Servo Series SV-1200

Manual

Thiele Technologies
A Barry-Wehmiller Company

Streamfeeder®

Part Number: 00900479

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Before You Begin

Message Conventions

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.

The CE mark signifies that this product complies with the European requirements for safety, health, environment and customer protection.

WARNING LABELS affixed to this product signify an action or specific equipment area that can result in serious injury or death if proper precautions are not taken.

BEFORE YOU BEGIN

Message Conventions

Read and understand this product guide and all other safety instructions before using the equipment.

Avoid injury. Do not reach around guards.

Hazardous voltage. Contact will cause electric shock or burn. Turn off and lock out power before servicing.

Moving parts can crush and cut. Keep guards in place. Lock out power before servicing.

Pinch point. Keep hands and fingers clear.

Moving parts can crush and cut. Keep guards in place. Lock out power before servicing.

Lift with two persons.

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.**

SPECIFICATIONS

Maximum Product Size: ..... 12 W x 12.5 L in (304 x 317 mm)

Minimum Product Size: ..... 3 W x 4 L in (76 x 101 mm)

Min/Max Product Thickness: ..... .003-.5 in (.076-12.7 mm)

Belt Speed: ..... 8900 in/min (226,000 mm/min)

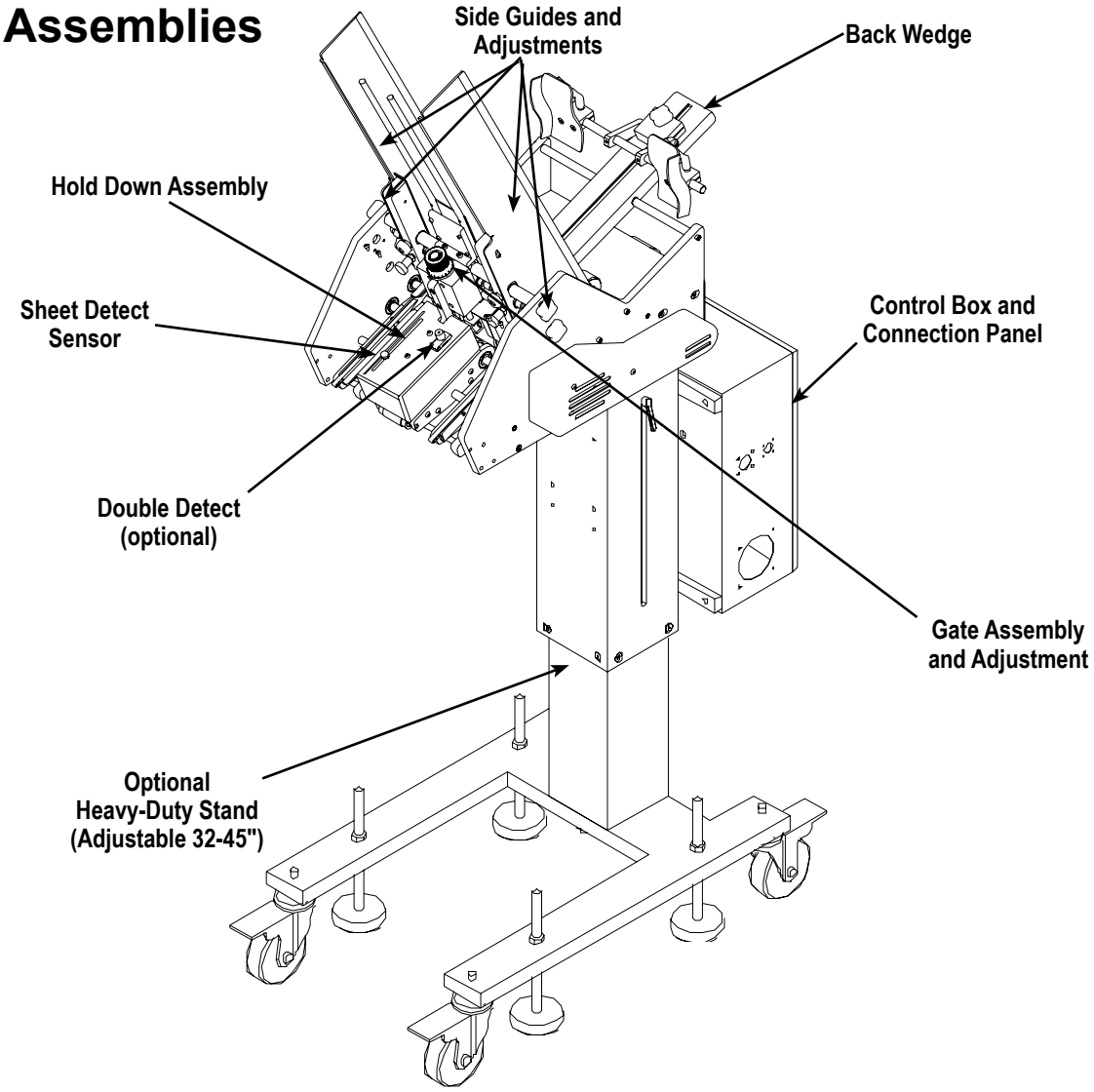
Electrical Requirements: 115/230vac, 50/60Hz, 6A

Air Requirements: ..... 2 CFM

Weight: ..... 80 lbs. (36.3kg)

1 About the Machine

Main Assemblies



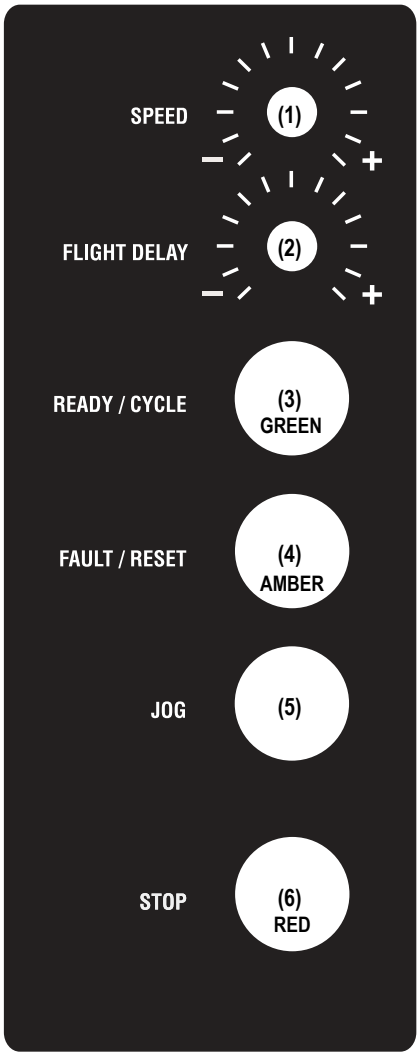
Loose Parts Supplied:
AC Power Cord
Flight Detect Sensor
Systems I/O Cable
Single S-Wedge
Double S-Wedge
Narrowing Kit (2 side guides)

Optional Parts:
Spare Parts Kit (P/N 16921103)

Main Assemblies Feature Descriptions

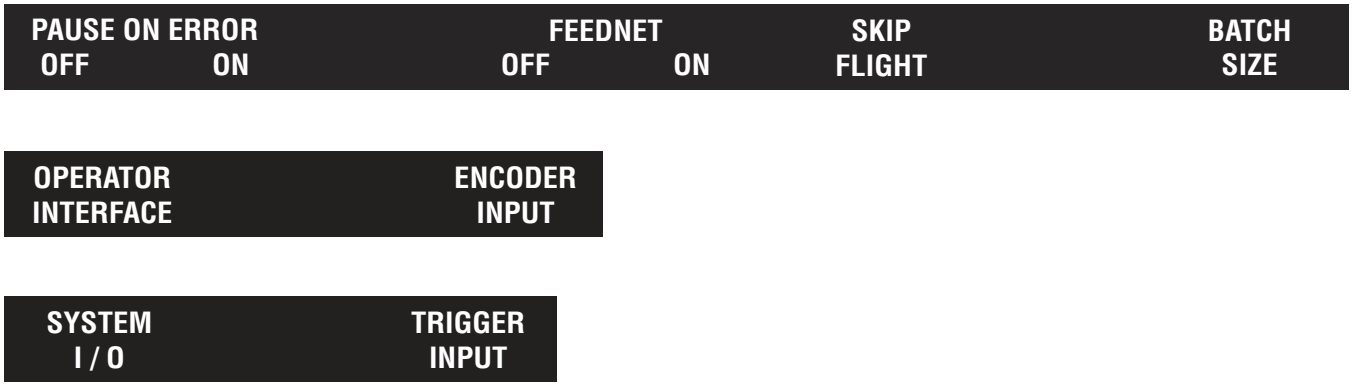
FEATURE	DESCRIPTION
Gate Assembly	Mounted on a gate plate assembly above the feed belt, this device provides a curvature to help preshingle stacked material. When properly adjusted, a gap is created to help one piece of material to be fed at a time.
Side Guides	Holds a stack of material to be fed and helps keep it straight for proper entry through the gate assembly area. The adjustment knob allows you to move the side guides 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 the back wedge block.
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.
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.
Discharge Belts	Combined with the hold-down rollers, provides the friction and motion necessary to pull product away from the gate assembly area. Rotates 50% faster than feed belts to separate and eject the bottom product away from next product entering the gate assembly area.
Control Box	Connections and switches for sensor, interface, and AC power are located here.
Operator Interface	Remote handheld, containing switches for setup and operation.
OPTIONS	
Heavy duty stand	Supports the feeder and allows for easy mobility. Includes built-in height adjustment.
Air regulator	Provides the distribution of vacuum to the feed belt as well as air to the knock down. Required compressed air: 80 cfm.

Operator Interface



FEATURE	DESCRIPTION
(1) Speed	Feeder speed adjustment. Turn clockwise to increase, counter-clockwise to decrease.
(2) Flight Delay	Mounted at a remote location, it looks for a target on-line (such as a flighted conveyor) to start the feeder.
(3) Ready/Jog	Advances the feed belts at a fixed slow speed. Used during setup and when clearing feed errors.
(4) Fault/Reset	Press to clear fault. After pressing, fault is cleared and feeder enters READY mode.
(5) Cycle	Causes feeder to perform one feed cycle.
(6) Stop	Stops the feeder and places it in FAULT mode. Press FAULT RESET to return the feeder to READY mode.

Control Box, Connection Panel



FEATURE	DESCRIPTION
Pause On Error Off/On	When feeder error (miss or double) occurs, this switch controls whether the feeder stops or sends alert only.
FeedNet Off/On	Switches on or off FeedNet controller commands to the feeder.
Skip Flight	Sets the number of flight signals to ignore before feeding.
Batch Size	Used to set the product count for a batch feed (1-199 pieces).
Operator Interface	Connection for the Operator Interface. See page 3 for further information.
Encoder Input	Connection for the Encoder. Provides base system RPM information for operation of the feeder.
System I/O	Connection for the interface to host equipment.
Trigger Input	Connection for the flight detect sensor. Provides the "start" signal to begin a feed cycle.

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. Sheet detect sensor
5. 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 (continued)

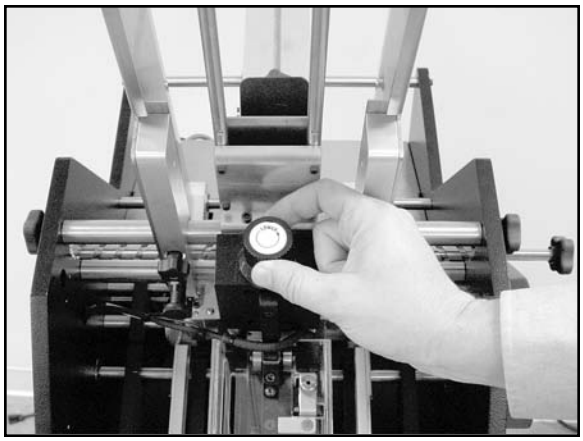
NOTE

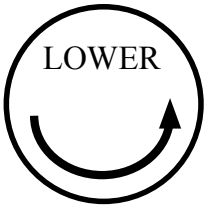
Excessive lowering of the gate assembly can damage material or lead to premature wear of the feed belt, and cause the product to skew. Not enough gate pressure can cause double feeds, and lead to no gap between the material being fed. Uneven gate pressure can cause skewing of the product during feeding.

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 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 a slight drag can be felt on the top of the material when moving it front to back.





Step 2
Side Guides Setting

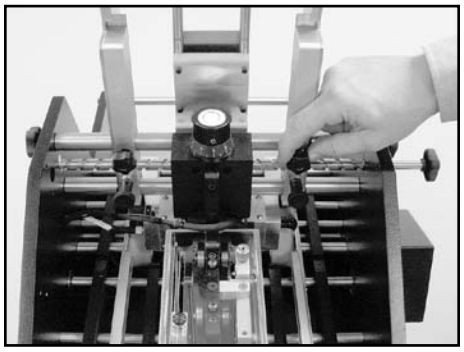
Review

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.

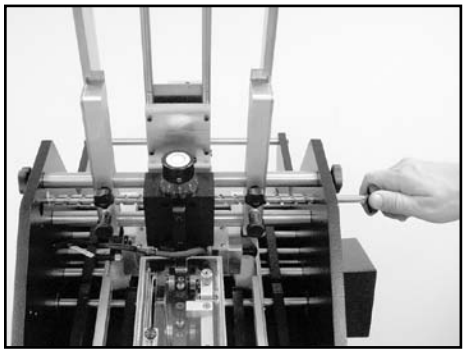
Objective

Adjust the side guides so that the material stack maintains uniformity from top to bottom, with no drifting or binding. Adjustment is made horizontally. When adjusting the side guide to accommodate the product being fed, keep a 1/16" (approx.) gap on each side of the product. Consider the following as you adjust the guides:

- Each edge of the material should rest equally on the belt, on both sides of the gate assembly (or equal distance 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.



Loosen side guide lock knobs.



Adjust side guides using adjustment knob.

Procedure

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

1. Loosen each side guide lock knob (counter-clockwise), and adjust the guides 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. Adjust side guides 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 lock knobs after you establish proper position for the 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.

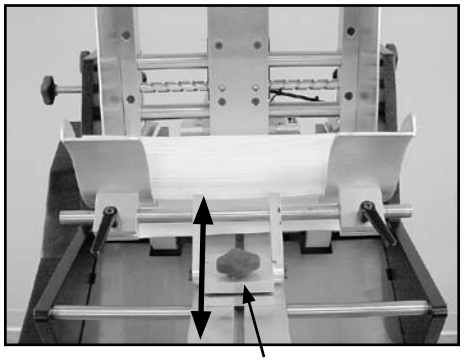
Here are some general guidelines that should help you determine how the back wedge should be positioned for your particular material:

- 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, blue rollers, and feed belts. 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.

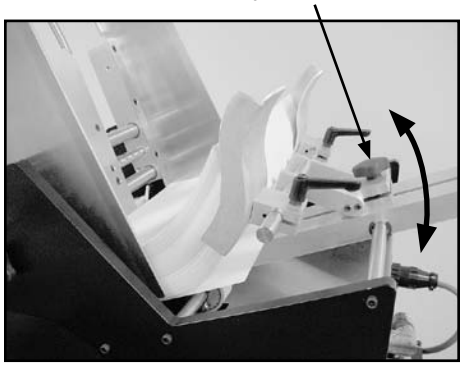
Objective

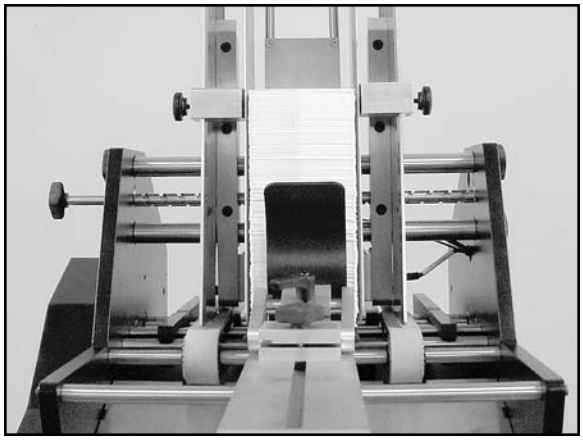
Adjust the back wedge for proper support of the material off the feed belt, without creating any pinch or stress points between the wedge and the material.

Step 3: Back Wedge Adjustment (continued)



Back wedge adjustment knob





Single wedge

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 sheet detect sensor adjustment

Review

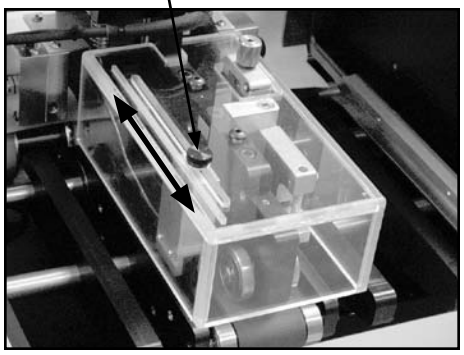
The sheet detect sensor is mounted to a slotted bracket and is attached to the hold-down assembly. The position of this sensor determines the stopping point of the initial piece in each batch.

Objective

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

Procedure

Sensor set screw

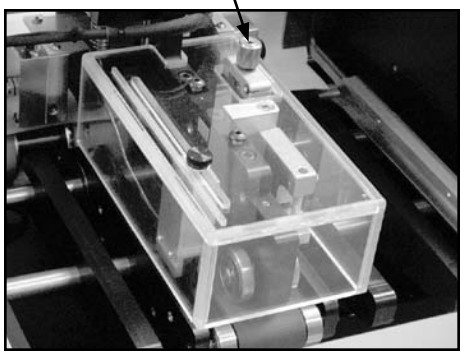


To adjust the sheet detect sensor:

1. Stop the feeder.
2. Loosen the adjustment knob and slide the sensor to the desired location within the slot. Make sure only the green LED is illuminated. If the green LED changes to an amber color, this means the sensor is detecting the shaft or other background objects.
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 the adjustment knob.
6. Press FAULT RESET to put feeder in READY mode.

Step 5: Optional QuickSet Double Detect Adjustment

QuickSet Double Detect adjustment knob



To adjust the Optional QickSet Double Detect:

1. Turn adjustment knob clockwise to raise detect roller.
2. Insert TWO products between the QuickSet Double Detect roller and the discharge belt of the feeder.
3. Turn the adjustment knob counter-clockwise to lower the detect roller. Lower until the green LED indicator turns off.
4. Remove the two products. The green LED indicator should return to its ON state.
5. Run several pieces of product through to ensure the setup is accurate. Purposely run a double set through to verify detection of the multiple pieces.

Step 5: 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.

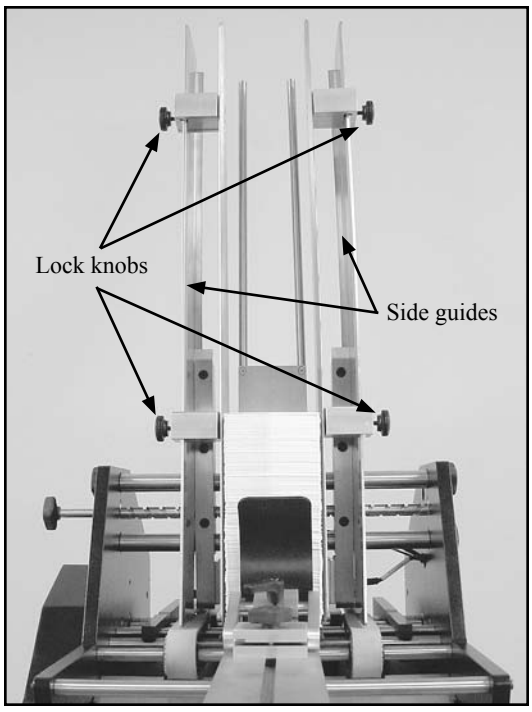
1. Manually feed several sheets of product slowly through the gate assembly area. Move the drive belts by pressing the jog button.
2. Observe how individual product enters and exits the gate assembly area. Remember, a properly set gap will allow each new sheet to enter at about the center line of the 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".

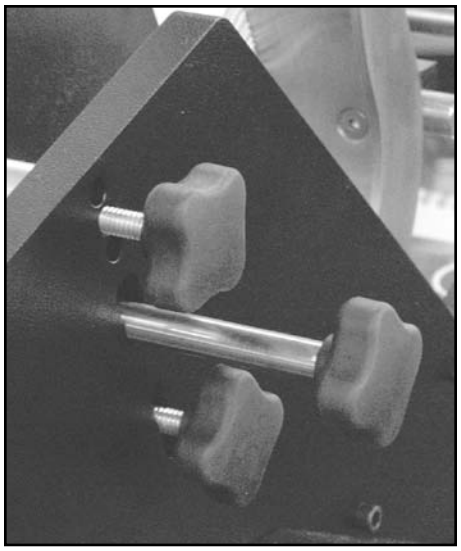
Step 6: Side guide Narrowing Kit Setup



Use this kit for product under 5" in width.

1. Loosen each side guide lock knob (counter-clockwise) and adjust the side guides to the minimum width.
2. Attach and tighten each narrowing guide to the side guides. Make sure the bottom of the narrowing guide is not touching the feed belts.

Step 7: Hopper Setup



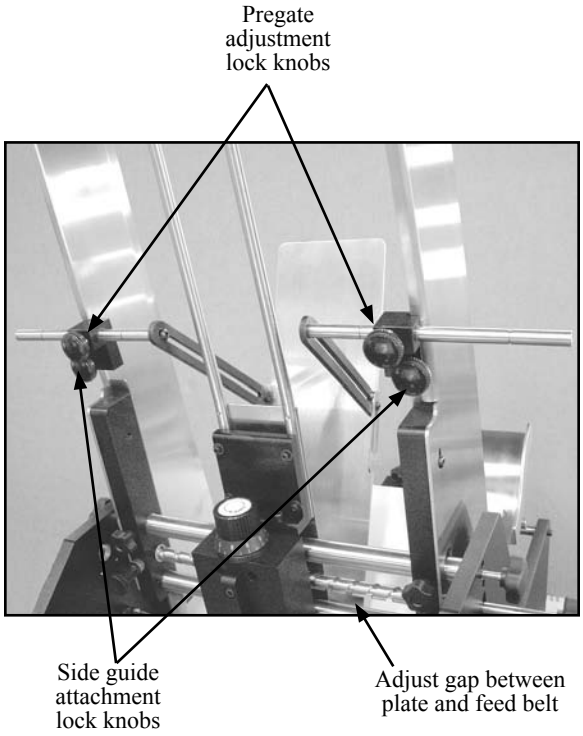
Follow this procedure for product over .25" (6.35mm) thick.

1. Remove the two knobs on both sides of the side plates.
2. Lift the entire hopper up to the next set of holes in the side plate.
3. Insert all four knobs and tighten.

Step 8: Optional Pregate Assembly

NOTE

The pregate assembly is required for feeding product that is equal to or less than 20 lb. bond paper.



1. Attach pregate assembly to the existing side guides.
2. Adjust the gap between the plate and feed belt to .25" (6.25mm).

4 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
3. Setting and adjusting speed
4. Starting the feeder
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. Stack heights may vary due to different characteristics of each product.

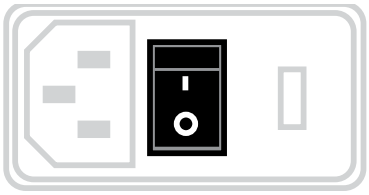
Operational Sequence (continued)

NOTE

The SPEED knob and the FLIGHT DELAY knob have locking mechanisms for locking the position of each knob.

Powering on the Feeder

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.
3. Observe to verify good product flow through the feeder.

Stopping the Feeder

To stop the feeder at any time, press the red STOP button. This will instantly stop the feeder.

To return the feeder to READY mode, press the FAULT RESET button.

Operational Sequence (continued)

TIP

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.

Clearing a Jam

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

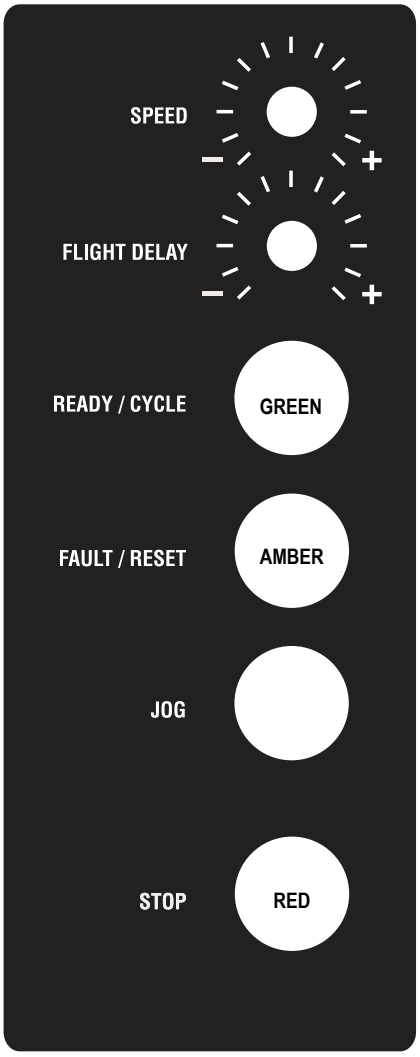
1. Press the STOP button.
2. Remove the jammed product. While doing so, attempt to determine the cause of the jam.
3. Verify adjustments, paying specific attention to any loose components. Refer to “Preparing for Operation” for proper adjustment procedure.
4. Reset the machine by pressing FAULT RESET.
5. Make sure the rotating gate motor is still engaged by checking to see if the motor engagement knob is completely seated.

Operational Sequence (continued)

Rotating Gate Output

Verify that the Rotating Gate Output performs properly. With the feeder in the ready mode, attach a rotating gate or a lamp to monitor the output prior to test and complete the following steps:

1. Press the cycle button or actuate the flight input. The output should come on during the cycle and then stop when the feed cycle is complete.



Status	Light Indication
Ready	Solid green
Stop (Held)	Solid red - amber flashing (.5s on, .5s off)
Stop (Released)	Flashing red and amber (.5s on, .5s off)
Time Out	Double falshing amber
Low Stack	Solid amber
Power Up	Alternating green, amber, red
Miss Detect	Double flashing amber and red (alternating)
Double Detect	Double flashing amber and red (synchronous)

4 Operational Troubleshooting

This table is intended to provide you with quick solutions to the more common day-to-day problems you may encounter.

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).
	4. Fuse is open.	Replace fuse.
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 rollers on rotating gate assembly.	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.
	7. Belts are loose.	Adjust tension on vacuum feed belts.
	8. Improper wedge adjustment.	Adjust as appropriate for product.

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 gate adjust 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

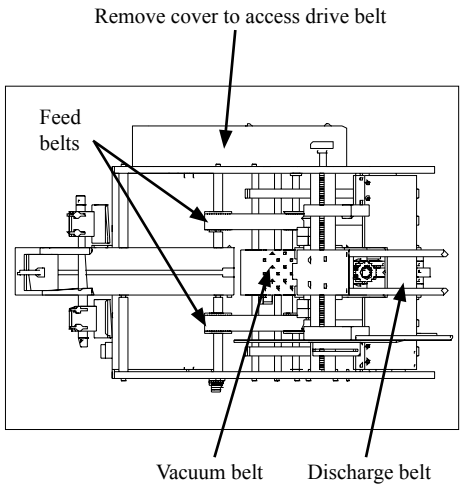
When performing initial adjustments prior to operation, always make sure you turn Off the main power switch, open the discharge safety shield and disconnect feeder from the electrical power source. Failure to do so can expose you to a potential start-up, and therefore moving parts which can cause serious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



Check for Feed and Discharge Belt Wear

Check for visual signs of:

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

Ensure Proper Feed and Discharge Belt Tracking

Check for visual sign of:

- Stretching.
- Improper roller alignment.

Check for Timing and Drive Belt Wear, Alignment

Check for visual signs of:

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

Ensure Proper Timing and Drive Belt Tracking

Check for visual signs of:

- Misaligned timing pulleys.

Preventive Care

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

Cleaning 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.

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 rotating gate assembly from gate plate.
3. Apply a small amount of isopropyl alcohol to a soft cloth.
4. Wipe across rollers.
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 photo sensor lenses. This can result in surface damage and eventual faulty performance.

Cleaning Photo Sensors

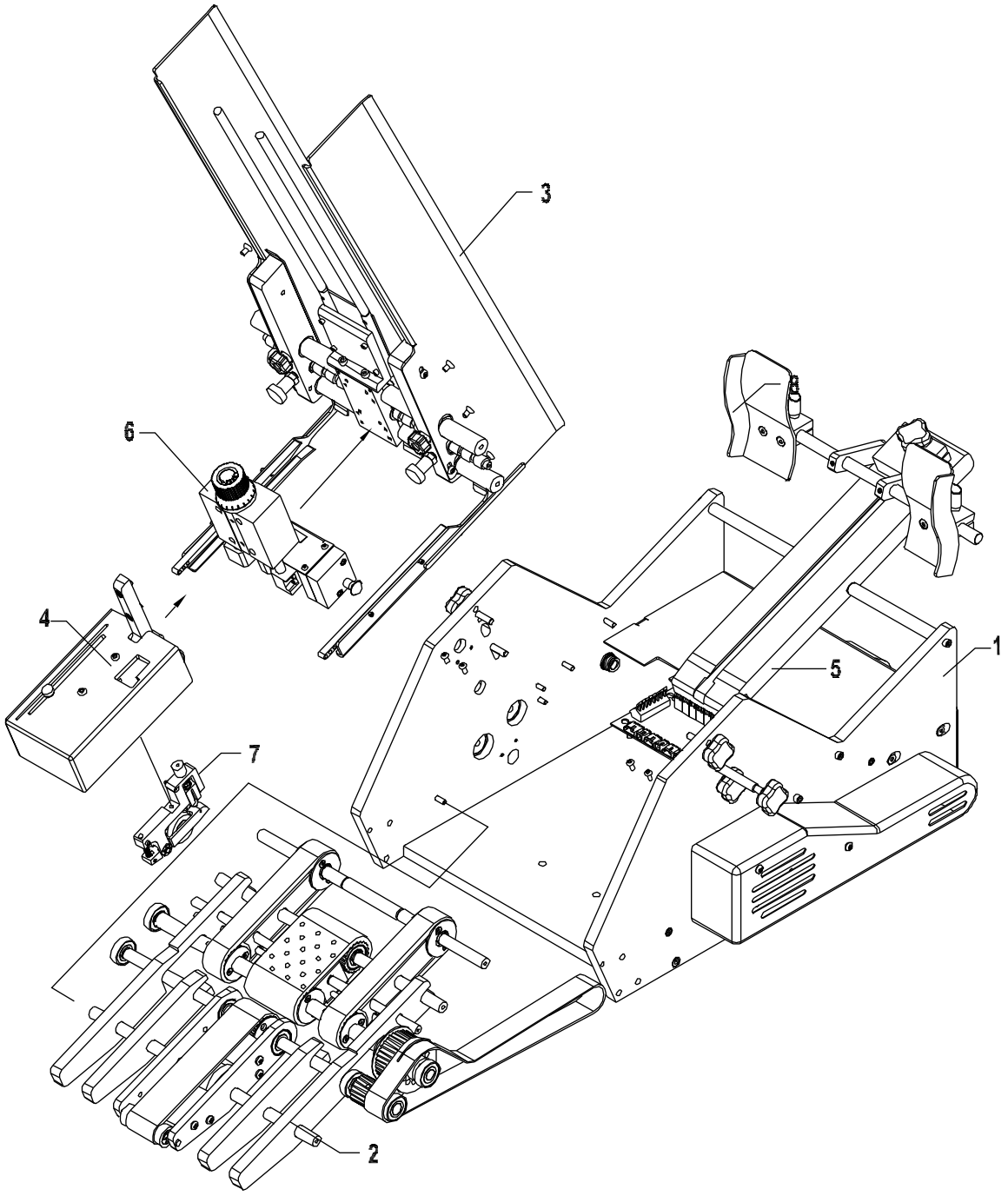
To clean the photo sensor lenses:

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. Recheck the adjustment of the photo sensor to make sure it is still in alignment to the target.
6. Close discharge safety shield and restore power.

6 MECHANICAL COMPONENTS

SV-1200 Assembly

#16320004



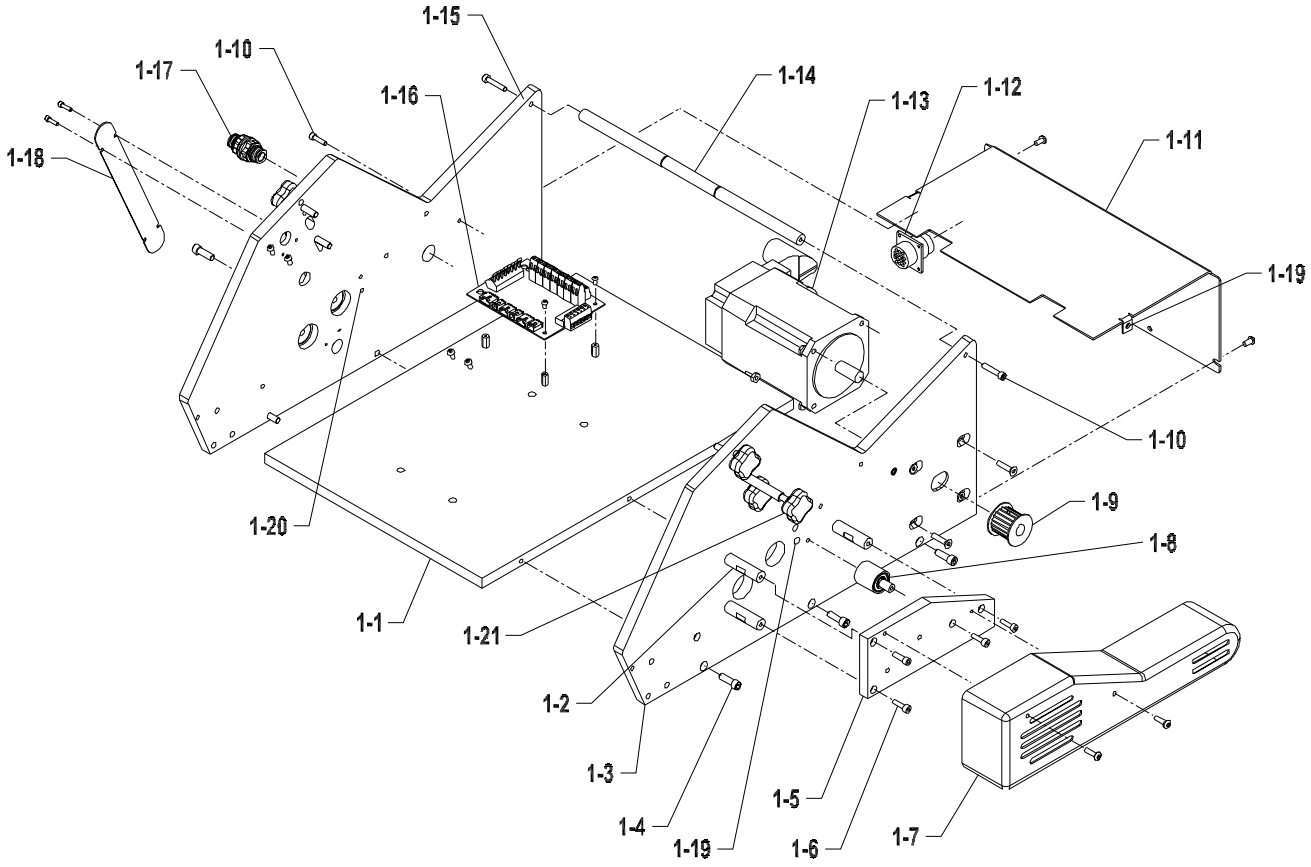
SV-1200 Assembly

#16320004

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
1	1	Base Assembly	16321101
2	1	Carriage Assembly	16321102
3	1	Side Guide Assembly	16321103
4	1	Hold Down Assembly	16321105
5	1	Adjustment S-Wedge Assembly	16321107
6	1	Rotating Gate Assembly	16321109
7	1	Double Detect Assembly	16321137
8	1	Double S-Wedge Assembly	16321123
9	1	Single S-Wedge Assembly	16321129
10	1	Control Panel Assembly	16321110
11	1	Control Box Mount Assembly	16321111
12	1	Operator Interface Assembly	16321112
13	1	Heavy Duty Stand Assembly	51021001
14	1	Side Guide Narrowing Kit	16321108

Assembly, Base

#16321101



Assembly, Base

#16321101

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
1-1	1	Base Plate	51632002
	4	Hex Bolt, 3/8-16 x 1	00002660
	4	Lock Washer, 3/8	00003334
1-2	3	Stud	51632010
1-3	1	Left Side Plate	51632001
	2	Comfort Knob	51632107
1-4	6	SHCS, 1/4-20 x 3/4	00002328
1-5	1	Cover Plate	51632009
1-6	4	SHCS, 10-32 x 3/8	00002320
1-7	1	Belt Cover	51632011
	2	BHCS, 10-32 x 1/2	00002334
1-8	1	Tensioner Shaft	51632007
	1	Tensioner	51632008
	2	Bearing, R6-2RS	23500095
	2	E-clip, 3/8	00001150
	1	BHCS, 10-32 x 1	00002340
1-9	1	Motor Pulley	44947030
	2	Set Screw, 10-32 x 1/4	00002216
1-10	8	SHCS. 10-32 x 7/8	00003302
1-11	1	Rear Feeder Cover	51632039
	5	BHCS, 10-32 x 1/2	00002334
1-12	1	Harness Feeder	16321131
	4	BHCS, 8-32 x 1/4	00002210
1-13	1	Servo Motor	51460100
	4	FHCS, 10-32 x 3/4	00002338
	4	Nut, Nyloc, 10-32	00002110
1-14	1	Wedge Shaft	51632046
1-15	1	Right Side Plate	51632003
	2	Comfort Knob	51632107
1-16	1	PC Board	44700021
	4	Hex Standoff	53500279
	4	PHMSPHS, 6-32 x 3/8	00002450
1-17	1	Bulkhead Union	51476005
1-18	1	Wire Cover	51632086
	4	SHCS, 6-32 x 3/8	00003304
1-19	4	SHCS, 8-32 x 5/8	00002215
1-20	4	SHCS, 8-32 x 7/8	00002304
1-21	1	Set Screw 8-32 x 3/4	00003350
	1	Lead Screw Spacer	51632103
	1	Comfort Knob (Sanded to 1/2" long)	51632107
N/S	7”	Vacuum Hose	44450096

Assembly, Carriage

#16321102

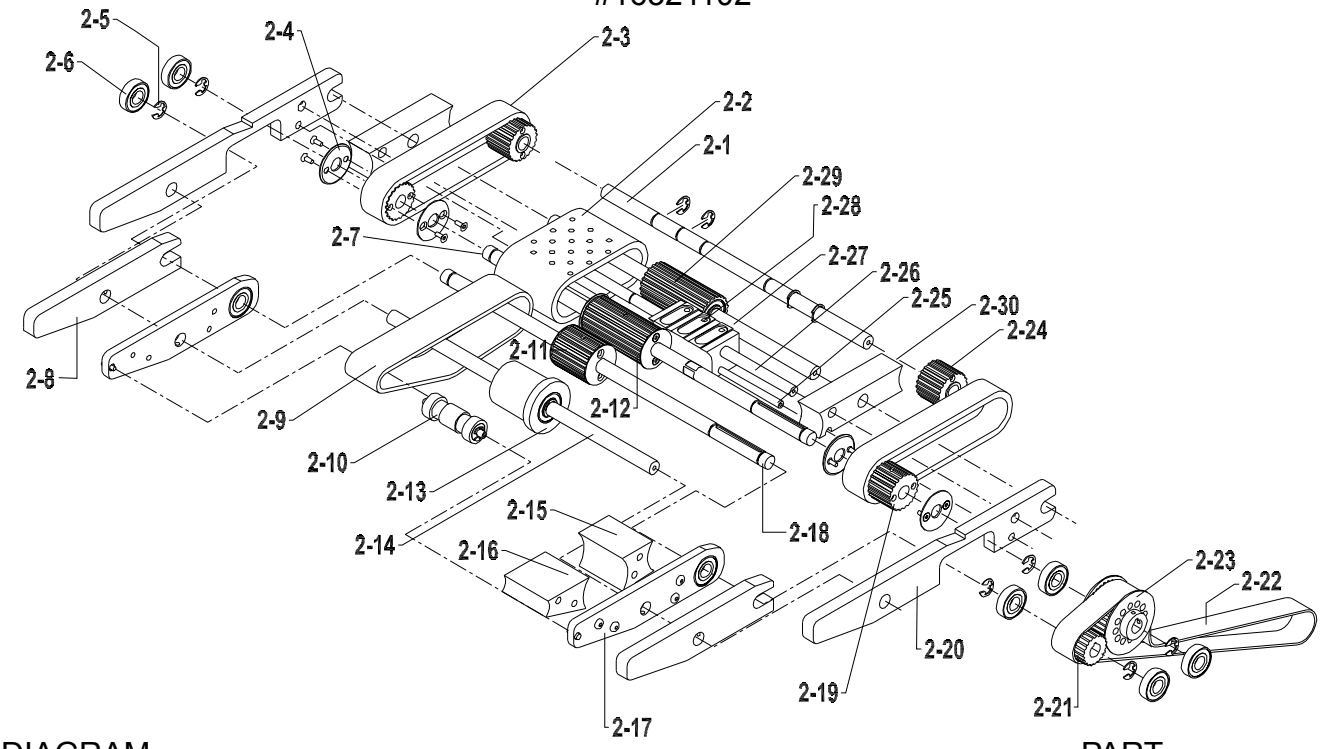


DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
2-1	1	Upper Idler Shaft	51632041
2-2	1	Vacuum Belt	51632021
2-3	2	Feed Belt	51632064
2-4	8	Belt Guide	51632025
	16	FHCS, 6-32 x 3/8	00002235
2-5	6	E-Clip, 1/2	00001155
2-6	6	Bearing, R8-2RS	23500094
2-7	1	Lower Vacuum Shaft	51632040
2-8	2	Support Rail, Short	51632027
2-9	1	Discharge Belt	51632022
2-10	1	Discharge Belt Roller	51632020
	2	Bearing, R4	44582021
	1	Lower Discharge Shaft	51632015
	2	E-Clip, 1/4	00001145
	2	SHCS, 6-32 x 3/8	00003304
2-11	1	Pulley, Upper Idler Shaft	51632017
	2	Set Screw. 10-32 x 1/4	00002216

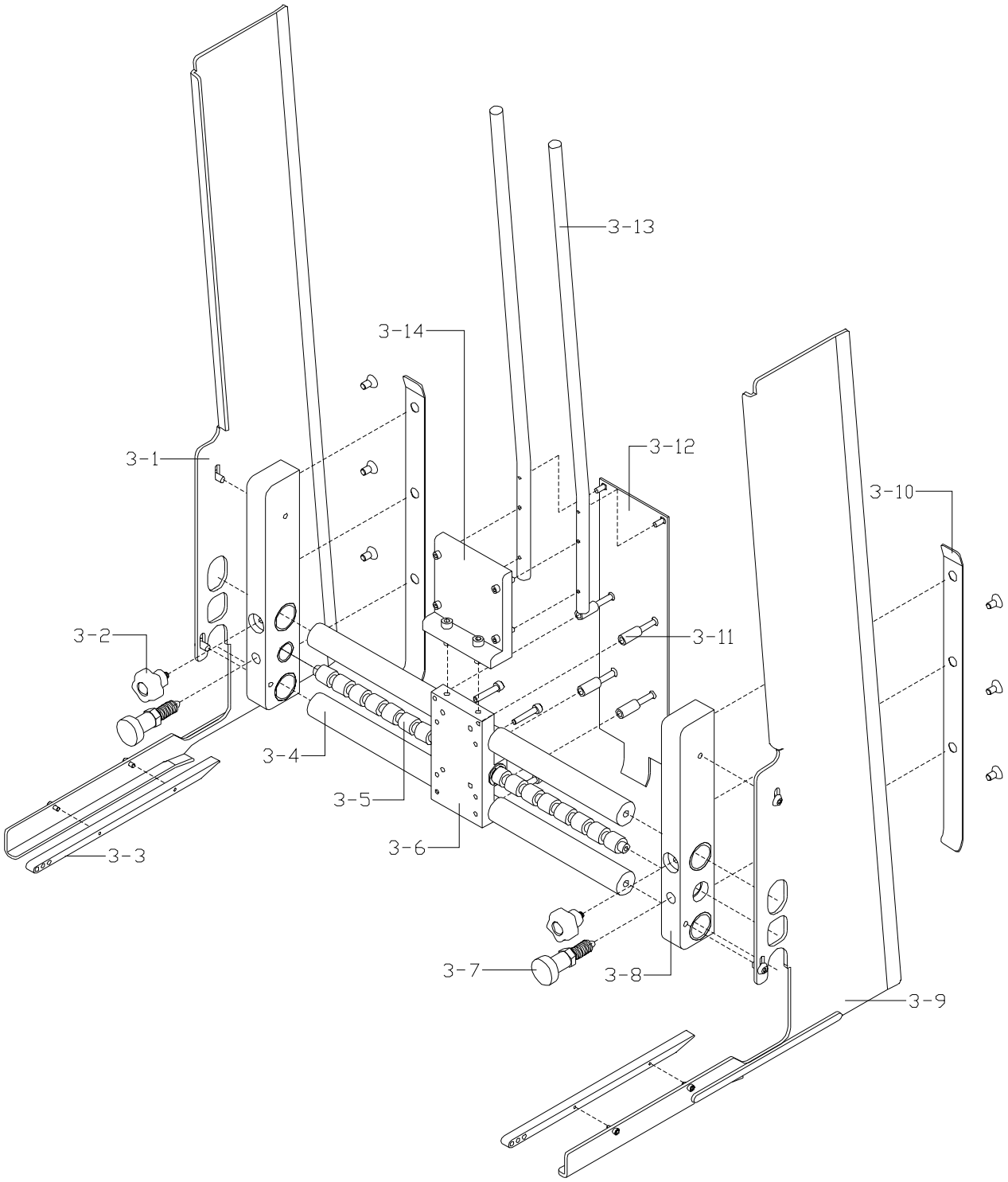
Assembly, Carriage (continued)

#16321102

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
2-12	1	Pulley, Lower Vacuum Shaft	51632016
	2	Set Screw, 10-32 x 1/4	00002216
2-13	1	Double Detect Roller	51632024
	2	Bearing, R8-2RS	23500094
	2	E-Clip, 1/2	00001155
2-14	1	Double Detect Shaft	51632018
2-15	1	Back Finger Guard	51632123
2-16	1	Front Finger Guard	51632122
2-17	2	Hold Down Support	51632012
	2	Bearing, R8-2RS	23500094
	4	BHCS 10-32 X 5/8	00003332
2-18	1	Upper Discharge Drive Shaft	51632004
2-19	2	Pulley, Feed Belt	51632026
	4	Set Screw, 10-32 x 1/4	00002216
2-20	2	Support Rail, Extended	51632019
2-21	1	Pulley, Discharge	51632006
	2	Set Screw, 10-32 x 1/4	00002216
	1	Key Stock, 1 in	44852080
2-22	1	Drive Belt	51632042
2-23	1	Drive to Discharge Pulley	44947029
	2	Set Screw, 10-32 x 1/4	00002216
	1	Key Stock, 1 in	44852080
2-24	2	Pulley, Upper Idler Shaft	51632067
2-25	1	.25 Dia Vacuum Support Shaft	44947048
2-26	1	.38 Dia. Vacuum Support Shaft	44947049
2-27	1	Idler Shaft	51632005
2-28	1	Manifold	51632023
	4	E-Clip, 3/8	00001150
2-29	1	Pulley, Idler Shaft, 22T	51632013
	2	Bearing, R8-2RS	23500094
	2	E-Clip, 1/2	00001155
2-30	2	Finger Guard	51632117

Assembly, Side Guide

#16321103



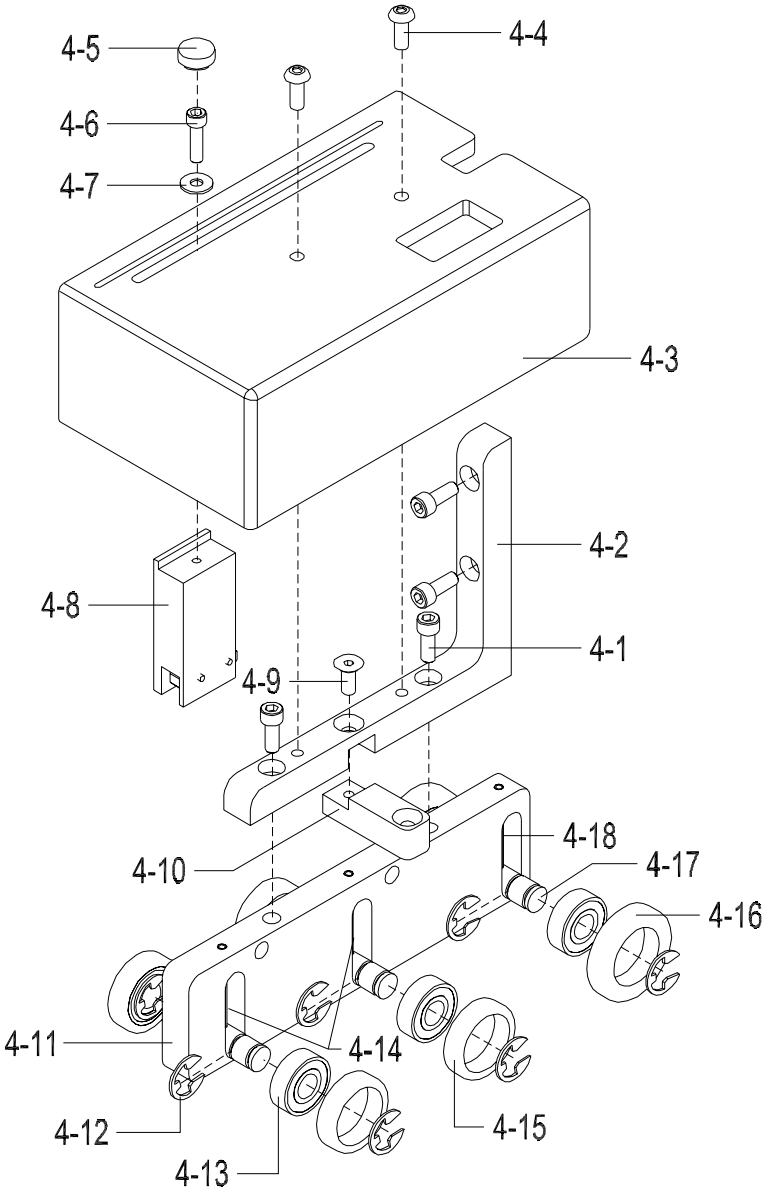
Assembly, Side Guide

#16321103

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
3-1	1	Right Side Guide	51632036
	2	SHCS 4-40 X ¼”	00003318
	2	BHCS 10-32 X 3/8”	00002305
3-2	2	Knob	44963102
	2	Nylon Tip Set Screw 10-32	44681020
3-3	2	Side Guide Deflector	51632104
3-4	2	Gate Plate Shaft	51632030
3-5	1	Lead Screw Shaft	51632115
3-6	1	Gate Plate	51632028
	4	SHCS 8-32 X 7/8”	00002304
	2	Igus Bearing	51460088
	2	E-Clip, 1/2	00001155
3-7	2	Spring Pin	44759060
	2	Bronze Bearing	23500250
3-8	2	Side Guide Mount	51632035
	4	Igus Bearing	51632101
	2	Igus Bearing	51460088
3-9	1	Left Side Guide	51632029
	2	SHCS 4-40 X ¼”	00003318
	2	BHCS 10-32 X 3/8”	00002305
3-10	2	Side Guide Pre Gate	51632105
	6	FHCS 10-32 X 3/8”	00002234
3-11	4	Hopper Spacer	51632097
3-12	1	Hopper Plate	51632095
	2	FHCS 6-32 X 3/8”	00003453
	4	FHCS 8-32 X 1”	00003472
3-13	2	Hopper Rods	51632096
3-14	1	Hopper Angle	51632098
	4	SHCS 6-32 X 5/8”	00003303
	2	SHCS 10-32 X 5/8”	00002320
	4	Washer, #6	00003319

Assembly, Hold Down

#16321105



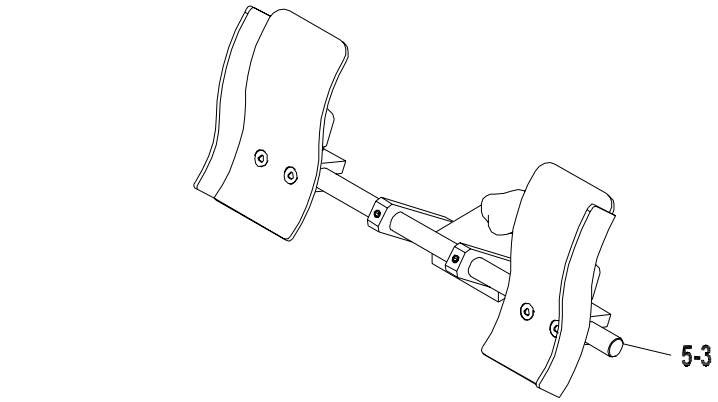
Assembly, Hold Down

#16321105

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
4-1	4	SHCS, 10-32 x 5/8	00002320
4-2	1	Hold Down Mount	51632037
4-3	1	Protective Cover	51632120
4-4	2	BHCS 10-32 X 1/2”	00002334
4-5	1	Knob	435SO270
4-6	1	SHCS 8-32 X 5/8”	00002215
4-7	1	Washer #8	00002600
4-8	1	Photo Eye Bracket	51632121
	1	Harness, Sheet Sensor	16321130
	2	RHMSSL 2-56 X 5/8	00002505
4-9	1	FHCS 10-32 X 3/8”	00002234
4-10	1	Hold Down Support	51435002
4-11	1	Hold Down Block	51632038
4-12	12	E-Clip, 3/8	00001150
4-13	6	Bearing, R6-2RS	23500095
4-14	2	Hold Down Spring Pin	51277077
	2	Spring, Hold Down	51277076
4-15	4	Discharge Roller Collar	51277087
4-16	2	Rear Discharge Roller Collar	51277088
4-17	3	Hold Down Shaft	51277052
4-18	1	Hold Down Spring Pin	51277077
	1	Spring, Hold Down	51277138

Assembly, Adjustment S-Wedge

#16321107



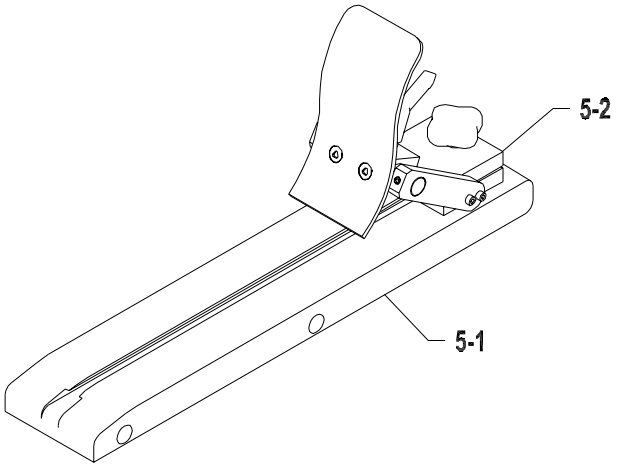


DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
5-1	1	Wedge mount	51632045
5-2	1	Single S-Wedge Assembly	16321129
5-3	1	Double S-Wedge Assembly	16321123

Assembly, Rotary Gate

#16321109

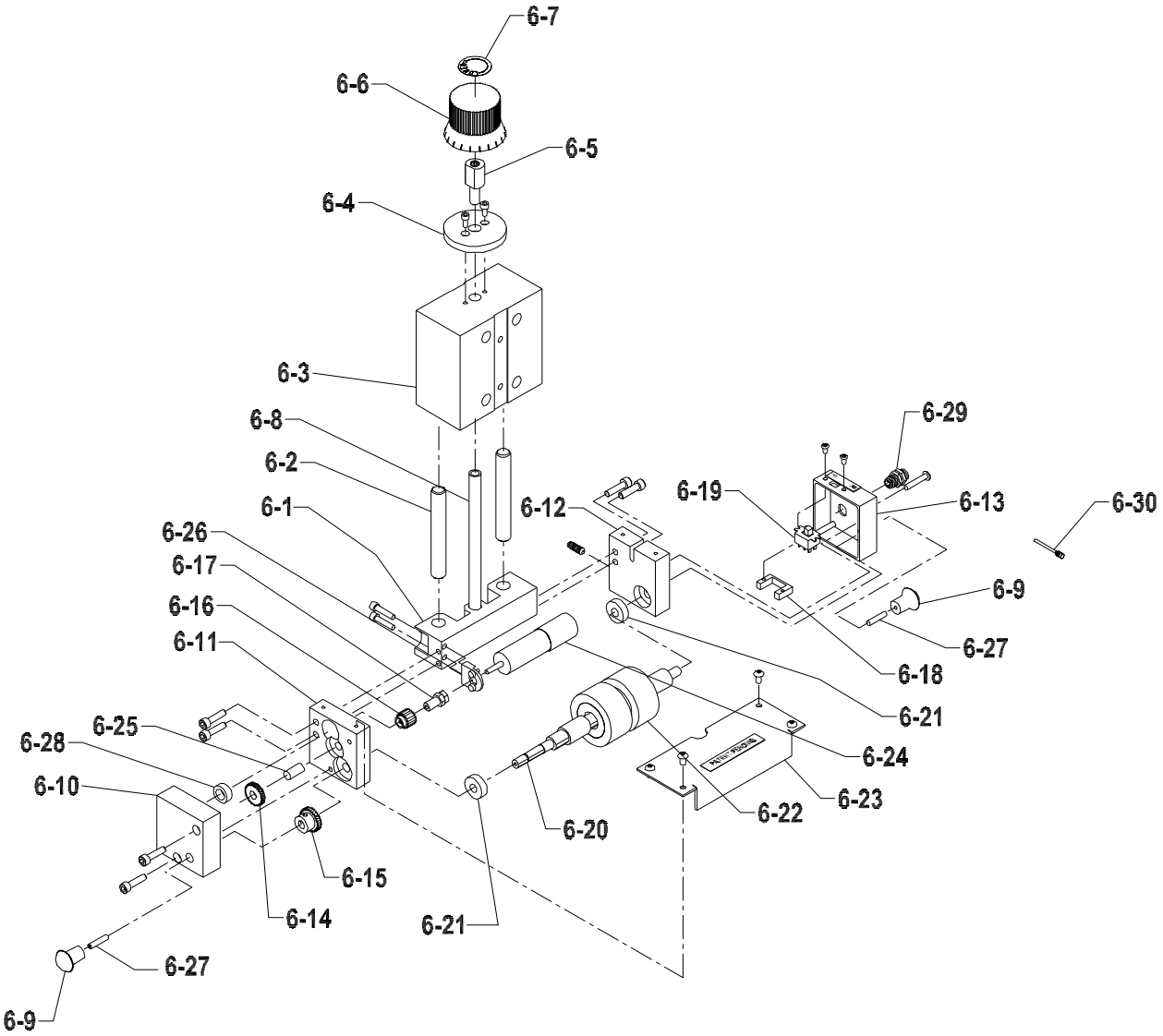


DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
6-1	1	Dowel Block	51632059
	2	SHCSS/S 6-32 x 5/8	00003411
	3	BHCSS/S 10-32 x 5/8	00003423
6-2	2	Dowel Pin	51632060
	2	Spring	51692018
6-3	1	Gate Sleeve Block	51632058
	4	SHCS, 10-32 x 1 1/2	00002336
6-4	1	Mounting Flanged Knob	51277082
	2	SHCS, 5-40 x 1/4	00002311

Assembly, Rotary Gate (continued)

#16321109

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
6-5	1	Knob Insert	51277081
	1	Socket Head Set Screw, 1/4-28 x 1 1/4	00003407
6-6	1	Gate Adjust Knob	51277083
	1	O-Ring	23500104
6-7	1	Label, Gate Adjust Knob	23500084
6-8	1	Shaft	23560084
6-9	2	Knob	51326014
6-10	1	Gear Cover	51326009
	2	SHCSS/S 8-32 x 7/8	00003422
6-11	1	Roller Support Arm	51326007
	2	SHCSS/S 8-32 x 5/8	00002816
6-12	1	Roller Support Arm	51326003
	1	Ball Plunger	44681019
	2	SHCSS/S 8-32 x 5/8	00002816
6-13	1	Switch Block	51326008
	1	Switch Position Indicator	51326016
	2	BHCSS/S 6-32 x 3/4	00002332
	2	BHCSS/S 4-40 x 3/16	00003342
6-14	1	6mm Spur Gear 32T	44874063
6-15	1	6mm Spur Gear 30T	44874062
6-16	1	6mm Spur Gear 20T	44874061
6-17	1	Shaftloc - No Longer Needed	
6-18	1	Switch Mount	44874028
6-19	1	Switch Slide	53500556
6-20	1	Roller Shaft	51326002
6-21	2	Bearing, R4	44582021
6-22	2	Roller	51326001
	2	SSSCPPT 10-32 x 1/4	00002216
6-23	1	Motor Cover	51326013
	1	Patent Pending Label	51326018
	4	BHCSS/S 6-32 x 1/4	00003416

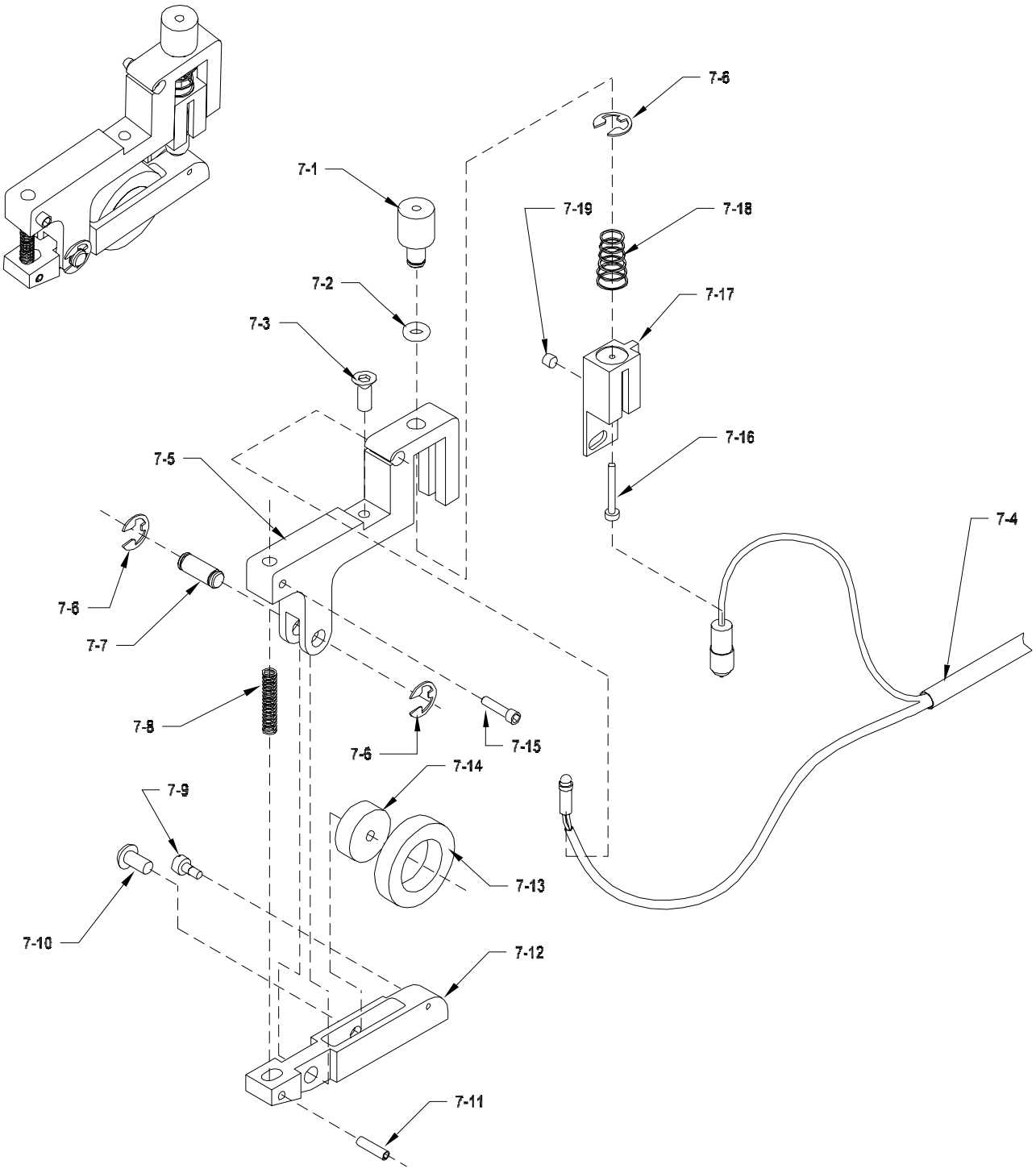
Assembly, Rotary Gate (continued)

#16321109

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
6-24	1	Motor	51326015
6-25	1	Dowel Pin	51326011
6-26	1	Motor Mount	51326010
	2	Slotted Head Screw, M2 x 5mm	51326017
6-27	2	Set Screw. 6-32 x 5/8	00003362
6-28	1	Bearing Insert	51326012
6-29	1	Connector, Male Receptacle	53500553
	1	Nut	53500555
6-30	1	Cable	16321136

Assembly, Double Detect (optional)

#16321137



Assembly, Double Detect

#16321137

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
7-1	1	Knob Double Detect	51277065
7-2	1	O-Ring, Retaining	44944105
7-3	1	FHCSS/S 10-32 X ¾”	00003336
7-4	1	Harness, Double Detect	16321134
7-5	1	Base, Double Detect	51277062
7-6	3	E-Clip, ¼”	00001145
7-7	1	Shaft, Main Double Detect	51277098
7-8	1	Spring, Extension	51277119
7-9	1	Shoulder Bolt	51277117
7-10	1	BHCSS/S 10-32 X 5/16”	00002807
7-11	1	Pin, Spring Roll	00001161
7-12	1	Arm , Double Detect	51277063
7-13	1	Bearing Double Detect	51277132
7-14	1	Shaft, Double Detect	51277130
7-15	1	SHCSS/S 4-40 X 1/2	00003414
7-16	1	Screw, Round Head Phillips M2.5 X 20mm	00002550
7-17	1	Block, Switch	51277064
7-18	1	Spring Tapered .75 1.2lb	51277118
7-19	1	Screw, Socket Set 8-32 X 1/8”	00002402

Assembly, Double S-Wedge

#16321123

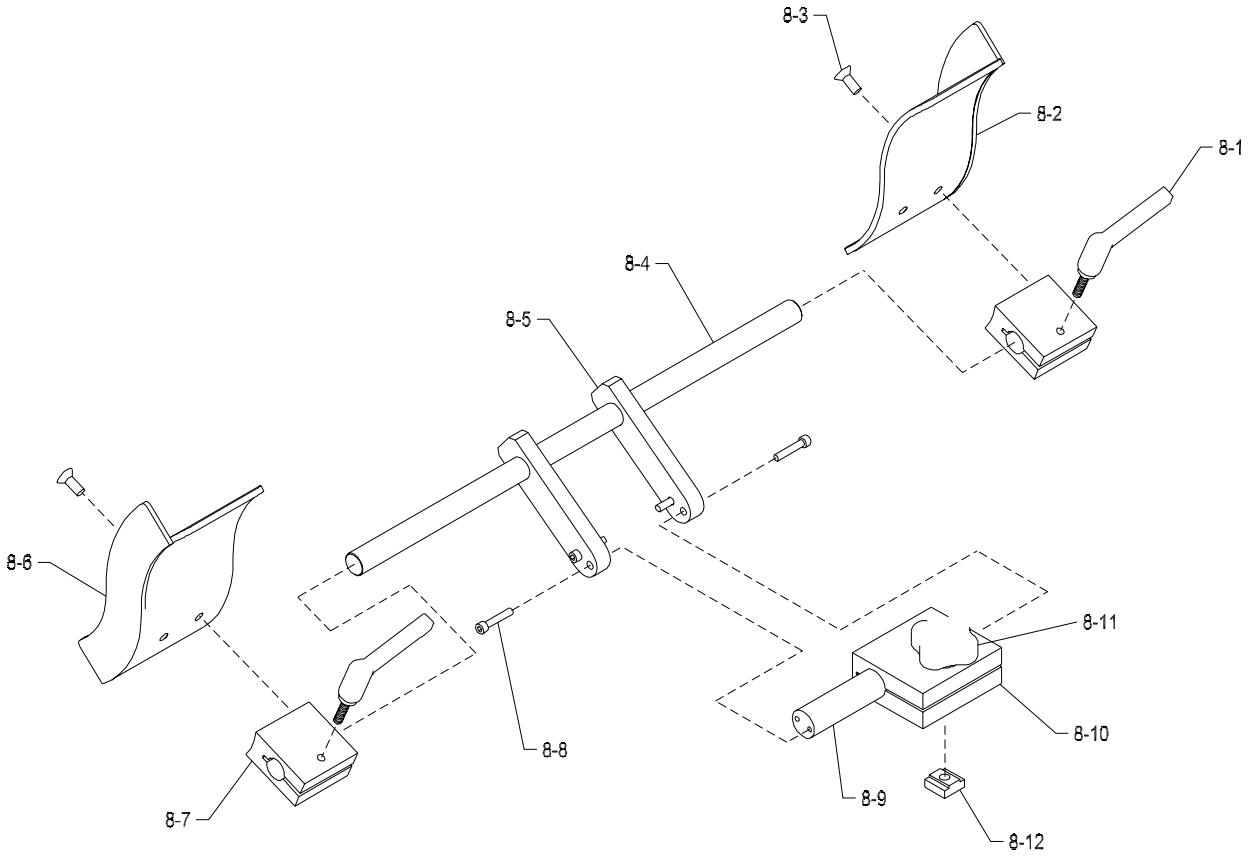


DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
8-1	2	Ratchet Handle	43555098
8-2	1	Left S Wedge	51632112
8-3	4	FHSHCS	00002330
8-4	1	Wedge Shaft	51632113
8-5	2 2	Wedge Arm Set Screw 10-32 X ¼”	51632109 00002216
8-6	1	Right S Wedge	51632111
8-7	2	S Wedge Mount Block	51632110
8-8	4	SHCS 6-32 X ¾	00002214
8-9	1	Wedge Mount Shaft	51632108
8-10	1	Solid Wedge Block	51632048
8-11	1	Comfort Knob, 1/4-20 x 1	51632107
8-12	1	T-nut, 1/4-20	51632047

Assembly, Single S-Wedge

#16321129

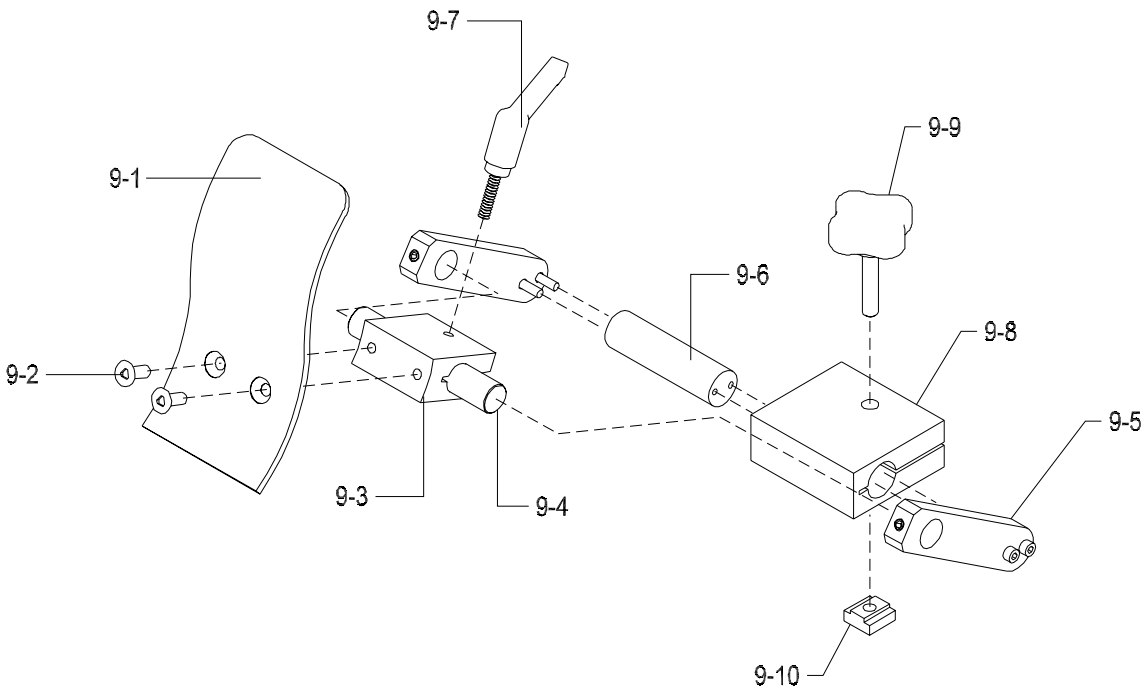


DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
9-1	1	S Wedge	44633025
9-2	2	FHSCS 10-32 X ½”	00002330
9-3	1	S Wedge Mount Block	51632110
9-4	1	Wedge Shaft	51632114
9-5	2 2 4	Wedge Arm Set Screw 10-32 X ¼” SHCS 6-32 X ¾	51632109 00002216 00002214
9-6	1	Wedge Mount Shaft	51632108
9-7	1	Ratchet Handle	43555098
9-8	1	Solid Wedge Block	51632048
9-9	1	Comfort Knob, 1/4-20 x 1	51632107
9-10	1	T-nut, 1/4-20	51632047

Assembly, Control Panel

#16321110

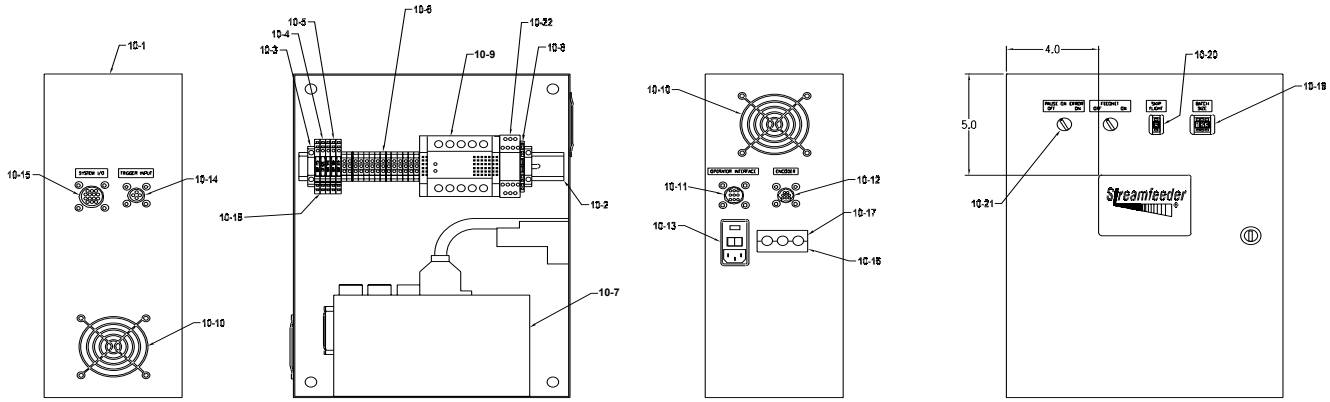


DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
10-1	1	Control Box	51632043
10-2	12in	Din Rail	53500154
	2	BHCS, 8-32 x 3/8	00002306
10-3	2	Plate, Anchor End	53500156
10-4	1	Relay, PLC Form C	51241005
10-5	4	Relay, PLC Solid State	51241006
10-6	14	Terminal Block	53500153
	2	Bridge Bar	53500157
	2	Barrier Plate	53500155
10-7	1	ServoStar SC Drive 6A	51208131
10-8	1	Terminal Block, WAGO Green/Yellow	51327028
	1	Terminal Block, WAGO Side Plate	51327009
10-9	1	Power Supply, Switching 24VDC 50 Watt	53500598
10-10	2	Fan Guard	53500281
	8	BHCS, 8-32 x 3/8	00002306
10-11	1	Harness, Remote Operator Station	16321128
	4	BHCS, 8-32 x 3/8	00002306
10-12	1	Harness, Encoder	14601105
	4	BHCS, 6-32 x 3/8	00003314
10-13	1	Module, AC Power Entry W/O Fuse	51631037
	2	Fuse, 10A 125V Fast GMA 5x20mm	51631120

Assembly, Control Panel (continued)

#16321110

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
10-14	1	Flight Trigger Harness	16321125
	4	BHCS, 6-32 x 3/8	00003314
10-15	1	Harness, System I/O	16321115
	4	BHCS, 8-32 x 3/8	00002306
10-16	1	Mount, Side Cable, RH	44947107
	1	Side Adjust Block	44947086
	2	FHMSPHS/S 6-32 x 1 3/4	00002236
10-17	1	Mount, Side Cable, LH	44947084
	1	Block Side Cable	44947085
10-18	1	Bridge, Snap in	51241013
10-19	1	Harness, Batchsize Thumbwheel	16321114
10-20	1	Harness, Flight Skip Thumbwheel	16321113
10-21	2	Selector Switch, 2 Position	51379094
10-22	1	Safety Relay	51632125
N/S	1	Harness, DC Power	16321117
N/S	1	Harness, AC Power	16321116
N/S	1	Harness, DC Power	14601107
N/S	1	Harness, Power Ground	14601115
N/S	2	Harness, Secondary Ground	14601116
N/S	1	Power Cord, 115 VAC IEC	53500002
N/S	1	I/O Cable	64911012
N/S	1	Servo Cable Set	51208132
N/S	1	Harness, Safety Relay	16321119
N/S	1	Harness, Safety Relay	16321120
N/S	1	Harness, DC Power A	16321121
N/S	1	Feeder Cable	16321122
N/S	1	Harness, Thumbwheel Door	16321124
N/S	1	Harness, DC Power B	16321127

Assembly, Control Box Mount

#16321111

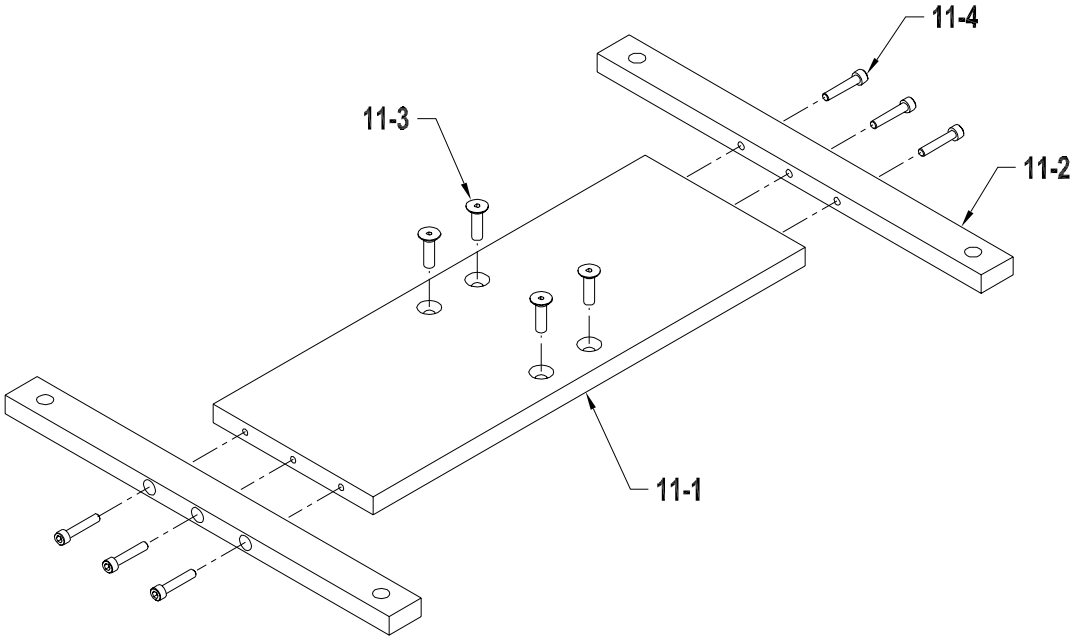


DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
11-1	1	Vertical Support	51632076
11-2	2	Control Box Mount	51632075
11-3	4	FHCS, 1/4-20 x 3/4	00003395
11-4	6	SHCS, 10-32 x 1	00002335
N/S	4	Hex Nut, 3/8-16	00002104
N/S	4	Flat Washer, 3/8	00002606
N/S	4	Hex Bolt, 3/8-16 x 1	00002660
N/S	4	Lock washer, 3/8	00003334

Assembly, Operator Interface

#16321112

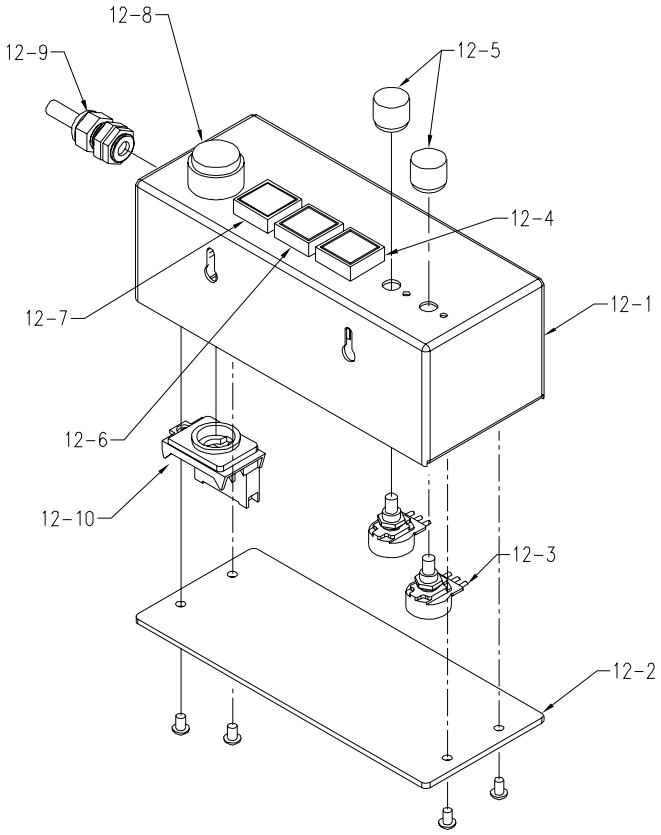


DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
12-1	1	Enclosure Remote Operator Box	51460097
12-2	1	Cover, Remote Operator Box	51460099
	4	BHCS, 10-32 X 3/8	00002805
12-3	2	Harness Speed Pot	14131114
12-4	1	Push Button Square, Green	51413006
12-5	2	Knob, Black Locking	51692017
12-6	1	Push Button Square, Amber	51379089
12-7	1	Push Button Square, Black	51379087
12-8	1	Illuminated Red Push Button Extended	51632102
12-9	1	Cable, Remote Operation Station	16321126
12-10	1	Contact Block NC	51327025
N/S	1	Lamp, LED 24V, Green	51379092
N/S	1	Lamp, LED 24V, Amber	51379093
N/S	1	Graphics Set	51632100
N/S	1	Red LED Module	51632124

Assembly, Heavy Duty Stand

#51021001

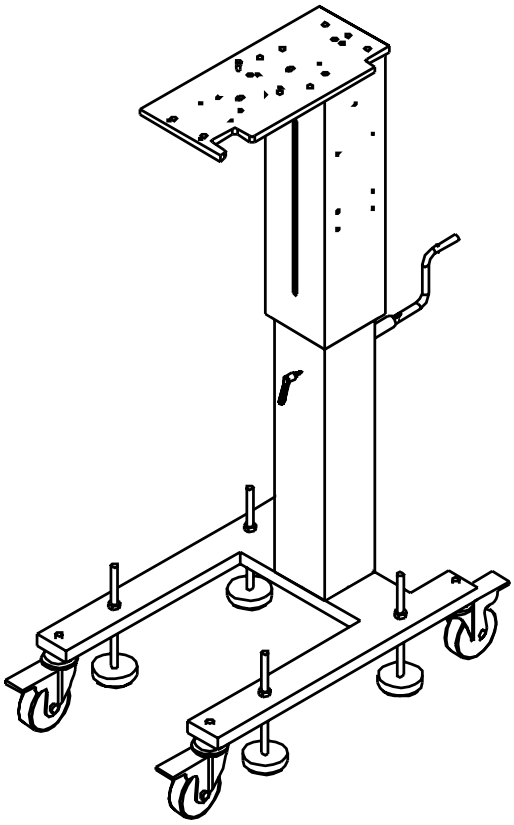


DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
13-1	1	Heavy Duty Stand, Parts breakdown available upon request	

Assembly, Side Guide Narrowing Kit

#16321108

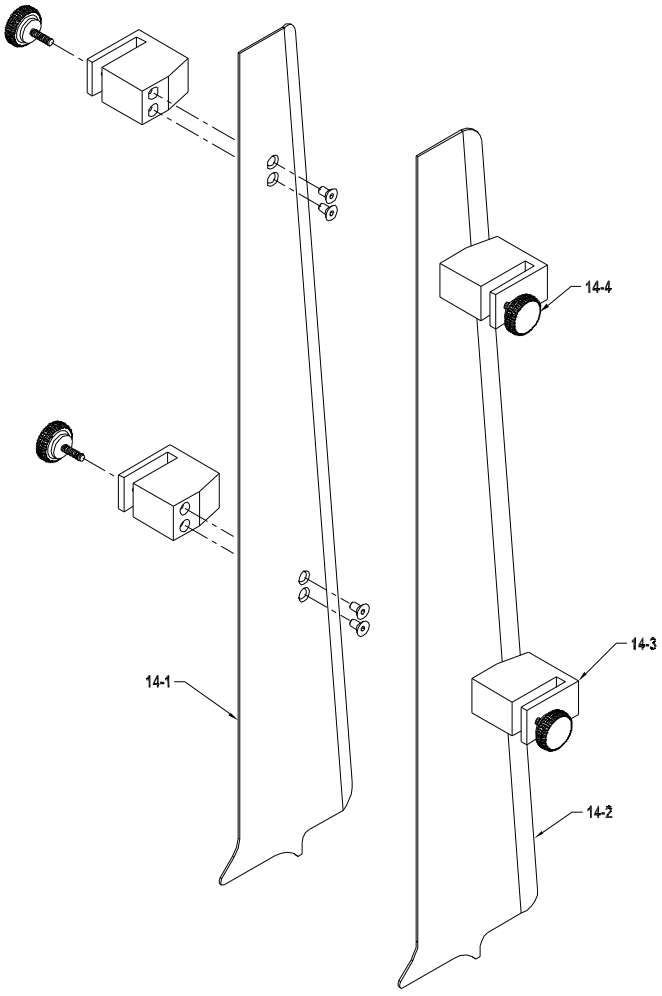


DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
14-1	1	Side Guide, 424, Left	44640025
14-2	1	Side Guide, 424, Right	44640026
14-3	4	Wide Mount Block	44640023
	8	FHCS, 10-32 x 3/8	00002234
14-4	4	Knob, 1” Dia	44681021
	4	SSSCPPT, 10-32 x 1/4	00002216
	4	SSSNYLTIP, 10-32 x 3/4	44681020

Assembly, Pregate (optional)

#16321140

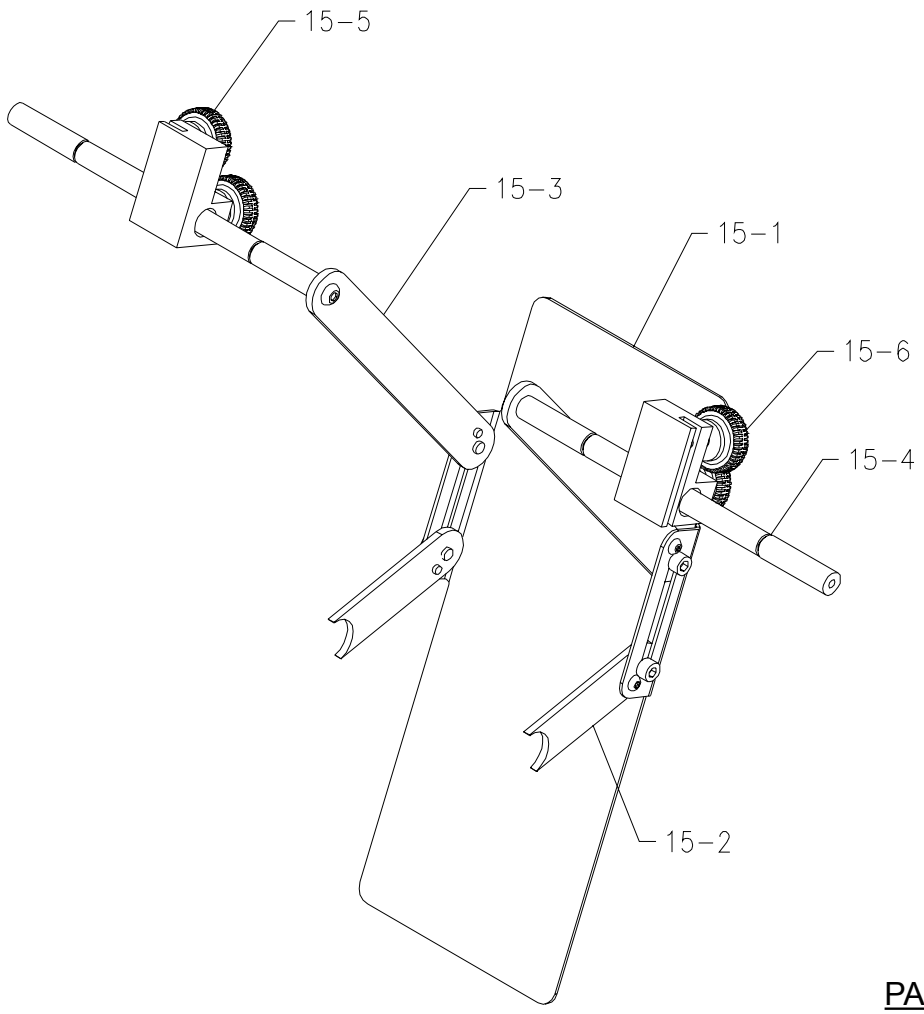
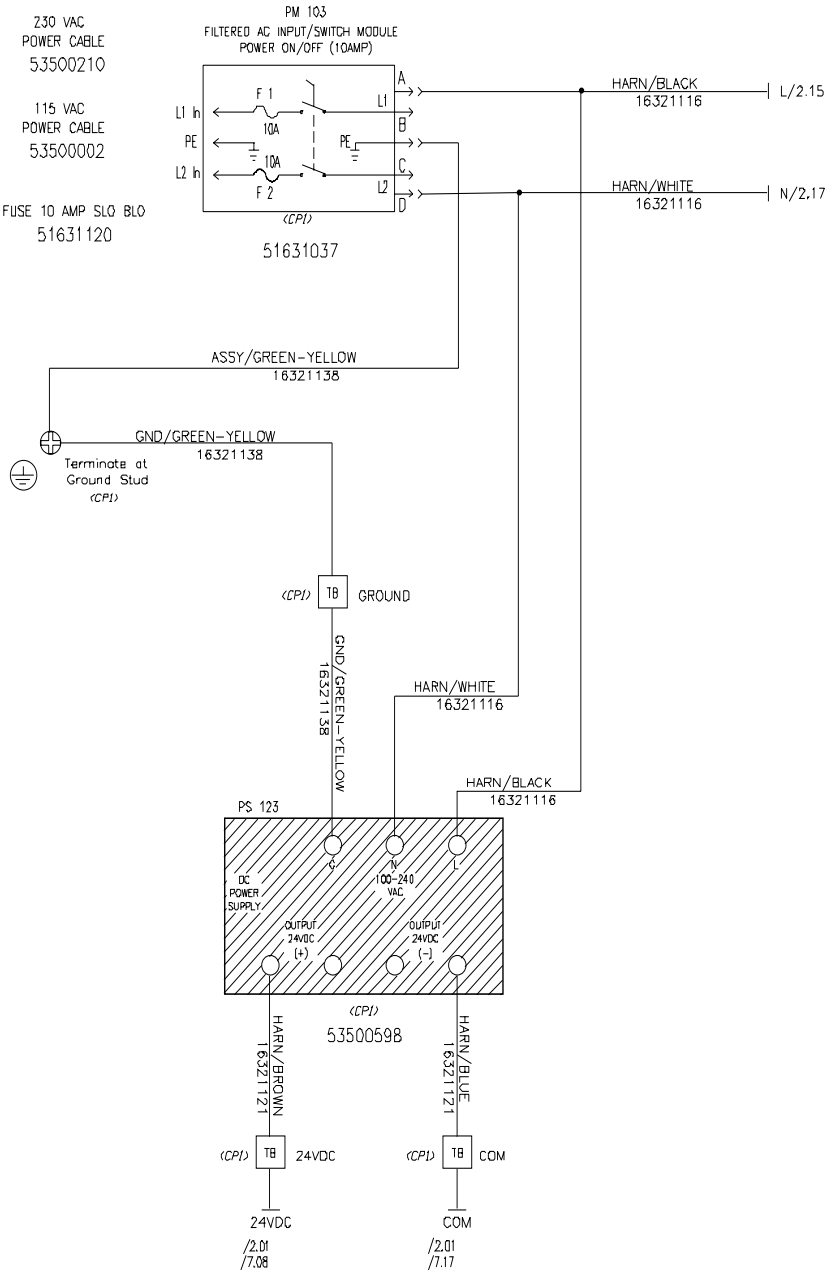
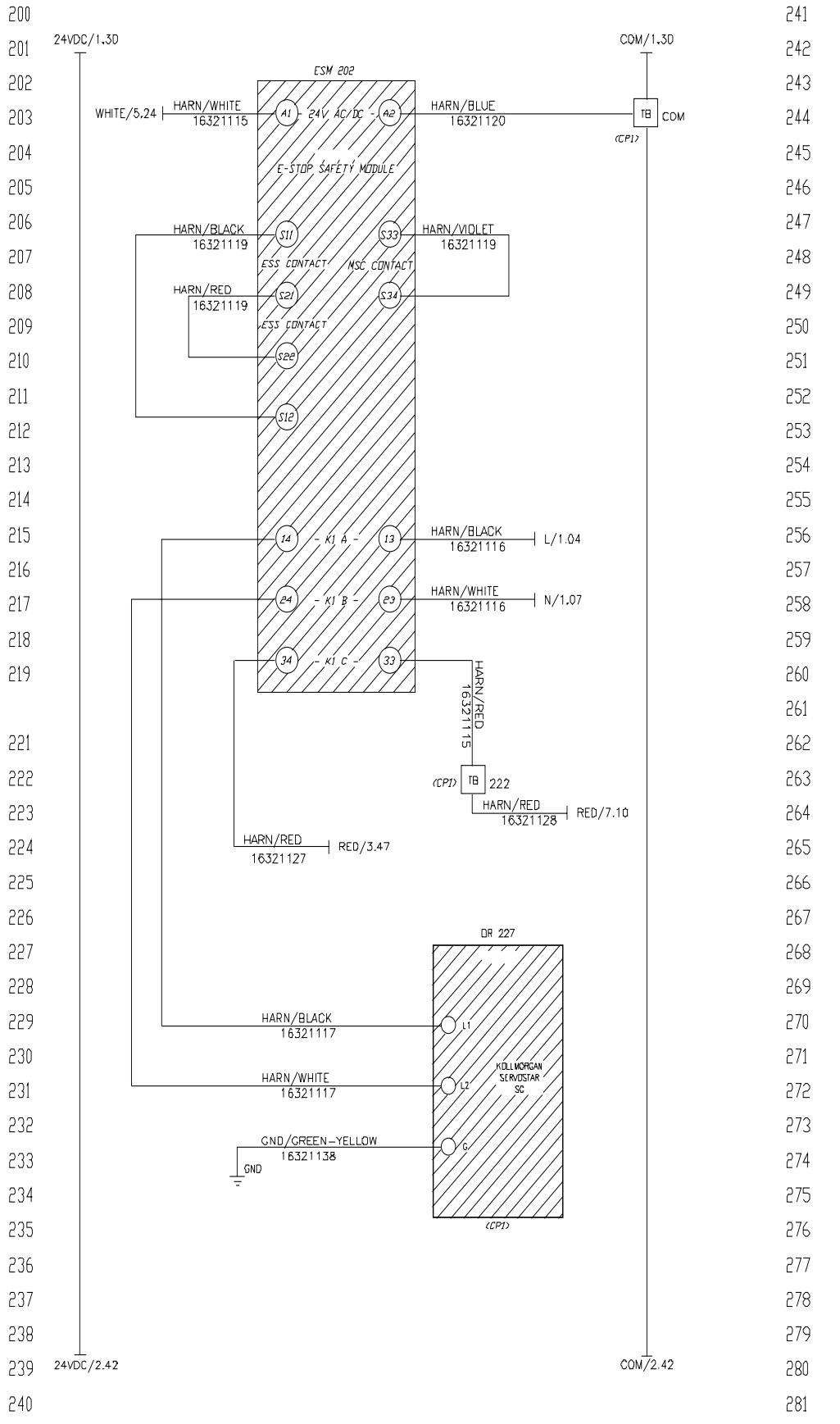
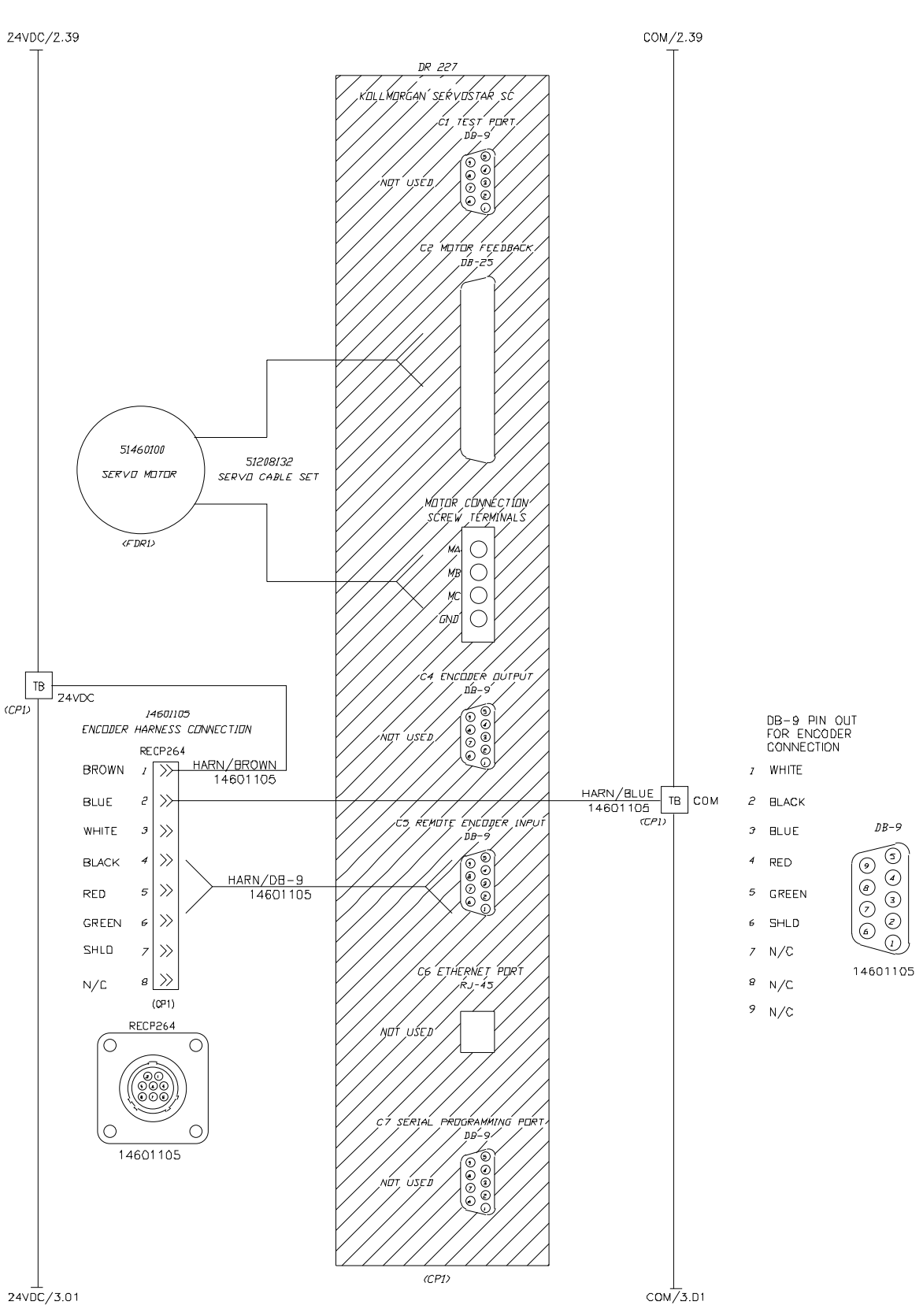


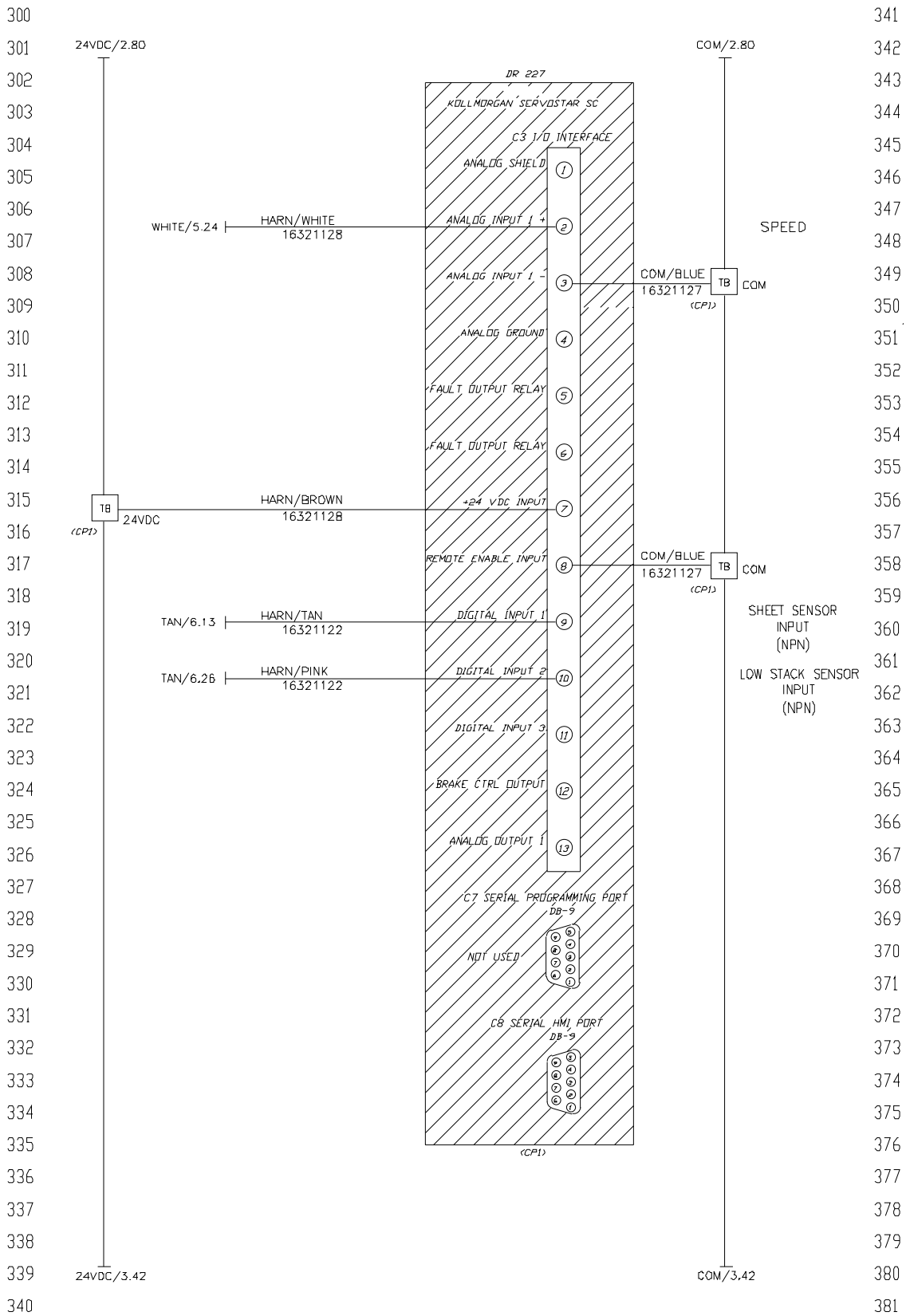
DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
15-1	1	Pregate	51632128
15-2	2	Bottom Arm	51632127
	2	SHCS, 10-32 x 1/4	00002840
	2	SHCS, 6-32 x 1/4	00003416
15-3	2	Arm	51632129
	2	SHCS, 10-32 x 1/4	00002840
	2	SHCS, 6-32 x 1/4	00003416
15-4	2	Shaft, Belt Support	33560040
	2	BHCS, 10-32 x 3/8	00002805
15-5	1	Bracket, Left side, Pre-gate	43560014
	2	Knob, 1 in Dia., 10-32 w/o screw	44681021
	2	SSSNYLTIP, 10-32 x 3/4	44681020
15-6	1	Bracket, Right side, Pre-gate	43560015
	2	Knob, 1 in Dia., 10-32 w/o screw	44681021
	2	SSSNYLTIP, 10-32 x 3/4	44681020

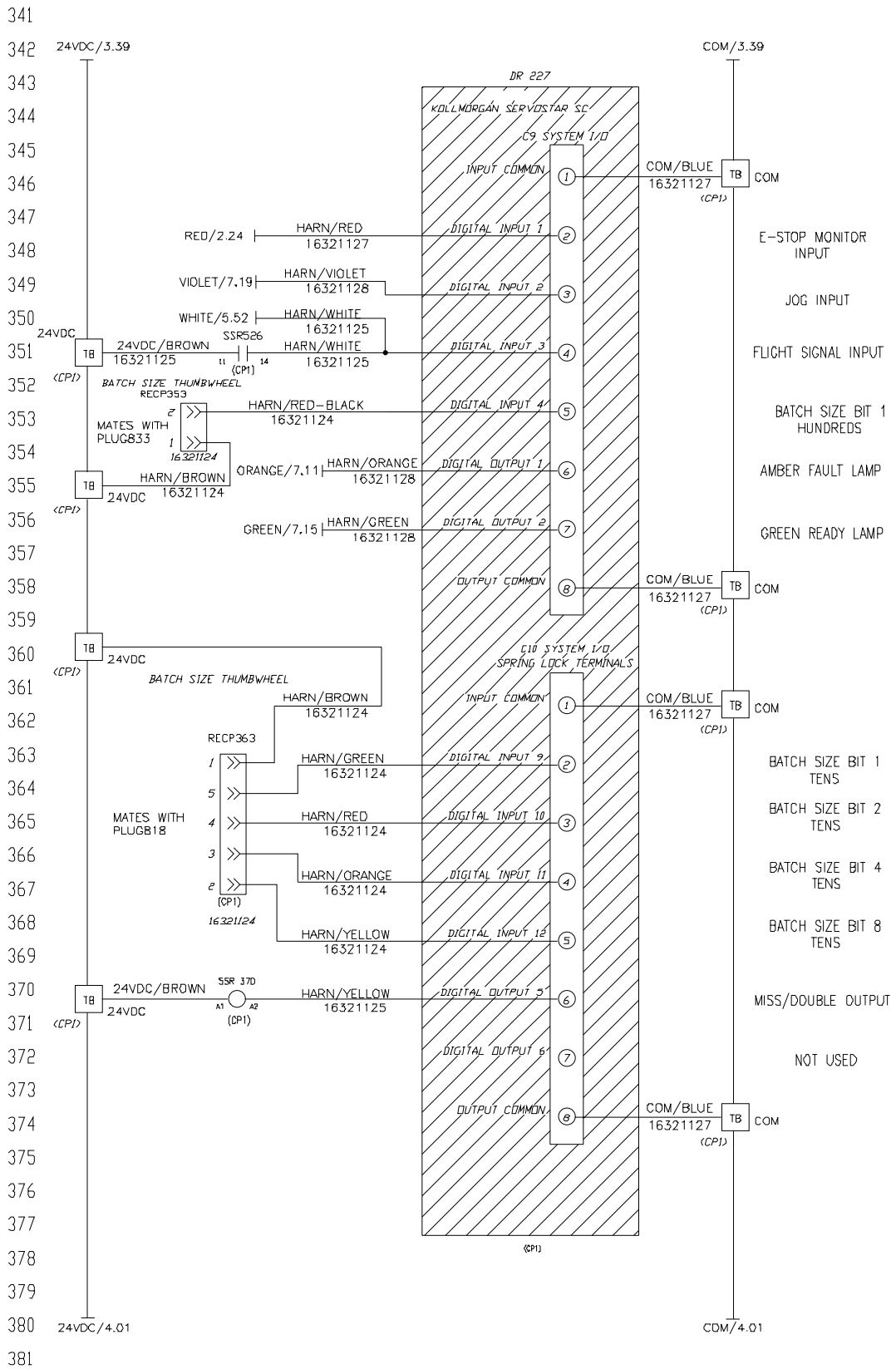
7 ELECTRICAL COMPONENTS

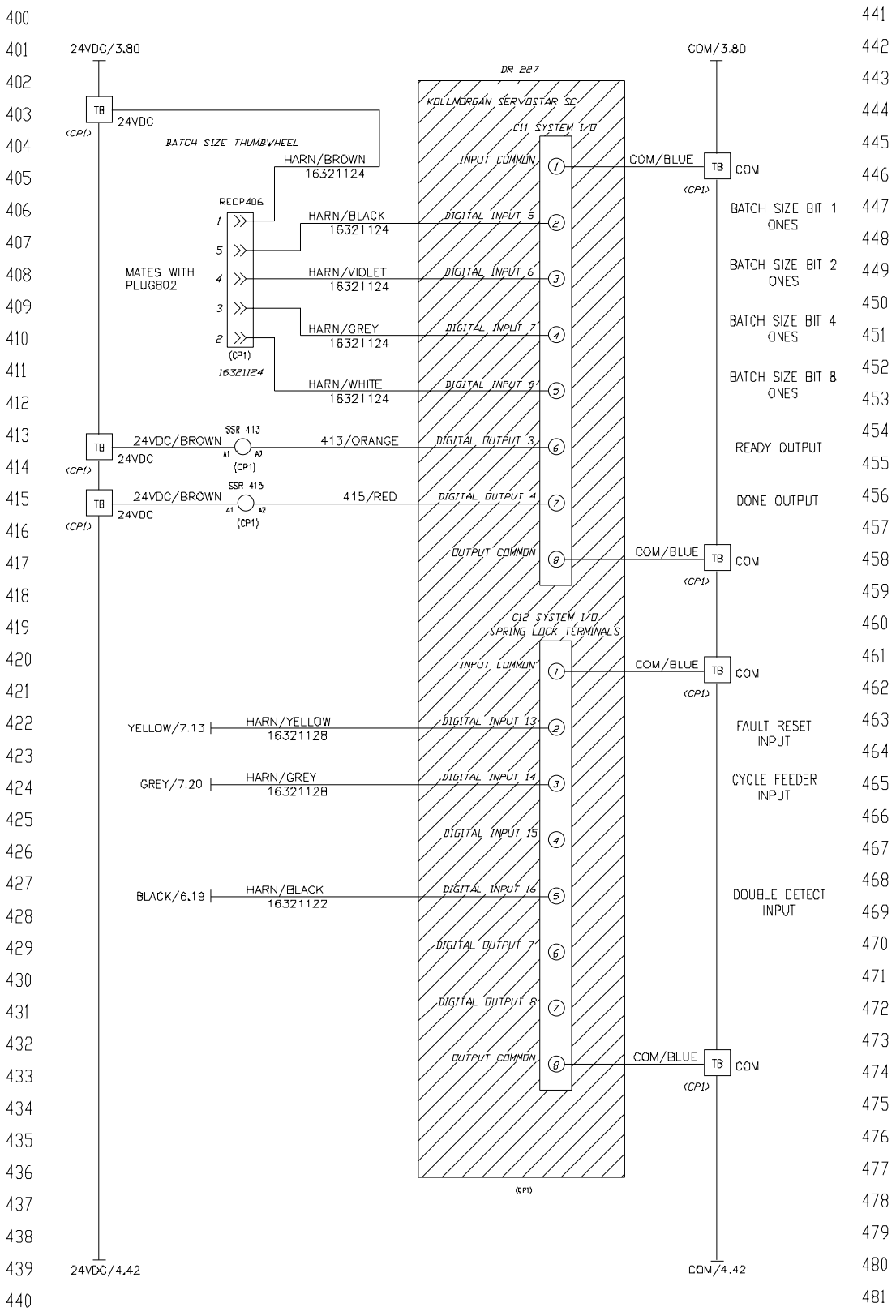


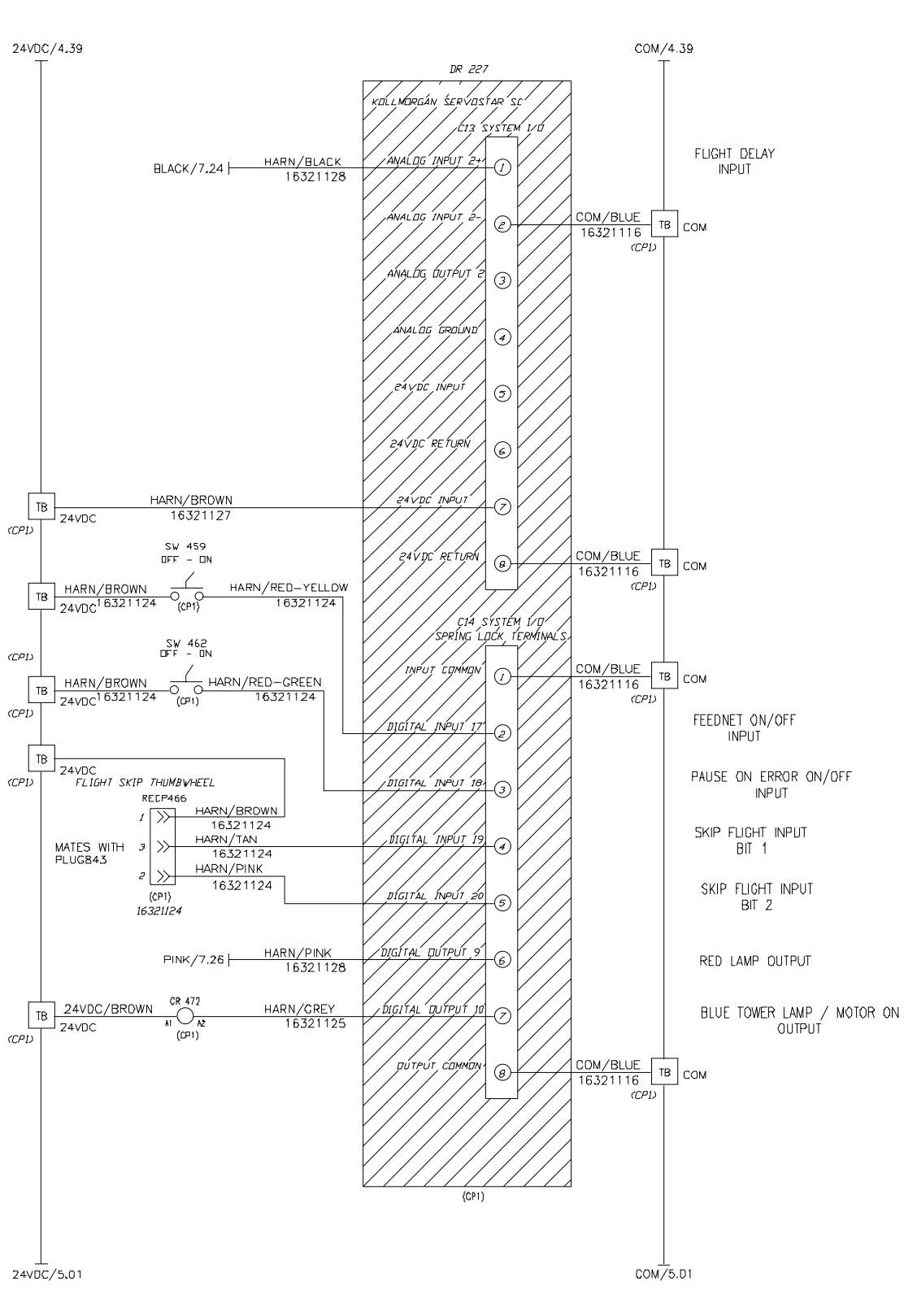

24VDC/1.30
COM/1.30
ESM 202
WHITE/5.24
HARN/WHITE
16321115
A1
24V AC/DC
A2
HARN/BLUE
16321120
TB
COM
(CP1)
E-STOP SAFETY MODULE
HARN/BLACK
16321119
S11
S33
HARN/VIOLET
16321119
ESS CONTACT
MSC CONTACT
HARN/RED
16321119
S21
S34
ESS CONTACT
S22
S12
14
K1 A
13
HARN/BLACK
16321116
L/1.04
24
K1 B
23
HARN/WHITE
16321116
N/1.07
34
K1 C
33
HARN/RED
16321115
(CP1)
TB
222
HARN/RED
16321128
RED/7.10
HARN/RED
16321127
RED/3.47
DR 227
HARN/BLACK
16321117
L1
HARN/WHITE
16321117
L2
KOLLMORGAN
SERVOSTAR
SC
GND/GREEN-YELLOW
16321138
G
GND
(CP1)
24VDC/2.42
COM/2.42

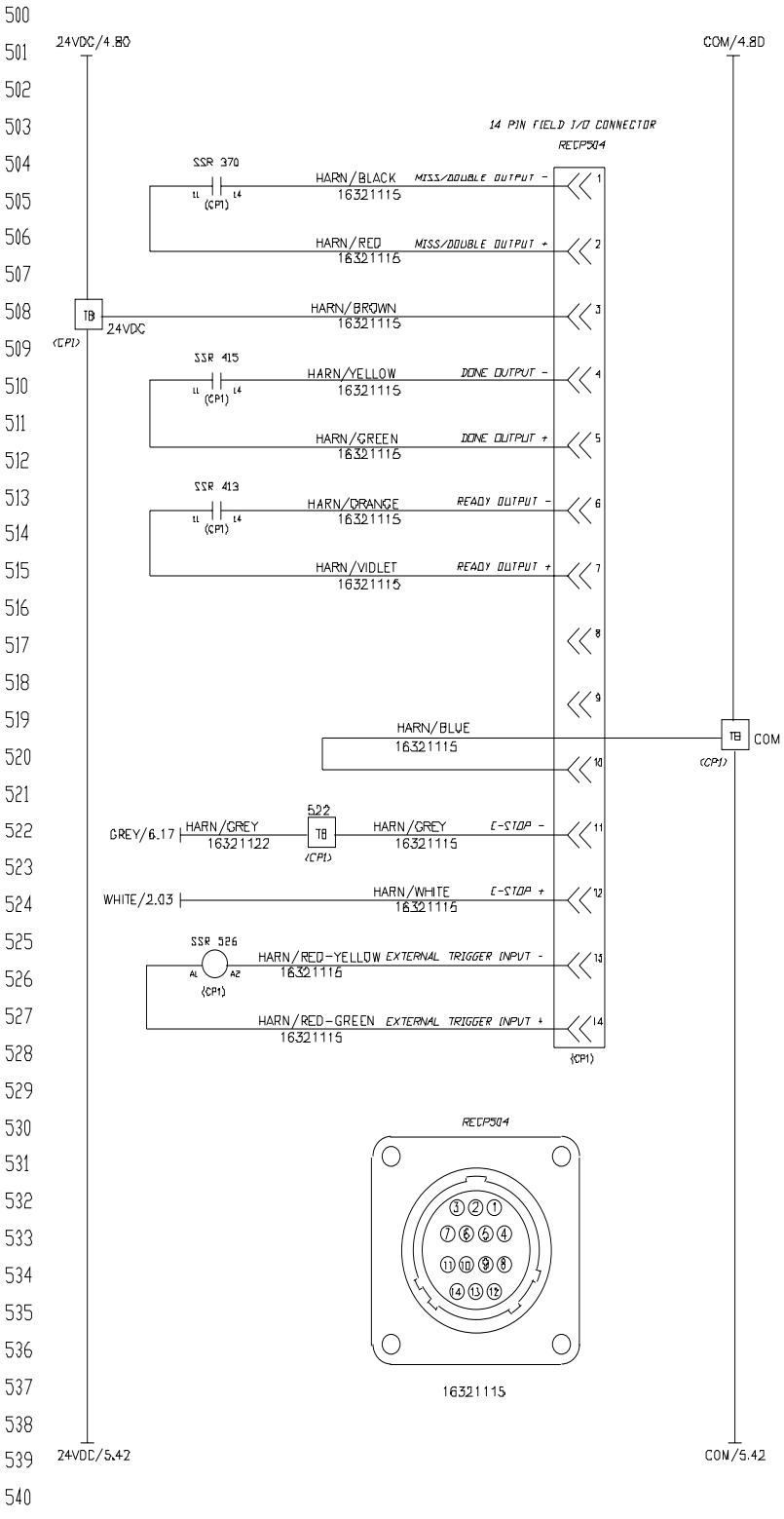

24VDC/2.39
COM/2.39
DR 227
KOLLMORGAN SERVOSTAR SC
C1 TEST PORT
DB-9
NOT USED
C2 MOTOR FEEDBACK
DB-25
51460100
SERVO MOTOR
51208132
SERVO CABLE SET
(FDR1)
MOTOR CONNECTION
SCREW TERMINALS
MA
MB
MC
GND
C4 ENCODER OUTPUT
DB-9
NOT USED
TB
24VDC
(CP1)
14601105
ENCODER HARNESS CONNECTION
RECP264
BROWN 1
BLUE 2
WHITE 3
BLACK 4
RED 5
GREEN 6
SHLD 7
N/C 8
HARN/BROWN
14601105
HARN/BLUE
14601105
TB COM
(CP1)
C3 REMOTE ENCODER INPUT
DB-9
HARN/DB-9
14601105
(CP1)
C6 ETHERNET PORT
RJ-45
NOT USED
RECP264
14601105
C7 SERIAL PROGRAMMING PORT
DB-9
NOT USED
(CP1)
DB-9 PIN OUT
FOR ENCODER
CONNECTION
1 WHITE
2 BLACK
3 BLUE
4 RED
5 GREEN
6 SHLD
7 N/C
8 N/C
9 N/C
DB-9
14601105
24VDC/3.01
COM/3.01

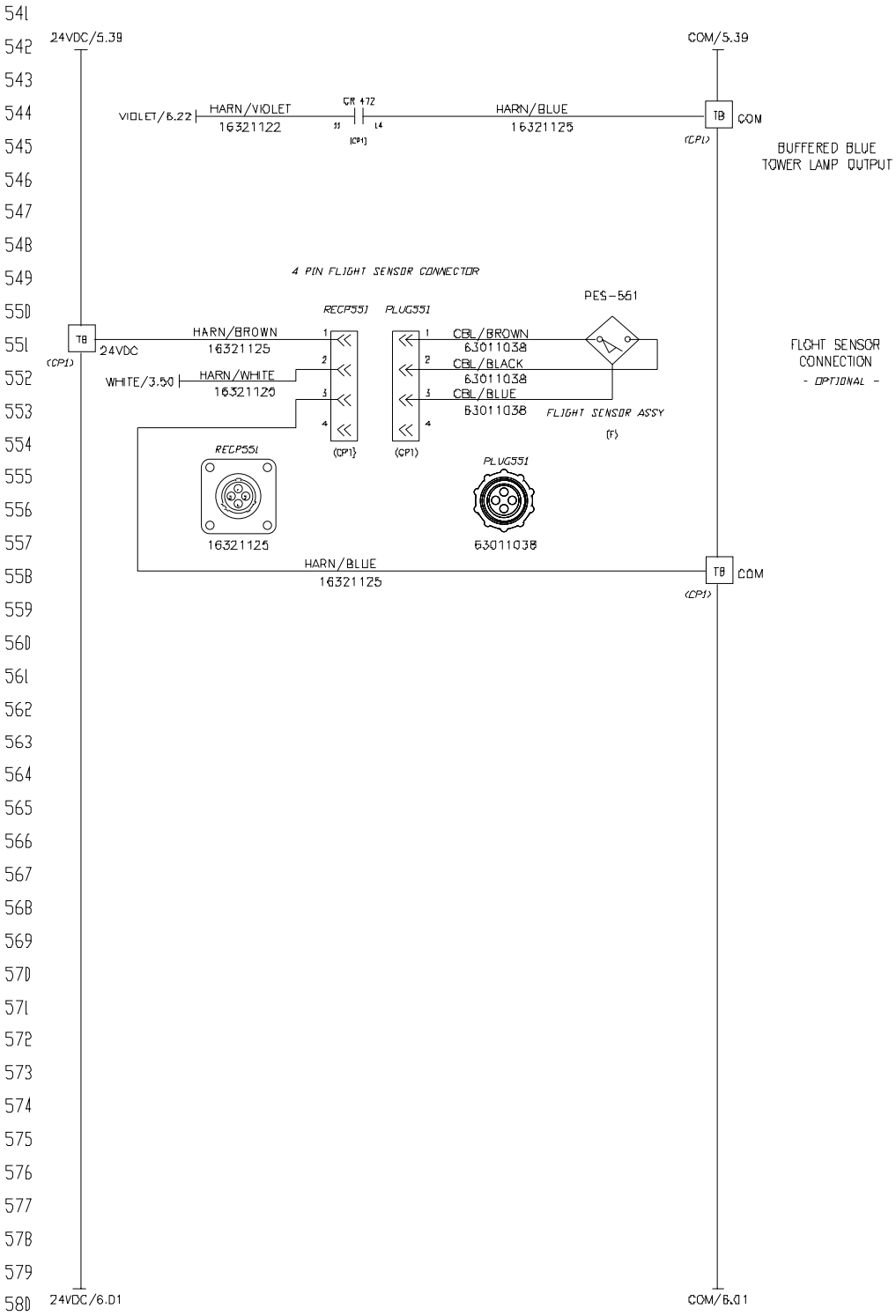

24VDC/2.80
DR 227
KOLLMORGAN SERVOSTAR SC
C3 I/O INTERFACE
ANALOG SHIELD
1
WHITE/5.24
HARN/WHITE
16321128
ANALOG INPUT 1 +
2
ANALOG INPUT 1 -
3
ANALOG GROUND
4
FAULT OUTPUT RELAY
5
FAULT OUTPUT RELAY
6
TB
24VDC
(CP1)
HARN/BROWN
16321128
+24 VDC INPUT
7
REMOTE ENABLE INPUT
8
TAN/6.13
HARN/TAN
16321122
DIGITAL INPUT 1
9
TAN/6.26
HARN/PINK
16321122
DIGITAL INPUT 2
10
DIGITAL INPUT 3
11
BRAKE CTRL OUTPUT
12
ANALOG OUTPUT 1
13
C7 SERIAL PROGRAMMING PORT
DB-9
NOT USED
C8 SERIAL HMI PORT
DB-9
(CP1)
24VDC/3.42
COM/2.80
SPEED
COM/BLUE
16321127
TB
COM
(CP1)
COM/BLUE
16321127
TB
COM
(CP1)
SHEET SENSOR
INPUT
(NPN)
LOW STACK SENSOR
INPUT
(NPN)
COM/3.42

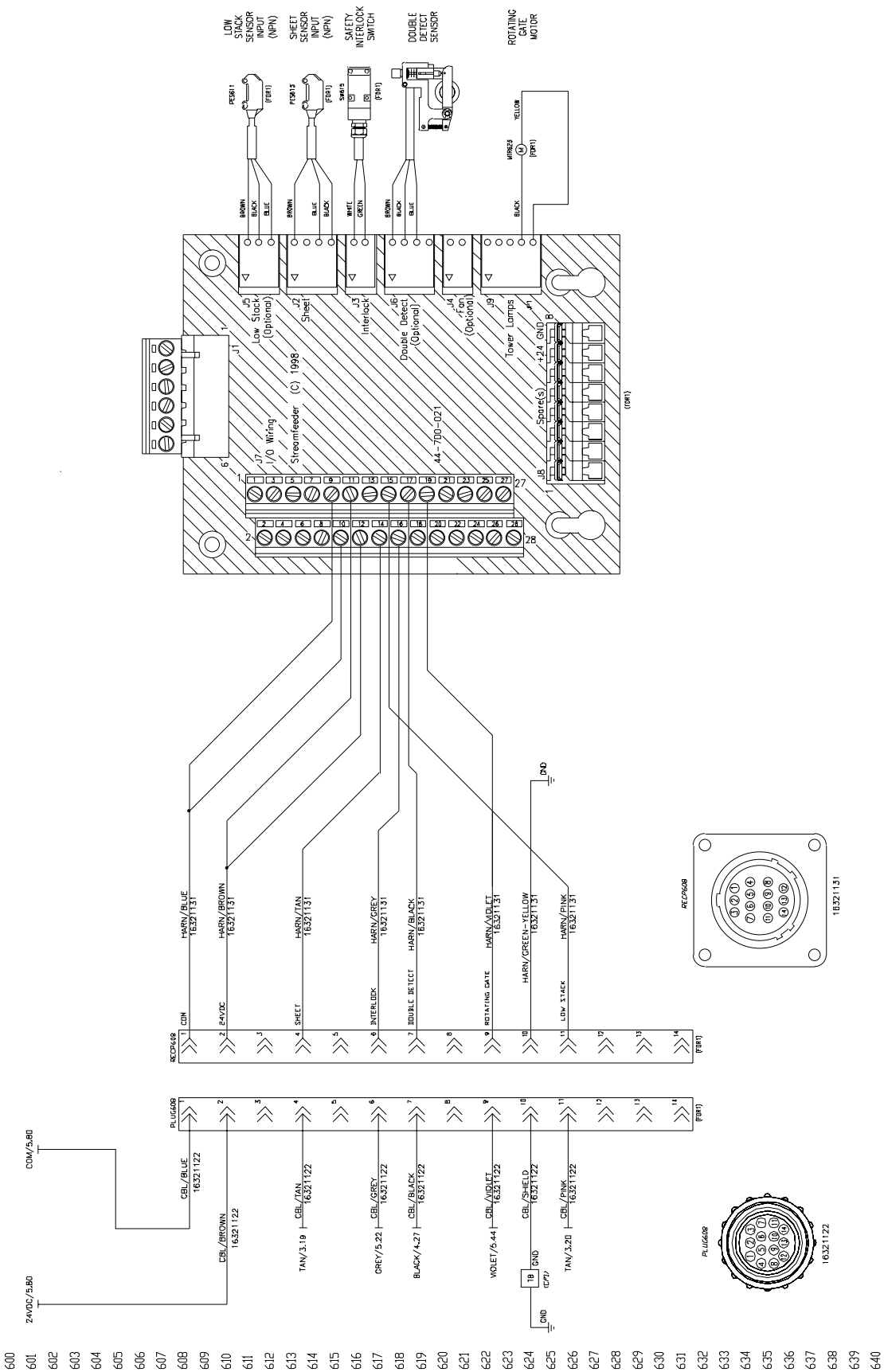

24VDC/3.39
COM/3.39
DR 227
KOLLMORGAN SERVOSTAR SC
C9 SYSTEM I/O
INPUT COMMON
COM/BLUE
16321127
(CP1)
TB
COM
RED/2.24
HARN/RED
16321127
DIGITAL INPUT 1
E-STOP MONITOR INPUT
VIOLET/7.19
HARN/VIOLET
16321128
DIGITAL INPUT 2
JOG INPUT
WHITE/5.52
HARN/WHITE
16321125
24VDC
24VDC/BROWN
16321125
SSR526
11
14
HARN/WHITE
16321125
DIGITAL INPUT 3
FLIGHT SIGNAL INPUT
BATCH SIZE THUMBWHEEL
RECP353
MATES WITH PLUG833
16321124
HARN/RED-BLACK
16321124
DIGITAL INPUT 4
BATCH SIZE BIT 1 HUNDREDS
ORANGE/7.11
HARN/ORANGE
16321128
DIGITAL OUTPUT 1
AMBER FAULT LAMP
HARN/BROWN
16321124
GREEN/7.15
HARN/GREEN
16321128
DIGITAL OUTPUT 2
GREEN READY LAMP
OUTPUT COMMON
C10 SYSTEM I/O
SPRING CLIP TERMINALS
RECP363
MATES WITH PLUG818
HARN/GREEN
16321124
DIGITAL INPUT 9
BATCH SIZE BIT 1 TENS
HARN/RED
16321124
DIGITAL INPUT 10
BATCH SIZE BIT 2 TENS
HARN/ORANGE
16321124
DIGITAL INPUT 11
BATCH SIZE BIT 4 TENS
HARN/YELLOW
16321124
DIGITAL INPUT 12
BATCH SIZE BIT 8 TENS
24VDC/BROWN
SSR 370
A1
A2
HARN/YELLOW
16321125
DIGITAL OUTPUT 5
MISS/DOUBLE OUTPUT
DIGITAL OUTPUT 6
NOT USED
24VDC/4.01
COM/4.01

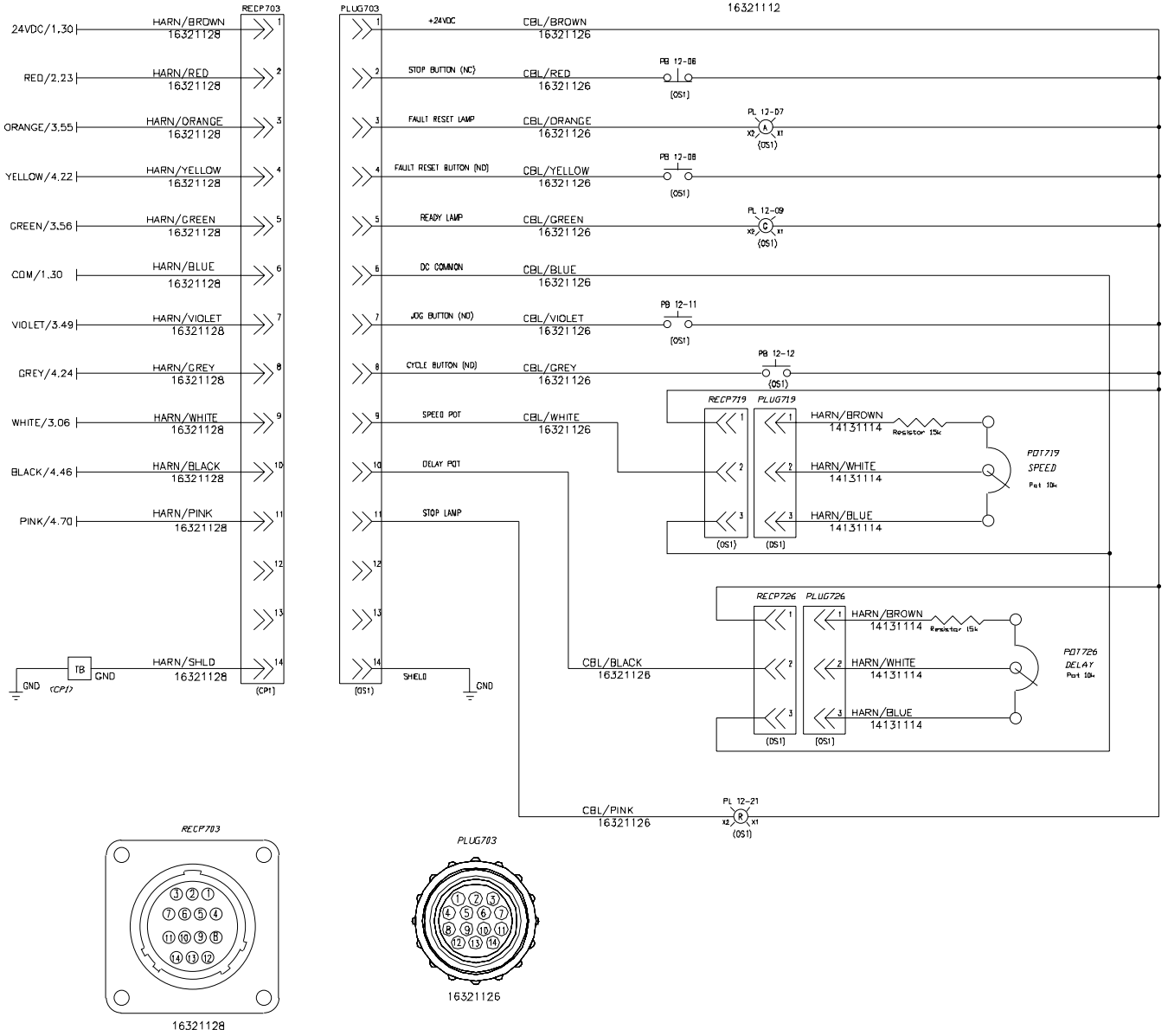

24VDC/3.8D
COM/3.8D
DR 227
KOLLMORGAN SERVOSTAR SC
C11 SYSTEM I/O
TB
24VDC
(CP1)
BATCH SIZE THUMBWHEEL
HARN/BROWN
16321124
RECP406
1
5
4
3
2
(CP1)
16321124
MATES WITH
PLUG802
HARN/BLACK
16321124
HARN/VIOLET
16321124
HARN/GREY
16321124
HARN/WHITE
16321124
INPUT COMMON
DIGITAL INPUT 5
DIGITAL INPUT 6
DIGITAL INPUT 7
DIGITAL INPUT 8
COM/BLUE
COM
BATCH SIZE BIT 1
ONES
BATCH SIZE BIT 2
ONES
BATCH SIZE BIT 4
ONES
BATCH SIZE BIT 8
ONES
SSR 413
24VDC/BROWN
413/ORANGE
DIGITAL OUTPUT 3
READY OUTPUT
SSR 415
24VDC/BROWN
415/RED
DIGITAL OUTPUT 4
DONE OUTPUT
OUTPUT COMMON
C12 SYSTEM I/O
SPRING LOCK TERMINALS
YELLOW/7.13
HARN/YELLOW
16321128
DIGITAL INPUT 13
FAULT RESET
INPUT
GREY/7.20
HARN/GREY
16321128
DIGITAL INPUT 14
CYCLE FEEDER
INPUT
DIGITAL INPUT 15
BLACK/6.19
HARN/BLACK
16321122
DIGITAL INPUT 16
DOUBLE DETECT
INPUT
DIGITAL OUTPUT 7
DIGITAL OUTPUT 8
24VDC/4.42
COM/4.42


24VDC/4.39
COM/4.39
DR 227
KOLLMORGAN SERVOSTAR SC
C13 SYSTEM I/O
ANALOG INPUT 2+
ANALOG INPUT 2-
ANALOG OUTPUT 2
ANALOG GROUND
24VDC INPUT
24VDC RETURN
24VDC INPUT
24VDC RETURN
C14 SYSTEM I/O
SPRING LOCK TERMINALS
INPUT COMMON
DIGITAL INPUT 17
DIGITAL INPUT 18
DIGITAL INPUT 19
DIGITAL INPUT 20
DIGITAL OUTPUT 9
DIGITAL OUTPUT 10
OUTPUT COMMON
BLACK/7.24
HARN/BLACK
16321128
FLIGHT DELAY INPUT
COM/BLUE
16321116
TB
COM
(CP1)
HARN/BROWN
16321127
24VDC
SW 459
OFF - ON
HARN/BROWN
16321124
HARN/RED-YELLOW
16321124
SW 462
OFF - ON
HARN/RED-GREEN
16321124
FEEDNET ON/OFF INPUT
PAUSE ON ERROR ON/OFF INPUT
FLIGHT SKIP THUMBWHEEL
RECP466
HARN/BROWN
16321124
HARN/TAN
16321124
HARN/PINK
16321124
MATES WITH PLUG843
SKIP FLIGHT INPUT BIT 1
SKIP FLIGHT INPUT BIT 2
PINK/7.26
HARN/PINK
16321128
RED LAMP OUTPUT
24VDC/BROWN
CR 472
HARN/GREY
16321125
BLUE TOWER LAMP / MOTOR ON OUTPUT
24VDC/5.01
COM/5.01


24VDC/4.8D
COM/4.8D
14 PIN FIELD I/O CONNECTOR
RECP504
SSR 370
HARN/BLACK
16321115
MISS/DOUBLE OUTPUT -
HARN/RED
16321115
MISS/DOUBLE OUTPUT +
TB
24VDC
(CP1)
HARN/BROWN
16321115
SSR 415
HARN/YELLOW
16321115
DONE OUTPUT -
HARN/GREEN
16321115
DONE OUTPUT +
SSR 413
HARN/ORANGE
16321115
READY OUTPUT -
HARN/VIOLET
16321115
READY OUTPUT +
HARN/BLUE
16321115
TB
COM
(CP1)
522
GREY/6.17
HARN/GREY
16321122
HARN/GREY
16321115
E-STOP -
WHITE/2.03
HARN/WHITE
16321115
E-STOP +
SSR 526
HARN/RED-YELLOW
16321115
EXTERNAL TRIGGER INPUT -
HARN/RED-GREEN
16321115
EXTERNAL TRIGGER INPUT +
RECP504
16321115
24VDC/5.4D
COM/5.4D

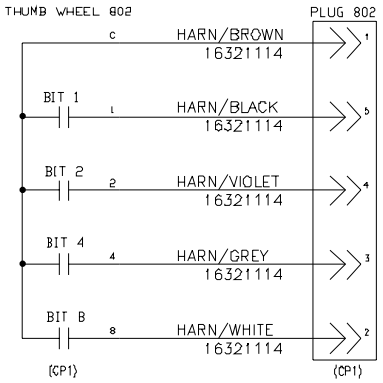

24VDC/5.39
COM/5.39
VIOLET/6.22
HARN/VIOLET
16321122
CR 172
11
14
(CP1)
HARN/BLUE
16321125
TB
COM
(CP1)
BUFFERED BLUE
TOWER LAMP OUTPUT
4 PIN FLIGHT SENSOR CONNECTOR
RECP551
PLUG551
PES-561
TB
(CP1)
24VDC
HARN/BROWN
16321125
WHITE/3.50
HARN/WHITE
16321125
CBL/BROWN
63011038
CBL/BLACK
63011038
CBL/BLUE
63011038
FLIGHT SENSOR ASSY
(F)
FLIGHT SENSOR
CONNECTION
- OPTIONAL -
(CP1)
(CP1)
RECP551
16321125
PLUG551
63011038
HARN/BLUE
16321125
TB
COM
(CP1)
24VDC/6.01
COM/6.01


LOW STACK SENSOR INPUT (NPN)
SHEET SENSOR INPUT (NPN)
SAFETY INTERLOCK SWITCH
DOUBLE DETECT SENSOR
ROTATING GATE MOTOR
J1
J2 Sheet
J3 Interlock
J4 Fan (Optional)
J5 Low Stack (Optional)
J6 Double Detect (Optional)
J7 I/O Wiring
J8
J9
Streamfeeder (C) 1998
44-700-021
Tower Lamps
Spare(s)
+24
GND
(COM)
RECP608
PLUG608
HARN/BLUE 16321131
HARN/BROWN 16321131
HARN/TAN 16321131
HARN/GREY 16321131
HARN/BLACK 16321131
HARN/VIOLET 16321131
HARN/GREEN-YELLOW 16321131
HARN/PINK 16321131
CBL/BLUE 16321122
CBL/BROWN 16321122
CBL/TAN 16321122
CBL/GREY 16321122
CBL/BLACK 16321122
CBL/VIOLET 16321122
CBL/SHIELD 16321122
CBL/PINK 16321122
COM/5.80
24VDC/5.80
GND
TAN/3.19
GREY/5.22
BLACK/4.27
VIOLET/5.44
TAN/3.20
16321131
16321122


OPERATOR STATION 1
(OS1)
16321112
RECP703
PLUG703
24VDC/1.30
RED/2.23
ORANGE/3.55
YELLOW/4.22
GREEN/3.56
COM/1.30
VIOLET/3.49
GREY/4.24
WHITE/3.06
BLACK/4.46
PINK/4.70
HARN/BROWN 16321128
HARN/RED 16321128
HARN/ORANGE 16321128
HARN/YELLOW 16321128
HARN/GREEN 16321128
HARN/BLUE 16321128
HARN/VIOLET 16321128
HARN/GREY 16321128
HARN/WHITE 16321128
HARN/BLACK 16321128
HARN/PINK 16321128
HARN/SHLD 16321128
TB
GND
(CP1)
+24VDC
STOP BUTTON (NC)
FAULT RESET LAMP
FAULT RESET BUTTON (NO)
READY LAMP
DC COMMON
JOG BUTTON (NO)
CYCLE BUTTON (NO)
SPEED POT
DELAY POT
STOP LAMP
SHIELD
CBL/BROWN 16321126
CBL/RED 16321126
CBL/ORANGE 16321126
CBL/YELLOW 16321126
CBL/GREEN 16321126
CBL/BLUE 16321126
CBL/VIOLET 16321126
CBL/GREY 16321126
CBL/WHITE 16321126
CBL/BLACK 16321126
CBL/PINK 16321126
PB 12-06
PB 12-08
PB 12-11
PB 12-12
PL 12-07
PL 12-09
PL 12-21
RECP719
PLUG719
RECP726
PLUG726
HARN/BROWN 14131114
HARN/WHITE 14131114
HARN/BLUE 14131114
Resistor 15k
POT719 SPEED Pot 10k
POT726 DELAY Pot 10k
RECP703
16321128
PLUG703
16321126

BATCH SIZE ONES

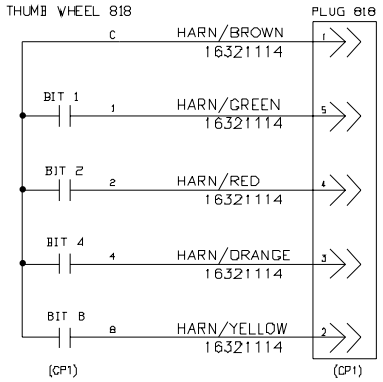
16321114



MATES WITH
RECP406

BATCH SIZE TENS

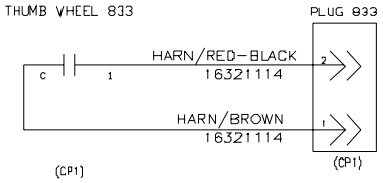
16321114



MATES WITH
RECP363

BATCH SIZE HUNDREDS

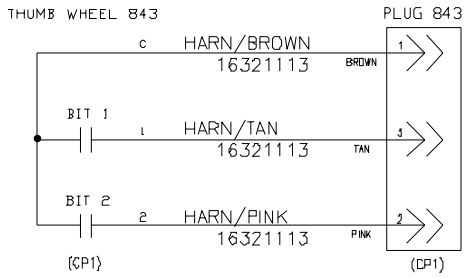
16321114



MATES WITH
RECP353

FLIGHT SKIP THUMBWHEEL

16321113



MATES WITH
RECP466

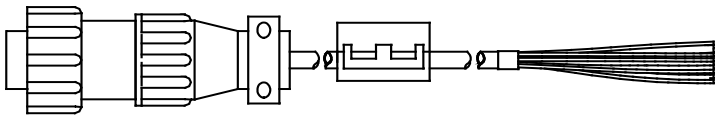
8 SYSTEM I/O OPTIONS

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
1	Brown	Miss/Double Output (-)	419	SSR
2	Red	Miss/Double Output (+)		24 VDC
3	Orange	+24 VDC Supply (150ma. max)	-	
4	Yellow	Done Output (-)	510	SSR
5	Green	Done Output (+)		24 VDC
6	Blue	Ready Output (-)	509	SSR
7	Violet	Ready Output (+)		24 VDC
10	Black & Shield	DC Supply Ground	-	
11	Tan	E-Stop	202	ESM
12	Pink	E-Stop		24 VDC
13	Red /Yellow	External Trigger Input (-)	715	SSR
14	Red / Green	External Trigger Input (+)		24 VDC



External I/O Cable 649–11–012

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