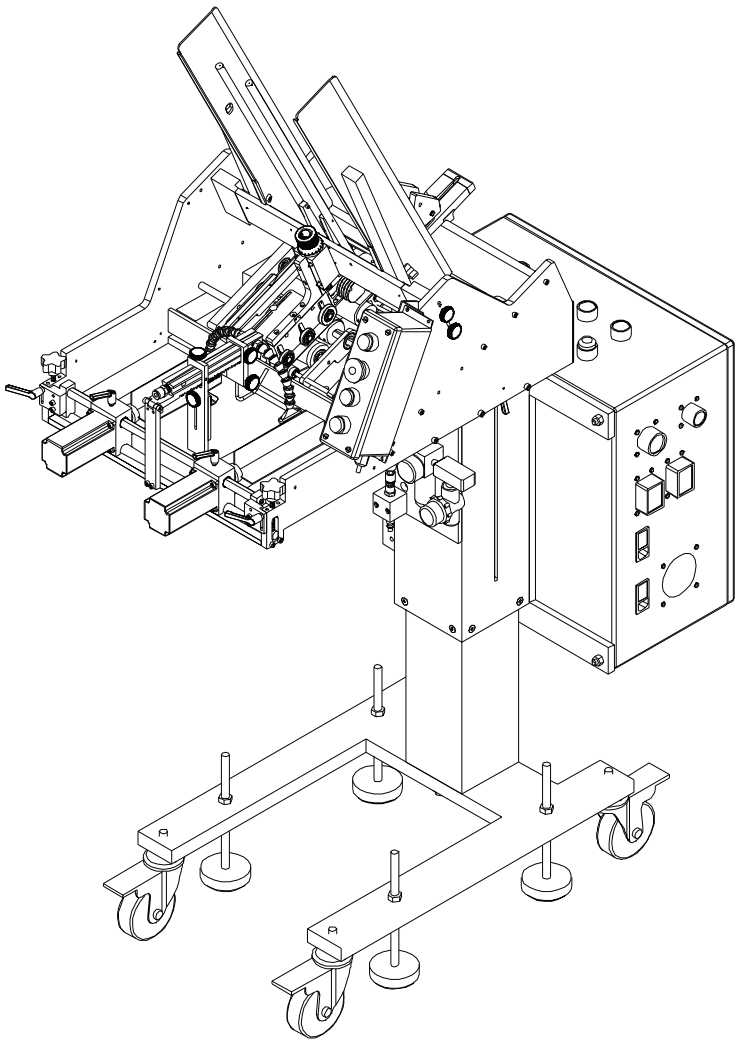
XT-1200 Dropper

Product Guide



Thiele Technologies
A Barry-Wehmiller Company

Streamfeeder®

Part Number: 00900441

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BEFORE YOU BEGIN

Message Conventions

Eight types of messages may appear in this manual which emphasize information of particular interest:

DANGER signifies an action or specific equipment area that can result in serious injury or death if proper precautions are not taken.

WARNING signifies an action or specific equipment area that can result in personal injury if proper precautions are not taken.

CAUTION signifies an action or specific equipment area that can result in equipment damage if proper precautions are not taken.

ELECTRICAL DANGER signifies an action or specific equipment area that can result in personal injury or death from an electrical hazard if proper precautions are not taken.

TIP signifies information that is provided to help minimize problems in the installation or operation of the feeder.

NOTE provides useful additional information that the installer or operator should be aware of to perform a certain task.

CHECK signifies an action that should be reviewed by the operator before proceeding.

IMPORTANT alerts the installer or operator to actions that can potentially lead to problems or equipment damage if instructions are not followed properly.

Notes

SAFETY

Make sure you thoroughly read this section to become familiar with all the safety issues relating to the safe operation of this Universal Friction Feeder™.

Please read all of the warnings that follow to avoid possible injury. Although Streamfeeder has made every effort to incorporate safety features in the design of this feeder, there are residual risks that an installer or operator should be aware of to prevent personal injury.

Please read all of the cautions that follow to prevent damage to the Universal Friction Feeder. The feeder is built with the highest quality materials. However, damage can occur if the system is not operated and cared for within design guidelines as recommended by Streamfeeder.

Danger

- **Equipment interior contains incoming 115 or 230VAC electrical power. Bodily contact with these high voltages can cause electrocution, which can result in serious injury or death.**

Electrical Noise

The air contains electromagnetic interference (EMI) fields and radio frequency interference (RFI), also known as “electrical noise”. Usually this noise is small enough in size (amplitude) to not be a problem. If intense enough, however, it can cause problems for other electrical equipment.

Streamfeeder has designed the XT 1200 Dropper with noise immunity in mind. Even the sensors provided with the feeder have a certain amount of noise immunity built-in. However, in extremely noisy environments, these design considerations are not necessarily immune to electrical noise and therefore, operational problems can occur. *If you suspect any such electrical noise problems, please report it to a qualified technician.*

Specifications

Maximum Product Size:	12 in. W x 8 in. L (305 mm x 203 mm)
Minimum Product Size:	4 in. W x 4 in. L (101 mm x 101 mm)
Min/Max Product Thickness:	.003 in to .500 in. (.076 mm - 12.7 mm)
Batch Size:	Maximum accumulation thickness 1 in. (25.4 mm)
Belt Speed:	13,800 in/min (350,520 mm/min)
Air Requirements:	5 CFM
Electrical Requirements:	115/230vac, 50/60Hz, 10A
Weight:	260 lbs (117.9 kg)
Warranty	One-Year Limited

1: About the Machine

At the core of the XT 1200 Dropper is our patented Differential Friction Technology™, which ensures package integrity through precise product separation and singulation. The powerful XT 1200 will effectively feed, count, and accumulate material at high speed, producing high levels of automated productivity.

Review the main assemblies in Figure 1A to become familiar with names and locations of feeder parts and adjustments. This will help to prepare you for initial setup. Descriptions are found in Table 1A.

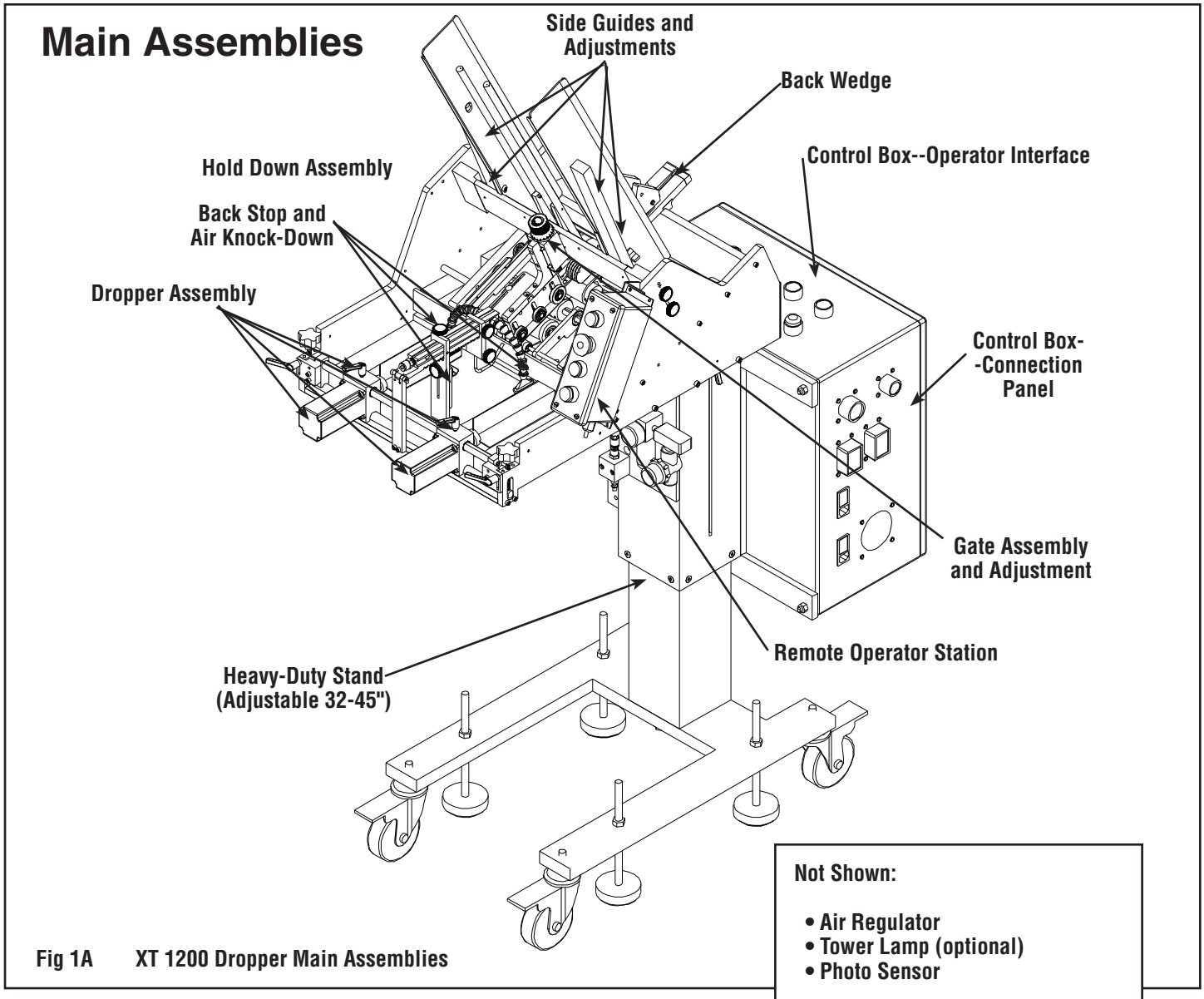


Fig 1A XT 1200 Dropper Main Assemblies

Table 1A Main Assemblies Feature Descriptions Feature Description

Gate assembly and adjustment	Mounted on a gate plate assembly above the feed belt, this device provides a curvature to help preshingle stacked material. When properly adjusted, a gap is created to help one piece of material to be fed at a time.
Side guides and adjustments	Holds a stack of material to be fed and helps keep it straight for proper entry through the gate assembly area. Two adjustment knobs allows you to move each side guide together or apart for different size material. Can be positioned equally or offset.
Back wedge	Lifts the material to keep it off the belt to reduce excessive contact, and helps push the material against the curvature of the gate assembly. To achieve proper lift, an adjustment knob allows you to slide the wedge to various positions along the feed belt.
Hold-down assembly	Used to gently force the material onto the discharge belt so it can be controlled after it exits the gate assembly area. The proper amount of downward pressure is automatically adjusted based on the gate setting.
Control box--operator interface	All operator functions, including **Ready, Cycle Feeder, Fault Reset, Speed, Stop, Cycle, Batch Size, and Jog** are controlled at this location.
Control box--connections panel	All power and communications connections are located on this panel.
Remote operator station	Additional controls for remote operation of **Cycle Feeder, Stop,Cycle, and Fault Reset.**
Heavy duty stand	Supports the feeder and allows for easy mobility. Includes built-in height adjustment.
Dropper assembly	Consists of two driven "star" fins (paddles), the dropper assembly accumulates product, then rotates to drop the batch and ready for the next feed cycle.
Back stop and knock-down	Consists of metal knock down hook and air blowers, the back stop and knock down provides the material control necessary for high-speed feeding. Adjustable for various product sizes.
Not Shown	
Photo sensor	Also called a sheet-detect photo sensor, it “looks” for the leading edge of the material to stop the feeder. An adjustment knob allows you to adjust for distance the material is fed out in the discharge.
Air Regulator	Provides the distribution of vacuum to the feed belt as well as air to the knock down. Required compressed air: 5 cfm.
Discharge belts	Located in the discharge section of the feeder, The discharge belts combined with the top roller hold-down assembly, provides the friction and motion necessary to pull material away from the gate assembly area.

Control Box--
Operator Interface

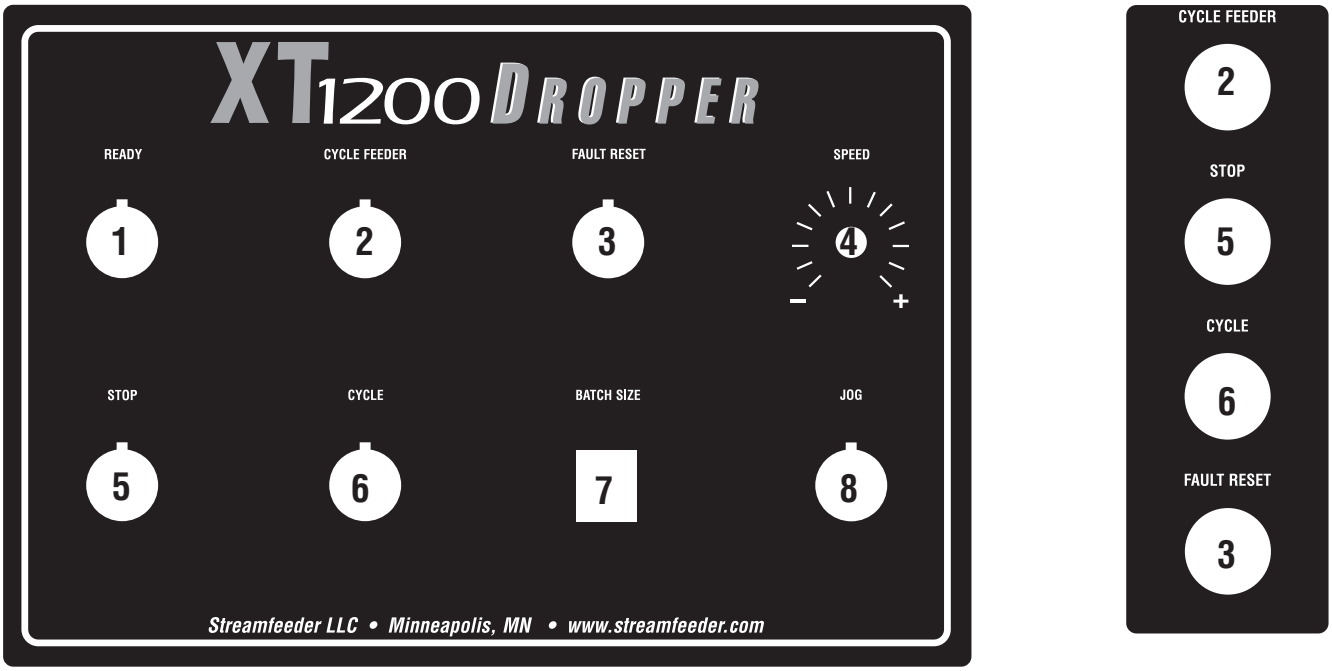


Fig 1B Operator Interface and Remote Operator Station Components

Table 1B Operator Interface and Remote Panel Components

Feature	Description
(1) Ready	Lamp indicating the feeder/dropper is ready to recieve trigger signals.
(2) Cycle Feeder	Causes feeder ONLY to perform one feed cycle.
(3) Fault Reset	Press to clear fault. After pressing, fault is cleared and feeder enters READY mode.
(4) Speed	Variable speed adjustment. Turn clockwise to increase, counter-clockwise to decrease.
(5) Stop	Stops the feeder and places it in FAULT mode. Press FAULT RESET to return the feeder to READY mode
(6) Cycle	Causes feeder and dropper to perform one feed cycle.
(7) Batch Size	Used to set the product count for a batch feed (from 1-99 pieces)
(8) Jog	Advances the feed belts at a fixed slow speed. Used during setup and when clearing feed errors.

Control Box--Connections Panel

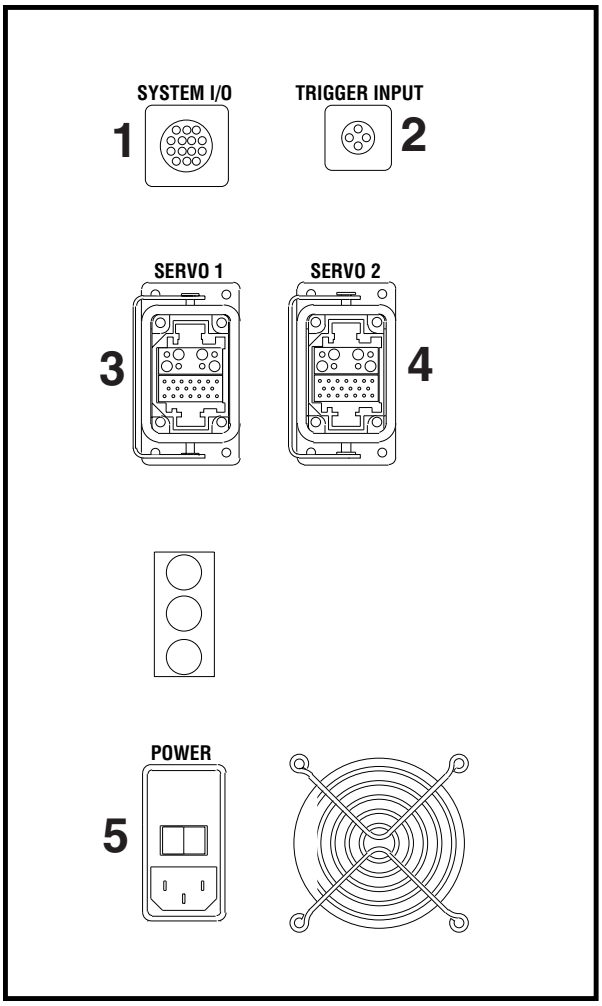


Fig 1C Control Box--Connections Panel

Table 1C Control Box--Connections Panel

Item	Description
(1) System I/O	This 14-pin connector sends DC voltage or ON/OFF control signals to other devices.
(2) Trigger Input	The photo sensor sends the signal to begin a feed cycle via this 4-pin connector.
(3) Servo 1	Connection point for dropper paddle.
(4) Servo 2	Connection point for dropper paddle.
(5) Power Entry	The cordset plugs into this IEC320 connector, providing power to the feeder/dropper from a grounded/fused 115V or 230VAC outlet.

2: Preparing for Operation

Overview

To prepare the feeder for operation a series of simple adjustments need to be made for the material you are going to run. After all the adjustments have been completed, the final step is to test run the feeder to verify the settings are correct.

IMPORTANT

Condition of Installment:

Warning decals must be visible to machine operator.

The adjustments that must be made (in order) are as follows:

1. Gate assembly adjustment
2. Side guide setting
3. Back wedge adjustment
4. Photo sensor adjustment
5. Dropper paddle adjustment
6. Dropper back stop adjustment
7. Test cycle to verify proper settings

Step 1 Gate Assembly Adjustment

Review

The gate assembly provides the curvature to help preshingle material, and provides the proper gap to help the feed belts pull material through the gate assembly area — one at a time. The downward pressure (or weight) of the stack in the hopper will provide the force to help push the material against the curvature of the gate assembly, and help it contact the feed belt. This preshingling will allow the gate assembly to efficiently separate (and singulate) material. To achieve the optimum separation, you have to use the adjustment knob to either increase (clockwise) or decrease (counter-clockwise) the gap between gate assembly and the feed belts.

Objective

Adjust the gate assembly for minimum gap, with minimum pressure on the material. Your objective is to adjust the clearance so that only a single piece of material passes under the gate at one time.

Step 1
Gate Assembly Adjustment (cont)

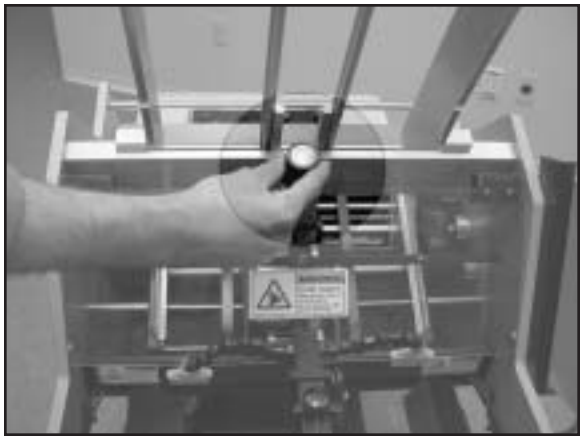
NOTE

Excessive lowering of the gate assembly can damage material or lead to premature wear of the O-rings or feed belt, and cause the product to skew. Not enough gate pressure can cause double feeds, and lead to no gap between the material being fed.

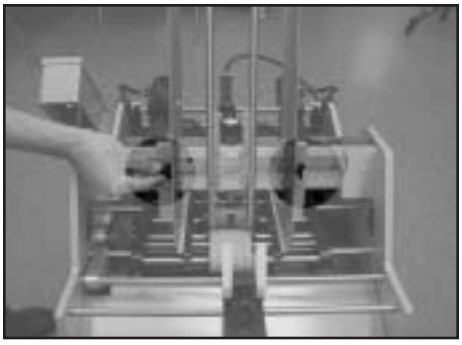
Procedure

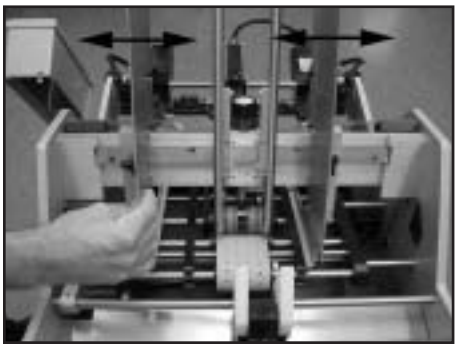
To adjust the gate assembly for proper gap, follow these steps:

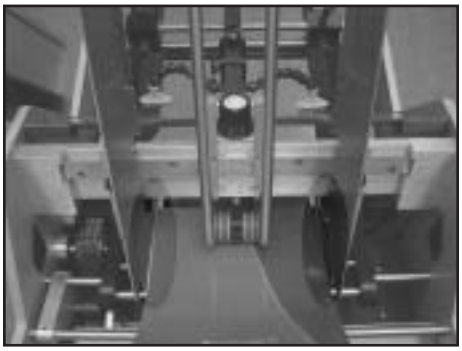
1. Raise the gate assembly so that the gap is greater then one piece of sample material. Then slide one piece of sample material under the gate assembly.
2. Test the top piece for clearance. Grasp with two hands and slide it front-to-back under the gate assembly. Lower the gate assembly by turning the knob counter-clockwise until the gate makes contact with the sample material, and drag can be felt on the top of the material when moving it front to back.



Step 2
Side Guides Setting







Review

The side guides hold the stack of material being fed, and they guide the material through the feeder in a straight line of movement. You can adjust the side guides to accommodate different widths of material.

Objective

Adjust the side guides so that the material stack maintains uniformity from top to bottom, with no drifting or binding. Adjustments are made horizontally. Make sure the space between the side guides can accommodate the size of the material being fed. Consider the following as you adjust the guides:

- The initial starting point should always be that each guide is of equal distance from the center point of the machine.
- Each edge of the material should rest equally on the belt, on both sides of the gate assembly (or equidistant spacing). However, there can be certain instances where guides do not need to be centered due to material characteristics. This is called offset spacing.
- Adjust both side guides to be as close as possible to either sides of the material, without causing binding, curling of edges, or resistance to movement.

Procedure

To adjust each side guide for proper equidistant horizontal spacing follow these steps:

1. Loosen each side guide adjustment knob (counter-clockwise), and move the guide to a width greater then the product.
2. Place one piece of sample material in the hopper, and center it on the gate assembly.
3. Grasp the lower part of each guide and slide to the recommended distance from the material: .0625 in. (1.6 mm) from each edge, .125 in. (3.1 mm) overall. Tighten the side guide adjustment knob after you establish proper position for each guide.
4. Visually check both guides for proper spacing from material (centered on the gate).

Step 3: Back Wedge Adjustment

NOTE

There are a number of feeding problems, which can be solved by simply adjusting the back wedge to different positions. Some of these problems include double feeds, no feed or slipping, skewing, twisting, poor singulation, ink or varnish buildup on the belt, and jamming at the gate assembly area

Review

The back wedge provides proper lift to keep the weight of the material on the feed belt, and it creates the force necessary to push material against the gate assembly. By adjusting it back and forth from the gate assembly, you can create the lift and force necessary to preshingle material against the curvature of the gate assembly. Also, it keeps other sheets off the feed belt until proper separation of the bottom sheet at the gate assembly has occurred.

Here are some general guidelines that should help you determine how the back wedge should be positioned for your particular material:

- If the back wedge is positioned too far backward from the gate assembly then the belt will start driving the material under the gate before the bottom sheet has separated and left the gate assembly area. This pushes the gate assembly up, creating more pressure on the material, O-rings, and feed belt. The result may cause more than one piece to be forced under the gate assembly at the same time, creating a double feed. By moving the back wedge forward, until only the bottom material can make contact with the belt surface. Slippage is reduced, and double feeding is minimized.
- If the back wedge is positioned too far forward to the gate assembly, then a pinch point can be created between the top surfaces of the wedge and the material. A pinch point on the top of the wedge will cause the material to slip on the belt, and create a no feed condition. Moving the back wedge even closer towards the gate assembly can allow material to actually overhang the wedge, creating too much lift of the material off the feed belt again causing belt slippage and no feed condition.

Objective

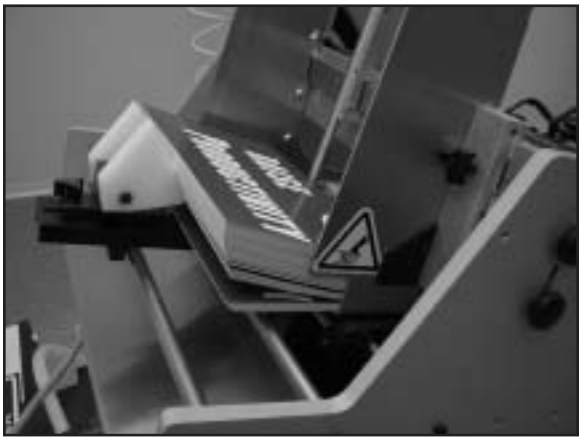
Adjust the back wedge for proper support of the material off the feed belt, without creating any pinch or stress points between the wedge and the material.

Step 3: Back Wedge Adjustment (cont)

Procedure

To adjust the back wedge for proper initial positioning, follow these steps:

1. Grasp a handful of material, approximately 2 to 2.5 in. (5 to 6cm) thick, and preshingle the edges with your thumb to match the curve of the gate assembly.
2. Place the preshingled material in the hopper so that the edges rest against the curvature of the gate assembly.
3. Turn the back wedge adjustment knob counter-clockwise to loosen the wedge.
4. Move the back wedge forwards and backwards until the bottom few sheets are touching the feed belt, and the remainder of the stack is being supported by the wedge.



Step 4: Photo Sensor Adjustment

IMPORTANT

Press the STOP button to take the feeder out of READY mode. This prevents a feed cycle during photo sensor adjustment

Review

The photo sensor is mounted to a slotted bracket and is attached to the hold-down assembly. The position of this sensor determines the stopping point of the initial piece in each batch.

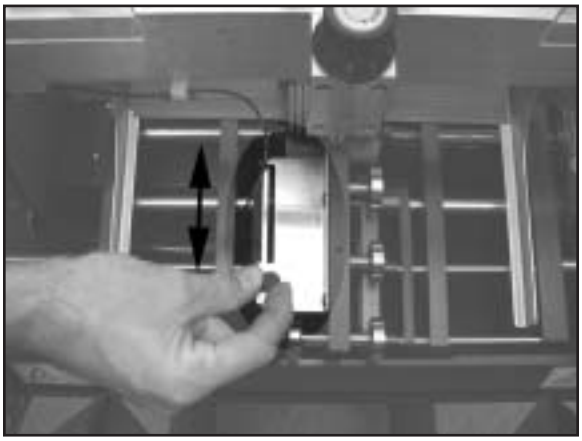
Objective

The adjustment of this sensor is product-dependent. Correct adjustment allows the XT 1200 Dropper to operate at peak efficiency.

Procedure

To adjust the photo sensor:

1. Stop the feeder and open the guard.
2. Loosen the round knob and slide the sensor to the desired location within the slot.
3. Perform a feeder cycle to evaluate adjustment.
4. Make additional adjustments in 1/4 inch increments as needed until proper stopping position is attained.
5. Tighten round knob and close guard.
6. Press FAULT RESET to put feeder/dropper in READY mode.



Step 5: Dropper Paddle Adjustment

IMPORTANT

Press the STOP button to take the feeder out of READY mode. This prevents a feed cycle during photo sensor adjustment

NOTE

The terms "dropper fins" and "dropper paddles" are synonomous.

Review

The dropper paddles provide a landing area for the product as it exits the feeder. After the material is accumulated, the paddles rotate to drop the batch.

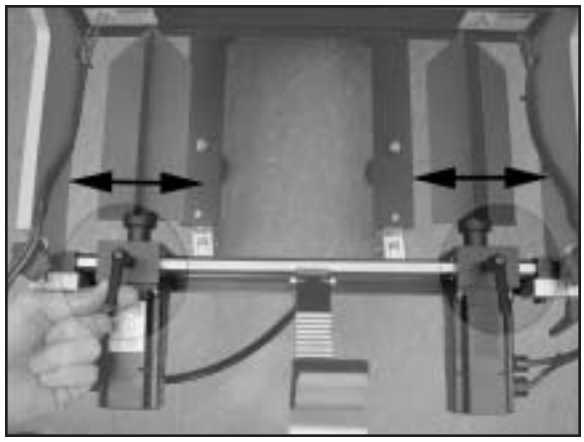
Objective

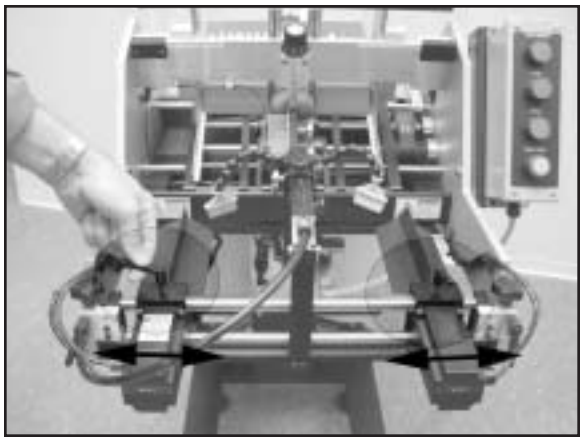
Paddle adjustment is product-dependent. For optimum performance, paddles are set to match the width of the products being fed.

Procedure

To adjust the dropper paddles:

1. Press the STOP button to take the feeder out of READY mode.
2. Loosen the wing lever and slide the dropper paddle assembly to the desired location.
3. Tighten the wing lever.
4. Repeat with other dropper paddle.
5. Press FAULT RESET to return the feeder to READY mode.
6. Run several test cycles to verify correct adjustment.





Step 6: Dropper Backstop Adjustment

Review

The backstop and knockdown assembly halts the discharged product, aligning the front and back product position to provide necessary control of the accumulating batch.

Objective

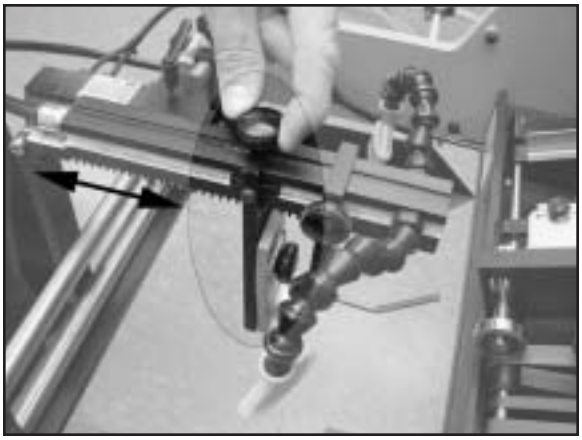
Backstop/knockdown adjustment is product-dependent. Proper adjustment maintains product control and allows the accumulation of a "neat" batch, ensuring high productivity.

Procedure

1. Manually place one piece of material onto dropper paddles.
2. Loosen fastening knob and slide backstop toward product, leaving 1/8 inch gap.
3. Tighten knob to secure in place.
4. Place product equal to the desired batch plus one onto the landing area of the dropper paddles.
5. Adjust the knockdown plate by loosening its locking knob and raising/lowering until light contact is made with the product stack.

NOTE

The addition of one piece to the batch (in Step 5) ensures that the knockdown place is not too tight on the desired batch count.



Step 7: Manual Test to Verify

Now that you have made all the necessary adjustments for operation, it is recommended that you verify the singulation and separation of product through the gate assembly area. Before you power-up and run your machine with a full hopper, manually feed several sheets of product through the gate assembly area.

Prepare your test by loading the hopper with approximately 2 to 2-1/2 in. (5 to 6 cm) of product. Make sure you preshingle the stack so that product rests against the curvature of the gate assembly.

NOTE

If the gate assembly is too tight, the feeder will have difficulty pulling the product through the gate assembly area. This will cause "missed" feeds.

1. Manually feed several sheets of product slowly through the gate assembly area. Move the drive belts by pressing the jog button.
2. Observe how individual product enters and exits the gate assembly area. Remember, a properly set gap will allow each new sheet to enter at about the center line of the cylinder while the bottom sheet is exiting the gate assembly area. Ideally, this means a slight overlap of both the first sheet and the second sheet (1/8 in., or 3 mm) at the gate assembly area. The overlap occurs as the bottom sheet is exiting, and the next sheet is entering.

NOTE

Moving the back wedge too far forward to the gate assembly can create a pinch point between the tip of the wedge and the product. If moving the back wedge in is not effective, then an optional wedge may be required. See Section 6 for more information.

3. If feeding doubles, then move the wedge in towards the gate assembly. Test again.
4. If sheets are overlapping excessively or, if the machine is feeding doubles, then reduce the gap slightly by moving the knob about 1/8 turn counter-clockwise. Test again.
5. As product moves through the hold-down area, check for any skewing or jamming. Also check for damage to the product.
6. If this or other feeding problems still persist (slipping, skewing, jamming), then review all the adjustment procedures in Section 2, "Preparing for Operation".

Notes

3: How to Operate

Operational Sequence

Successful power-up and operation of the unit is assured if you apply each of following sets of procedures where needed:

1. Loading product
2. Powering on the feeder/dropper
3. Setting and adjusting speed
4. Starting a cycle
5. Stopping the feeder
6. Clearing a jam

Loading Product

1. Preshingle a small stack of material and load in hopper.
2. With one end of the stack resting against the gate assembly, the other end will be resting on the back wedge.
3. Gradually add more product to the hopper. As stack height will have a preferred minimum and a maximum, you will have to experiment to determine the effective range of height.
4. As you add product, tamp each hand-full of product with your hand to make sure it rests evenly against the back plate.

NOTE

Preshingling prevents multiple sheets from jamming under the gate assembly at start-up.

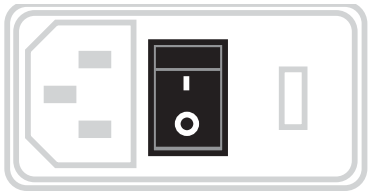
TIP

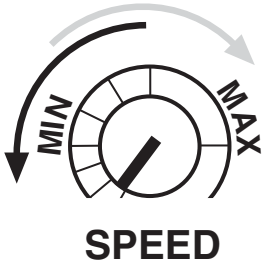
Stack height affects the downward pressure on the feed belts. Greater downward pressure can increase the chances for misfeeds or double feeds.

Operational Sequence (cont)

Powering on the Feeder/Dropper

Turn the power on by pressing the horizontal line (-) on the power switch rocker.





Setting and Adjusting Speed

1. Set the variable speed control to the lowest speed (turn counter-clockwise)
2. Slowly turn the speed control clockwise to increase speed.

Starting a Feed Cycle

1. With speed and batch size set, verify the feeder is in READY mode.
2. Press the CYCLE button to initiate a complete feed cycle (a full batch delivered to dropper fins).
3. Press CYCLE button again to drop the batch onto the conveyor and complete another feed cycle.
4. Observe to verify good product flow through the feeder/dropper.

Stopping the Feeder/Dropper

To stop the feeder at any time, press the red STOP button. This will instantly stop the feeder and remove power from the dropper paddles.

Any product accumulated on the dropper paddles will fall onto the conveyor when the STOP button is pressed. To return the feeder/dropper to READY mode, press the FAULT RESET button.

Dropper paddles automatically return to "home" position when the machine enters READY mode. Keep clear of this area to avoid injury.

Operational Sequence (cont)

Dropper paddles automatically return to "home" position when the machine enters READY mode. Keep clear of this area to avoid injury.

Clearing a Jam

If a jam occurs during operation, complete the following steps:

1. Press the STOP button.
2. Open the safety guard.
3. Remove the jammed product. While doing so, attempt to determine the cause of the jam.
4. Verify adjustments, paying specific attention to any loose components. Refer to "Preparing for Operation" for proper adjustment procedure.
5. Reset the machine by pressing FAULT RESET.

Preshingling prevents multiple sheets from jamming under the gate assembly at start-up. Stack height affects the downward pressure on the feed belts. Greater downward pressure can increase the chances for misfeeds or double feeds. Table 4-1 is intended to provide you with quick solutions to the more common day-to-day problems you may encounter.

Notes

4: Operational Troubleshooting

Table 4-1 is intended to provide you with quick solutions to the more common day-to-day problems you may encounter.

Table 4-1.Quick-Look Troubleshooting

Problem	Cause	Solution
No AC power to feeder	1. On/off switch in "off" (or "O") position.	Check that switch is in "On" (or "--" position).
	2. Power cord loose or not plugged into outlet (or AC power source).	Check and secure power cord at AC outlet.
	3. Female end of power cable loose or not plugged into AC power inlet at rear of feeder.	Check and secure cord at AC inlet (rear of feeder)
Feeding doubles	1. Gate assembly improperly adjusted (possibly more that one sheet thickness).	Review gate assembly adjustment in Section 2: "Preparing for Operation".
	2. Back wedge improperly adjusted.	Review wedge adjustment in Section 2: "Preparing for Operation".
	3. Worn o-rings on gate assembly.	Replace or rotate o-rings. If wear is excessive, consult with a qualified technician.
	4. Material interlocking.	Check material and source.
	5. Static buildup.	Check material and source.
Material belts are operating, but material not feeding	1. Material stack height is too low, resulting in reduction of down pressure.	Review loading material in Section 3: "How to Operate".
	2. Binding in side guides.	Adjust side guides further apart to allow freedom of movement between sheets.
	3. Slippery feed belts (material buildup).	Review cleaning feed and discharge belts in Section 5: "Inspection and Care".
	4. Sheet adhesion or interlocking between the bottom and next sheet.	Review loading material in Section 3: "How to Operate", also review back wedge adjustment in Section 2: "Preparing for Operation".
	5. Gate assembly too tight.	Review gate assembly adjustment in Section 2: "Preparing for Operation".
	6. Too much weight in hopper.	Remove material from stack. Test again.

Problem	Cause	Solution
Feed belt not tracking on roller	1. Excessive weight in hopper.	Review loading material in Section 3: "How to Operate".
	2. Excessive down pressure on gate assembly.	Rotate clockwise 1/8 turn and manually test. Also review gate assembly adjustment in Section 2: "Preparing for Operation".
	3. Product off-centered from center point of machine.	Review setting side guides in Section 2: "Preparing for Operation".
	4. Belt wear.	Review gate assembly adjustment and back wedge adjustment in Section 2: "Preparing for Operation". If wear is excessive consult with a qualified technician.
Jamming occurs during operation	1. Improper adjustment in one or more of the following areas: • Gate assembly • Back wedge • Top roller hold-down assembly • Discharge alignment rails	1. Turn the power switch to "off" by pushing the circle (O). 2. Remove jammed material from the feeder. While doing so, try to determine the cause of the jam. 3. Verify adjustment by reviewing Section 2: "Preparing for Operation".
Material skewing	1. Back wedge not properly aligned.	Review back wedge adjustment in Section 2: "Preparing for Operation".
	2. Excessive gate pressure on one side.	Review gate assembly adjustment in Section 2: "Preparing for Operation".

5: Inspection and Care

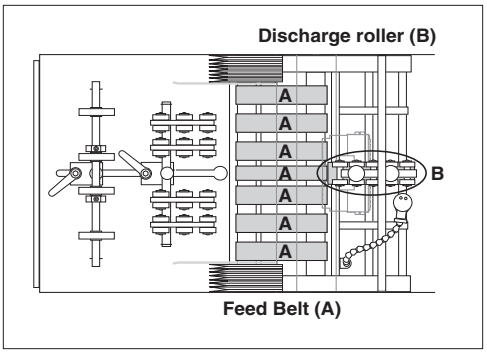
When performing initial adjustments prior to operation, always make sure you turn Off the main power switch, open the discharge safety shield and disconnect feeder from the electrical power source. Failure to do so can expose you to a potential start-up, and therefore moving parts which can cause serious injury.

Do not attempt to make any adjustments while the machine is running. Failure to do so can expose you to moving parts which can cause serious injury. Do not wear loose clothing when operating the feeder. Avoid making adjustments with loose or unsecured parts. This can potentially damage parts.

Please read this Section to learn how to:

- Visually inspect your machine to detect part problems which may require adjustment or replacement.
- Periodically care for your machine to prevent any operational problems.

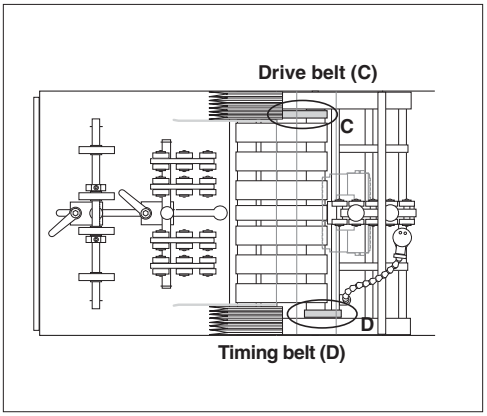
Visual Inspection



Checking for Feed and Discharge Belt Wear

Check for visual signs of:

- Walking. Replace as required.
- Cracking. Replace as required.
- Thinning. Replace as required.



Checking for Timing and Drive Belt Wear

Check for visual signs of:

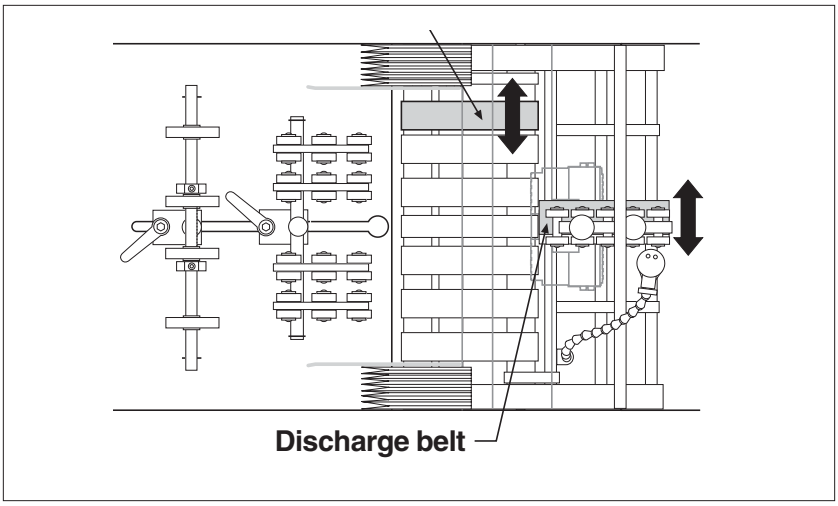
- Fraying. Replace as required .
- Missing teeth. Replace as required.
- Cracking. Replace as required.

Visual Inspection (continued)

Ensuring Proper Feed and Discharge Belt Tracking

Check for visual sign of:

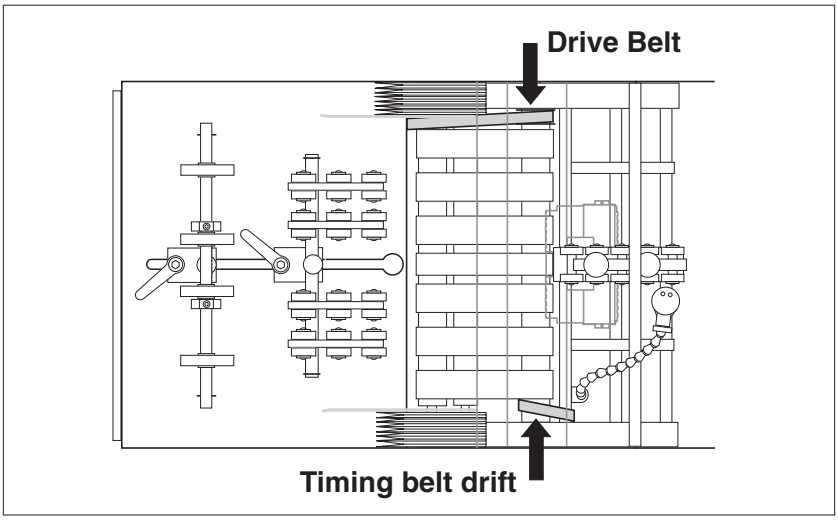
- Stretching.
- Improper roller adjustment.



Ensuring Proper Timing and Drive Belt Tracking

Check for visual signs of:

- Misaligned timing pulleys.



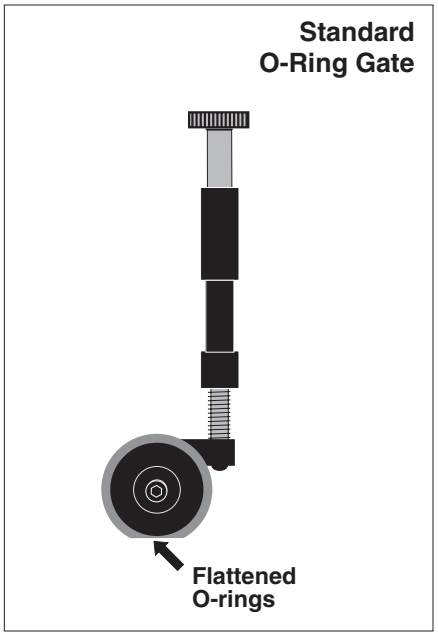
Visual Inspection (continued)

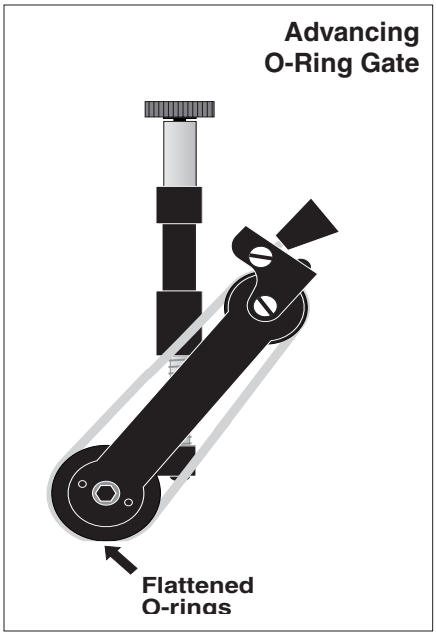
Checking for Gate Assembly Wear

Check for visual signs of wear:

- Bar gate: Bar material begins to flatten excessively.
- Standard O-ring or advancing O-ring (if applicable): Flat areas along the O-rings.

See “Preventive Care” to follow.



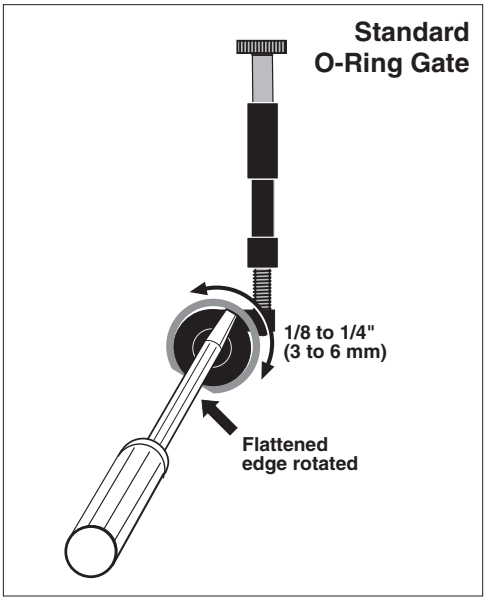


Visual Inspection (continued)

Replacing Worn Bar material

To replace a worn bar material:

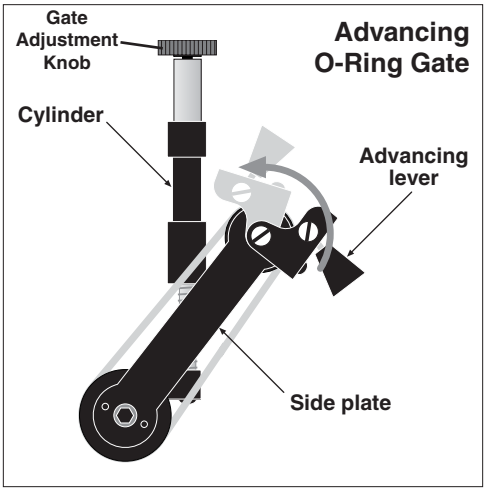
1. Turn Off feeder and remove power cord from outlet.
2. Remove gate assembly from gate plate.
3. Remove plate (two screws).
4. Use a pliers to grip and remove bar material.
5. Install new bar material by inserting one end and then pushing in until centered. *Do not grip bar material with pliers as this may cause damage to the edge.*
6. Reinstall clamp (two screws).



Standard O-Ring Gate: Adjusting Worn O-Rings

To adjust worn O-rings on standard O-ring gate:

1. Turn Off feeder and remove power cord from outlet.
2. Remove gate assembly from gate plate.
3. Insert a screwdriver in slot on top of gate assembly and rotate screwdriver clockwise or counter-clockwise 360° so as to move worn area of O-ring about 1/8 to 1/4 in. (3 to 6 mm).
4. Remove screwdriver and repeat for each ring as necessary.
5. Reinstall gate assembly and restore power.



Advancing O-Ring Gate: Adjusting Worn O-Rings

To adjust worn O-rings on advancing O-ring gate:

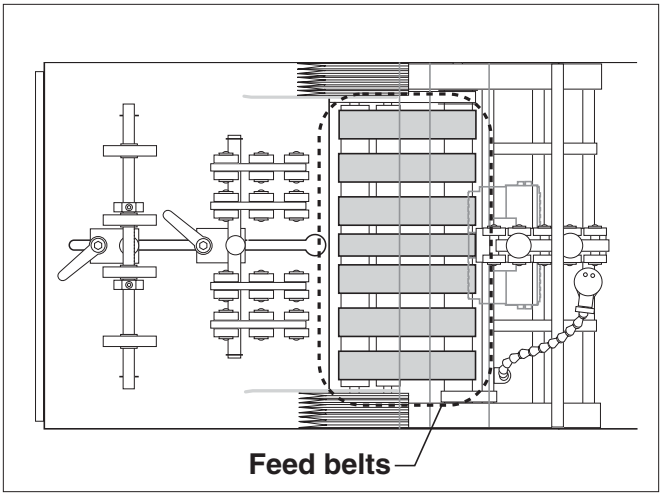
1. Turn Off feeder and remove power cord from outlet.
2. Remove gate assembly from gate plate.
3. Lower advancing lever away from gate adjustment knob.
4. Rotate O-rings by grasping advance knob and pushing towards gate cylinder about 1/8 to 1/4 in. (3 to 6 mm).
5. Lower advancing lever to resting position away from gate adjustment knob.
6. Reinstall gate assembly and restore power.

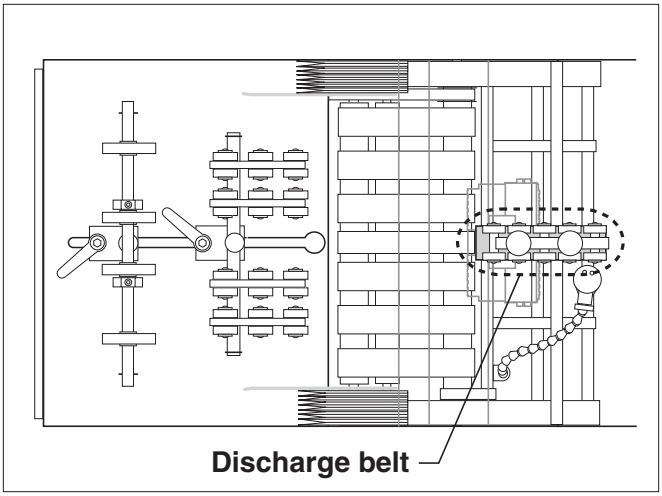
Preventive Care

Use only isopropyl alcohol (98% concentration). Other solvents can cause belts to wear prematurely, and even total breakdown of material.

To clean feed and discharge belts:

1. Turn Off feeder and remove power cord from outlet.
2. Remove gate assembly from gate plate for easier access to belts.
3. Apply a small amount of isopropyl alcohol to a soft cloth.
4. Use your hand to move the discharge belt, start with one feed belt at a time and carefully press the moistened area of the cloth to the belt. As you rotate the belt, use moderate pressure to wipe across the belt, making sure to wipe in direction of grooves also. After several rotations of the belt, repeat for each belt.
5. Taking a dry portion of the cloth, go back to the first feed belt cleaned and use moderate pressure against the belt for several revolutions to ensure the belt is dried. Repeat for each belt.
6. Repeat steps 3 – 5 for the discharge belt also.
7. Reinstall gate assembly and restore power.





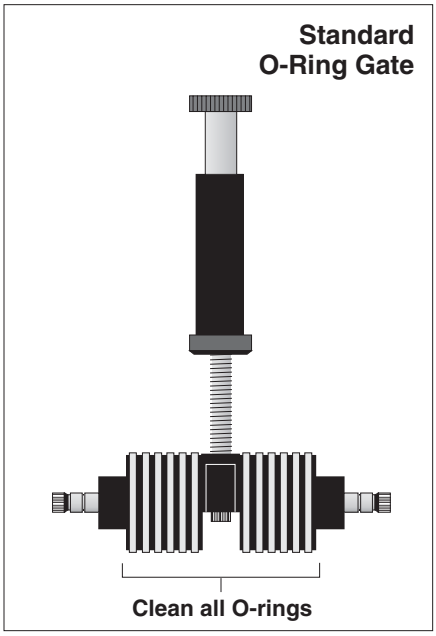
Preventive Care (continued)

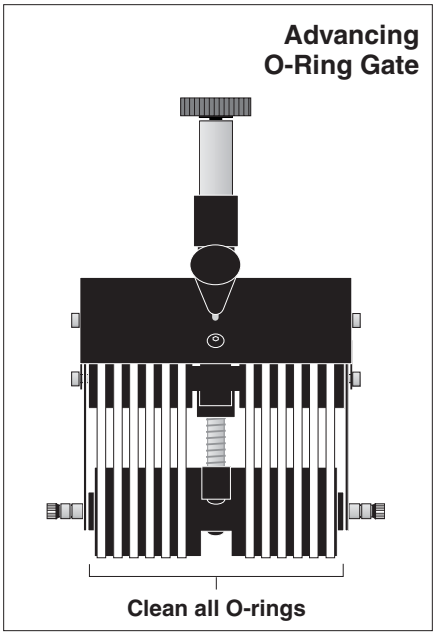
Cleaning Gate Assembly

Use only isopropyl alcohol (98% concentration). Do not use any other types of solvents. They can cause premature wear of the belts, or even total breakdown of the material.

To clean gate assemblies:

1. Turn Off feeder and remove power cord from outlet.
2. Remove gate assembly from gate plate.
3. Apply a small amount of isopropyl alcohol to a soft cloth.
4. Wipe across bar material (or O-rings if applicable), first in one direction, then the other.
5. Taking a dry portion of the cloth, go back and wipe all surfaces to ensure they are dried.
6. Reinstall gate assembly and restore power.

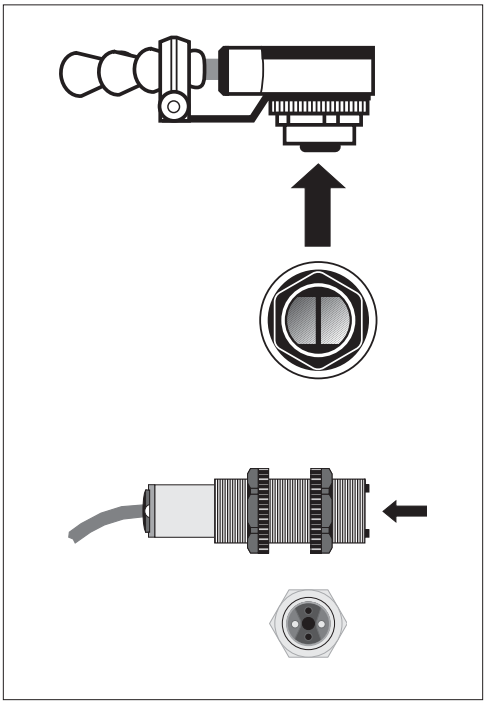




Preventive Care (continued)

Do not use any solvents or cleaning agents when cleaning the keypad or display. This can result in surface damage. Do not spray any cleaning solutions directly on the keypad or display surfaces, as this could lead to faulty performance.

Do not use any solvents or cleaning agents when cleaning the photo sensor lenses. This can result in surface damage and eventual faulty performance.



Cleaning Keypad and Display

Visually check the keypad and display area for excessive dust or grime buildup. When cleaning, use a mild cleaning solution and spray directly on a soft cloth or rag.

Cleaning Photo Sensors

To clean the photo sensor lenses:

1. Turn Off feeder and remove power cord from outlet.
2. Open the discharge safety shield (to access sheet-detect sensor).
3. Using a soft, dry cloth, wipe across the face of each lens.
4. Repeat step 3 above for flight-detect sensor.
5. Recheck the adjustments of both photo sensors to make sure they are still in alignment to the targets.
6. Close discharge safety shield and restore power.

Notes

6: Additional Wedges

This section provides information about setting up various wedges which are compatible with the ST Series Universal Friction Feeders.

Now that you are familiar with the basic principles of using a wedge, it is simply a matter of combining these principles with the information provided in this section. This will allow you to get optimum performance when setting up the standard wedge for your particular needs.

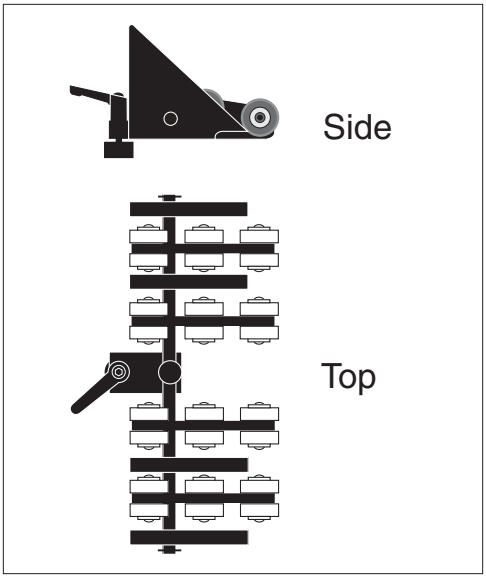
The following wedges are covered:

- Combination triangle/low-profile
- Separate triangle and low-profile
- Separate articulating roller and low-profile
- Articulating roller
- Extended narrow
- Combination

Combination Triangle/ Low-Profile

When to use: For thin product with minimal body, thus requiring minimal mid-range support.

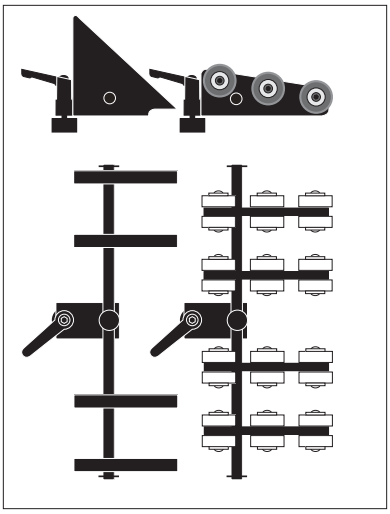
Setup guidelines: Adjust so that bottom of stack preshingles against the curvature of gate assembly; make sure edges of product do not touch or overhang tip of triangle wedges, as this creates pressure points. Roller(s) should lift bottom of stack off table top to eliminate friction and create body.



Separate Triangle and Low-Profile

When to use: If moving combination triangle/low-profile wedge assembly back from the gate assembly, bottom of stack still touches table top. This means you need even more mid-range support.

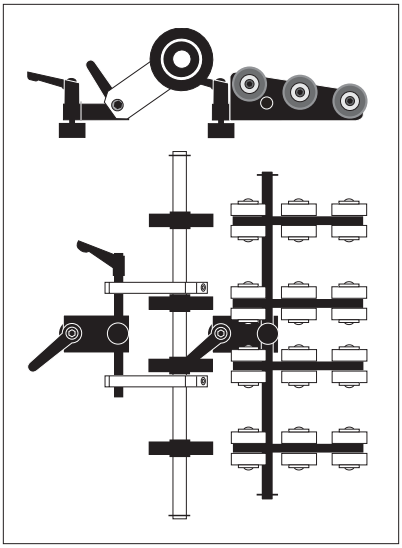
Setup guidelines: Adjust the triangle wedge the same way that you would the combined triangle/low-profile wedge assembly (see previous page). Set the low-profile wedge relative to the triangle wedge so that it lifts bottom of the stack off the table top to eliminate friction and create body. Again, make sure edges of product do not touch or overhang tips of triangle wedges.



Separate Articulating Roller and Low-Profile

When to use: For thicker product with more body, thus requiring medium mid-range support. Longer product may also benefit.

Setup guidelines: Initially adjust articulating wedge so that roller edges preshingle the bottom of the stack against the curvature of gate assembly. Make sure edges of product do not extend back more than mid-point of rollers. Set the low-profile wedge so that roller(s) lift bottom of stack off the table top to eliminate friction and create body.



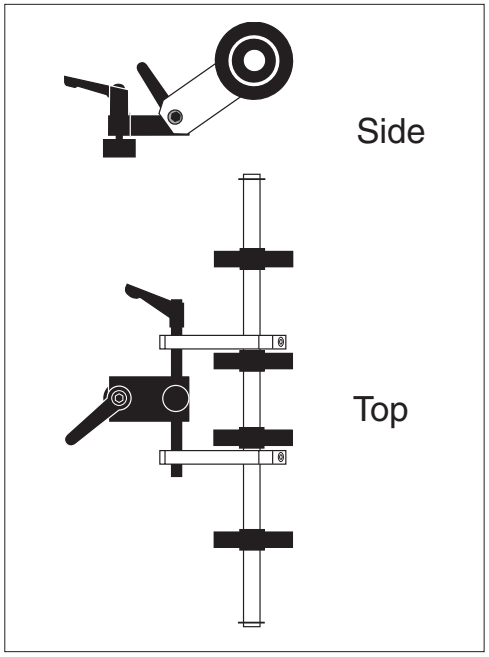
Articulating Roller

When to use: Effective for very thick and/or ridged product requiring virtually no mid-range support.

Setup guidelines: Adjust so that roller edges preshingle the stack against the curvature of gate assembly. Again, make sure edges of product do not extend back more than the mid-point of roller.

NOTE

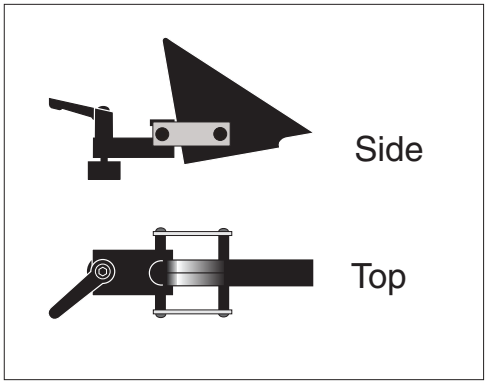
With some product that tends to bind together (for example, perforated product), it may be beneficial to separate 4 to 5 sheets of product at the bottom to provide some air space.



Extended Narrow

Setup guidelines: Effective for moving in close to the gate assembly for supporting very small product. Due to size, no mid-range support is required.

Ideal setup: Adjust so that wedge preshingles the bottom of stack against the curvature of gate assembly. Make sure edges of product do not extend back more than the mid-point of wedge.



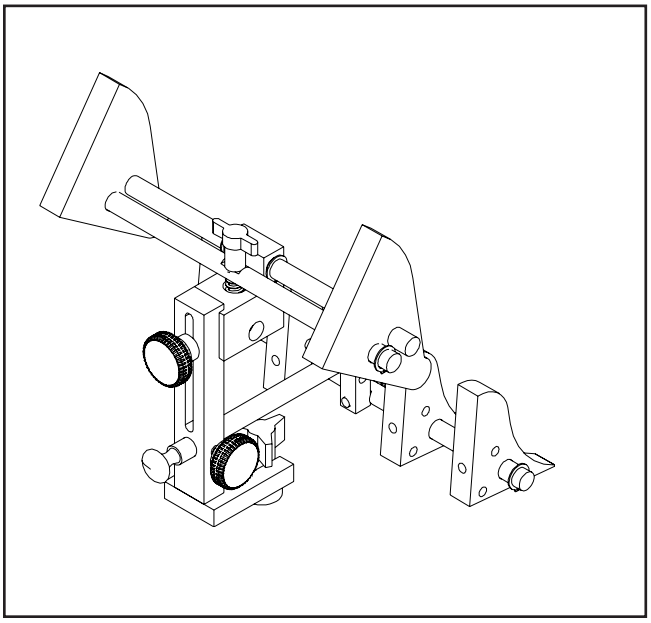
Combination Wedge

When to use:

Product Length:	4 in. to 14 in. (10.16 cm to 35.56 cm)
Product Weight:	Light to Heavy
Product Body:	Flexible or Rigid
Product Friction:	Low to High
Sample Products:	Envelopes, card stock, and booklets

Setup guidelines:

Adjust the back wedge for proper support of the product off the table top, without creating any pinch or stress points. The combination wedge is a two piece design that allows the ability to run difficult material with a full hopper. The top part of the wedge is designed to hold the weight of the stack, and allows the bottom wedge to support only a light stack of product.



7: I/O Detail

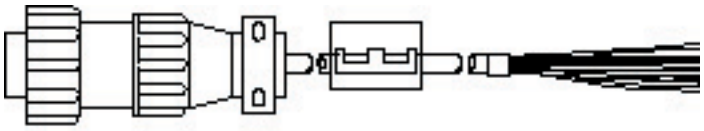
A qualified service technician should perform the electrical integration of this equipment to the host machinery. Always disconnect the AC inlet power cord before performing any service activity.

WARNING!
A qualified service technician should perform the electrical integration of this equipment to the host machinery. Always disconnect the AC inlet power cord before performing any service activity.

I/O Cable Wiring

External I/O Cable Wiring Table

Pin #	Wire Color	Function	Relay #	Relay Type
3	Orange	+24 VDC Supply (150ma. max)	-	
6	Blue	Ready Output (-)	1221	SSR
7	Violet	Ready Output (+)		24 VDC
8	Gray	Fault Output (-)	1110	SSR
9	White	Fault Output (+)		24 VDC
10	Black & Shield	DC Supply Ground	-	
13	Red /Yellow	External Trigger Input (-)	1115	SSR
14	Red / Green	External Trigger Input (+)		24 VDC



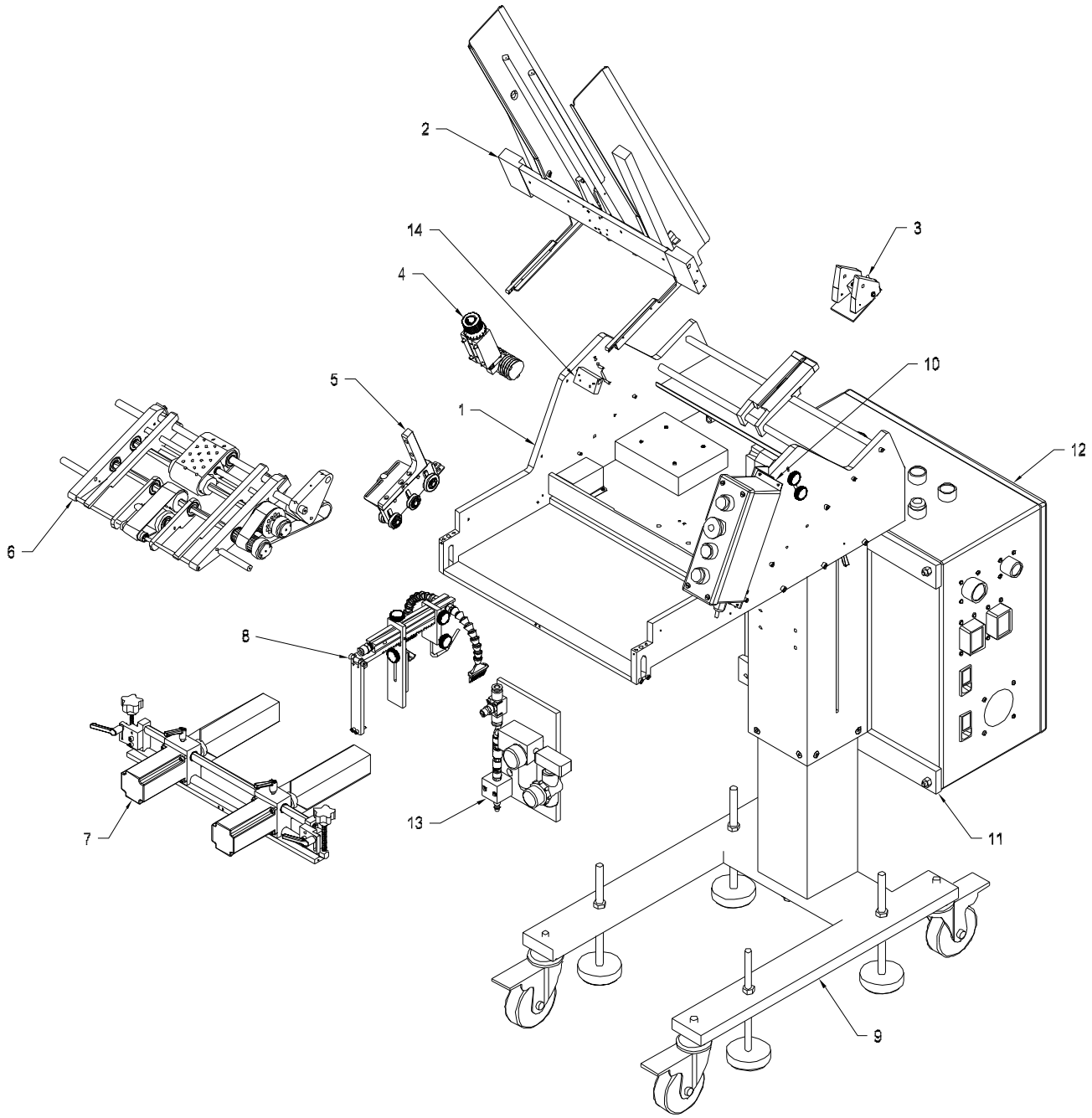
External I/O Cable 649-11-012

Notes

8: Mechanical Components

Starwheel Dropper

ASSEMBLY #13270001



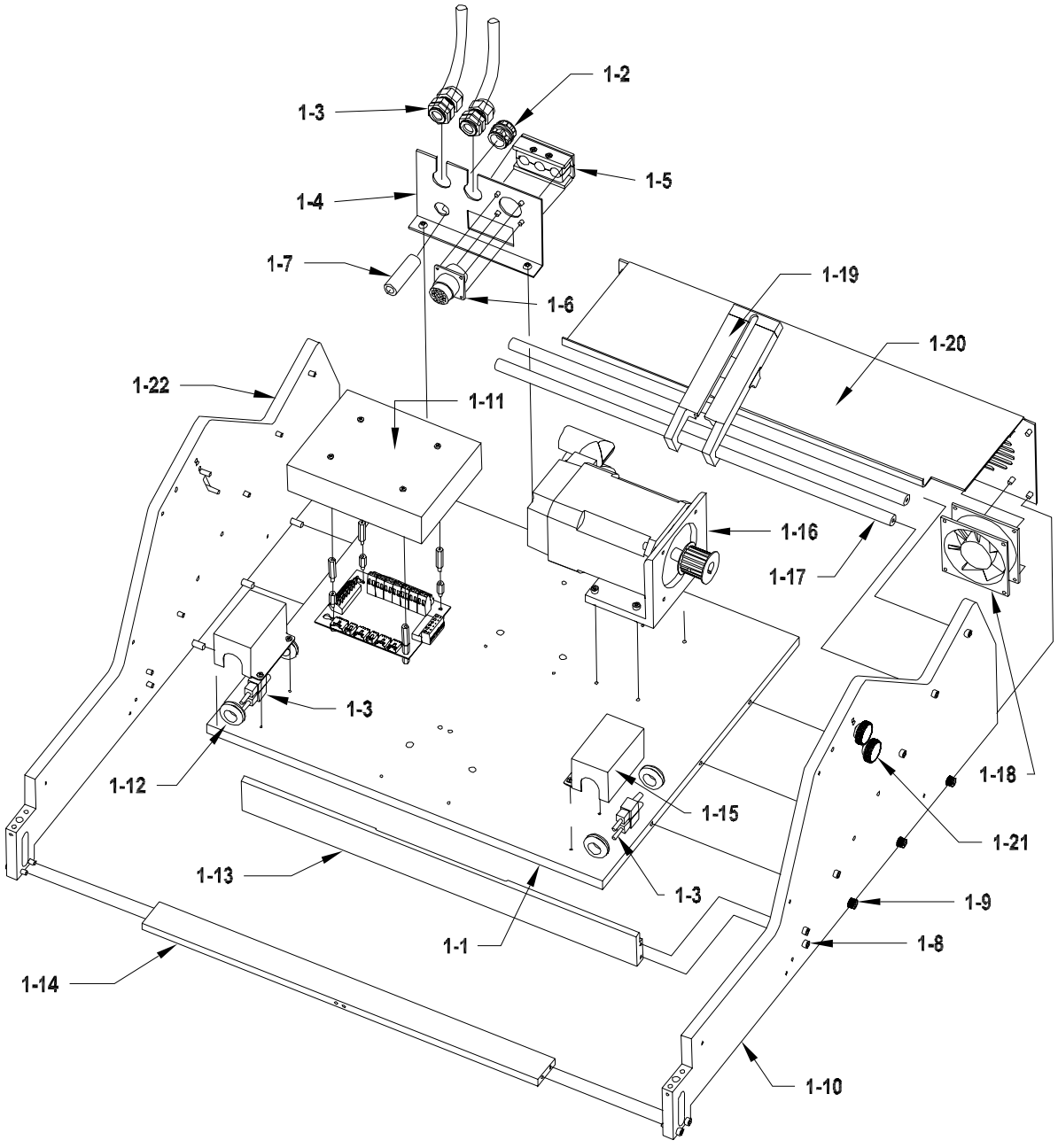
Starwheel Dropper

ASSEMBLY #13270001

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
1	1	Base Assembly	13271101
2	1	Hopper Assembly	13271114
3	1	Compensating Wedge	63311130
4	1	Gate Assembly	13271106
5	1	Hold Down Assembly	13271106
6	1	Carriage Assembly	13271103
7	1	Dropper Assembly	13271104
8	1	Back Stop Assembly	13271116
9	1	Heavy Duty Stand	51021001
10	1	Remote Operator Station	13271108
11	1	Enclosure Mount	
12	1	Control Box	13271102
13	1	Air regulator Assembly	13271117
14	2	Protective Cover Mounting Shaft	44640011
	2	Protective Cover mount	44640012
	4	BHCS, 8-32 x 3/8	00002306
N/S	1	Protective Cover	51327069

Base Assembly

ASSEMBLY #13271101



Base Assembly

ASSEMBLY #13271101

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
1-1	1	Base Plate	44947050
1-2	1	Vacuum 3/8 Bulkhead	51476005
1-3	2	Cable Assy. Dropper Motor	13271109
1-4	1	Bracket Electrical Mounting	51327015
	2	Screw, BHSCS 10-32 x 3/8	00002305
1-5	1	Side Cable Mount RH	44947107
	1	Side Cable Mount LH	44947084
	1	Side Adjust Block	44947086
	1	Side Cable Block	44947085
	2	Flat Head 6-32 X 1-1/2	00002232
1-6	1	Remote Operator Station Harness Assy	13271113
	4	BHCS 8-32 X 1/4	00002210
1-7	1	Vinyl Flex Hose 3/8 ID	44450096
1-8	16	Screw, SHCS 10-32 x 3/4	00002325
1-9	1	SHCS, º-20 x 1	00002390
1-10	1	Side Plate	51327020
1-11	1	Cover, Electrical	51327053
	8	Standoff	53500279
	4	Standoff	44649048
	1	Board, ST I/O Distribution	44700021
	4	Phillips 6-32 X 1/4	00002221
1-12	4	Grommet	51277116
1-13	1	Front Stop Plate	51327011
1-14	1	Front Support Block	44947026
1-15	2	Motor Connector Box	51327054
	4	Phillips 6-32 X 1/4	00002221
	2	Screw, BHSCS 10-32 x 3/8	00002305

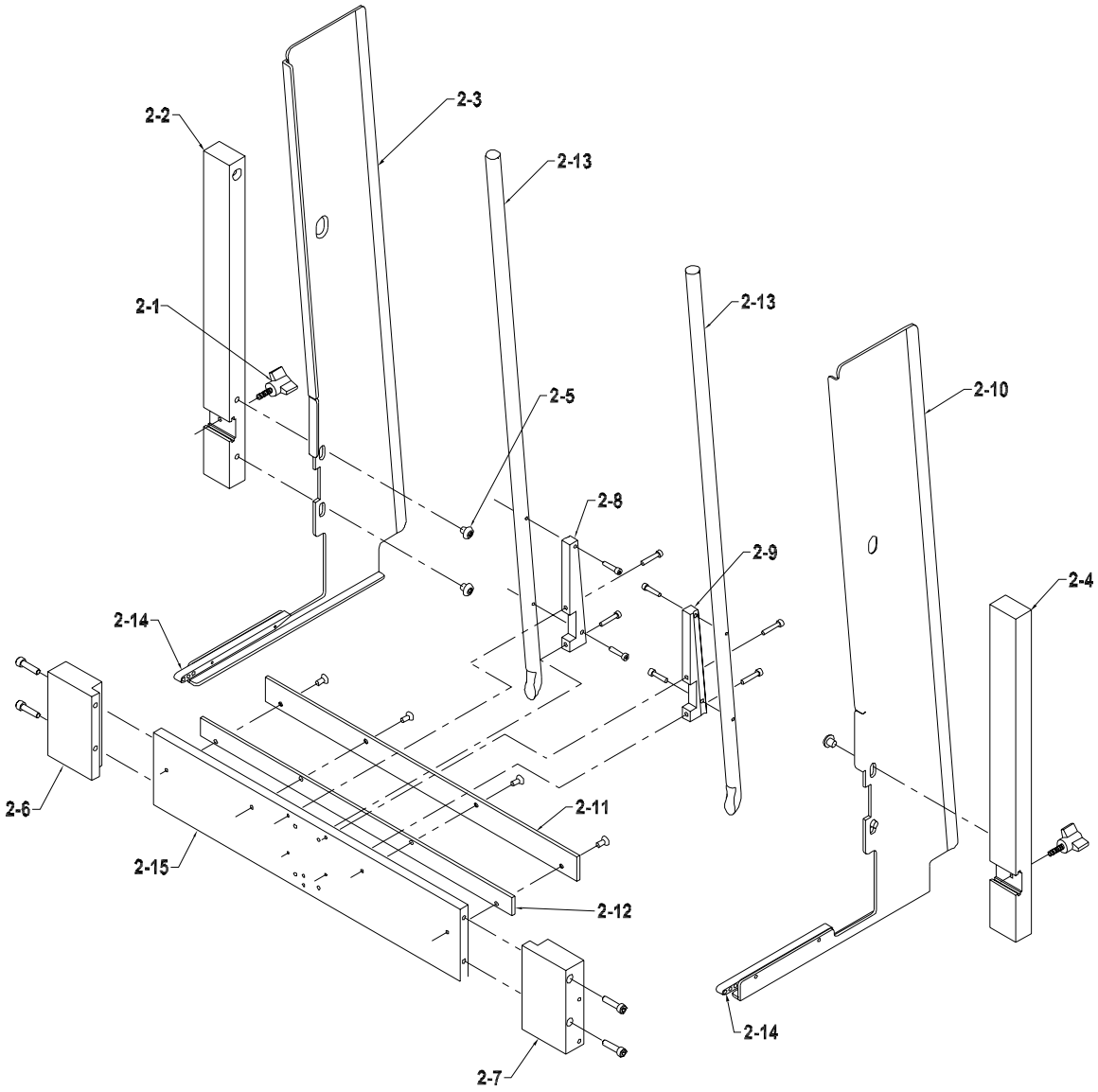
Base continued on next page

Base Assembly (continued)

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
1-16	1	Servo Motor Nema 34	44946005
	1	Motor Pulley	44947030
	1	Motor Mount	51327039
	4	SHCS 10-32 X 5/8	00002320
	4	SHCS 10-32 X 3/4	00002325
1-17	2	Wedge Shaft	44947051
1-18	1	Fan Assembly	13271111
	4	Screw, BHSCS 10-32 x 3/8	00002305
1-19	1	Wedge Block	44759027
	1	Ball Plunger	44681019
1-20	1	Rear Feeder Cover	51327014
	4	Screw, BHSCS 10-32 x 3/8	00002305
1-21	4	1î Round Knob	44681021
1-22	1	Right Side Plate	51327033
NS	4	Screw, SHCS 10-32 x 3/4	00002325
NS	4	Washer	00002608
NS	7	Cable Clamp	51277127
NS	1	Terminal Ring	53500041
NS	4	Cable Clamp	53500581
NS	8	Screw	00002660
NS	8	Washer	00003334
NS	4	Nut	00002104
NS	12	Screw	00002315
NS	6	Screw	00002306
NS	4	Screw	00002202
NS	15	White Cable Tie	23500080
NS	2	Screw	00002216
NS	2	Nut	00002110
NS	1	Remote Bracket	44947128
NS	1	Side plate w/ Tower Lamp	51327053

Hopper

ASSEMBLY #13271114



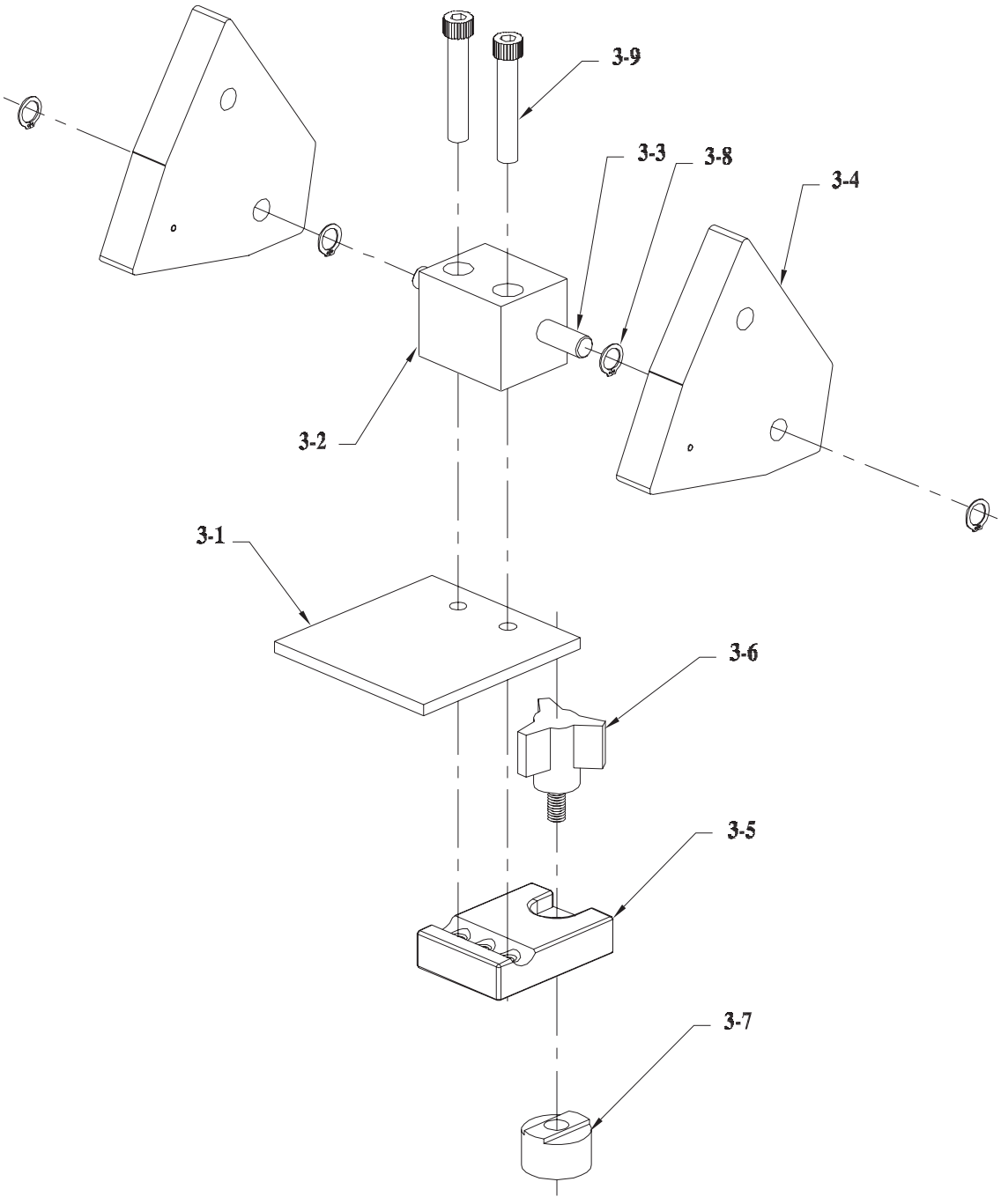
Hopper

ASSEMBLY #13271114

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
1	1	Base Assembly	13271101
2-1	2	3 Lobe Knob	44633033
2-2	1	Right Side Guide Block	51490006
2-3	1	Right Side Guide	51490005
	1	FHCS, ¼-20 x ½	00002237
2-4	1	Left Side Guide Block	51490003
2-5	4	BHCSS/S 1/4-20 X 1/4”	00003391
2-6	1	Right Starwheel Block	51327051
	2	SHCS, 10-32 x ¾	00002325
2-7	2	Left Starwheel Block	51327052
	2	SHCS, 10-32 x ¾	00002325
2-8	1	Pregate Mount RH Block	51327062
	2	SHCSS/S 6-32 X 5/8” LG	00003411
	2	SHCSS/S 6-32 X 3/4” LG	00003412
2-9	1	Pregate Mount LH Block	51327063
	2	SHCSS/S 6-32 X 5/8” LG	00003411
	2	SHCSS/S 6-32 X 3/4” LG	00003412
2-10	1	Left Side Guide	51490004
	1	FHCS, ¼-20 x ½	00002237
2-11	1	Track Bar	51277017
	4	FHSCSS/S 8-32 X 3/8”	00003335
2-12	1	Track Spacer Bar	51277016
2-13	1	Pregate Bar	51327061
2-14	2	Side Guide Deflector	51435011
	4	SHCS, 4-40 x 5/16	00003327
2-15	1	Gate Plate	51277015
NS	2	Accordion Guard	44600001
NS	2	Warning Label	44600005
NS	1	Screw	00002806
NS	1	Cable Clamp	23500078

Load Compensating Wedge

ASSEMBLY #63311130



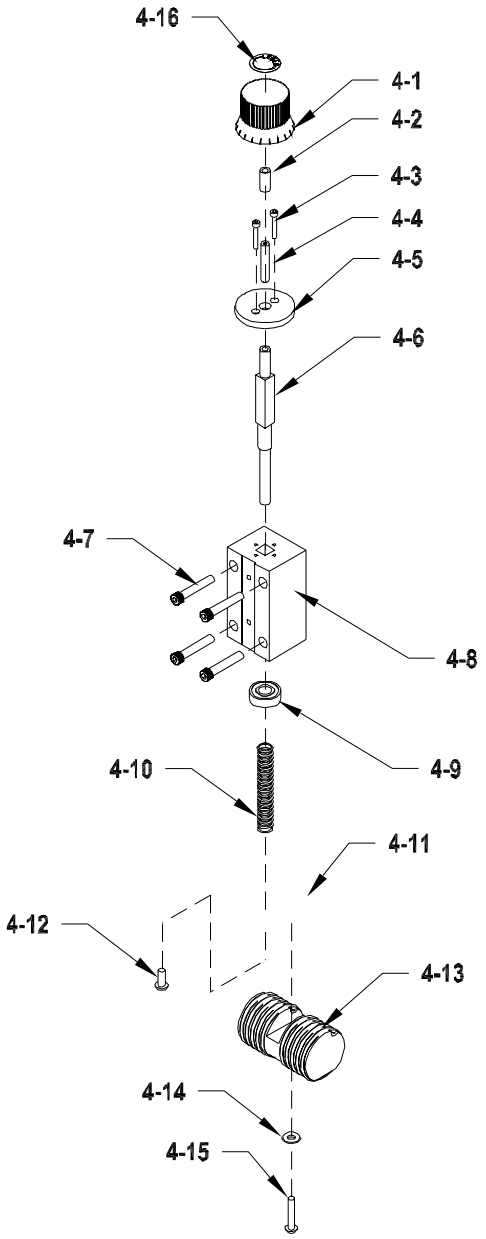
Load Compensating Wedge

ASSEMBLY #63311130

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
3-1	1	Wedge Base	44633011
3-2	1	Wedge Support Block	44633012
3-3	1	Wedge Pivot Shaft	23500133
3-4	2	Wedge	23500130
3-5	1	Wedge Mounting Block	44633014
3-6	1	Medium Knob	23500092
3-7	1	Round Nut	44633016
3-8	1	Grip Ring 1/4” ID	00001105
3-9	1	SHCS 10-32 X 1-1/4 LG	00002312

Gate Assembly

ASSEMBLY #13671124

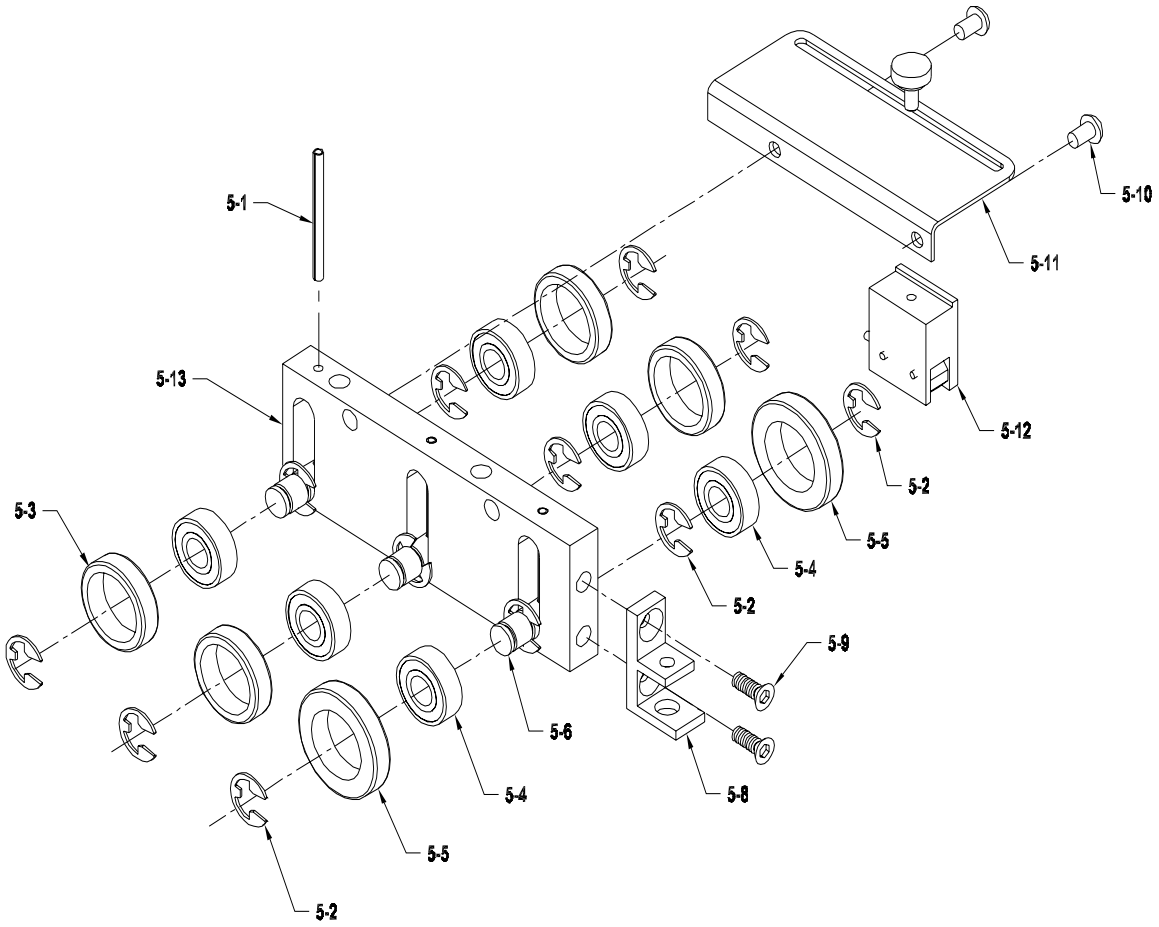


Gate Assembly
ASSEMBLY #13671124

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
4-1	1	Knob	51277083
4-2	1	Knob Insert	51277081
4-3	2	SHCS 5-40 X 3/8 LG	00003418
4-4	1	Screw, Socket Set 1/4-28 X 1-1/4” LG	00003407
4-5	1	Knob Base	51277082
4-6	1	Shaft, Gate Lift	51277026
4-7	4	SHCSS/S 10-32 X 1-1/4”	00003415
4-8	1	Block, Gate Sleeve	51277025
4-9	1	Bearing Ball R6	23500095
4-10	1	Spring, Gate Compression	23500083
4-11	1	Mount, Gate Lift Shaft	15000001
4-12	1	SHCSS/S 10-32 X 1/2” LG	00002815
4-13	1 10	Cylinder, Narrow O Ring Gate O Ring, Standard Gate HDO	51277075 23500104
4-14	1	Washer, Flat #10	00002607
4-15	1	SHCSS/S 10-32 X 1	00002835
4-16	1	Label, Gate Adjust Knob	23500084

Hold Down

ASSEMBLY #13271106



Hold Down

ASSEMBLY #13271106

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
5-1	3	Hold Down Spring Pin	51277077
5-2	12	E Clip, 3/8 Inch Shaft	00001150
5-3	4	Discharge Roller Collar	51277087
5-4	6	R6 Ball Bearing	23500095
5-5	2	Rear Discharge Roller Collar	51277088
5-6	3	Hold Down Shaft	51327001
5-7	3	Hold Down Spring	51277090
5-8	1	Hold Down Mount	51312001
5-9	2	FHCS 10-32 X 1/2	00002330
5-10	2	BHCS 10-32 X 3/8” LG SST	00002805
5-11	1	Sensor Bracket/Sheet Sensor Assembly	13271110
5-12	1	Sheet Sensor Mount	51327006
5-13	1	Hold Down Block	51435003

Carriage

ASSEMBLY #13271103

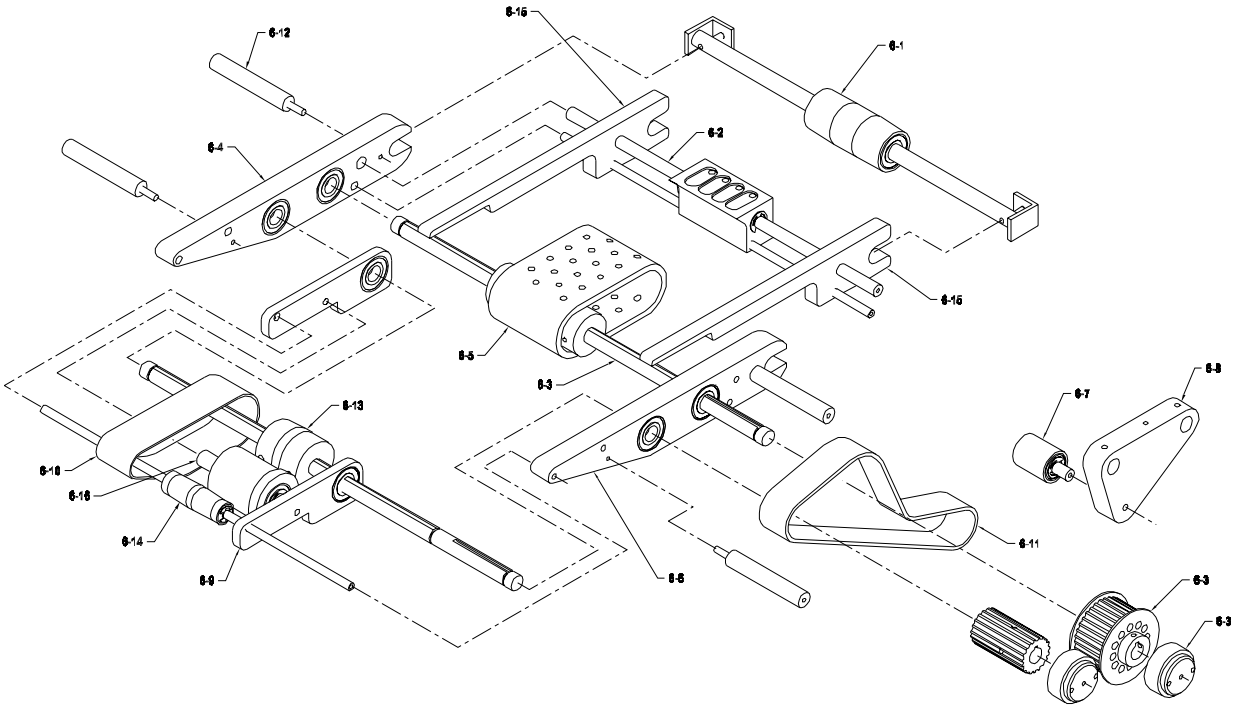


DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
6-1	1	Idler Shaft	43555147
	1	Driven Tube	44947041
	2	R8 Ball Bearing	23500094
	2	Grip Ring 1/2 Waldes	00001115
	2	Tension Block	44947148
	2	SHCS 10-32 X 3/4	00002325
6-2	1	Vacuum Support Shaft	44947049
	1	Manifold	44947038
	2	Clip E 3/8	00001150
	1	90 Degree Brass Hose Nipple	44450085
	3 FT	Vinyl Flex Hose 3/8 ID 19/32 OD 250 PSI	44450026
	1	Vacuum Support Shaft	44947048
	1	Vacuum Connector 3/8	44450086
6-3	1	Timing Pulley 18L050	44947029
	1	Key Stock 1/8	44852080
	1	Holder Outboard Bearing Cup	23500032
	1	R8 Ball Bearing	23500094
	1	Lower Discharge Drive Shaft	51327008
	3	Flat Drive Roller	33500031
	1	E Clip, 1/2 Inch Shaft	00001155
	6	Screw Socket Set 10-32 X 5/16” LG	00002217

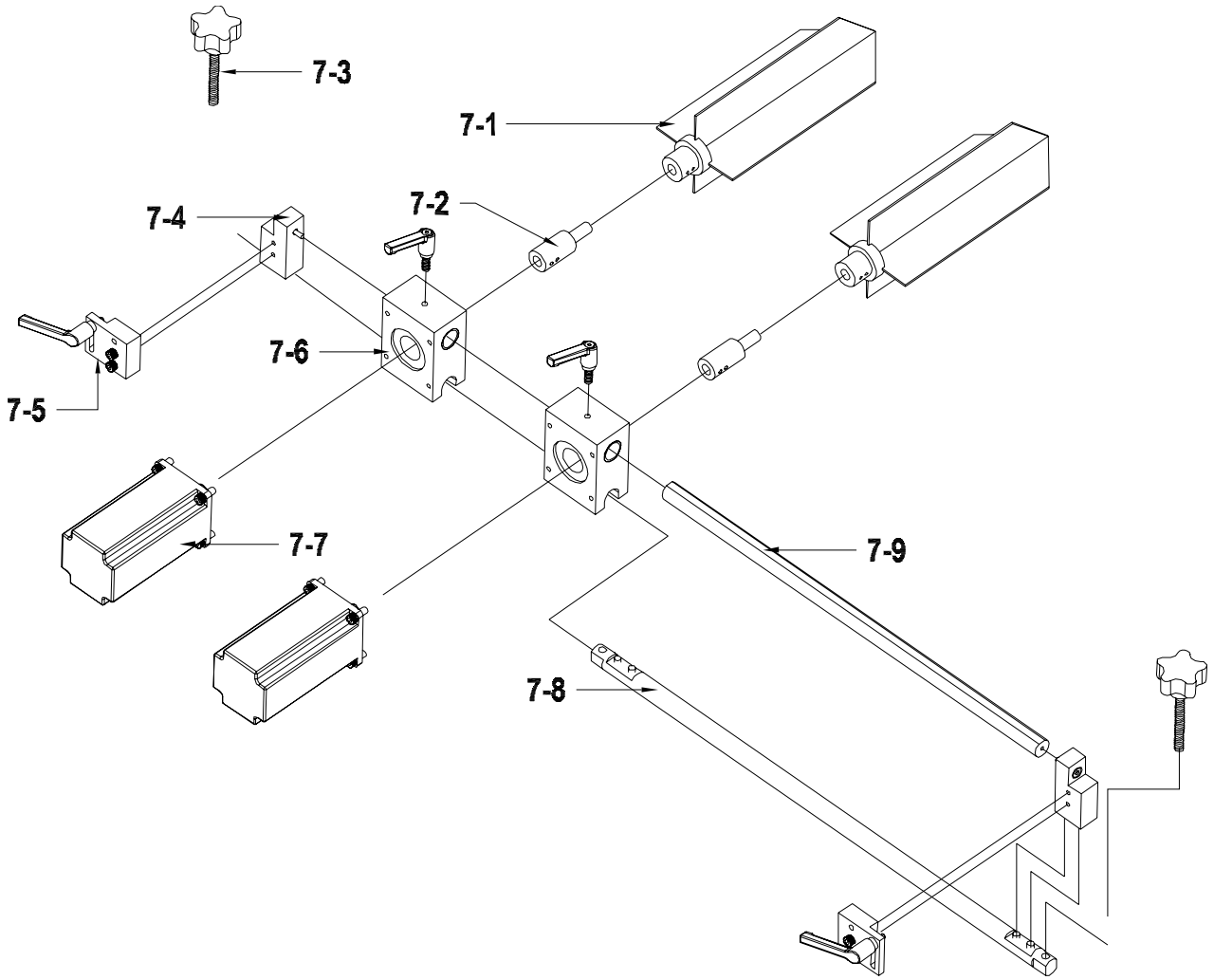
Carriage continued on next page….

Carriage (continued)

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
6-4	1	Right Side Carriage Holder	51327057
	2	R8 Ball Bearing	23500094
	4	Screw, BHSCS 8-32 x 3/4	00003322
6-5	1	Vacuum Feed Belt, BlueGum	44947037
6-6	1	Left Side Carriage Holder	51327056
	4	R8 Ball Bearing	23500094
	4	Screw, BHSCS 8-32 x 3/4	00003322
6-7	1	Tensioner Shaft	51327041
	1	Tensioner Roller	44947204
	2	E Clip, 1/2 Inch Shaft	00001155
6-8	1	Belt Tensioner	51327040
	1	SHCS 10-32 X 1/2	00002315
	2	Set Screw 10-32 X 1/4	00002216
6-9	2	Hold Down Support	51435004
	2	R8 Ball Bearing	23500094
	2	Set Screw 10-32 X 1/4	00002216
6-10	2	Lower Discharge Belt	51435005
6-11	1	Timing Belt 5MR500-25	44947032
6-12	4	Carriage Spacer	44947033
	4	Set Screw 10/32 x 1	00002201
6-13	1	Holder Outboard Bearing Cup	23500032
	1	R8 Ball Bearing	23500094
	1	Discharge Pulley	44947173
	1	Key Stock 1/8	44852080
	1	Lower Discharge Drive Shaft	51327008
	1	Top Discharge Roller	23560106
	4	Set Screw 10-32 X 1/4	00002216
	2	E Clip, 1/2 Inch Shaft	00001155
6-14	1	Discharge Shaft	51435008
	1	Discharge Idler Roller	51435007
	2	R4 Ball Bearing	44582021
	2	E Clip, 1/4 Inch Shaft	00001145
6-15	2	Extended Support Rail	51327059
6-16	1	Double Detect Shaft	51435006
	1	Double Detect Roller	51277068
	2	R8 Ball Bearing	23500094
	2	E Clip, 1/2 Inch Shaft	00001155
	2	SHCS, 10-32 x ¾	00002325

DROPPER

ASSEMBLY #13271104

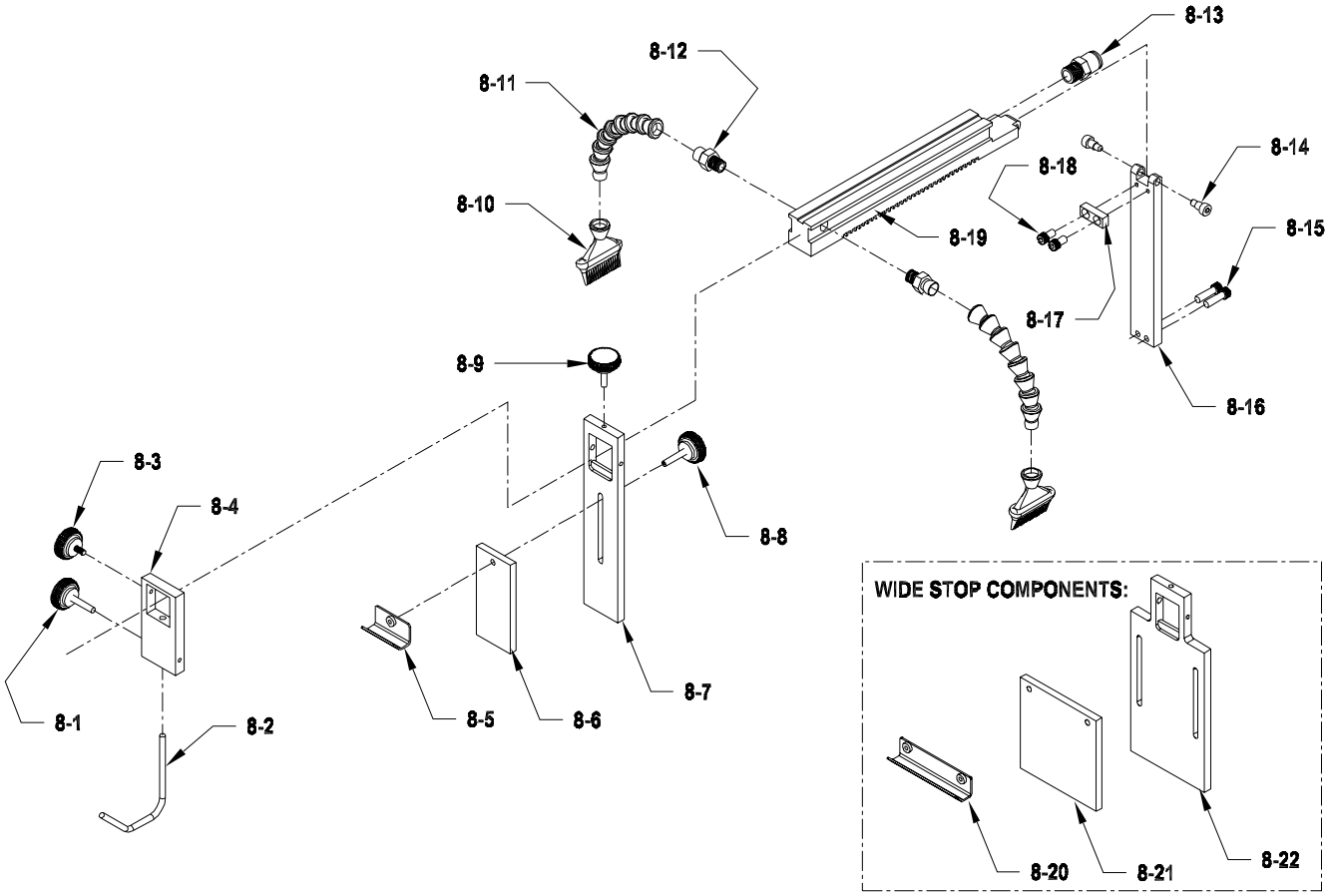


DROPPER
ASSEMBLY #13271104

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
7-1	2	Dropper Fins	44947025
	4	Set Screw 8-32 X 3/16	00003337
7-2	2	Motor Extension Shaft	51327005
	4	Set Screw 8-32 X 3/16	00003337
7-3	2	5 Lobe Knob	44947019
	6.5”	Threaded Rod 5/16-18	44947018
7-4	2	Center Support Block	51327012
	2	FHCS 10-32 X 7/8	00002341
7-5	2	Adjustment Locking Bracket	44947023
	2	Ratchet Handle 10/32 x 1/2	43555097
	4	SHCS 10-32 X 1	00002335
7-6	2	Motor Slide Block	51327004
	2	Ratchet Handle	44947153
	4	Igus Bearing	44947015
	8	Washer	00002608
7-7	2	Motor	51327013
	8	SHCS 10-32 X 1/2	00002315
7-8	1	Adjustment Shaft	44947014
	4	SHCS 10-32 X 1/2	00002315
7-9	1	Rotating Shaft	44947006

Back Stop

ASSEMBLY #13271116



Back Stop

ASSEMBLY #13271116

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
8-1	1	Knob Plastic 10-32	44681021
	1	Socket Screw 10-32 X 1-1/4	00002202
8-2	1	Discharge Knock Down	44947105
8-3	1	Knob Plastic 10-32	44681021
	1	Screw Socket 10-32 X 3/4 Nylon Tip	44681020
8-4	1	Knock Down Block	44947139
8-5	1	Narrow Knock Down Plate	44947161
8-6	1	Narrow Gum Rubber	44947186
8-7	1	Narrow Stop Bracket	44947141
8-8	2	Knob Plastic 10-32	44681021
	2	Screw Socket 10-32 X 1-1/4 (Second Set is for Wide Stop)	00002202
8-9	2	Knob Plastic 10-32	44681021
	2	Screw Socket 10-32 X 1 (Second Set is for Wide Stop)	00002201
8-10	2	Locline Swivel Nozzle	44813002
8-11	16	Locline Adjustable 1/4	44608041
8-12	2	Locline NPT Connector 1/4 X 1/8	44608042
8-13	1	Tube Fitting 3/8 Tube to 1/4 NPT Male	44450084
8-14	2	Shoulder Bolt 1/4 X 1/4 10-32 X 1/4” LG	44854033
8-15	2	SHCS 10-32 X 3/4” LG	00002325
8-16	1	Stop Mounting Bracket	44947036
8-17	1	Stop Support Block	44947116
8-18	2	SHCS 10-32 X 1” LG	00002335
8-19	1	Block	44947140
8-20	1	Wide Knock Down Plate	44947122
8-21	1	Wide Gum Rubber	44947135
8-22	1	Wide Stop Bracket	44947138

Heavy Duty Stand

ASSEMBLY #51021001

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
9-1	1	Heavy Duty Stand Parts Break Down Available On Request	

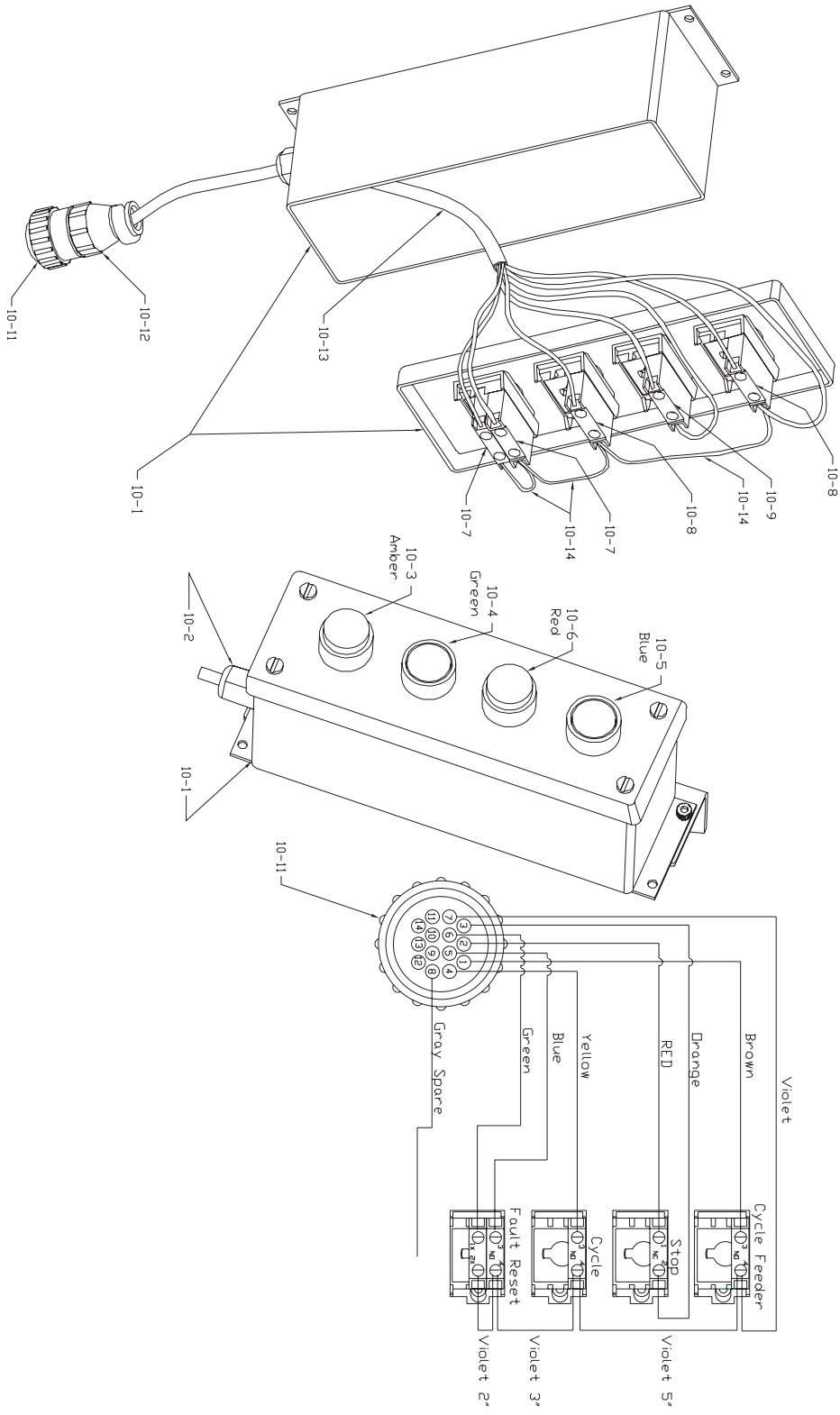
Remote Operator Station

ASSEMBLY #13271108

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
10-1	1	Enclosure 4 Button	44946004
10-2	1	Cord Grip	53500546
10-3	1	Amber Illuminated PB Extended	53500548
10-4	1	Green Push Button Flush	53500519
10-5	1	Blue Push Button Flush	51327064
10-6	1	Red Push Button Flush `	51241012
10-7	1	Contact Block Illuminated Amber NO	51327047
10-8	2	Contact Block NO	53500523
10-9	1	Contact Block NC	51327025
10-10	8	Contact Pin Male Amp	53500502
10-11	1	Connector 14 Pin AMO Female	44649028
10-12	1	Hood 14 Pin AMP	44649029
10-13	55”	Cable 10 Conductor (IN)	53500510
10-14	10”	Wire 22 Awg Violet	53500214
NS	13	Ferrule White	53500235

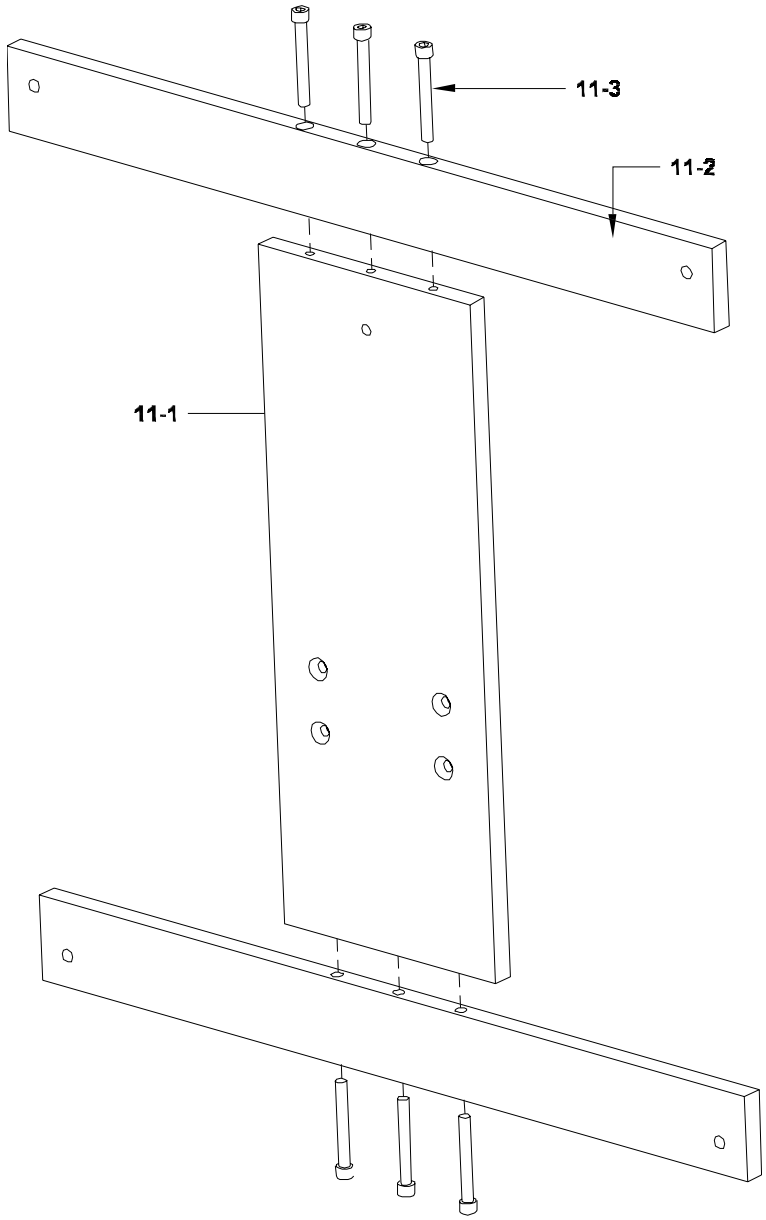
Remote Operator Station

ASSEMBLY #13271108



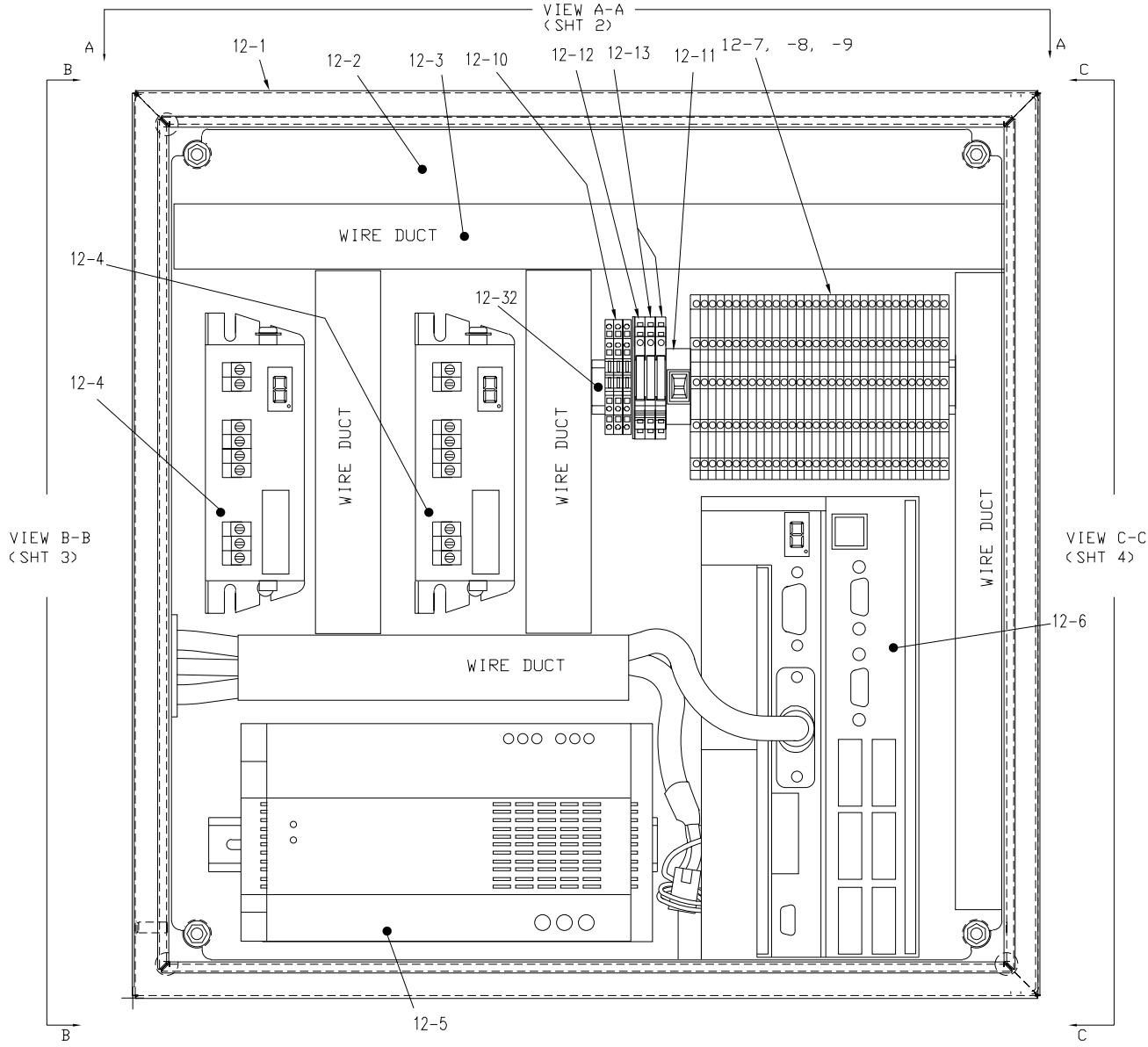
Enclosure Mount

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
11-1	1	Enclosure Bracket	51327045
11-2	2	Lower Enclosure Bracket	51327046
11-3	6	SHCS 1/4-20 X 2	00002395



Control Panel

ASSEMBLY #13271102



Control Panel (continued)

ASSEMBLY #13271102

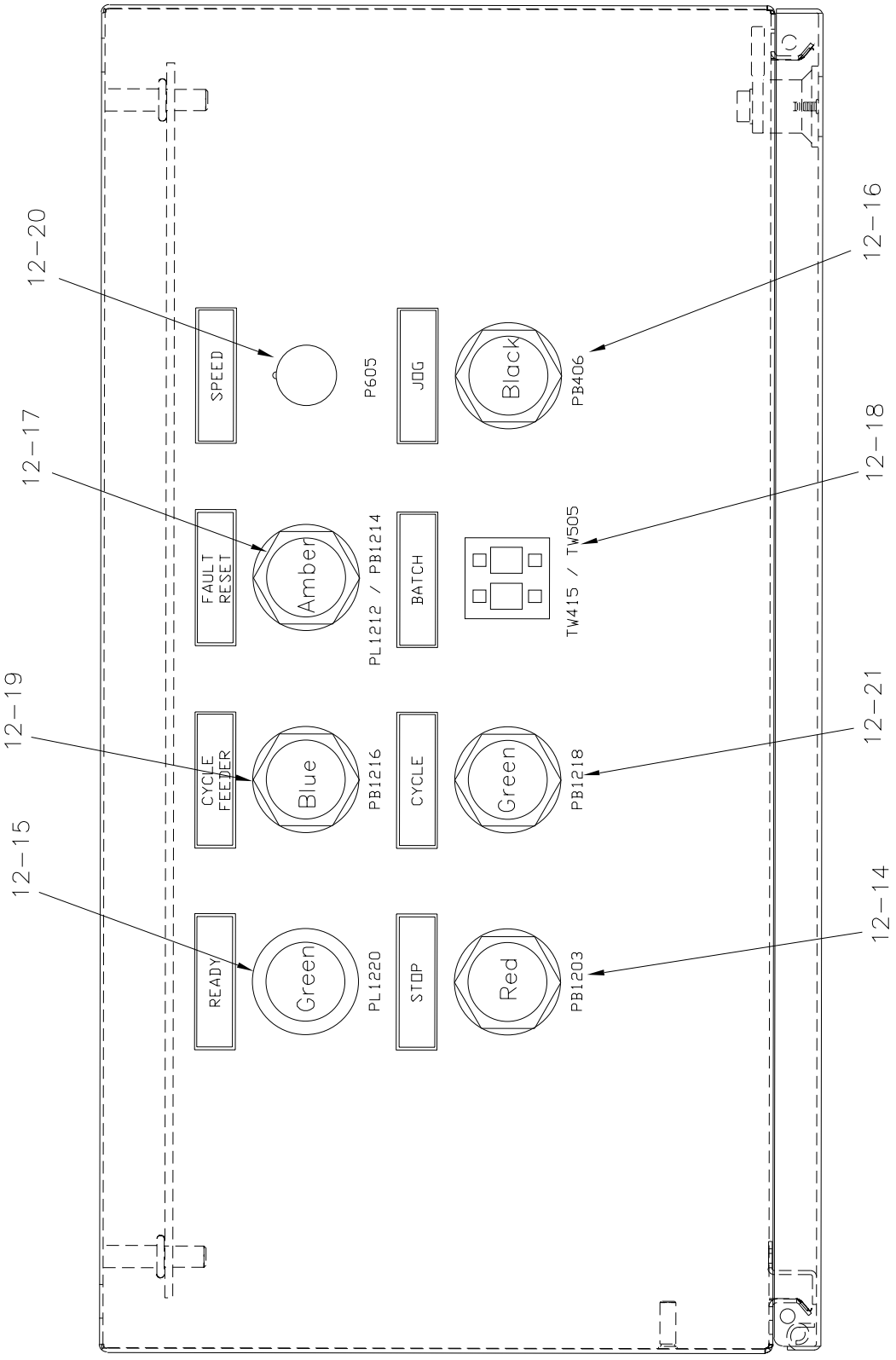
DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
12-1	1	Electrical Enclosure	51327050
12-2	1	Enclosure, Panel	51327024
12-3	6’	Wire Duct 1 inch W x 1.5 inch H	51327036
	6’	Wire Duct Cover 1 inch W	51327037
12-4	2	ServoStar PD Drive 5A	51327022
12-5	1	Power Supply, Switching 24VDC 240W	51208136
12-6	1	ServoStar SC Drive 6A	51327021
	1	Servo Cable Set Kollmorgen	44946006
	1	Ferrite Bead 0.75id x 0.5w	51208248
12-7	27	Terminal Block WAGO 3-Tier Gray	51327031
12-8	57	Adjacent Jumper	51327058
12-9	1	Terminal Block Side Plate	51327032
12-10	3	Terminal Block WAGO Green/Yellow	51327028
	1	Terminal Block WAGO Side Plate	51327009
12-11	1	Din Mount Switch WAGO	51327029
	1	Din Mount Switch Base WAGO	51327030
12-12	2	PLC Relay Form C	51241005
12-13	3	PLC Relay Solid State	51241006
12-14	1	Red Push Button (Extended)	51241012
	1	Contact, Block NC	51327025
12-15	1	Green Lamp 22mm 24VDC	51327027
12-16	1	Black Push Button (Flush)	51241011
	1	Contact, Block NO	53500523
12-17	1	Amber Illuminated Button Extended	53500548
	1	Contact, Block Ill Amber NO	51327047
12-18	2	Thumbwheel BCD Switch	44699013
	1	Right Side Plate	44699014
	1	Left Side Plate	44699015
12-19	1	Blue Push Button (Flush)	51327064
	1	Contact, Block NO	53500523

Control Panel (continued)

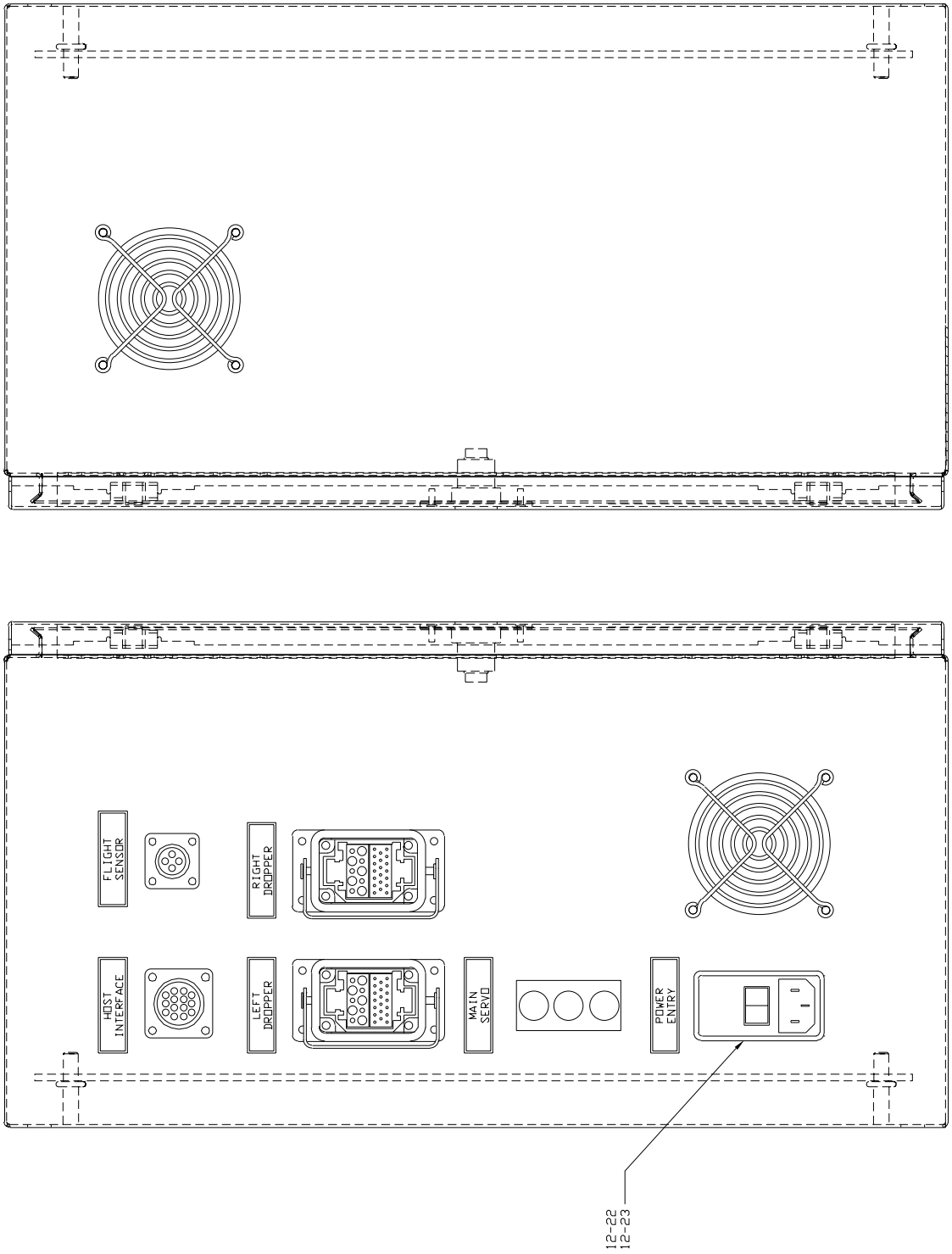
DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
12-20	1	Potentiometer, 10K	53500339
	1	Resistor, 15K 1/4 Watt	51327026
	1	Knob, 3/4 dia 1/4 inch Blind Hole	44675030
12-21	1	Green Push Button (Flush)	53500519
	1	Contact, Block NO	53500523
12-22	1	AC Power Entry Module w/o Fuses	44649034
12-23	1	Fuse, 10A 125v Fast GMA 5x20mm	53500455
NS	1	Fan, 1 inch x 3.15 inch Axial 24VDC	51327038
NS	2	Metal Fan Guard	53500281
NS	1	Power Cord, 115 VAC IEC 3 Prong	53500002

Continued next page

Control Panel (continued)

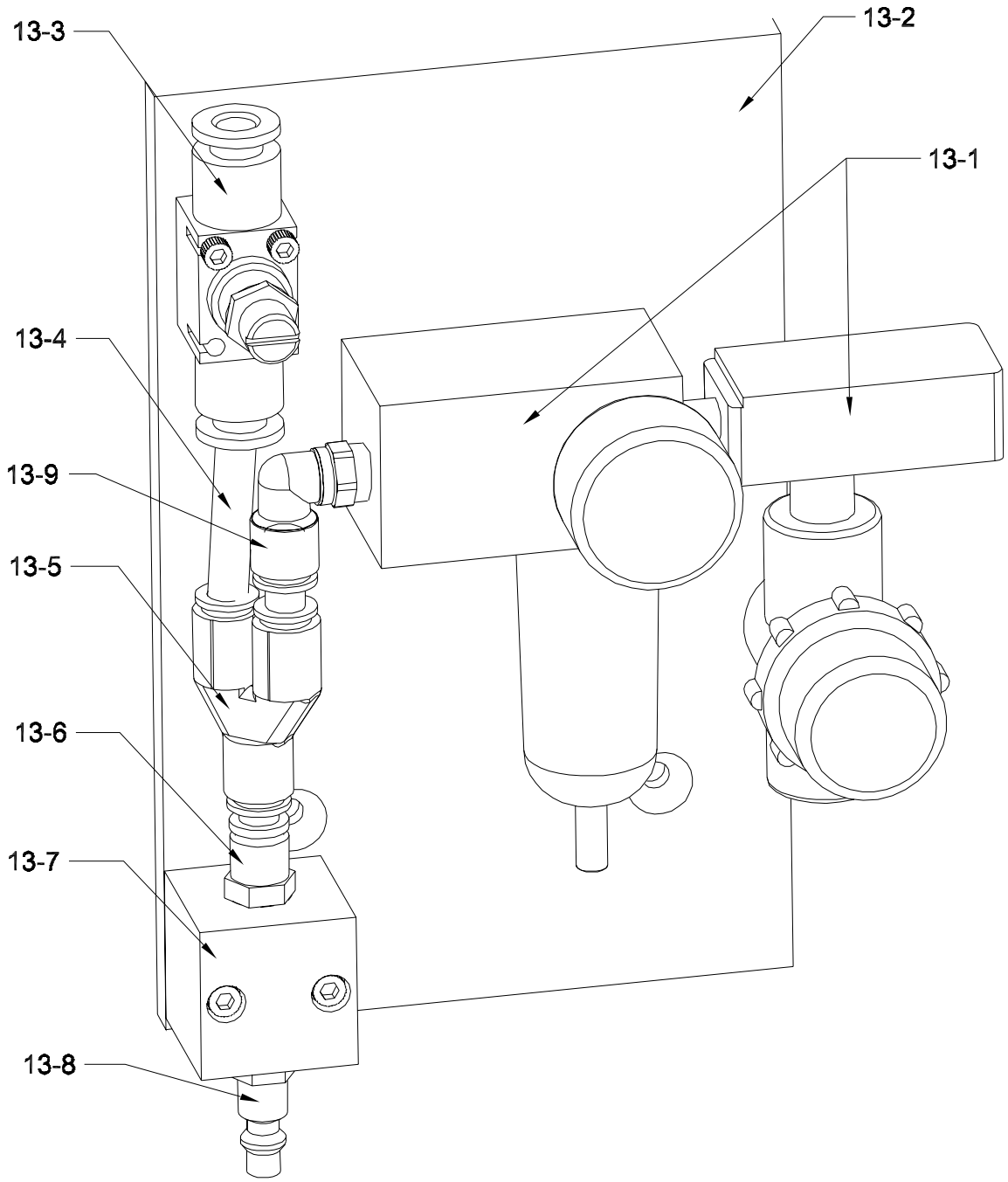


Control Panel (continued)



Air Regulator Assembly

ASSEMBLY #13271117



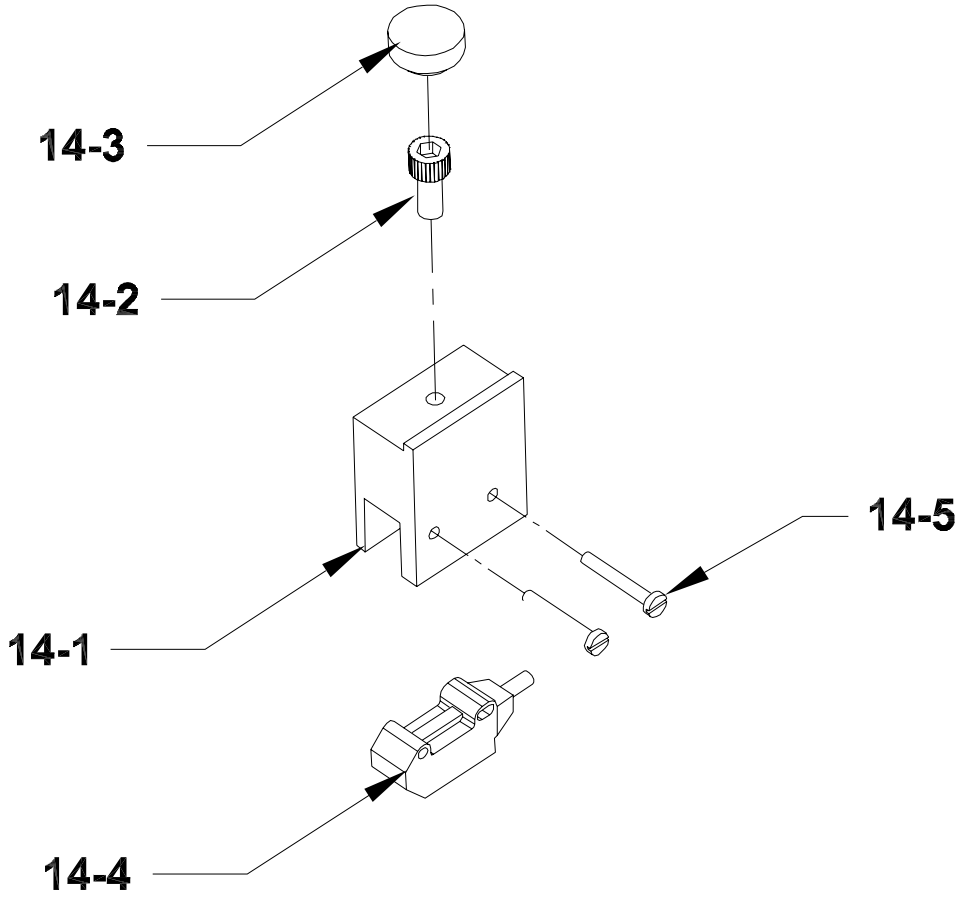
Air Regulator Assembly

ASSEMBLY #13271117

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
13-1	1	Venturi Vacuum Generator	44450072
	2	Screw, SHCS 8-32 x 1-1/2	00002333
13-2	1	Air Mounting Plate	51327066
	2	Screw, FHSCS 1/4-20 x 3/4	00003395
13-3	1	Flow Control Inline Valve 3/8 Tube	44450097
	2	Screw, SHCS 8-32 x 1	00002303
13-4	70”	Polyurethane Tubing 3/8od 1/4id Black	44450096
13-5	1	Tube Y Fitting 3/8 Tube to 3/8 Tube	44450094
13-6	1	Tube Fitting 3/8 Tube to 1/4 NPT Male	44450084
13-7	1	Air Mounting Block	51327067
	2	Screw, SHCS 10-32 x 1-1/4	00002312
13-8	1	Air Fitting	44813006
13-9	1	Elbow	44450085

Sensor Bracket/Sheet Sensor

ASSEMBLY #13271110



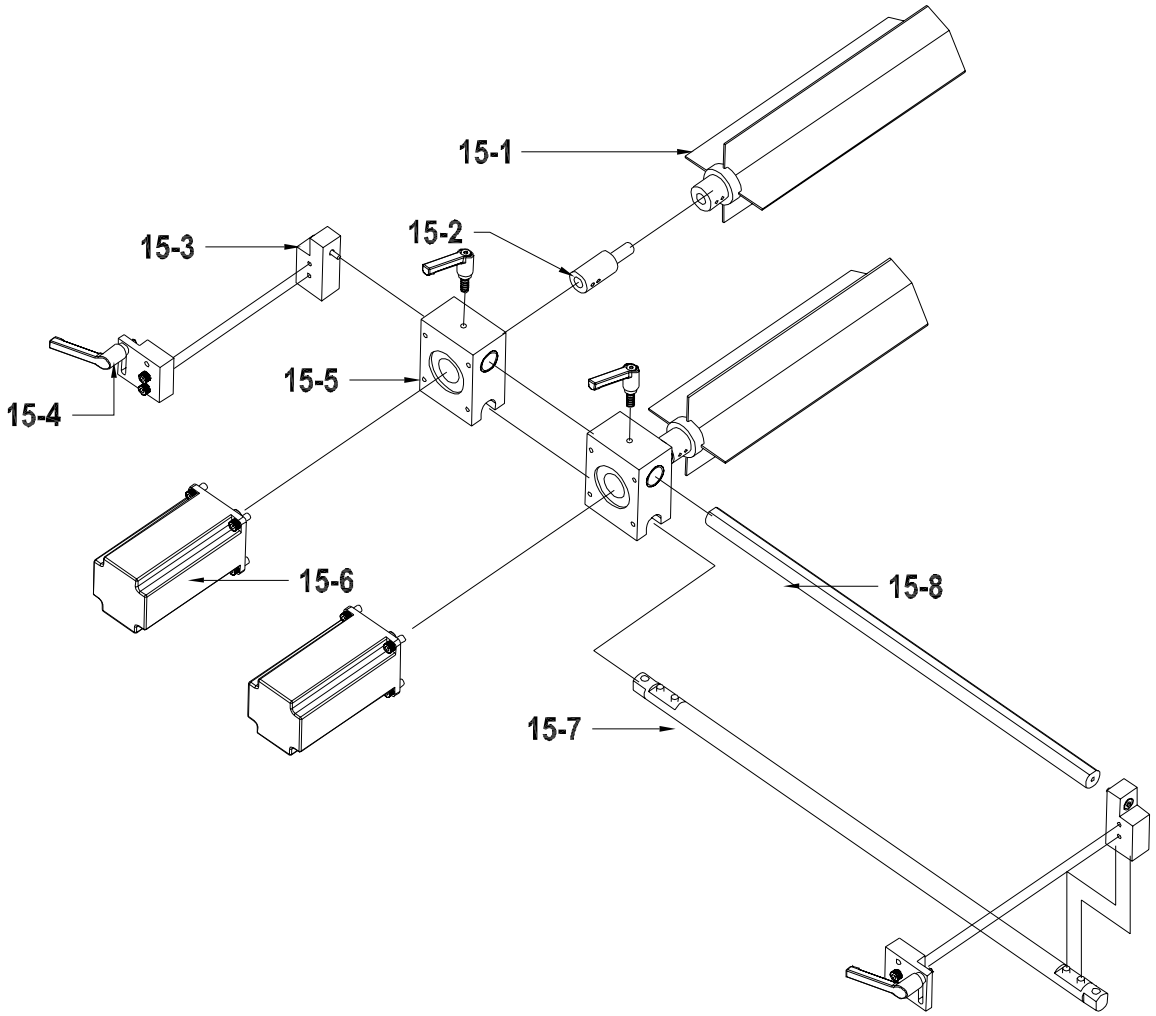
Sensor Bracket/Sheet Sensor

ASSEMBLY #13271110

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
14-1	1	Photo Eye Bracket	51277085
14-2	1	Screw, SHCS 8-32 x 3/8	00002213
14-3	1	Knob 1/2” Dia #8 w/o Screw	435SO270
14-4	1	Sensor Infrared	51277140
14-5	2	Screw, Round Head Slotted 2-56 X 5/8” LG	00002505
NS	1	Connector 4-Pin Molex Housing	44649023
NS	3	Connector Female Molex Pin	44649019

OPTIONAL EXTENDED STARWHEEL KIT

ASSEMBLY #13271122



OPTIONAL EXTENDED STARWHEEL KIT

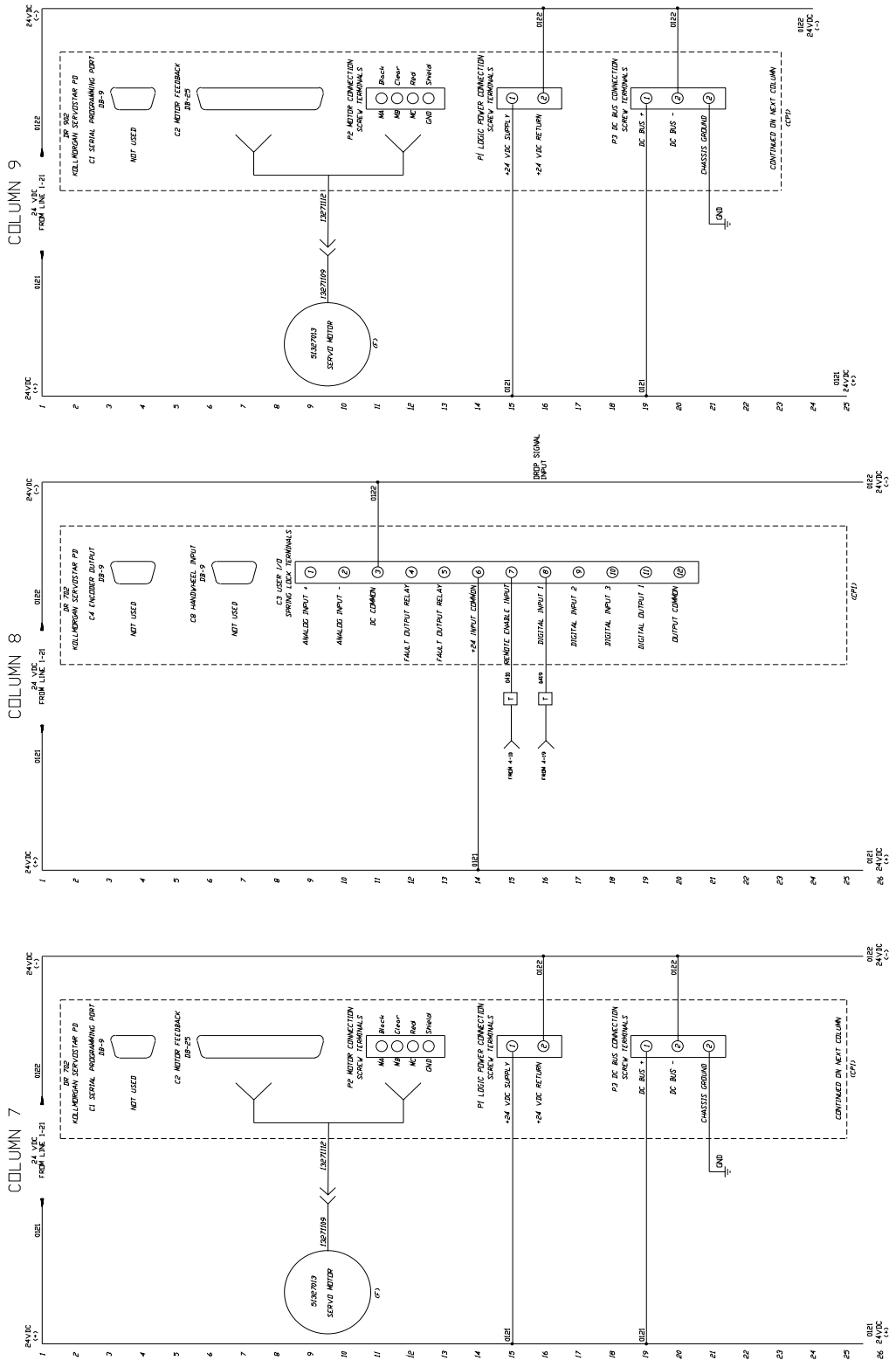
ASSEMBLY #13271122

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
15-1	2	Dropper Fins	44947212
	4	Set Screw 8-32 X 3/16	00003337
15-2	2	Motor Extension Shaft	51327005
	4	Set Screw 8-32 X 3/16	00003337
15-3	2	Center Support Block	51327012
	2	FHCS 10-32 X 7/8	00002341
15-4	2	Adjustment Locking Bracket	44947023
	2	Ratchet Handle 10/32 x 1/2	43555097
	4	SHCS 10-32 X 1	00002335
15-5	2	Motor Slide Block	51327004
	2	Ratchet Handle	44947153
	4	Igus Bearing	44947015
	8	Washer	00002608
15-6	2	Motor	51327013
	8	SHCS 10-32 X 1/2	00002315
15-7	1	Adjustment Shaft	44947014
	4	SHCS 10-32 X 1/2	00002315
15-8	1	Rotating Shaft	44947006

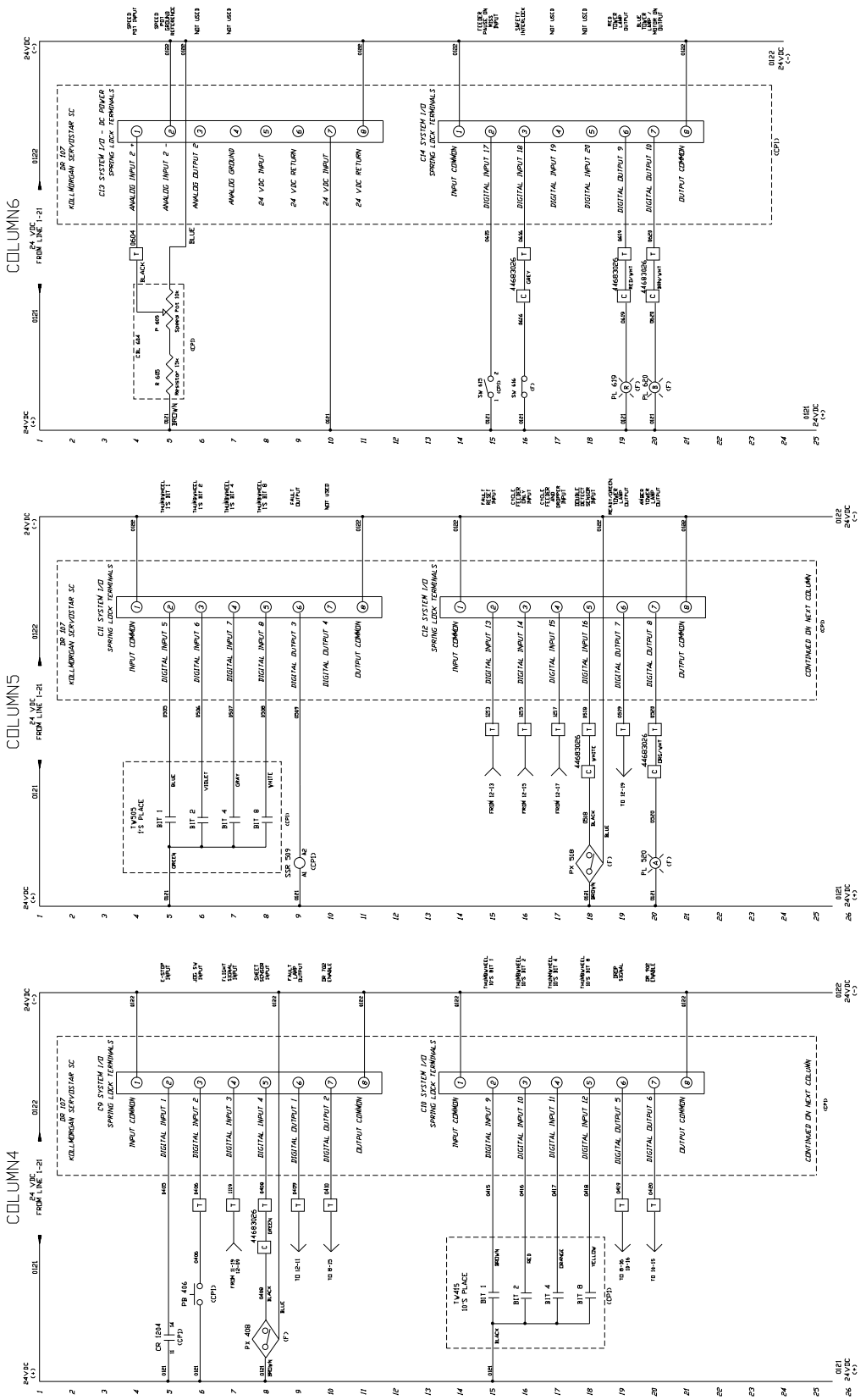
Notes

8: Electrical Components

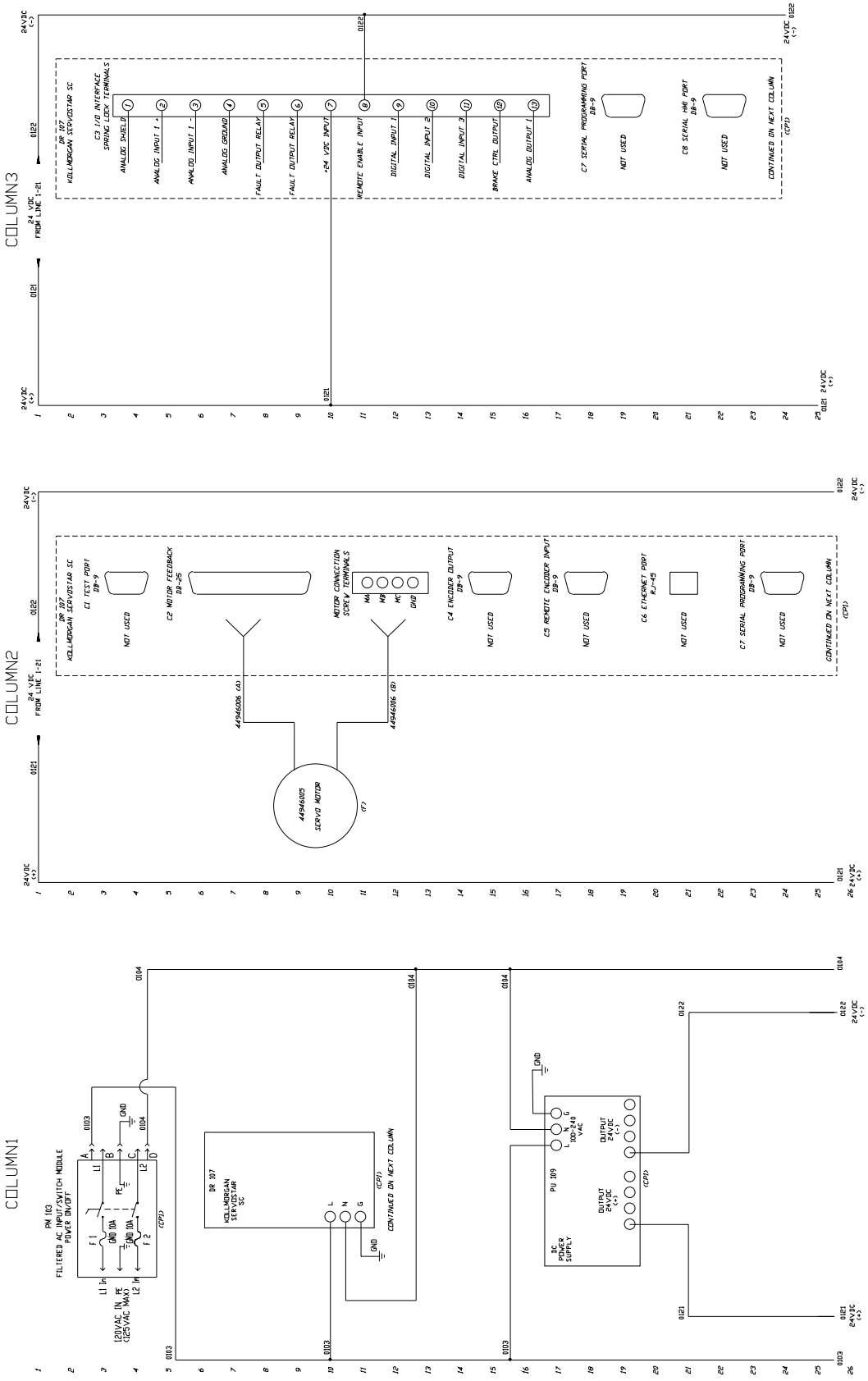
Control Detail



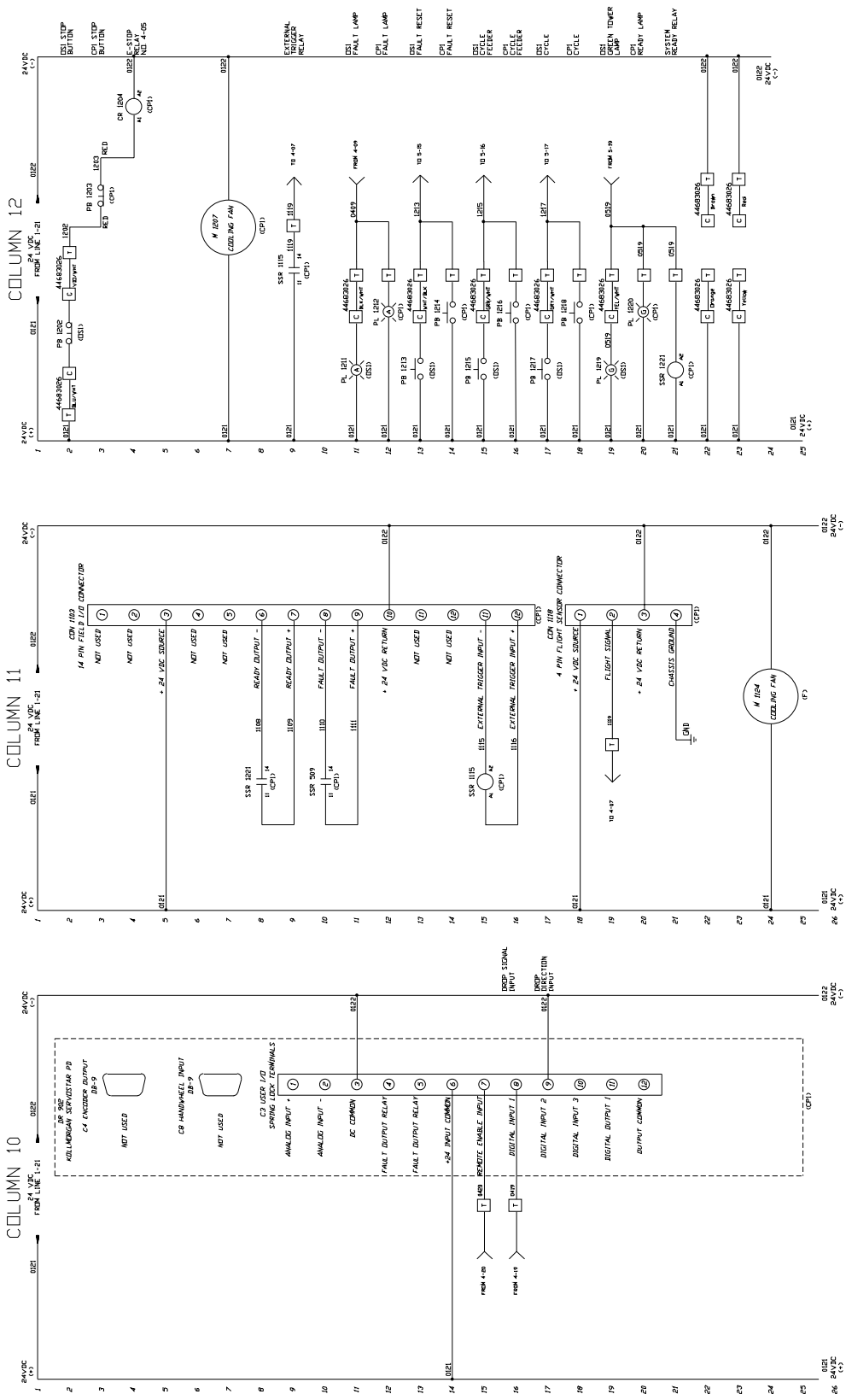
Control Detail (continued)



Control Detail (continued)



Control Detail (continued)



WARRANTY

STREAMFEEDER® LIMITED WARRANTY

Streamfeeder, LLC (Streamfeeder) warrants this product to be free from defects in materials and workmanship, when used under recommended operating conditions, for a period of one year from the date of original retail purchase.

If you discover a defect during the warranty period, please notify the authorized Streamfeeder distributor from whom you purchased this product, who will make repairs at no charge to you. If the defect is not field-repairable, and if you return it to Streamfeeder during the warranty period, Streamfeeder will, at its sole option, repair or replace this product, at no charge to you other than shipping charges to and from the Streamfeeder facility in Minneapolis, Minnesota.

If you return this product to Streamfeeder for warranty repair or replacement, please attach to the returned product your name and your company's name, address, telephone number and fax number; a description of the problem; and a copy of the bill of sale or invoice that shows the appropriate serial number for the product. All returns must be accompanied by an authorized Streamfeeder Returned Goods Authorization (RGA) number. An authorized RGA number can be obtained from Streamfeeder Sales/Service Department.

This warranty applies only to products manufactured by Streamfeeder. This warranty does not apply if the product has been damaged by accident, abuse, misuse, neglect, improper maintenance, misapplication, or as a result of being attached to equipment not supplied by Streamfeeder; if the product has been modified without the written permission of Streamfeeder; or if the product's serial number has been removed or defaced. This warranty further does not apply to the failure of any rubber-based or consumable components, including but not limited to "O" rings, rollers, feed belts, fuses, or bulbs.

ALL IMPLIED WARRANTIES INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND THE IMPLIED WARRANTY OF MERCHANTABILITY ARE HEREBY DISCLAIMED.

Streamfeeder is not responsible for special, incidental, or consequential damages resulting from any breach of warranty or under any other legal theory, including lost profits, downtime, goodwill, or damage to or replacement of equipment or property.

This warranty and the remedies set forth above are exclusive and are in lieu of all others, oral or written, express or implied. There are no warranties that extend beyond the description on the face hereof. No Streamfeeder employee, distributor, or agent is authorized to make any modification, extension, or addition to this warranty.

Notes

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