

SERVO 1200-P FEEDER

MODEL SE-SERVO 1200-P FEEDER

OPERATION AND MAINTENANCE MANUAL



DIRECT MAIL SOLUTIONS

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VERSION HISTORY

The table below summarizes the history of this document as it is published onto the company website(s). It identifies the version, date of issue and revisions and changes.

| VERSION | DATE | CHANGES |
|---------------------------|----------|-----------------|
| SE-SERVO1200-P_ops_022409 | 02-24-09 | Initial release |
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REVISION CONVENTIONS-DOCUMENT

VERSION: name of document with revision_level of entire document- level designates minor changes that do not require revision change

DATE: date of issue for copying and publication of document.

CHANGES: details of document revision_level.

Customer Satisfaction Guarantee



Document Messaging Technologies

Pitney Bowes Document Messaging Technologies Division ("Pitney Bowes DMT") is committed to providing our customers with the finest products backed by the highest quality care and service. Pitney Bowes DMT promises to provide you the following guarantee, while your system is maintained under a DMT equipment maintenance agreement:

Guaranteed Product Performance – For all new products we guarantee performance to our specifications for the initial term of the lease or two years if purchased outright provided that the equipment has been appropriately maintained according to Pitney Bowes DMT specifications. If, during that period, the product does not perform to our specifications, and we cannot repair it, we will replace it with a comparable product. If during the first ninety days after installation of the replacement, the replacement product does not perform as specified, you will be entitled to a prorated equipment refund. Should a malfunction occur due to the use of a non-Pitney Bowes consumable supply or unapproved software/hardware modification, this guarantee will not apply.

Guaranteed Nationwide Equipment Service – Our nationwide service force will respond to service and preventative maintenance requests as part of your equipment maintenance agreement. Your Service Manager will provide you with a formal escalation process, which will be adhered to in the unlikely event that an extended outage occurs.

Operator Productivity and Training Excellence – For all products that we install, our skilled professionals will effectively deliver the agreed upon installation and training services.

At Pitney Bowes, we are committed to maintaining long-term relationships with our customers. If our sales and service support team has been unable to satisfy you, I would like to hear from you. Please call Technical Support at 1-866-877-3683.

We won't be satisfied until you are satisfied.

A handwritten signature in black ink that reads "Leslie Abi-Karam".

Leslie Abi-Karam, President
Document Messaging Technologies

Revised January 6, 2003

WARRANTY

Pitney Bowes Document Messaging Technologies (“Pitney Bowes”) warrants to the Purchaser of Pitney Bowes feeding equipment (the “Equipment”) that the Equipment will be free from manufacturing defects in material and workmanship, and that it will perform according to Pitney Bowes published equipment specifications for one (1) year on mechanical and ninety (90) days on electrical commencing immediately upon Installation (as defined below) (the “Equipment Warranty Period”). Installation is defined as, the completion date of on-site assembly and testing by Pitney Bowes, or 15 days after delivery, whichever occurs first.

If you have any material problem with the Equipment involving a manufacturing defect in material or workmanship during the Warranty Period, Pitney Bowes will repair or, at our option, replace the Equipment having such problems. During the Warranty Period, Pitney Bowes will be responsible for the cost of parts and service labor necessary to repair any defect in material or workmanship or, at our option, replacing the Equipment. We do not assume a warranty obligation for consumable parts or supplies such as print heads, and ink, or for parts worn out due to extraordinary use of the Equipment or use inconsistent with manufacturer’s published specifications.

Service labor charges for work outside of this Warranty will be at negotiated rates (or, if not determined in advance, at Pitney Bowes standard rates) beginning at time of delivery. “On-site” service is defined as: Pitney Bowes DMT employee(s) contracted (subject to a written Equipment Maintenance Agreement) for on-site maintenance at customer location to perform emergency repair and preventative maintenance for specified hours of coverage.

This Warranty and any Equipment Maintenance Agreement periods shall run concurrently. Equipment Maintenance Agreements shall provide coverage for certain items not included as part of this Warranty, in accordance with the terms and conditions of the Pitney Bowes Equipment Maintenance Agreement.

This Warranty excludes:

- (a) Preventative Maintenance, routine service and normal wear.
- (b) Pitney Bowes Equipment serviced, repaired, refurbished or otherwise disassembled/reassembled by persons not certified by Pitney Bowes to perform service and repair.
- (c) Damage to the Equipment caused by use of spare parts or supplies not supplied by Pitney Bowes.
- (d) Damage to the Equipment caused by failure to use Pitney Bowes authorized procedures and processes.
- (e) The effects or outcome of integrating or connecting Pitney Bowes Equipment with products or processing equipment of OEM’s other than Pitney Bowes or it’s wholly owned subsidiaries.
- (f) Pitney Bowes will assume the obligations stated in this Agreement only if the product is operated under suitable temperature, humidity, line voltage, and any other manufacturer specified environmental conditions, and only if reasonable care is used in handling, operating, and maintaining the Product, and only if it’s use is for the ordinary purpose for which it is designed and in accordance with manufacturer’s published specifications for the Equipment.

PITNEY BOWES DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. OTHER LIMITATIONS AND EXCLUSIONS MAY APPLY IN ACCORDANCE WITH YOUR PURCHASE, LEASE OR OTHER AGREEMENTS WITH PITNEY BOWES REGARDING THE EQUIPMENT.

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Special Note:

Some pictures and illustrations may have color, hue and contrast graphically altered for clarity when printing in black and white and may not necessarily reflect the actual color of the product when viewed on compact disk.

DEFINITIONS

| | |
|---|---------------------------------|
| 1 | ON |
| 0 | OFF |
| Ø or PH | PHASE |
| ~ | VAC (volts alternating current) |
|— | VDC (volts direct current) |
| ! | WARNING or CAUTION |
|  | HAZARDOUS |
|  | HEAT |

Section I

Installation of the SERVO 1200-P FEEDER MODEL SE-SERVO1200-P FEEDER



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Section - I

Installation

PITNEY BOWES SE-SERVO 1200-P FEEDER

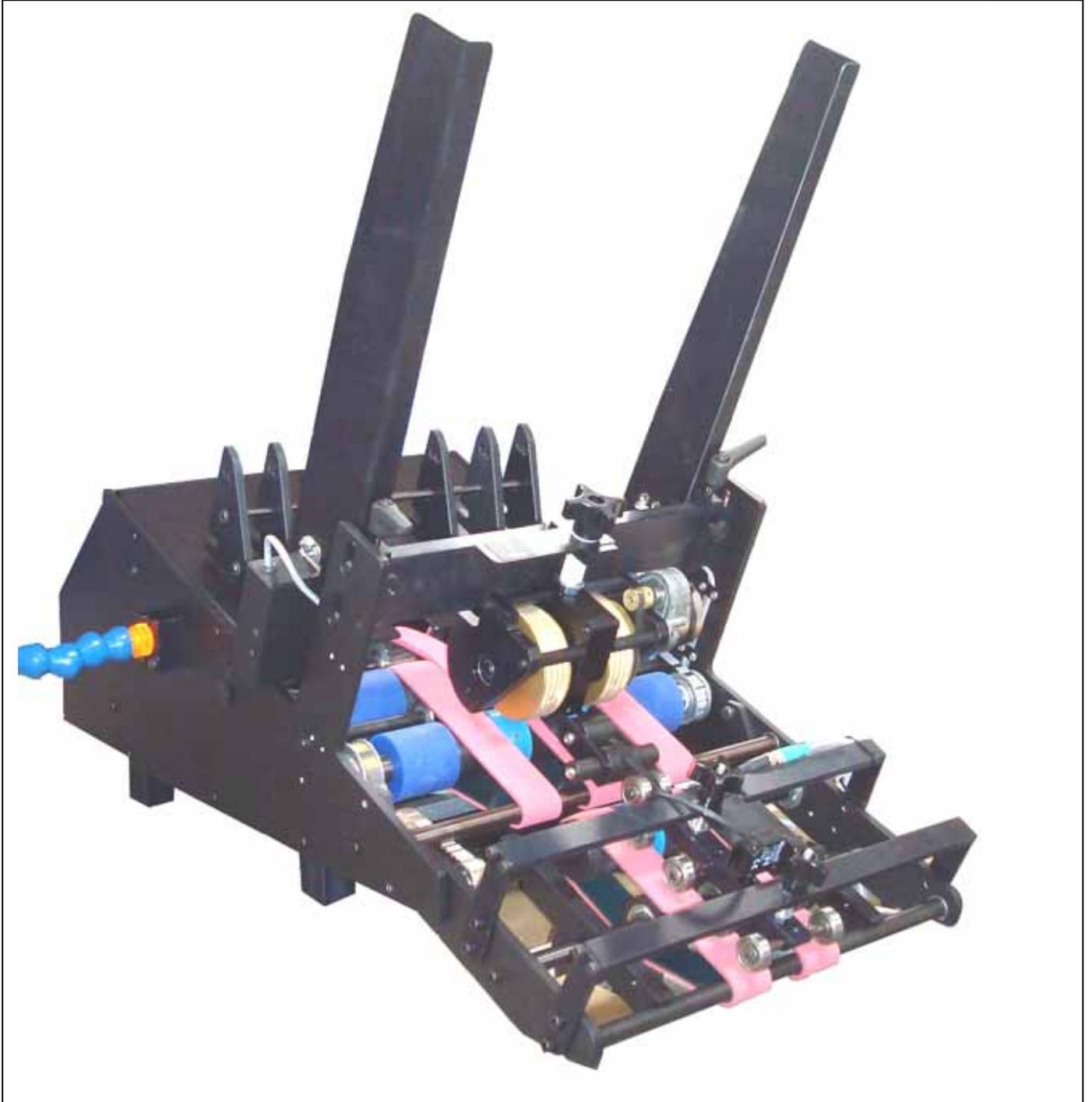
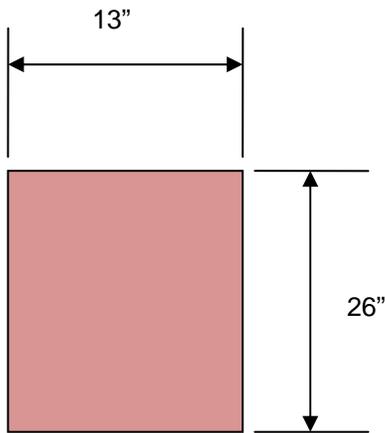


Figure I-1

**SE-SERVO1200-P Floor plan
(Shown without other conveyors)**



| Requirements |
|---------------------------------------|
| Floor Space = 2.4 Sq. Ft. |
| Electrical = 115 V~, 1 PH, 60 HZ, 12A |
| Air = None |
| Vacuum = None |
| Weight = 50 # |

Figure I-2

**SERVO 1200-P FEEDER
SE-SERVO1200-P**

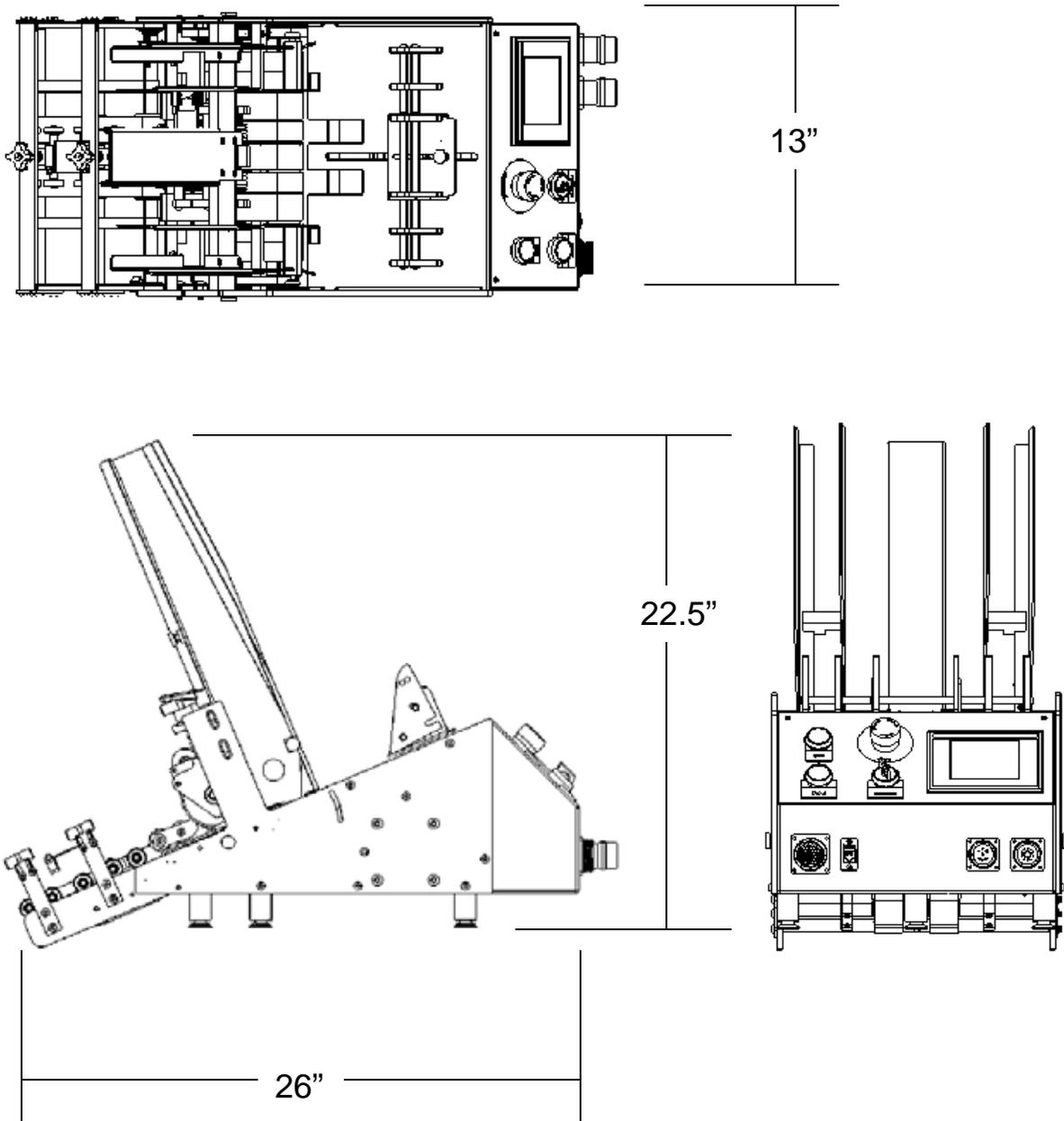


Figure I-3

Environment:

The installation of the SE-SERVO 1200-P FEEDER is intended for operation in a specific environment. See Operating Environment Table below for details.

Operating Environment Table

| ITEM | | SPECIFICATION |
|---------------------------|-------------------------------|--|
| Environmental Conditions | Ambient Operating Temperature | 0 to 35° C |
| | Storage Temperature | -25 to 85° C |
| | Ambient Operating Humidity | 30% to 95% RH (with no condensation) |
| | Ambient Storage Humidity | 5% to 95% RH (with no condensation) |
| | Pollution Level | Pollution level 2 (conforming to UL/EN60950-1) |
| | Corrosion Gas | There must be no combustible or corrosive gas. |
| | Operating Altitude | 2,000 m above sea level or lower |
| Installation Requirements | Ground | Ground (earth) connection required |
| | Cooling Method | Natural cooling |

Installation: Positioning the Components

Once the SERVO 1200-P FEEDER has been removed from the shipping container, perform the following:

1. Inspect the location where the machine is to be set up. (Note: The manufacturer recommends that the area be a relatively flat and smooth metallic surface or similar substrates are acceptable. The area should be free of holes and kept free of obstructions.)
2. The side guides (left and right hand) and center guide must be re-attached to the FF-14-P FEEDER. See later section for details.

Installation: Electrical Setup Connections

3. Inspect the line current at the point where the power cable of the machine is to be plugged in. (Note: Conventional wall sockets, ceiling line drops and D-Boxes should be free of cracks, rust, visible signs of heat stress and flash marks.) (Special Note: For installations in Europe check the condition of the voltage converter box or other voltage reducing device that may be in use. In the event of a line voltage inspection failure, report your findings to the person or persons in charge of the building and postpone the installation until corrections are made.)
4. Check the line voltage to ensure that the minimum and maximum requirements are present.
5. Check to see what volt value the transformer is pinned out.
6. Position the SERVO 1200-P FEEDER in the designated location.
7. Check entire machine for any items that may be obstructing proper operation. This includes packing/shipping components.
8. Plug the power cables for the SERVO 1200-P FEEDER into the proper sized site receptacle.



(Warning: To avoid possible damage to the machine and prevent possible injury, keep the work areas free of all packing material and other debris.)

Section II

Safety Features & Warnings



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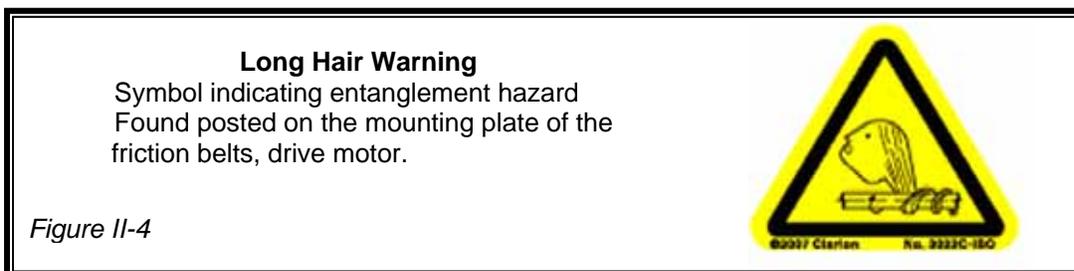
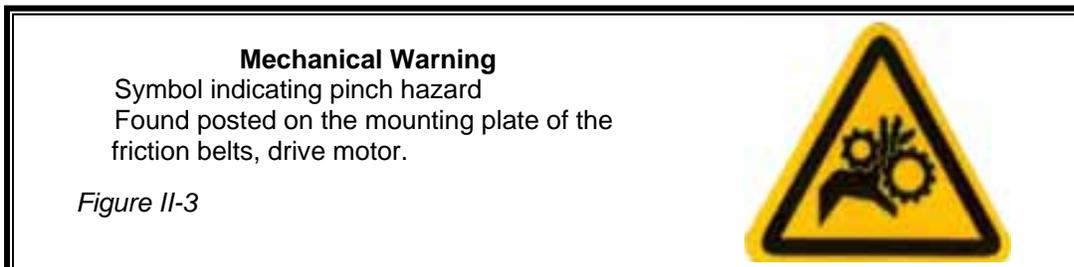
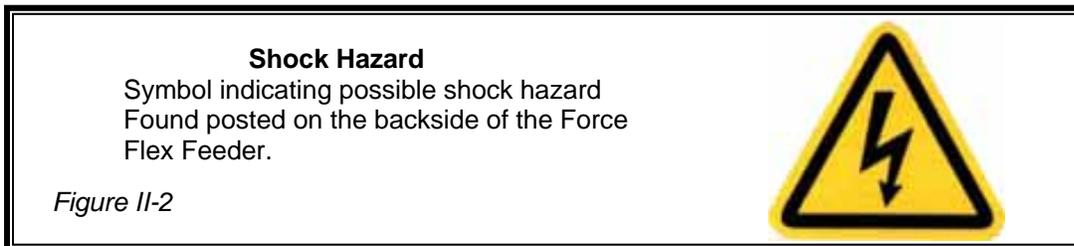
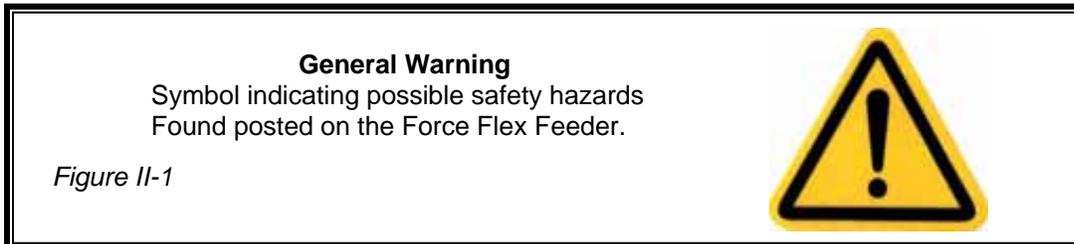
Section II

Safety Features:

All SERVO 1200-P FEEDER systems have been designed with covers to areas containing moving parts as well as caution or warning labels or stickers to safeguard persons operating and or working on or around this equipment. These are as follows:

All doors to cabinets containing moving parts are equipped with a mechanical lock that requires the use of a flat blade screwdriver to open.

The main power or electrical box door may be equipped with a safety lock that requires a specific key to open.



Note: This symbol  appears as a visual alert in the text of this manual next to written warnings regarding possible safety issues and or possible machine damage that may occur as a direct result of failure to follow specific instructions as written.

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(Note: The safety devices, door locks, warning labels and stickers are installed by the manufacture to safeguard all persons operating and or working on or around the SERVO 1200-P FEEDER. Removing, altering or disabling any of these items will void any and all warranties, either real or implied, purchased or offered with the SERVO 1200-P FEEDER. All companies connected with the manufacturing, promotion and sale of the SERVO 1200-P FEEDER shall be held harmless for any and all injuries and damage in the event the safety devices, door locks, warning labels and stickers are removed, altered or disabled)

In addition to the safety devices and warnings installed on the SERVO 1200-P FEEDER by the manufacture, the following recommendations for safe operation and maintenance of the SERVO 1200-P FEEDER are as follows:



- Any persons designated to operate, work on or near the SERVO 1200-P FEEDER must be fully trained by a factory-authorized representative.
- Do not operate or perform any type of maintenance on the SERVO 1200-P FEEDER while under the influence of drugs or alcohol.
- Do not operate or perform any type of maintenance on the SERVO 1200-P FEEDER in or around freestanding water.
- Do not wear loose or baggy fitting shirts, shirts with billowing sleeves, bracelets, rings, necklaces, neckties or other loose apparel that may come into close proximity with moving parts of the machine.
- Do not place any items near or over the “Emergency Stop Switches” that might inhibit or obstruct line of sight or access to the Emergency Stop Switches. The “Emergency Stop Switches” must be clearly visible and accessible at all times.
- Wear protective safety eyeglasses or goggles and use a particle mask or similar device when cleaning off the SERVO 1200-P FEEDER with compressed air. Alert all other persons in the area to stand a minimum of thirty (30) feet from the area where compressed air is put to such use.
- Hearing protection is not required for safe operation of the SERVO 1200-P FEEDER. Typically, decibel levels have been found to be less than 85 decibels in machines properly maintained and in good operating condition.
- All persons having hair greater than shoulder length who operate, work on or near the SERVO 1200-P FEEDER should keep their hair pulled back in ponytail fashion then pinned up or otherwise retained to the top of their head or confined under the back of their shirt.
- Turn off the main power to the SERVO 1200-P FEEDER before opening any of the service doors for general cleaning and or general maintenance. Follow the “Lock Out Procedures” as stated on page 13 for extensive repairs involving disassembly of the machine either in whole or in part or replacing any of the electrical components.
- Any persons working near any of the electrical motors or pump motors of the SERVO 1200-P FEEDER should use caution. Electrical motors and product heaters give off heat, contact with or exposure to bare skin may result in burns.

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- The SERVO 1200-P FEEDER was designed to feed and transport paper only. Do not attempt to feed and / or run materials made of or containing glass, metal, wood, liquids, foods, powders, gasses, explosives or toxic and hazardous chemicals on the SERVO 1200-P FEEDER. (Note: The manufacturer recognizes and acknowledges that the SERVO 1200-P FEEDER is capable of successfully running and / or transporting compact disk and audio cassettes inserted into paper envelopes, however the manufacturer and other companies connected with the promotion and sale of the SERVO 1200-P FEEDER do not assume any responsibility for any damage to the SERVO 1200-P FEEDER or product and shall be held harmless for any damages and or injuries resulting in this practice.)

Special Advisement:

The manufacturer and other companies connected with the promotion and sale of the SERVO 1200-P FEEDER shall be held harmless for any and all injuries sustained to any person or persons as a result of failure to comply with the recommendations for safe operation and maintenance of the SERVO 1200-P FEEDER as shown and / or described herein.

The Lithium batteries used in our products may contain Perchlorate Material --- special handling may apply. See www.disc.ca.gov/hazardouswaste/perchlorate.

If any equipment is provided with a replaceable battery and if replacement by an incorrect type could result in an explosion (for example, with some lithium batteries), the following applies:

- If the battery is placed in an 'operator access area', there shall be a marking close to the battery or a statement in both the operating and servicing instructions;
- If the battery is placed elsewhere in the equipment, there shall be a marking close to the battery or a statement in the servicing instructions.

This marking or statement shall include the following or similar text:

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE

DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS

Lock Out Procedure

Before beginning extensive repairs involving disassembly of the machine either in whole or in part, performing general maintenance or replacing any of the electrical components, the machine must be locked out of service to ensure that power will not be restored to the machine while the work is being performed. To lock a machine out of service, perform the following:

 **Warning:** The following procedure is published herein for the expressed purpose of providing a safe work environment conducive to persons performing repairs and or maintenance and or general cleaning of the SERVO 1200-P FEEDER and or any other components connected to or associated with the SERVO 1200-P FEEDER. This procedure must be followed without exception to ensure the safety of any person or persons performing the previous stated task.

The manufacturer and other companies connected with the promotion and sale of the SERVO 1200-P FEEDER shall be held harmless for any and all injuries sustained to any person or persons and or damage to the SERVO 1200-P FEEDER and or any other components connected to or associated with the SERVO 1200-P FEEDER as a result of failure to comply with the “Lock Out Procedure”.

1. Turn the main power switch to the off position.
2. Disconnect the power cable from its source by performing the following:
 - a. Follow the main power line from the machine back to the receptacle or source of supplied power and disconnect it at the source.
 - b. Place the plug connector close to the machine in such a position that will remain in your field of vision while repairs or maintenance is being performed.
3. Notify all other persons in the area where the work is being performed that the machine will be out of service, especially if the work you are performing requires you to be crouched behind or beside the machine or in some other way obscured from the sight of other persons in the area.
4. When the work has been completed reconnect the plug to the power source and then test cycle the machine to ensure that power has properly restored and the machine is fully functional.
5. Notify all other persons in the area that the machine is fully operational and that the drive motors will become enabled when the power switch is placed in the on position.

Suggested Lock Out Devices

The following are some suggested devices specifically designed to provide a greater degree of safety when locking out the power supply to a machine. These devices can be purchased from most safety equipment suppliers and vendors.

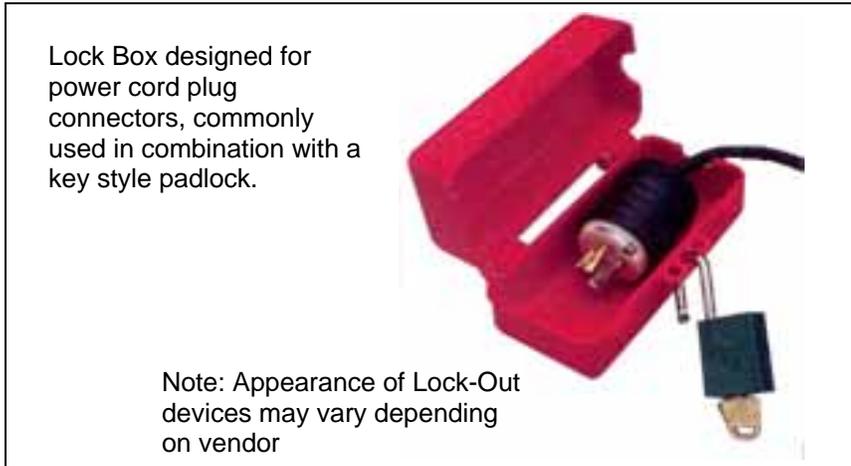


Figure II-5

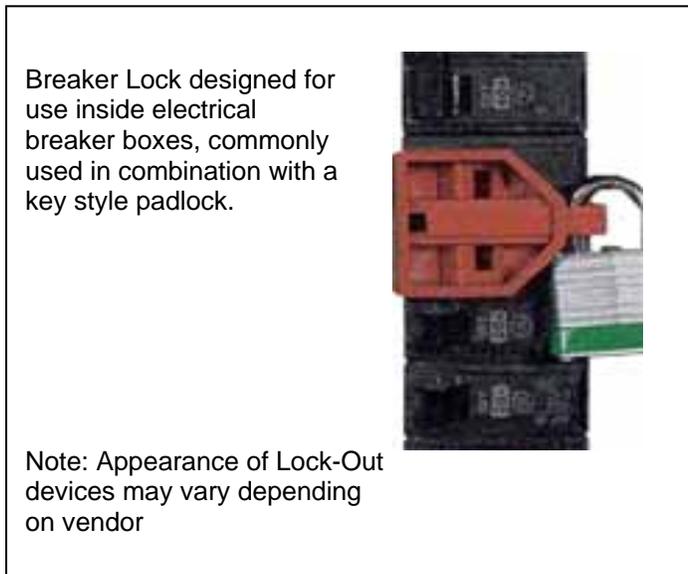
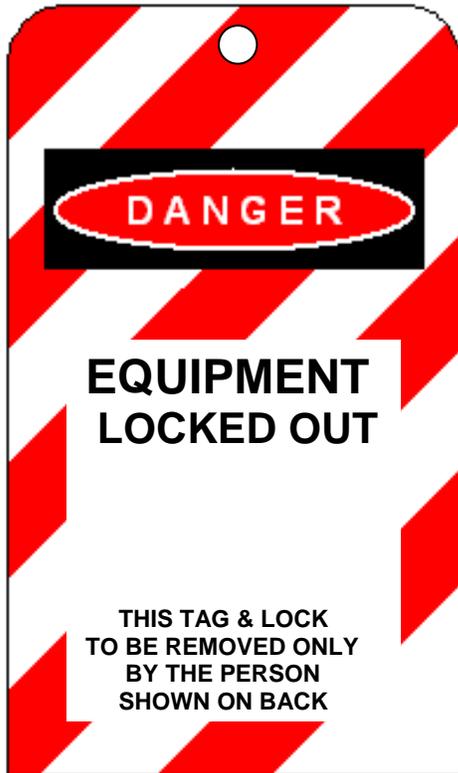


Figure II-6

Warning Alert tags, commonly used in combination with all lock out devices.

Front View of Lock Out Tag



Back View of Lock Out Tag



Figure II-7

Section III

General Set-Up

SERVO 1200-P FEEDER

MODEL SE-SERVO1200-P FEEDER



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Section – III

This SERVO 1200-P FEEDER is comprised of a feeder and associated electrical components that can stand alone (SA), be mounted to an optional stand or be incorporated onto a conveyor.

SERVO 1200-P FEEDER SET-UP

A. Center the material in the SERVO 1200-P Feeder by performing the following:

1. Raise the cross bar with attached separator assembly only if necessary to accommodate thicker products. Loosen all (4) button head screws (2 on each side frame) holding crossbar until the crossbar is free to move vertically, see figure III-1. NOTE: The material side guides should always clear belts during operation. Failure to do so may cause damage to belts or shafts and cause problems in product alignment. Loosen both knobs on each outer side guide to slide inner side guide as needed (up-down).

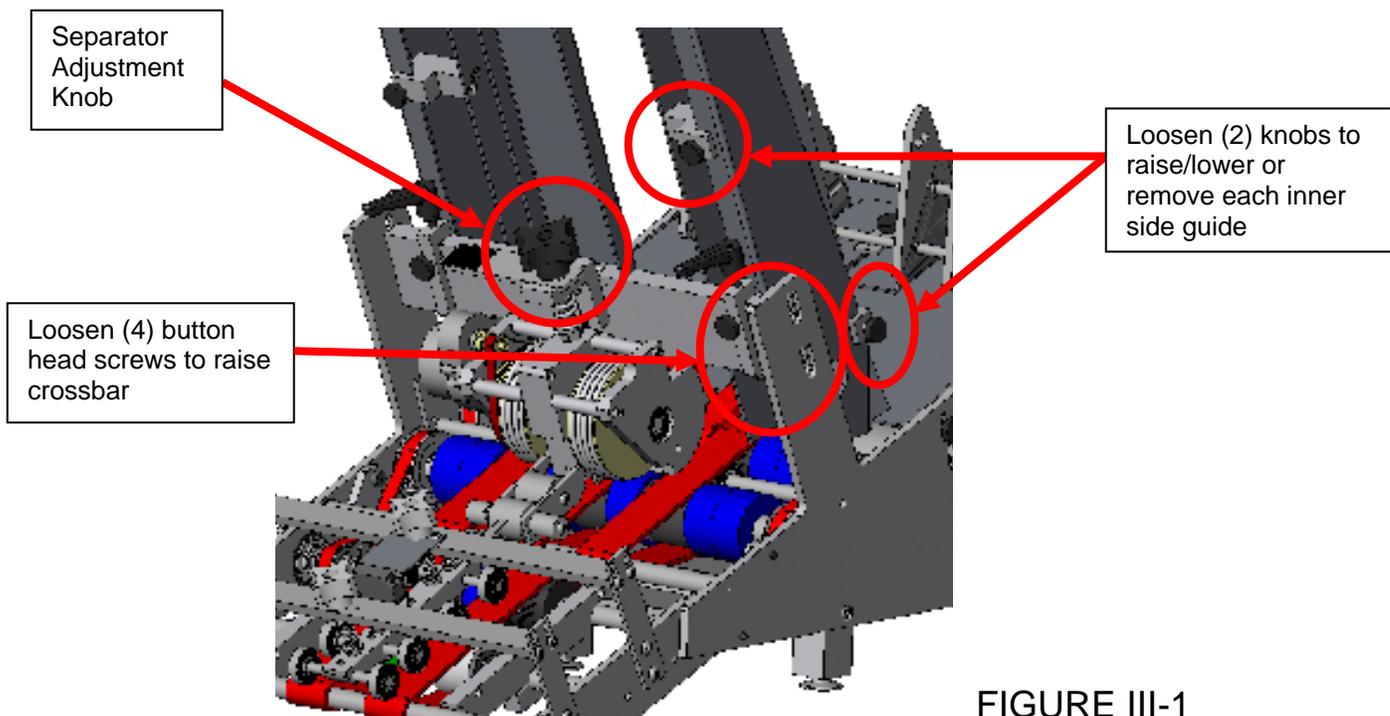
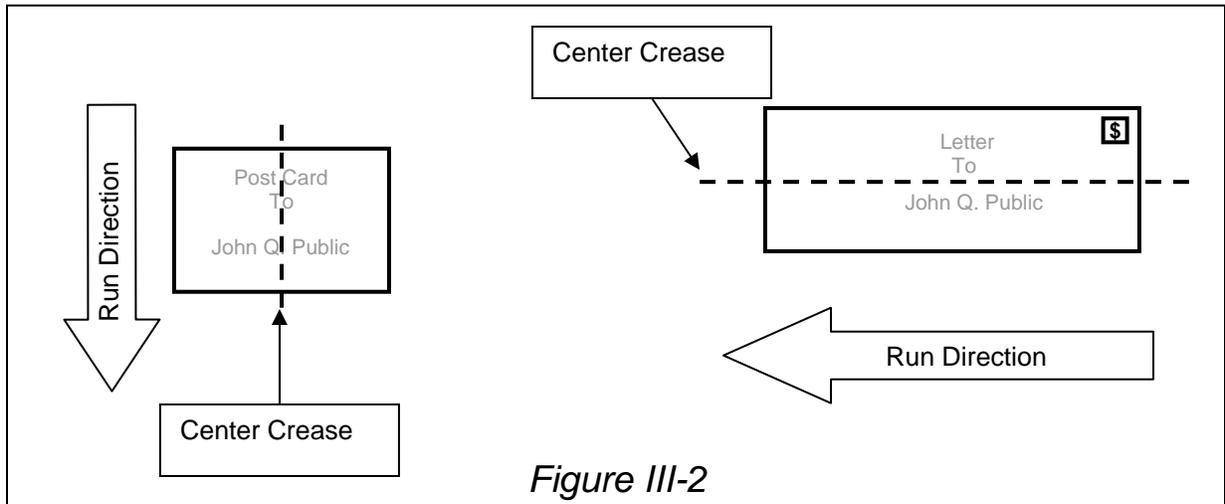


FIGURE III-1
Shroudless
Separator

2. Raise each separator wheel by turning the adjustment knob atop each separator assembly in a clockwise direction, see figure III-1.

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3. Fold one (1) piece of material in half to establish a center crease. (Note: The crease needs to be made in the direction of travel that the material is to be run in, see figure III-2.)



4. Align the center crease of the set up piece with the separator center block and back wedge center channel, see figure III-3

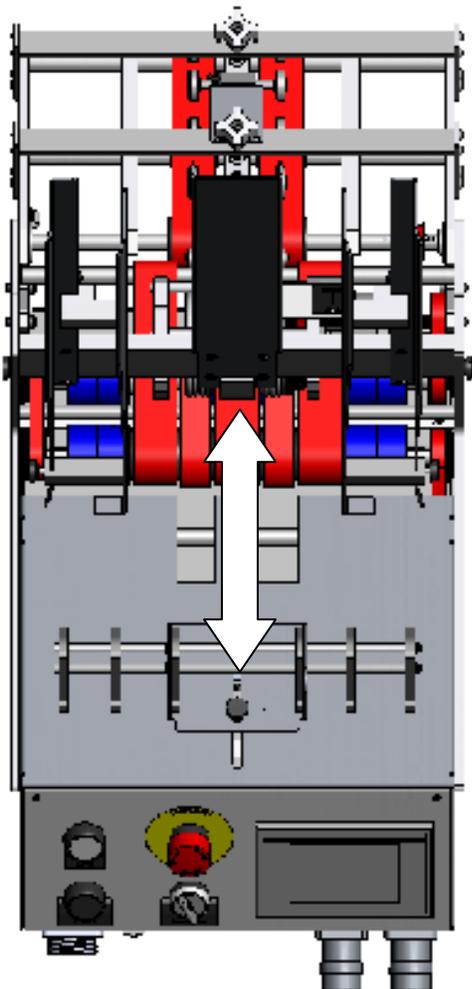
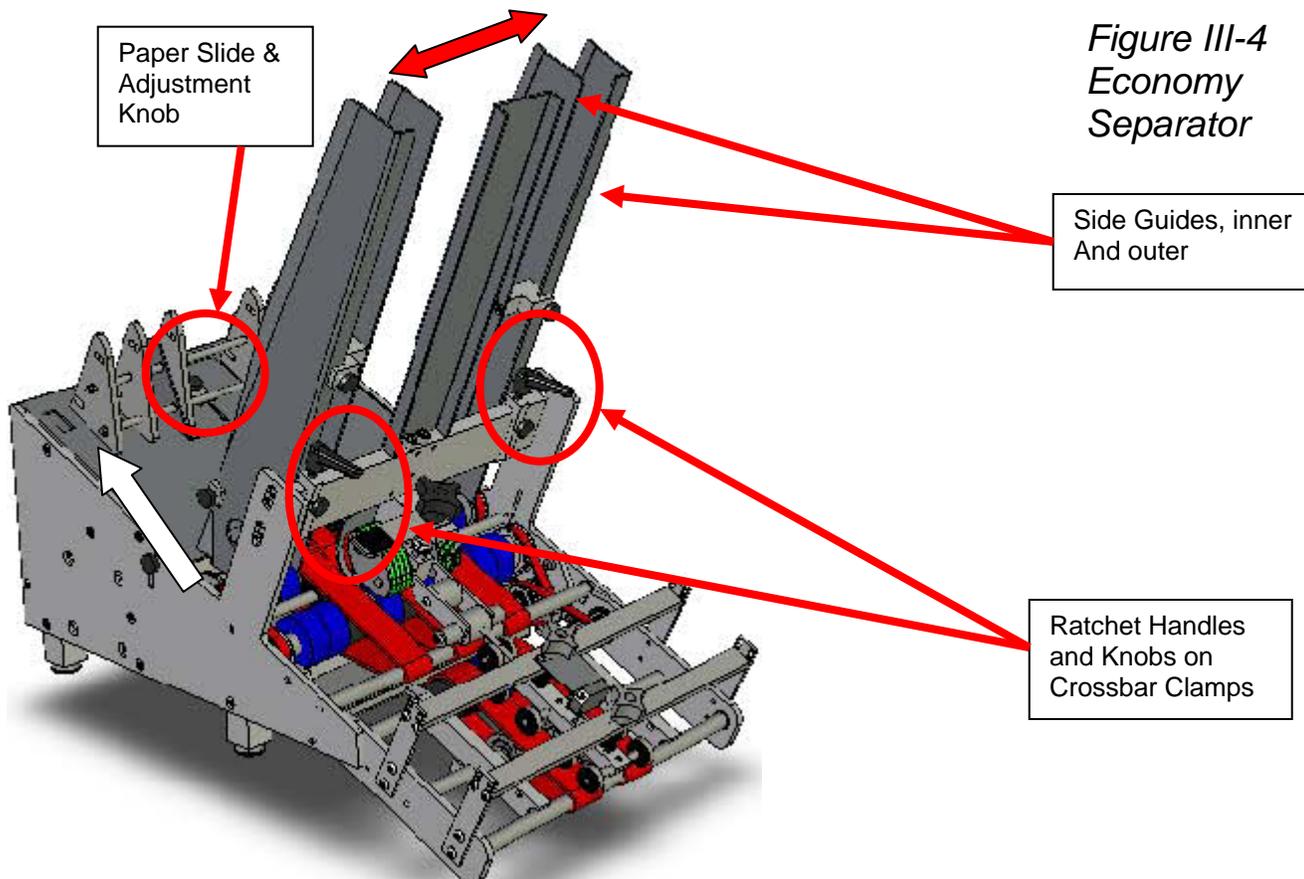


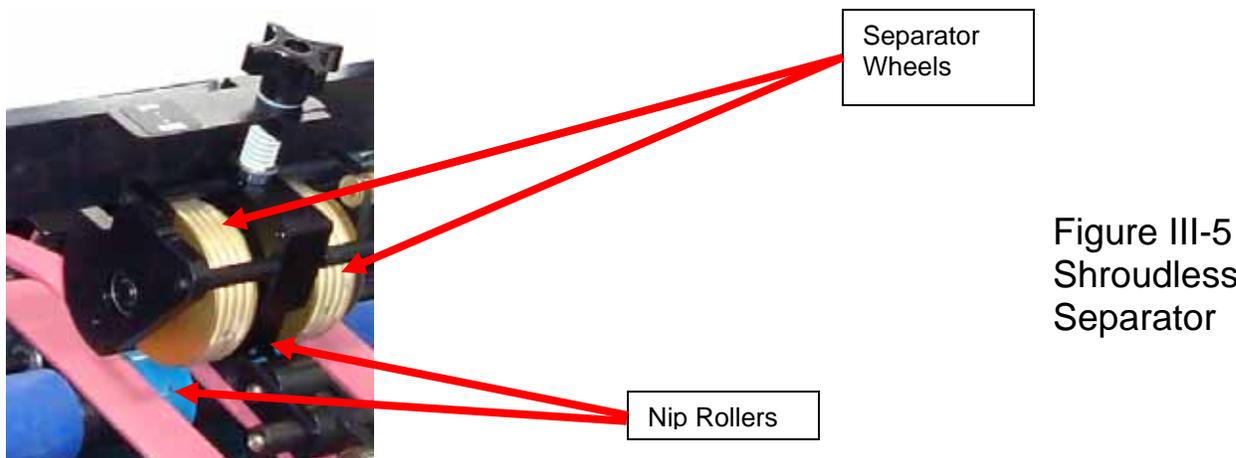
Figure III-3
Shrouded
Separator

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5. Loosen the ratchet handle and knob on each crossbar clamp to move side guides to outer edges of setup piece plus 1/16" clearance on each edge. NOTE: Inner side guides may need to be removed completely to accommodate wide pieces (see discussion with figure III-1). Loosen knob on paper slide (wedge) to move paper slide to its rearmost position (see later discussion on wedge positioning), see figure III-4.



6. Insert the setup piece between the separator wheels and the blue nip rollers. While moving the setup piece back and forth beneath the separator wheel, turn the separator adjustment knob counter-clockwise (CCW) until resistance is felt from the separator wheels (see later discussion on fine-tuning of the separator wheel), see figure III-5.



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7. Place approximately 3/4" thick stack of production pieces between side guides and against separator allowing pieces to shingle forward, see figure III-6.

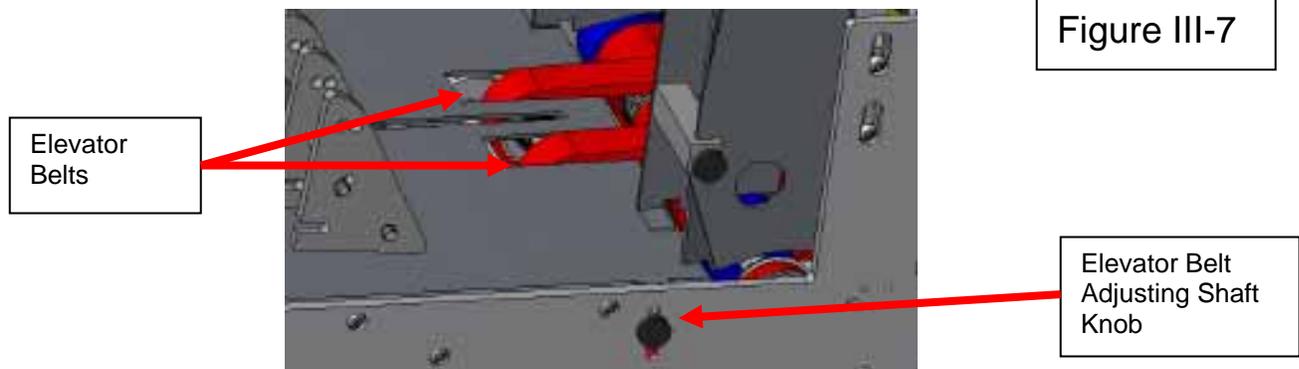


Figure III-6

8. Slide the Paper Slide forward (see step 5, figure III-4) to support the rear edge of the stack of production pieces.
9. Add enough production pieces to fill approximately to half the height of the side guides.
10. Adjust the side guides to form a slight funnel effect (top is wider than bottom) and tighten the ratchet handles and knobs on crossbar clamps to hold the side guides in position, see figure III-4.

! (Caution: Do not over tighten. Over tightening may result in damage to the clamps and cause scarring to the crossbar.)

11. Loosen the knob on each end of the Elevator Belt Adjusting Shaft and push knobs to bottom of slots to lower the elevator belts beneath the feeder, see figure III-7.



The 1200-PS FEEDER is now setup to begin operation. It is recommended that initially the potentiometer controlling the feeder's speed be set at zero (0) before energizing the power switch. When power has been applied, increase the potentiometer setting to 25% to begin final-tuning of the feeder.

MECHANICAL COMPONENTS SETUP

SIDE GUIDES

Adjust side guides to contain the stack of production pieces without binding: distance between upper ends may have to slightly greater (1/16 to 1/8 inch) than the bottom ends.

SEPARATOR WHEEL

The separator wheels on the 1200-PC FEEDER are located directly inline with nip rollers (known as a hard nip). A hard nip setup is typically used for thin pieces or pieces that do not readily separate from each other.

Set the height of the "Separator Wheel" to allow the thickness of one (1) piece of material to pass under it. To do this, turn the adjustment knob clock wise to raise the wheel, counter clock wise to lower the wheel, see figure III-8. Note: There should be a little resistance felt by hand, when the material is directly under the separator wheels, when this is properly set. (**Tip:** The thinner the material is, the more critical this setting is).

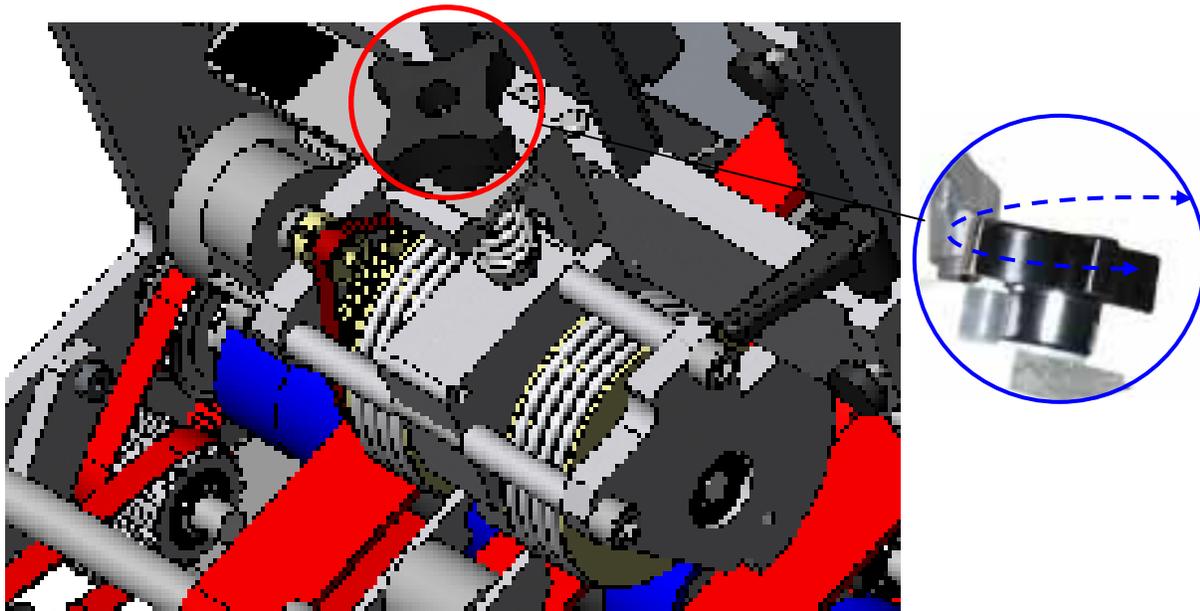


Figure III-8
Shroudless
Separator

SETUP INSTRUCTIONS (PRE-INSTALLATION)

- 1 With the feeder ON/OFF switch in the off position, loosen the two side guides and move them all the way to the sides of the feeder. Then loosen the back guide wedge's hand knob and slide the wedge to its fullest rear position.

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- 2 Place a single piece of the material to be fed on the feeder centering the material relative to the separating device.
- 3 Move each side guide in to meet the material and then back them off about 1/16”.
- 4 Tighten the bottom thumbscrews on each side guide.
- 5 Turn the separator knob clockwise until a single piece of material can easily pass under the separator. While moving the material back and forth under the separator, turn the separator knob counter-clockwise until resistance is felt from the separator. At this point, the separator setting has been roughed in. It will need to be tuned in after the completion of the following set-up steps. If the resistance under one separating wheel is not the same as under the separating wheel, the bridge needs to be trammed. Perform step 10 before proceeding with step 6.
- 6 Place a handful of material in the feeder allowing the material to shingle forward into the separator.
- 7 Move the back guide wedge forward to support the back edge of the material stack. It will fine-tuned later.
- 8 Add enough material to the stack to fill about half the height of the side guides.
- 9 Move the top of each side guide out slightly so as to create a funnel effect and then tighten the top thumbscrews on each side guide. The feeder is now ready for initial operation.

10 BRIDGE TRAM PROCEDURE

It is critical to the performance of the feeder to have the separating wheels level with respect to the nip rollers. To do this, first loosen the bridge mounting screws on both sides of the bridge. Turn the separator adjustment CW several turns so that the bridge can be lowered all the way to the bottom of the slots. Tighten one screw on each side. Now place a thin strip of paper under each separating wheel (it is best to cut one piece of paper into two strips to ensure that the strips are the same thickness). Now turn the separator adjustment CCW until the separating wheels just contact the nip rollers. Move the paper strips to feel if the resistance is equal under each separating wheel. If one moves with less resistance than the other, loosen the screw on the side that is tighter and raise that side of the bridge slightly and tighten screw. Check the resistance under each separating wheel with the paper strips again and adjust accordingly. Once the resistance is equal under each separating wheel tighten the bridge screws securely. Proceed to step 6 for further setup instructions. This procedure must be followed whenever the bridge is adjusted up or down for materials with different thickness. This adjustment is **“very”** critical when feeding thin materials.

PAPER SLIDE

Also known as the Back Wedge, this component is positionally adjusted to support the trailing edge of the production piece, see figure III-9.

Normally, there is an inverse positioning relationship between the Paper Slide and the Separator wheels. If the paper slide is moved toward the separator wheel, the entry angle of the production piece is increased. This causes less contact with the feeder friction belts and therefore, the separator wheel may have to be lowered to minimize the creation of doubles. Raise the separator wheels if the slide is moved away from the separator wheels.

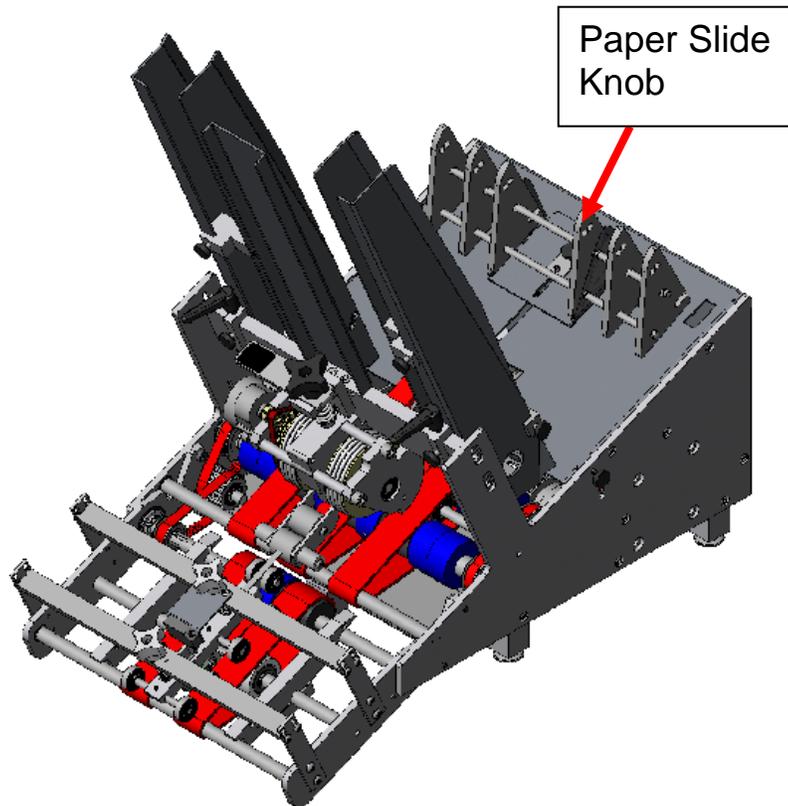


Figure III-9
Shroudless
Separator

Set the PAPER SLIDE (Back Wedge) in the following manner:

The variables of this setting may be dependent on the characteristics of the material. The 1200-PC FEEDER comes with wedges that can be adjusted to support narrow production pieces. Simply slide each wedge as needed along cross shafts into position.

Back Wedge recommendations for common type paper stocks

| | |
|---|--|
| <p>For ridged stock, place the lead edge of a sample of the stock you are setting up under the separator wheels at 6 o'clock, position the lowest point of the back wedge so that it is just touching the trailing edge of the sample piece.</p> |  |
| <p>For flimsy stock, place the lead edge of a sample of the stock you are setting up under the separator wheels approximately half an inch beyond the 6 o'clock position and set the back wedge so that the trailing edge of the sample is about a half to one inch up the incline from the lowest point of the back wedge.</p> |  |
| <p>For stock containing static, place the lead edge of a sample of the stock you are setting up under the separator wheels at 6 o'clock, position the back wedge so the trailing edge of the sample is mid-way between the lowest and highest point of the back wedge.</p> |  |
| <p>Note: These are basic starting points for a set-up. Further adjustments may be required.</p> | |

ELEVATOR BELTS

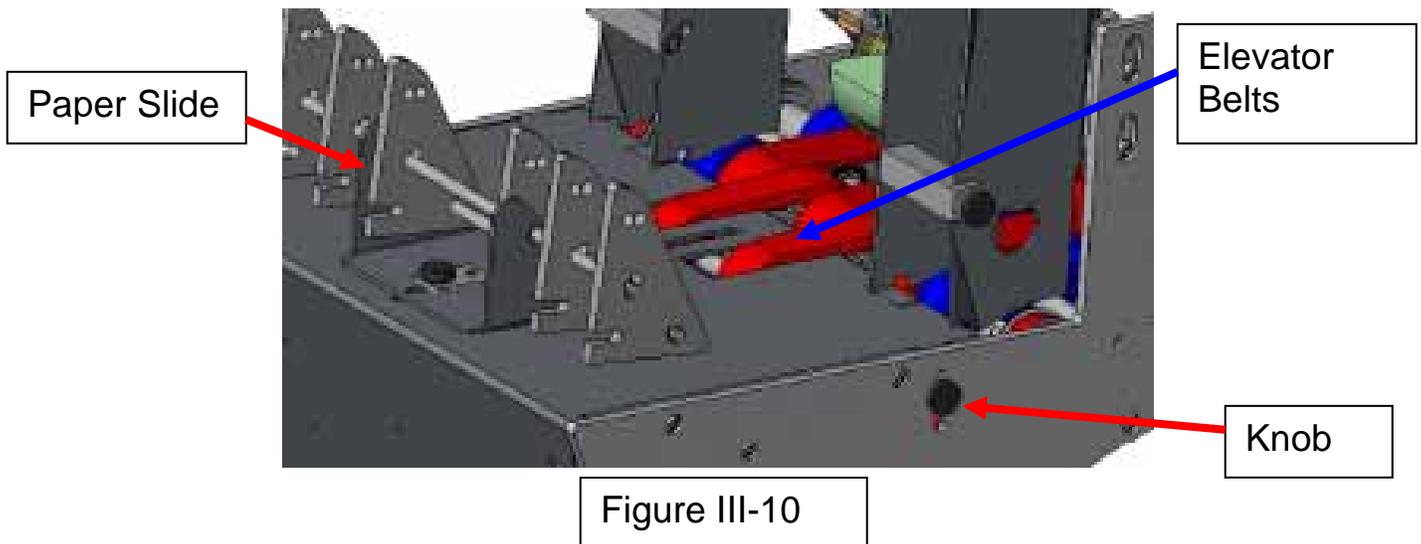
This adjustable set of two friction belts are generally used for long and/or heavier production pieces that need a boost to reach conveyed speed. The belts are easily raised or lowered as required. The Paper Slide must be moved back from the separator wheels when the elevator belts are raised.

Set the Elevator Belts by performing the following:

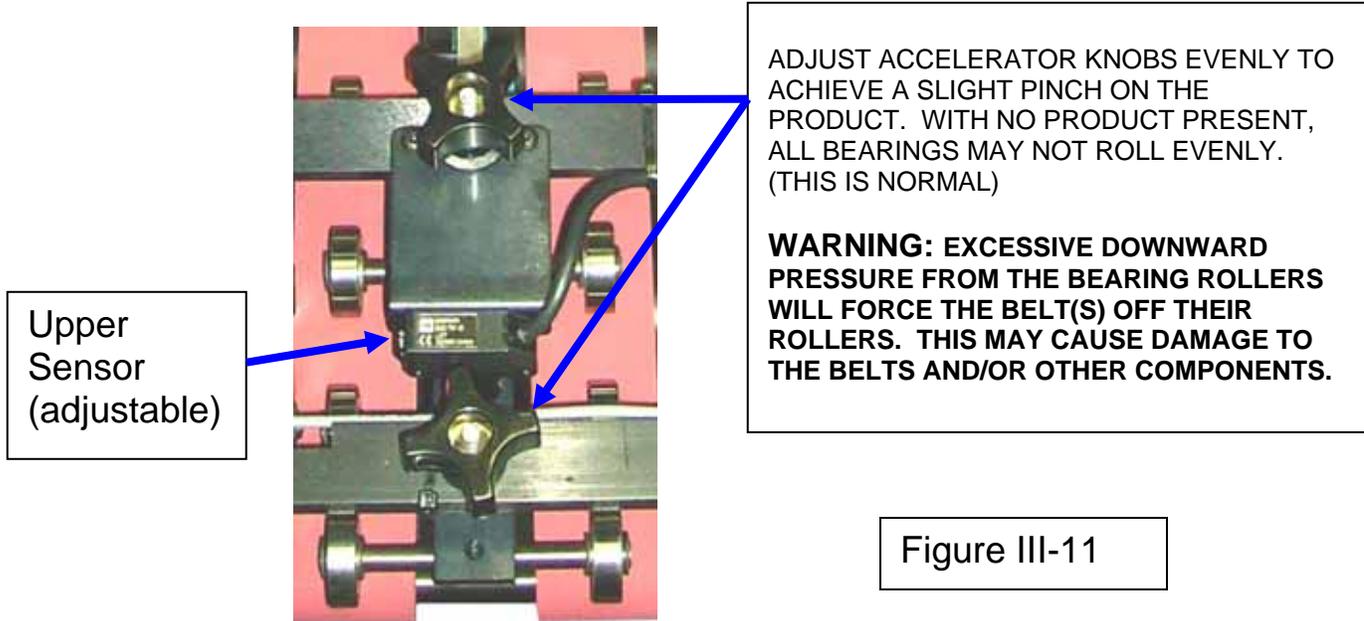
1. Loosen the knob found on each side plate of the 1200-PC FEEDER, see Figure III-10.
2. Adjust (raise or lower) the elevator belts to the desired height. (Note: Commonly the elevator belts are raised into use for large stock measuring approximately 8' X 10' or larger)
3. Tighten the knobs using moderate force to secure the setting.

 **(Caution:** Over tightening the knob may result in damage to the side plate finish and /or the knob.)

Caution
Be sure the elevator belts are down when running small material. Setting the Paper Slide into the elevator belts will result in damage to the belts.



ACCELERATOR BELTS



Setting the Opposing Sensors

- 1 Using a small "Flat Headed" Screw Driver turn the small "Tuning Screws" on the upper most Sensor to the "Right" or "Clock Wise."
- 2 With the Machine turned "On" but not "Engaged" (Only the Clutch is running") Place a small piece of material between "Opposing Sensors" (The top Sensor and the bottom Sensor)
- 3 Turn the "Upper" "Tuning Screw" the one that is marked "D – L" (Dark On / Light On) "Left" or "Counter Clock Wise" until the "Orange LED" lights up or comes on.
- 4 Pull your piece of small material out.
- 5 Using your small "Flat Headed" Screw Driver adjust the bottom Screw or the "Min / Max Screw", (Sensitivity or Depth) left or "(Counter Clockwise) until the "Orange LED" Turns "Off".
- 6 Slide your small sample piece between the "Opposing Sensors" again, If the "Orange LED" Comes "ON" as the material slides under the eye, your "Sensors" are now set.
- 7 If not, repeat Steps 2-4, making minor adjustments to the "Right", turn the "Tuning Screws" "Clockwise".

NOTE: The "Green LED" will remain **lit** on the upper "Sensor"

Set the “Double Detector” by: Presence of a Double.

- A. Raise the double detect by turning knob clockwise. HOLD the red button and press the green button on the back of the feeder (**one shot method**). This will allow one piece to feed out to the ejector rollers (Note: It is very important to position the piece with its thickest part under the double detector roller. Shift the piece by hand if needed in order to achieve this).
- B. Lower double detect on to product until LED starts to blink on feeder. Raise double detect slightly by a $\frac{1}{2}$ turn(clockwise). **Reset** by pressing red button. Manually place a second piece of material under the double detector roller. Check the LED on the back of the feeder to see if it is flashing, if the LED is flashing, turn the detector adjustment knob $\frac{1}{4}$ turn in a clockwise direction and reset. Repeat, until this process stops the LED from flashing.
- C. Very slowly turn the adjustment knob in a counter-clockwise direction until the LED starts blinking. This indicates it is reading a double. (Note: Each time the LED light comes on while making this setting, it must be reset). Use the one shot method several times making sure the detector is not indicating doubles on single product. In addition, manually place extra product in path of detector while using the one shot method to ensure feeder is detecting doubles.

Adjustment
Knob

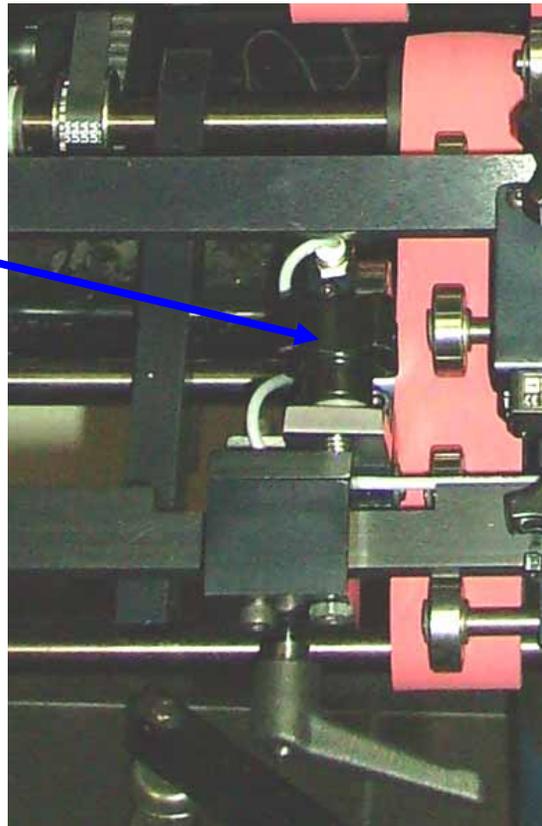


Figure III-12

Paper Sensor Adjustment (SERVO 1200-P FEEDER)

The paper sensor(s) are located on each of the material side guides mounted to an adjustable angle bracket. This sensor is set to detect and confirm the presence of paper (product) in the infeed section of the feeder. These sensors do not normally need to be adjusted for each job, once the setting has been made, it should remain set unless otherwise disrupted. In the event the settings have been disrupted, perform the following:

1. Position the sensor directly in line with the access port of the material side guide. See figure III-13.

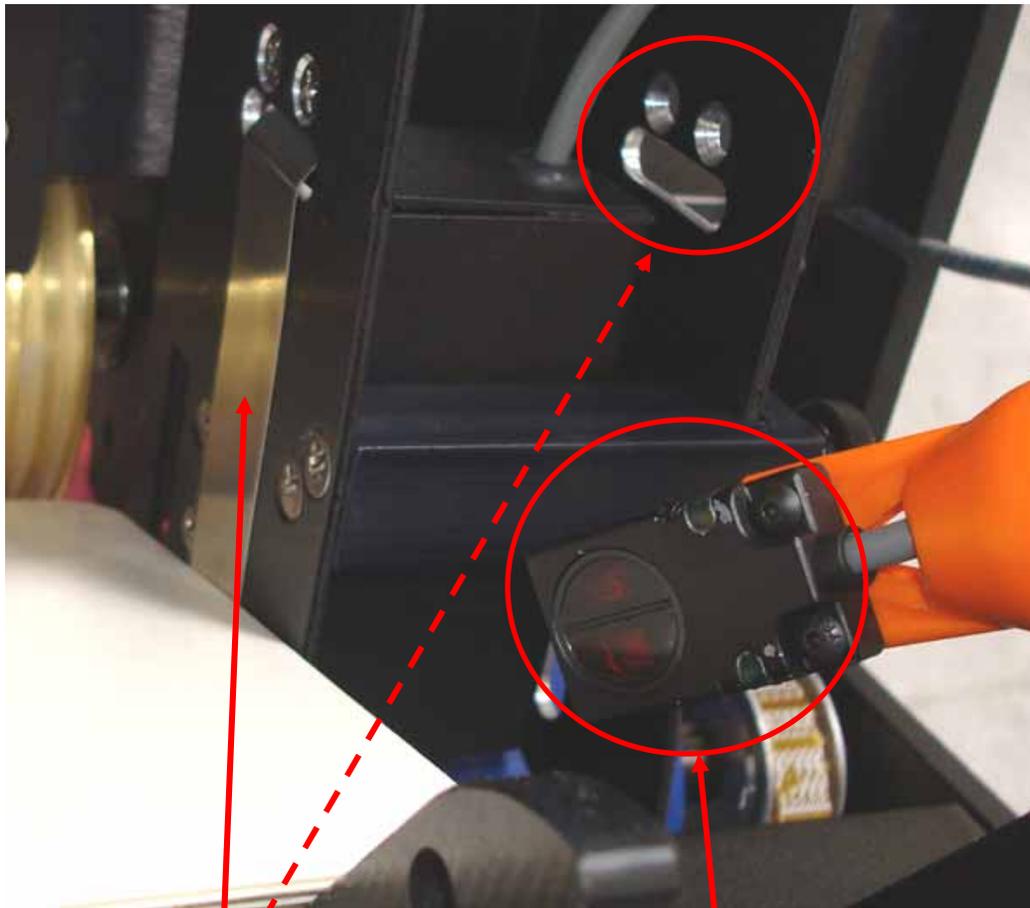


Figure III-13

Lever arm style limit switch with flap cover acts as low level detection shown on inner guide-must be moved to outer guide as needed

Additional low product sensor-used to warn of low product without stopping feeder operation.

Control Panel and Switch Operation

SE-SERVO 1200-P Feeder Operator Control Panel
Figure III-14

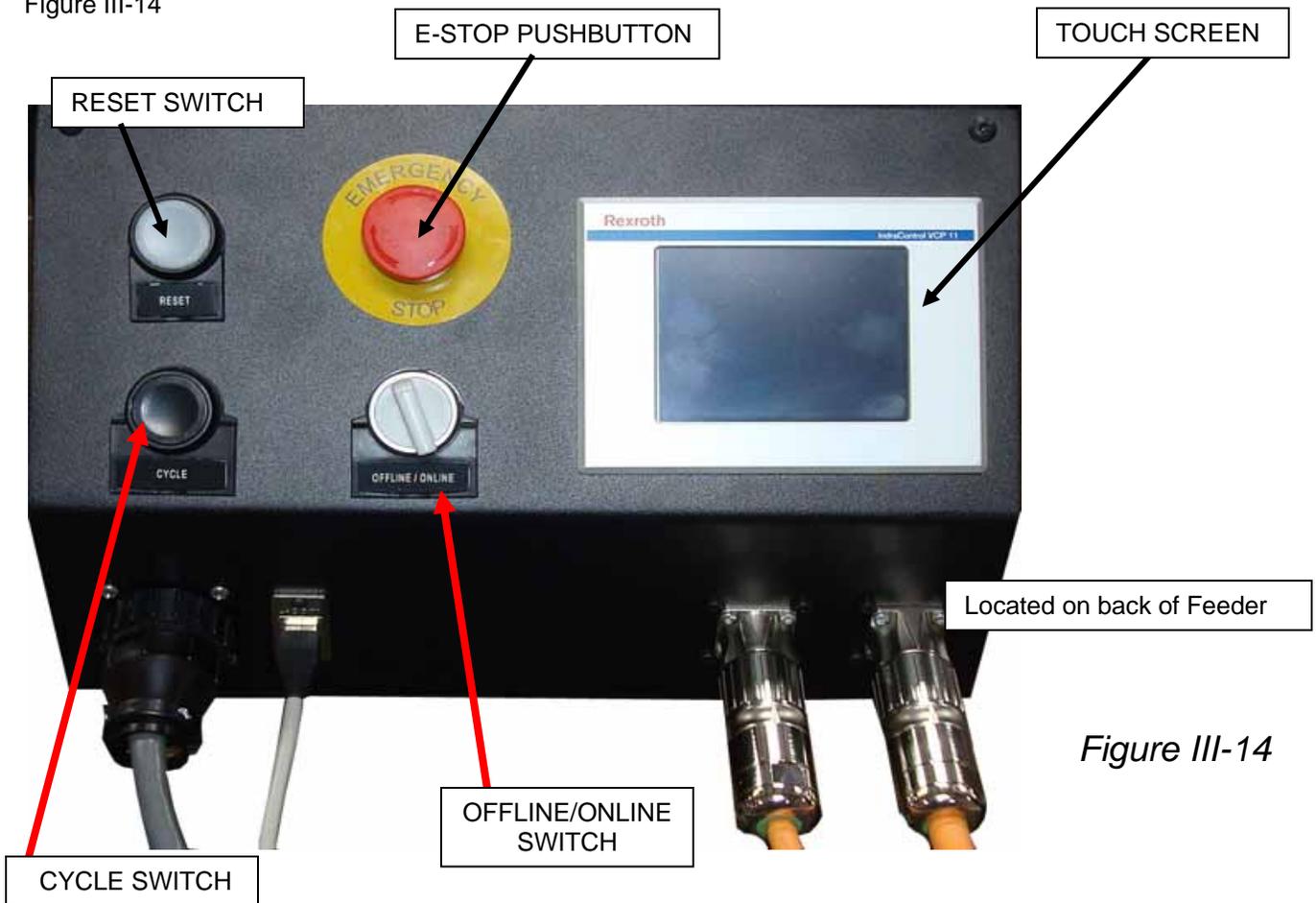
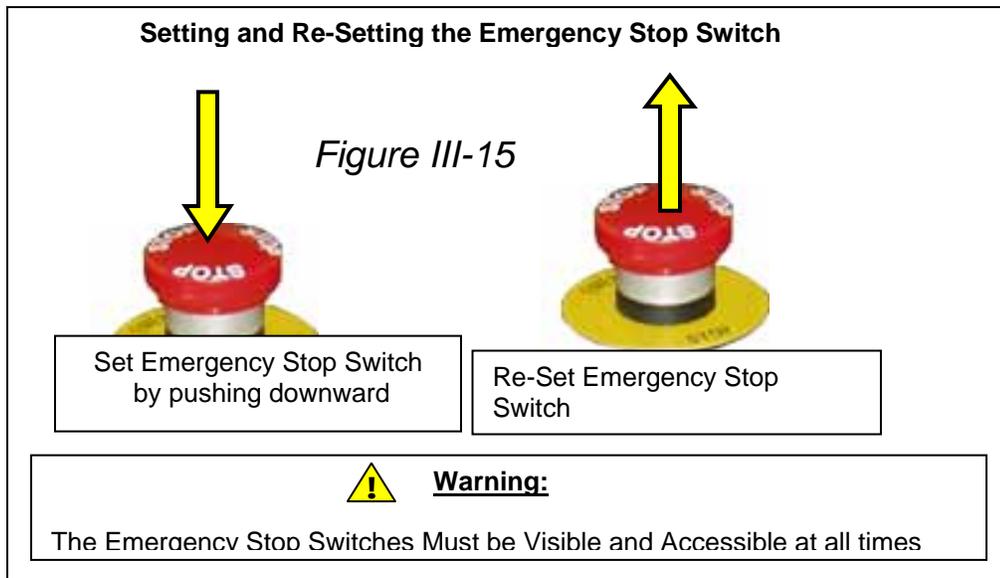


Figure III-14



Special Note: Pursuant to Community Legislation on Machinery, Comments on Directive 98/37/EC 1.2. Controls and 1.2.1 Safety and reliability of control systems

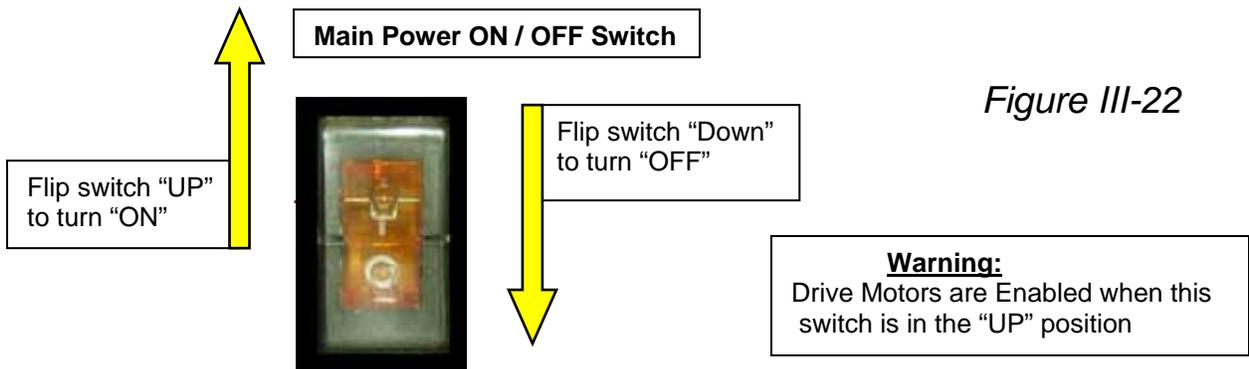
The “E-Stop” button / buttons found on the SERVO 1200-P Base are by design in compliance to meet and / or exceed the mandates and requirements as stated in the Community Legislation on Machinery, Comments on Directive 98/37/EC. By manufacturer design the E-Stop buttons are to be used in the event of an emergency.

Operating the SERVO 1200-P FEEDER

Once the basic set up is completed, turn the power switch to the “On” position and initiate the operation of the SERVO 1200-P Feeder.

Power:

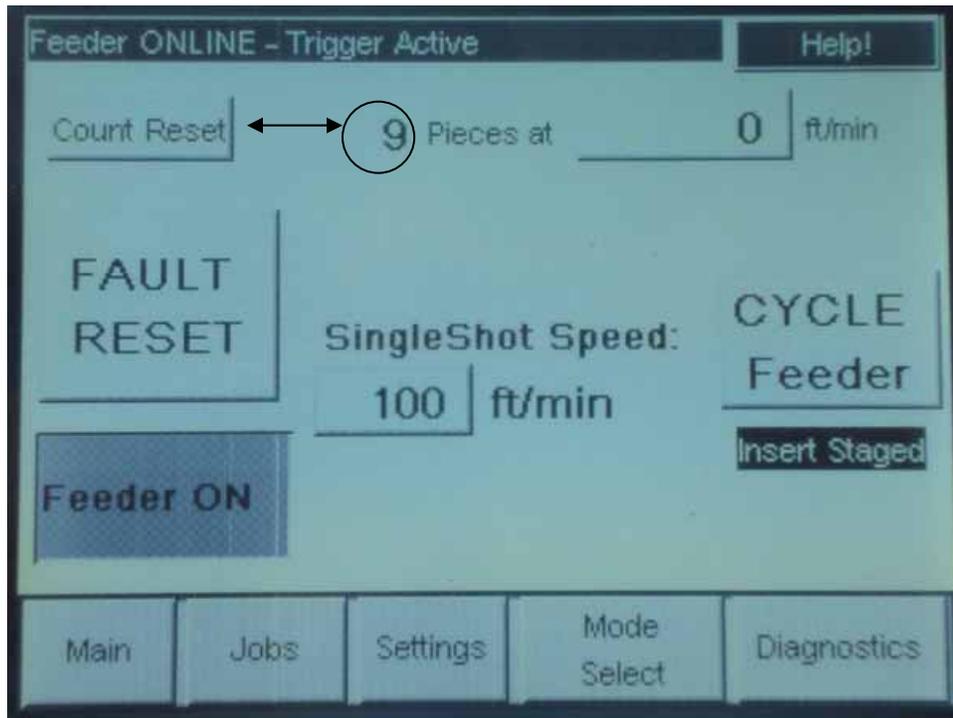
1. Turn power to the machine on by flipping the illuminated amber power switch, located on the electrical enclosure, in an upward direction. See figure III-22.



2. Rotate OFFLINE/ONLINE selector switch to OFFLINE.
3. Press the CYCLE switch button to initiate Feeder operation. See figure III-20. Observe how the SERVO 1200-P Feeder separates and feeds material, if doubling occurs, advance the back wedge further under the stack of paper, or apply more pressure using the separator wheels.

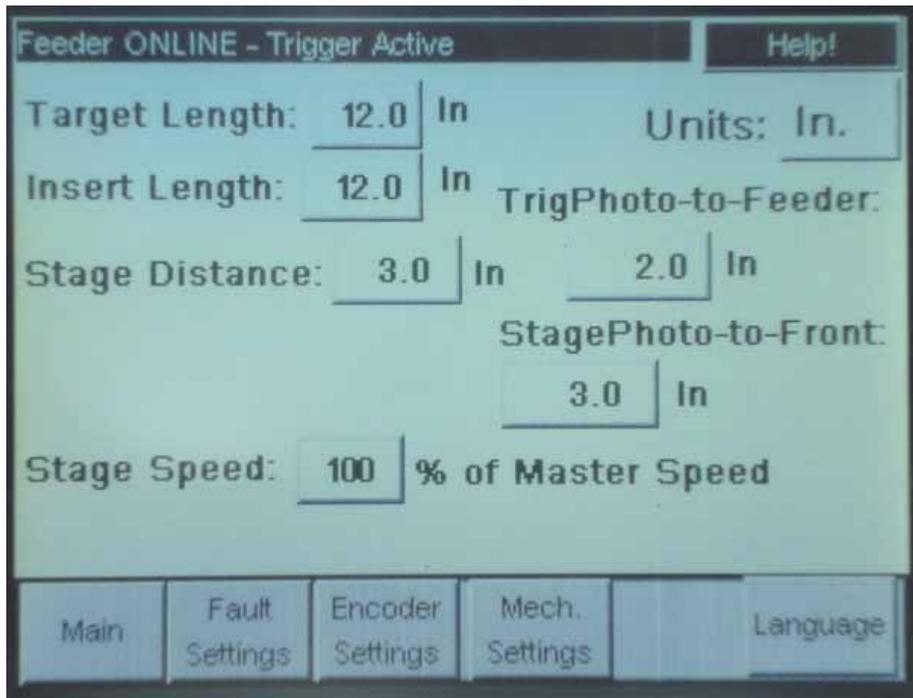
NOTE: The RESET switch is provided to quickly reset faults without navigating the touch screen menus.

MAIN MENU

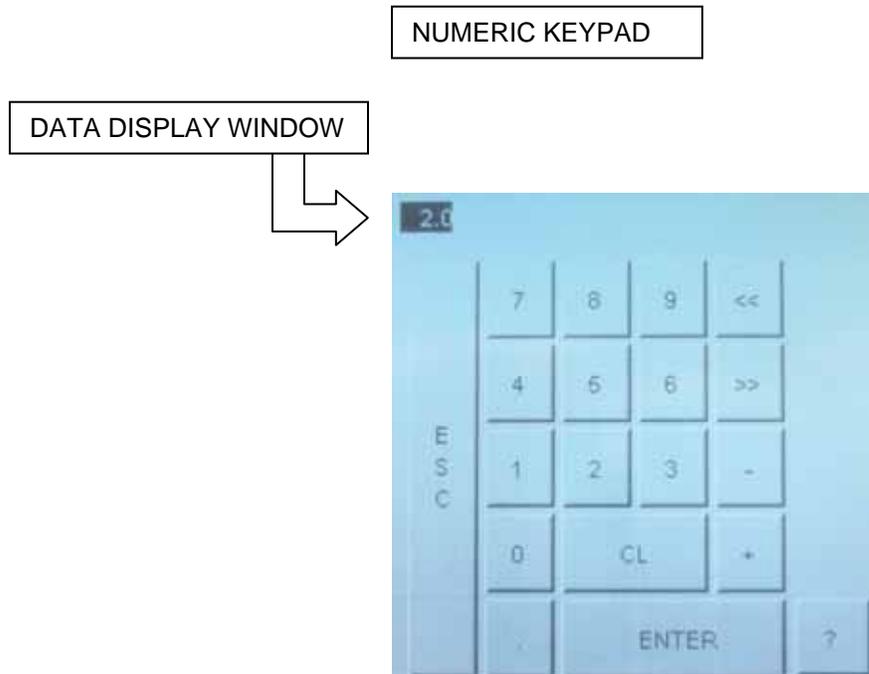


| DESCRIPTION | FUNCTION |
|---------------------------|--|
| BANNER | INFORMATION DISPLAY |
| HELP | ACCESSES HELP SCREEN |
| COUNT RESET | PRESS TO RESET TO ZERO (0) |
| PIECES @ FT/MIN or PCS/HR | PRESS TO DISPLAY ACTUAL PIECES AT SPEED OR TIME |
| FAULT RESET | PRESS TO RESET FAULT AFTER BEING CORRECTED |
| FEEDER ON | PRESS TO STOP FEEDER-CHANGES TO OFF |
| SINGLE SHOT SPEED | PRESS TO ACCESS THE SPEED SETTING SCREEN |
| CYCLE FEEDER | PRESS TO STAGE FIRST PIECE (MANUAL ONE SHOT CYCLE) |
| INFO WINDOW | PRESENT FEEDER CONDITION |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN (NOT ACTIVE HERE) |
| JOBS | PRESS TO ACCESS THE JOB MENU SCREEN |
| SETTINGS | PRESS TO ACCESS FIRST SETTING SCREEN |
| MODE SELECT | PRESS TO ACCESS MODE SELECT SCREEN |
| DIAGNOSTICS | PRESS TO ACCESS MESSAGE SCREEN |
| | |

SETTINGS SCREEN
Reference MAIN screen



| DESCRIPTION | FUNCTION |
|---------------------|--|
| BANNER | INFORMATION DISPLAY |
| HELP | ACCESSES HELP SCREEN |
| TARGET LENGTH | PRESS TO ACCESS NUMERIC KEYPAD |
| INSERT LENGTH | PRESS TO ACCESS NUMERIC KEYPAD |
| STAGE DISTANCE | PRESS TO ACCESS NUMERIC KEYPAD |
| UNITS (INCHES) | PRESS TO SELECT (MM) |
| TRIGPHOTO-TO-FEEDER | PRESS TO ACCESS NUMERIC KEYPAD |
| STAGEPHOTO-TO-FRONT | PRESS TO ACCESS NUMERIC KEYPAD |
| STAGE SPEED (%) | PRESS TO ACCESS NUMERIC KEYPAD |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |
| FAULT SETTINGS | PRESS TO ACCESS THE FAULT SETTINGS SCREEN |
| ENCODER SETTINGS | PRESS TO ACCESS ENCODER SETTINGS SCREEN |
| MECHANICAL SETTINGS | PRESS TO ACCESS MECHANICAL SETTINGS SCREEN |
| LANGUAGE | ONLY ENGLISH IS AVAILABLE AT THIS TIME |
| | |



ESC: ESCAPE-Return to previous screen without changes (ENTER not pressed) / with changes (ENTER pressed)

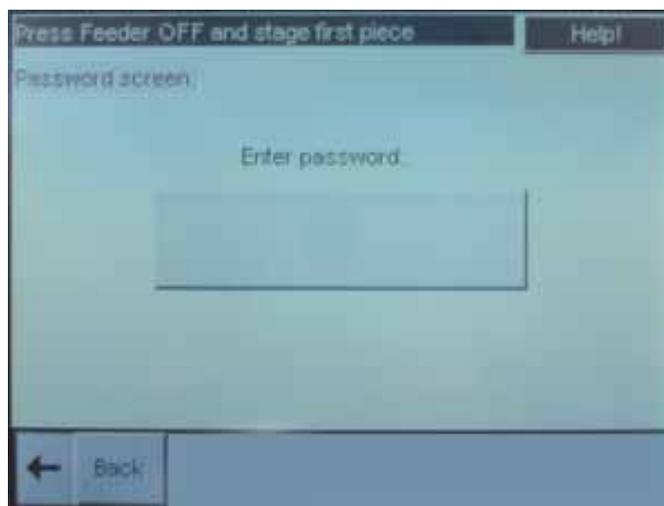
CL: CLEAR-Clears DATA DISPLAY WINDOW

ENTER: Enters DATA DISPLAY WINDOW into programming

?: Information describing parameter associated with DATA DISPLAY WINDOW

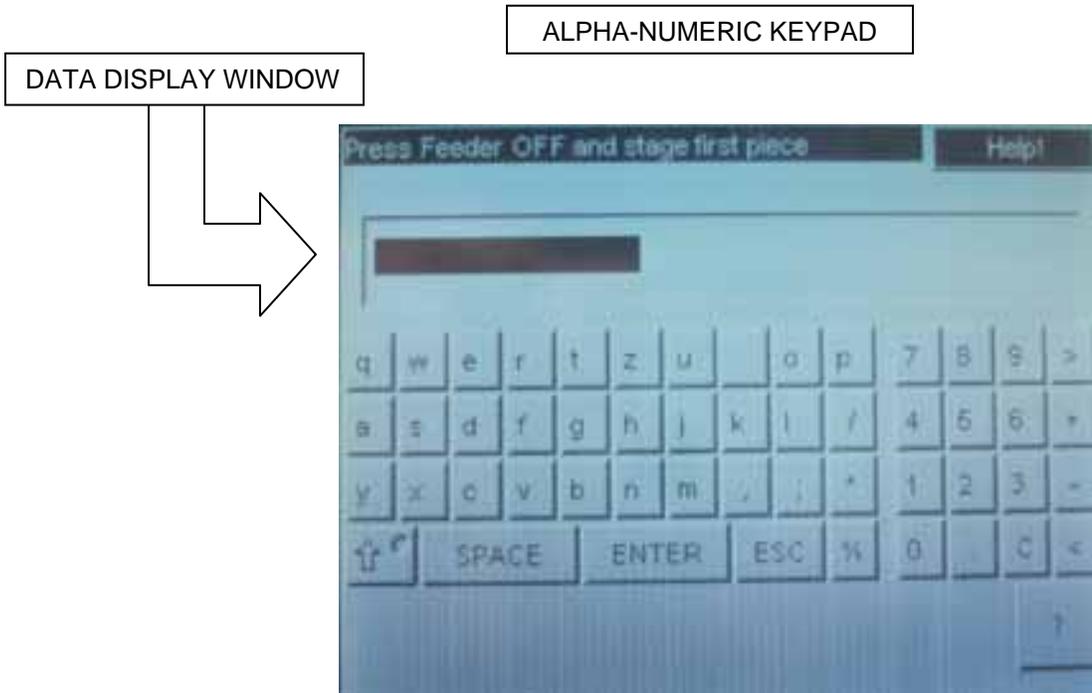
<< or >>: Moves cursor in DATA DISPLAY WINDOW to desired integer or symbol

**ALPHA-NUMERIC
PASSWORD SCREEN**
Displays before some
settings can be modified



ENTER PASSWORD: Press rectangular area below text to access alpha-numeric keypad.

BACK: Press to return to previous screen



ESC: ESCAPE-Return to previous screen without changes (ENTER not pressed) / with changes (ENTER pressed)

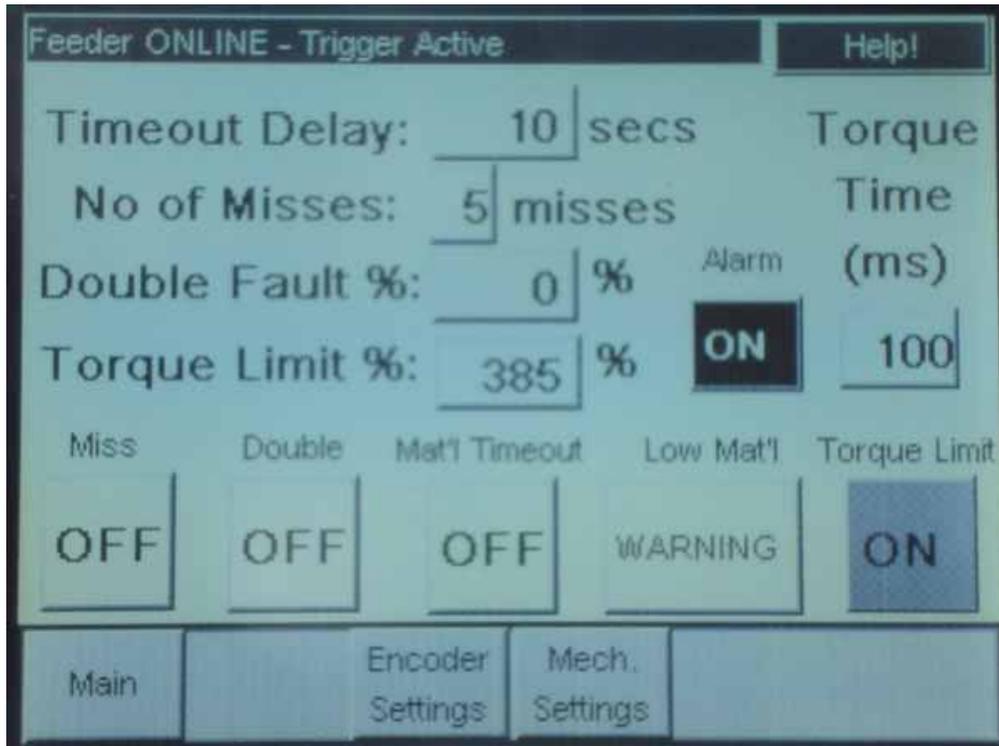
CL: CLEAR-Clears DATA DISPLAY WINDOW

ENTER: Enters DATA DISPLAY WINDOW into programming

?: Information describing parameter associated with DATA DISPLAY WINDOW

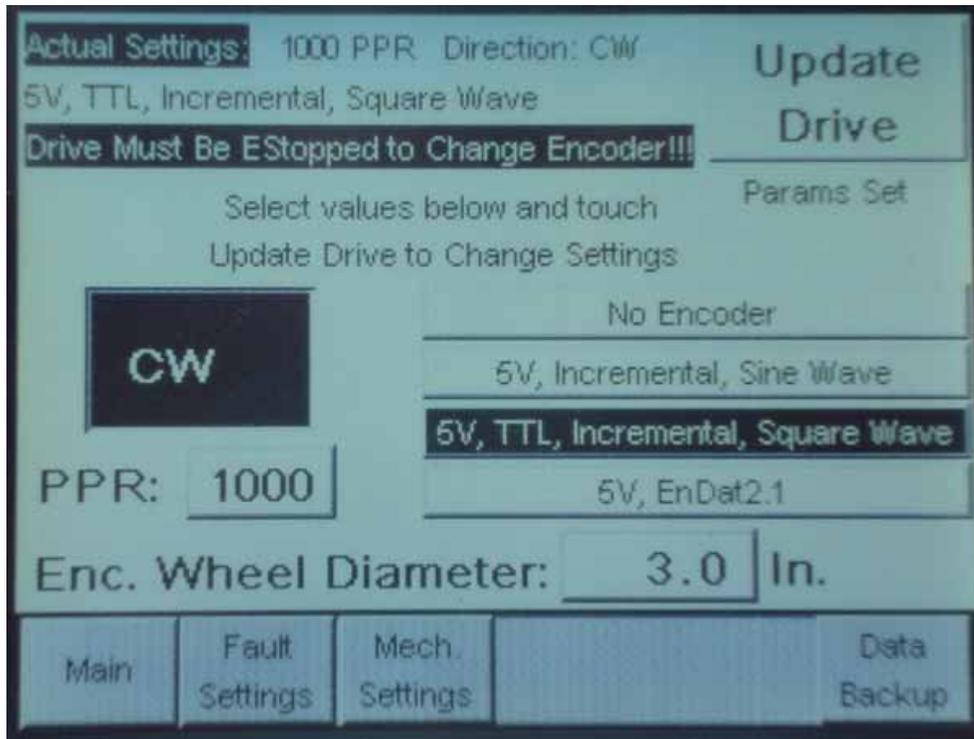
< or >: Moves cursor in DATA DISPLAY WINDOW to desired integer or symbol

FAULT SETTINGS SCREEN
Reference Setting Screen



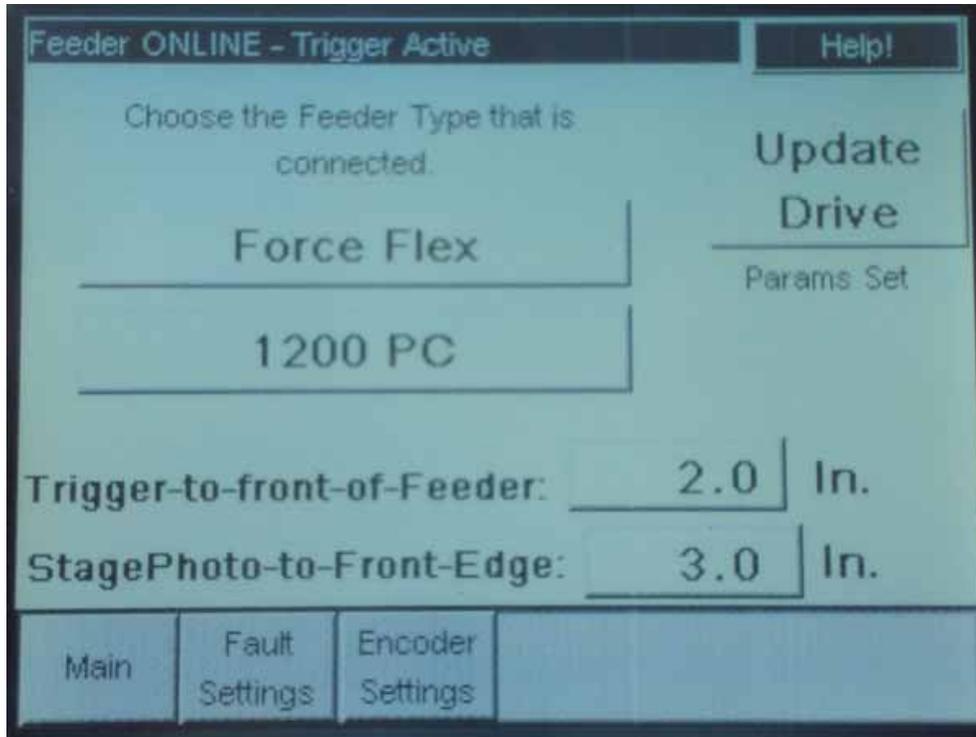
| DESCRIPTION | FUNCTION |
|------------------------|--|
| BANNER | INFORMATION DISPLAY |
| HELP | ACCESSES HELP SCREEN |
| TIMEOUT DELAY | PRESS TO ACCESS NUMERIC KEYPAD |
| # OF MISSES | PRESS TO ACCESS NUMERIC KEYPAD |
| DOUBLE FAULT (%) | PRESS TO ACCESS NUMERIC KEYPAD |
| TORQUE LIMIT (%) | PRESS TO ACCESS NUMERIC KEYPAD |
| ALARM-ON | PRESS TO TURN ALARM OFF |
| TORQUE TIME (MILLISEC) | PRESS TO ACCESS NUMERIC KEYPAD |
| MISS-OFF | PRESS TO TURN MISS SELECTION ON |
| DOUBLE-OFF | PRESS TO TURN DOUBLE SELECTION ON |
| MATERIAL TIMEOUT-OFF | PRESS TO TURN TIMEOUT DELAY SELECTION ON |
| LOW MATERIAL-WARNING | PRESS TO CHANGE TO ALARM SELECTION |
| TORQUE LIMIT-ON | PRESS TO TURN TORQUE LIMIT SELECTION OFF |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |
| ENCODER SETTINGS | PRESS TO ACCESS ENCODER PASSWORD SCREEN |
| MECHANICAL SETTINGS | PRESS TO ACCESS MECHANICAL PASSWORD SCREEN |

ENCODER SETTINGS SCREEN
 (PASSWORD = 1234)
 SEE PRIOR INSTRUCTIONS
 (Reference SETTINGS screen)



| DESCRIPTION | FUNCTION |
|--------------------------------------|--|
| BANNER | ACTUAL SETTINGS DISPLAY |
| UPDATE DRIVE | PRESS TO UPDATE CONVEYOR DRIVE |
| WARNING BANNER | DISPLAY ONLY |
| CW | PRESS TO CHANGE TO CCW |
| PPR (PULSES PER REV) | PRESS TO ACCESS NUMERIC KEYPAD |
| 5V, INCREMENTAL, SINE WAVE | PRESS TO SELECT |
| 5V, TTL, INCREMENTAL, SQ WAVE | PRESS TO SELECT |
| 5V, ENDAT2.1 | PRESS TO SELECT |
| ENCODER WHEEL DIAMETER | PRESS TO ACCESS NUMERIC KEYPAD |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |
| FAULT SETTINGS | PRESS TO ACCESS FAULT SETTINGS SCREEN |
| MECHANICAL SETTINGS | PRESS TO ACCESS MECHANICAL PASSWORD SCREEN |
| DATA BACKUP | NO ACCESS AT THIS TIME |

MECHANICAL SETTINGS SCREEN
 (PASSWORD = 1234)
 SEE PRIOR INSTRUCTIONS
 (Reference SETTINGS screen)



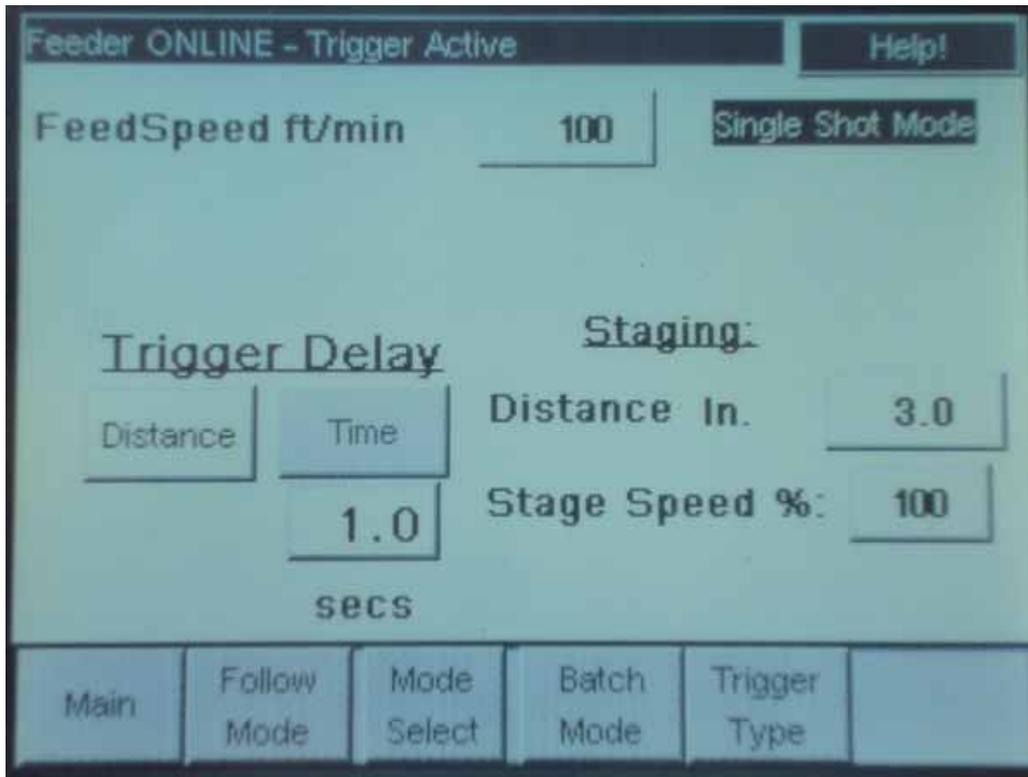
| DESCRIPTION | FUNCTION |
|----------------------------|---|
| BANNER | ACTUAL SETTINGS DISPLAY |
| UPDATE DRIVE | PRESS TO UPDATE CONVEYOR DRIVE |
| SERVO 1200-P | PRESS TO SELECT |
| 1200PC | PRESS TO SELECT (NOT AVAILABLE) |
| TRIGGER-TO-FRONT-OF-FEEDER | PRESS TO ACCESS NUMERIC KEYPAD |
| STAGEPHOTO-TO-FRONT-EDGE | PRESS TO ACCESS NUMERIC KEYPAD |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |
| FAULT SETTINGS | PRESS TO ACCESS FAULT SETTINGS SCREEN |
| ENCODER SETTINGS | PRESS TO ACCESS ENCODER PASSWORD SCREEN |

MODE SELECT SCREEN
Reference MAIN Screen



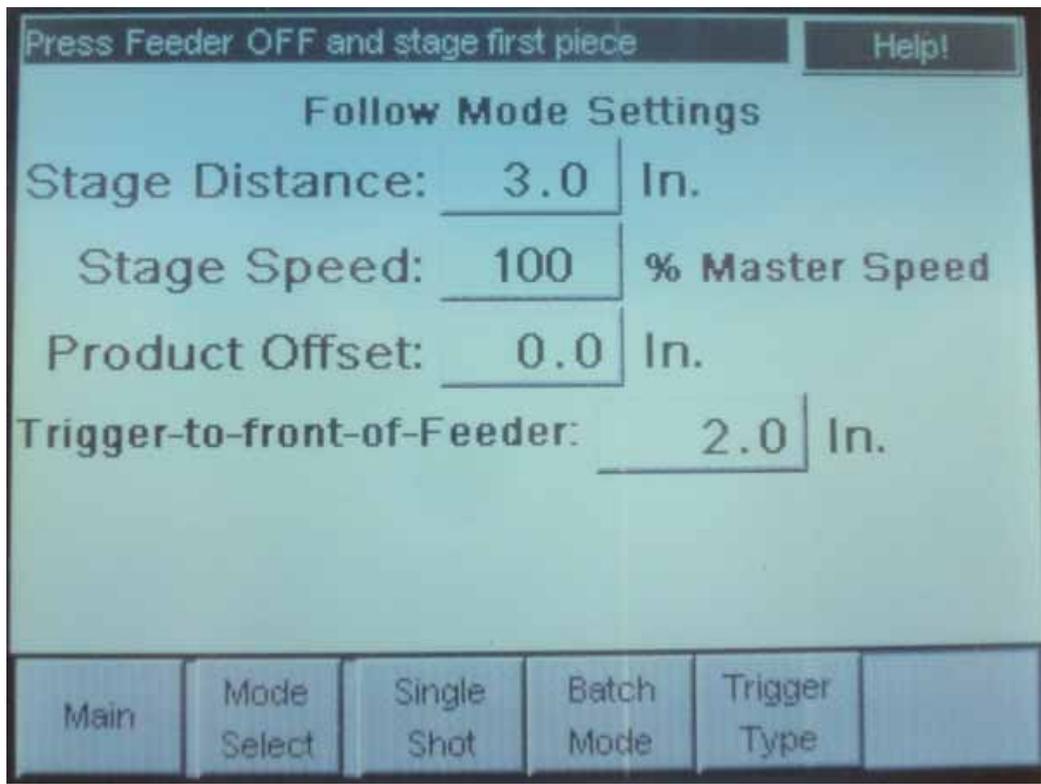
| DESCRIPTION | FUNCTION |
|--------------------|--|
| BANNER | INFORMATION DISPLAY |
| HELP | ACCESSES HELP SCREEN |
| INFO MESSAGE | DISPLAY |
| FEEDER OFF | PRESS TO TURN FEEDER ON |
| FOLLOW MODE | PRESS TO SELECT (ACCESSES SETTINGS SCREEN) |
| SINGLE SHOT | PRESS TO SELECT (ACCESSES SETTINGS SCREEN) |
| BATCH MODE | PRESS TO SELECT (ACCESSES SETTINGS SCREEN) |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |
| TRIGGER TYPE | PRESS TO ACCESS TRIGGER TYPE SCREEN |

SINGLE SHOT MODE SETTINGS
SCREEN
(Reference MODE SELECT screen)



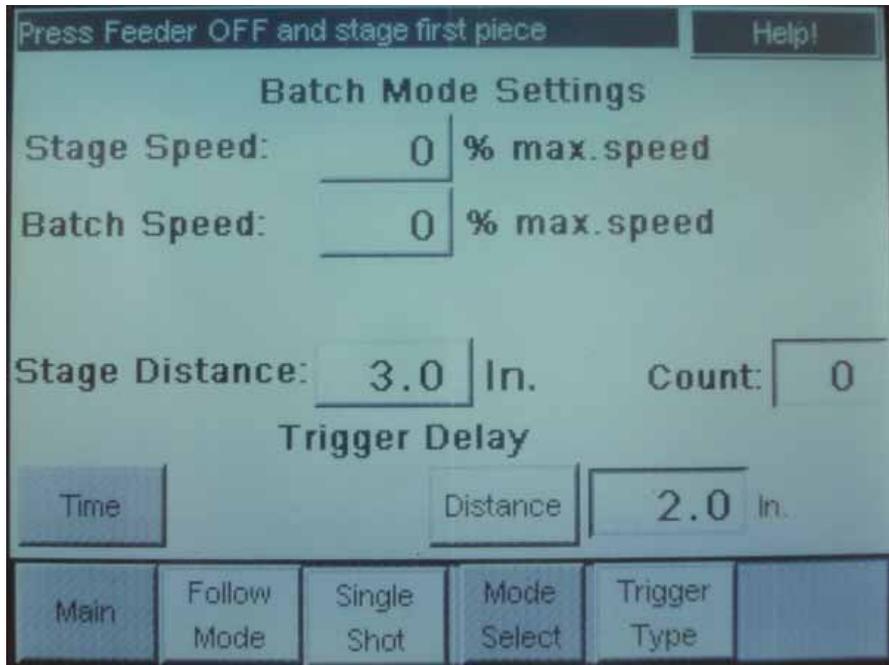
| DESCRIPTION | FUNCTION |
|-------------------------------|--|
| BANNER | INFORMATION DISPLAY |
| HELP | ACCESSES HELP SCREEN |
| FEEDER SPEED FPM | PRESS TO ACCESS NUMERIC KEYPAD |
| MODE INFO | DISPLAY OF ACTUAL MODE |
| TRIGGER DELAY: DISTANCE | PRESS TO ACCESS NUMERIC KEYPAD |
| TRIGGER DELAY: TIME (SECONDS) | PRESS TO ACCESS NUMERIC KEYPAD |
| STAGING DISTANCE (INCHES) | PRESS TO ACCESS NUMERIC KEYPAD |
| STAGE SPEED (%) | PRESS TO ACCESS NUMERIC KEYPAD |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |
| FOLLOW MODE | PRESS TO SELECT (ACCESSES SETTINGS SCREEN) |
| MODE SELECT | PRESS TO ACCESS MODE SELECT SCREEN |
| BATCH MODE | PRESS TO SELECT (ACCESSES SETTINGS SCREEN) |
| TRIGGER TYPE | PRESS TO ACCESS TRIGGER TYPE SCREEN |

FOLLOW MODE
 SETTINGS SCREEN
 (Reference MODE SELECT screen)



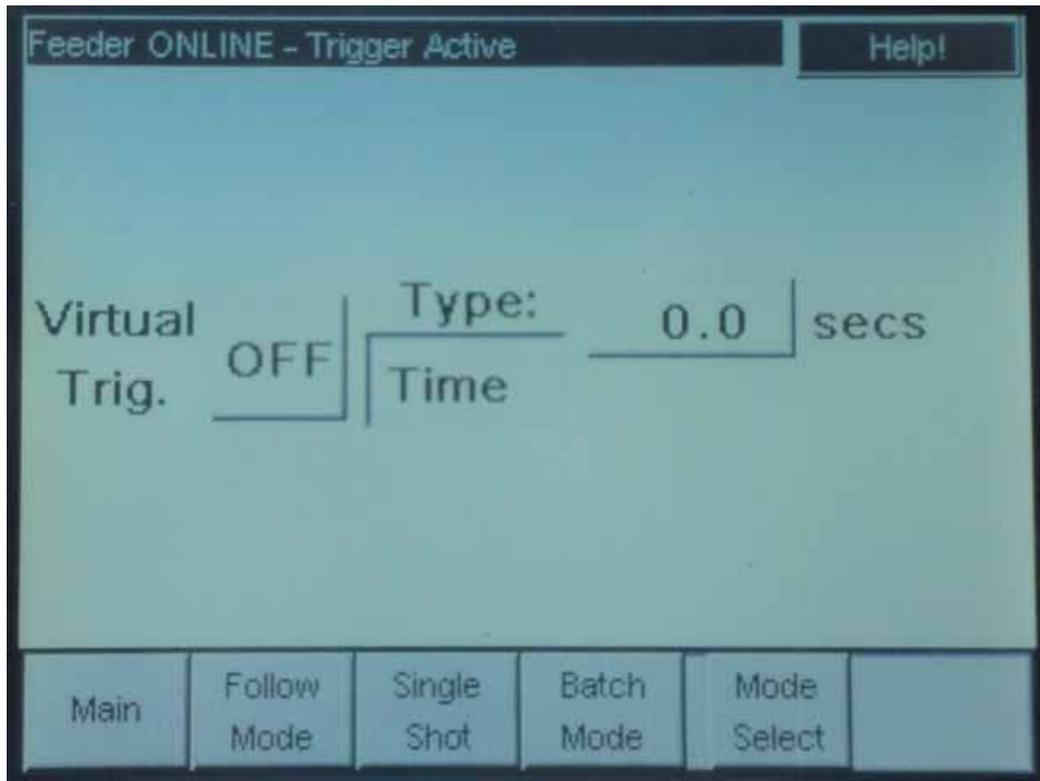
| DESCRIPTION | FUNCTION |
|---------------------------------|---|
| BANNER | INFORMATION DISPLAY |
| HELP | ACCESSES HELP SCREEN |
| STAGE DISTANCE | PRESS TO ACCESS NUMERIC KEYPAD |
| STAGE SPEED (% OF MASTER SPEED) | PRESS TO ACCESS NUMERIC KEYPAD |
| PRODUCT OFFSET | PRESS TO ACCESS NUMERIC KEYPAD |
| TRIGGER-TO-FRONT-OF-FEEDER | PRESS TO ACCESS NUMERIC KEYPAD |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |
| MODE SELECT | PRESS TO ACCESS MODE SELECT SCREEN |
| SINGLE SHOT MODE | PRESS TO SELECT (ACCESSES SETTING SCREEN) |
| FOLLOW MODE | PRESS TO SELECT (ACCESSES SETTING SCREEN) |
| BATCH MODE | PRESS TO SELECT (ACCESSES SETTING SCREEN) |
| TRIGGER TYPE | PRESS TO ACCESS TRIGGER TYPE SCREEN |

BATCH MODE
SETTINGS SCREEN
(Reference MODE SELECT screen)



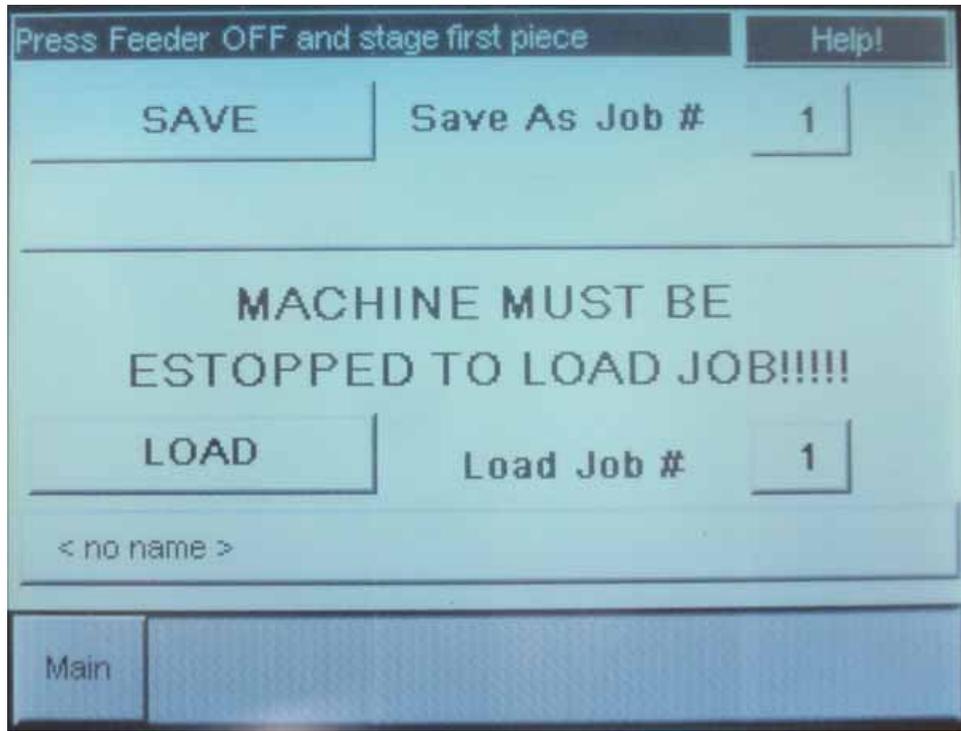
| DESCRIPTION | FUNCTION |
|-------------------------------|---|
| BANNER | INFORMATION DISPLAY |
| HELP | ACCESSES HELP SCREEN |
| STAGE SPEED (% OF MAX SPEED) | PRESS TO ACCESS NUMERIC KEYPAD |
| BATCH SPEED (% OF MAX SPEED) | DISPLAY OF ACTUAL MODE |
| STAGE DISTANCE (INCHES) | PRESS TO ACCESS NUMERIC KEYPAD |
| TRIGGER DELAY: DISTANCE | PRESS TO ACCESS NUMERIC KEYPAD |
| TRIGGER DELAY: TIME (SECONDS) | PRESS TO ACCESS NUMERIC KEYPAD |
| COUNT | PRESS TO ACCESS NUMERIC KEYPAD |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |
| FOLLOW MODE | PRESS TO SELECT (ACCESSES SETTING SCREEN) |
| MODE SELECT | PRESS TO ACCESS MODE SELECT SCREEN |
| BATCH MODE | PRESS TO SELECT (ACCESSES SETTING SCREEN) |
| TRIGGER TYPE | PRESS TO ACCESS TRIGGER TYPE SCREEN |

TRIGGER TYPE SCREEN
 -NO ENCODER MODE-
 (Reference MODE SELECT screen)



| DESCRIPTION | FUNCTION |
|-------------------------------|---|
| BANNER | INFORMATION DISPLAY |
| HELP | ACCESSES HELP SCREEN |
| VIRTUAL TRIGGER OFF | PRESS TO TURN TRIGGER ON |
| TYPE- TIME | PRESS TO SELECT DISTANCE |
| SECONDS / (INCH OR MM) | PRESS TO SELECT |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |
| FOLLOW MODE | PRESS TO SELECT (ACCESSES SETTING SCREEN) |
| SINGLE SHOT | PRESS TO SELECT (ACCESSES SETTING SCREEN) |
| BATCH MODE | PRESS TO SELECT (ACCESSES SETTING SCREEN) |
| MODE SELECT | PRESS TO ACCESS THE MODE SELECT SCREEN |

JOBS SCREEN
(Reference MAIN screen)



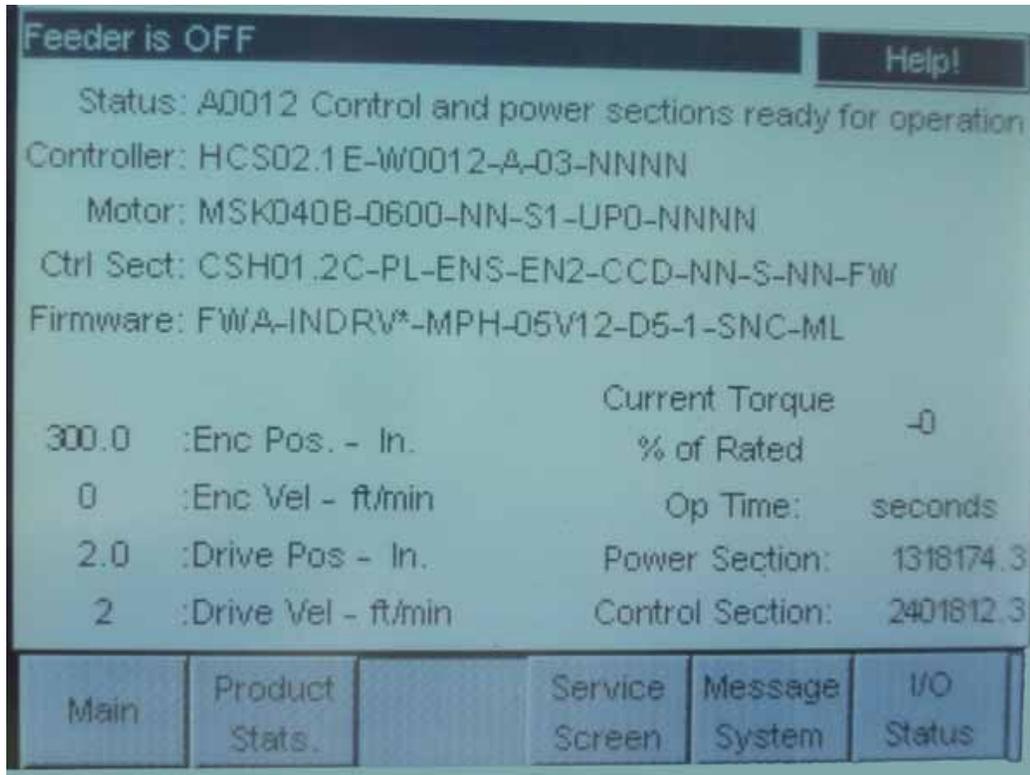
| DESCRIPTION | FUNCTION |
|---------------|--------------------------------------|
| BANNER | INFORMATION DISPLAY |
| HELP | ACCESSES HELP SCREEN |
| SAVE | PRESS TO UPLOAD FROM CONTROLLER |
| SAVE AS JOB # | PRESS TO ACCESS NUMERIC KEYPAD |
| LOAD | PRESS TO DOWNLOAD TO CONTROLLER |
| LOAD JOB # | PRESS TO ACCESS NUMERIC KEYPAD |
| NAME | PRESS TO ACCESS ALPHA-NUMERIC KEYPAD |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |

Sets of parameter values can be stored and restored according to a specific product being run through the feeder. These sets of values can be *saved* or *loaded* from this screen.

The SAVE function will upload (from the controller) the current machine settings to the job as indicated by the value entered in the “SAVE AS JOB #.”

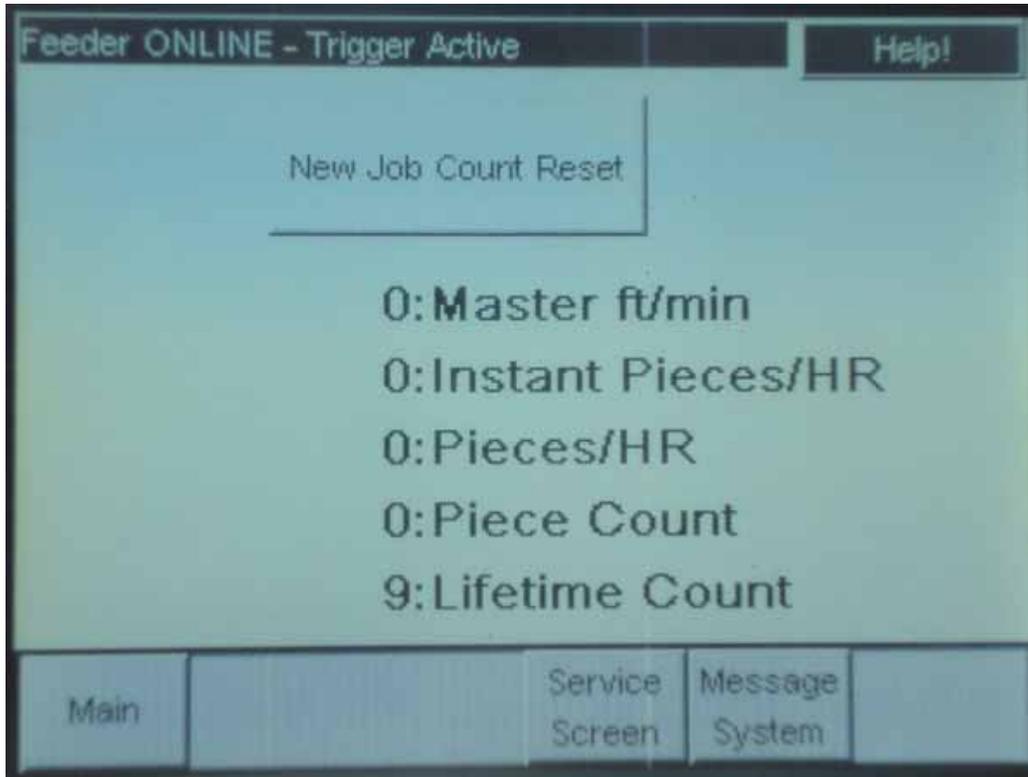
The LOAD function will download (to the controller) the saved parameter values of the selected job as indicated by the value entered in the “LOAD JOB #.”

DIAGNOSTICS SCREEN
(Reference MAIN screen)



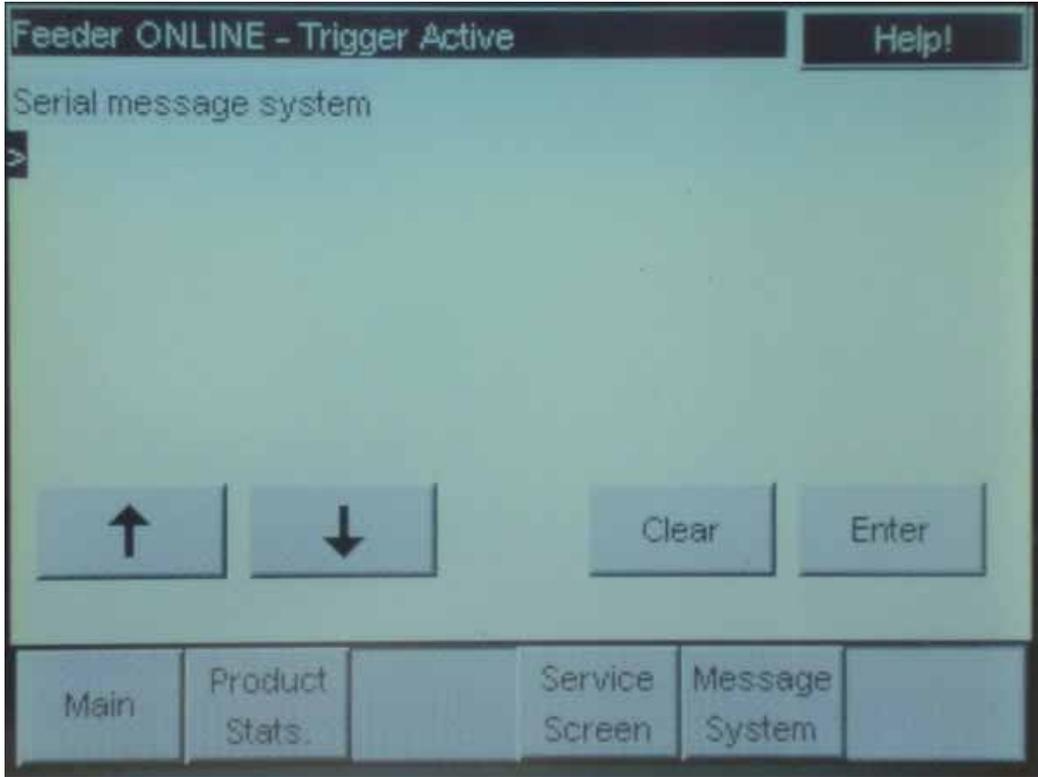
| DESCRIPTION | FUNCTION |
|------------------|---|
| BANNER | INFORMATION DISPLAY |
| HELP | ACCESSES HELP SCREEN |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |
| PRODUCTION STATS | PRESS TO ACCESS |
| SERVICE SCREEN | PRESS TO ACCESS SERVICE PASSWORD SCREEN |
| MESSAGE SYSTEM | PRESS TO ACCESS |
| I / O STATUS | PRESS TO ACCESS |

PRODUCTION STATS SCREEN
(Reference DIAGNOSTICS screen)



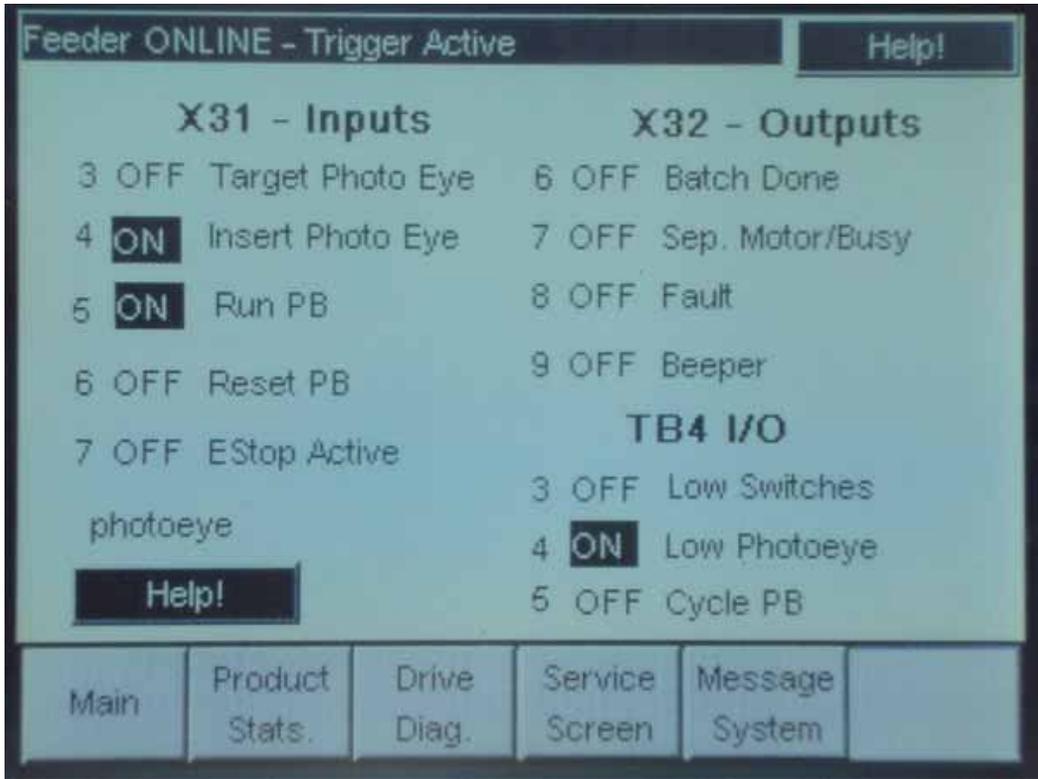
| DESCRIPTION | FUNCTION |
|---------------------|---|
| BANNER | INFORMATION DISPLAY |
| HELP | ACCESSES HELP SCREEN |
| NEW JOB COUNT RESET | PRESS TO RESET COUNT TO ZERO (0) |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |
| SERVICE SCREEN | PRESS TO ACCESS SERVICE PASSWORD SCREEN |
| MESSAGE SYSTEM | PRESS TO ACCESS |

MESSAGE SYSTEM SCREEN
(Reference DIAGNOSTIC screen)



| DESCRIPTION | FUNCTION |
|------------------|--|
| BANNER | INFORMATION DISPLAY |
| HELP | ACCESSES HELP SCREEN |
| MESSAGES | LIST OF FAULTS, MESSAGES, ETC. |
| UP ARROW | SCROLLS UP LIST (HIGHLIGHTS) |
| DOWN ARROW | SCROLLS DOWN LIST (HIGHLIGHTS) |
| CLEAR | CLEARs HIGHLIGHTED MESSAGE |
| ENTER | REMOVES FAULT IN BANNER/INDICATES FEEDER CONDITION |
| MAIN | PRESS TO ACCESS THE MAIN SCREEN |
| PRODUCTION STATS | PRESS TO ACCESS |
| SERVICE SCREEN | PRESS TO ACCESS SERVICE PASSWORD SCREEN |
| MESSAGE SYSTEM | PRESS TO ACCESS |

I/O SCREEN
(Reference DIAGNOSTICS screen)



SCREEN IS USED TO SHOW CURRENT STATUS OF INPUTS AND OUTPUTS FROM PLC-CAN BE USED FOR INITIAL SETUP OF PHOTOEYE INPUTS.

| ALARM # | DESCRIPTION | CORRECTIVE ACTION |
|----------------|---|--|
| 1 | Missed insert warning, feeder continues to run, but triggers were missed. | Must run FEEDER as fast as CONVEYOR to capture all triggers. |
| 2 | Batch Speed too slow, feeder continues to run | Increase BATCH SPEED |
| 3 | Lower Stage Speed, this is a Fault and the feeder stops immediately. | Lower STAGE SPEED or Increase STAGING DISTANCE |
| 4 | Stage Accel too high, this is a warning message, the feeder continues to run. | Lower STAGE SPEED or Increase STAGING DISTANCE |
| 5 | Missed Insert Fault, feeder stops immediately. | Increase FEEDER SPEED or BATCH SPEED or decrease CONVEYOR SPEED. |

Section IV

General Maintenance

SERVO 1200-P FEEDER

MODEL SE-SERVO1200-P FEEDER



DIRECT MAIL SOLUTIONS

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Section - IV

SERVO 1200-P FEEDER Maintenance:

The general maintenance of the SERVO 1200-P FEEDER is limited due to the design and materials used in manufacturing. The frequency of general cleaning required for the SERVO 1200-P FEEDER is dependent on the amount of running time put on the machine.

General Cleaning:

Remove debris from the machine with compressed air:

1. Acquire and use eye protection, safety goggles or safety glasses with side guards. Also use respiratory protection, a simple disposable cloth or paper style particle mask is sufficient.
2. Alert all other people in the area to stand clear of the work area a minimum of 30 feet, (7.7 meters) where compressed air is being used to blow off machines.
3. Turn off the machine and disconnect the power line.



(Warning: To prevent accidental injury, refer to “The Lock Out / Tag Out Procedure” on page 14.)

4. Remove any loose items from the surfaces of the machine, i.e. Ballpoint pens, pencils, tape dispensers, paper clips rubber bands etc.
5. Open all service doors located on the front side of the machine and remove any loose items that might have been left inside, i.e.; spare parts, tools, personal effects such as purses car keys etc. **(Note:** After a complete visual inspection has been completed and loose items removed, leave the service doors open.)
6. Hold the air nozzle firmly at arm’s length and clean off the machine beginning with the top surfaces then work your way down.



(Warning: Be sure to keep the direction of compressed air blowing away from you.)

(Note: High volume businesses running three (3) shifts five (5) days a week should plan this function once a week. Businesses producing light to moderate volume should plan this function once a month.)

Cleaning Friction Belts:

1. Acquire and use eye protection, safety goggles or safety glasses with side guards.
2. Turn off the machine and disconnect the power lines.
3. Clean the following material belts;
 - ✓ Red Feeder Transport, Elevator and Separator Belts of the SERVO 1200-P Feeder

Apply a liberal amount of “Simple Green” general-purpose cleaner or (“Isopropyl Alcohol”, 70% by volume see warning below) to a soft cloth and wipe down the belt you wish to clean. Advance the belt being cleaned by hand until the entire belt surface has been cleaned.

 **(Warning:** Do not spray or pour Simple Green general-purpose cleaner or Isopropyl Alcohol directly onto the belts, free flowing liquids may seep into some electronic components and cause damage)

(Note: “Simple Green” general-purpose cleaner and / or “Isopropyl Alcohol” can be purchased at most local grocery stores and drug stores.)

 **(Warning: Isopropyl Alcohol is FLAMMABLE, do not use near an open flame or any other source or device that gives off heat.)**

SERVO 1200-P FEEDER Belt Replacement

Transport Belts

Prepare the work area, clear off the top surface of the SERVO 1200-P FEEDER.

1. Turn the main power switch to the off position.
2. Disconnect the power cables from their sources by performing the following:
 - a. Follow the main power line and all other power cables from the machine back to the receptacle or source of supplied power and disconnect it at the source.
 - b. Place the plug connector close to the machine in such a position that will remain in your field of vision while repairs or maintenance is being performed.
3. Notify all other persons in the area where the work is being performed that the machine will be out of service, especially if the work you are performing requires you to be crouched behind or beside the machine or in some other way obscured from the sight of other persons in the area.
4. It may be necessary to move the SERVO 1200-P FEEDER clear of other equipment. Ensure that all interconnect cables (electric power, communication, etc) and any mechanical connecting devices have been removed and protected from damage during this process.
1. Remove SERVO 1200-P Feeder from its mounting by performing the following:
 - a. Disconnect all electrical wiring from feeder to power and other peripherals.
 - b. Place feeder on table, cart or suitable flat surface.
2. Follow the instructions listed under **Removing the Transport Belt Carriage** section.



(Warning: The SERVO 1200-P Feeder weighs in excess of 90 pounds, practice safe lifting techniques when moving the feeder or acquire assistance to move the feeder.)

- a. Complete steps 1 through 6 under general cleaning section.

Please note the possible variation in belt widths and their individual positioning on the carriage. See figure IV-4.

- b. While the transport belt carriage is out of the feeder, check the nip roller (beneath separator wheels) for undue wear or damage. If replacement is required, please see separate section- **Nip Roller Replacement**.
- c. Replace any worn or damaged transport belts as required. Check for worn or noisy bearings, loose or bent shafts and any damage to timing belt pulleys or drive belt.
 - 1) Remove the sensor mounting bracket assembly from the Transport Belt Carriage- (optional nip roller kit does not need to be dis-assembled from sensor mounting bracket).
 - a) Remove (2) SHCS from each side of sensor mounting bracket attached to the belt carriage and slide forward off carriage, see figure IV-8.
 - b) Carefully place sensor mounting bracket aside, ensuring to not damage bottom sensor.

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SERVO 1200-P FEEDER Belt Replacement

Elevator Belts

Prepare the work area, clear off the top surface of the SERVO 1200-P FEEDER.

1. Turn the main power switch to the off position.
2. Disconnect the power cables from their sources by performing the following:
 - a. Follow the main power line and all other power cables from the machine back to the receptacle or source of supplied power and disconnect it at the source.
 - b. Place the plug connector close to the machine in such a position that will remain in your field of vision while repairs or maintenance is being performed.
3. Notify all other persons in the area where the work is being performed that the machine will be out of service, especially if the work you are performing requires you to be crouched behind or beside the machine or in some other way obscured from the sight of other persons in the area.
4. To access the elevator belt assembly, remove the Allen socket head screws attaching the vibrating top plate to the feeder frame.
 - a. Remove from each side frame, (3) Allen socket head screws. See figure IV-14.
 - b. Lift top plate up and away from feeder frame. It may be necessary to disconnect electrical wiring from top plate's electrical components.
 - c. Set top plate aside.

Figure IV-14

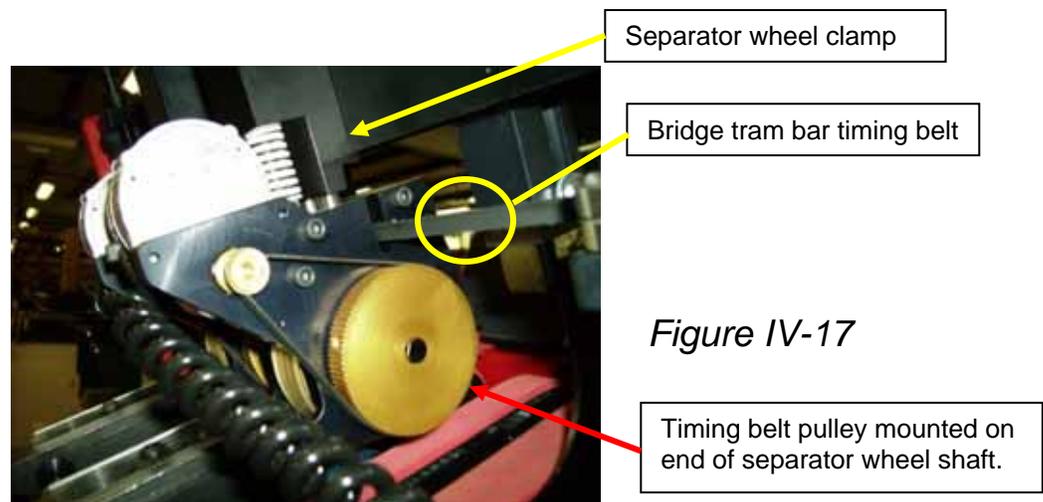
5. Detach the elevator belt assembly from the feeder frame by removing from both sides of frame :

SERVO 1200-P FEEDER Belt Replacement-Separator

Material Separator Belt-this item is an extremely low wear component due to its low rotational speed.

Prepare the work area, clear off the top surface of the SERVO 1200-P FEEDER base.

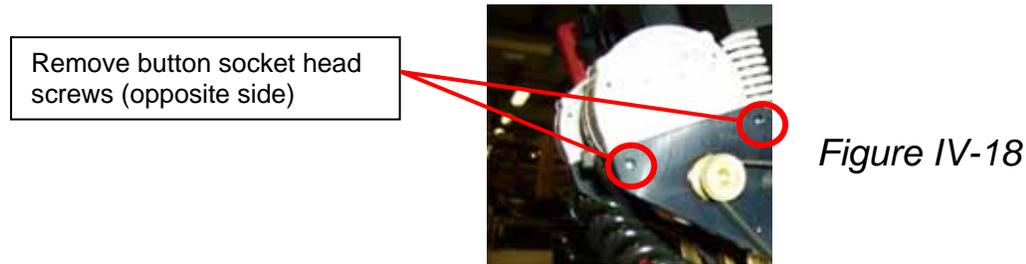
1. Turn the main power switch to the off position.
2. Disconnect the power cables from their sources by performing the following:
 - a. Follow the main power line and all other power cables from the machine back to the receptacle or source of supplied power and disconnect it at the source.
 - b. Place the plug connector close to the machine in such a position that will remain in your field of vision while repairs or maintenance is being performed.
3. Notify all other persons in the area where the work is being performed that the machine will be out of service, especially if the work you are performing requires you to be crouched behind or beside the machine or in some other way obscured from the sight of other persons in the area.
4. Replace the material separator belts (motor drive or separator wheel) by first detaching material separator assembly from the bridge tram bar. To do this:
 - a. Loosen the ratchet handle located at the top of the separator wheel clamp to permit clamp to be pulled straight out away from bridge tram bar. See figure IV-17.
 - b. When the separator wheel clamp has cleared the bridge tram bar, then drop assembly down to clear timing belt on bridge tram bar. NOTE: The bridge tram bar should be raised up enough so separator wheel assembly can be removed. Reference figures III-17 and -18 in previous section.



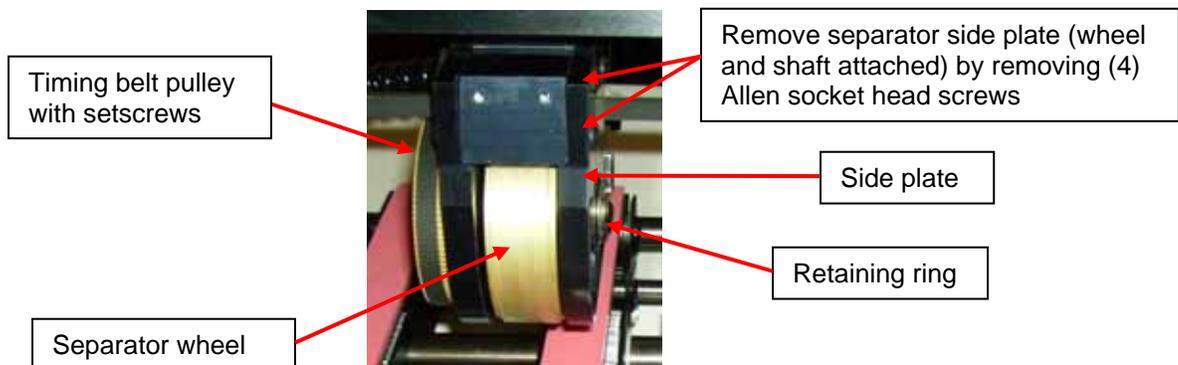
(Caution: Do not move the separator wheel assembly too far from the feeder at this time. The rotation motor is still connected to the feeder.)

- c. Unplug the rotation motor from the feeder harness.

- d. Remove the two (2) Allen socket head screws attaching the separator motor. This will permit the motor drive belt to be released from the drive pulleys. See figure IV-18.



5. Replace with new motor drive belt and re-install separator motor if separator wheel belt is not in need of replacement. If wheel belt requires replacement;
 - a. Remove both set screws from timing belt pulley mounted on end of separator wheel shaft if separator wheel needs to be replaced, see figure IV-19, otherwise go to 4b,
 - b. Remove the separator side plate (opposite timing belt pulley) from assembly by removing (4) Allen socket head screws and retaining ring; wheel and shaft should remain assembled. See figure IV- 19.



- c. Remove the material separator belt from wheel.
- d. Place the new material separator belt on the wheel; make sure the belts fit snugly inside the relief of the material separator wheel.

SERVO 1200-P FEEDER Roller Replacement

Nip Roller

Prepare the work area, clear off the top surface of the SERVO 1200-P FEEDER.

1. Turn the main power switch to the off position.
2. Disconnect the power cables from their sources by performing the following:
 - a. Follow the main power line and all other power cables from the machine back to the receptacle or source of supplied power and disconnect it at the source.
 - b. Place the plug connector close to the machine in such a position that will remain in your field of vision while repairs or maintenance is being performed.

3. Notify all other persons in the area where the work is being performed that the machine will be out of service, especially if the work you are performing requires you to be crouched behind or beside the machine or in some other way obscured from the sight of other persons in the area.
4. It may be necessary to move the SERVO 1200-P FEEDER clear of other equipment. Ensure that all interconnect cables (electric power, communication, etc) and any mechanical connecting devices have been removed and protected from damage during this process.
5. Remove SERVO 1200-P Feeder from its mounting position by performing the following:
 - a. Disconnect all electrical wiring from feeder to base and other peripherals.
 - b. Lift and position (turn 90° or 180° if necessary) the Feeder so the Transport Belt Carriage overhangs the surface edge.
6. Follow the instructions listed under **Removing the Transport Belt Carriage** and **Transport Belt Replacement** sections.



(Warning: The SERVO 1200-P Feeder weighs in excess of 90 pounds, practice safe lifting techniques when moving the feeder or acquire assistance to move the feeder.)

Removing the Nip Roller

1. Remove the carriage side plate described in Transport Belt Replacement section.
 - a. Remove Allen socket head screws that attach side plate to all (3) belt track support shafts and loosen set screws in bearings with locking collars. See figure IV-20.

Section V

Electrical Components

SERVO 1200-P FEEDER

MODEL SE-SERVO1200-P FEEDER

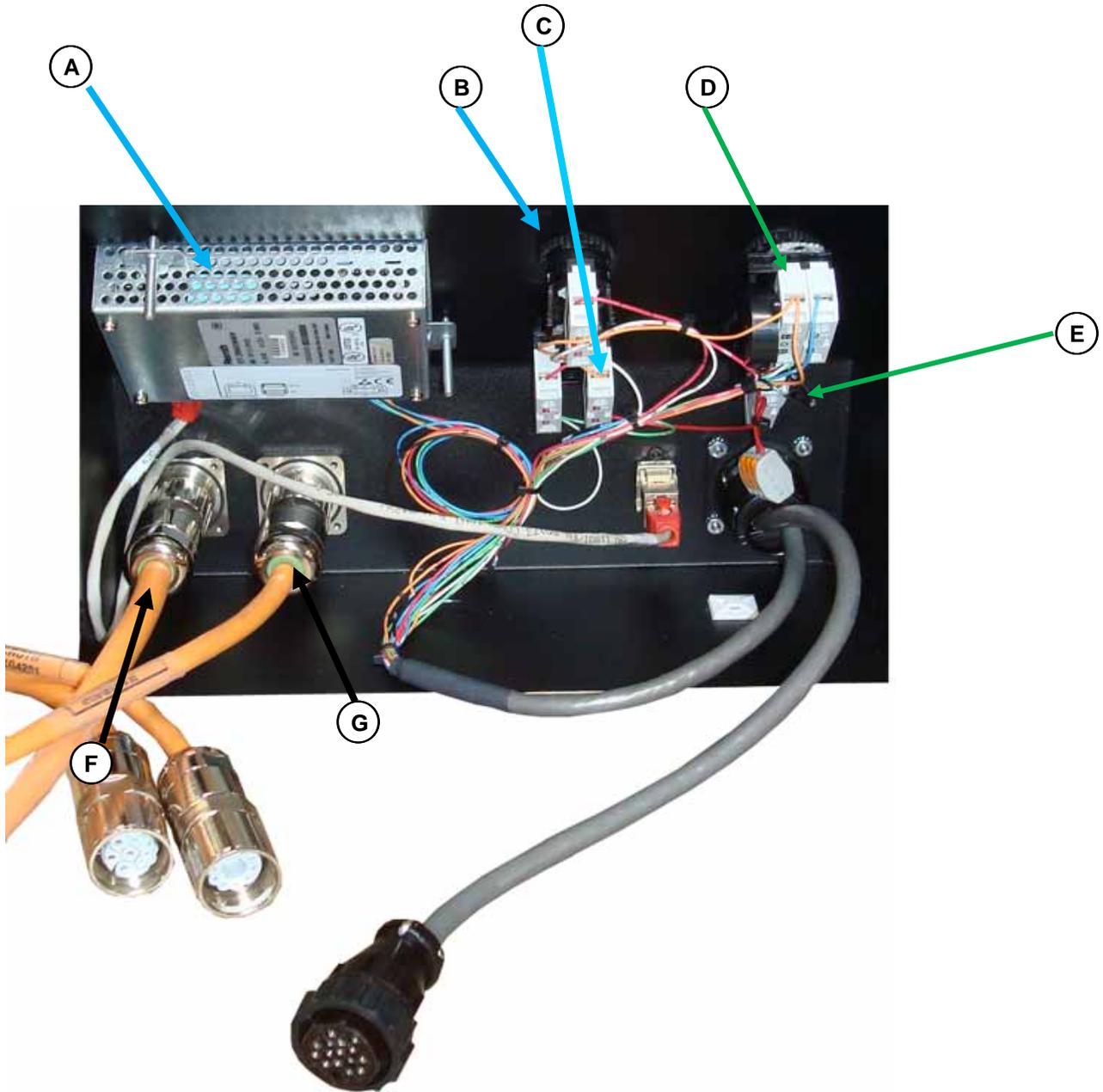


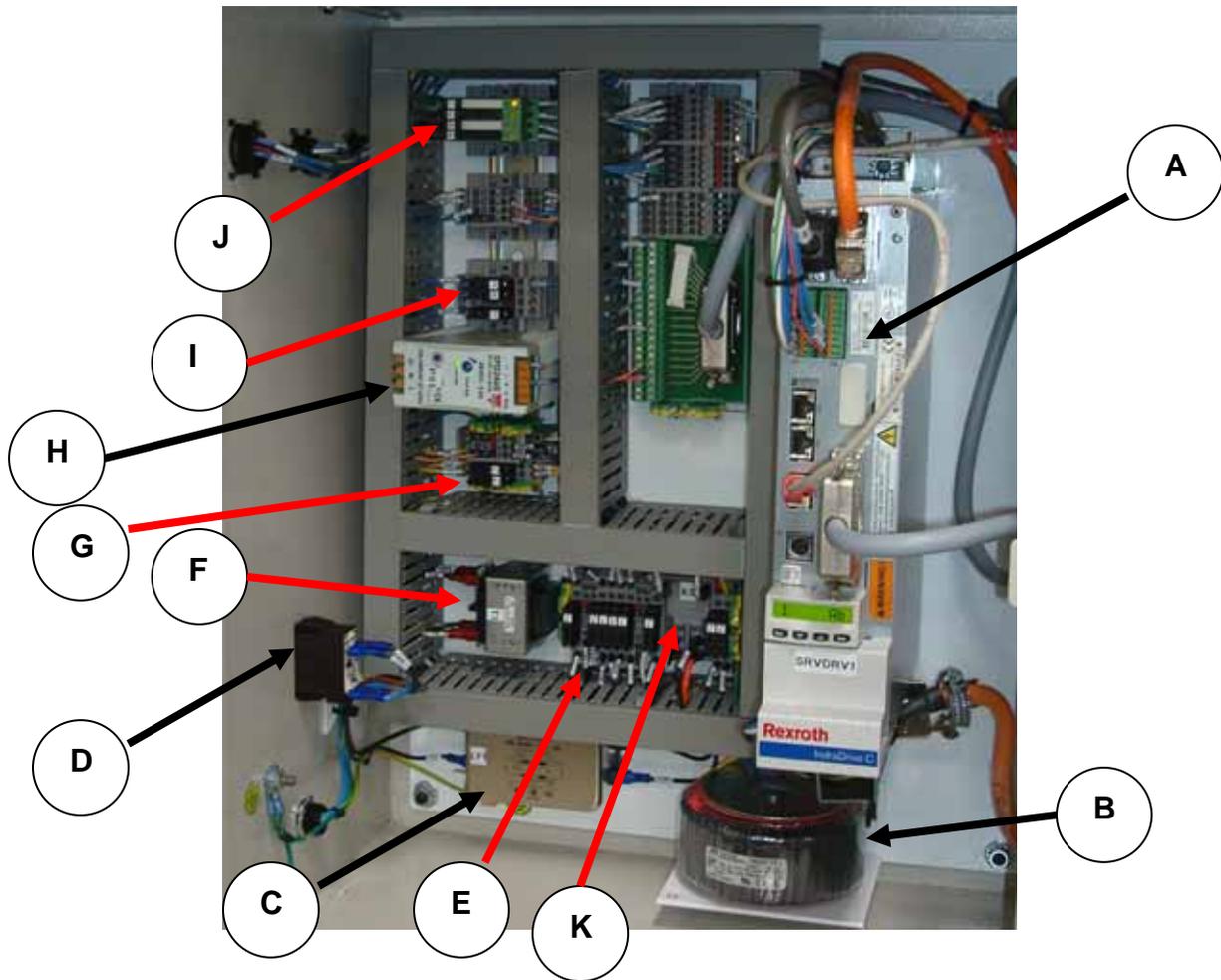
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Hood Component Identification Table-External and Internal

| Item | Component | Function |
|------|-----------------|---|
| A | HMI | Human interface module |
| B | RS1-Mode Switch | Provides remote/local control selection |
| C | ES1:E-STOP | Push-Pull Switch w/ 1 N.C. contact |
| D | PB1:RESET | Illuminated Push Button-ON/OFF |
| E | PB3:CYCLE | Cycle pushbutton |
| F | CABLE | Motor cable |
| G | CABLE | Encoder cable |





| Item | Component | Function |
|------|---------------------|---------------------------------|
| A | SRVDRV1-SERVO DRIVE | |
| B | TRANSFORMER 1 | STEPDOWN TRANSFORMER 234/117VAC |
| C | LF1-LINE FILTER | REDUCES RFI |
| D | CB1-CIRCUIT BREAKER | CIRCUIT PROTECTION (10 A) |
| E | F1,2,4 | FUSES 1A,1B,2A,2B,2C,2D,4A,4B |
| F | TRANSFORMER 2 | STEPDOWN TRANSFORMER 110/24VAC |
| G | F4 | FUSES 4C,4D |
| H | PS-1 | POWER SUPPLY 24VDC, 2.5 A |
| I | F5,6,7 | FUSES 5,6,7 |
| J | K1,3 RELAYS | SPDT RELAY |
| | K2 RELAY | OUTPUT MODULE RELAY |
| | K4 RELAY | OUTPUT MODULE RELAY |
| K | K5 RELAY | DPDT RELAY |
| | | |

Section VI

Wiring Diagrams for

SERVO 1200-P FEEDER

MODEL SE-SERVO1200-P FEEDER

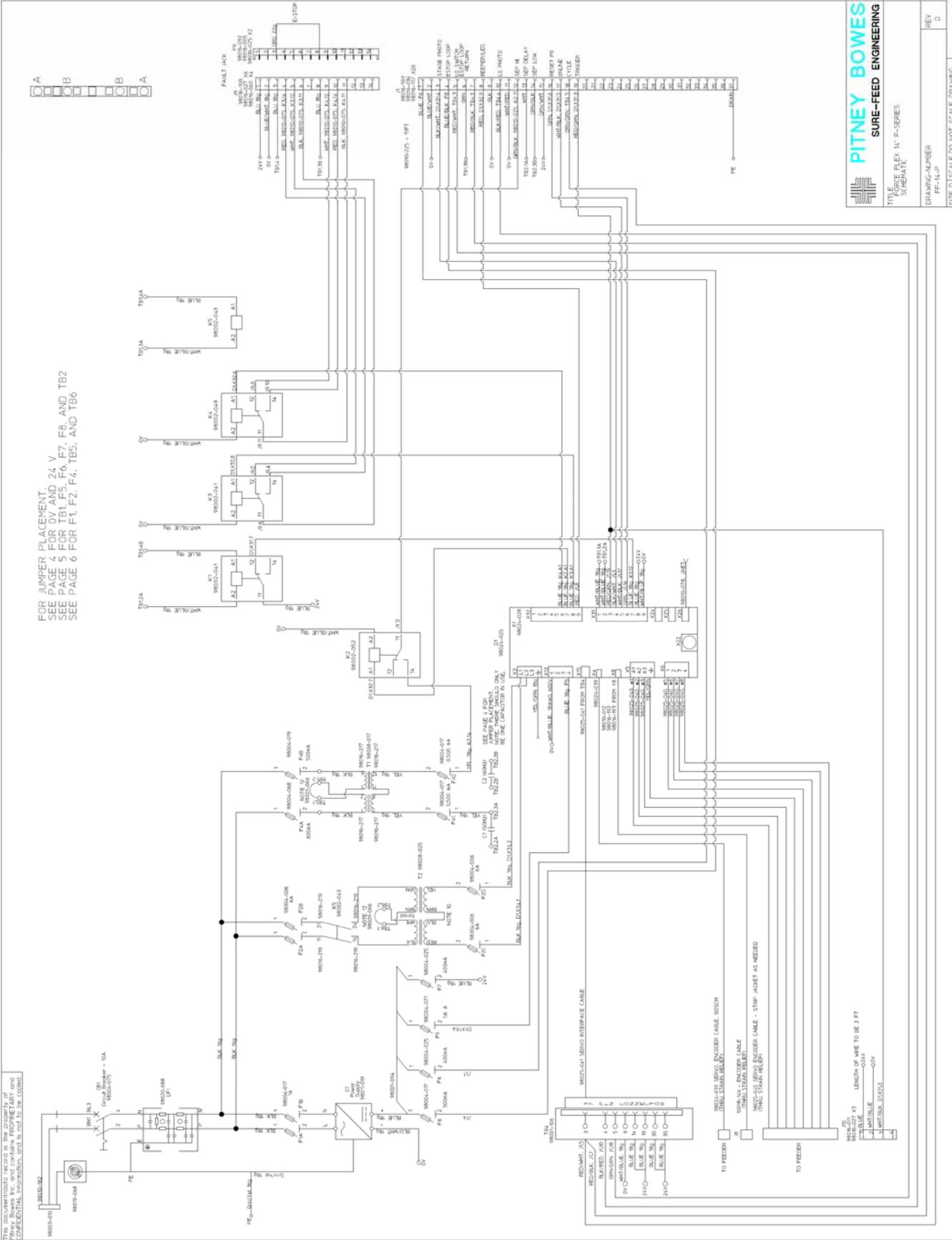


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FOR JUMPER PLACEMENT, SEE PAGE 4 FOR 0V AND 24 V, SEE PAGE 5 FOR TB1, F5, F6, F7, F8, AND TB2, SEE PAGE 6 FOR F1, F2, F4, F5, F6, F7, F8, AND TB6



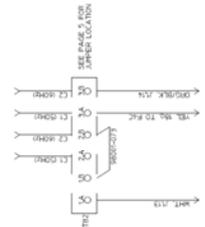
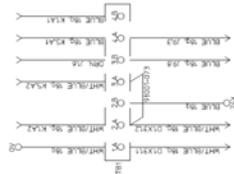
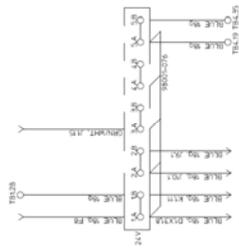
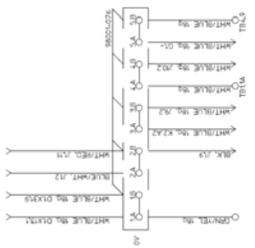
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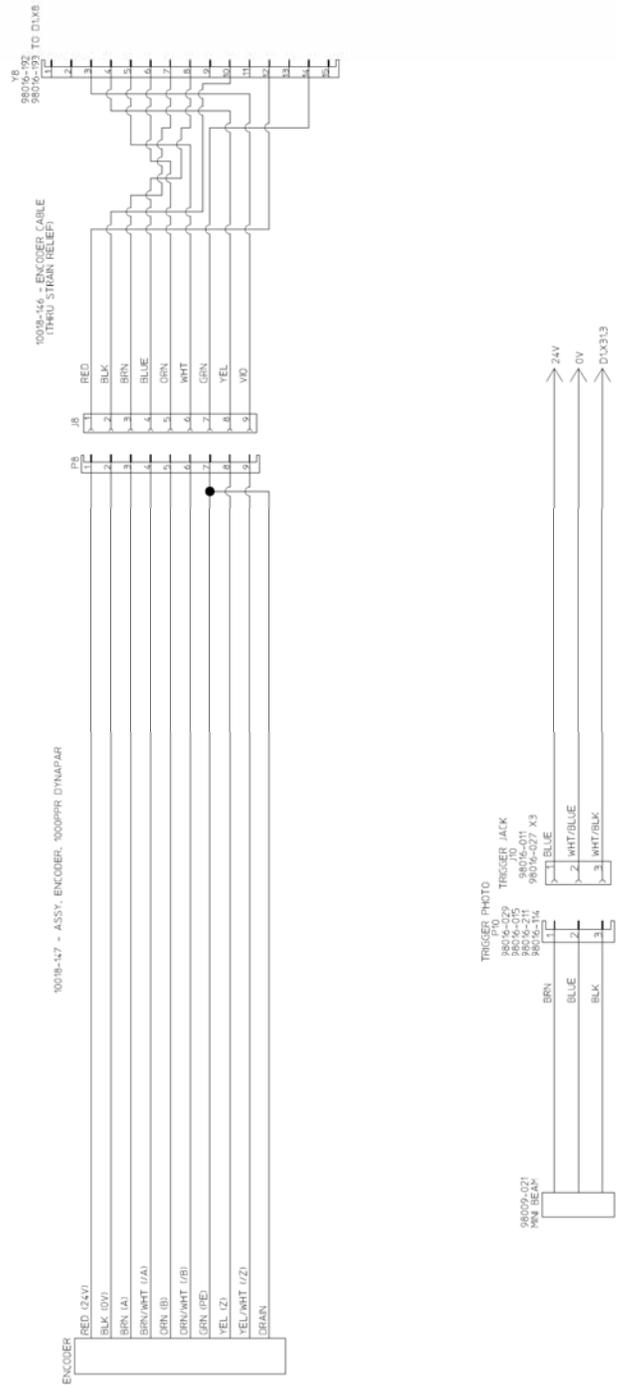
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DETAILED SERIAL ROLL

DRAWING NUMBER: PF-14-P

REVISION: 13

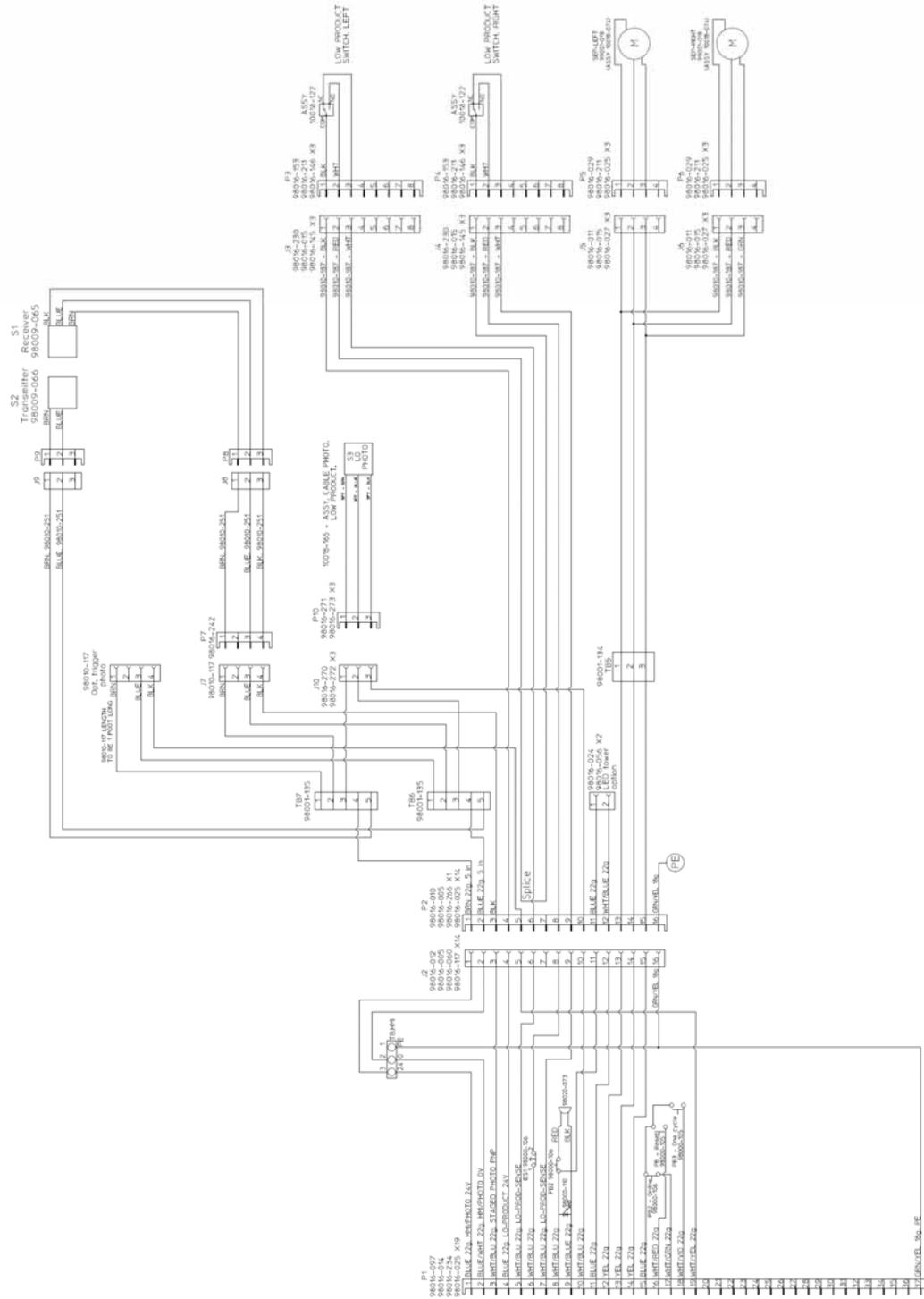
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Section VII

Trouble Shooting

SERVO 1200-P FEEDER

MODEL SE-SERVO1200-P FEEDER



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Troubleshooting Guide

| Problem: | Things to Check: |
|---|--|
| No power to all components of the machine | Check Main Breaker (CB1) Check power to the machine |
| No power to SERVODRIVE controller | Check FU 2A-2D fuses 6 AMP Check TR1 transformer Check K5 relay |
| Feeder is not feeding | Check Feeder On/Off Button Check Connection at Base Feeder needs to be full (Limit switch depressed) Check all cable connections |
| Feeder will not run. | Check fuse condition. Check outlet power source. Check power switch Check all cable connections |
| Feeder runs but no material is being dispensed. | Check material supply. Remove all material and follow setup procedure. Check rollers and belts for excessive wear or dirt. |
| Feeder does not create a gap between pieces. | Lower separator adjustment and observe. If a gap is not present after this adjustment, return separator to original position and move the back guide forward. Lower rear elevator belts slightly. |
| Feeder does not detect material. | Adjust position of the sensor. |
| Thick material does not feed well. | Decrease the height at the back of the material stack. Increase the opening at the separation device (the setting is less critical with thicker material). |
| Thin material does not feed. | Adjust separation device as described in section III. Remove material and fan the stack allowing air to separate the pieces. Raise the rear of the material stack by moving the wedge forward. |

