore the rest. The setup for this sensor is the same as the diffused except it does not have stability light or a potentiometer.

APPLICATOR LABELING VARIABLES

LABEL PLACEMENT

When a product detect signal is received, the product must travel the label placement time before the applicator will apply a label. Label placement value gives you the ability to adjust where the label is applied on the product.

More Label Placement = label moves back on the product
Less Label Placement = label moves forward on the product

Label placement can only be changed from the main menu.

PRODUCT CLEARANCE

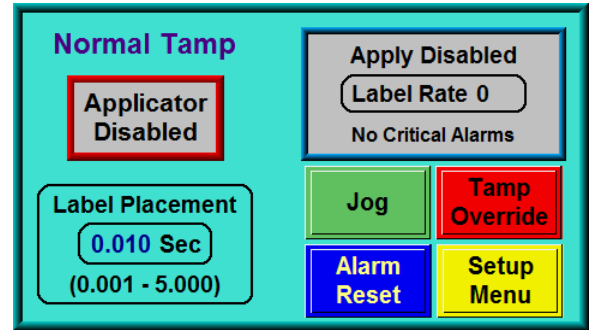The product clearance function is used if more than one apply signal is generated per product. The clearance starts at the application the label which would be when the air blast starts. Once the product clearance starts, the applicator will ignore any product detect signals it receives until completed.

Product clearance can be set in the apply setup menu. More details of this function are in the display section of this manual.
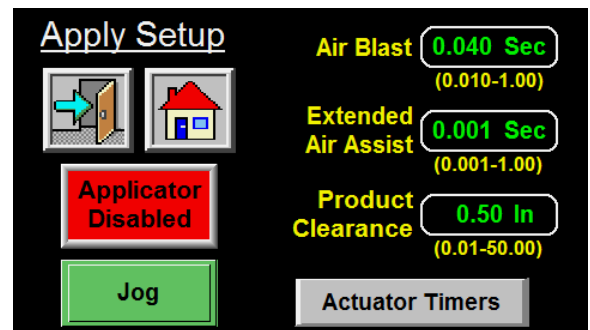
APPLICATOR INSTALLATION NOTES

In this section are some miscellaneous notes that can be used when installing an applicator to a production line. It will not step you through every detail of an installation because every installation is different but instead, it will give some things to look out for. We are also assuming that the person installing the applicator is familiar with print/apply applicators or has been trained by the factory.

The applicator should have been setup, printing and applying labels statically before you start with this section. This includes setting the correct extend and retract times for the actuators.

First put the applicator in the correct orientation. Move the product to the applicator making sure it is guided in the same path and position as during a production run. Extend the label pad using the tamp override button on the display. Now move the applicator up and down/in and out so the label pad is 1/8 to 1/4 inch from the product surface. To get the flow direction placement of the label, change the label placement value or move the product detect sensor. Make sure the product detect sensor is mounted upstream of the application point. Try to position it so label placement is low. A high label placement value can slow label rate to the point you will start labeling every other product.

MAINTENANCE

 DISCONNECT AIR AND POWER TO THE APPLICATOR BEFORE PERFORMING THE FOLLOWING PROCEDURES. INJURY FROM MOVING PARTS AND/OR ELECTRICAL SHOCK MAY OCCUR.

GENERAL MAINTENANCE

Daily Maintenance

1- Clean the print head and platen roller each time you change ribbon. Refer to the printer manual for the correct procedure and additional daily checks.

2- Examine the air filter for water or oil collection. Drain if necessary.

3- Examine the tamp pad and the rollers used to guide the web for adhesive build up. Clean if needed with alcohol or similar solvent.

4- Look for loose screws, rollers, etc.

Weekly Maintenance

1- Clean peeler bar, rollers, and tamp pad.

2- Examine machine for air leaks.

3- Wipe down the outside of the applicator and product detect lens.

4- On extended peel edge noses, check the uhmw tape on the peel edge for wear or nicks. Replace if needed.

Semi-Annual

1- Replace filters.

2- Check vacuum pump for an accumulation of debris. Replace if necessary.

3- Examine pulleys, belts and rewind clutch for wear.

DANCER ARM ADJUSTMENT

DISCONNECT AIR AND POWER TO THE APPLICATOR BEFORE PERFORMING THE FOLLOWING PROCEDURES. INJURY FROM MOVING PARTS AND/OR ELECTRICAL SHOCK MAY OCCUR.

The figure below shows the layout of the unwind brake band. It's important that the brake stops the unwind from turning but if it's too tight the printer will have a hard time pulling the web off when the label roll nears the end.

Note: Even if the unwind brake is adjusted properly, it will be of little value if the core of the label roll slips on the unwind hubs. Making sure the unwind disks are tight against the roll of labels will help.

1- Hold the dancer arm in the position it should be when the brake is on. Loosen the collar that the brake band is anchored to, rotate it so the band is tight and tighten back down. Make sure the brake band is wound in the right direction.
2- Loosen the collar with the spring anchor and tighten so the dancer arm is held up with enough tension to stop the unwind from turning. It should not be so tight as to create too much "pull off" force when the printer is running as this may cause print registration problems.
3- Check the performance of the unwind with a full roll of labels and a small diameter roll. Make adjustments as necessary.

(adjusting brake band)
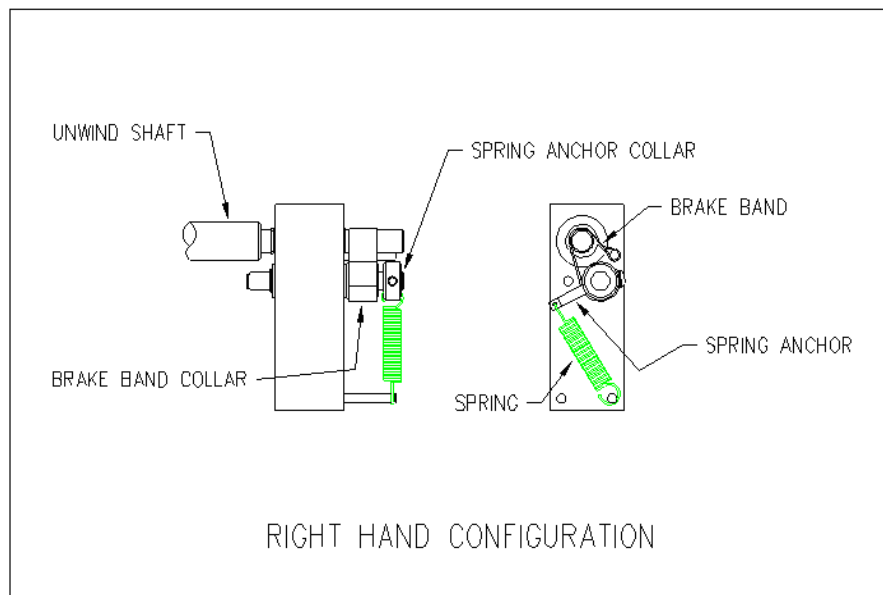
REWIND CLUTCH ADJUSTMENT

DISCONNECT AIR AND POWER TO THE APPLICATOR BEFORE PERFORMING THE FOLLOWING PROCEDURES. INJURY FROM MOVING PARTS AND/OR ELECTRICAL SHOCK MAY OCCUR.

The rewind is used to take-up the liner leaving the printer (after the labels have been dispensed). It's important to set the rewind tension so the liner is taken up even at the end of a roll when the rewind is full. Also, the tension should not be too high so the labels are being pulled through the print head. This will cause poor print quality and label stop will not be consistent.
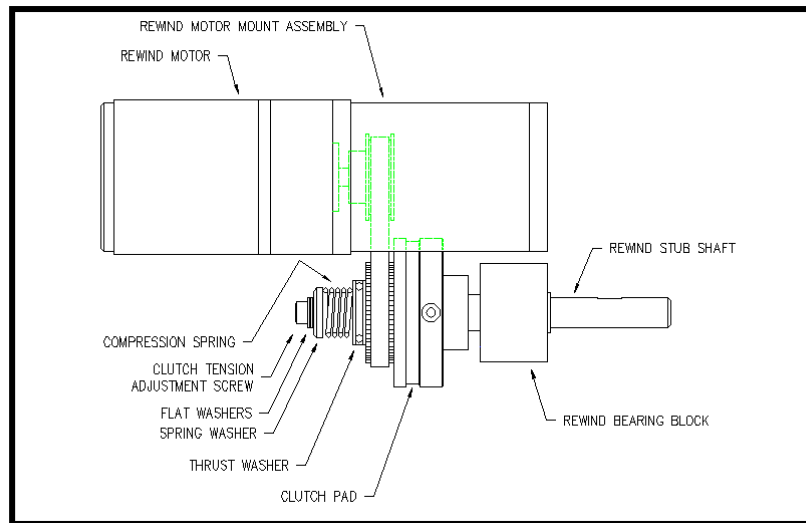
(rewind/clutch assembly)

1- Remove power and air to the machine.

2- Remove the stainless cover.

3- CAREFULLY remove the tension adjustment screw and all washers (NOTE: the spring is under compression load). Keep track of how many flat washers are on the outboard and inboard sides of the "spring washer".

4- If the rewind tension was too tight, move one or two of the flat washers from the outboard side of the "spring washer" to the inboard side (nested inside the compression spring). This will relieve the pressure on the clutch pad.   If the tension was too loose, move one or two flat washers from inside the compression spring to the outboard side of the "spring washer". This will increase pressure on the clutch pad.

5- Carefully re-apply the power and air to the machine and test. Re-adjust if necessary.

6- Remove power and air and replace the cover on the machine if everything tests OK.

Changing Clutch Pads

1- Remove power and air to the machine.

2- Remove the stainless cover on the back of the machine.

3- Carefully remove the tension adjustment screw, flat washers, spring washer, spring and thrush washer. NOTE: Keep track of how many flat washers are on the outboard and inboard sides of the "spring washer" to maintain the same pressure on the clutch pad when re-assembled.

4- Work the belt off the pulley/pressure plate and slip off the pressure plate.

5- Replace the clutch pad.

6- Re-assemble and adjust the tension for the new clutch pad.

Belt Tension

1- Remove power and air to the machine.

2- Remove the stainless cover over the rewind assembly.

3- Proper Tension: 1/4"- 3/8 " Belt Deflection.

4- Loosen the two ¼" socket head cap screws that bolt through the rewind motor mount assembly to the faceplate of the applicator.

5- Move the rewind motor assembly until the belt tension is correct and re-tighten the two ¼" socket head cap screws.

6- Replace stainless cover.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Nothing works.	Power cord is loose, defective or not plugged in.	Inspect the cord to find the problem.
	A.C. line fuse blown.	Find the cause of the electrical short and correct.
Power switch on, printer is on, no display.	Bad power supply.	Check power supply.
	Cables are not plugged into display.	Make sure cables are plugged in.
Power switch on, display is lit and working; printer not on.	Printer turned off.	Turn the printer on.
	Power cord going to the printer is disconnected.	Plug the printer power cord in.
Label liner breaking.	Labels are not threaded correctly.	Re-thread labels.
	Unwind/rewind disks or guide collar not aligned with printer.	Adjust disks and collars so the labels flow through the printer.
	Adhesive build-up.	Clean as necessary.
	Label jammed in printer.	Clear jam.
	Bad roll of labels.	Replace label roll.
Labels are not consistently stopping on label pad.	Vacuum pump not working.	Clean or replace pump.
	Too little or too much vacuum.	Adjust vacuum pressure.
	Air assist too high or too low.	Adjust air pressure.
	Tamp pad not positioned correctly to the peel edge.	Check with the applicator setup section on how to position the label pad.
	Air assist tube not positioned correctly.	Adjust the position of the air assist tube.
	Adhesive build-up on the pad.	Clean label pad.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Labels are consistent on the label pad, but not on product.	Product is not consistently presented to the applicator.	Make sure product speed is consistent. Make sure the product is the same distance from the label pad every time.
	Air blast is too high or too low.	Adjust the air pressure.
	Product detect sensitivity or position.	Move and adjust the product detect sensor so it is repeatable.
	Labels are blown off before tamp is fully extended.	Enter a higher value for the tamp extend time.
	Label pad does not match the label.	Install the right label pad.
Valves do not turn on.	Air pressure is too low.	Turn air pressure above 20 psi and try again. The air assist valve is different and can operate at a lower pressure.
	Valve bank plug is not connected to the applicator.	Connect the valve bank plug.
	Valve spool is stuck.	Consult factory for the procedure to remove spool.
	Bad solenoid.	Replace solenoid.
	Dwell times to short.	Increase dwell times through the applicator display.
Tamp valve turns on but the slide does not extend.	Air pressure is too low.	Increase air pressure.
	Flow controls are closed too much.	Open flow controls.
	Slide guide rods are bent.	Replace slide.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Machine will not cycle.	No label formats in print buffer.	Send label format. Check printer manual for parameters.
	No product detect signal.	Verify that that the product detect sensor works. Replace if necessary.
	Printer I/O cable not plugged in.	Reconnect cable.
	Printer fault.	Correct the printer problem.
	The applicator is disabled	Enable applicator
Label application rate is too fast for the applicator to keep up.	Printer is taking too long to process data or to print label.	Check software and compiling time; increase print speed.
	Excessive dwell times for air blast, tamp extend/retract, or air assist.	Go through the setup procedure for proper setting.
	The label print and apply cycle may be too long for the product rate.	Slow product rate.
Applicator cycles at random.	Loose or vibrating product detect sensor.	Check and correct.
	Product detector alignment is marginal.	Refer to product setup on how to set sensor.
	Loose wiring connections.	Check cables and wiring harnesses inside applicator.
	R.F. interference.	Isolate and correct.
No label feed.	Printer is not configured correctly.	Refer to printer manual.
	No label data in print buffer.	Send label data to printer.
	No external print signal sent.	Investigate and correct.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Compressed print on labels.	Applicator unwind brake is too tight creating too much pull through the printer.	Loosen unwind tension.
	Worn or damaged platen roller.	Replace the printer platen roller.
Printing registration is early.	Applicator unwind is not properly tensioned.	Adjust unwind tension.
Elongated print on labels.	Rewind has too much tension on it.	Re-adjust slip clutch.
Printing registration is late.	Rewind tension is too tight, not allowing a complete back feed.	Re-adjust slip clutch.
Poor print quality		Refer to printer manual.
Labels print continuously without being applied.	Printer configuration is wrong.	Check printer settings.
	Print end signal was not received from printer.	Call factory for help.
	Lost 24 vdc power supply.	
Alarm messages will not clear.	Printer turned off.	Turn printer on.
	The problem was not fixed before telling the applicator to reset.	Correct the problem at the source of the alarm signal.
"No Response From PLC" meesage on display.	Display cable is disconnected.	Check cable connections.
	Bad display cable.	Replace cable.

PRINTER SETTINGS

Unlike the 3600a, this applicator only supports the Sato LT408 print engine. Setting the parameters for this printer is done through its display and operator's manual should be consulted to learn where the parameters are at and how to change them. The following are parameters that have to be set in order for the applicator to work.

Advance Mode Settings
Printer Type = Dispenser
External Signal = Type 4

Service Mode Settings
Ext 9 Pin Select = Mode 2

Options like backfeed, direct or thermal transfer, etc. will be up to the operator to decide how to set.

An applicator coming from the factory will have these options already turned on. If a print engine is installed from another source, use the printer manual to navigate the printer menu.

SPARE PARTS

AND

APPLICATOR DRAWINGS

1800 PRINTER APPLICATOR SPARE PARTS LIST
When ordering parts, present Serial Number of 1800

1800 SERIES CORE UNIT SPARE PARTS LIST		
RECOMMENDED TOOL		
Part Number	**Recommended Qty**	**Description**
PE-TE6000	1	ENTRELEC WIRING TOOL
RECOMMENDED SPARE PARTS		
Part Number	**Recommended Qty**	**Description**
PE-PS1076	1	24VDC POWER SUPPLY
PE-FU2090	1	6.3 AMP FUSE
EXTENDED SPARE PARTS		
Part Number	**Recommended Qty**	**Description**
ASS-200-0427	1	PRODUCT DETECT SENSOR ** **JOB SPECIFIC** **
PE-RT1000	1	1"W X 6"L REFLECTIVE TAPE
PE-CO1018	1	POWER CORD
ASS-238a-0126	1	3600a DISPLAY ASSEMBLY (Program specific)
MP-PLC1015	1	PLC **(Program specific)**
PE-RE1063	1	MOTOR RELAY

1800 PRINTER APPLICATOR SPARE PARTS LIST
When ordering parts, present Serial Number of 1800

NON-POWERED UNWIND ASSEMBLY SPARE PARTS LIST		
WEAR ITEMS (12" UNWIND ASSEMBLY)		
Part Number	**Recommended Qty**	**Description**
PM-BB1030	1	UNWIND BRAKE BAND
RECOMMENDED SPARE PARTS (12" UNWIND ASSEMBLY)		
Part Number	**Recommended Qty**	**Description**
SAS-238-0137	1	5" DANCER ROLLER ASSEMBLY w/o SHAFT
PM-FASP30434	1	TENSION SPRING
ASS-238-0180L **or**	1	LH UNWIND BEARING BLOCK ASSEMBLY
ASS-238-0180R	1	RH UNWIND BEARING BLOCK ASSEMBLY

STANDARD REWIND ASSEMBLY SPARE PARTS LIST		
WEAR ITEMS (REWIND ASSEMBLY)		
Part Number	**Recommended Qty**	**Description**
PM-BELT1015	1	REWIND BELT
MP-238-0274	1	3" CLUTCH PAD
ASS-200-0143	1	SLIP CLUTCH ASSEMBLY
EXTENDED SPARE PARTS (REWIND ASSEMBLY)		
Part Number	**Recommended Qty**	**Description**
PM-BE1232	1	REWIND CLUTCH THRUST BEARING
PM-FASP30540	1	REWIND CLUTCH SPRING, MED DUTY
ASS-218-0428	1	REWIND GEAR MOTOR

1800 PRINTER APPLICATOR SPARE PARTS LIST
When ordering parts, present Serial Number of 1800

TAMP SPARE PARTS LIST		
RECOMMENDED SPARE PARTS		
Part Number	**Recommended Qty**	**Description**
MP-211-0217-7	1	AIR ASSIST TUBE **THIS IS JOB SPECIFIC**
EXTENDED SPARE PARTS		
Part Number	**Recommended Qty**	**Description**
PM-FIL1010	1	WATTS FILTER
PM-VA2392M	1	2.4 WATT DC SOLENOID
PM-VA2396M	1	30 PSI AIR ASSIST REGULATOR
PM-VA2397M	1	80 PSI TAMP/BLOW REGULATOR
ASS-218-0136M	1	TAMP 3-STATION VALVE BANK ASSEMBLY
SLIDE ASSEMBLIES		
Part Number	**Recommended Qty**	**Description**
ASS-214-0108-1 **or**	1	1" SLIDE ASSEMBLY
ASS-214-0108-2 **or**	1	2" SLIDE ASSEMBLY
ASS-214-0108-3 **or**	1	3" SLIDE ASSEMBLY
ASS-214-0108-4 **or**	1	4" SLIDE ASSEMBLY
ASS-214-0108-6 **or**	1	6" SLIDE ASSEMBLY
ASS-214-0108-8 **or**	1	8" SLIDE ASSEMBLY
ASS-214-0108-10 **or**	1	10" SLIDE ASSEMBLY
ASS-214-0108-12	1	12" SLIDE ASSEMBLY

1800 APPLICATOR SPARE PARTS LIST
When ordering parts, present Serial Number of 1800

1800a OPTIONS SPARE PARTS LIST
NOTE FOR THESE OPTIONS, THE APPLICATOR MUST HAVE AN I/O INTERFACE HARNESS

OPTIONS: RECOMMENDED SPARE PARTS (LOW LABEL, WEB BREAK ALARMS)

Part Number	Recommended Qty	Description
ASS-218a-0139	**1**	I/O INTERFACE HARNESS
PE-LI1088	1	RED,YELLOW,GREEN LED ALARM LIGHT (BANNER)
ASS-200-0422	1	LOW LABEL SENSOR (w/o BRACKET)
PE-CON1020	1	LOW LABEL HARNESS (GOES WITH ASS-200-0422)
ASS-200-0423	1	END OF WEB SENSOR (w/o BRACKET)
PE-CON1025	1	EOW HARNESS (GOES WITH ASS-200-0423)

OPTIONS: RECOMMENDED SPARE PARTS (TAMP HOME SENSOR)

Part Number	Recommended Qty	Description
ASS-218a-0139	1	I/O INTERFACE HARNESS
ASS-238-0433	1	TAMP HOME SENSOR (w/o BRACKET)

** CYLINDER MUST BE DESIGNATED WITH AN "E"**

OPTIONS: RECOMMENDED SPARE PARTS (SMART TAMP - PHOTOEYE)

Part Number	Recommended Qty	Description
ASS-218a-0139	1	I/O INTERFACE HARNESS
PE-SE0985	1	SM312W-QD SENSOR ** **JOB SPECIFIC** **

OPTIONS: RECOMMENDED SPARE PARTS (SMART TAMP - MECHANICAL)

Part Number	Recommended Qty	Description
ASS-218a-0139	1	I/O INTERFACE HARNESS
PE-SW1110 **or**	1	OMRON LIMIT SWITCH (ARM STYLE)
PE-SW1105 **or**	1	OMRON LIMIT SWITCH (BUTTON ROLLER STYLE)
PE-SW1100	1	OMRON LIMIT SWITCH (BUTTON STYLE)

OPTIONS: RECOMMENDED SPARE PARTS (LABEL ON PAD OPTION)

Part Number	Recommended Qty	Description
ASS-218a-0139	1	I/O INTERFACE HARNESS
ASS-200-0459	1	VACUUM SWITCH ASSEMBLY

OPTIONS: RECOMMENDED SPARE PARTS (QUICK DISCONNECT PAD & MANIFOLD)

Part Number	Recommended Qty	Description
PM-FASSBP11000	4	BALL PLUNGERS
MP-238-0270	1	QUICK CHANGE SLIDE TRANSITION PLATE

BILL OF MATERIAL
CTM-218AL-TXS-12X-SX

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	ASS-218A-0123L	ELECTRICAL BOX BASE PLATE
②	1	MOD-238-0122L	12" UNWIND ASSEMBLY
	1	MOD-238-0122AL	12" UNWIND ASSEMBLY (Reels-up)
③	1	ASS-238-0144-12	REWIND SPINDLE w/ DISK
	1	ASS-200-2137	FILM REWIND
④	1	WAS-238-0130	U-ARM ASSEMBLY
⑤	1	PE-WLT-408	SATO Lt408 PRINT ENGINE
⑥	1	PE-218-0420	APPLICATOR to SATO SE INTERFACE
⑦	2	MP-238-0241	TAMP GUIDE
⑧	1	MP-238-0242	AIR ASSIST TUBE HOLDER
⑨	1	MP-211-0217-5	AIR ASSIST TUBE
⑩	1	ASS-218-0136M	3-STATION VALVE BANK ASSEMBLY
⑪	1	ASS-238a-0126	DISPLAY UNIT w/ 6 FT. CABLE
⑫	1	ASS-200-0138	COLUMN MOUNT MOUNTING BRACKET
⑬	1	PM-LB1081	1800a DISPLAY LOGO
14	1	PM-AH1000	AIR ASSIST TUBING
15	1	PM-PT1070	1/4" OD TUBING x 66" Lg
16	1	PM-PT1080	3/8" OD TUBING x 33" Lg

SLIDE STROKE LENGTH IS JOB SPECIFIC
ORDER SLIDE & MTG. NUT ASS'Y SEPARATELY
(REFER TO CTM #ASS-218-0103-XX)
LABEL PAD AND MANIFOLD ORDER SEPARATELY
(JOB SPECIFIC) *USES SAME AS 3600-PA*
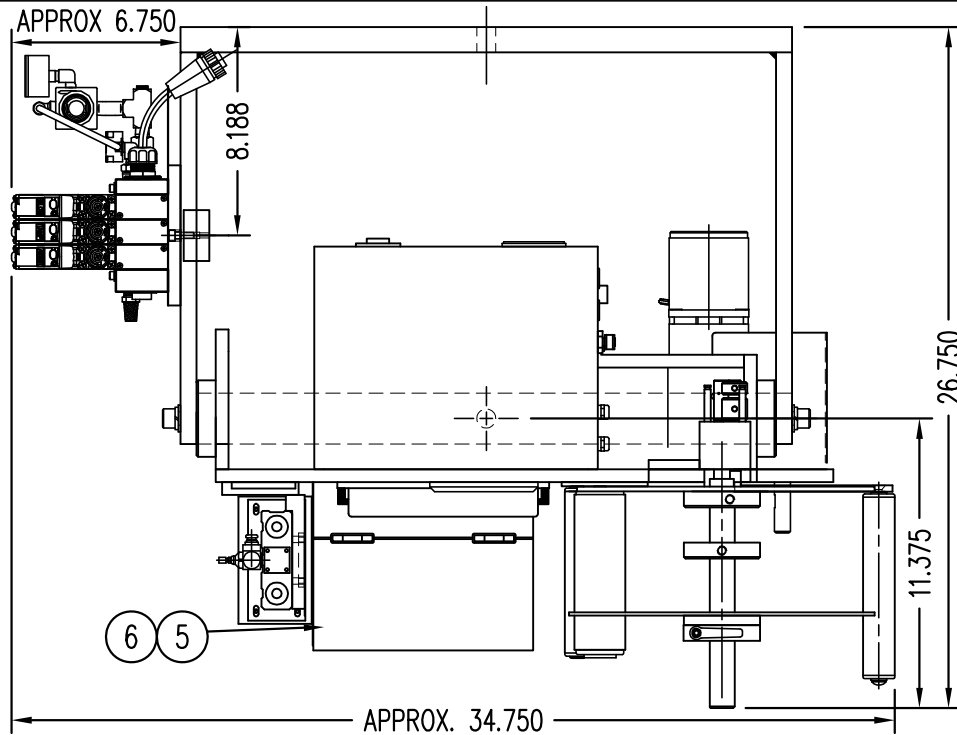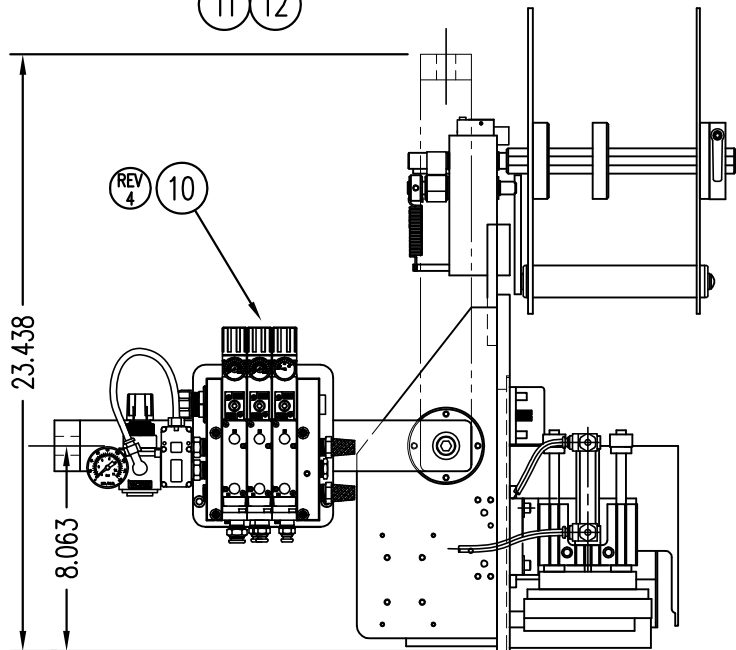
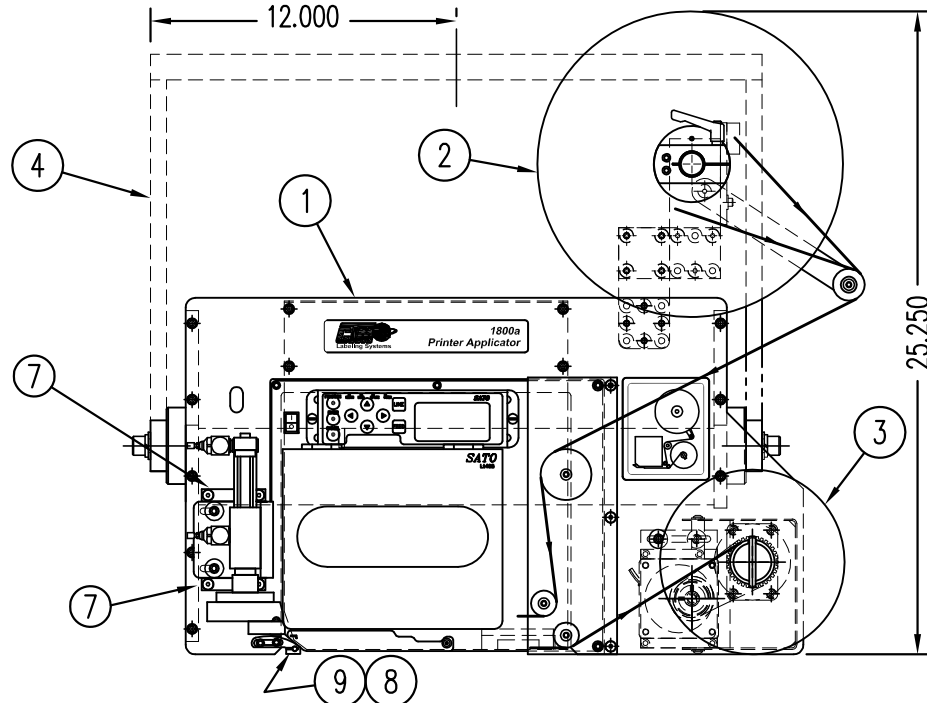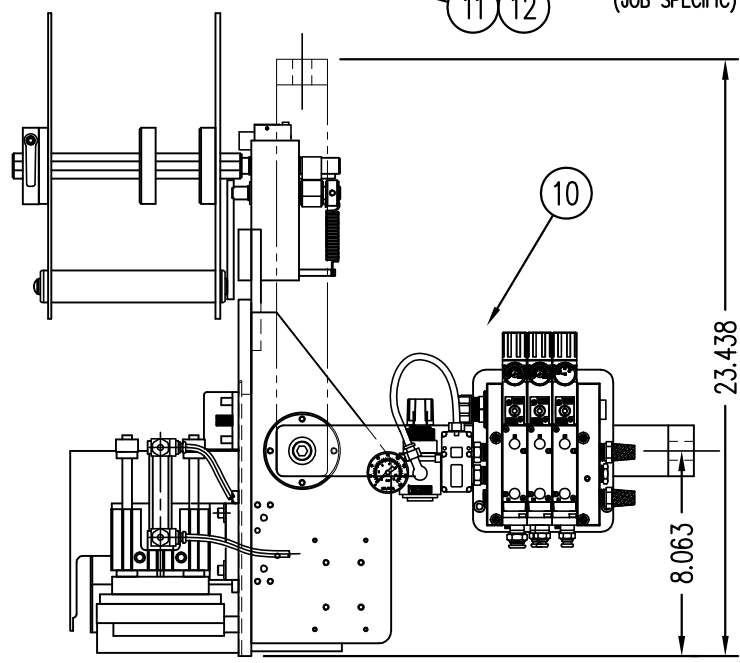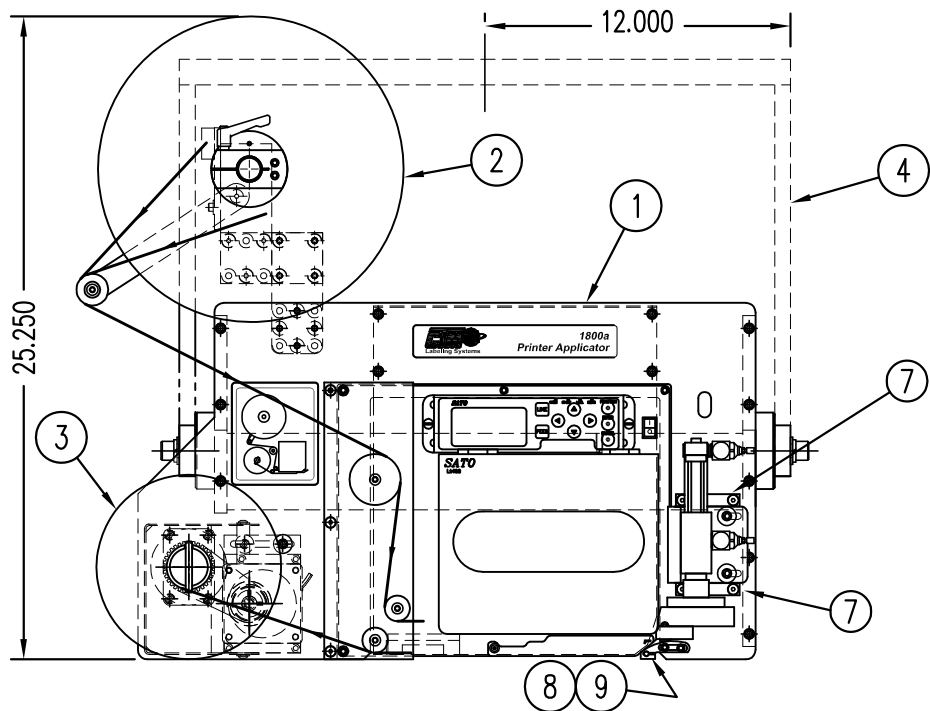CTM-218AL-TXS-12X-SX

STROKE LG

STD RWD	S
FILM RWD	F

SERIAL	S
PARALLEL	P
ETHERNET	E
WIRELESS	R
USB	U

APPROX 6.750
8.188
26.750
11.375
APPROX. 34.750
12.000
25.250
23.438
8.063

1800a SERIES

APPLICATOR SERIES: 1800a	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING	TITLE: LH 1800a TAMP APPLICATOR w/ 12" UNWIND				Dept. Code 70
REV. 0	REV. DESCRIPTION —		REV. DATE —	REV. BY: XXX	Scale: 1=8	Date: 05/23/18	DRAWN BY: Tracy Rhodes

F:\Engineering\Standard Parts\Applicator\1800 SERIES\
1800a\ASS\CTM-218AL-TXS-12X-SX
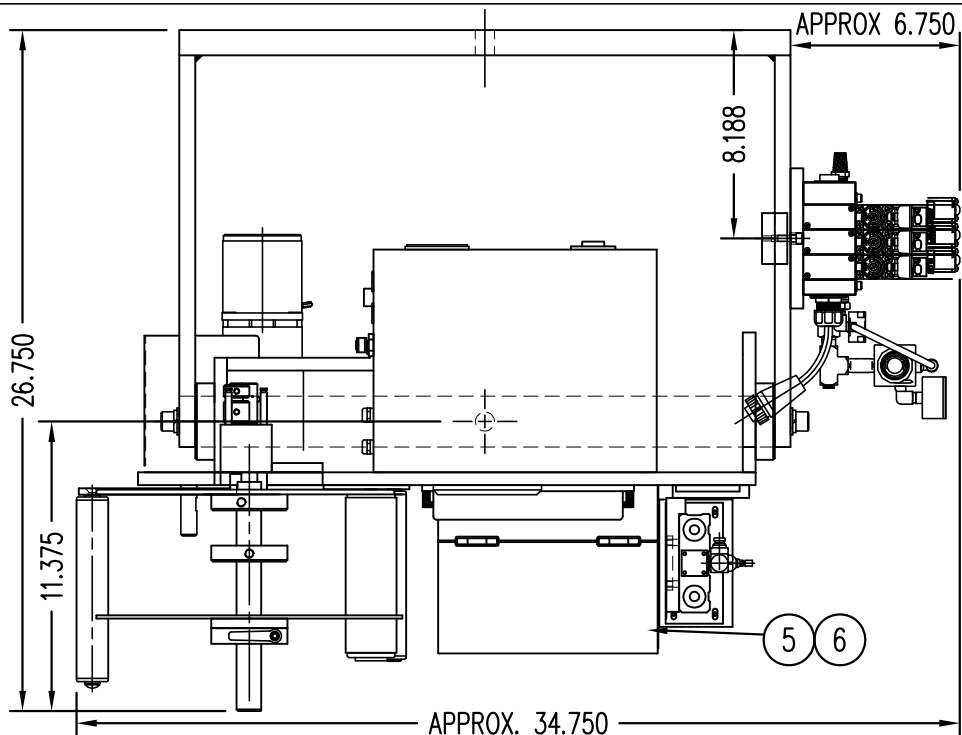
BILL OF MATERIAL
CTM-218AR-TXS-12X-SX

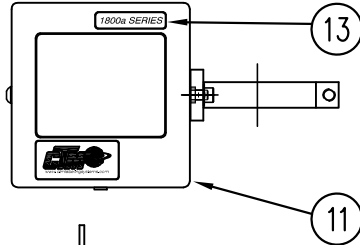| ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	ASS-218A-0123L	ELECTRICAL BOX BASE PLATE
②	1	MOD-238-0122L	12" UNWIND ASSEMBLY
	1	MOD-238-0122AL	12" UNWIND ASSEMBLY (Reels-up)
③	1	ASS-238-0144-12	REWIND SPINDLE w/ DISK
	1	ASS-200-2137	FILM REWIND
④	1	WAS-238-0130	U-ARM ASSEMBLY
⑤	1	PE-WLT-408	SATO Lt408 PRINT ENGINE
⑥	1	PE-218-0420	APPLICATOR to SATO SE INTERFACE
⑦	2	MP-238-0241	TAMP GUIDE
⑧	1	MP-238-0242	AIR ASSIST TUBE HOLDER
⑨	1	MP-211-0217-5	AIR ASSIST TUBE
⑩	1	ASS-218-0136M	3-STATION VALVE BANK ASSEMBLY
⑪	1	ASS-238a-0126	DISPLAY UNIT w/ 6 FT. CABLE
⑫	1	ASS-200-0138	COLUMN MOUNT MOUNTING BRACKET
⑬	1	PM-LB1081	1800a DISPLAY LOGO
14	1	PM-AH1000	AIR ASSIST TUBING
15	1	PM-PT1070	1/4" OD TUBING x 66" Lg
16	1	PM-PT1080	3/8" OD TUBING x 33" Lg

CTM-218AR-TXS-12X-SX

STROKE LG

STD RWD	S
FILM RWD	F

SERIAL	S
PARALLEL	P
ETHERNET	E
WIRELESS	R
USB	U

1800a SERIES

SLIDE STROKE LENGTH IS JOB SPECIFIC
ORDER SLIDE & MTG. NUT ASS'Y SEPARATELY
(REFER TO CTM #ASS-218-0103-XX)
LABEL PAD AND MANIFOLD ORDER SEPARATELY
(JOB SPECIFIC) *USES SAME AS 3600-PA*

APPROX 6.750
8.188
26.750
11.375
APPROX. 34.750
12.000
25.250
23.438
8.063

1800a
Printer Applicator

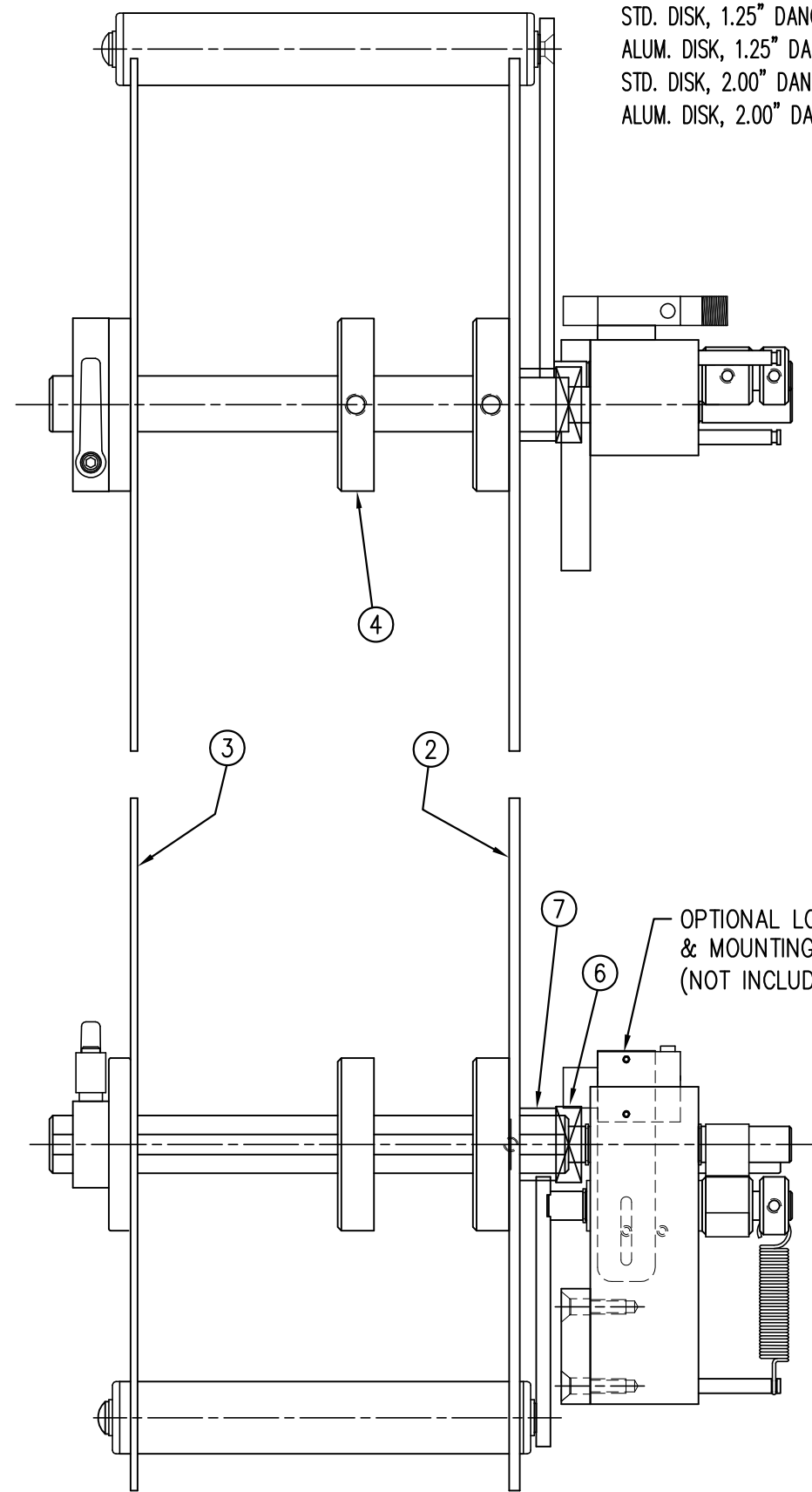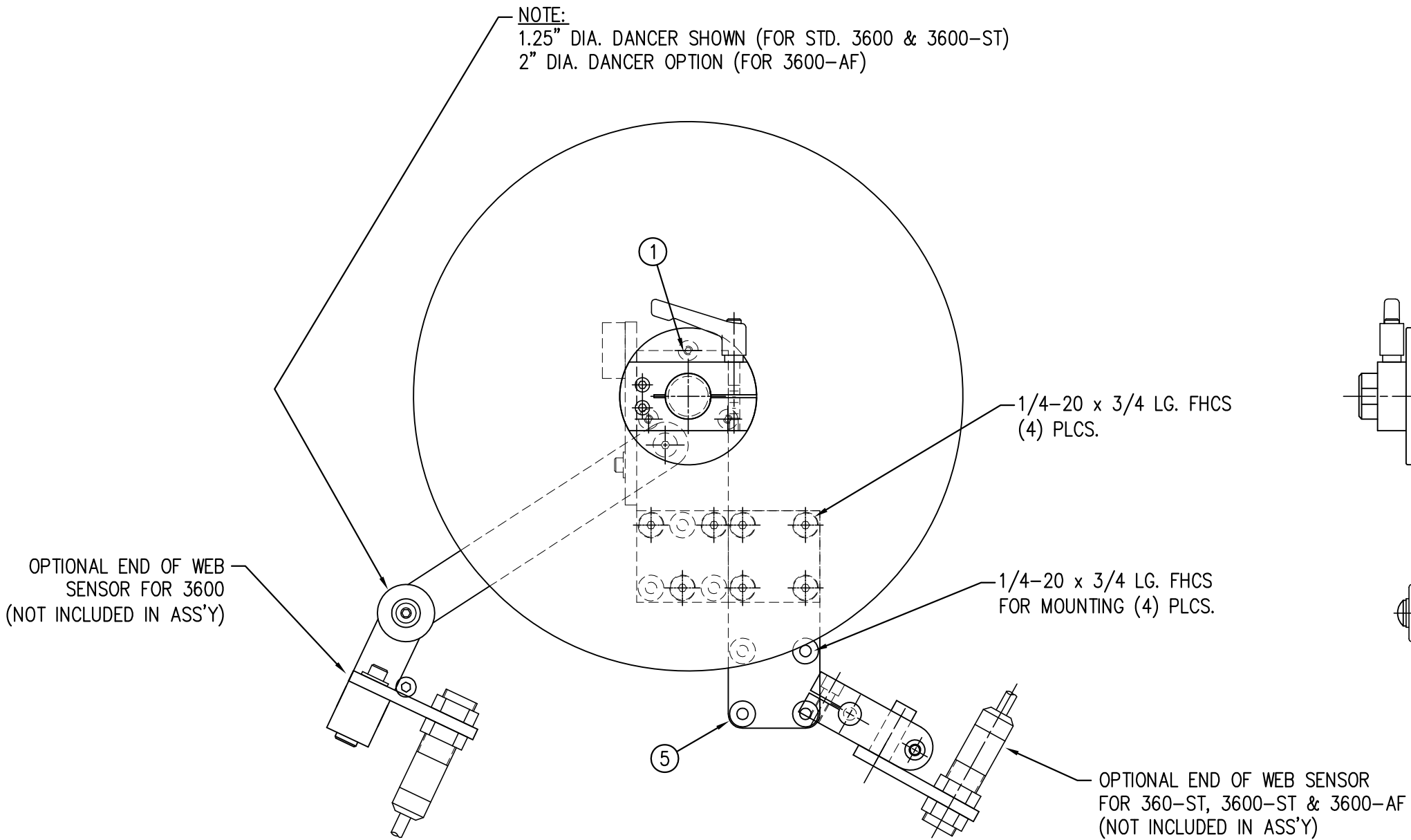| APPLICATOR SERIES: 1800a	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING	TITLE: RH 1800a TAMP APPLICATOR w/ 12" UNWIND						Dept. Code 70
REV. 0	REV. DESCRIPTION —			REV. DATE —	REV. BY: XXX	Scale: 1=8	Date: 05/23/18	DRAWN BY: Tracy Rhodes	F:\Engineering\Standard Parts\Applicator\1800 SERIES\ 1800a\ASS\CTM-218AR-TXS-12X-SX

BILL OF MATERIAL
MOD-238-0122XR/L-X

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION	
①	1	SAS-238-0122R/L	UNWIND SHELF ASS'Y w/ 1.25" DIA. DANCER	3600 & 3600-ST
	1	SAS-238-0122R/L-2	UNWIND SHELF ASS'Y w/ 2" DIA. DANCER	3600-AF
②	1	ASS-200-0132	12" INSIDE UNWIND DISK ASS'Y	STD.
	1	ASS-200-0132A	12" ALUMINUM INSIDE UNWIND DISK ASS'Y	REELS UP
③	1	ASS-200-0133	OUTSIDE UNWIND DISK ASS'Y	
④	1	MP-200-0267CS	CORE SUPPORT	
⑤	1	MP-238-0236	MOUNTING PLATE	
⑥	1	PM-C01015	5/8" I.D. STAINLESS STEEL LOCK COLLAR	REELS UP ONLY
⑦	1	PM-BU1475	1" I.D. x 5/8" LG. BRONZE BUSHING	
	4	PM-FAFH50619	FHCS, 1/4"-20 UNC x 3/4" Lg. S.S.	

RH & LH ASSEMBLIES AVAILABLE
-RH ASSEMBLY SHOWN-

MOD-238-0122XR/L-X	
STD. DISK, 1.25" DANCER	-0122R/L
ALUM. DISK, 1.25" DANCER	-0122AR/L
STD. DISK, 2.00" DANCER	-0122R/L-2
ALUM. DISK, 2.00" DANCER	-0122AR/L-2

NOTE:
1.25" DIA. DANCER SHOWN (FOR STD. 3600 & 3600-ST)
2" DIA. DANCER OPTION (FOR 3600-AF)

OPTIONAL END OF WEB
SENSOR FOR 3600
(NOT INCLUDED IN ASS'Y)

1/4-20 x 3/4 LG. FHCS
(4) PLCS.

1/4-20 x 3/4 LG. FHCS
FOR MOUNTING (4) PLCS.

OPTIONAL END OF WEB SENSOR
FOR 360-ST, 3600-ST & 3600-AF
(NOT INCLUDED IN ASS'Y)

OPTIONAL LOW LABEL SENSOR
& MOUNTING PLATE
(NOT INCLUDED IN ASSY)

BILL OF MATERIAL
ASS-218a-0123L

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	MP-218a-0201	RH/LH APPLICATOR FACEPLATE
②	1	MP-218-0202	NOSE-SIDE SIDEFRAME
③	1	MP-218-0203	MOTOR-SIDE SIDEFRAME
④	1	MP-218-0204	ROLLER MOUNTING PLATE
⑤	1	MP-218-0205	CROSSBAR
⑥	2	MP-200-0273	U-ARM / APPLICATOR PIVOT MOUNT
⑦	1	PE-C01018	APPLICATOR SELF LOCKING POWER CORD
⑧	1	ASS-218a-0127L	ELECTRICAL BOX ASSEMBLY
⑨	1	ASS-218-0133L	REWIND MOTOR ASSEMBLY
⑩	2	ASS-218-0134	1.00" DIA. GUIDE ROLLER ASSEMBLY
⑪	1	ASS-218-0135	2.00" DIA. GUIDE ROLLER ASSEMBLY
⑫	2	MP-238-0247	2.00" DIA. GUIDE COLLAR
⑬	1	PM-LB1080	1800a FRONT PLATE ID LABEL
⑭	1	PM-LB1027	PATHWAY LABEL - LH

1/4-20 x 1/2 Lg. SHCS
(8) PLACES

1/4-20 x 3/4 Lg SHCS
(4) PLACES

1/4-20 x 7/8 Lg. SHCS
(8) PLACES

1/4-20 x 7/8 Lg. SHCS
with FLAT WASHER
(2) PLACES

1/4-20 x 3/4 Lg. SHCS
(4) PLACES

APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING	TITLE: LH APPLICATOR CORE UNIT ASSEMBLY			Dept. Code 70
REV. 0	REV. DESCRIPTION —		REV. DATE —	REV. BY: XXX	Scale: 1=8	Date: 05/21/18

DRAWN BY: Tracy Rhodes

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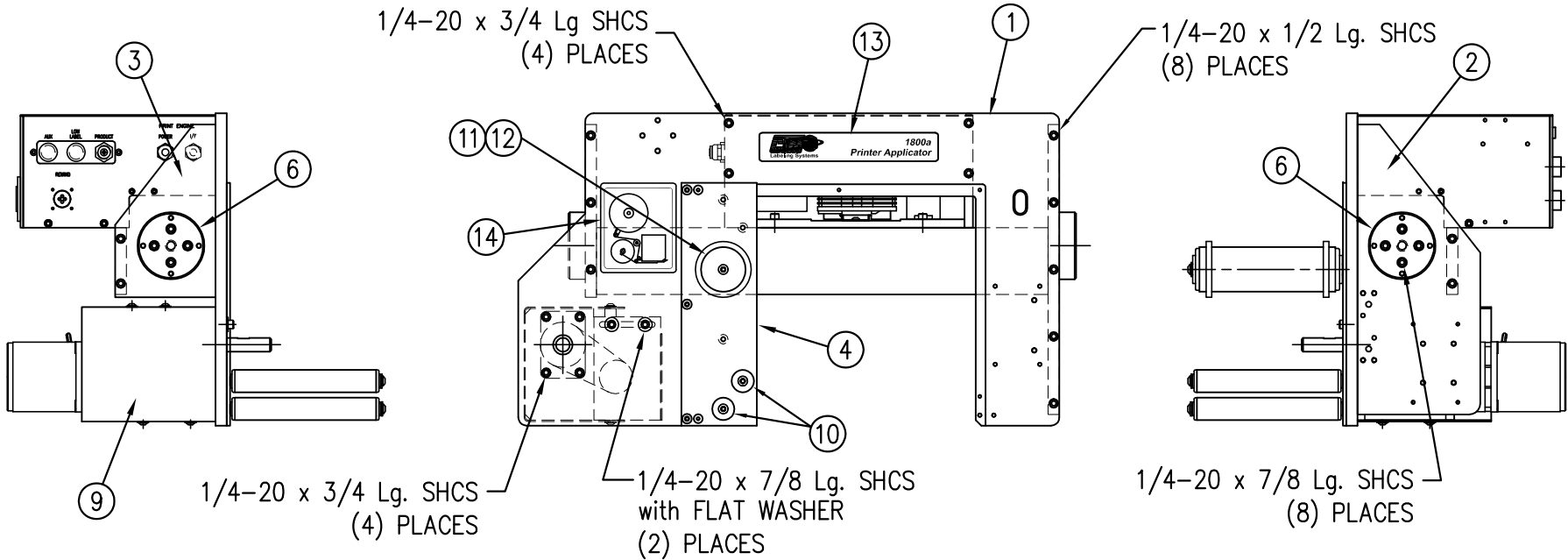
BILL OF MATERIAL
ASS-218a-0123R

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	MP-218a-0201	RH/LH APPLICATOR FACEPLATE
②	1	MP-218-0202	NOSE-SIDE SIDEFRAME
③	1	MP-218-0203	MOTOR-SIDE SIDEFRAME
④	1	MP-218-0204	ROLLER MOUNTING PLATE
⑤	1	MP-218-0205	CROSSBAR
⑥	2	MP-200-0273	U-ARM / APPLICATOR PIVOT MOUNT
⑦	1	PE-C01018	APPLICATOR SELF LOCKING POWER CORD
⑧	1	ASS-218a-0127R	ELECTRICAL BOX ASSEMBLY
⑨	1	ASS-218-0133R	REWIND MOTOR ASSEMBLY
⑩	2	ASS-218-0134	1.00" DIA. GUIDE ROLLER ASSEMBLY
⑪	1	ASS-218-0135	2.00" DIA. GUIDE ROLLER ASSEMBLY
⑫	2	MP-238-0247	2.00" DIA. GUIDE COLLAR
⑬	1	PM-LB1080	1800a FRONT PLATE ID LABEL
⑭	1	PM-LB1029	PATHWAY LABEL – RH

1/4-20 x 3/4 Lg SHCS
(4) PLACES

1/4-20 x 1/2 Lg. SHCS
(8) PLACES

1/4-20 x 3/4 Lg. SHCS
(4) PLACES

1/4-20 x 7/8 Lg. SHCS
with FLAT WASHER
(2) PLACES

1/4-20 x 7/8 Lg. SHCS
(8) PLACES

APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING	TITLE: RH APPLICATOR CORE UNIT ASSEMBLY					Dept. Code 70
REV. 0	REV. DESCRIPTION —			REV. DATE —	REV. BY: XXX	Scale: 1=8	Date: 05/21/18	DRAWN BY: Tracy Rhodes

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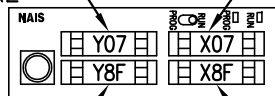1800a\ASS\ASS-218a-0123R

BILL OF MATERIAL
ASS-218a-0127L

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	ASS-218-0128L	MOTOR SIDE CONNECTOR PLATE - LH
②	1	ASS-218-0129L	REAR CONNECTOR PLATE - LH
③	1	ASS-218-0130L	ELECTRONIC SHELF - LH
④	1	ASS-218-0131L	TERMINAL STRIP ASSEMBLY - LH
⑤	1	MP-218-0210	NOSE SIDE ELECTRICAL BOX SIDEFRAME
⑥	1	PM-218-0225	ELECTRICAL BOX SAFETY GUARD
⑦	1	PE-218-0412	AC POWER HARNESS
⑧	1	PE-PA1110	GROUND BAR
⑨	1	ASS-238-PLC1015	PLC WIRE HARNESS
⑩	1	PE-238a-0425	DISPLAY CABE with THUMBSCREWS
⑪	1	MP-218a-0221	PORT MOUNTING PLATE
⑫	1	PE-EN0956	PLUG
13	1	PE-238-0407	PLC INPUT X0-7 WIRE HARNESS
14	1	PE-238-0408	PLC INPUT Y0-7 WIRE HARNESS
15	1	ASS-238-0406-G	PULL UP RESISTOR "LOW RIBBON"
16	1	ASS-238-0406-Y	PULL UP RESISTOR "NO MEDIA"
17	1	ASS-238-0406-P	PULL UP RESISTOR "PRINT END"
18	1	ASS-238-0406-B	PULL UP RESISTOR "PRINTER READY"

ENLARGED VIEW
OF PLC

WIRE HARNESS
PE-218-0408
ATTACHES HERE

WIRE HARNESS
PE-238-0407
ATTACHES HERE

Y07   X07
Y8F   X8F

(OPTIONAL)
WIRE HARNESS
PE-238-0422
ATTACHES HERE

(OPTIONAL)
WIRE HARNESS
PE-238-0421
ATTACHES HERE

APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING	TITLE: ELECTRICAL BOX ASSEMBLY (Sheet 1 of 3)				Dept. Code 70
REV. 1	REV. DESCRIPTION: REMOVED OLD DISPLAY CABLE & ADDED NEW; CHANGED MTG PORT#11		REV. DATE 05/21/18	REV. BY: DKM	Scale: 1=4	Date: 05/17/18	DRAWN BY: DKM
							F:\Engineering\Standard Parts\Applicator\1800 SERIES\ 1800a\ASS\ASS-218a-0127Ls1

ASS-218a-0127L

VIEW PRINT

#6-32 x 1/2 Lg. FHCS
(5) PLACES

MP-218-0212

CP-218-0221

8.750

MP-218-0210

MP-218-0209L

CP-218-0222

11.125

MP-218-0211L

MP-218-0213

MP-218-0214

MP-218-0209L

MP-218-0210

5.000

PRINT ENGINE
I/F   POWER   PRODUCT LOW LABEL AUX

REWIND

#6-32 x 5/8 Lg. FHCS
(2) PLACES
CONN. SIDE

#6-32 x 3/8 Lg. SHCS
(2) PLACES

#10-32 x 1/2 Lg. LHCS
(2) PLACES

#10-32 x 1/2 Lg. SHCS
(2) PLACES

APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING		TITLE: ELECTRICAL BOX (Sheet 2 of 3)				Dept. Code 70
REV. 1	REV. DESCRIPTION SHOWED DISPLAY CONNECTOR PLATE (MP-218S-0221)		REV. DATE 05/21/18	REV. BY: DKM	Scale: 1=4	Date: 05/17/18	DRAWN BY: DKM	F:\Engineering\Standard Parts\Applicator\1800 SERIES\ 1800a\ASS\ASS-218a-0127Ls2

PE-FI1015
& PE-FU2090

PE-218-0408

PE-238-0410

VALVE

ALARM

I/O

PE-PS1076

PE-218-0429

PE-PLC1015

PE-CAP1025 &
PE-CON9070

PE-RE1016

NAIS

Y07 X07
Y8F X8F

RUN PROG
PROG RUN

PE-CON1019

AUX

LOW LABEL

PRODUCT

REWIND

PRINT ENGINE

POWER

I/F

ASS-218-0405

ASS-218-0409

PE-CO1997

VIEW PRINT

SAME AS ASS-218-0127Ls3

APPLICATOR SERIES:	APPLICATOR WIDTH(S):	GROUP:		TITLE:							Dept. Code
1800	7.5"	HOUSING		ELECTRICAL BOX COMPONENTS (Sheet 3 of 3)							70
REV.	REV. DESCRIPTION			REV. DATE	REV. BY:	Scale:	Date:	DRAWN BY:	F:\Engineering\Standard Parts\Applicator\1800 SERIES\		
0	–			–	XXX	1=3	05/21/18	Tracy Rhodes	1800a\ASS\ASS-218a-0127Ls3		

BILL OF MATERIAL
ASS-218a-0127R

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	ASS-218-0128R	MOTOR SIDE CONNECTOR PLATE - RH
②	1	ASS-218-0129R	REAR CONNECTOR PLATE - RH
③	1	ASS-218-0130R	ELECTRONIC SHELF - RH
④	1	ASS-218-0131R	TERMINAL STRIP ASSEMBLY - RH
⑤	1	MP-218-0210	NOSE SIDE ELECTRICAL BOX SIDEFRAME
⑥	1	PM-218-0225	ELECTRICAL BOX SAFETY GUARD
⑦	1	PE-218-0412	AC POWER HARNESS
⑧	1	PE-PA1110	GROUND BAR
⑨	1	ASS-238-PLC1015	PLC WIRE HARNESS
⑩	1	PE-238a-0425	DISPLAY CABE with THUMBSCREWS
⑪	1	MP-218a-0221	PORT MOUNTING PLATE
⑫	1	PE-EN0956	PLUG
13	1	PE-238-0407	PLC INPUT X0-7 WIRE HARNESS
14	1	PE-238-0408	PLC INPUT Y0-7 WIRE HARNESS
15	1	ASS-238-0406-G	PULL UP RESISTOR "LOW RIBBON"
16	1	ASS-238-0406-Y	PULL UP RESISTOR "NO MEDIA"
17	1	ASS-238-0406-P	PULL UP RESISTOR "PRINT END"
18	1	ASS-238-0406-B	PULL UP RESISTOR "PRINTER READY"

ASS-218a-0127R

ENLARGED VIEW
OF PLC

(OPTIONAL)
WIRE HARNESS
PE-238-0421
ATTACHES HERE

(OPTIONAL)
WIRE HARNESS
PE-238-0422
ATTACHES HERE

WIRE HARNESS
PE-238-0407
ATTACHES HERE

WIRE HARNESS
PE-218-0408
ATTACHES HERE

APPLICATOR SERIES:	APPLICATOR WIDTH(S):	GROUP:	TITLE:					Dept. Code
1800	7.5"	HOUSING	ELECTRICAL BOX ASSEMBLY (Sheet 1 of 3)					70

REV.	REV. DESCRIPTION	REV. DATE	REV. BY:	Scale:	Date:	DRAWN BY:	F:\Engineering\Standard Parts\Applicator\1800 SERIES\
1	REMOVED OLD DISPLAY CABLE & ADDED NEW; CHANGED MTG PORT#11	05/21/18	DKM	1=4	05/17/18	DKM	1800a\ASS\ASS-218a-0127Rs1

VIEW PRINT

#6-32 x 1/2 Lg. FHCS
(5) PLACES

CP-218-221

MP-218-0212

MP-218-0209R

MP-218-0210R

CP-218-0222

8.750

11.125

MP-218-0214

MP-218-0209R

MP-218-0211R

MP-218-0213

MP-218a-0221

MP-218-0210R

PRINT ENGINE

AUX | LOW LABEL | PRODUCT

POWER | I/F

REWIND

#6-32 x 3/8 Lg. SHCS
(2) PLACES

#10-32 x 1/2 Lg. SHCS
(2) PLACES

5.000

#6-32 x 5/8 Lg. FHCS
(2) PLACES
CONN. SIDE

#10-32 x 1/2 Lg. LHCS
(2) PLACES

APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING		TITLE: ELECTRICAL BOX (Sheet 2 of 3)				Dept. Code 70
REV. 1	REV. DESCRIPTION SHOWED THE DISPLAY CONNECTOR PLATE (MP-218A-0221)		REV. DATE 05/21/18	REV. BY: DKM	Scale: 1=4	Date: 05/17/18	DRAWN BY: DKM	F:\Engineering\Standard Parts\Applicator\1800 SERIES\ 1800a\ASS\ASS-218a-0127Rs2

PE-FI1015
& PE-FU2090

PE-218-0408

PE-238-0410

VALVE

ALARM

I/O

PE-218-0429

PE-PS1076

PE-PLC1015

PE-CAP1025 &
PE-CON9070

REWIND

AUX

LOW

LABEL

PRODUCT

PE-CON1019

X8F   Y8F
X07   Y07
RUN PROG   RUN PROG
NAIS

PE-RE1016

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

PRINT ENGINE

POWER

I/F

ASS-218-0405

PE-CO1997
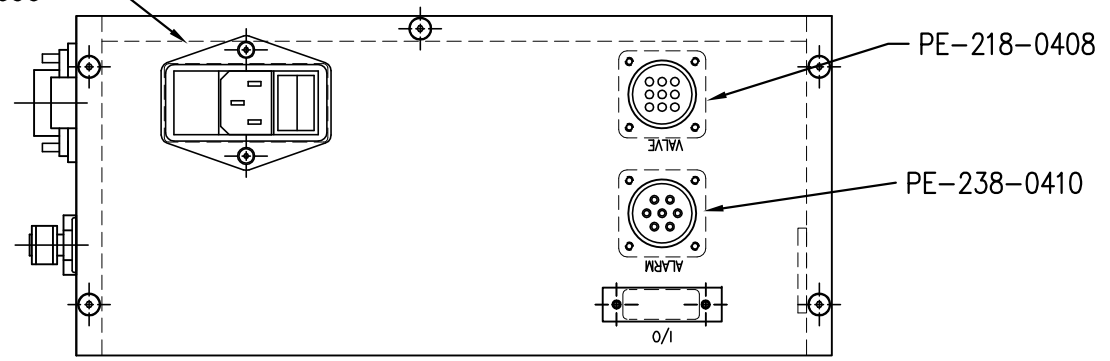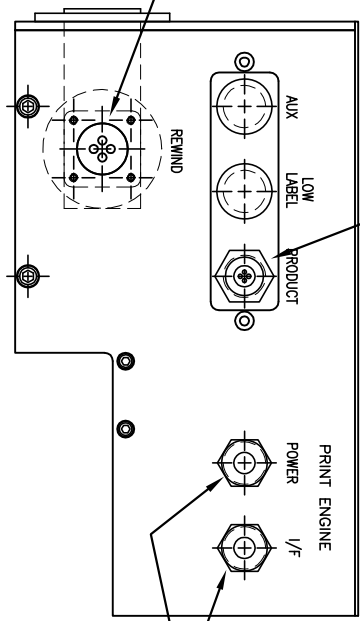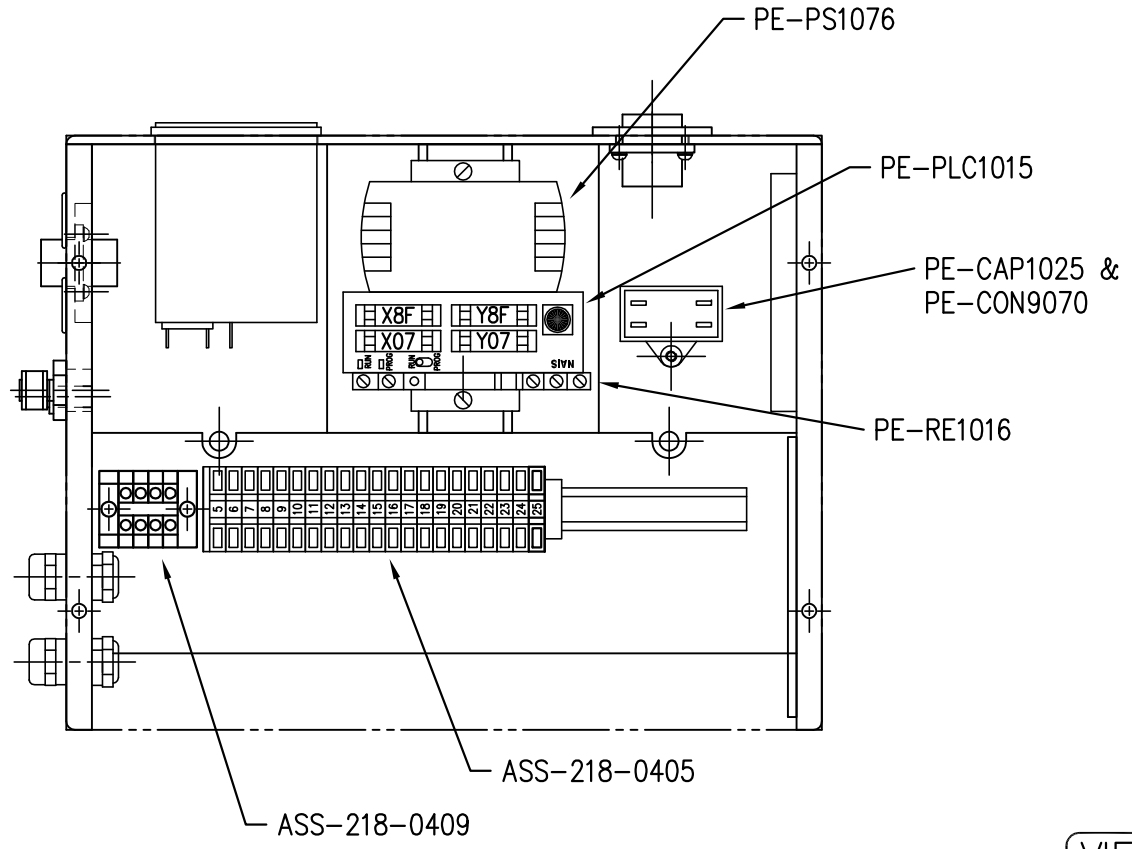
ASS-218-0409

VIEW
PRINT

SAME AS ASS-218-0127Rs3

APPLICATOR SERIES:	APPLICATOR WIDTH(S):	GROUP:		TITLE:					Dept. Code
1800	7.5"	HOUSING		ELECTRICAL BOX COMPONENTS (Sheet 3 of 3)					70

REV.	REV. DESCRIPTION		REV. DATE	REV. BY:	Scale:	Date:	DRAWN BY:	F:\Engineering\Standard Parts\Applicator\1800 SERIES\
0	—		—	XXX	1=3	05/21/18	Tracy Rhodes	1800a\ASS\ASS-218a-0127Rs3

BILL OF MATERIAL
ASS-218a-0139

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	PE-218a-0411	I/O CONNECTOR HARNESS
②	1	ASS-218-0140	I/O CONNECTOR TERMINAL BLOCK ASSEMBLY
③	1	PE-238-0421	PLC INPUT (X8-F) WIRING HARNESS
④	1	PE-238-0422	PLC OUTPUT (Y8-F) WIRING HARNESS

REMOVE I/O PORT BLANK
AND ADD ITEM # 2

I/O

ALARM

VALVE
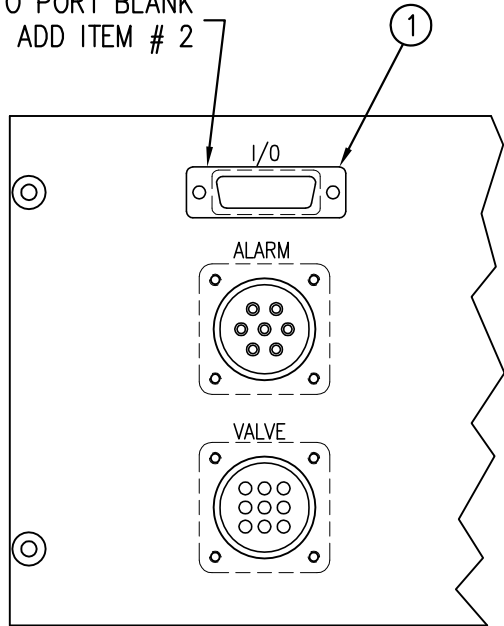
VIEW A-A
REAR CONNECTOR PLATE
(4X SCALE)

A   A

APPLICATOR SERIES:	APPLICATOR WIDTH(S):	GROUP:	TITLE:		Dept. Code
1800	7.5"	HOUSING	I/O CONNECTOR OPTION (Sheet 1 of 2)		70

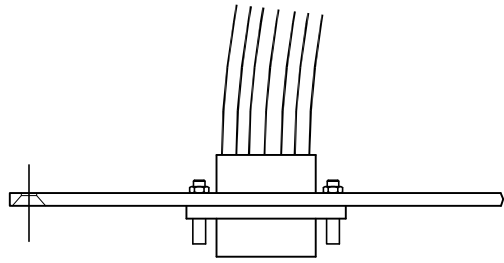| REV.	REV. DESCRIPTION	REV. DATE	REV. BY:	Scale:	Date:	DRAWN BY:	F:\Engineering\Standard Parts\Applicator\1800 SERIES\
1	CHANGED I/O HARNESS FROM PE-218-0411 to PE-238-0411	05/21/18	DKM	1=8	05/17/18	DKM	1800a\ASS\ASS-218a-0139s1

ASS-218a-0139

ELECTRICAL BOX ASSEMBLY
PLAN VIEW

③

④

X8F

Y8F

X07

Y07

RUN   PROG   RUN   PROG

⚫AIS

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 31 32 33

②

APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING	TITLE: I/O CONNECTOR OPTION (Sheet 2 of 2)					Dept. Code 70
REV. 1	REV. DESCRIPTION SHOWED THE NEW DISPLAY CABLE/HARNESS ROUTE			REV. DATE 05/21/18	REV. BY: DKM	Scale: 1=2	Date: 05/17/18	DRAWN BY: DKM	F:\Engineering\Standard Parts\Applicator\1800 SERIES\ 1800a\ASS\ASS-218a-0139s2

BILL OF MATERIAL
ASS-218-0128L

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	MP-218-0209L	MOTOR SIDE ELECTRIC BOX SIDEFRAME-LH
②	1	ASS-218-0132	PORT CONNECTOR STRIP
③	2	PE-C01997	CORD GRIP FITTING (3/8 NPT)
④	1	PE-218-0429	REWIND CONNECTOR
⑤	1	ASS-C01025	POWER CORD ASSEMBLY
⑥	1	PE-218-0420	SATO INTERFACE HARNESS
	2	PM-FASH429070	SHCS, #10-32 x 1/2" Lg. SS
	2	PM-FASH427005	SHCS, #6-32 x 3/8" Lg. SS

ASS-218-0128L

.375

8.625

5.000

PRINT ENGINE

I/F   POWER

PRODUCT   LOW LABEL   AUX

②

#4-40 x 1/4 LG.
FHCS (2) PLACES

⑤⑥③

#6-32 x 3/8 Lg. SHCS
(2) PLACES

#10-32 x 1/2 Lg. SHCS
(2) PLACES
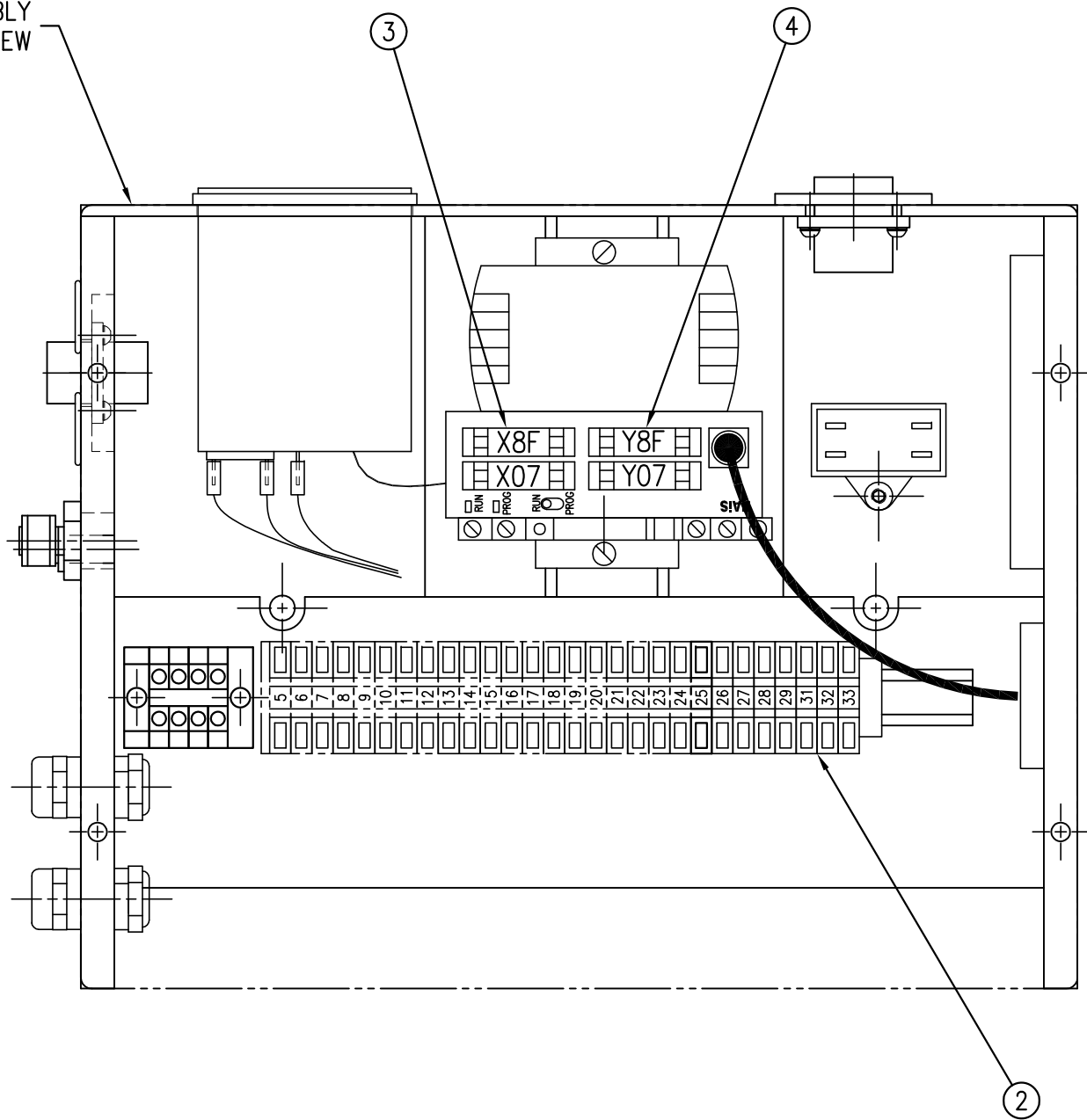
REWIND

④

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APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING	TITLE: MOTOR SIDE CONNECTOR PLATE - LH				Dept. Code 70
REV. 1	REV. DESCRIPTION ADDED PE-218-0420 & ASS-C01025		REV. DATE 3/20/15	REV. BY: KSM	Scale: 1=1.5	Date: 07/07/06	DRAWN BY: Tracy Rhodes	F:\Engineering\Standard Parts\Applicator\1800 SERIES\ 1800a\ASS\ASS-218-0128L

BILL OF MATERIAL
ASS-218-0128R

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	MP-218-0209R	MOTOR SIDE ELECTRIC BOX SIDEFRAME-RH
②	1	ASS-218-0132	PORT CONNECTOR STRIP
③	2	PE-C01997	CORD GRIP FITTING (3/8 NPT)
④	1	PE-218-0429	REWIND CONNECTOR
⑤	1	ASS-C01025	POWER CORD ASSEMBLY
⑥	1	PE-218-0420	SATO INTERFACE HARNESS
	2	PM-FASH429070	SHCS, #10-32 x 1/2" Lg. SS
	2	PM-FASH427005	SHCS, #6-32 x 3/8" Lg. SS

.375

8.625

5.000

PRINT ENGINE

LOW
AUX   LABEL   PRODUCT

POWER   I/F

②

#4-40 x 1/4 LG.
FHCS (2) PLACES

①

③⑤⑥

REWIND

④

#6-32 x 3/8 Lg. SHCS
(2) PLACES

#10-32 x 1/2 Lg. SHCS
(2) PLACES

APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING	TITLE: MOTOR SIDE CONNECTOR PLATE – RH					Dept. Code 70
REV. 1	REV. DESCRIPTION ADDED PE-SE420 & ASS-C01025		REV. DATE 3/20/15	REV. BY: KSM	Scale: 1=1.5	Date: 07/07/06	DRAWN BY: Tracy Rhodes	F:\Engineering\Standard Parts\Applicator\1800 SERIES\ 1800a\ASS\ASS-218-0128R

ASS-218-0129L

BILL OF MATERIAL
ASS-218-0129L

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION	
①	1	MP-218-0211L	ELECTRICAL BOX BACKPLATE - LH	
②	1	MP-218-0215	I/O PORT BLANK	
③	1	PE-238-0410	ALARM CONNECTOR HARNESS	REV 2
④	1	PE-218-0408	VALVE CONNECTOR & PLC OUTPUT Y0-7	
⑤	1	PE-FI1015	IEC FILTER	
⑥	2	PE-FU2090	FUSE	
	5	PM-FAFH50592	FHCS, #6-32 x 1/2" Lg. SS	REV 1

#6-32 x 1/2 Lg. FHCS
(5 PLACES)

11.125

② ALARM ③

#4-40 x 3/8 Lg.
SHCS (2 PLCS.)

① REV 1

5.000

⑤ ⑥

VALVE ④

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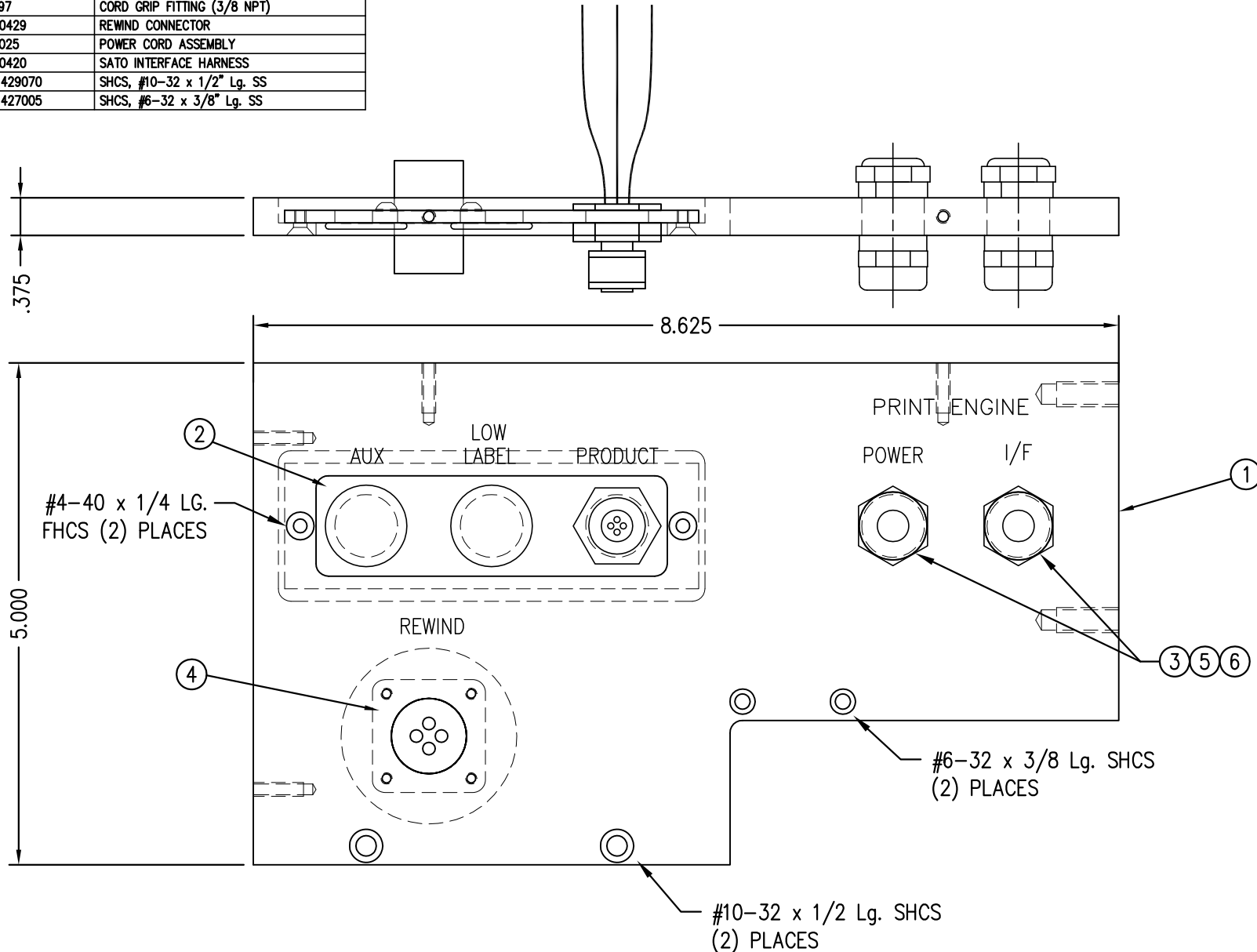
APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING	TITLE: REAR CONNECTOR PLATE - LH	Dept. Code 70
REV. 3	REV. DESCRIPTION: REMOVED #7 (POWER CORD CLIP)	REV. DATE 05/22/18	REV. BY: TDR / Scale: 1=2 / Date: 07/07/06 / DRAWN BY: Tracy Rhodes	F:\Engineering\Standard Parts\Applicator\1800 SERIES\ 1800a\ASS\ASS-218-0129L

BILL OF MATERIAL
ASS-218-0129R

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION	
①	1	MP-218-0211R	ELECTRICAL BOX BACKPLATE – RH	
②	1	MP-218-0215	I/O PORT BLANK	
③	1	PE-238-0410	ALARM CONNECTOR HARNESS	REV 2
④	1	PE-218-0408	VALVE CONNECTOR & PLC OUTPUT Y0-7	
⑤	1	PE-FI1015	IEC FILTER	
⑥	2	PE-FU2090	FUSE	
	5	PM-FAFH50592	FHCS, #6-32 x 1/2" Lg. SS	REV 1

ASS-218-0129R

11.125

#6-32 x 1/2 Lg. FHCS
(5 PLACES)

ALARM

VALVE

#4-40 x 3/8 Lg.
SHCS (2 PLCS.) REV 1

5.000

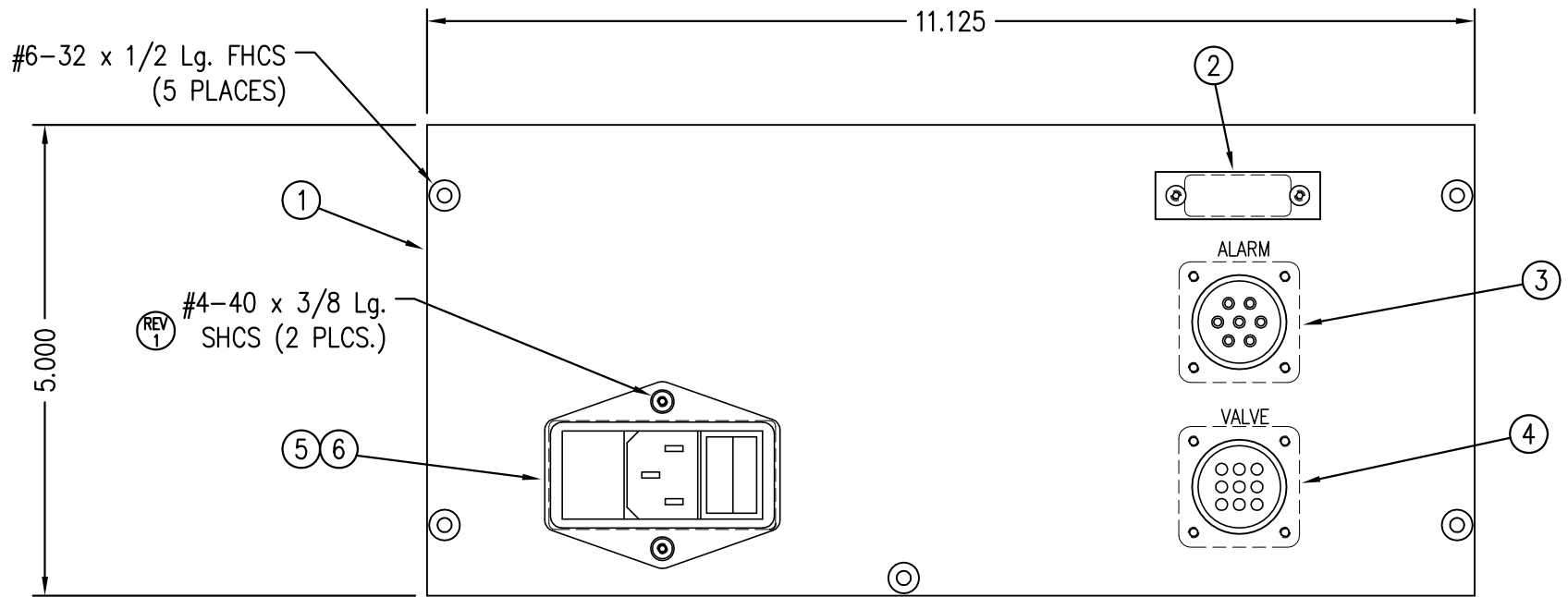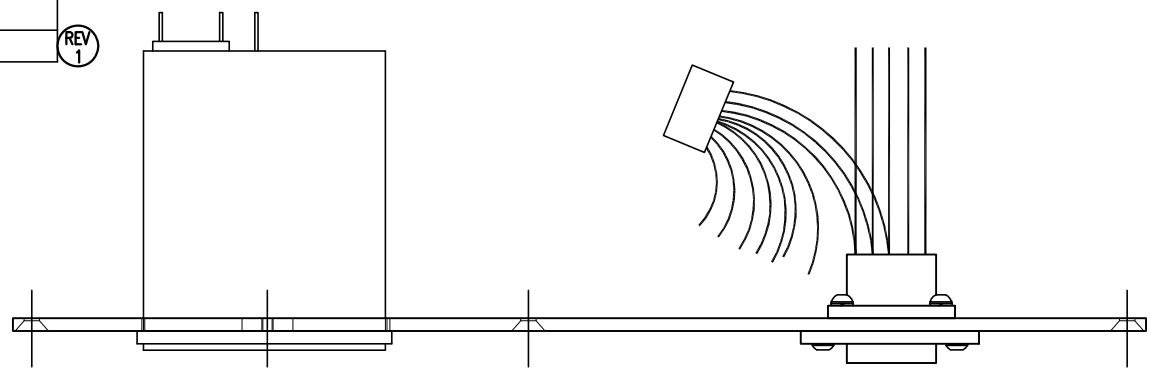| APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING	TITLE: REAR CONNECTOR PLATE – RH					Dept. Code 70
REV. 3	REV. DESCRIPTION REMOVED #7 (POWER CORD CLIP)		REV. DATE 05/22/18	REV. BY: TDR	Scale: 1=2	Date: 07/07/06	DRAWN BY: Tracy Rhodes	F:\Engineering\Standard Parts\Applicator\1800 SERIES\ 1800a\ASS\ASS-218-0129R

BILL OF MATERIAL
ASS-218-0130L

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	MP-218-0212	ELECTRICAL BOX BASE PLATE
②	1	CP-218-0221	DIN RAIL for POWER SUPPLY; PLC
③	1	PE-PS1076	POWER SUPPLY
④	1	PE-PLC1015	PLC
⑤	1	PE-RE1016	RELAY
⑥	2	PE-RE1053	STOP CLIP
⑦	1	PE-CAP1025	CAPACITOR
⑧	1	PE-CON9070	CAPACITOR COVER
	2	PM-FASH427005	SHCS, #6-32 x 3/8" Lg. SS

ASS-218-0130L

#8-32 x 1/2"Lg.
BHCS
REV 2

MOUNTING FASTENERS
1/4-20 x 3/4 Lg.
SHCS (2 PLACES)

4.000
5.500
1.875
6.625
10.375

RUN PROG   RUN PROG   NAIS

4.938
.375

#10-32 x 3/8 Lg. BHCS
(2) PLACES

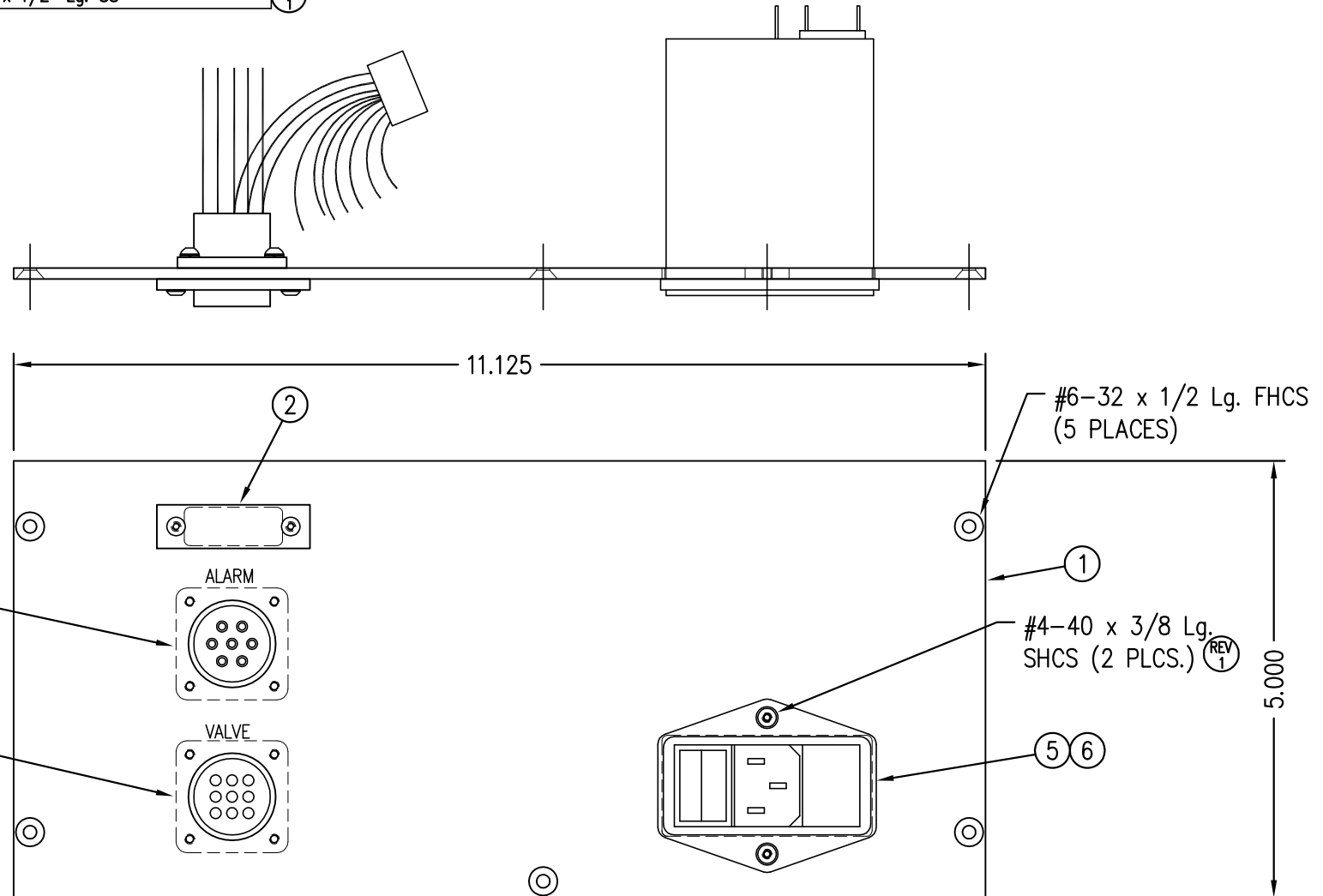| APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING		TITLE: ELECTRONIC SHELF –LH				Dept. Code 70
REV. 2	REV. DESCRIPTION TURNED ITEM #5 180° & ADDED Lg. TO #8-32 SHCS		REV. DATE 03/09/07	REV. BY: TDR	Scale: 1=2	Date: 07/07/06	DRAWN BY: Tracy Rhodes	F:\Engineering\Standard Parts\Applicator\1800 SERIES\ 1800a\ASS\ASS-218-0130L

BILL OF MATERIAL
ASS-218-0130R

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
1	1	MP-218-0212	ELECTRICAL BOX BASE PLATE
2	1	CP-218-0221	DIN RAIL for POWER SUPPLY; PLC
3	1	PE-PS1076	POWER SUPPLY
4	1	PE-PLC1015	PLC
5	1	PE-RE1016	RELAY
6	2	PE-RE1053	STOP CLIP
7	1	PE-CAP1025	CAPACITOR
8	1	PE-CON9070	CAPACITOR COVER
	2	PM-FASH427005	SHCS, #6-32 x 3/8" Lg. SS

ASS-218-0130R

MOUNTING FASTENERS
1/4-20 x 3/4 Lg.
SHCS (2 PLACES)

#8-32 x 1/2"Lg. (REV 2)
BHCS

4.000

5.500

6.625

1.875

10.375

#10-32 x 3/8 Lg. BHCS
(2) PLACES

4.938

.375

APPLICATOR SERIES:	APPLICATOR WIDTH(S):	GROUP:	TITLE:		Dept. Code
1800	7.5"	HOUSING	ELECTRONIC SHELF - RH		70

REV.	REV. DESCRIPTION	REV. DATE	REV. BY:	Scale:	Date:	DRAWN BY:	F:\Engineering\Standard Parts\Applicator\1800 SERIES\
2	TURNED ITEM #5 180° & ADDED Lg. TO #8-32 SHCS	03/09/07	TDR	1=2	07/07/06	Tracy Rhodes	1800a\ASS\ASS-218-0130R

BILL OF MATERIAL
ASS-218-0131L

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	MP-218-0213	ELECTRICAL BOX TERMINAL STRIP MOUNT
②	1	CP-218-0222	DIN RAIL for TERMINAL STRIP
③	1	ASS-218-0405	TERMINAL BLOCK ASSY. #5 - #25
④	1	ASS-218-0409	TERMINAL BLCOK ASSY. #1 - #4
⑤	1	PE-TE4020	TERMINAL END STOP
	4	PM-FASH 428000	SHCS, #6-32 x 3/8" Lg. SS

MOUNTING FASTENERS
#6-32 x 3/8 Lg.
(4) PLACES

#6-32 SHCS x 1/2 Lg.
(2) PLACES

#8-32 x 1/4 Lg. BHCS
(2) PLACES

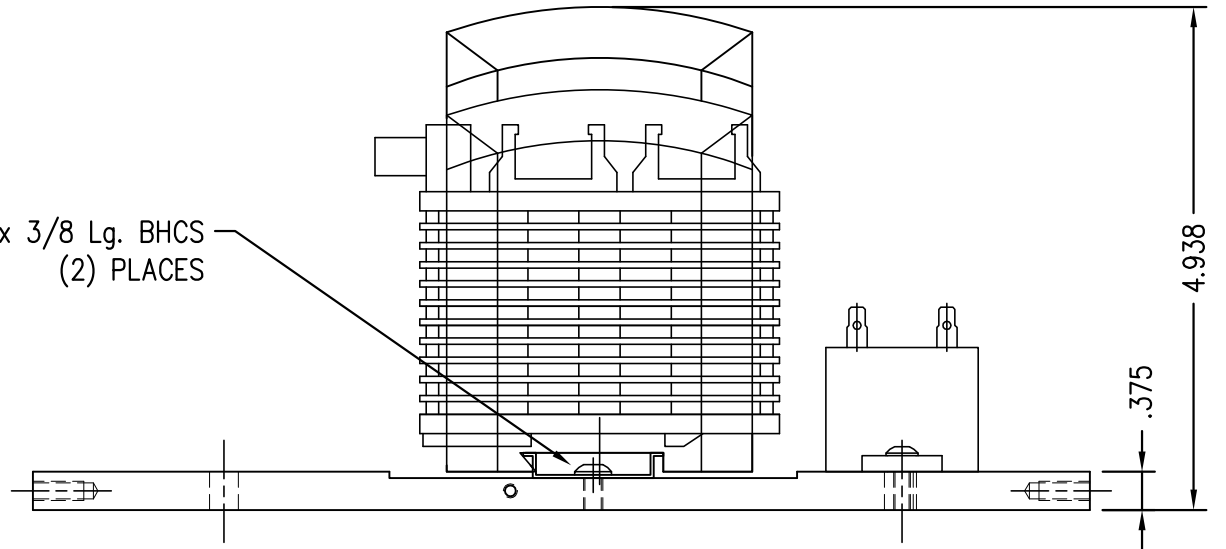| APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING		TITLE: LH TERMINAL STRIP ASSEMBLY				Dept. Code 70
REV. 1	REV. DESCRIPTION ADDED SCREW LENGTH		REV. DATE 01/07/09	REV. BY: TDR	Scale: 1=2	Date: 07/07/06	DRAWN BY: Tracy Rhodes	F:\Engineering\Standard Parts\Applicator\1800 SERIES\ 1800a\ASS\ASS-218-0131L

BILL OF MATERIAL
ASS-218-0131R

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	MP-218-0213	ELECTRICAL BOX TERMINAL STRIP MOUNT
②	1	CP-218-0222	DIN RAIL for TERMINAL STRIP
③	1	ASS-218-0405	TERMINAL BLOCK ASSY. #5 - #25
④	1	ASS-218-0409	TERMINAL BLCOK ASSY. #1 - #4
⑤	1	PE-TE4020	TERMINAL END STOP
	4	PM-FASH 428000	SHCS, #6-32 x 3/8" Lg. SS

ASS-218-0131R

MOUNTING FASTENERS
#6-32 x 3/8 Lg.
(4) PLACES

1.563

.250

10.375

6.625

1.875

.625

.250

#6-32 SHCS x 1/2 Lg.
(REV 1) (2) PLACES

1.125

1.000

3.250

④

③

⑤

②

①

#8-32 x 1/4 Lg. BHCS
(2) PLACES

APPLICATOR SERIES:	APPLICATOR WIDTH(S):	GROUP:	TITLE:		Dept. Code
1800	7.5"	HOUSING	RH TERMINAL STRIP ASSEMBLY		70

REV.	REV. DESCRIPTION	REV. DATE	REV. BY:	Scale:	Date:	DRAWN BY:	F:\Engineering\Standard Parts\Applicator\1800 SERIES\
1	ADDED SCREW LENGTH	01/07/09	TDR	1=2	07/07/06	Tracy Rhodes	1800a\ASS\ASS-218-0131R

BILL OF MATERIAL
ASS-218-0131L

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
1	1	ASS-218-0428	REWIND MOTOR with CONNECTOR
2	1	ASS-238-0120C	REWIND SLIP CLUTCH ASSEMBLY
3	1	PM-BELT1015	REWIND BELT
4	1	MP-218-0216	MOTOR ADJUSTMENT PLATE
5	1	MP-218-0217R/L	MOTOR MOUNT PLATE
6	1	MP-218-0218	MOTOR TOP GUSSET
7	1	MP-218-0219	MOTOR BOTTOM GUSSET
8	1	MP-218-0220	SAFETY GUARD SPACER
9	1	PM-218-0223	MOTOR PULLEY SAFETY GUARD
10	1	PM-218-0224R/L	REWIND ASSEMBLY SAFETY GUARD
11	1	MP-238-0273	PULLEY
	4	PM-FASH 430078	SHCS, 1/4-20 x 3/4 Lg. SS
	2	PM-FASH 430079	SHCS, 1/4-20 x 7/8 Lg. SS
	2	PM-FAW30297	1/4 HEAVY FLAT WASHER, SS

.625∅

2.500

MOUNTING FASTENERS
1/4-20 x 3/4 Lg. SHCS
(4) PLACES

MOUNTING FASTENERS
1/4-20 x 7/8 Lg. SHCS
w/ FLAT WASHER
(2) PLACES

1.437

2.375

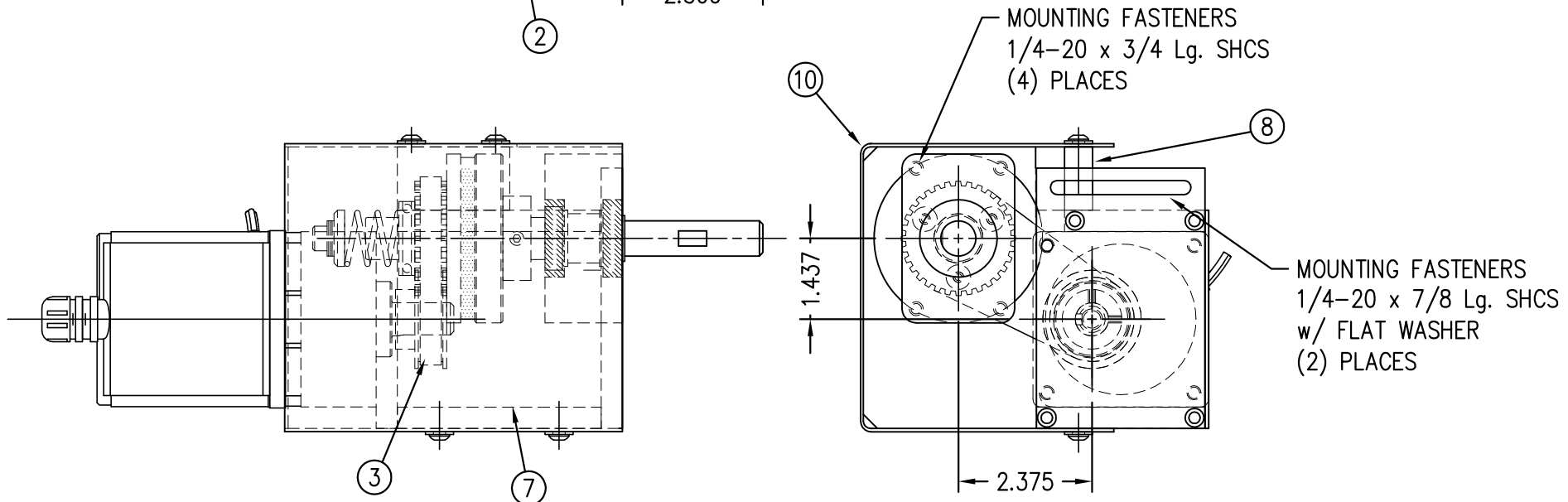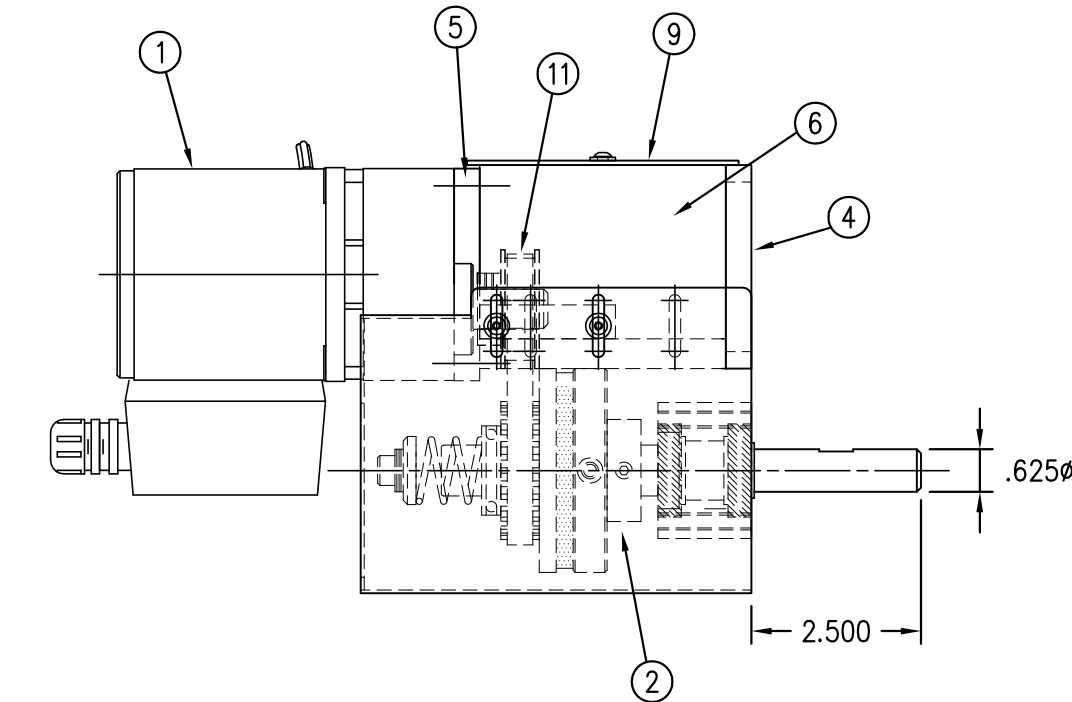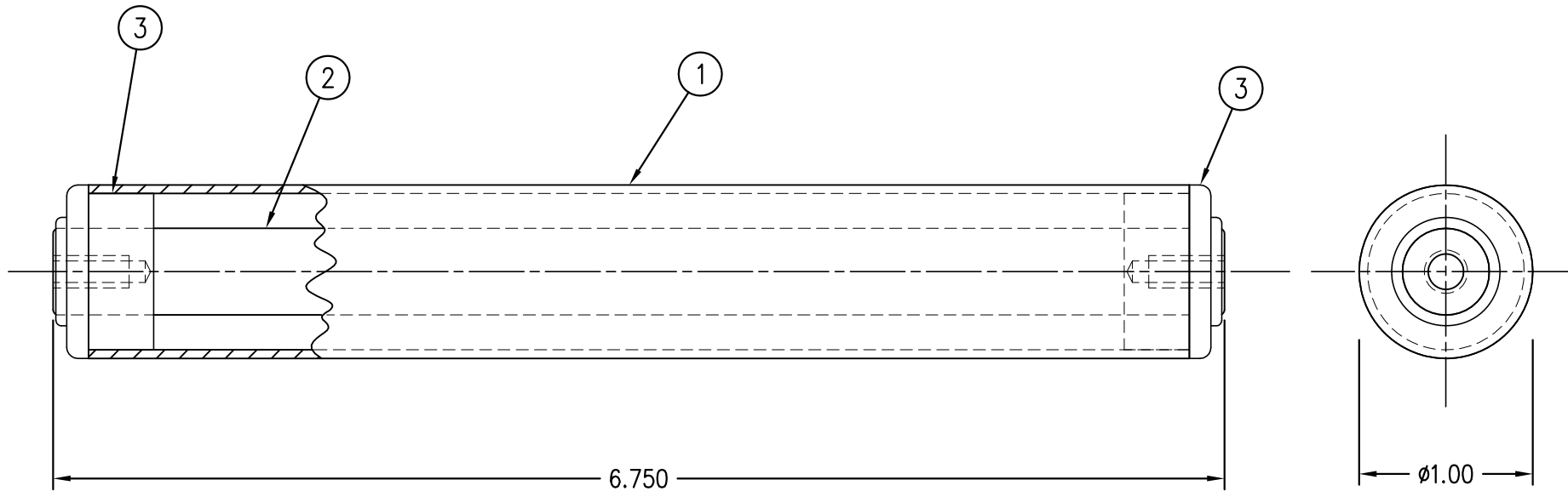| APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING	TITLE: REWIND MOTOR ASSEMBLY for RH & LH APPLICATOR	Dept. Code 70
REV. 2	REV. DESCRIPTION: ADDED PULLEY (ITEM #11)	REV. DATE 01/02/08	REV. BY: TDR	Scale: 1=3	Date: 01/31/06	DRAWN BY: Tracy Rhodes	F:\Engineering\Standard Parts\Applicator\1800 SERIES\1800a\ASS\ASS-218-0133RL

BILL OF MATERIAL
ASS-218-0134

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	MP-218-0206	1.00" DIA. ROLLER TUBE
②	1	MP-218-0207	1.00/2.00 DIA. GUIDE ROLLER SHAFT
③	2	MP-200-0295-1	1.00" DIA. ROLLER INSERT

6.750

⌀1.00

APPLICATOR SERIES:	APPLICATOR WIDTH(S):	GROUP:		TITLE:				Dept. Code
1800	7.5"	HOUSING		1.00" DIA. GUIDE ROLLER ASSEMBLY				70

REV.	REV. DESCRIPTION		REV. DATE	REV. BY:	Scale:	Date:	DRAWN BY:	F:\Engineering\Standard Parts\Applicator\1800 SERIES\
0	-		-	XXX	1=1	11/18/05	Tracy Rhodes	1800a\ASS\ASS-218-0134

BILL OF MATERIAL
ASS-218-0135

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	1	MP-218-0208	2.00" DIA. GUIDE ROLLER TUBE
②	1	MP-218-0207	1.00/2.00 DIA. GUIDE ROLLER SHAFT
③	2	MP-200-0295-2	2.00" DIA. ROLLER INSERT

6.75 SHAFT LENGTH

⌀2.00

APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING		TITLE: 2.00" DIA. GUIDE ROLLER ASSEMBLY					Dept. Code 70
REV. 0	REV. DESCRIPTION –		REV. DATE –	REV. BY: XXX	Scale: 1=1	Date: 10/18/05	DRAWN BY: Tracy Rhodes	F:\Engineering\Standard Parts\Applicator\1800 SERIES\ 1800a\ASS\ASS-218-0135	

BILL OF MATERIAL
ASS-218-0136M

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
1	1	MP-200-0285	DISPLAY MOUNT BRACKET (VALVE MOUNT)
2	1	MP-214-0206	VALVE MOUNTING PLATE
3	1	ASS-200-0452M	VALVE CABLE
4	1	PM-REG1500	REGULATOR
5	1	PM-VA2384	0-160 PSI PRESSURE GUAGE
6	2	PM-PF1180	NPT 90° STREET ELBOW 1/8" FEMALE TO 1/8" MALE
7	1	PM-PUMP1010	VACUUM PUMP, 55 PSI FEED PRESSURE, MUFFLED EXHAUST
8	1	PM-VA2357M	3 STATION MAC VALVE BANK FOR 1800PA
9	1	PE-CO2000	CORD GRIP
10	2	PM-MU1027	3/8" NPT MALE BRONZE EXHAUST MUFFLER
11	3	PM-FT1200	1/4" NPT SOCKET HEAD PLUG
12	1	PM-PF1200	TEE 1/4" NPT FEMALE 3 ENDS
13	1	PM-PF1143	NIPPLE, 1/4" NPT X 1 1/2" LG.
14	1	PM-PF1220	ADAPTOR, 3/8" NPT FEMALE TO 1/4" NPT MALE
15	1	PM-PF1157	REDUCER, 3/8" NPT TO 1/8" NPT
16	1	PM-PF1159	FITTING, 3/8" NPT MALE BOTH ENDS
17	1	PE-EN9125	1 1/4" BLACK PLASTIC THREADED PLUG
18	1	PE-COND1084	STEEL REDUCER
19	1	PM-PF1110	BUSHING, 1/4" NPT FEMALE TO 3/8" NPT MALE
20	3	PM-PF1010	FITTING, 1/4" TUBE w/ 1/4" NPT STRT
21	1	PM-PF1020	FITTING, 3/8" TUBE w/ 1/4" NPT STRT
22	1	PM-PF1167	3/8" NPT SOCKET HEAD PLUG
23	10.5"	PM-PT1070	1/4" OD TUBING
24	1	ASS-214-0106	AIR FILTER
25	1	PM-PF1055	90° ELBOW 1/4" TUBE TO 1/4" NPT MALE
○	2	PM-FASH430079	1/4"-20 UNC x 7/8" LG. SS SHCS
○	2	PM-FAW30275	1/4" SS FLAT WASHER
○	2	PM-FASH430078	1/4"-20 UNC x 3/4" LG. SS SHCS
○	4	PM-FASH429088	10-32 X 2 1/2" LG. SS SHCS
○	4	PM-FAW30265	#10 SS FLAT WASHER

#10-32 x 2-1/2 LG. SHCS
W/ #10 FLAT WASHER (4 PLACES)

1/4-20 x 3/4 LG.
SHCS - 2 PLACES

SELF ADHESIVE LABELS

ASSIST
TAMP
BLOW

VALVE BANK SPARE PARTS:

SOLENOID: #PM-VA2392M
AIR ASSIST REGULATOR W/GUAGE: #PM-VA2396M
BLOW/TAMP/IMPRINTER REGULATORS W/GUAGE: #PM-VA2397M
AIR ASSIST REGULATOR GUAGE: #PM-VA2382M
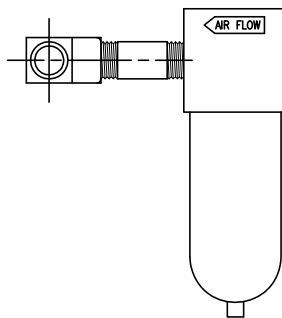BLOW/TAMP/IMPRINTER REGULATOR GUAGES: #PM-VA2380M
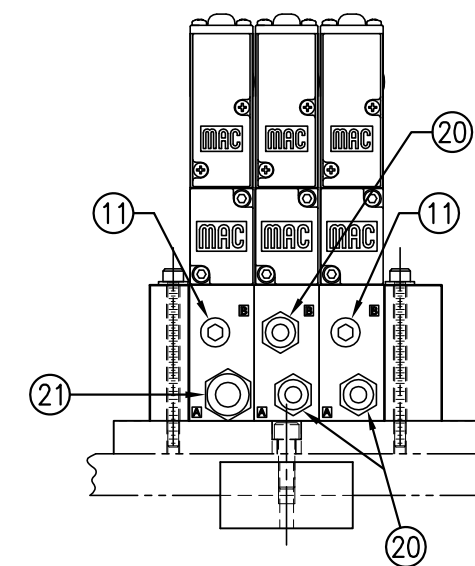
END VIEW "A"
(VALVE BANK & MTG. ONLY)

TAMP & BLOW VALVE:
PRESSURE GAUGE – 0-160 PSI
AIR ASSIST VALVE:
PRESSURE GAUGE – 0-60 PSI

AIR FILTER SHOWN IN
TYPICAL LOCATION FOR
LH APPLICATOR

U-ARM NOT INCLUDED SEE CTM
LEVEL DRAWINGS FOR PLACEMENT
OF VALVE BANK IN RELATION TO U-ARM

MOVE PLUG FROM TEE
ON THIS SIDE TO "IN" PORT
ON OPPOSITE SIDE & ATTACH
AIR FILTER ASSEMBLY HERE
(TO TEE) FOR RH APPLICATORS
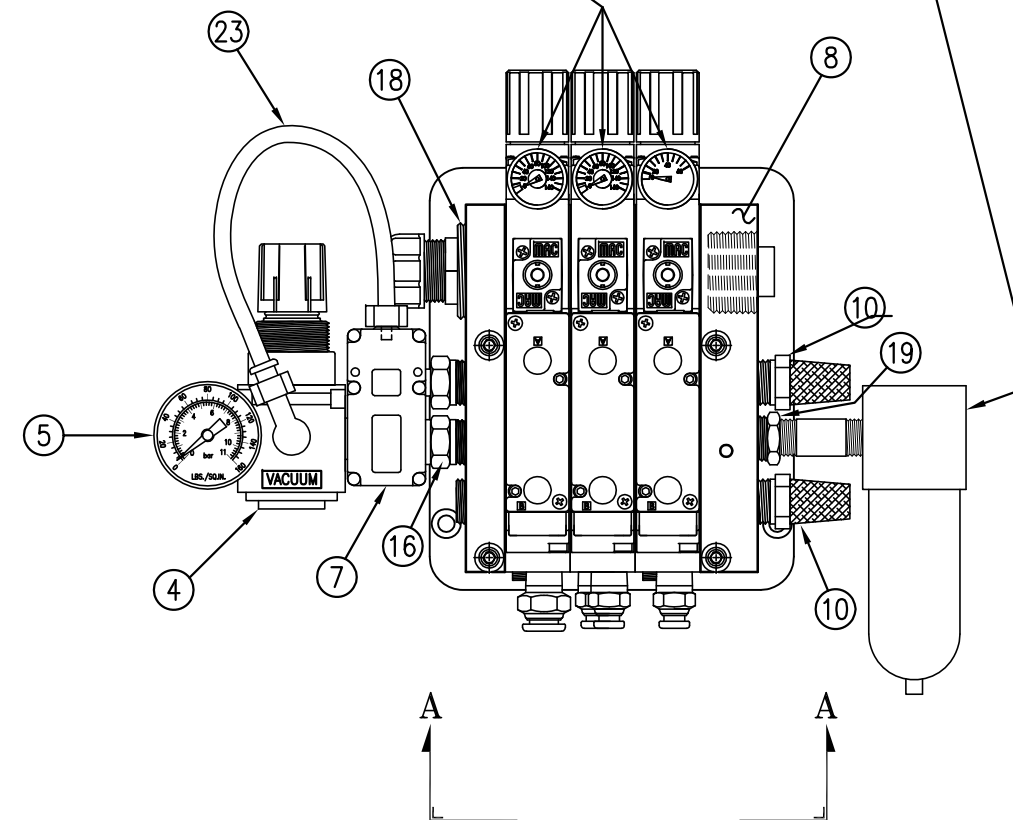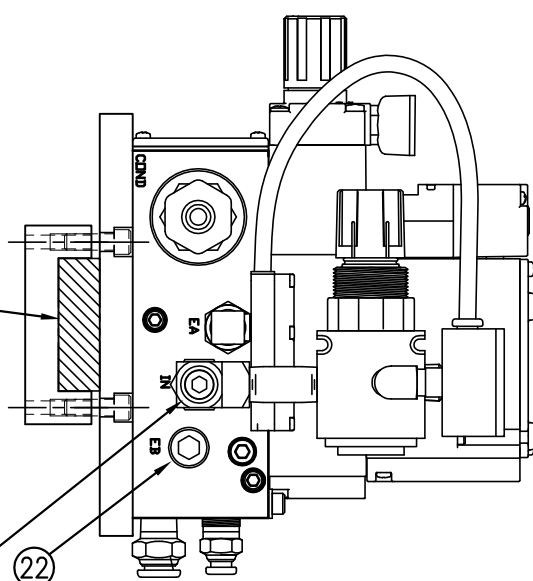
AIR FLOW

24 AIR FILTER
SHIP LOOSE
-CUSTOMER TO INSTALL -

VACUUM

A   A

Dept. Code 70
F: \Engineering\Standard Parts\Applicator_360\
360\ASS-218-0136M
TITLE: 3 STATION MAC VALVE BANK ASSEMBLY (TAMP) FOR 1800PA
DRAWN BY: E. SANOR
Date: 06/15/07
Scale: 1=3
REV. BY: xxx
REV. DATE: –
GROUP: VALVE BANKS
APPLICATOR SERIES: 360
APPLICATOR WIDTH(S): 5"/7.5"/10"
REV. DESCRIPTION: –
REV. 0

BILL OF MATERIAL

ASSEMBLY		ASS-218-0137		SOLD
ITEM	QTY	ITEM DESCRIPTION	CTM PART NUMBER	
①	1	END OF WEB SENSOR w/ MOUNTING BRACKET	ASS-238-0132	.
②	1	AUX. PORT	PE-CON1025	.
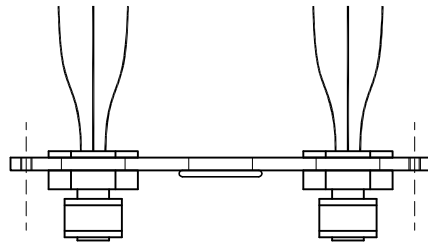
REMOVE PLUG (PE-EN0956)
FROM AUX. PORT
AND ADD ITEM # 2
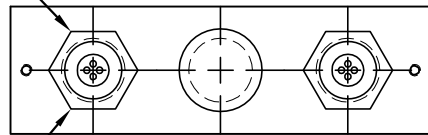
②

VIEW A-A
PORT CONNECTOR STRIP
(4X SCALE)

A

A

①

WHT — ⟨15⟩
BRN — ⟨8⟩
GRN/YEL
BLK
BLU — ⟨11⟩

2

3   4
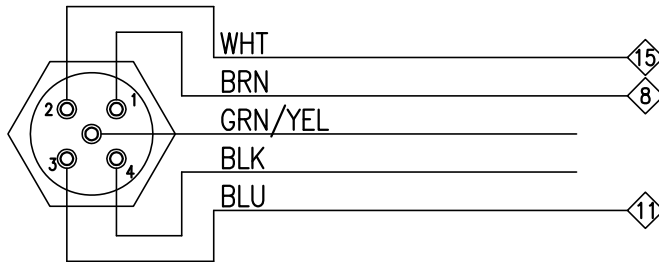
TERMINAL BLOCK
CONNECTIONS

BACK SIDE OF CONNECTOR
@ PORT CONNECTOR STRIP

NOTE: TIE WRAP UNUSED WIRES.
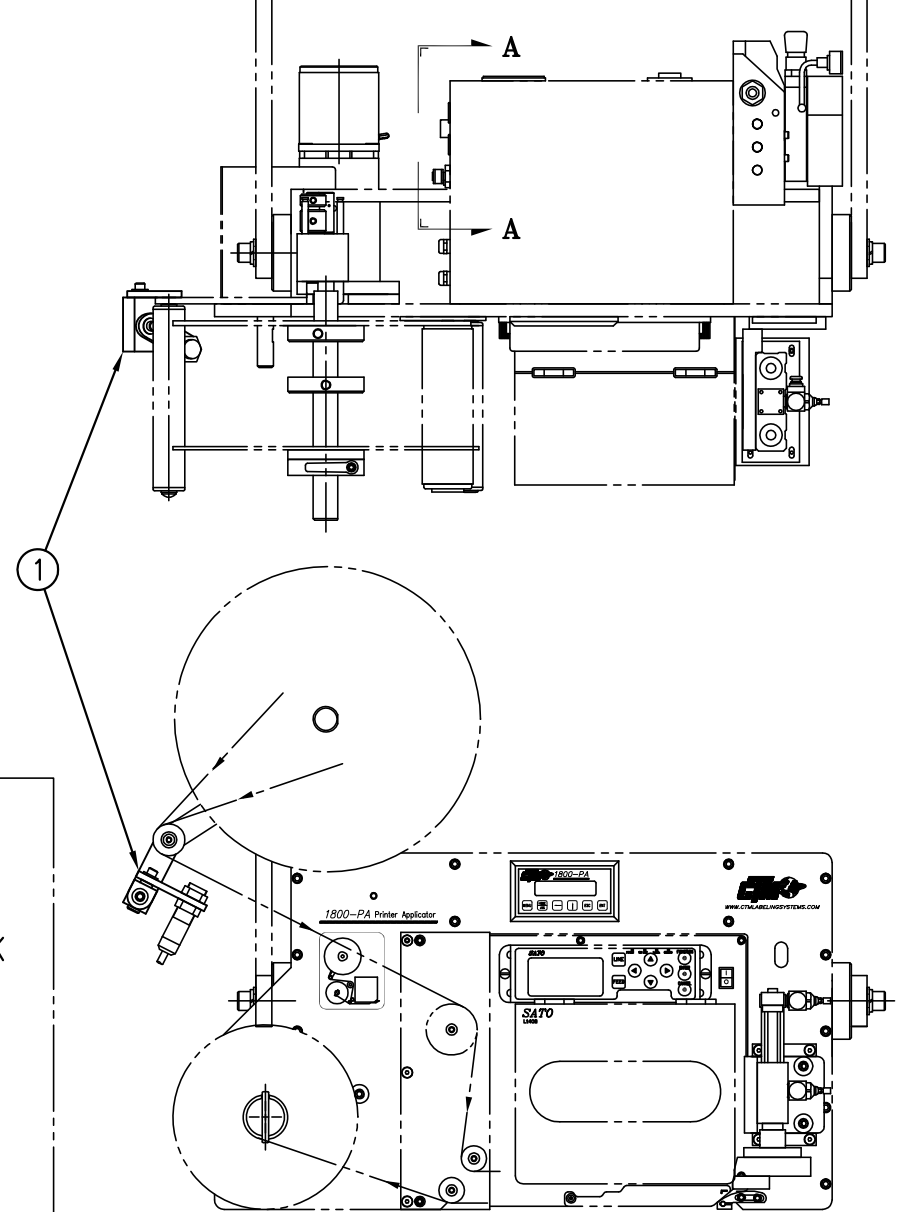
1800-PA Printer Applicator

SATO

TITLE: 1800-PA SERIES APPLICATOR	PART: END OF WEB SENSOR w/ MOUNTING BRACKET & PORT CONNECTOR	Dept. Code 70

REV.	REV. DESCRIPTION	REV. DATE	REV. BY:	Scale:	Date:	DRAWN BY:	F:\Engineering\Standard Parts\System Components:
0	–	–	XXX	1=8	09/22/06	BMW	1800\ASS-218-0137

BILL OF MATERIAL

ASSEMBLY		ASS-218-0138		SOLD
ITEM	QTY	ITEM DESCRIPTION	CTM PART NUMBER	
①	1	LOW LABEL SENSOR w/ MOUNTING BRACKET	ASS-238-0455-B	.
②	1	LOW LABEL CONNECTOR HARNESS	MP-CON1020	.
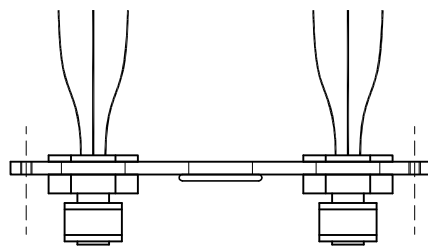
REMOVE PLUG (PE-EN0956) FROM LOW LABEL PORT AND ADD ITEM # 2
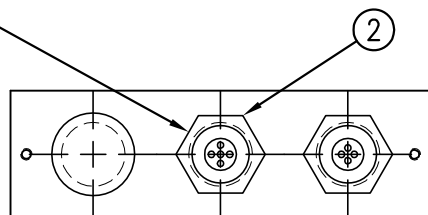
②

VIEW A-A
PORT CONNECTOR STRIP
(4X SCALE)

①

BRN   8
GRY   14
BLU   11

2 5 1
3 4

TERMINAL BLOCK CONNECTIONS

BACK SIDE OF CONNECTOR
@ PORT CONNECTOR STRIP

REMOVE WHITE
AND BLACK WIRES
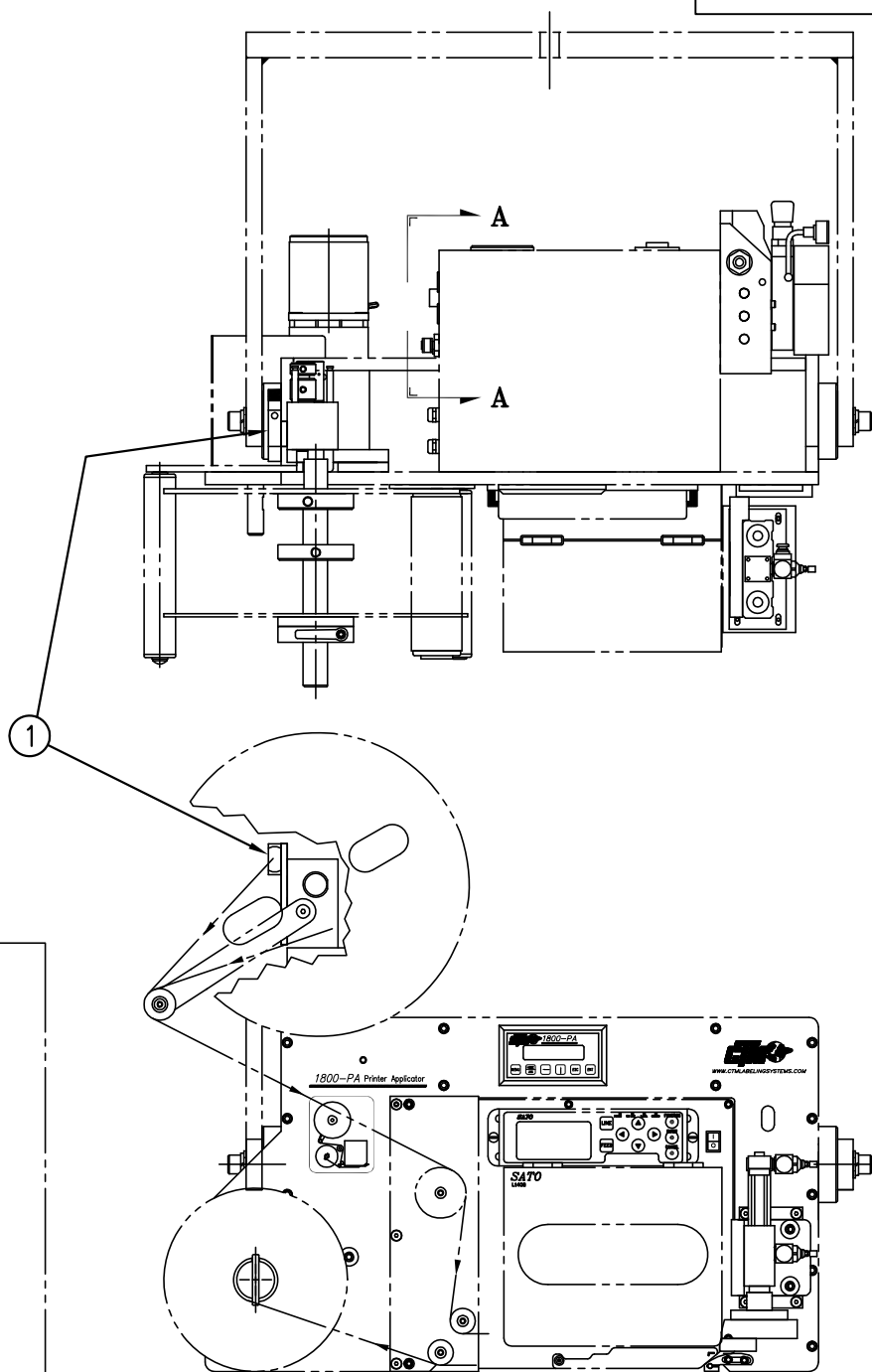
TITLE: 1800-PA SERIES APPLICATOR				PART: LOW LABEL SENSOR w/ MOUNTING BRACKET & PORT CONNECTOR		Dept. Code 70
REV. 0	REV. DESCRIPTION —	REV. DATE —	REV. BY: XXX	Scale: 1=8	Date: 09/22/06	DRAWN BY: BMW

F:\Engineering\Standard Parts\System Components:
1800\ASS-218-0138

BILL OF MATERIAL
ASS-218-0140

ITEM	QTY	CTM PART NUMBER	PART DESCRIPTION
①	7	PE-TE4000	TERMINAL BLOCK
②	1	PE-MA1040	TERMINAL BLOCK WIRE Nos. (#26-#29)
③	1	PE-MA1050	TERMINAL BLOCK WIRE Nos. (#31-#33)

EXISTING TERMINAL
BLOCK ASSEMBLY
(ASS-218-0131)

①

②③

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 31 32 33
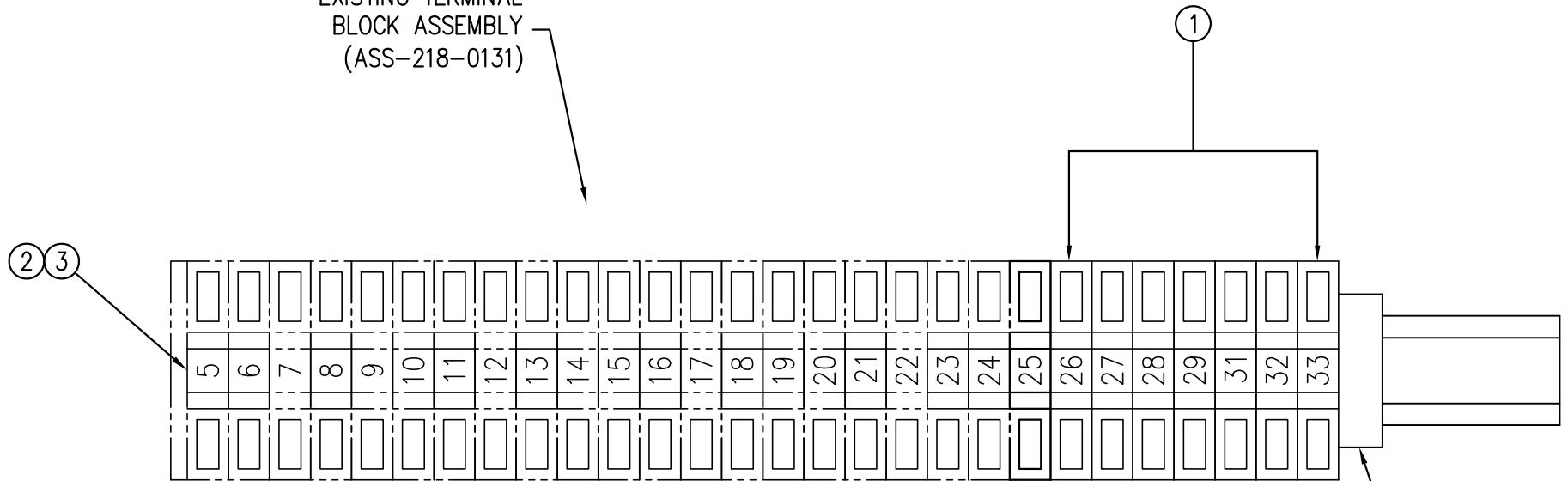
(1) END STOPS, #PE-TE4020 &
DIN MOUNTING RAIL, CP-218-0221
(NOT INCLUDED IN ASSEMBLY)

APPLICATOR SERIES: 1800	APPLICATOR WIDTH(S): 7.5"	GROUP: HOUSING	TITLE: I/O CONNECTOR TERMINAL BLOCK ASSEMBLY					Dept. Code 70
REV. 0	REV. DESCRIPTION –			REV. DATE –	REV. BY: XXX	Scale: 1=1	Date: 09/25/06	DRAWN BY: BMW

F:\Engineering\Standard Parts\Applicator\1800 SERIES\
1800a\ASS\ASS-218-0140

ASS-218a-0400

DISPLAY

ASS-238a-0425

ALARM

POWER SUPPLY

IEC CONNECTOR AND FILTER
FUSED AT 6.3 AMP

PE

GRN

PRINT ENGINE

(C12B)

INTERFACE PORT (C12)
(THIS CABLE WILL CHANGE WITH PRINTER)

PRODUCT DETECT

C4/3	BLU
C4/1	BRN
C4/2	WHT

CONTROLLER

X0-7

BRN	COM	
W/PUR	IN0	PROD. DET.
W/BLK	IN1	LOW LABEL
W/RED	IN2	END OF WEB
W/BLU	IN3	INHIBIT/EXT. PRINT
W/GRY	IN4	LOW RIBBON
W/YEL	IN5	NO MEDIA
W/GRN	IN6	PRINT END
W/ORG	IN7	PRINTER READY
BRN	COM	

238-0406-G
238-0406-Y
238-0406-P
238-0406-B

Y0-7

BRN	+24V	
YEL	OUT0	TAMP
GRY	OUT1	BLOW
PUR	OUT2	AIR ASSIST
ORG	OUT3	PRINT START
WHT	OUT4	REWIND MOTOR
YEL/GRN	OUT5	SYSTEM READY
PINK	OUT6	WARNING ALARM
RED	OUT7	CRITICAL ALARM
BLU	0VDC	

VALVE BANK

C9/8
C9/6
C9/1
C9/3
C9/2

REWIND MOTOR
ASS-218-0428

M1

P2

CAP

BLK

WHT

CR1

BLK

BRN

OPTIONAL

LOW LABEL AND END OF WEB ARE OPTIONAL OPTIONS AND ARE WIRED IN ONLY WHEN THE OPTION IS PURCHASED.

LOW LABEL

C5/5	GRY
C5/1	BRN
C5/3	BLU

END OF WEB

C6/2	WHT
C6/1	BRN
C6/3	BLU

X8-F

BRN	COM	
W/GRY	IN8	TAMP HOME
W/YEL	IN9	TAMP EXTEND
W/PUR	INA	VACUUM SWITCH
W/BRN	INB	RESERVED
W/RED	INC	RESERVED
W/BLK	IND	RESERVED
W/BLU	INE	RESERVED
W/GRN	INF	RESERVED
BRN	COM	

OPTIONAL

USE PE-238-0421 HARNESS ONLY WHEN TAMP SWITCHES OR LABEL ON PAD OPTION IS USED OR PURCHASED.

Y8-F

BRN	+24V	
PINK	RESERVED	OUT8
YEL	REISSUE	OUT9
W/BLK	TAMP HOME	OUTA
WHT	LBL ON PAD	OUTB
GRY	RESERVED	OUTC
PUR	RESERVED	OUTD
RED	RESERVED	OUTE
	RESERVED	OUTF
BLU	0VDC	

OPTIONAL

USE PE-238-0422 HARNESS ONLY WHEN REISSUE, TAMP HOME OUTPUT, OR LABEL ON PAD OPTION IS NEEDED OR PURCHASED.

I/O

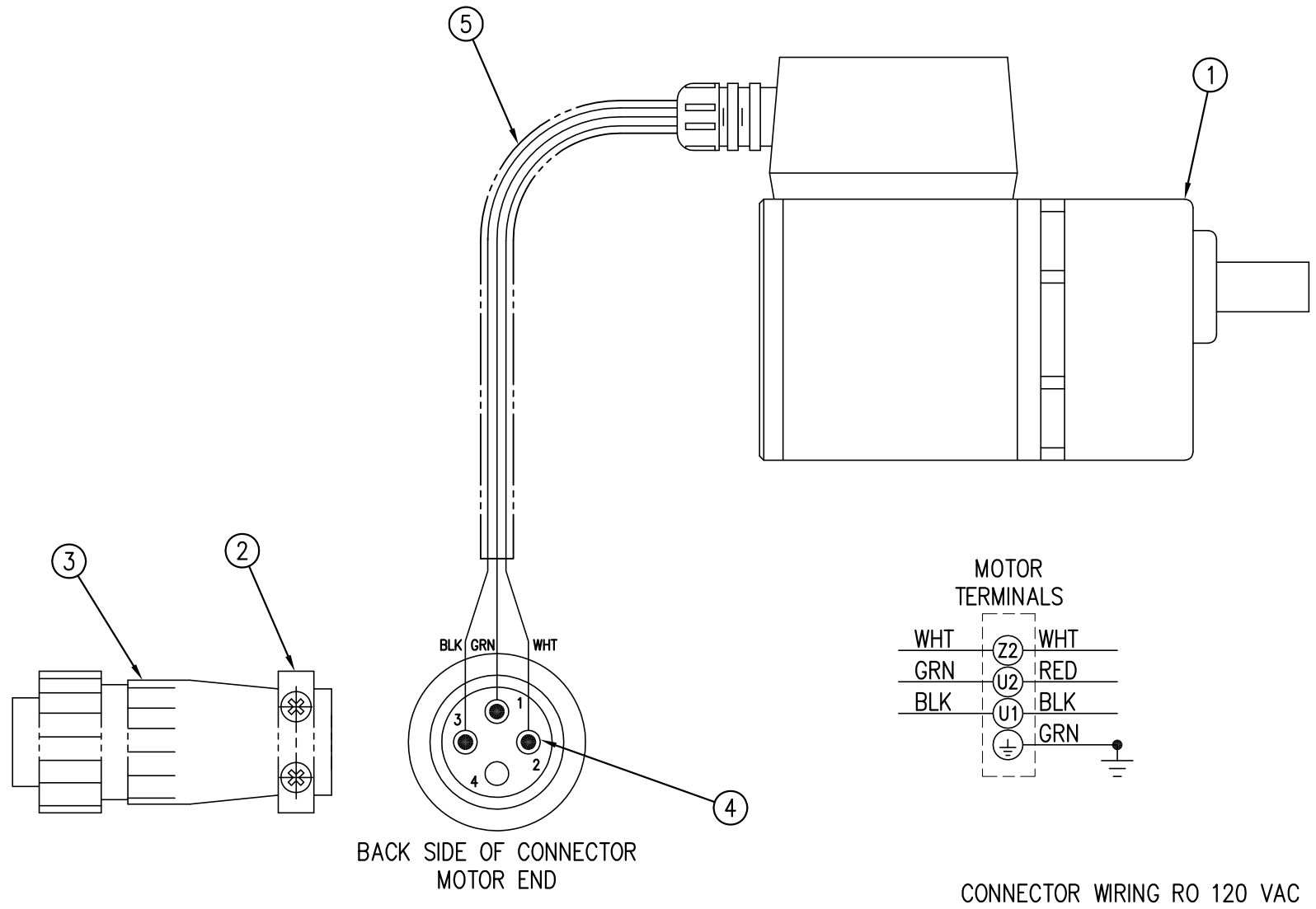|	
BLU	C2/1
BRN	C2/2
YEL/GRN	C2/3
PINK	C2/4
RED	C2/5
	C2/6
W/BLK	C2/7
WHT	C2/8
	C2/9
	C2/10
W/PUR	C2/11
W/GRN	C2/12

I/O CONNECTOR
PE-218a-0411

OPTIONAL

THE I/O CONNECTOR IS OPTIONAL AND IS WIRED IN ONLY WHEN PURCHASED.

-TB1 TERMINALS

TB1-1	AC/LINE INPUT POWER	TB1-18	NO MEDIA	
TB1-2	AC/LINE INPUT POWER	TB1-19	PRINT END	
TB1-3	AC/NEUTRAL INPUT POWER	TB1-20	PRINTER READY	
TB1-4	AC/NEUTRAL INPUT POWER	TB1-21	PRINT START	
TB1-5	24 VDC	TB1-22	READY OUTPUT	
TB1-6	24 VDC	TB1-23	WARNING ALARM	
TB1-7	24 VDC	TB1-24	CRITICAL ALARM	
TB1-8	24 VDC	TB1-25	GROUND	
TB1-9	0 VDC	TB1-26	TAMP HOME	
TB1-10	0 VDC	TB1-27	TAMP EXTEND	
TB1-11	0 VDC	TB1-28	VACUUM SWITCH	
TB1-12	0 VDC			
TB1-13	PRODUCT DETECT			
TB1-14	LOW LABEL	TB1-31	REISSUE	
TB1-15	END OF WEB	TB1-32	TAMP HOME	
TB1-16	INHIBIT	TB1-33	LABEL ON PAD	
TB1-17	LOW RIBBON	TB1-34	0 VDC	

OPTIONAL

DO NOT MOUNT THESE TERMINALS TO MOUNTING RAIL, BUT ALLOW ROOM ON THE MOUNTING RAIL FOR THEM

Dept. Code 70

F:\Engineering\Standard Parts\System Components:
1800a\ASS-218a-0400

DRAWN BY: dkm

Date: 05/15/18

Scale: 1=2

REV. BY:

REV. DATE

PART: HOUSING SCHEMATIC

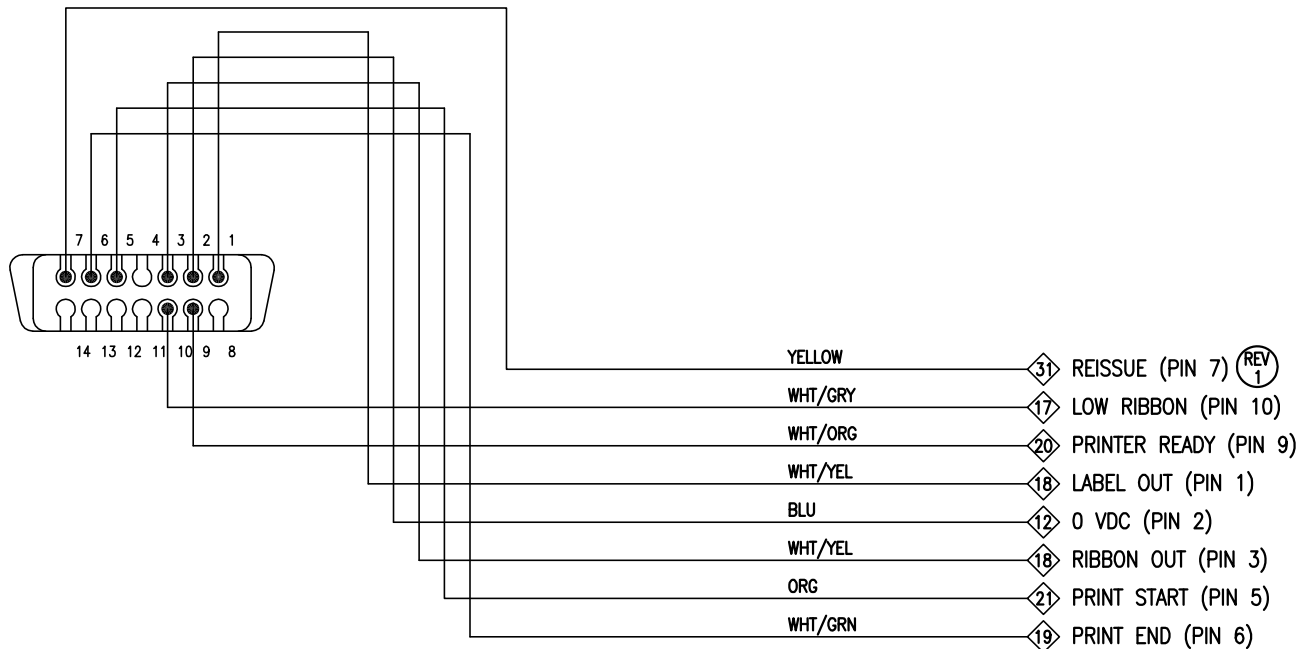TITLE: 1800a-PA SERIES APPLICATOR: ELECTRICAL BOX

REV. REV. DESCRIPTION

0

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BILL OF MATERIAL

ASSEMBLY	ASS-218-0428		SOLD
ITEM	QTY	ITEM DESCRIPTION	CTM PART NUMBER	
①	1	REWIND INDUCTION GEARMOTOR	PE-MO1127	.
②	1	CLAMP, CABLE PLUG	PE-CC1040	.
③	1	4-PIN, REVERSE SEX PLUG	PE-CON2019	.
④	3	MALE PIN	PE-CON7051	.
⑤	1	16/3 SJO CORD x 20" Lg.	PE-CO3050	.

BLK GRN   WHT

BACK SIDE OF CONNECTOR
MOTOR END

MOTOR
TERMINALS

WHT	(Z2)	WHT
GRN	(U2)	RED
BLK	(U1)	BLK
	(⏚)	GRN

CONNECTOR WIRING RO 120 VAC

TITLE: 1800-PA SERIES APPLICATOR: ELECTRICAL BOX	PART: REWIND MOTOR with CONNECTOR	Dept. Code 70

| REV. 0 | REV. DESCRIPTION — | REV. DATE — | REV. BY: XXX | Scale: 1=2 | Date: 10/05/05 | DRAWN BY: BMW | F:\Engineering\Standard Parts\System Components: 1800\ASS-218-0428 |

BILL OF MATERIAL

		ASSEMBLY	PE-218-0420		SOLD
ITEM	QTY	ITEM DESCRIPTION		CTM PART NUMBER	
①	1	SATO I/F PLUG		PE-PL1100	.
	1	WHT/GRY (AWG 22) WIRE x 24" LONG		PE-W1048	.
	1	WHT/ORG (AWG 22) WIRE x 24" LONG		PE-W1047	.
	2	WHT/YEL (AWG 22) WIRE x 24" LONG		PE-W1044	.
	1	BLUE (AWG 22) WIRE x 24" LG.		PE-W1036	.
	1	ORG (AWG 22) WIRE x 24" LG.		PE-W1038	.
	1	WHT/GRN (AWG 22) WIRE x 24" LONG		PE-W1043	.
	1	YELLOW (AWG 22) WIRE x 24" LONG		PE-W1035	.
	7	3/32" x 3/8" Lg. SHRINK TUBE		PE-ST1000	.
	1	1/4" x 14" Lg. SHRINK TUBE		PE-ST1015	.
	2	1/4" x 3/4" Lg. SHRINK TUBE		PE-ST1015	.
	1	3/8" x 1" Lg. SHRINK TUBE		PE-ST1020	.

PE-218-0420

- SOLDER WIRES INTO CONNECTOR.
- SLIDE 3/32" X 3/8" LONG SHRINK TUBE OVER SOLDER CONNECTIONS OF EACH WIRE.
- TWIST THE WIRE TO MAKE A SMOOTH BUNDLE AND APPLY 1/4" X 14" LONG SHRINK TUBE OVER ALL THE WIRES LEAVING A 1/8" GAP BETWEEN THE 3/32" AND 1/4" TUBE.
- SLIDE 1/4" X 3/4" LONG SHRINK TUBE OVER 1/4" X 14" LONG SHRINK TUBE WITH THE ENDS FLUSH AT THE CONNECTOR END. REPEAT THIS STEP TO MAKE A THIRD LAYER.
- SLIDE 3/8" X 1" LONG SHRINK TUBE OVER THESE THREE LAYERS TO MAKE A FORTH LAYER.
- COMPLETE ASSEMBLY.

BACK SIDE OF PLUG C12
-@ SATO SE INTERFACE PLUG-

Wire	Signal
YELLOW	31 REISSUE (PIN 7) REV 1
WHT/GRY	17 LOW RIBBON (PIN 10)
WHT/ORG	20 PRINTER READY (PIN 9)
WHT/YEL	18 LABEL OUT (PIN 1)
BLU	12 0 VDC (PIN 2)
WHT/YEL	18 RIBBON OUT (PIN 3)
ORG	21 PRINT START (PIN 5)
WHT/GRN	19 PRINT END (PIN 6)

TITLE: 1800-PA SERIES APPLICATOR: ELECTRICAL BOX	PART: APPLICATOR TO SATO SE INTERFACE HARNESS	Dept. Code 70

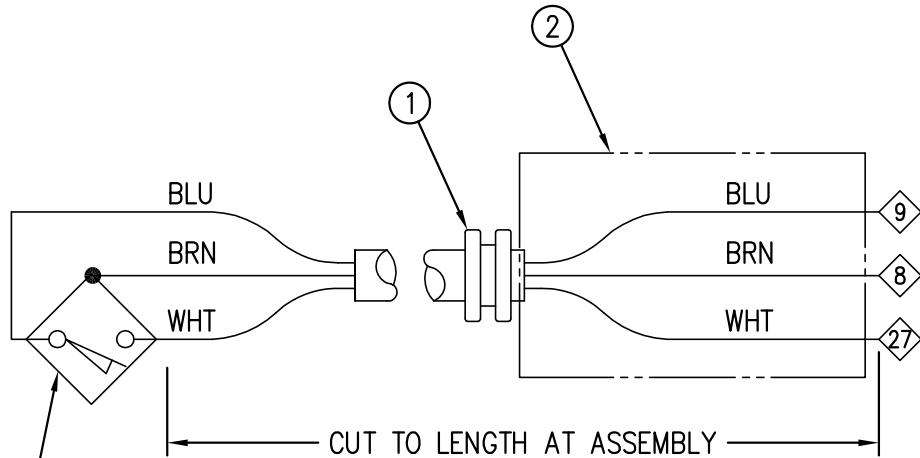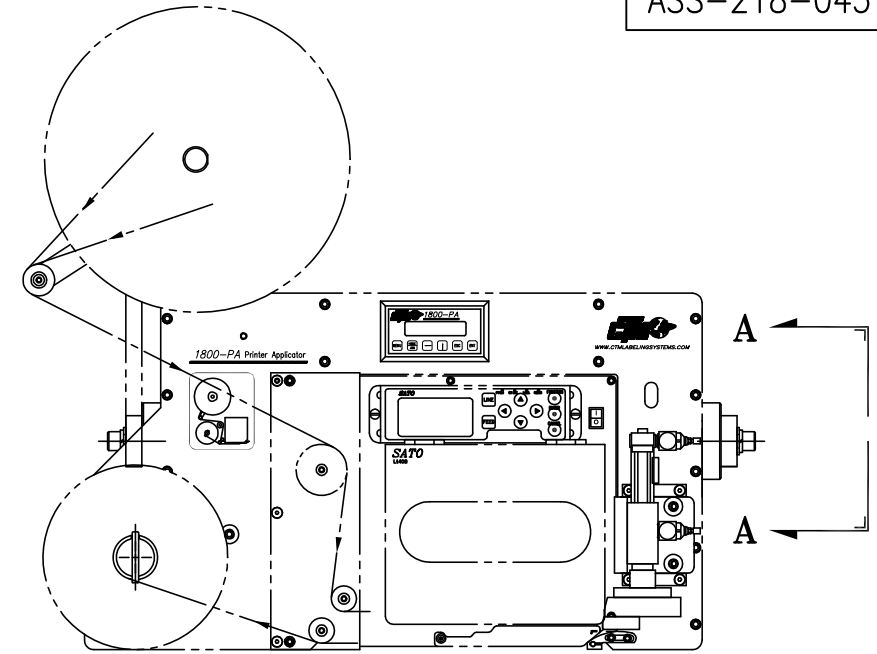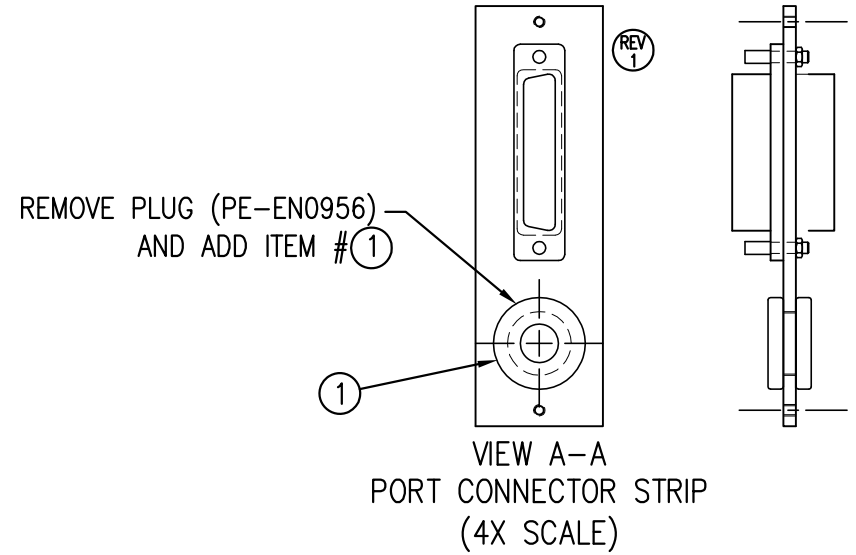| REV. 1 | REV. DESCRIPTION PROGRAM UPDATE, PIN 7 (FOR REISSUE OPTION) IS NOW USED | REV. DATE 07/11/07 | REV. BY: ES | Scale: 1=2 | Date: 10/05/05 | DRAWN BY: BMW | F:\Engineering\Standard Parts\System Components: 1800\PE-218-0420 |

BILL OF MATERIAL

ASSEMBLY	ASS-218-0431		SOLD
			S

ITEM	QTY	ITEM DESCRIPTION	CTM PART NUMBER	
①	1	GROMMET, 5/16" ID, 3/4" OD, 1/8" Thick	PE-CO2019	.
②	1	I/O CONNECTOR OPTION	ASS-218-0139	.

1800-PA Printer Applicator

A ◄
A ◄

BLU
BRN
WHT

② ①

BLU — ◇ 9
BRN — ◇ 8
WHT — ◇ 27

CUT TO LENGTH AT ASSEMBLY

NOTHING IS LISTED FOR THE TAMP RETURN SENSOR ITSELF SINCE IT WILL BE JOB SPECIFIC. REFER TO THE JOB BILL OF MATERIAL FOR SENSOR TYPE.

REMOVE PLUG (PE-EN0956) AND ADD ITEM #①

REV 1

①

VIEW A-A
PORT CONNECTOR STRIP
(4X SCALE)

TITLE: 1800-PA SERIES APPLICATOR	PART: PHOTOELECTRIC TAMP RETURN SENSOR WIRING				Dept. Code 70

REV.	REV. DESCRIPTION	REV. DATE	REV. BY:	Scale:	Date:	DRAWN BY:	F:\Engineering\Standard Parts\System Components:
1	CHANGED PLATE TO SHOW DISPLAY PORT	07-05-18	dkm	1=8	10/16/08	BMW	1800\ASS-218-0431

BILL OF MATERIAL

ASSEMBLY		ASS-218-0433-X		SOLD
				S
ITEM	QTY	ITEM DESCRIPTION	CTM PART NUMBER	
①	1	HOME PROX	PE-SE1035	S
②	3	1/8" Ø SHRINK TUBE x 3/4" LONG	PE-ST1005	.
③	1	22 AWG (BROWN) WIRE x 6" LONG	PE-W1037	.
④	1	22 AWG (BLACK) WIRE x 6" LONG	PE-W1032	.
⑤	1	22 AWG (BLUE) WIRE x 6" LONG	PE-W1036	.
⑥	1	GROMMET, 5/16" ID, 3/4" OD, 1/8" Thick	PE-CO2019	.
⑦	1	3/16" DIA. x 2" Lg. SHRINK TUBE	PE-ST1010	.
⑧	1	MOUNTING BRACKET (FOR 3/4" CYL.)	PE-SE1036	.
	1	MOUNTING BRACKET (FOR 1" CYL.)	PE-SE1037	.
⑨	1	I/O CONNECTOR OPTION	ASS-218-0139	.

ASS-218-0433-X

|	
SENSOR ONLY	-0433
SENSOR w/MTG. BKT. FOR 3/4" CYL.	-0433-A
SENSOR w/MTG. BKT. FOR 1" CYL.	-0433-B
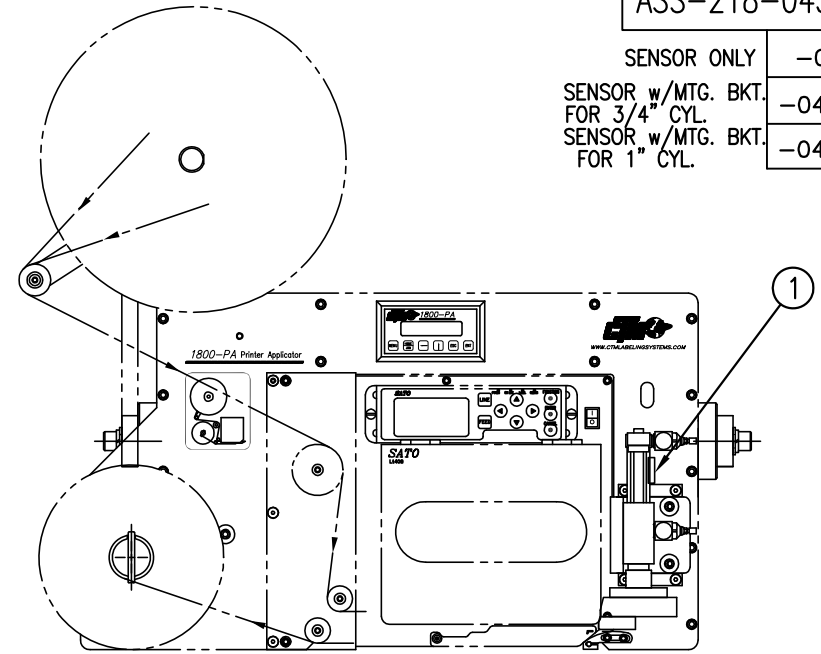
WIRE PREPARATION NOTES:

1) STRIP EACH OF THE THREE WIRES BACK 3/8".
2) SOLDER WIRE EXTENSIONS TO THE CABLE WIRES, MATCHING WIRE EXTENSION COLOR WITH SAME COLOR CABLE WIRE.
3) APPLY ONE PIECE OF 1/8"Ø x 3/4" LONG SHRINK TUBE OVER TOP OF EACH OF THE SOLDERED CONNECTIONS AS SHOWN.
4) APPLY ONE PIECE OF 3/16"Ø x 2" LONG SHRINK TUBE OVER TOP OF 3 WIRES ABOVE.
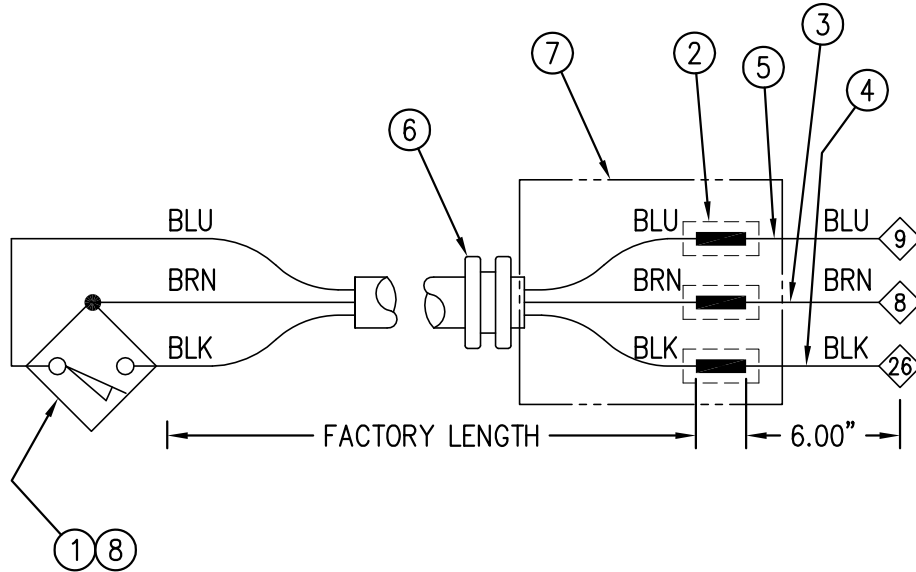
ROUTE SENSOR CABLE ON BOTTOM OF SHELF ASSEMBLY AND SECURE W/ CABLE TIES & MOUNTS AS NEEDED.

REMOVE PLUG (PE-EN0956) AND ADD ITEM # ⑥
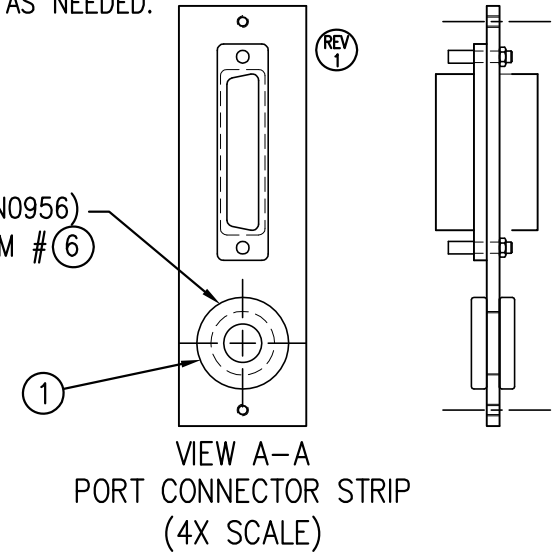
BLU — BLU — BLU ◇9
BRN — BRN — BRN ◇8
BLK — BLK — BLK ◇26

FACTORY LENGTH ← 6.00" →

VIEW A-A
PORT CONNECTOR STRIP
(4X SCALE)

TITLE: 1800-PA SERIES APPLICATOR		PART: TAMP HOME SENSOR				Dept. Code 70
REV.	REV. DESCRIPTION	REV. DATE	REV. BY	Scale:	Date:	DRAWN BY:
1	CHANGED PLATE TO SHOW DISPLAY PORT	07-05-18	dkm	1=8	11/27/06	BMW

F:\Engineering\Standard Parts\System Components:
1800\ASS-218-0433-X