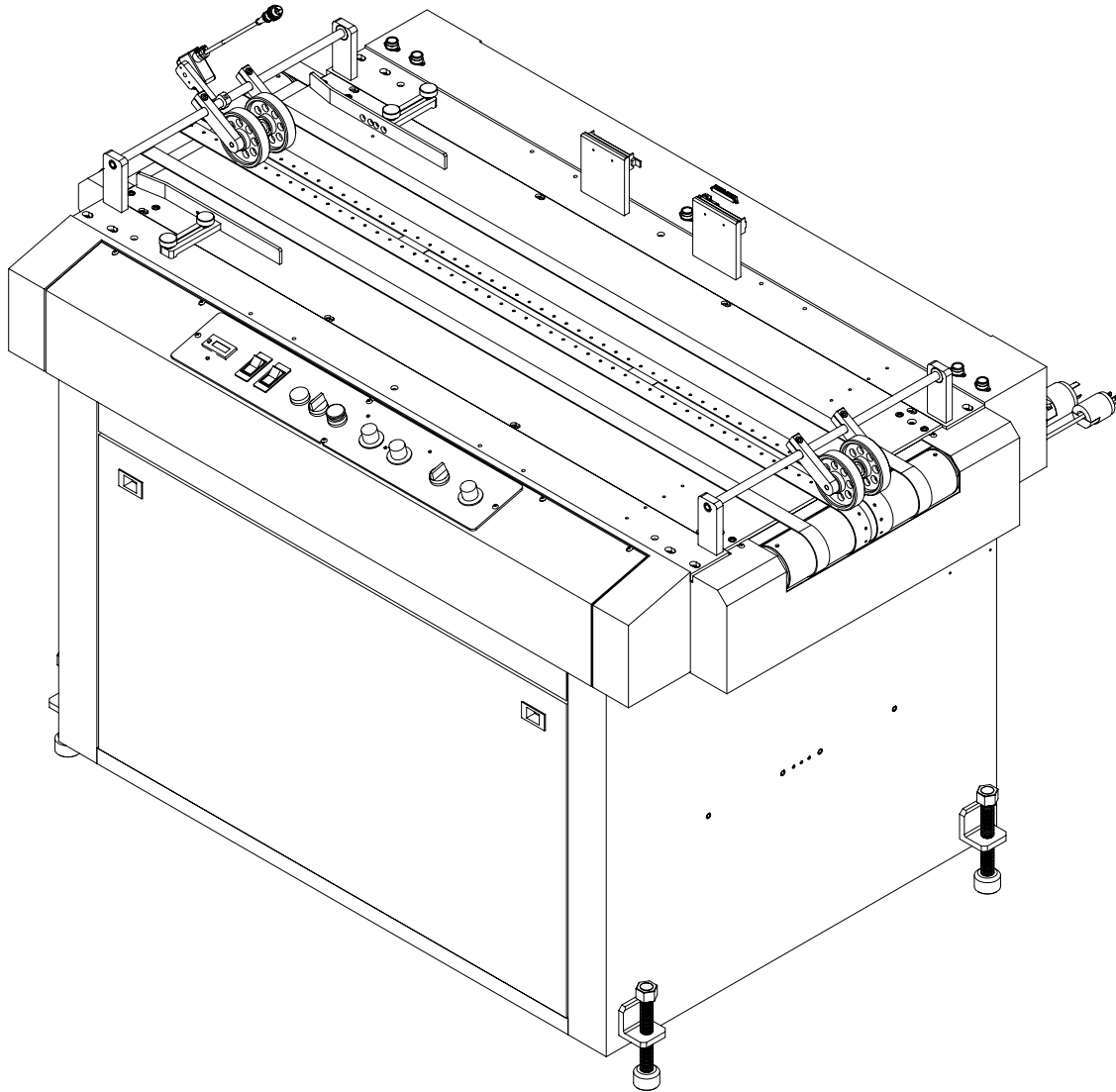


BUSKRO[®] BK71B Inline Base



BK7IB Inline Base User's Guide

Published by:

Buskro Ltd.

1738 Orangebrook Court, Unit #1

Pickering, ON, L1W 3G8

Canada

Tel.: (905) 839-6018

Fax: (905) 839-6023

All Rights Reserved. No part of this book may be used or reproduced in any form or by any means, electronic or mechanical, or stored in a database or retrieval system, without prior written permission of Buskro Ltd. except in case of brief quotations embodied in critical articles or reviews. Making copies of any part of this book for any purpose other than your own personal use is a violation of copyright laws.

Copyright © 2002, Buskro Ltd.

First Edition, 2002

Printed in Canada

This manual is sold as is, without warranty of any kind, either express or implied, respecting the contents of this manual, including but not limited to implied warranties for the manual's quality, performance, merchantability, or fitness for any particular purpose. Neither Buskro Ltd. nor its dealers or distributors shall be liable to the purchaser nor any other person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by this manual.

Manual History

Version	Date	Description	ECO No.
1.0	01-Feb-02	Manual Released.	N/A
1.1	02-Jul-02	Updated Appendix A (BKT7IBRNA).	268
1.2	22-Jul-03	Updated Appendix A (9100373LA, 9100373RA)	398

1.0	General Information	1-0
1.1	Description	1-1
1.2	Features	1-2
1.2.1	Vacuum Table Belts.....	1-2
1.2.2	Controller	1-3
1.2.3	Quiet Operation.....	1-3
1.2.4	Electronic Gap Controller	1-3
1.2.5	Complete Instrument Panel.....	1-3
1.2.6	BK1600 Series Conveyor Compatibility	1-4
1.2.7	Tabber Compatibility	1-4
1.2.8	Auxiliary Feeder Compatibility	1-4
1.2.9	Maintenance Considerations.....	1-5
1.2.10	Print Quality Considerations.....	1-5
1.3	Specifications.....	1-6
1.4	System Drawings.....	1-7
2.0	Operator Instructions	2-0
2.1	The Base Interface Board	2-1
2.2	Instrument Panel Functions	2-1
2.2.1	Rocker Switches	2-2
2.2.2	Gap, Conveyor, and Production Controls.....	2-3
2.2.3	Machine and Conveyor Function Pushbuttons	2-5
2.2.4	Resettable Piece Counter	2-8
2.3	Material Side Guide Adjustments.....	2-8
2.4	Upstream Compatibility	2-10
2.4.1	BK720 Friction Feeder	2-11
2.5	Downstream Compatibility.....	2-12
2.6	Maintenance Schedule.....	2-13
3.0	BK7IB Integration.....	3-0
3.1	Introduction	3-1
3.2	Physical Mounting.....	3-1
3.3	Cable Connections.....	3-2

Appendix A – Assembly Drawings

Appendix B – Electrical Drawings

Appendix C – Base Interface Board

1.1 Description

The Buskro BK7IB Inline Base is a mailpiece transportation system and features a transport mechanism that is controlled via a centrally located operator control panel. The system was specifically designed as a flexible and reliable platform whose purpose was to optimize the performance of an inkjet imaging system. The BK7IB, in conjunction with the BK700 Portable Controller, produces some of the highest quality imaging within one of the simplest and most efficient operating environments.

The mailpiece transport system, designed for the inkjet process, consists of vacuum equipped table belts with an electronic variable pitch control technology that permits regulation of the belt movement to adjust to the mailpiece's size. In addition, an alignment section with side guides is present at the input of the base to reduce mailpiece skew prior to entry into the inkjet imaging area. A directly coupled shaft encoder mounted on the transport belt driveshaft provides sequencing of the inkjet process.

Operator control of the BK7IB is provided by a series of electrical switches and buttons displayed on a clear, unhindered control panel centrally positioned at the front of the base. The control panel consists of circuit breaker switches for the Main and Vacuum power; a resettable LCD piece totalizing counter; rotary dial potentiometers for the conveyor, base, and pitch control; Start/Stop/Jog pushbutton controls for machine operation; and an On/Off/Auto selector for the conveyor.

All these features, in addition to the manufacturing quality and innovative product design, add up to an extremely functional inkjet base capable of years of reliable operation.

In order to fulfill the specific needs of the customer, a number of different versions of the BK7IB were developed. In order to satisfy the different electrical requirements, North American, Japanese, and International models were developed. The differences can be seen in the overall schematics found in *Appendix B*. In addition, the BK7IB is available in a left-to-right (*Right machine – BK7IBR*) or a right-to-left (*Left machine – BK7IBL*) transport direction regardless of the country.

The North American version is designed for 230 VAC 60 Hz operation but also has a 115 VAC power cable which is connected to the 115 VAC power outlets on the rear. Its full designation would be BK7IBRNA or BK7IBLNA, depending on the direction of process flow.

The international version would be a BK7IBRUK or BK7IBLUK. This version was designed to be used at any location where the power is 230 VAC, 50 or 60 Hz. The machine is equipped with an internal 230 VAC to 115 VAC isolation transformer rated at 1 kVA. The transformer powers the 115 VAC outlets at the rear of the machine to accommodate any peripheral equipment designed for the North American line voltage standard (e.g. a BK700 Portable Controller and/or a BK720 Friction Feeder).

A special Japanese version (BK7IBRJP or BK7IBLJP) is also available, designed for operating at 200 - 240 VAC, 50 or 60 Hz. This version has an internal isolation transformer, rated at 4.5 kVA. It has primary taps at 200, 208, 220, 230 and 240 Volts and a secondary 230 Volt winding, tapped at 115 Volts. The transformer not only generates the 230 VAC needed internally for the BK7IB, but can also supply external heaters and other peripheral equipment rated at 230 VAC. In addition, it provides 115 VAC for those peripherals which need that voltage. One of the dual 115 VAC outlets at the rear is replaced by a single standard North American 230 VAC twistlock outlet.

1.2 Features

1.2.1 Vacuum Table Belts

The table belts, which transport the mailpieces past the inkjet imaging region, are equipped with vacuum to provide positive adhesion to the base. This helps to ensure accurate placement of the image on the mailpiece. The BK7IB also provides adjustable outer belts to accommodate different size mailpieces.

1.2.2 Controller

The BK7IB is completely modular and was designed to accommodate the BK700 portable controller in order to control the printing process.

1.2.3 Quiet Operation

In order to reduce the noise of the main blower that provides vacuum to the transport tabletop, a sound enclosure was designed using sound-abatement foam. In addition, the blower is mounted on damping feet in order to reduce vibration and the resulting noise.

1.2.4 Electronic Gap Controller

The BK7IB has a unique gap controller which aids in increasing productivity without sacrificing print quality. In essence, the BK7IB can electronically monitor and regulate the gap spacing between mailpieces and minimize it for optimum print quality and performance. Gap control is achieved by transferring the speed control of an attached feeder to the control of the BK7IB's gap control circuitry.

Gap control is done through an adjustment of the gap dial mounted on the machine's instrument panel (described in Chapter 2). Similarly, the conveyor dial can be adjusted to achieve a desired shingle spacing (material overlap) of the mailpiece on the conveyor bed.

1.2.5 Complete Instrument Panel

All necessary controls required to operate the BK7IB are easily accessible to the operator on a central instrument panel. The control panel comes complete with circuit breaker equipped rocker switches, large pushbuttons for all machine/conveyor functions, variable speed potentiometers for machine/conveyor speed regulation, and a resettable piece counter.

1.2.6 BK1600 Series Conveyor Compatibility

The BK7IB is fully compatible with any BK1600 series conveyor from a 6-foot model through to an 18-foot model. Connection to the conveyor is made through a 7-pin circular connector located at the rear of the base. A DC-speed controller mounted inside the base comes with a speed potentiometer, located on the front panel, for complete control of the conveyor's belt speed. As previously mentioned, the conveyor dial will automatically regulate shingle spacing in the automatic mode. However, it is possible for the user to manually set the shingle spacing if desired.

1.2.7 Tabber Compatibility

The inkjet base is compatible with all Buskro Tabbers. This allows for full integration between the Tabber and base controls such that the controls on either system can directly stop and/or start the entire system. Connection to the Tabber is made through a connector located at the rear of the base. The Tabber may be operated either upstream or downstream from the BK7IB.

1.2.8 Auxiliary Feeder Compatibility

The inkjet base is equipped with a 14-pin connector for complete control of a BK720 feeder. The feeder may be installed using an optional flip-up table which is attached to the base, or using a separate stand. Its start/stop operation, as well as its speed can be controlled automatically from the base via the operator speed controls situated on the base's instrument panel.

A BK425 feeder may also be used and would be connected to the upstream control connector of the BK7IB. Automatic speed/gap control is not available with a BK425 and only its Start and Stop control would be handled by the base.

1.2.9 Maintenance Considerations

The BK7IB is designed to facilitate maintenance should it be required. All electrical components are contained in two main panels at the front and rear of the base. Removal of a small number of screws provides complete access to the main electronics of the system. In terms of mechanical access, removal of the front door provides complete access to the blower while removal of the transport tabletop provides complete access to the motor assembly. Alternatively, the covers can be removed to provide access to the motor assembly.

1.2.10 Print Quality Considerations

The BK7IB has been specifically designed for the printing process. As a result, it incorporates certain unique features to optimize print quality. Included are a smooth mechanical transport, a directly driven encoder, vacuum-assisted transport belts, and a sturdy cabinet construction.

1.3 Specifications

1.3.1 Product handling		
Minimum	3.0" x 5.0"	76 mm x 127 mm
Maximum	16.0" x 17.0"	406 mm x 432mm
Thickness	Single Sheet to 1 1/8"	Up to 28 mm
1.3.2 Physical		
Weight (<i>crated</i>)	800 lbs	363 kg
1.3.3 Production rate		
Belt Speed	0 to 600 ft/min	0 to 3.05 m/s
Cycle Speed	0 to 30,000 pph	
Conveyor Speed	0 to 26.0" in/s	0 to 0.7 m/s
1.3.4 Electrical requirements		
Line Voltage	220 ± 15% VAC	
Line Current	8 Amps	
Power	1.9 kVA	
Base Motor	1/2 hp, 180 VDC at 2.8A	
Transport Blower	1/3 hp, 230 VAC at 2A	
	42 CFM, 39" H₂O Max Pressure	
Conveyor Interface	1/8 hp, 90 VDC at 1.3A	
	DC Controller	
1.3.5. Operator controls		
Circuit-Breaker Switch	Main, Vacuum	
Machine Pushbuttons	Start, Stop, Run/Jog	
Conveyor Selector	On/Off/Auto	
Potentiometers	Gap, Production, Conveyor	
Counter	6-digit resetable	

1.4 System Drawings

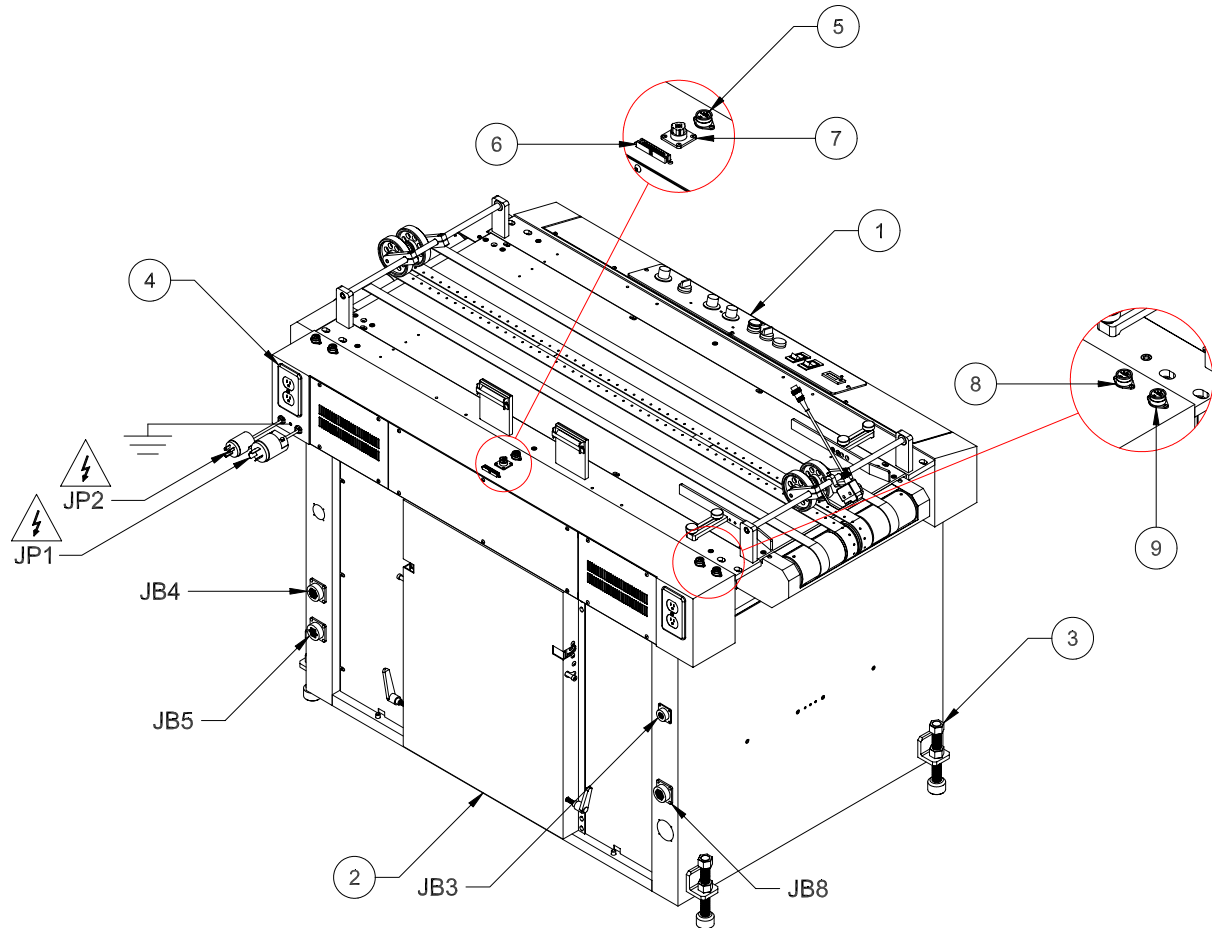
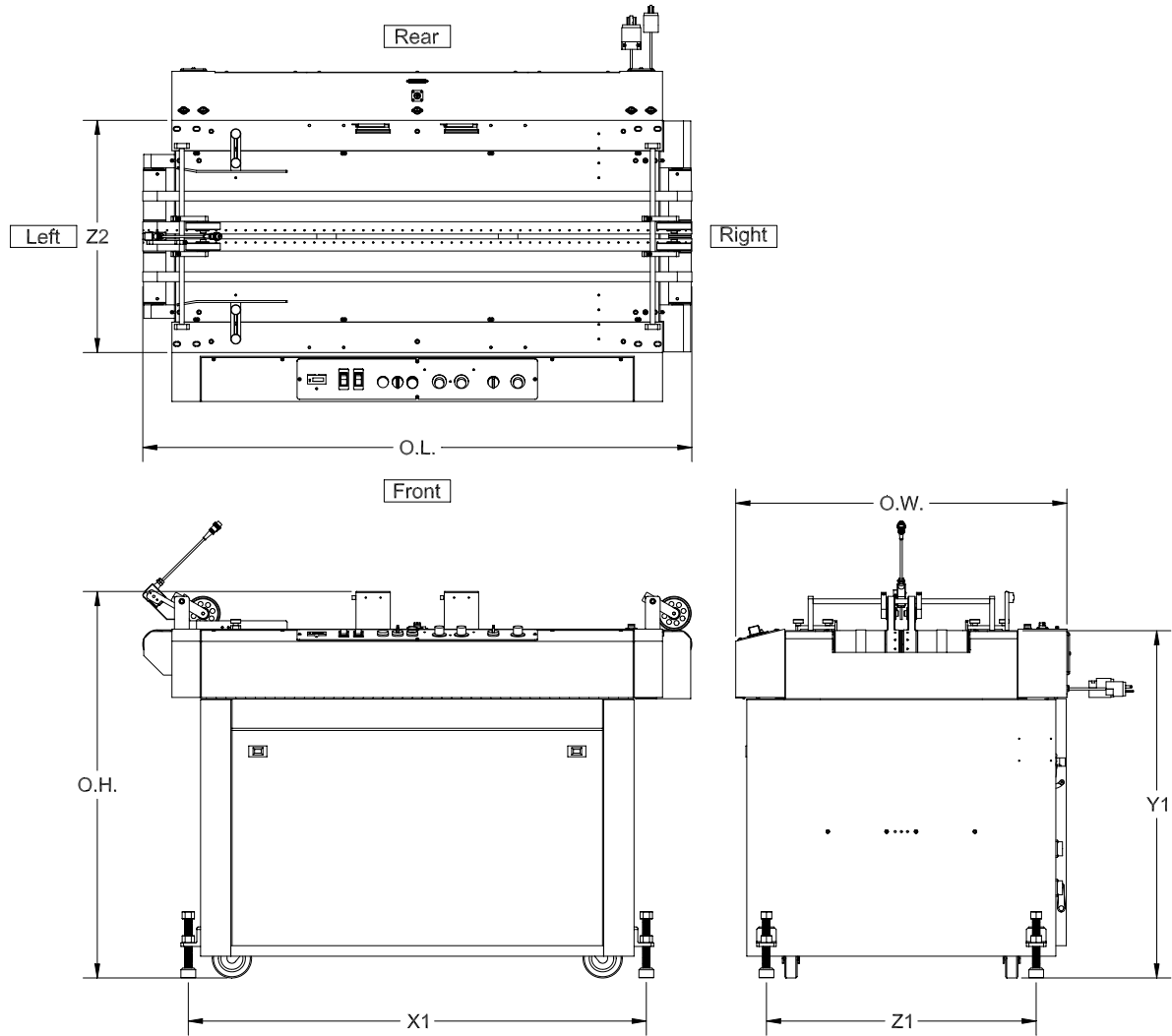


Table 1-1: *BK7IB Features and Interface Specifications (BK7IBR Shown)*

Item	Description	Reference
1	Instrument Panel Assembly	Buskro P/N 9100397A
2	Inline Latch Assembly	Buskro P/N 9100754A
3	Base Mounting Foot (Quantity 4)	
4	115 VAC Receptacle (Quantity 2)	
5	Photocue Sensor Connector (3-pin female)	Preh P/N 71206-031
6	I/O Connector (26-pin male)	3M P/N 3M-4626-6205
7	Counter Connector (11-4 CPC female)	AMP P/N 206430-1
8	Cycle Sensor Connector (3-pin female)	Preh P/N 71206-031
9	Jam Sensor Connector (3-pin female)	Preh P/N 71206-031
JB3	Auxiliary Feeder Connector (17-14 CPC female)	AMP P/N 206043-1
JB4	Downstream Connector (23-57 CPC female)	AMP P/N 206438-1
JB5	Conveyor Connector (23-7 CPC female)	AMP P/N 206227-1
JB8	Upstream Connector (23-37 CPC female)	AMP P/N 206306-1
JP1	Base Power Cable (220 VAC)	Buskro P/N 614015A
JP2	Power Cable (115 VAC)	Buskro P/N 606034

Items 8, 9, JB3, JB4, JB5, and JB8 are on opposite ends of the base in the BK7IBL

Table 1-2: *BK71B Overall Dimensions*

Symbol	Description	Dimensions	
O.W.	Overall Width	33.75"	857 mm
O.L.	Overall Length	56.00"	1422 mm
O.H.	Overall Height	39.50"	1003 mm
X1	Leveling Foot Length	46.68"	1186 mm
Y1	Tabletop Height	35.5" to 37.0"	902 to 940 mm
Z1	Leveling Foot Width	27.50"	699 mm
Z2	Tabletop Width	23.75"	603 mm

2.1 The Base Interface Board

The Base Interface Board (BIB) contains the central control circuitry for the BK7IB. It is located inside the enclosure at the front of the base (front panel). In order to access the BIB, four screws on the front panel holding the hinged door must be loosened (do not loosen the center screw holding the instrument panel). Once this is done, the hinged door can be folded down exposing the BIB. Specific information on the BIB can be found in Appendix B and C.

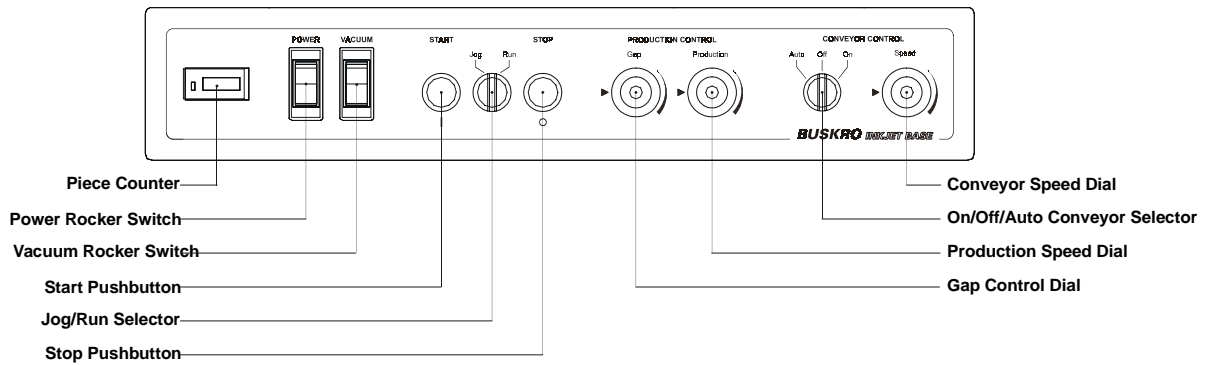
The BIB monitors the settings of all the front panel controls and provides the appropriate signals to the various speed control boards and the gap control. In addition, it also interfaces to the computer when a controller, such as a BK700 Portable Controller, is used. This board handles communication with upstream and downstream equipment as well.

Access to the BIB should only be required if the system configuration is changed. This includes adding or removing upstream or downstream equipment from the system or when the operating mode is changed. When changes are required, the BK7IB must first be turned off using the main power switch. Changes to the switch settings on the BIB *must not* be made while the base is powered up. Once the changes are made, the machine can be turned back on.

2.2 Instrument Panel Functions

The Buskro BK7IB Inkjet base is equipped with a centrally located instrument panel (**Figure 2-1**) that displays all the necessary controls to operate the base. The controls can be sub-divided into the following four distinct classes of functions:

- Rocker Switches
- Control Dials
- Pushbuttons
- Piece Counter

Figure 2-1: *Base Instrument Panel*

2.2.1 Rocker Switches

The two rocker switches located to the right of the piece counter provide power to the inkjet base and the transport blower. These switches are equipped with resettable circuit breakers to protect against overload conditions.

The **Power Rocker Switch** turns on the main power to the inkjet base. When the “I” is pressed down, power is on. Otherwise, when the “O” is pressed down, power is off. The circuit breaker is rated at 15 Amps at 220 VAC.

Note: When working on the BK7IB electrical components, disconnect the power plug for complete safety. Turning the **Power** rocker switch OFF will not disengage all 220 VAC circuitry.

The **Vacuum Rocker Switch** turns the transport blower on and provides vacuum to the transport tabletop. When the switch is ON, it should illuminate. The circuit breaker is rated at 10 Amps at 220 VAC.

2.2.2 Gap, Conveyor, and Production Controls

In order to control the speed of the base, conveyor, and feeder, three dials are provided. These three dials are labeled *Gap*, *Production*, and *Speed* as shown in **Figure 2-1**.

Gap and Conveyor Speed Dial

The BK7IB is equipped with an electronic gap-control device that monitors and maintains the desired gap spacing between the material being transported. In addition, the gap-control device also automatically adjusts the conveyor speed to maintain shingle spacing (material overlap) on the delivery conveyor. This is true regardless of the transport base speed.

The functions of the gap and conveyor speed dials (labeled *Gap* and *Speed* respectively) are dependent on the operating mode selected. The operating mode is controlled by switch **S4** (**Figure 2-2**) on the Base Interface Board (BIB) located in the front panel.

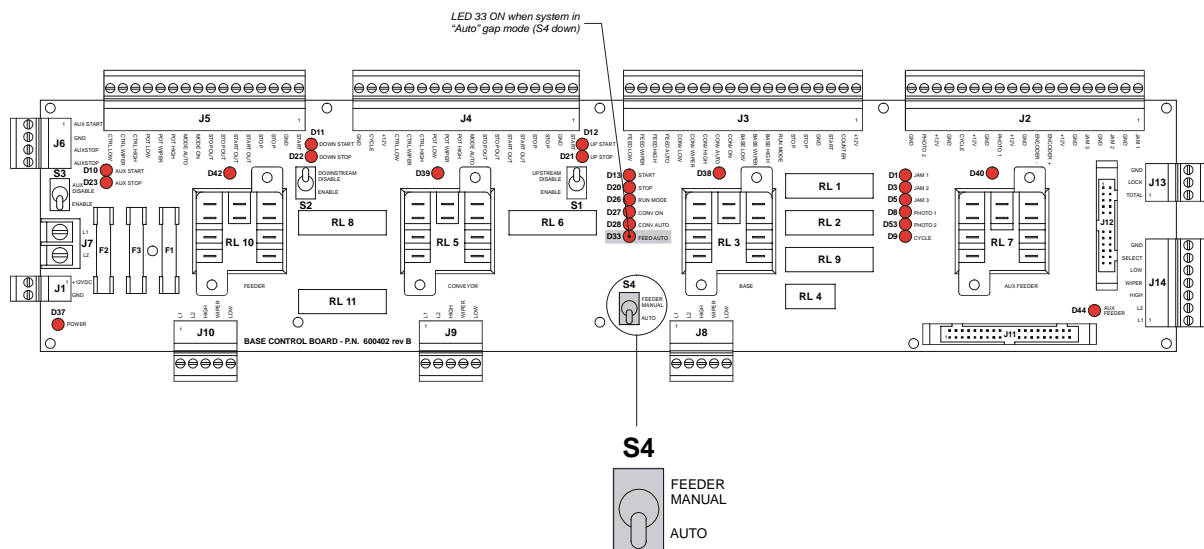


Figure 2-2: *Base Interface Board Feeder Mode Switch (S4)*

When switch S4 is placed in AUTO mode (switch down), the gap dial is used to adjust the gap spacing between the material being transported. In addition, the conveyor speed dial regulates material shingling on the delivery conveyor. In the Feeder Manual mode (switch up), the gap and conveyor speed dials directly control the speed of the feeder and conveyor respectively. These two modes are summarized in **Table 2-1**.

Table 2-1: *Feeder Mode Switch Settings (S4)*

S4 Setting	Gap Dial	Conveyor Speed Dial
Feeder Manual (Up)	Manual feeder speed control. Feeder speed must be less than base speed.	Manual conveyor speed control.
Auto (Down)	Regulates material gap from 1 to 5 inches.	Regulates material shingle from 1 to 5 inches.

In the AUTO mode setting, a clockwise rotation of the gap dial results in an increase in gap spacing to a maximum of 5 inches. When the gap dial is rotated counter-clockwise, the gap spacing decreases to a minimum of 1 inch. In the Feeder Manual mode, a clockwise rotation of the gap dial results in a feeder speed increase and a smaller gap spacing. As a result, the gap dial has an opposite affect on the gap spacing depending on the operator setting (AUTO or Feeder Manual).

In the case of the conveyor speed dial, AUTO mode controls material overlap on the conveyor. A clockwise rotation of the conveyor speed dial corresponds to an increase in material shingle spacing to a maximum of 5 inches. When the dial is rotated counter-clockwise, the shingle spacing reduces to a minimum of 1 inch. In addition, the shingle spacing is maintained in this mode regardless of the transport base speed. In Feeder Manual mode, the conveyor speed dial controls the speed of the conveyor independently of the transport base. As a result, a clockwise rotation of the dial results in a speed increase and an increase in shingle spacing.

Production Dial

The production dial controls the speed of the transport belts on the BK71B base. A clockwise rotation corresponds to a speed increase while a counter-clockwise rotation results in a speed decrease.

2.2.3 Machine and Conveyor Function Pushbuttons

The pushbuttons and selector knobs located on the instrument panel permit control of the machine and conveyor operation. The **Start** (*green*) and **Stop** (*red*) pushbuttons allow engagement and suspension of the inkjet operation while the **Run/Jog** (*black*) selector sets the system to run continuously (RUN) when the **Start** button is momentarily depressed, or intermittently (JOG) while the **Start** button remains depressed.

The conveyor is equipped with its own control in the form of an **On/Off/Auto** selector knob (*black*) which determines the operating mode of the conveyor. It can be operated continuously, in conjunction with the base, or turned off completely.

Stop Pushbutton

The red **stop** button suspends operation of the inkjet system by interrupting the power to the machine relays located on the Base Interface Board (BIB). This button is used mostly as an emergency stop since depressing it will cause the machine to stop immediately regardless of the printing status. *LED #20* on the BIB will illuminate when the **Stop** button is pressed.

Note: The Stop pushbutton has a locking feature, which when engaged, will prevent the system from functioning. Should this condition occur, twist and release the locking mechanism to allow base operation.

LED #20 will light when **Stop** button pressed.

Start Pushbutton

The green *start* pushbutton energizes relays *RL3* and *RL10* on the BIB applying power to the feeder and transport motor controllers. When this button is pressed, *LED #13* will turn ON and the machine should cycle provided the following conditions have been met:

- The **base stop** button is not locked in a depressed condition. *LED #20* on the BIB would be ON if this is true.
- The **conveyor stop** button is not depressed (if present).
- The auxiliary switch **S3** is set to **disable** (up) with **no conveyor**.
- The downstream switch **S2** is set to **disable** (up) with **no downstream device** (i.e. BK530 tabber).
- The upstream switch **S1** is set to **disable** (up) with **no upstream device** (i.e. BK425 feeder).

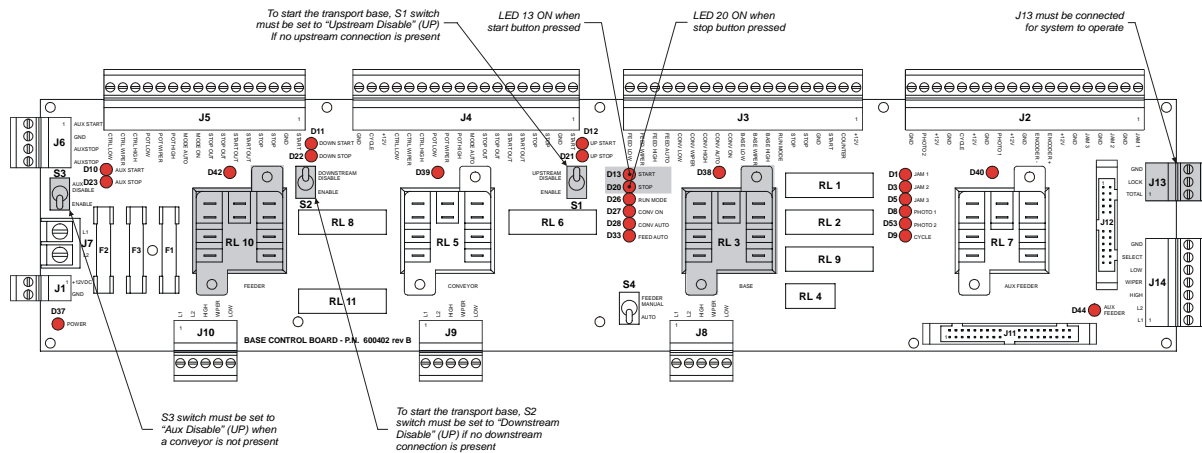


Figure 2-3: Base Interface Board Switches (S1, S2, S3) and Counter Connector (J13)

Run/Jog Selector

The Run/Jog selector is a knob that permits a choice between continuous and intermittent machine operation. When the **Run** mode has been selected and the **Start** button is pressed, the machine will operate continuously. In the **Jog** mode, the machine will cycle only as long as the **Start** button remains pressed.

- **Run Mode** - Machine will operate when the momentary **Start** button is pressed. *LED #26* on the BIB will light when system is in the "Run" mode.
- **Jog Mode** - Machine will operate only while the **Start** button is pressed.

Note: *LED #26* on the Base Interface Board will illuminate when system in RUN mode.

On/Off/Auto Selector

The conveyor On/Off/Auto selector determines the operating mode of the conveyor. When set on *auto*, the conveyor is on when the transport base is on, and off when the base is off. In *on* mode, the conveyor runs continuously and independently of the operating mode of the base. Finally, an *off* selection suspends the conveyor's operation altogether.

Note: *LED #28* on the Base Interface Board will illuminate when the conveyor selector is set to AUTO.

LED #27 will illuminate when the conveyor selector is set to ON.

2.2.4 Resettable Piece Counter

The counter located on the left side of the instrument panel monitors and totalizes the number of mailpieces that are detected by the photocue sensor. The counter can be reset to zero by pressing the reset button located on the front of the counter. In order to prevent accidental resets, the counter reset button shown in **Figure 2-4** can be locked out by clicking it in the down position.

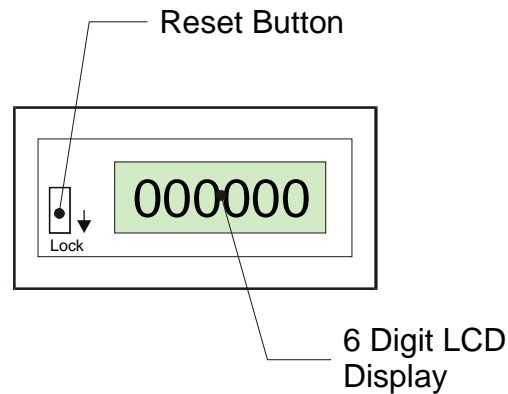


Figure 2-4: *Resettable Piece Counter*

2.3 Material Side Guide Adjustments

Proper adjustment of the material side guides shown in **Figure 2-5** will permit dependable and accurate feeding of the mailpieces so that they are correctly aligned when presented under the printhead(s). The objective of this section of the transport base is to straighten out any mailpiece that may come out of the feeder in a skewed manner. This will ensure that the image is properly placed on the mailpiece. When adjustment of the side guides is performed, it is imperative that they not squeeze and retard the advancing mailpiece as this would result in incorrect print positioning.

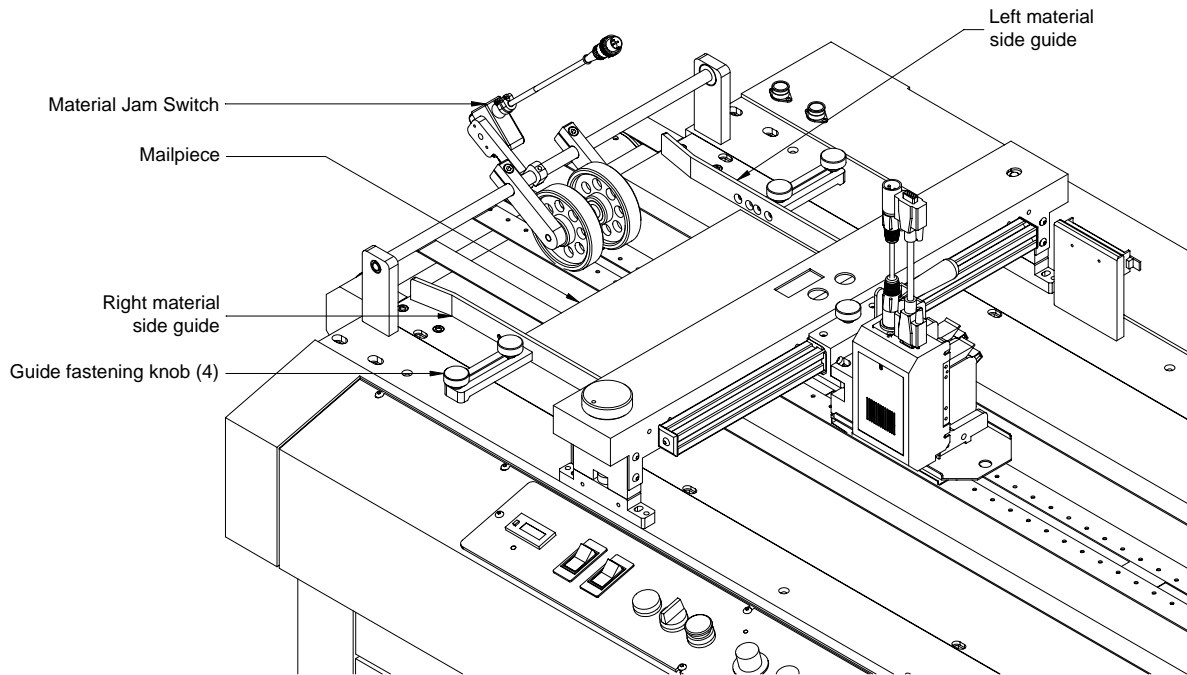


Figure 2-5: *Material Side Guides on the BK7IB*

The material side guides, must be set correctly to ensure that the mailpieces are directed in a straight fashion into the inkjet imaging area. In order to properly adjust the side guides, the following steps are recommended:

1. Loosen and remove the guide fastening knob(s) on each material side guide.
2. Slowly feed a mailpiece onto the transport belts. Stop the transport base when the mailpiece is between the side guides.
3. Place the left and right side guides about 1/16" to 1/8" from the corresponding edge of the mailpiece. Ensure that the guides do not pinch the mailpiece anywhere along its edges.
4. Replace the fastening knob(s) in the nearest threaded holes located in the base's tabletop and tighten them to secure the guides.
5. Slowly dispense another mailpiece onto the transport belts and check that the mailpiece's path is unobstructed by the material side guides. If so, repeat steps 1 to 4.

Note: If the material side guides are improperly set, the mailpiece may become trapped between them and/or cause a jam at the output of the feed rollers. If the material side guides are incorrectly set, the Material Jam switch may be activated resulting in a system stoppage.

In some cases, the side guides will need to be secured with one knob each (as opposed to two) depending on the size of the mailpiece.

2.4 Upstream Compatibility

The BK7IB was designed to be the central unit in a flexible system in which one or more units can precede or follow it in the process stream. Possible units which may be placed upstream from the printing base would be a feeder (e.g. a BK425) or a tabber (BK530 or BK730). The required communication with an upstream device is carried out over the BK7IB's upstream connector (JB8, at the rear of the machine).

The functions found on this connector are: Start and Stop signals from the BK7IB to the upstream device and Start and Stop signals from the upstream device to the BK7IB. The UPSTREAM connector of the BK7IB is configured to communicate with the DOWNSTREAM connector of the upstream unit.

A separate 14-pin connector (*JB3*, on the rear of the machine; see *Appendix B*) is provided for a BK720 Friction Feeder. This connector does not use the Start and Stop signals, but offers additional functions such as a Run signal and signals to allow the BK7IB to control the speed of the BK720 for automatic gap control. In this mode, the BK7IB will sense the gap between several successive mail pieces and regulate the speed of the BK720 to minimize this gap. The gap can be maintained over a wide range of printing speeds. This permits the system to maximize the operating efficiency, independent of the actual transport speed of the BK7IB.

To be able to stop and start the system from any location (Emergency Stop), the Stop and Start functions are linked to the next unit via connections on the Upstream and Downstream connectors of the BK7IB.

If there is no other unit upstream from the BK7IB, then the sensing circuit for the Stop button has to be disabled, or the BK7IB cannot run. This function is performed by switch

S1 on the BIB shown in **Figure 2-3**. If there are no upstream units, or if the only upstream unit used is a BK720 Friction Feeder, this switch must be set to *disable*.

Note: The stop function is not incorporated in the BK720 and therefore the switch has to be set to *Disable* when a BK720 is used as a feeder.

2.4.1 BK720 Friction Feeder

The BK720 Friction Feeder differs from other equipment in a system configuration since it is a “table-top” unit, rather than the normal floor-standing units.

To accommodate this feeder, the BK7IB can be equipped with an optional flip-up table. This table has the right height and dimensions to match the BK720 to the BK7IB base.

The BK720 Feeder has been designed to take advantage of the special capabilities of the BK7IB. Although the feeder can function as a stand-alone unit with its own ON/OFF switch and speed control potentiometer, its operating mode can be switched so that the Run function and the speed are under the control of the BK7IB. This allows the feeder to be synchronized to the speed of the base and also accommodates the Gap Control mode. In this mode (switch **S4** on the Base Interface Board must be set to *auto*), the BK7IB will monitor the gap between successive mail pieces coming from the feeder and speed up or slow down the speed of the feeder to maintain a preset gap, regardless of the base’s own transport speed.

An interface cable with the appropriate connectors is provided to connect the BK720 to connector JB3 at the back of the BK7IB.

2.5 Downstream Compatibility

Possible units which may be placed downstream from the printing base would be an extension table (BK703), or a tabber (BK530 or BK730). The required communication with a downstream device is carried out over the BK7IB's downstream connector (JB4, at the rear of the machine).

The functions found on the downstream connector are basically the same as for the upstream connector, although the configuration is different. The DOWNSTREAM connector of the BK7IB is configured to communicate with the UPSTREAM connector of the downstream unit. The control signal for a downstream drier is also provided on this connector.

A separate 7-pin connector (JB5 at the rear of the BK7IB) is provided for a Buskro Conveyor. This connector only has a provision for a *Stop* signal from the conveyor to the BK7IB. However, the speed control circuit for the conveyor is actually part of the BK7IB and thus the drive voltage for the conveyor motor also has to be sent over the connector. This permits the BK7IB to provide such features as Stack Control (i.e. providing gaps between certain stacks of mailpieces for sorting or bundling purposes).

If there is no unit downstream from the BK7IB, other than a conveyor, then the sensing circuit for the *Stop* button has to be set to *DISABLE*, or the BK7IB cannot run. This function is performed by switch **S2** (**Figure 2-3**), the *DOWNSTREAM DISABLE/ENABLE* switch on the Base Interface Board.

The same function for the conveyor is provided by **S3**, the *AUX DISABLE/ENABLE* switch. If a conveyor is not present in the system, **S3** has to be set to *DISABLE*.

2.6 Maintenance Schedule

The maintenance schedule table presented below applies to equipment which is operated daily on an 8-hour basis. If the equipment is used more frequently, the maintenance schedule must be adjusted accordingly.

Table 2-2: *Maintenance Schedule Table*

Period	Maintenance Function
Daily	Wipe table surface clean of paper dust and other accumulated debris. Remove the front door and clean any debris which may have fallen into the machine. Wipe away any ink which may have settled on the tabletops, belts, and rollers. Use of FastDri maintenance spray (P/N 800814) will facilitate the ink removal procedure.
Monthly	Clean vacuum lines and fittings with compressed air.
Semi-Annually	Examine all mechanical drive components for wear. Replace if necessary. Examine the table belts and feed rollers for wear. Replace if necessary.

Note: The availability of a small air compressor is recommended. Compressed air is useful in removing debris and is indispensable in cleaning out the vacuum systems.

3.1 Introduction

In addition to being designed as a stand-alone controller, the BK700 controller was also designed to work together with the BK7IB base as a complete turnkey unit. To connect the BK700 to the BK7IB base, the BK700 needs to be mechanically latched to the BK7IB base via a latching kit installed on the controller. In addition, electrical cables must be connected between the BK700 and the BK7IB base for the encoder, photocue, stack signal, jam switch, cycle, and stop relay signals.

3.2 Physical Mounting

To connect the BK700 to the BK7IB base, a mechanical latching kit is required. Once together, the integrated transport base and controller is known as the BK765 Inkjet System. In order to connect the two systems, a latching kit must first be installed on the controller. This unit mates with the latching kit already installed on the BK7IB base. This can be seen in **Figure 3-1**.

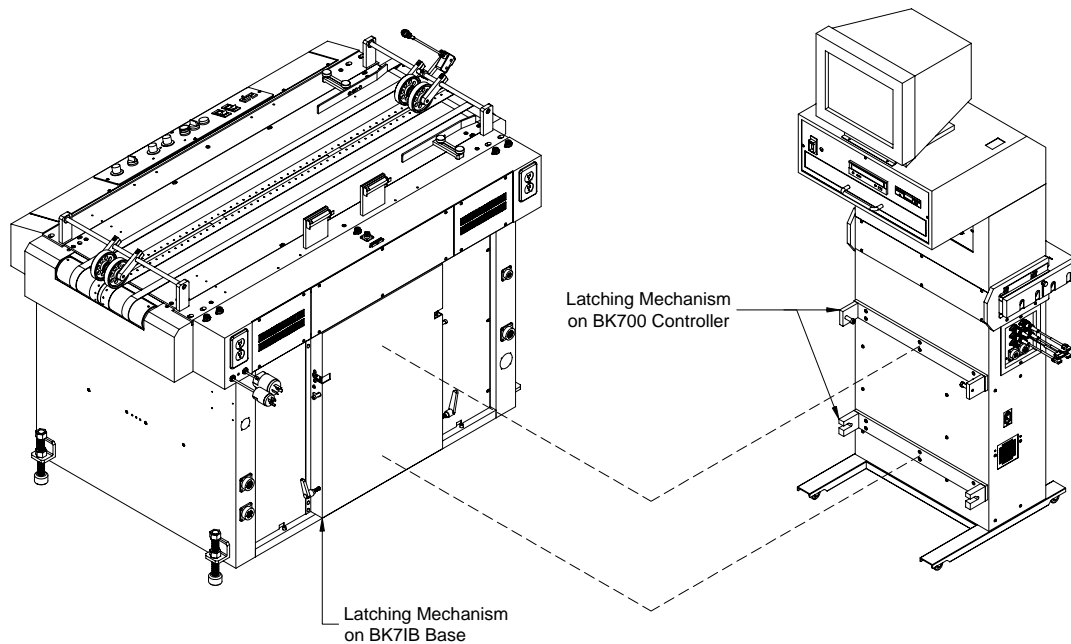


Figure 3-1: *Latching mechanism of the BK765*

The latching design consists of two slam latches and two lever handles. When the controller is rolled into the BK7IB, the latching mechanism on the controller is locked in place by the slam latches on the base. The user then tightens the two lever handles to completely secure the controller to the base. In order to release the controller from the base, the user must loosen the two lever handles and activate the quick release levers for the slam latches.

3.3 Cable Connections

To electrically integrate the BK700 controller to the BK7IB base, there are two options available. The recommended option (**Figure 3-2**) is to install an I/O ribbon cable from the I/O connector on the BK7IB base to the I/O connector on the BK700 controller. Installing this cable will transmit the encoder, photocue, jam, cycle, stack, and stop signals from the BK7IB base to the BK700 controller. The counter connector on the BK700 and the BK7IB must also be connected together.

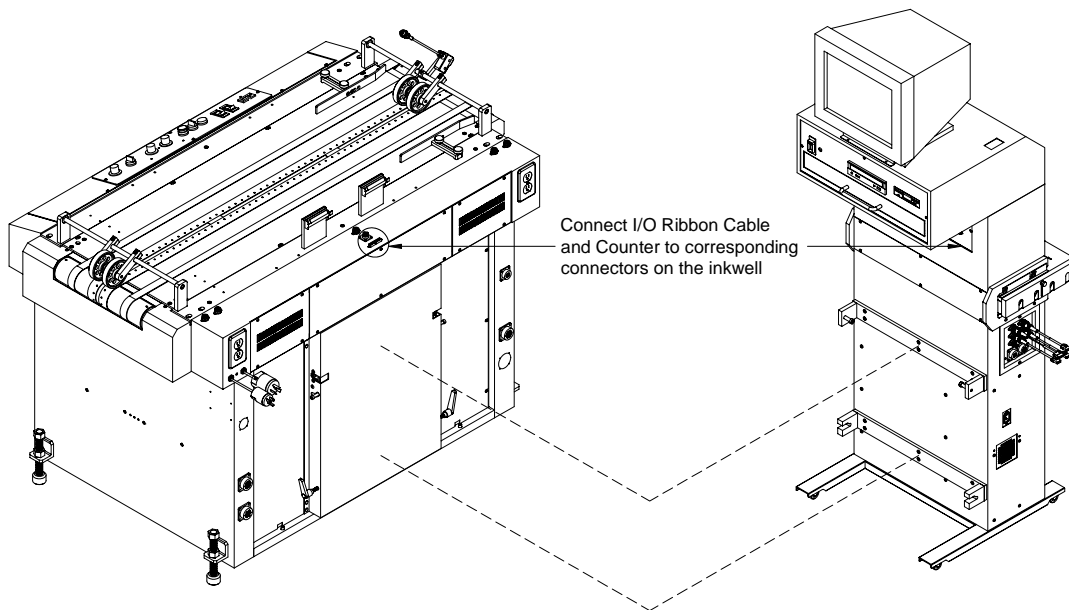


Figure 3-2: *Electrical Integration*

In order to use this option, the six-pin cable shown in **Figure 3-3** must be disconnected from the power box. It is normally connected from the power box to the Field Connection Board (FCB) in order to power the board. Once this cable is disconnected, an equivalent six-pin cable (pre-installed and internally routed in the BK700 controller) must be plugged into the same connector on the power box previously used by the Field Connection Cable.

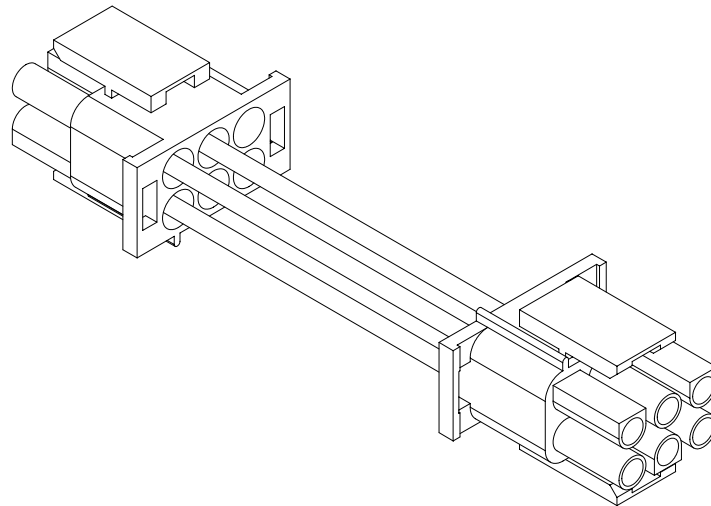


Figure 3-3: *Field Connection Cable*

The second option is to use the FCB inputs and outputs to integrate the controller to the base. This method involves connecting individual cables from the encoder, photocue, jam, and cycle connectors on the FCB interface to the corresponding connectors on the BK71B base. Special wiring must be completed to integrate the stack signal and the stop signal, which makes this option undesirable compared to the previous option.

Finally, in both options, the BK700 can be powered by connecting the controller power cable into one of the 115V outlets on the rear of the BK71B base.

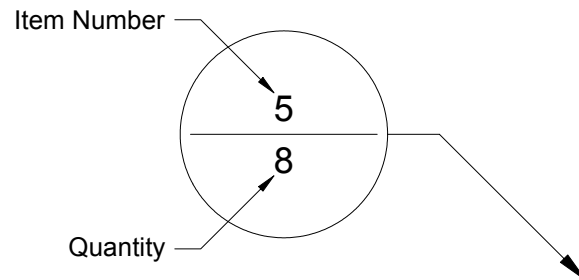
List of Figures

Figure A-1: Buskro 7 Series Inline Base, Right (BKT7IBRNA)	A-1
Figure A-2: BK765, HP, NA, 1" (BKT765HRNA1B1P)	A-3
Figure A-3: Outfeed Roller Assembly (100314A)	A-4
Figure A-4: Jam Switch Assembly (603021A)	A-5
Figure A-5: I/O Cable Assembly (614307A)	A-6
Figure A-6: Gap Controller Ribbon Cable (614599A)	A-7
Figure A-7: Inline Power Terminal Block Assembly (615012A)	A-8
Figure A-8: Inline Terminal Block Assembly (615016A)	A-9
Figure A-9: Shaft Encoder Assembly (9100188A)	A-10
Figure A-10: Printhead Bridge Assembly - BK765 Only, 3" (9100225A)	A-11
Figure A-11: Printhead Bridge Assembly – BK765 Only (9100226A)	A-12
Figure A-12: Inline Motor Assembly, Right (9100370RA)	A-13
Figure A-13: Inline Motor Assembly, Left (9100370LA)	A-14
Figure A-14: Inline Tabletop Assembly, Right (9100373RA)	A-15
Figure A-15: Inline Tabletop Assembly, Left (9100373LA)	A-16
Figure A-16: Inline Transport Tabletop Assembly, Right (9100375RA)	A-17
Figure A-17: Inline Transport Tabletop Assembly, Left (9100375LA)	A-19
Figure A-18: Inline Base Cabinet Assembly (9100377A)	A-21
Figure A-19: Instrument Panel Assembly (9100397A)	A-23
Figure A-20: Counter Cable Assembly – BK765 Only (9100726A)	A-24
Figure A-21: Photocue Assembly – BK765 Only (9100727A)	A-25
Figure A-22: Upper Latch Striker Assembly – BK765 Only (9100729A)	A-26
Figure A-23: Lower Latch Striker Assembly – BK765 Only (9100732A)	A-27
Figure A-24: I/O Panel Mount Cable (9100748A)	A-28
Figure A-25: Inline Front Panel Assembly (9100750A)	A-29
Figure A-26: Inline Latch Assembly (9100754A)	A-31
Figure A-27: Inline Rear Panel Assembly (9100761A)	A-32
Figure A-28: Blower Assembly (9100829A)	A-34
Figure A-29: Take-up Roller Assembly (9101038A)	A-35

List of Tables

Table A-1: Buskro 7 Series Inline Base, Right (BKT7IBRNA).....	A-2
Table A-2: BK765, HP, NA, 1" (BKT765HRNA1B1P)	A-3
Table A-3: Outfeed Roller Assembly (100314A).....	A-4
Table A-4: Jam Switch Assembly (603021A).....	A-5
Table A-5: I/O Cable Assembly (614307A).....	A-6
Table A-6: Gap Controller Ribbon Cable (614599A)	A-7
Table A-7: Inline Power Terminal Block Assembly (615012A).....	A-8
Table A-8: Inline Terminal Block Assembly (615016A).....	A-9
Table A-9: Shaft Encoder Assembly (9100188A).....	A-10
Table A-10: Printhead Bridge Assembly – BK765 Only, 3” (9100225A).....	A-11
Table A-11: Printhead Bridge Assembly – BK765 Only (9100226A).....	A-12
Table A-12: Inline Motor Assembly, Right (9100370RA).....	A-13
Table A-13: Inline Motor Assembly, Left (9100370LA).....	A-14
Table A-14: Inline Tabletop Assembly, Right (9100373RA)	A-15
Table A-15: Inline Tabletop Assembly, Left (9100373LA).....	A-16
Table A-16: Inline Transport Tabletop Assembly, Right (9100375RA).....	A-18
Table A-17: Inline Transport Tabletop Assembly, Left (9100375LA)	A-20
Table A-18: Inline Base Cabinet Assembly (9100377A).....	A-22
Table A-19: Instrument Panel Assembly (9100397A)	A-23
Table A-20: Counter Cable Assembly – BK765 Only (9100726A).....	A-24
Table A-21: Photocue Assembly – BK765 Only (9100727A)	A-25
Table A-22: Upper Latch Striker Assembly – BK765 Only (9100729A).....	A-26
Table A-23: Lower Latch Striker Assembly – BK765 Only (9100732A)	A-27
Table A-24: I/O Panel Mount Cable (9100748A)	A-28
Table A-25: Inline Front Panel Assembly (9100750A).....	A-30
Table A-26: Inline Latch Assembly (9100754A).....	A-31
Table A-27: Inline Rear Panel Assembly (9100761A).....	A-33
Table A-28: Blower Assembly (9100829A).....	A-34
Table A-29: Take-up Roller Assembly (9101038A)	A-35

Balloon Annotation and Parts Listing



Item	Part Number	Quantity	Description	Reference
1				
2				

The following is a description of how to interpret the information in this section:

Item:

This column indicates the item number used for each unique part in an assembly drawing. It is matched with the top number in the balloon pointing at the associated part.

Part Number:

This column represents the Buskro part number.

Quantity:

This represents the total number of a given part in an assembly. It is matched with the bottom number in the balloon pointing at the associated part.

Description:

This column contains a brief description of the part.

Reference:

This column indicates the page location for sub-assemblies.

Figure A-1: Buskro 7 Series Inline Base, Right (BKT7IBRNA)

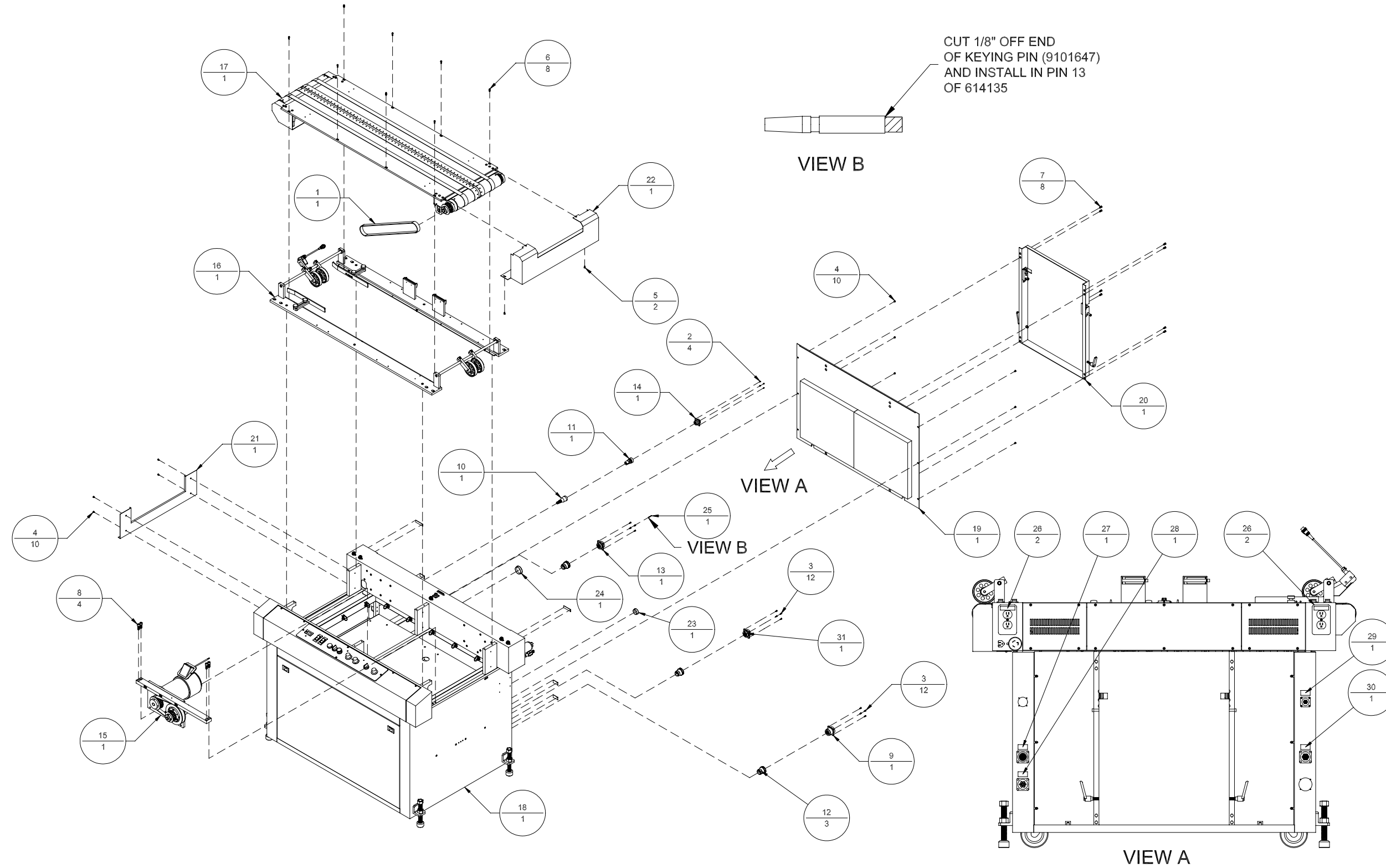
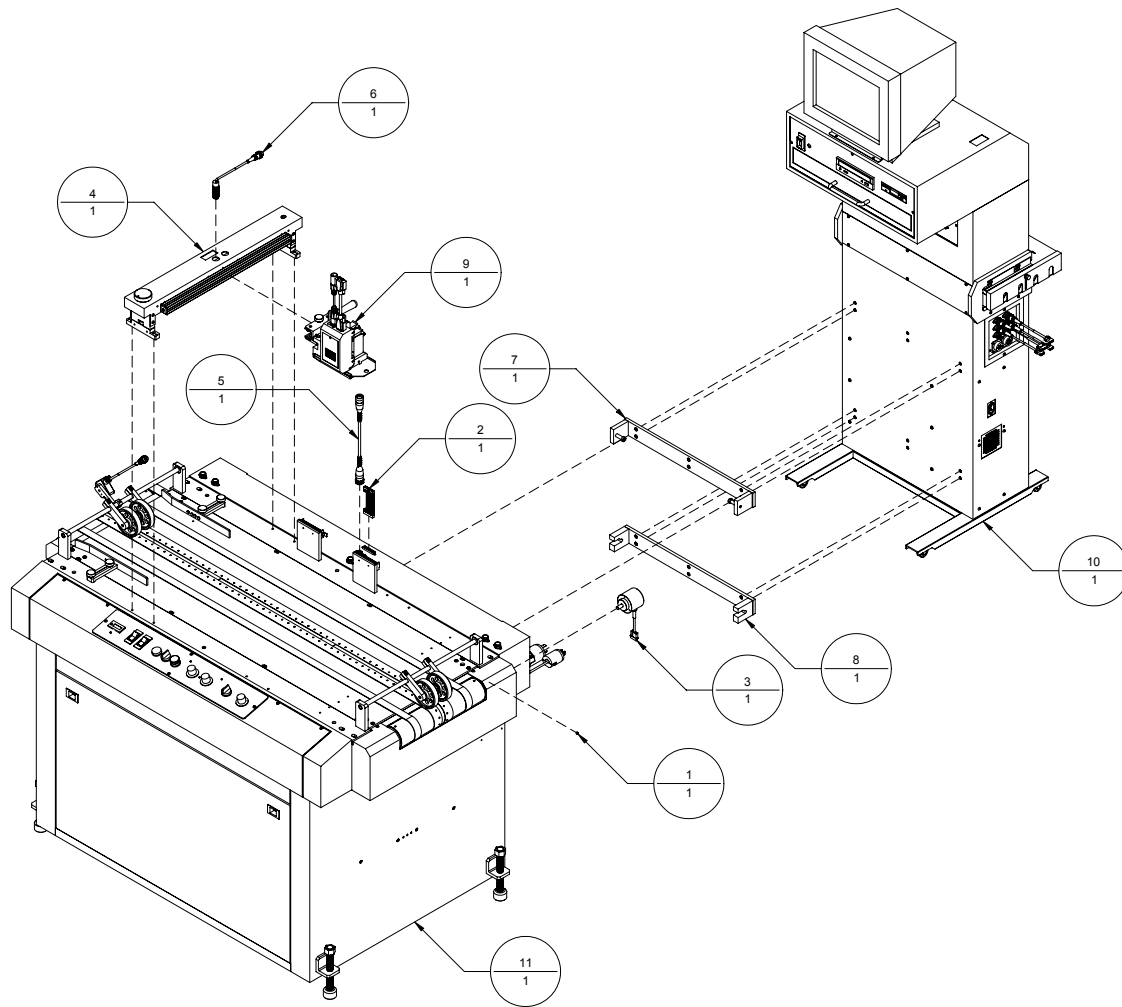


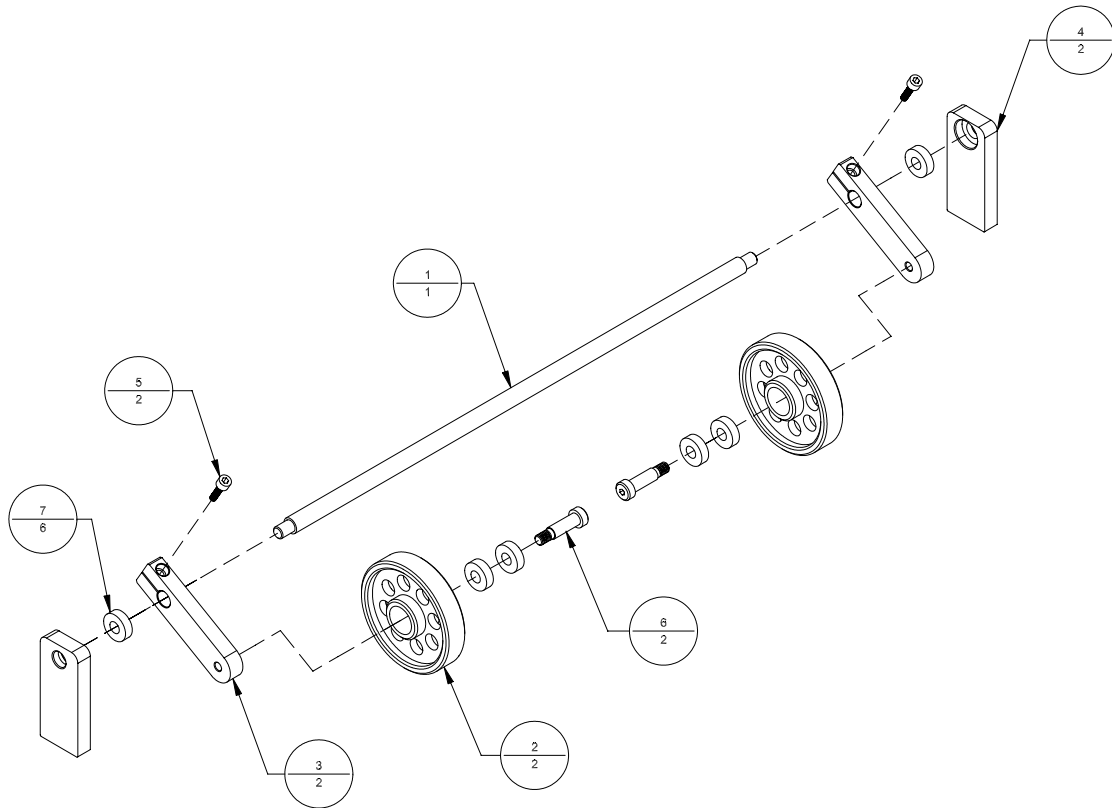
Table A-1: *Buskro 7 Series Inline Base, Right (BKT7IBRNA)*

Item	Part Number	Quantity	Description	Reference
1	120342	1	Timing Belt, 420L075	
2	402310	4	Screw, PHMS, 6-32 UNC x 1/4"	
3	402320	12	Screw, PHMS, 6-32 UNC x 3/8"	
4	404510	10	Screw, BHCS, 10-32 UNF x 1/4"	
5	404520	2	Screw, BHCS, 10-32 UNF x 3/8"	
6	404530	8	Screw, BHCS, 10-32 UNF x 1/2"	
7	405530	8	Screw, BHCS, 1/4-20 UNC x 1/2"	
8	407270	4	Screw, SHCS, 3/8-16 UNC x 1"	
9	614106	1	Receptacle, Square Flange, 23-7	
10	614111	1	Cable Boot, Flexible	
11	614112	1	Cable Grip, Internal	
12	614113	3	Cable Clamp	
13	614135	1	Receptacle, Square Flange, 23-37	
14	614138	1	Receptacle, Square Flange, 17-14	
15	9100370RA	1	Inline Motor Assembly, Right	Page A-13
16	9100373RA	1	Inline Tabletop Assembly, Right	Page A-15
17	9100375RA	1	Inline Transport Tabletop Assembly, Right	Page A-17
18	9100377A	1	Inline Base Cabinet Assembly	Page A-21
19	9100388	1	Inline Rear Cover w/Sound Insulation (902600)	
20	9100754A	1	Inline Latch Assembly	Page A-31
21	9100775	1	Inline Outfeed Shelf End Cover	
22	9100780	1	Inline Outfeed Roller Cover	
23	9101478	1	Hole Plug, Dome, 1.25"	
24	9101479	1	Hole Plug, Dome, 1.75"	
25	9101647	1	Keying Pin, Series 1	
26	9101886	2	Label, 115VAC 10A max.	
27	9101888	1	Label, JB4 Downstream	
28	9101889	1	Label, JB5 Conveyor	
29	9101890	1	Label, JB3 Ext. Feeder	
30	9101891	1	Label, JB8 Upstream	
31	9102054	1	Receptacle, 23-57, Square Flange	

Figure A-2: *BK765, HP, NA, 1" (BKT765HRNA1B1P)***Table A-2:** *BK765, HP, NA, 1" (BKT765HRNA1B1P)*

Item	Part Number	Quantity	Description	Reference
1	404807	1	Screw, SHSS, 10-32 UNF x 3/16"	
2	614307A	1	I/O Cable Assembly	Page A-6
3	9100188A	1	Shaft Encoder Assembly, 6000 ppr	Page A-10
4	9100226A	1	Printhead Bridge Assembly	Page A-12
5	9100726A	1	Counter Cable Assembly	Page A-24
6	9100727A	1	Photocue Assembly	Page A-25
7	9100729A	1	Upper Latch Striker Assembly	Page A-26
8	9100732A	1	Lower Latch Striker Assembly	Page A-27
9	BK602-HC-1	1	Printhead, Hewlett Packard	
10	BK700HNA	1	BK700 Controller	
11	BK7IBRNA	1	Inline Base Assembly, NA, Right	Page A-1

Note: The shaft encoder, printhead, and BK700 Controller depend on the print technology chosen. Only one type is shown here.

Figure A-3: *Outfeed Roller Assembly (100314A)***Table A-3:** *Outfeed Roller Assembly (100314A)*

Item	Part Number	Quantity	Description	Reference
1	100314	1	Outfeed Roller Shaft	
2	106182	2	Pressure Roller	
3	203302	2	Outfeed Roller Arm	
4	330309	2	Outfeed Roller Bracket	
5	405250	2	Screw, SHCS, 1/4-20 UNC x 3/4"	
6	416170	2	Shoulder Bolt, 3/8" x 1" (5/16-18 UNC)	
7	500020	6	Bearing, 3/8" I.D.	

Figure A-4: Jam Switch Assembly (603021A)

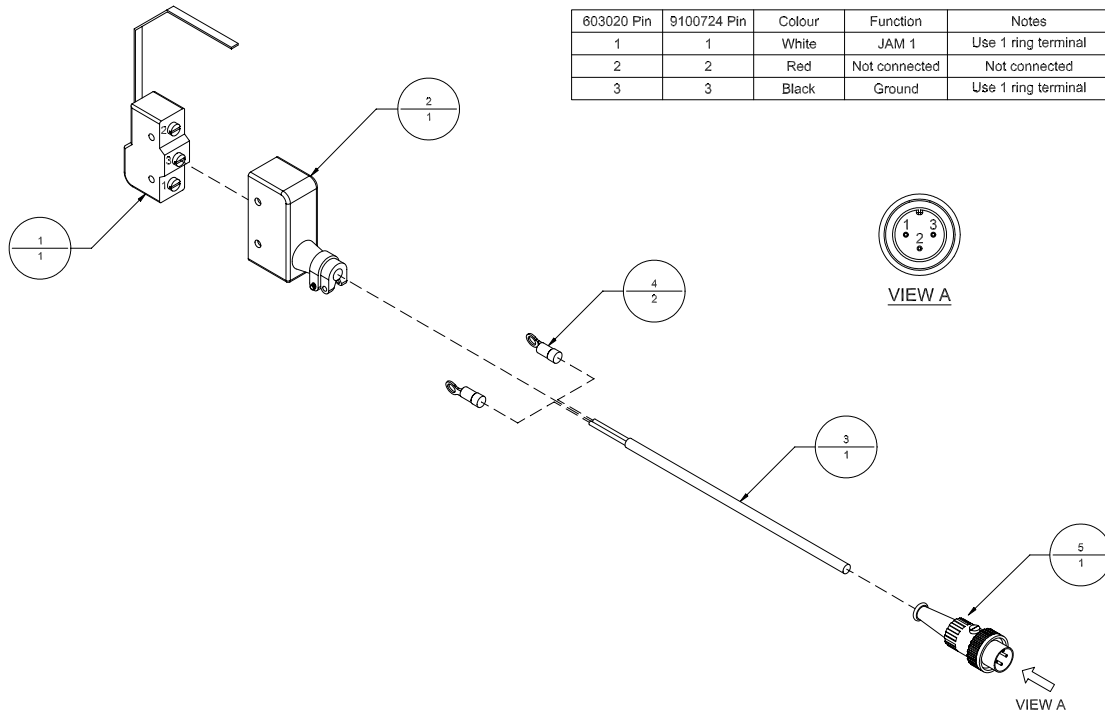
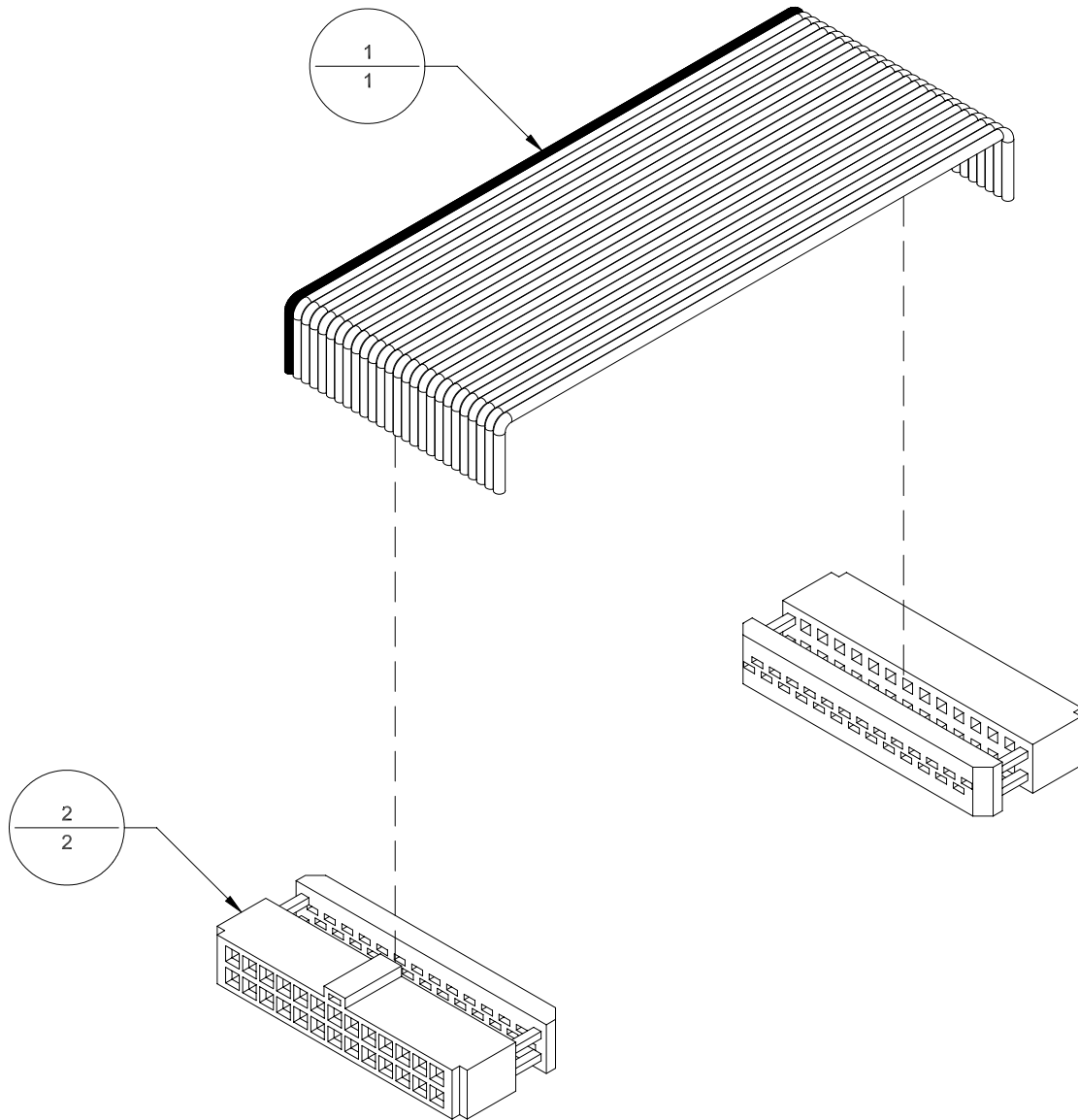
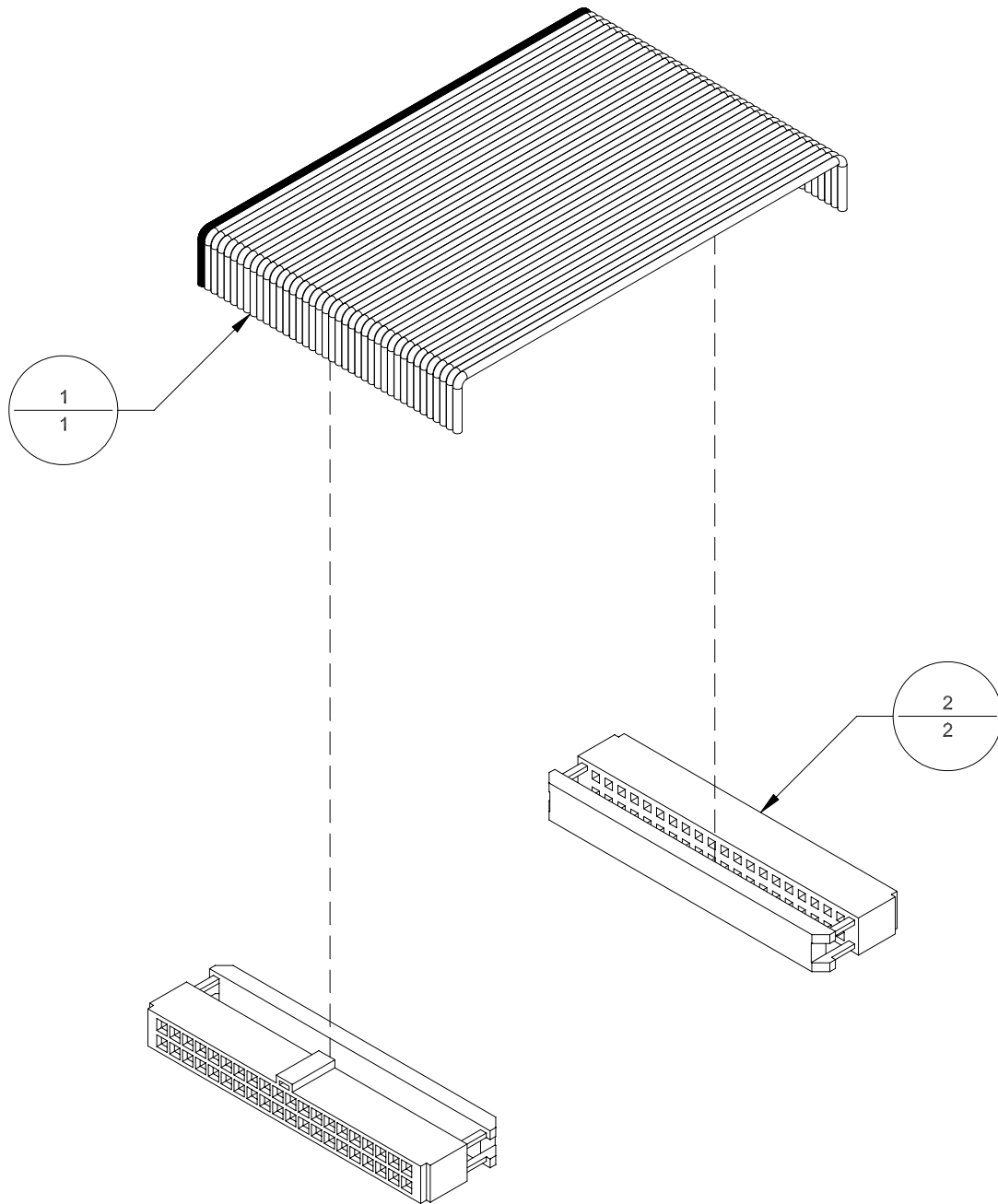


Table A-4: Jam Switch Assembly (603021A)

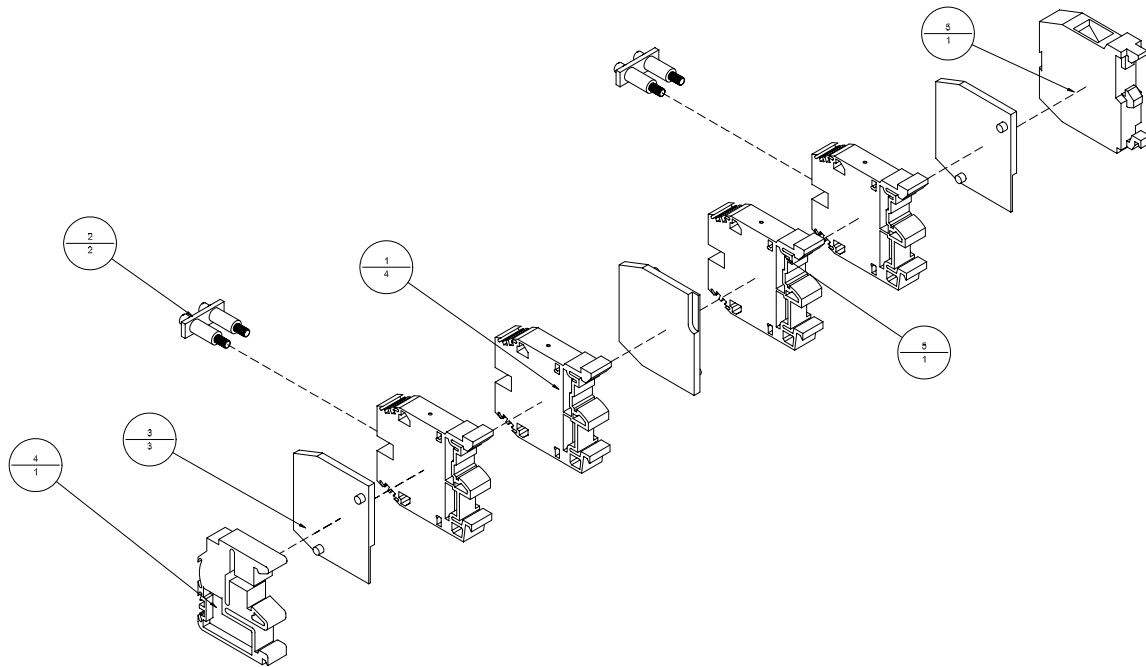
Item	Part Number	Quantity	Description	Reference
1	603020	1	Microswitch	
2	603021	1	Microswitch Cover	
3	606531	26"	Cable, #22-2	
4	609116	2	Ring Tongue Terminal, Red, #10	
5	9100724	1	Plug, Preh, Locking, 3-Pin	

Figure A-5: *I/O Cable Assembly (614307A)***Table A-5:** *I/O Cable Assembly (614307A)*

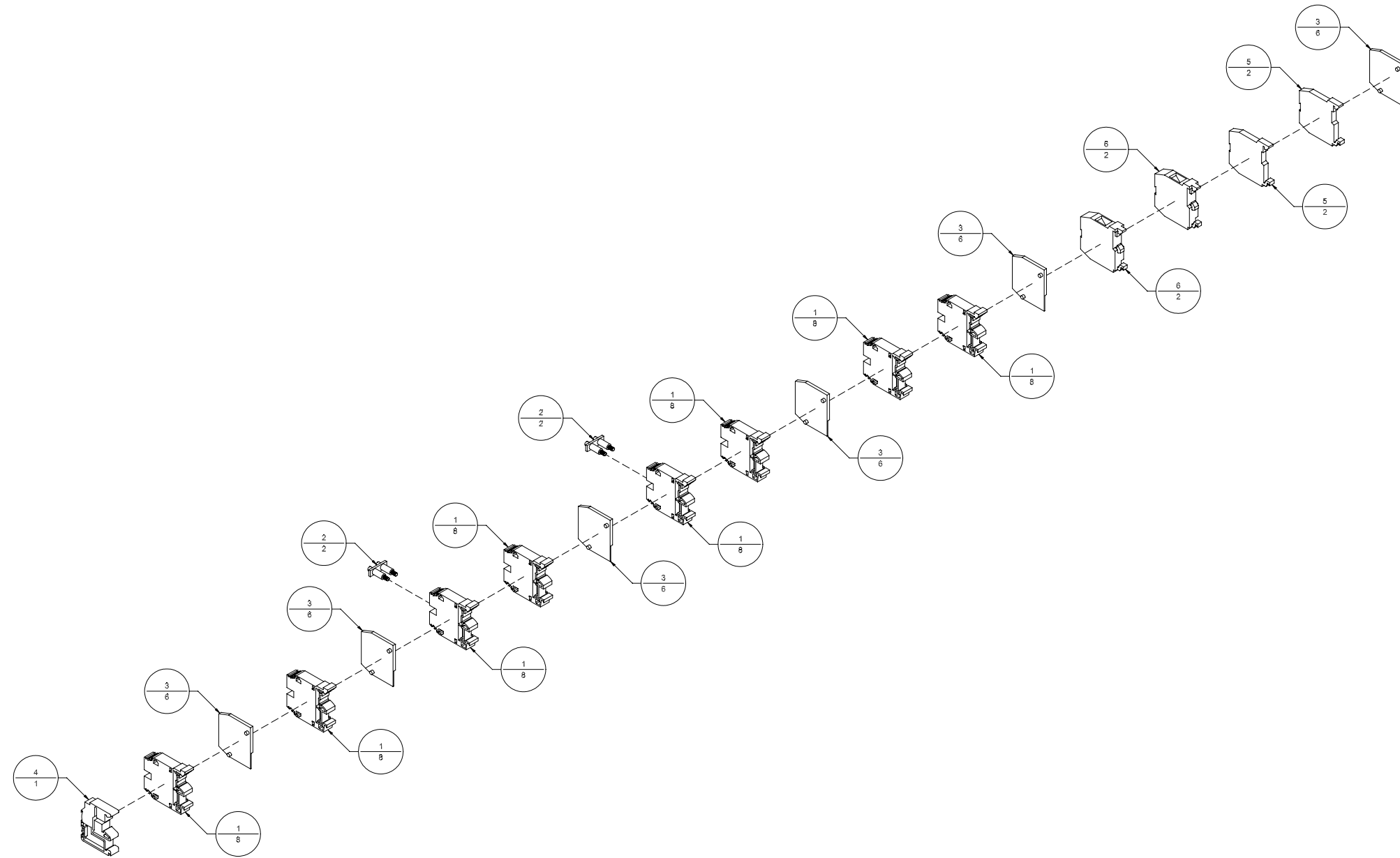
Item	Part Number	Quantity	Description	Reference
1	606325	6.75"	Ribbon Cable, #28-26, Grey, Unshielded	
2	614307	2	Receptacle, Center Polarized, 26-pin	

Figure A-6: *Gap Controller Ribbon Cable (614599A)***Table A-6:** *Gap Controller Ribbon Cable (614599A)*

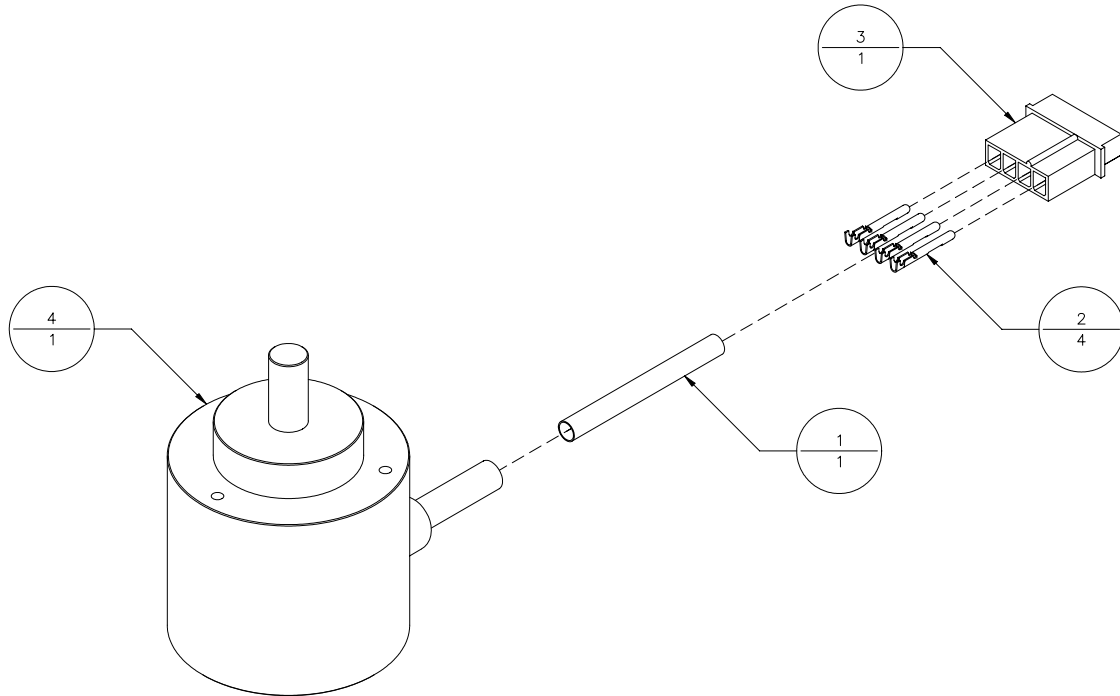
Item	Part Number	Quantity	Description	Reference
1	606311	13.5"	Ribbon Cable, #28-40, Grey, Unshielded	
2	614306	2	Receptacle, Center Polarized, 40-pin	

Figure A-7: *Inline Power Terminal Block Assembly (615012A)*Table A-7: *Inline Power Terminal Block Assembly (615012A)*

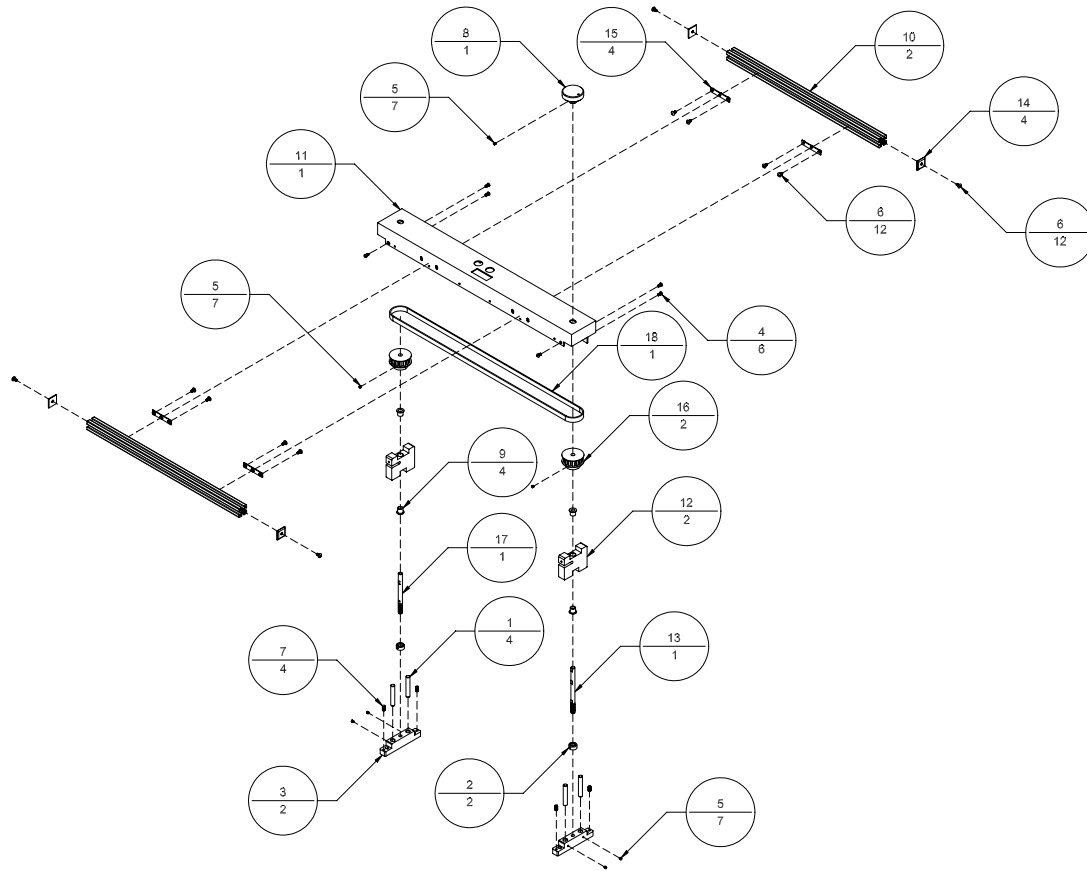
Item	Part Number	Quantity	Description	Reference
1	615003	4	Terminal Block, M10/10, Grey, 10mm, 7.5A	
2	615006	2	Jumper Bar, BJM10	
3	615012	3	End Section, FEM6, Grey, 2.5mm	
4	615016	1	End stop, BAM, 9.1mm	
5	615018	1	Ground Block, M10/10.P, Green & Yellow	

Figure A-8: *Inline Terminal Block Assembly (615016A)***Table A-8:** *Inline Terminal Block Assembly (615016A)*

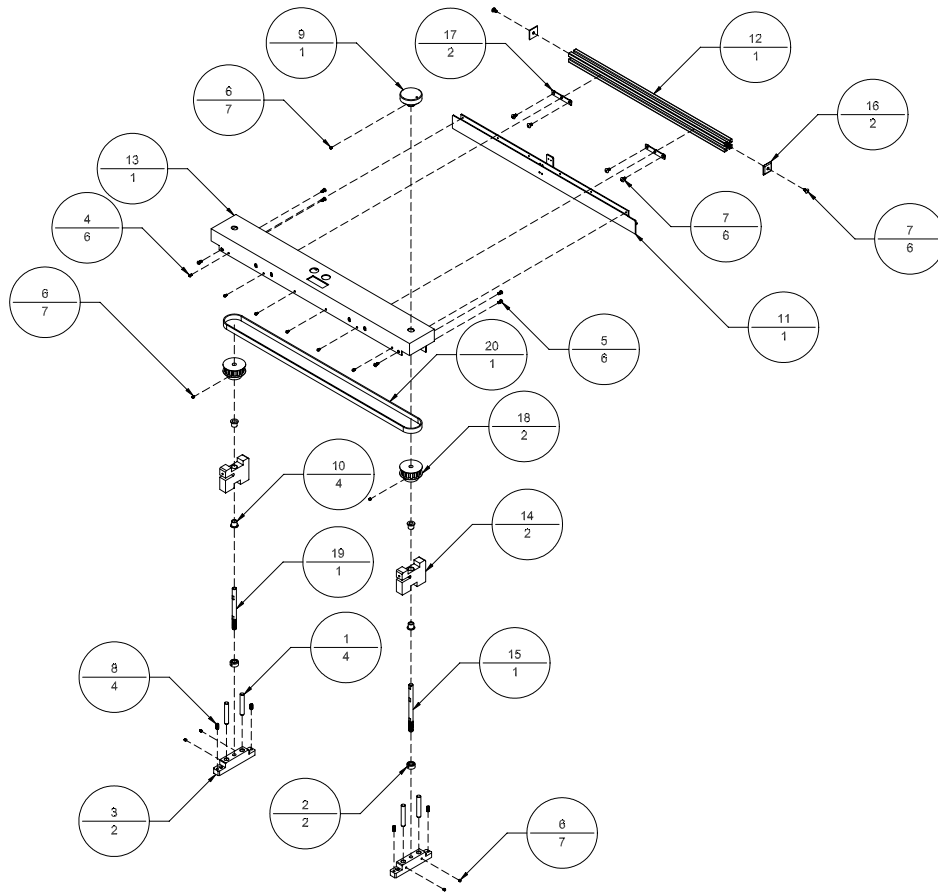
Item	Part Number	Quantity	Description	Reference
1	615003	8	Terminal Block, M10/10, Grey, 10mm, 7.5A	
2	615006	2	Jumper Bar, BJM10	
3	615012	6	End Section, FEM6, Grey, 2.5mm	
4	615016	1	End Stop, BAM, 9.1mm	
5	615017	2	Terminal, EK2.5/35, Ground	
6	615018	2	Ground Block, M10/10.P, Green & Yellow	

Figure A-9: *Shaft Encoder Assembly (9100188A)***Table A-9:** *Shaft Encoder Assembly (9100188A)*

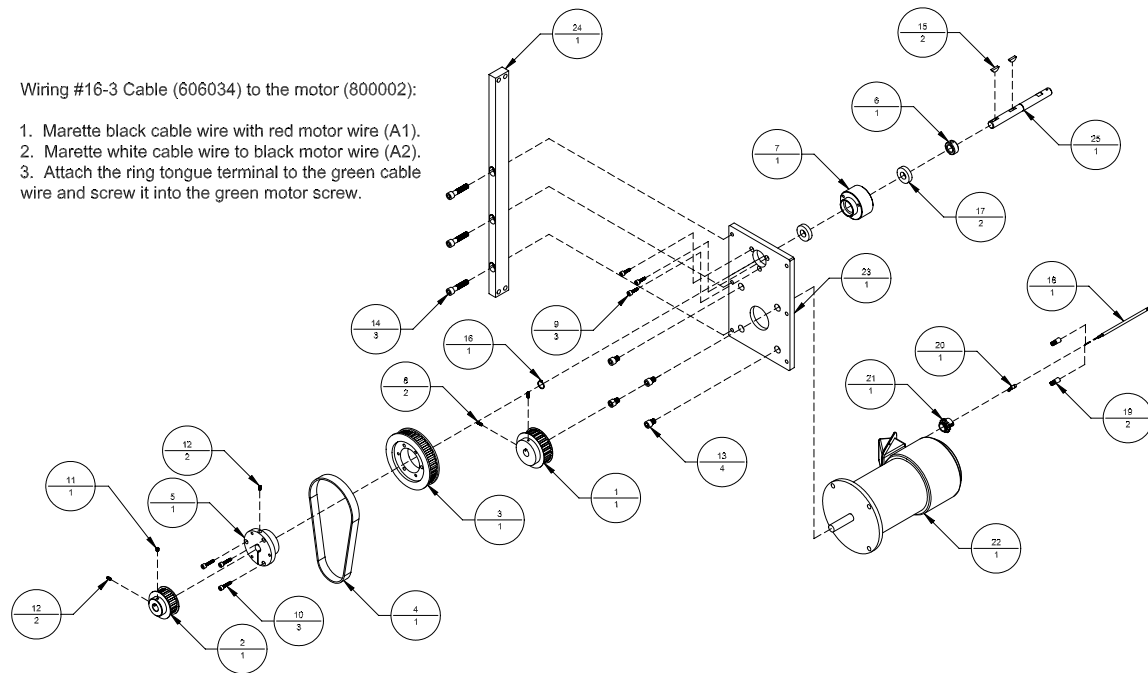
Item	Part Number	Quantity	Description	Reference
1	609000	0.75"	Shrink Wrap, 3/16" I.D.	
2	614008	4	Male Contact, Pin	
3	614009	1	Plug, Pin Housing	
4	9100188	1	Shaft Encoder, 6000 ppr	

Figure A-10: Printhead Bridge Assembly - BK765 Only, 3" (9100225A)**Table A-10: Printhead Bridge Assembly – BK765 Only, 3" (9100225A)**

Item	Part Number	Quantity	Description	Reference
1	100309	4	Height Adjustment Pin	
2	131020	2	Collar, 3/8" ID	
3	330314	2	Bridge Mounting Foot	
4	404520	6	Screw, BHCS, 10-32 UNF x 3/8"	
5	404807	7	Screw, SHSS, 10-32 UNF x 3/16"	
6	405520	12	Screw, BHCS, 1/4-20 UNC x 3/8"	
7	405830	4	Screw, SHSS, 1/4-20 UNC x 1/2"	
8	438311	1	Bridge Handwheel	
9	505384	4	Flange Bushing, 3/8" ID x 1/2" OD x 1/2"	
10	9100223	2	Bridge Extrusion Rail	
11	9100225	1	Printhead Bridge Body	
12	9100226	2	Adjustable Mount	
13	9100227	1	Height Adjustment Screw	
14	9100360	4	Push in Fastener for 10 Series (Endcap)	
15	9100361	4	T-Nut, 1/4-20 Triple	
16	9100362	2	Pulley, 15LF050 x 3/8"	
17	9100363	1	Secondary Height Adjustment Screw	
18	9100365	1	Printhead Bridge Belt, 510L050	

Figure A-11: Printhead Bridge Assembly – BK765 Only (9100226A)**Table A-11: Printhead Bridge Assembly – BK765 Only (9100226A)**

Item	Part Number	Quantity	Description	Reference
1	100309	4	Height Adjustment Pin	
2	131020	2	Collar, 3/8" ID	
3	330314	2	Bridge Mounting Foot	
4	402510	6	Screw, BHCS, 6-32 UNC x 1/4"	
5	404520	6	Screw, BHCS, 10-32 UNF x 3/8"	
6	404807	7	Screw, SHSS, 10-32 UNF x 3/16"	
7	405520	6	Screw, BHCS, 1/4-20 UNC x 3/8"	
8	405830	4	Screw, SHSS, 1/4-20 UNC x 1/2"	
9	438311	1	Bridge Handwheel	
10	505384	4	Flange Bushing, 3/8" ID x 1/2" OD x 1/2"	
11	706601	1	Igus Chain Support	
12	9100223	1	Bridge Extrusion Rail	
13	9100225	1	Printhead Bridge Body	
14	9100226	2	Adjustable Mount	
15	9100227	1	Height Adjustment Screw	
16	9100360	2	Push in Fastener for 10 Series (Endcap)	
17	9100361	2	T-Nut, 1/4-20 Triple	
18	9100362	2	Pulley, 15LF050 x 3/8"	
19	9100363	1	Secondary Height Adjustment Screw	
20	9100365	1	Printhead Bridge Belt, 510L050	

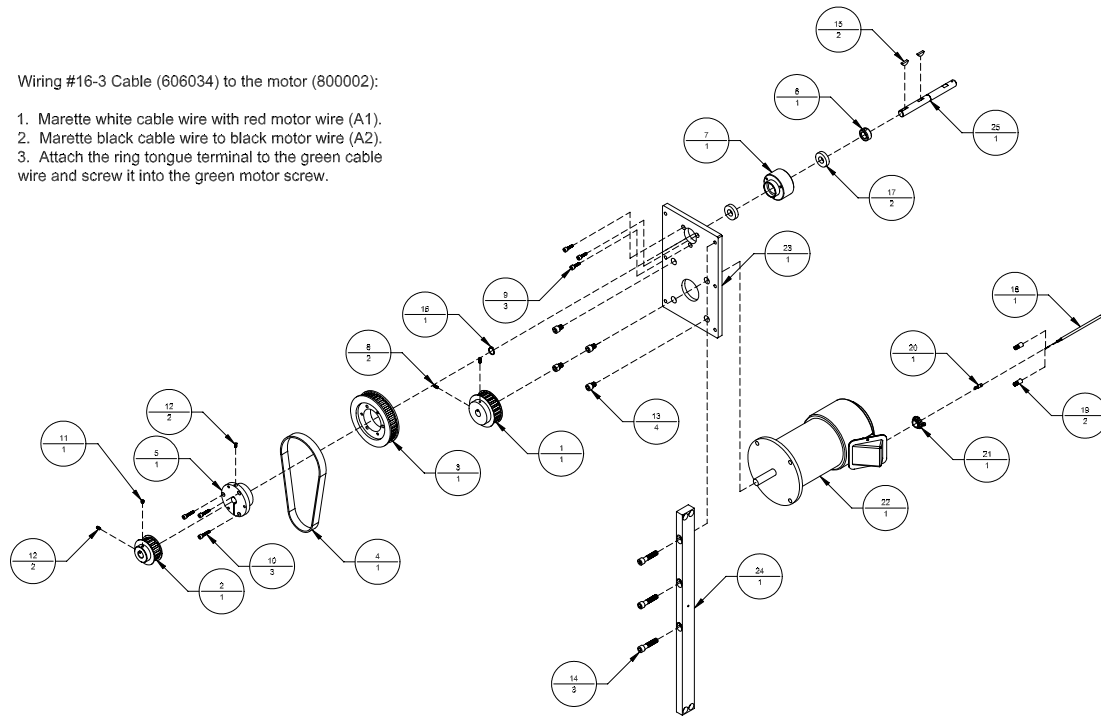
Figure A-12: Inline Motor Assembly, Right (9100370RA)**Table A-12: Inline Motor Assembly, Right (9100370RA)**

Item	Part Number	Quantity	Description	Reference
1	116200	1	Pulley, 24LB075 x 5/8"	
2	116302	1	Pulley, 18LB075 x 5/8"	
3	116538	1	Pulley, 40LH075 x 5/8"	
4	120326	1	Timing Belt, 240L075	
5	127314	1	Pulley Hub	
6	131040	1	Collar, 5/8" I.D.	
7	330534	1	Mainshaft Housing	
8	404830	2	Screw, SHSS, 10-32 UNF x 1/2"	
9	405250	3	Screw, SHCS, 1/4-20 UNC x 3/4"	
10	405270	3	Screw, SHCS, 1/4-20 UNC x 1"	
11	405810	1	Screw, SHSS, 1/4-20 UNC x 1/4"	
12	405820	2	Screw, SHSS, 1/4-20 UNC x 3/8"	
13	407230	4	Screw, SHCS, 3/8-16 UNC x 1/2"	
14	407282	3	Screw, SHCS, 3/8-16 UNC x 1 3/4"	
15	430250	2	Woodruff Key, #606, 3/16" x 3/4"	
16	437063	1	Retaining Ring, 5/8" I.D., External	
17	500040	2	Bearing, R10, 5/8" I.D.	
18	606034	57"	Cable, #16-3, SJOW-A	
19	609101	2	Marette, Orange, 14-22	
20	609114	1	Ring Tongue Terminal, #10	
21	615131	1	Box Connector, 3/8", Cable	
22	800002	1	Motor, 1/2 H.P., 180 VDC	
23	9100370	1	Inline Motor Mounting Plate	
24	9100394	1	Inline Motor Mounting Bar	
25	9100450	1	Inline Motor Driveshaft	

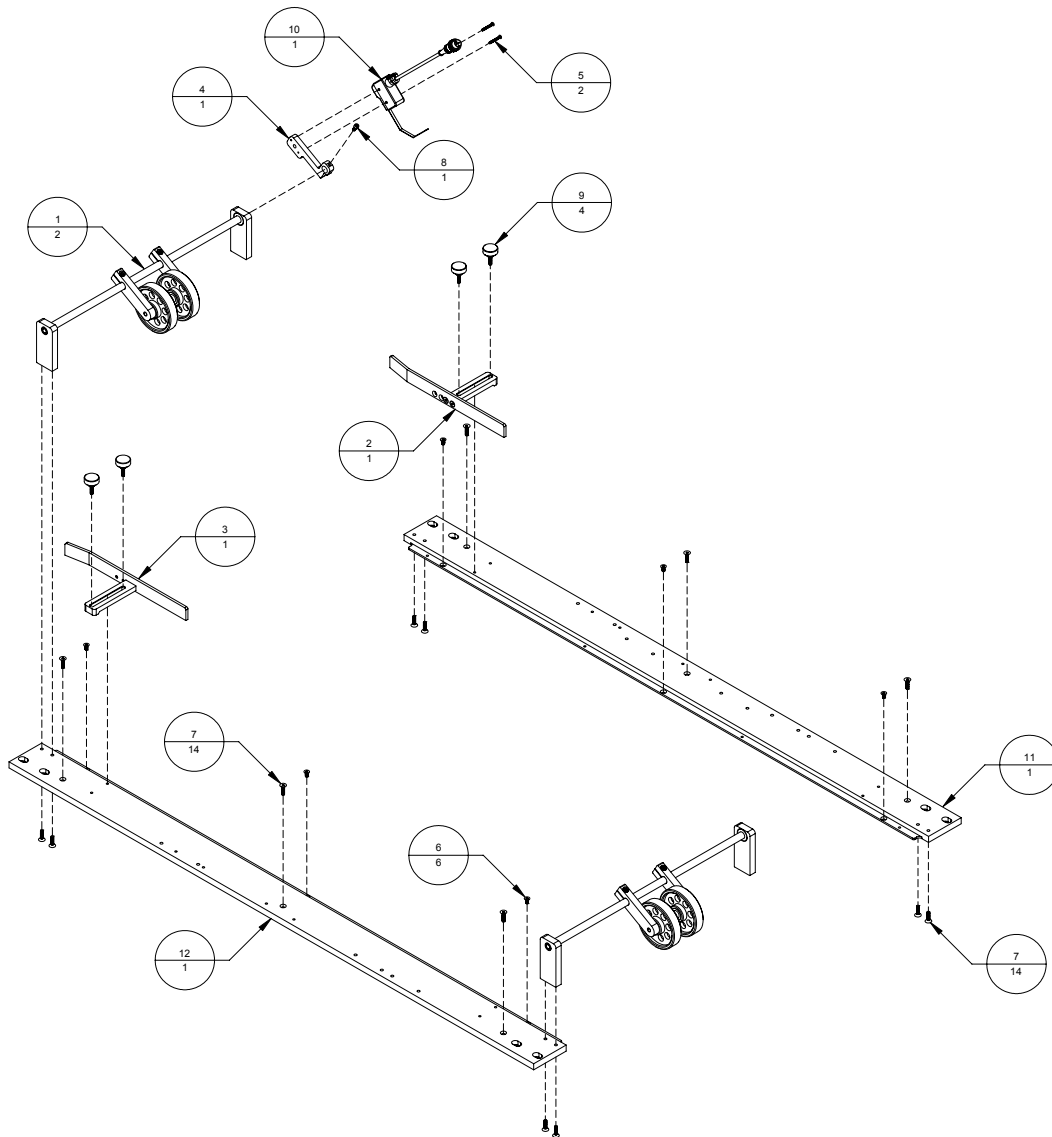
Figure A-13: Inline Motor Assembly, Left (9100370LA)

Wiring #16-3 Cable (606034) to the motor (800002):

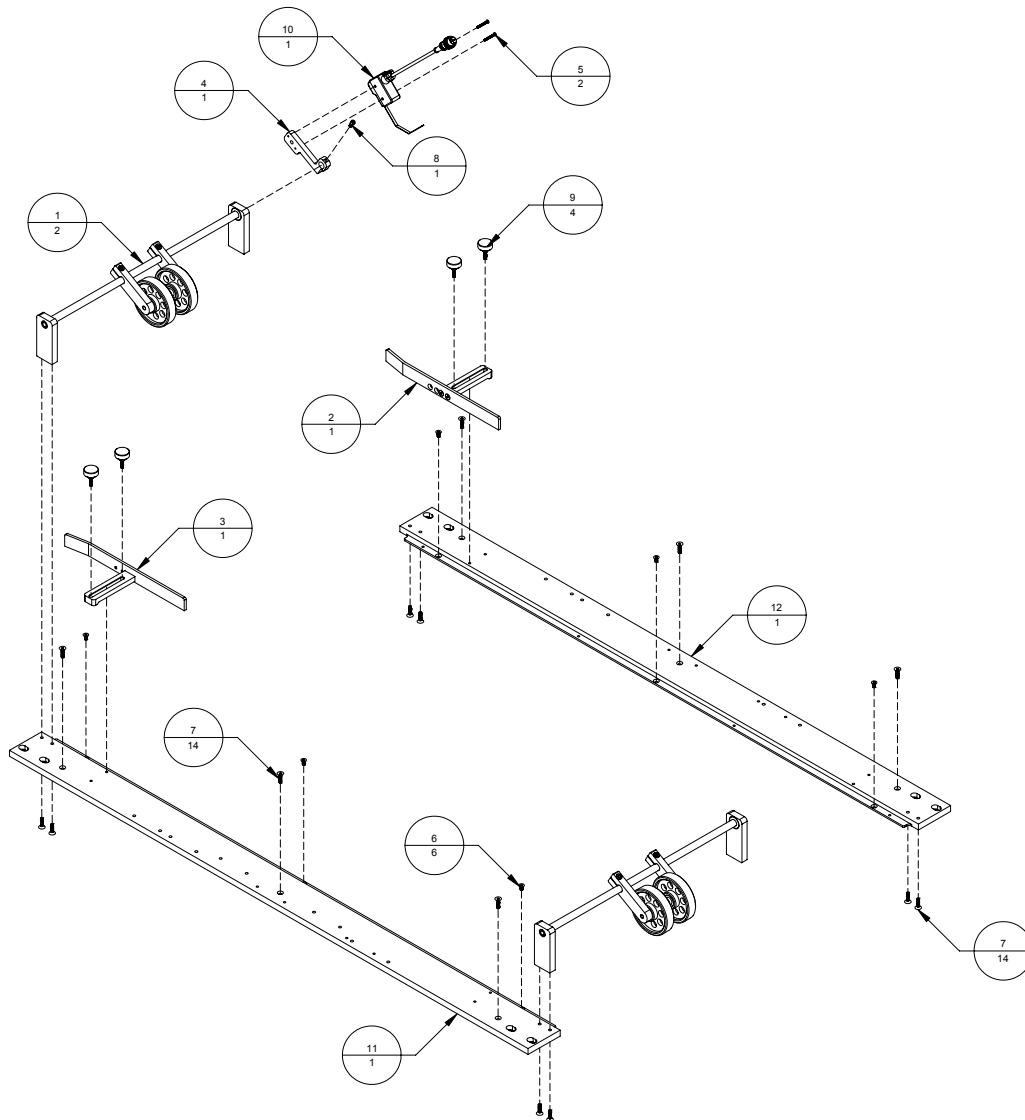
1. Marette white cable wire with red motor wire (A1).
2. Marette black cable wire to black motor wire (A2).
3. Attach the ring tongue terminal to the green cable wire and screw it into the green motor screw.

**Table A-13: Inline Motor Assembly, Left (9100370LA)**

Item	Part Number	Quantity	Description	Reference
1	116200	1	Pulley, 24LB075 x 5/8"	
2	116302	1	Pulley, 18LB075 x 5/8"	
3	116538	1	Pulley, 40LH075 x 5/8"	
4	120326	1	Timing Belt, 240L075	
5	127314	1	Pulley Hub	
6	131040	1	Collar, 5/8" I.D.	
7	330534	1	Mainshaft Housing	
8	404830	2	Screw, SHSS, 10-32 UNF x 1/2"	
9	405250	3	Screw, SHCS, 1/4-20 UNC x 3/4"	
10	405270	3	Screw, SHCS, 1/4-20 UNC x 1"	
11	405810	1	Screw, SHSS, 1/4-20 UNC x 1/4"	
12	405820	2	Screw, SHSS, 1/4-20 UNC x 3/8"	
13	407230	4	Screw, SHCS, 3/8-16 UNC x 1/2"	
14	407282	3	Screw, SHCS, 3/8-16 UNC x 1 3/4"	
15	430250	2	Woodruff Key, #606, 3/16" x 3/4"	
16	437063	1	Retaining Ring, 5/8" I.D., External	
17	500040	2	Bearing, R10, 5/8" I.D.	
18	606034	57"	Cable, #16-3, SJOW-A	
19	609101	2	Marette, Orange, 14-22	
20	609114	1	Ring Tongue Terminal, #10	
21	615131	1	Box Connector, 3/8", Cable	
22	800002	1	Motor, 1/2 H.P., 180 VDC	
23	9100370	1	Inline Motor Mounting Plate	
24	9100394	1	Inline Motor Mounting Bar	
25	9100450	1	Inline Motor Driveshaft	

Figure A-14: Inline Tabletop Assembly, Right (9100373RA)**Table A-14: Inline Tabletop Assembly, Right (9100373RA)**

Item	Part Number	Quantity	Description	Reference
1	100314A	2	Outfeed Roller Assembly	Page A-4
2	212300A	1	Left Material Guide Assembly	
3	212301A	1	Right Material Guide Assembly	
4	330112W	1	Switch Bracket, 9 x 12	
5	402370	2	Screw, PHMS, 6-32 UNC x 1"	
6	404020	6	Screw, FHCS, 10-32 UNF x 3/8"	
7	404050	14	Screw, FHCS, 10-32 UNF x 3/4"	
8	404220	1	Screw, SHCS, 10-32 UNF x 3/8"	
9	438110A	4	Side Guide Knob Assembly	
10	603021A	1	Jam Switch Assembly	Page A-5
11	9100373	1	Inline Left Tabletop	
12	9100374	1	Inline Right Tabletop	

Figure A-15: Inline Tabletop Assembly, Left (9100373LA)**Table A-15: Inline Tabletop Assembly, Left (9100373LA)**

Item	Part Number	Quantity	Description	Reference
1	100314A	2	Outfeed Roller Assembly	Page A-4
2	212300A	1	Left Material Guide Assembly	
3	212301A	1	Right Material Guide Assembly	
4	330112W	1	Switch Bracket, 9 x 12	
5	402370	2	Screw, PHMS, 6-32 UNC x 1"	
6	404020	6	Screw, FHCS, 10-32 UNF x 3/8"	
7	404050	14	Screw, FHCS, 10-32 UNF x 3/4"	
8	404220	1	Screw, SHCS, 10-32 UNF x 3/8"	
9	438110A	4	Knob Assembly, 10-32 UNF x 1 1/4"	
10	603021A	1	Jam Switch Assembly	Page A-5
11	9100373	1	Inline Left Tabletop	
12	9100374	1	Inline Right Tabletop	

Figure A-16: Inline Transport Tabletop Assembly, Right (9100375RA)

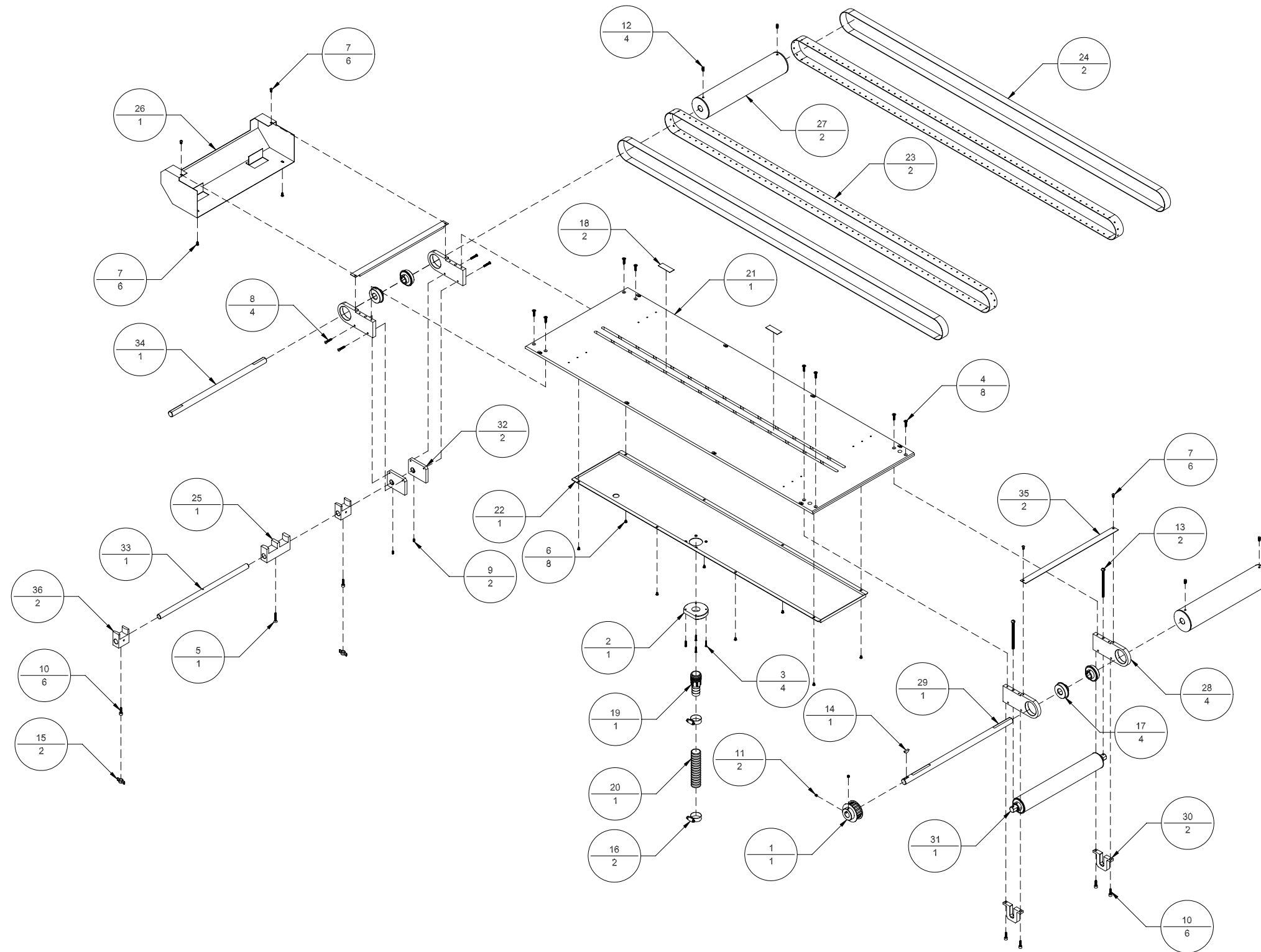


Table A-16: Inline Transport Tabletop Assembly, Right (9100375RA)

Item	Part Number	Quantity	Description	Reference
1	116301	1	Pulley, 18LB075 x 3/4"	
2	330608	1	Blower Hose Block	
3	402350	4	Screw, PHMS, 6-32 UNC x 3/4"	
4	404050	8	Screw, FHCS, 10-32 UNF x 3/4"	
5	404075	1	Screw, FHCS, 10-32 UNF x 1 1/4"	
6	404510	8	Screw, BHCS, 10-32 UNF x 1/4"	
7	404520	6	Screw, BHCS, 10-32 UNF x 3/8"	
8	404570	4	Screw, BHCS, 10-32 UNF x 1"	
9	404820	2	Screw, SHSS, 10-32 UNF x 3/8"	
10	405250	6	Screw, SHCS, 1/4-20 UNC x 3/4"	
11	405810	2	Screw, SHSS, 1/4-20 UNC x 1/4"	
12	405830	4	Screw, SHSS, 1/4-20 UNC x 1/2"	
13	405997	2	Screw, RHMS, 1/4-20 UNC x 4"	
14	430250	1	Woodruff Key, #606, 3/16" x 3/4"	
15	438505	2	Tee Knob, Black Plastic, 1/4" Screw	
16	444004	2	Hose Clamp, Gear Type, 9-16" – 1 1/4"	
17	500055	4	Bearing, UBR204-12S, 3/4" I.D.	
18	630006	2	Reflective Tape (0.75" x 2" Long)	
19	802111	1	Hose Barb, 1" x 1", Plastic	
20	802601	26"	Vacuum Tubing, Grey PVC	
21	9100375	1	Inline Transport Tabletop	
22	9100377	1	Inline Vacuum Column	
23	9100463	2	Inline Vacuum Transport Belt	
24	9100464	2	Inline Transport Belt	
25	9100733	1	Inline Transport Belt Guide	
26	9100776	1	Inline Outfeed Guide Cover	
27	9101031A	2	Inline Roller	
28	9101033	4	Inline Drive Roller Mounting Block	
29	9101034	1	Inline Drive Shaft	
30	9101037	2	Take-Up Shaft Guide Block	
31	9101038A	1	Take-Up Roller Assembly	Page A-35
32	9101039	2	Belt Guide Mounting Block	
33	9101040	1	Inline Belt Alignment Shaft	
34	9101041	1	Inline Roller Shaft	
35	9101042	2	Roller Finger Guard	
36	9101043	2	Belt Guide, Adjustable, 1"	

Figure A-17: Inline Transport Tabletop Assembly, Left (9100375LA)

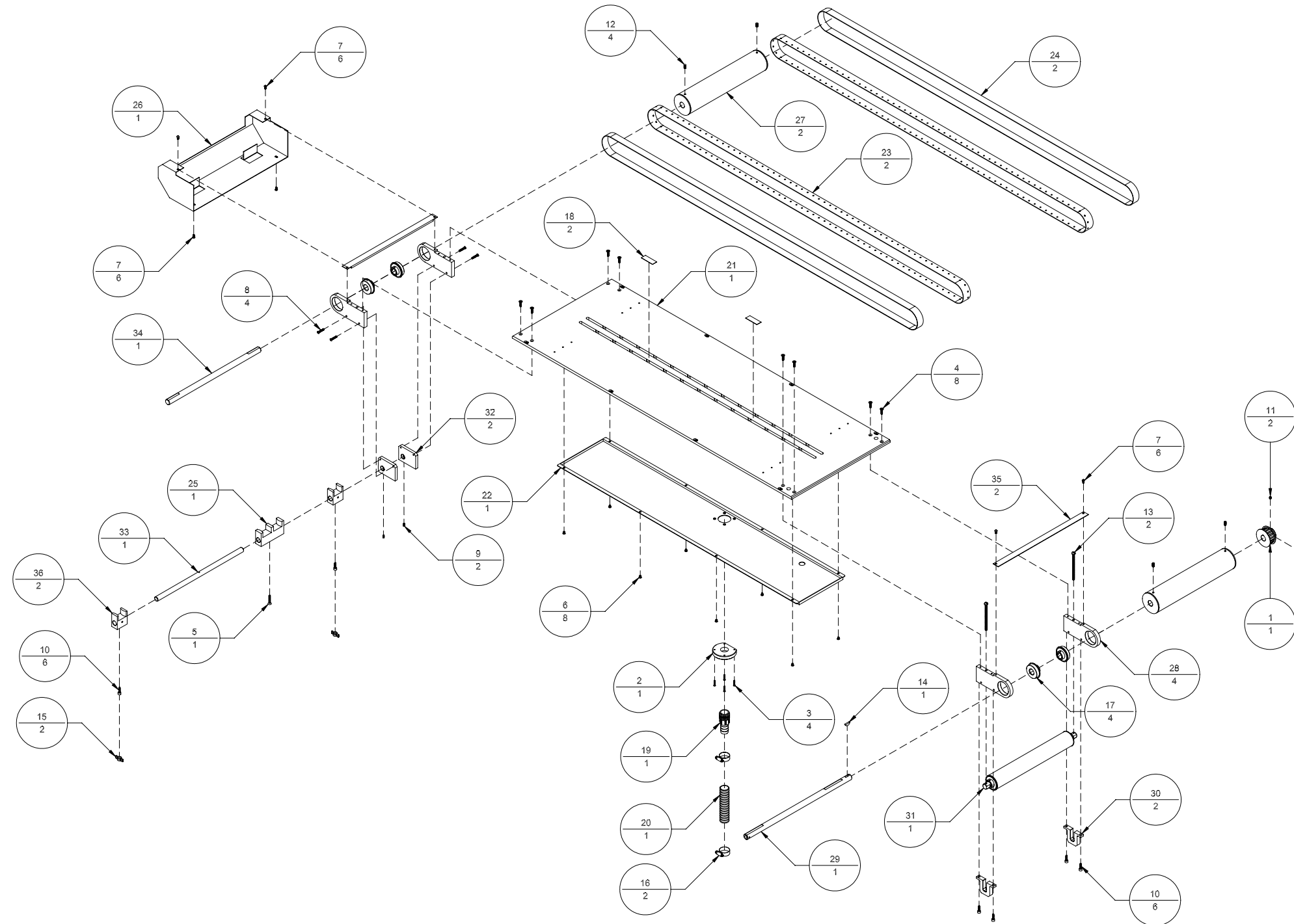


Table A-17: Inline Transport Tabletop Assembly, Left (9100375LA)

Item	Part Number	Quantity	Description	Reference
1	116301	1	Pulley, 18LB075 X ¾"	
2	330608	1	Blower Hose Block	
3	402350	4	Screw, PHMS, 6-32 UNC X ¾"	
4	404050	8	Screw, FHCS, 10-32 UNF X ¾"	
5	404075	1	Screw, FHCS, 10-32 UNF X 1 ¼"	
6	404510	8	Screw, BHCS, 10-32 UNF X ¼"	
7	404520	6	Screw, BHCS, 10-32 UNF X 3/8"	
8	404570	4	Screw, BHCS, 10-32 UNF X 1"	
9	404820	2	Screw, SHSS, 10-32 UNF X 3/8"	
10	405250	6	Screw, SHCS, ¼-20 UNC X ¾"	
11	405810	2	Screw, SHSS, ¼-20 UNC X ¼"	
12	405830	4	Screw, SHSS, ¼-20 UNC X ½"	
13	405997	2	Screw, RHMS, ¼-20 UNC X 4"	
14	430250	1	Woodruff Key, #606, 3/16" X ¾"	
15	438505	2	Tee Knob, Black Plastic, ¼" Screw	
16	444004	2	Hose Clamp, Gear Type, 9-16" – 1 ¼"	
17	500055	4	Bearing, UBR204-12S, ¾" I.D.	
18	630006	2	Reflective Tape (0.75" X 2" Long)	
19	802111	1	Hose Barb, 1" X 1", Plastic	
20	802601	26"	Vacuum Tubing, Grey PVC	
21	9100375	1	Inline Transport Tabletop	
22	9100377	1	Inline Vacuum Column	
23	9100463	2	Inline Vacuum Transport Belt	
24	9100464	2	Inline Transport Belt	
25	9100733	1	Inline Transport Belt Guide	
26	9100776	1	Inline Outfeed Guide Cover	
27	9101031A	2	Inline Roller	
28	9101033	4	Inline Drive Roller Mounting Block	
29	9101034	1	Inline Drive Shaft	
30	9101037	2	Take-Up Shaft Guide Block	
31	9101038A	1	Take-Up Roller Assembly	Page A-35
32	9101039	2	Belt Guide Mounting Block	
33	9101040	1	Inline Belt Alignment Shaft	
34	9101041	1	Inline Roller Shaft	
35	9101042	2	Roller Finger Guard	
36	9101043	2	Belt Guide, Adjustable, 1"	

Figure A-18: Inline Base Cabinet Assembly (9100377A)

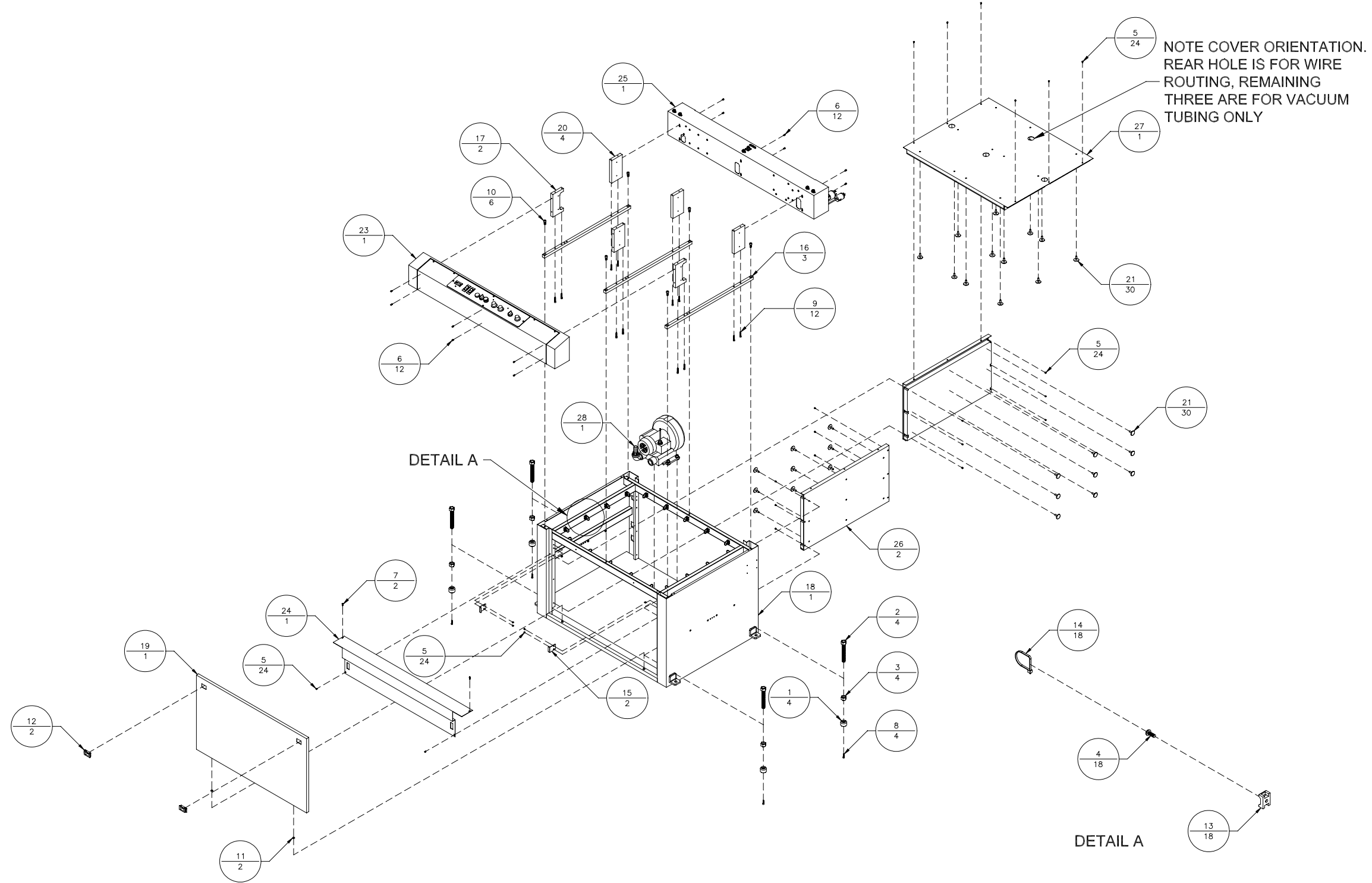
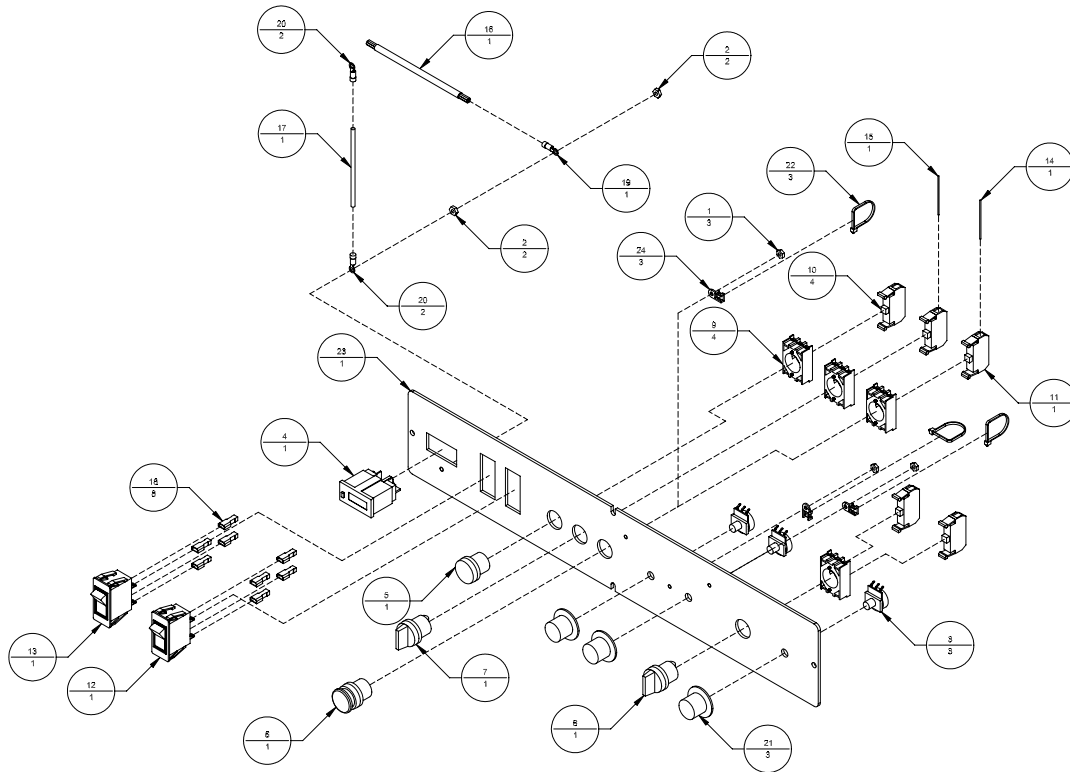


Table A-18: Inline Base Cabinet Assembly (9100377A)

Item	Part Number	Quantity	Description	Reference
1	343010	4	Base Mounting Foot	
2	343015	4	Base Mounting Leg	
3	343016	4	Jam Nut, 3/4-10 UNC	
4	404331	18	Screw, PHMS, 10-32 UNF X 1/2", Roll Thread	
5	404510	24	Screw, BHCS, 10-32 UNF X 1/4"	
6	404520	12	Screw, BHCS, 10-32 UNF X 3/8"	
7	404530	2	Screw, BHCS, 10-32 UNF X 1/2"	
8	405260	4	Screw, SHCS, 1/4-20 UNC X 7/8"	
9	405275	12	Screw, SHCS, 1/4-20 UNC X 1 1/4"	
10	407250	6	Screw, SHCS, 3/8-16 UNC X 3/4"	
11	440510	2	Rubber Washer, 1/4" I.D.	
12	446000	2	Slide Latch – A3	
13	615102	18	Tie Mount	
14	615140	18	Lashing Tie	
15	717530	2	Door Catch	
16	9100371	3	Inline Mounting Bar	
17	9100372	2	Inline Tabletop Support	
18	9100381A	1	Inline Base Assembly	
19	9100384	1	Inline Front Door w/Sound Insulation (902600)	
20	9100392	4	Inline Main Tabletop Support	
21	9100417	30	Panel Moulding Clip	
22	9100749A	1	Inline Cable Harness (Not Shown)	
23	9100750A	1	Inline Front Panel Assembly	Page A-29
24	9100753	1	Inline Upper Cabinet Cover	
25	9100761A	1	Inline Rear Panel Assembly	Page A-32
26	9100777	2	Inline Side Cabinet Cover w/Sound Insulation	
27	9100778	1	Inline Safety Cover w/Sound Insulation	
28	9100829A	1	Blower Assembly	Page A-34

Figure A-19: Instrument Panel Assembly (9100397A)**Table A-19: Instrument Panel Assembly (9100397A)**

Item	Part Number	Quantity	Description	Reference
1	420007	3	Nut, 8-32 UNC	
2	420008	2	Nut, 10-32 UNF	
3	600011	3	Potentiometer, w/Dart 600005	
4	600100	1	Counter	
5	603120	1	Switch, Green Push Button	
6	603121	1	Switch, Red Mushroom Push Button	
7	603122	1	Switch, 2 Position Rotary Knob	
8	603123	1	Switch, 3 Position Rotary Knob	
9	603125	4	Switch Locking Collar	
10	603126	4	Block, N.O. Contact	
11	603127	1	Block, N.C. Contact	
12	603319	1	Circuit Breaker, 10A	
13	603415	1	Circuit Breaker Switch, 15A, 2 Pole	
14	606036	5"	Wire, #22, Green, Hook-up	
15	606036	14"	Wire, #22, Green, Hook-up	
16	606052	79"	Cable, #14-7, Unshielded	
17	606360	24"	Wire, #10, Green/Yellow, Hook-up	
18	609110	8	Connector, Push-On, Blue	
19	609111	1	Ring Tongue Terminal	
20	609114	2	Ring Tongue Terminal, #10 Screw	
21	613002	3	Knob, 36 mm, Skirted	
22	615140	3	Lashing Tie	
23	9100397	1	Instrument Panel	
24	9100728	3	Tie Anchor Mount, #8 Screw	

Figure A-20: Counter Cable Assembly – BK765 Only (9100726A)

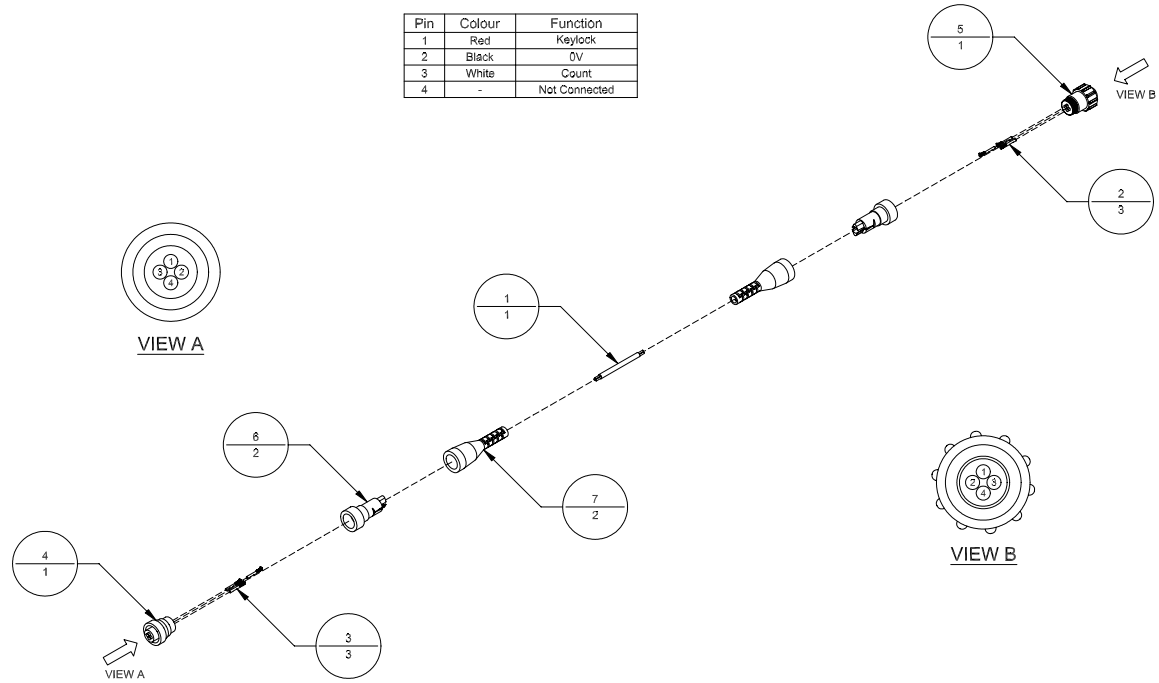


Table A-20: Counter Cable Assembly – BK765 Only (9100726A)

Item	Part Number	Quantity	Description	Reference
1	606013	10"	Cable, #22-3, Shielded	
2	614107	3	Male Contact, Pin, Yellow	
3	614108	3	Female Contact, Socket, Yellow	
4	614115	1	Plug Connector, 11-4, Standard	
5	614116	1	Plug Connector, 11-4, Reverse	
6	614117	2	Cable Grip, Internal	
7	614118	2	Cable Boot, Flexible	

Figure A-21: Photocue Assembly – BK765 Only (9100727A)

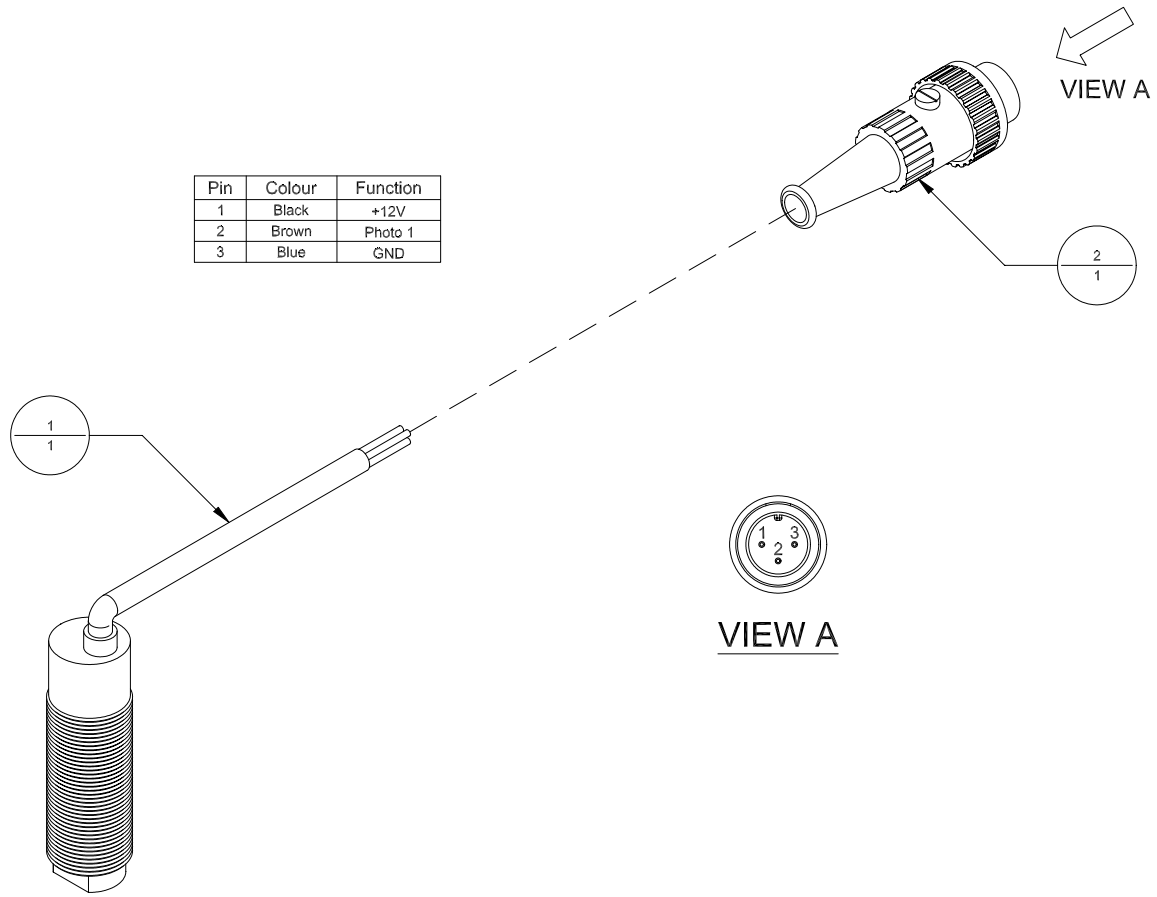
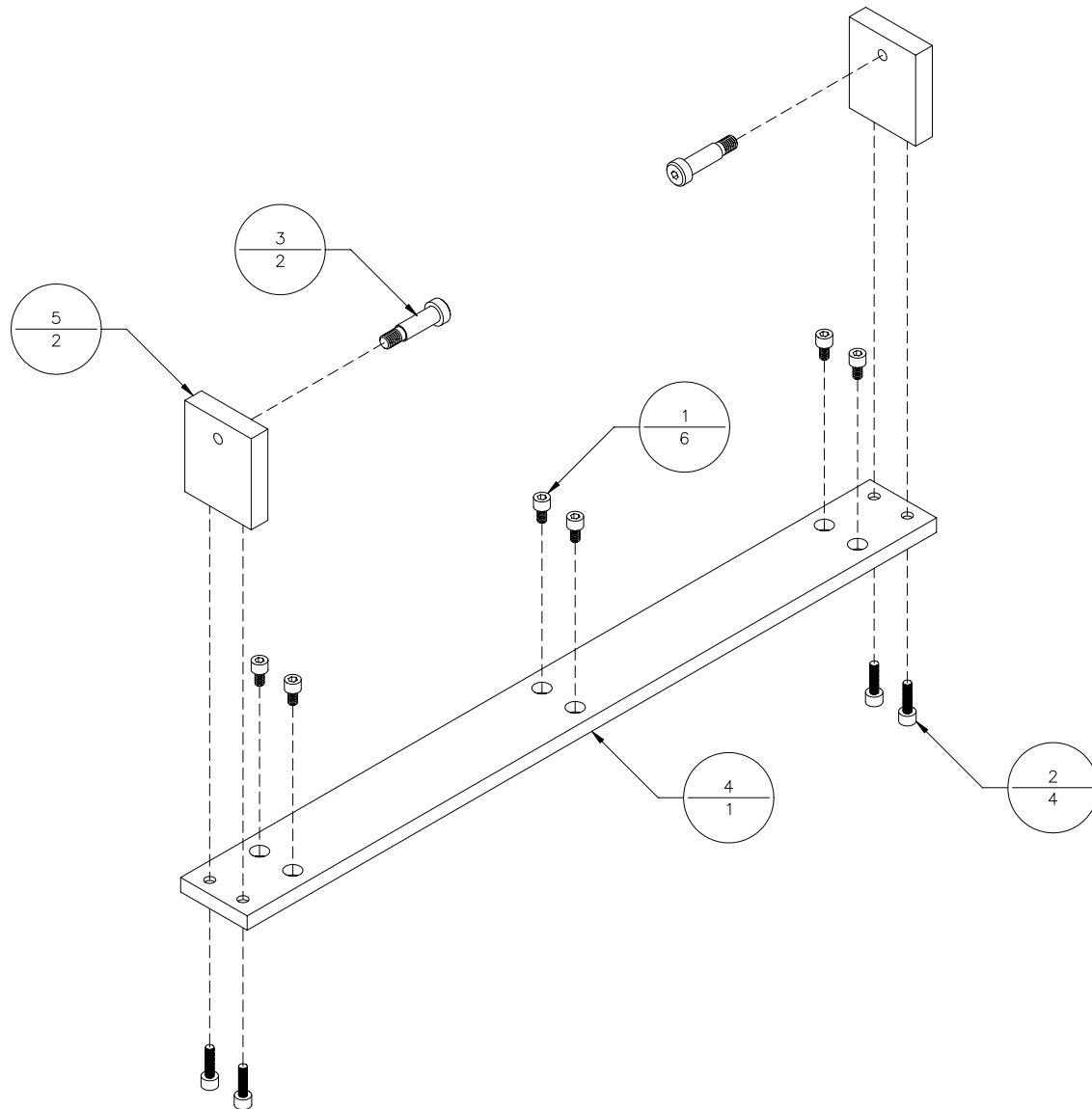
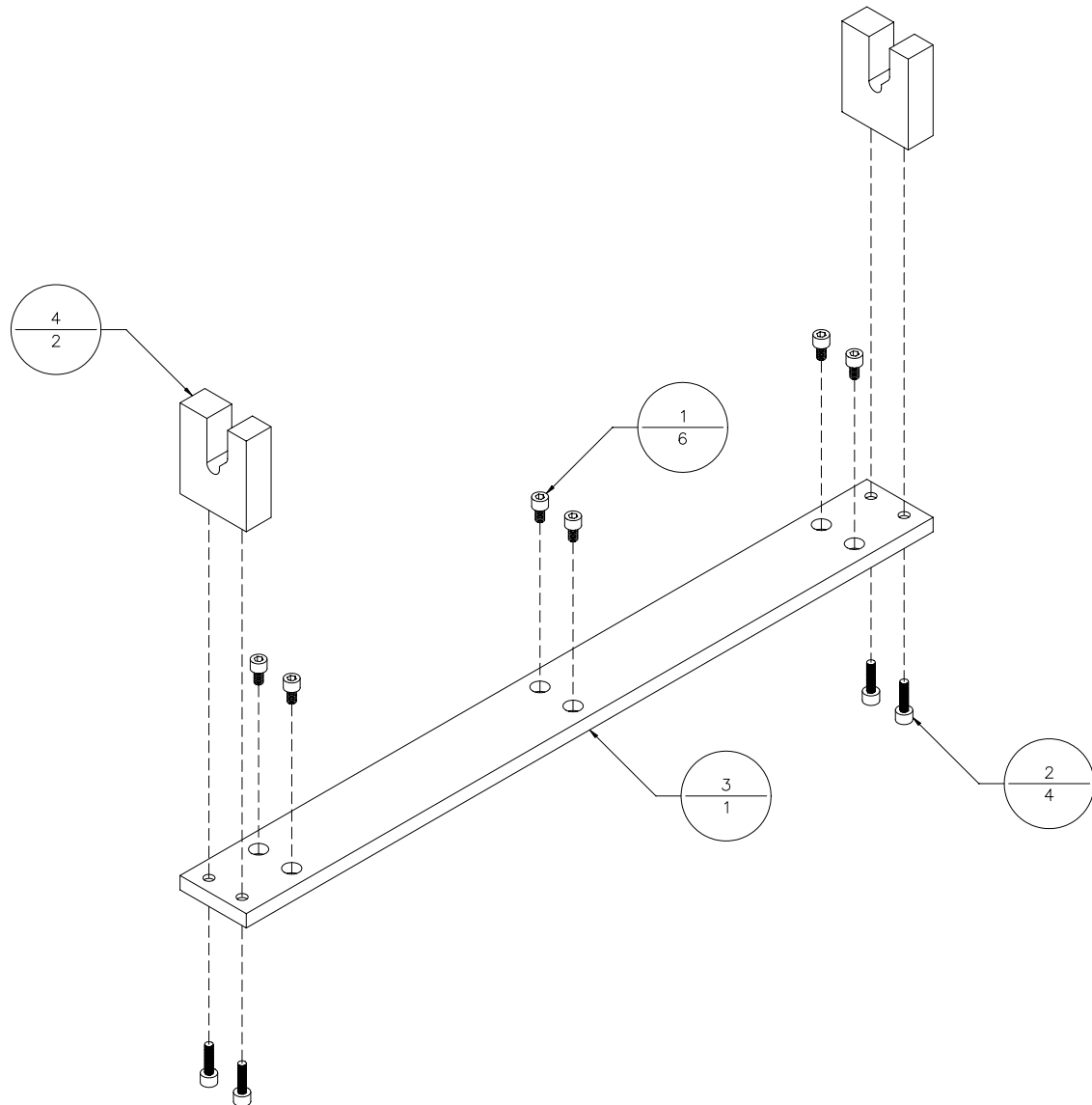


Table A-21: Photocue Assembly – BK765 Only (9100727A)

Item	Part Number	Quantity	Description	Reference
1	630002	1	Photoelectric Switch (30" Long Cable)	
2	9100724	1	Plug, Preh, Locking, 3-pin	

Figure A-22: Upper Latch Striker Assembly – BK765 Only (9100729A)**Table A-22:** Upper Latch Striker Assembly – BK765 Only (9100729A)

Item	Part Number	Quantity	Description	Reference
1	405220	6	Screw, SHCS, 1/4-20 UNC x 3/8"	
2	405250	4	Screw, SHCS, 1/4-20 UNC x 3/4"	
3	416170	2	Shoulder Bolt, 3/8 x 1" (5/16-18 UNC)	
4	9100729	1	Latch Striker Pin Bar	
5	9100730	2	Latch Striker Pin Plate	

Figure A-23: Lower Latch Striker Assembly – BK765 Only (9100732A)**Table A-23:** Lower Latch Striker Assembly – BK765 Only (9100732A)

Item	Part Number	Quantity	Description	Reference
1	405220	6	Screw, SHCS, 1/4-20 UNC x 3/8"	
2	405250	4	Screw, SHCS, 1/4-20 UNC x 3/4"	
3	9100729	1	Latch Striker Pin Bar	
4	9100732	2	Lower Latch Block	

Figure A-24: I/O Panel Mount Cable (9100748A)

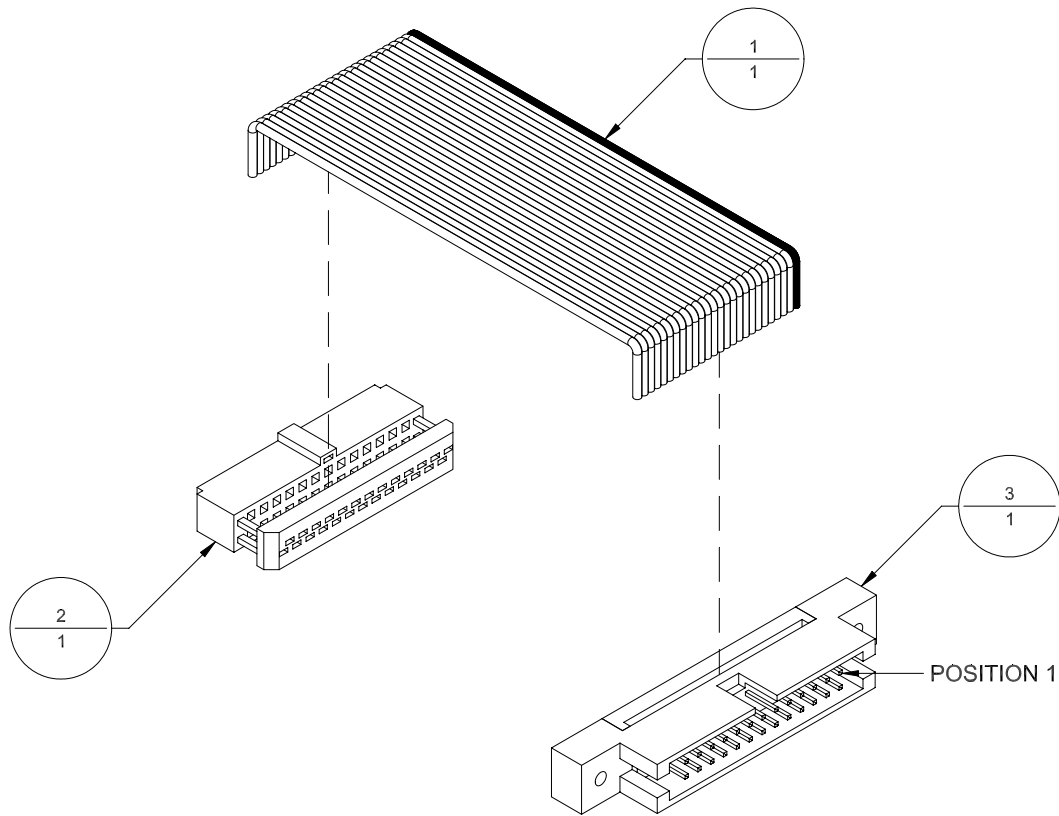


Table A-24: I/O Panel Mount Cable (9100748A)

Item	Part Number	Quantity	Description	Reference
1	606325	45"	Ribbon Cable, #28-26, Grey, Unshielded	
2	614307	1	Receptacle, Center Polarized, 26-pin	
3	9100748	1	Connector, Panel mount, 26-pin	

Figure A-25: Inline Front Panel Assembly (9100750A)

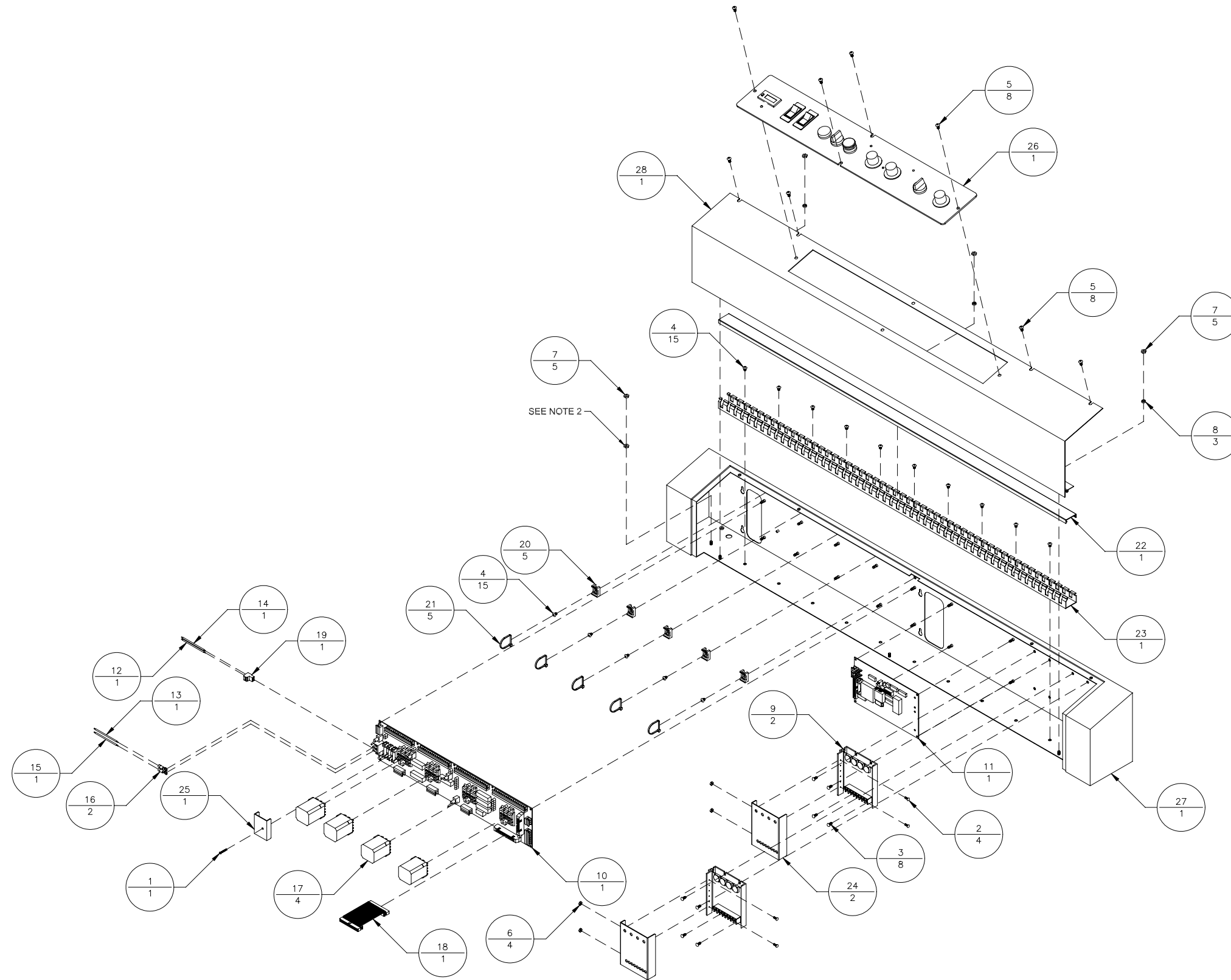
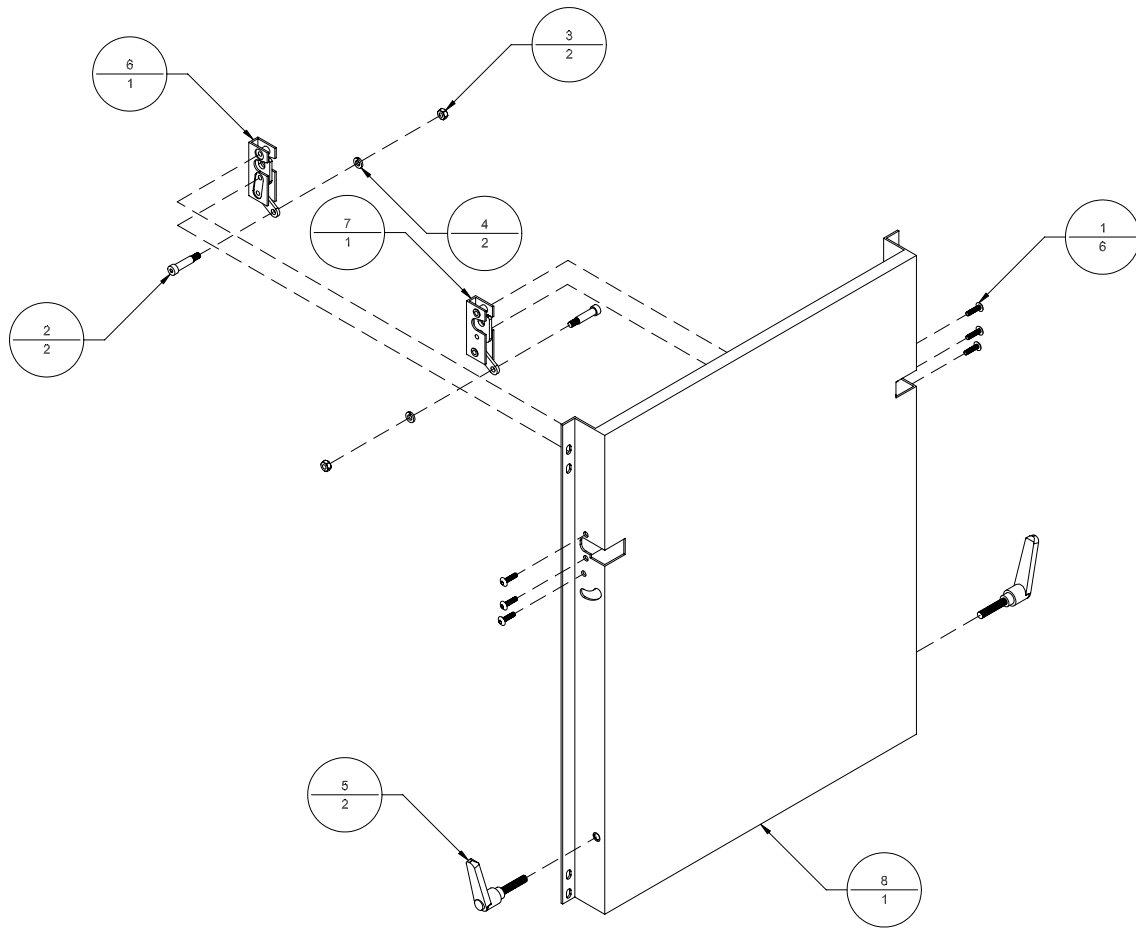


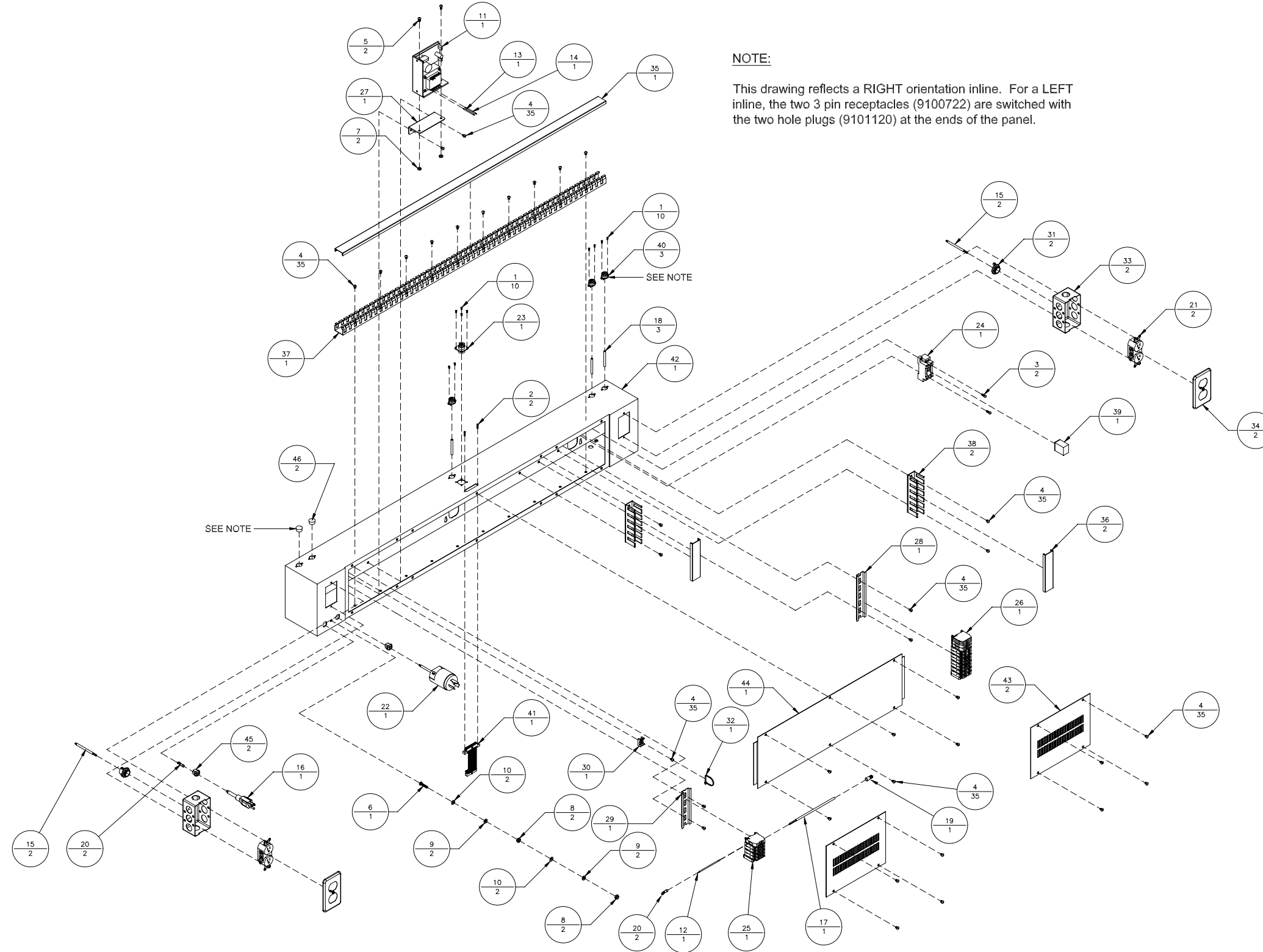
Table A-25: Inline Front Panel Assembly (9100750A)

Item	Part Number	Quantity	Description	Reference
1	401350	1	Screw, PHMS, 4-40 UNC x 3/4"	
2	402320	4	Screw, PHMS, 6-32 UNC x 3/8"	
3	403320	8	Screw, PHMS, 8-32 UNC x 3/8"	
4	404510	15	Screw, BHCS, 10-32 UNF x 1/4"	
5	404520	8	Screw, BHCS, 10-32 UNF x 3/8"	
6	420006	4	Nut, 6-32 UNC	
7	420008	5	Nut, 10-32 UNC	
8	439009	3	Lockwasher, No. 10	
9	600005	2	DC Controller, 90 VDC	
10	600402	1	Base Interface Board	
11	600601	1	Gap Controller Board	
12	606020	95"	Wire, #18, Black, Hook-up	
13	606020	70"	Wire, #18, Black, Hook-up	
14	606024	95"	Wire, #18, Yellow, Hook-up	
15	606029	70"	Wire, #18, White, Hook-up	
16	609111	2	Ring Tongue Terminal	
17	610103	4	Relay, 12 VDC	
18	614599A	1	Gap Controller Ribbon Cable	Page A-7
19	615062	1	Female Connector, 2-pin, BLA2	
20	615102	5	Tie Mount	
21	615140	5	Lashing Tie	
22	615210	41"	Wire Duct Cover, 1"	
23	615220	41"	Wire Duct, 1" X 1"	
24	700321	2	Dart Control Cover	
25	700619	1	Fuse Cover	
26	9100397A	1	Instrument Panel Assembly	Page A-23
27	9100750	1	Inline Front Panel	
28	9100751	1	Inline Front Panel Access Door	

Figure A-26: Inline Latch Assembly (9100754A)**Table A-26: Inline Latch Assembly (9100754A)**

Item	Part Number	Quantity	Description	Reference
1	405550	6	Screw, BHCS, 1/4-20 UNC X 3/4"	
2	415170	2	Shoulder Bolt, 5/16 X 1" (1/4-20 UNC)	
3	420010	2	Nut, 1/4-20 UNC	
4	439010	2	Lockwasher, 1/4" I.D.	
5	9100376	2	Lever Handle, 5/16-18 UNC X 1 1/2"	
6	9100726	1	Latch, Junior Rotary, Right Hand	
7	9100727	1	Latch, Junior Rotary, Left Hand	
8	9100754	1	Inline Latch Cover	

Figure A-27: Inline Rear Panel Assembly (9100761A)



NOTE:

This drawing reflects a RIGHT orientation inline. For a LEFT inline, the two 3 pin receptacles (9100722) are switched with the two hole plugs (9101120) at the ends of the panel.

Table A-27: Inline Rear Panel Assembly (9100761A)

Item	Part Number	Quantity	Description	Reference
1	401310	10	Screw, PHMS, 4-40 UNC x 1/4"	
2	401330	2	Screw, PHMS, 4-40 UNC x 1/2"	
3	403530	2	Screw, BHCS, 8-32 UNC x 1/2"	
4	404510	35	Screw, BHCS, 10-32 UNF x 1/4"	
5	404520	2	Screw, BHCS, 10-32 UNF x 3/8"	
6	405570SS	1	Screw, BHCS, 1/4-20 UNC x 1", SS	
7	420008	2	Nut, 10-32 UNF	
8	420010SS	2	Nut, 1/4-20 UNC, SS	
9	439010	2	Lockwasher, 1/4" I.D.	
10	442530	2	Spacer Washer, 1/4 I.D. x 0.032" Thick	
11	600600	1	Power Supply, 12 VDC	
12	606005	12"	Wire, #16, Green, Hook-up	
13	606020	40"	Wire, #18, Black, Hook-up	
14	606029	40"	Wire, #18, White, Hook-up	
15	606034	2	Cable, #16-3 (1 x 12" Long, 1 x 48" Long)	
16	606330	1	Replacement Cord, #16-3 x 15 ft	
17	606531	46"	Cable, #22-2	
18	609000	3 x 1"	Shrink Wrap, 3/16" I.D.	
19	609101	1	Marett, Orange, 14-22	
20	609115	2	Ring Tongue Terminal, 1/4"	
21	614014	2	Receptacle, Duplex, 2 Pole, 3 Wire Ground	
22	614015A	1	Base Power Cable	
23	614119	1	Receptacle, 11-4, Reverse	
24	615004	1	Relay Base	
25	615012A	1	Inline Power Terminal Block Assembly	Page A-8
26	615016A	1	Inline Terminal Block Assembly	Page A-9
27	615020	1	Power Supply Bracket	
28	615021	6"	T-Rail, DIN	
29	615021	4.75"	T-Rail, DIN	
30	615102	1	Tie Mount	
31	615131	2	Box Connector, 3/8", Cable	
32	615140	1	Lashing Tie	
33	615150	2	Electrical Junction Box, 2" X 4"	
34	615155	2	Box Cover, Duplex Receptacle	
35	615210	41"	Wiring Duct Cover, 1"	
36	615210	2 x 5"	Wiring Duct Cover	
37	615220	41"	Wiring Duct, 1" X 1"	
38	615600	2 x 5"	Wiring Duct, 1" X 1.5"	
39	9100298	1	Relay, 240 VAC	
40	9100722	3	Receptacle, Preh, Locking, 3-pin	
41	9100748A	1	I/O Panel Mount Cable	Page A-28
42	9100761	1	Inline Rear Panel	
43	9100762	2	Inline Rear Panel Access Cover	
44	9100782	1	Inline Rear Panel Cable	
45	9100783	2	Strain Relief Bushing, Round Cables	
46	9101120	2	Hole Plug, Dome, 0.625"	

Figure A-28: *Blower Assembly (9100829A)*

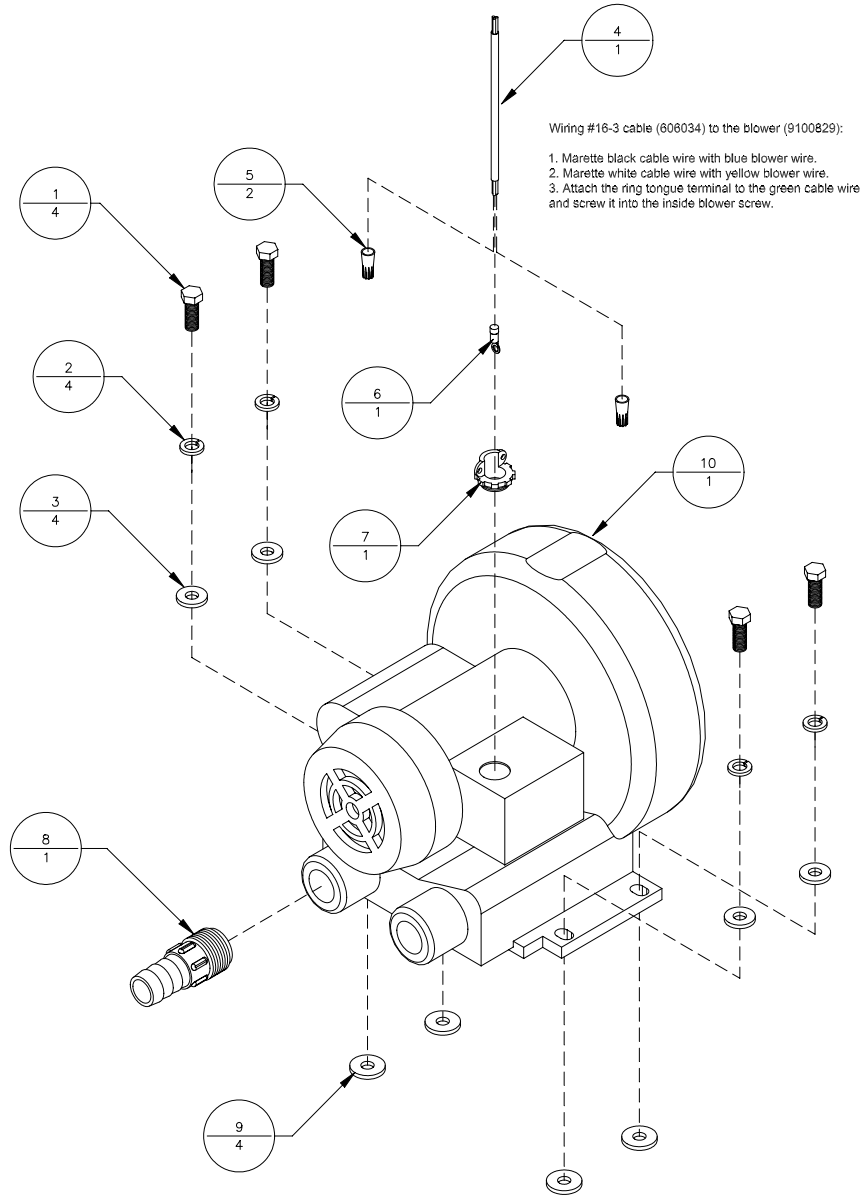
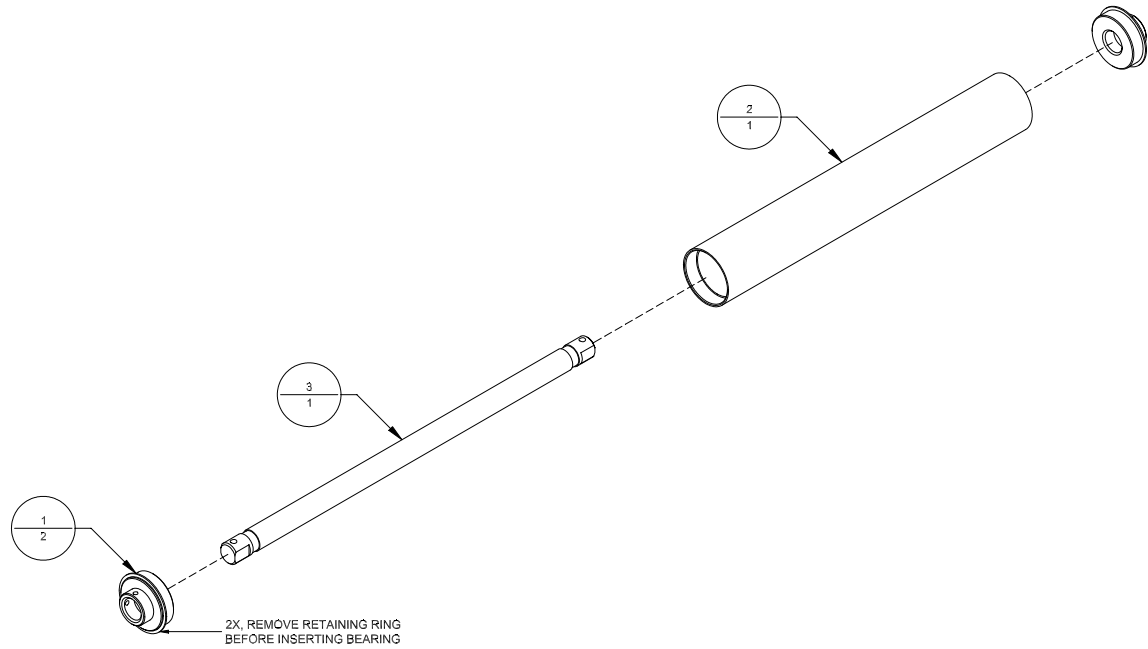


Table A-28: *Blower Assembly (9100829A)*

Item	Part Number	Quantity	Description	Reference
1	407670	4	Screw, HHMS, 3/8-16 UNC x 1"	
2	439020	4	Lockwasher, 3/8" I.D.	
3	440020	4	Washer, 3/8" I.D.	
4	606034	65"	Cable, #16-3 SJOW-A	
5	609101	2	Marettte, Orange, 14-22	
6	609111	1	Ring Tongue Terminal	
7	615131	1	Box Connector, 3/8", Cable	
8	802111	1	Hose Barb, 1" X 1", Plastic	
9	9100749	4	Rubber Washer, 3/8" X 1" X 1/8"	
10	9100829	1	Regenerative Blower, 42 CFM	

Figure A-29: *Take-up Roller Assembly (9101038A)***Table A-29:** *Take-up Roller Assembly (9101038A)*

Item	Part Number	Quantity	Description	Reference
1	500055	2	Bearing, UBR204-12S, $\frac{3}{4}$ " I.D.	
2	9100316	1	Transport Roller	
3	9101038	1	Take-up Shaft	

List of Figures

Figure B-1: Terminal Block Assembly, 220VAC (615016A).....	B-1
Figure B-2: Terminal Block Assembly, 115VAC (615012A).....	B-1
Figure B-3: Base Power Schematic, 230 VAC.....	B-2
Figure B-4: BK7IB Overall Schematic Diagram (North American Model)	B-3
Figure B-5: BK7IB Overall Schematic Diagram (Japanese Model)	B-4
Figure B-6: BK7IB Overall Schematic Diagram (European Model)	B-5
Figure B-7: Power and Sensor Connection Schematics	B-6
Figure B-8: Base and Life Counter Connections Schematic	B-7
Figure B-9: Conveyor Connections Schematic	B-8
Figure B-10: Auxiliary Feeder Connections Schematic.....	B-9
Figure B-11: Downstream Remote Connections Schematic	B-10
Figure B-12: Upstream Remote Connections Schematic	B-11
Figure B-13: Front Panel Enclosure Wiring (9100750A)	B-12
Figure B-14: Rear Panel Enclosure Wiring, 220VAC (9100761A)	B-13
Figure B-15: Rear Panel Enclosure Wiring, 115VAC (9100761A)	B-14
Figure B-16: Base Rear Connections, Right (BK7IBR).....	B-15
Figure B-17: Base Rear Connections, Left (BK7IBL)	B-16
Figure B-18: Gap Control Board	B-17
Figure B-19: Vacuum Extension Table Schematic.....	B-18

List of Tables

Table B-1: Terminal Block Assembly, 220VAC (615016A).....	B-1
Table B-2: Terminal Block Assembly, 115VAC (615012A).....	B-1

Figure B-1: *Terminal Block Assembly, 220VAC (615016A)*

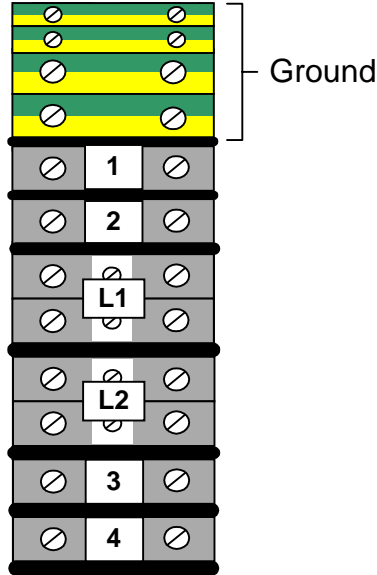


Table B-1: *Terminal Block Assembly, 220VAC (615016A)*

Symbol	Part Number	Function	Part Description
Ground	615017 (2) 615018 (2)	Earth Ground	Ground Terminal Block, 6 mm Ground Terminal Block, 10 mm
1	615003	220 VAC, Line Power	Terminal Block, Grey, 10 mm
2	615003	220 VAC, Line Power	Terminal Block, Grey, 10 mm
L1	615002 (2)	220 VAC Main Switched Power	Terminal Block, Grey, 10 mm
L2	615002 (2)	220 VAC Main Switched Power	Terminal Block, Grey, 10 mm
3	615002	220 VAC Pump Switched Power	Terminal Block, Grey, 10 mm
4	615002	220 VAC Pump Switched Power	Terminal Block, Grey, 10 mm

Figure B-2: *Terminal Block Assembly, 115VAC (615012A)*

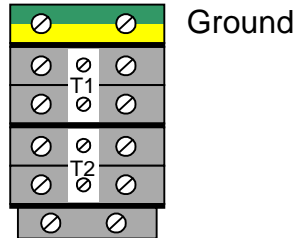


Table B-2: *Terminal Block Assembly, 115VAC (615012A)*

Symbol	Part Number	Function	Part Description
Ground	615018	Earth Ground	Ground Terminal Block, 10 mm
T1	615003	115 VAC, Line Power	Terminal Block, Grey, 10 mm
T2	615003	115 VAC, Line Power	Terminal Block, Grey, 10 mm

Figure B-3: Base Power Schematic, 230 VAC

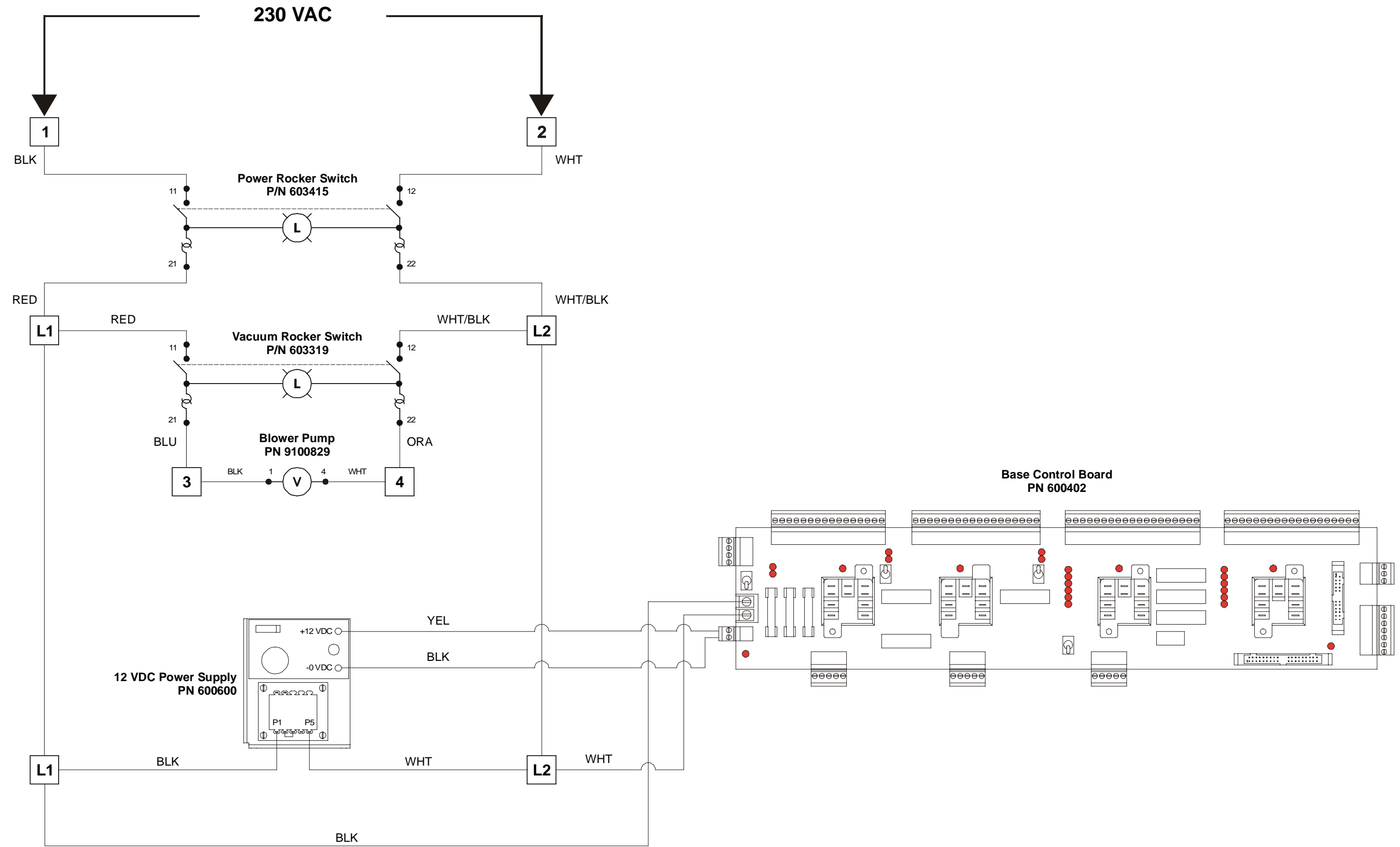
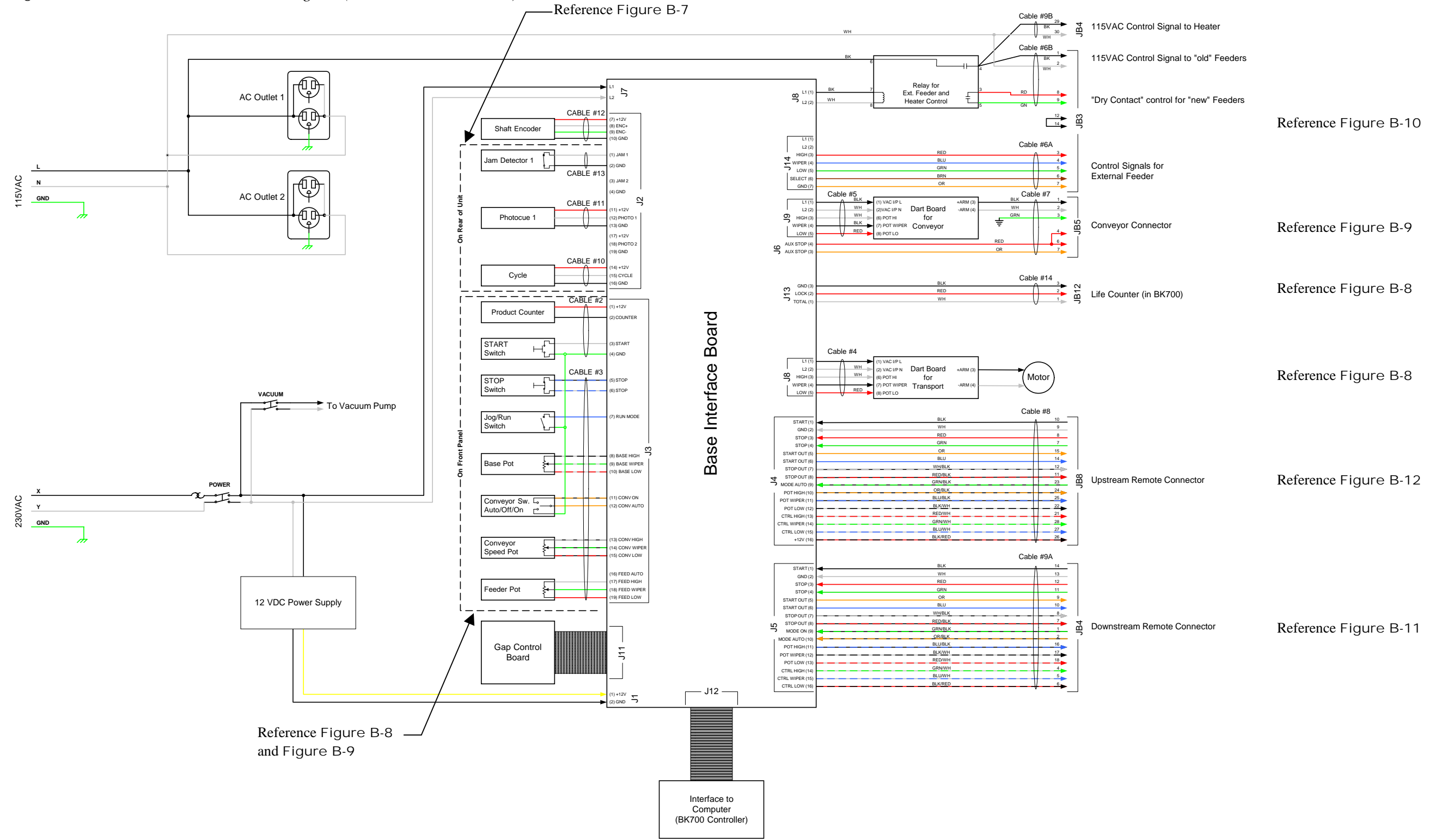


Figure B-4: BK7IB Overall Schematic Diagram (North American Model)



Reference Figure B-10

Reference Figure B-9

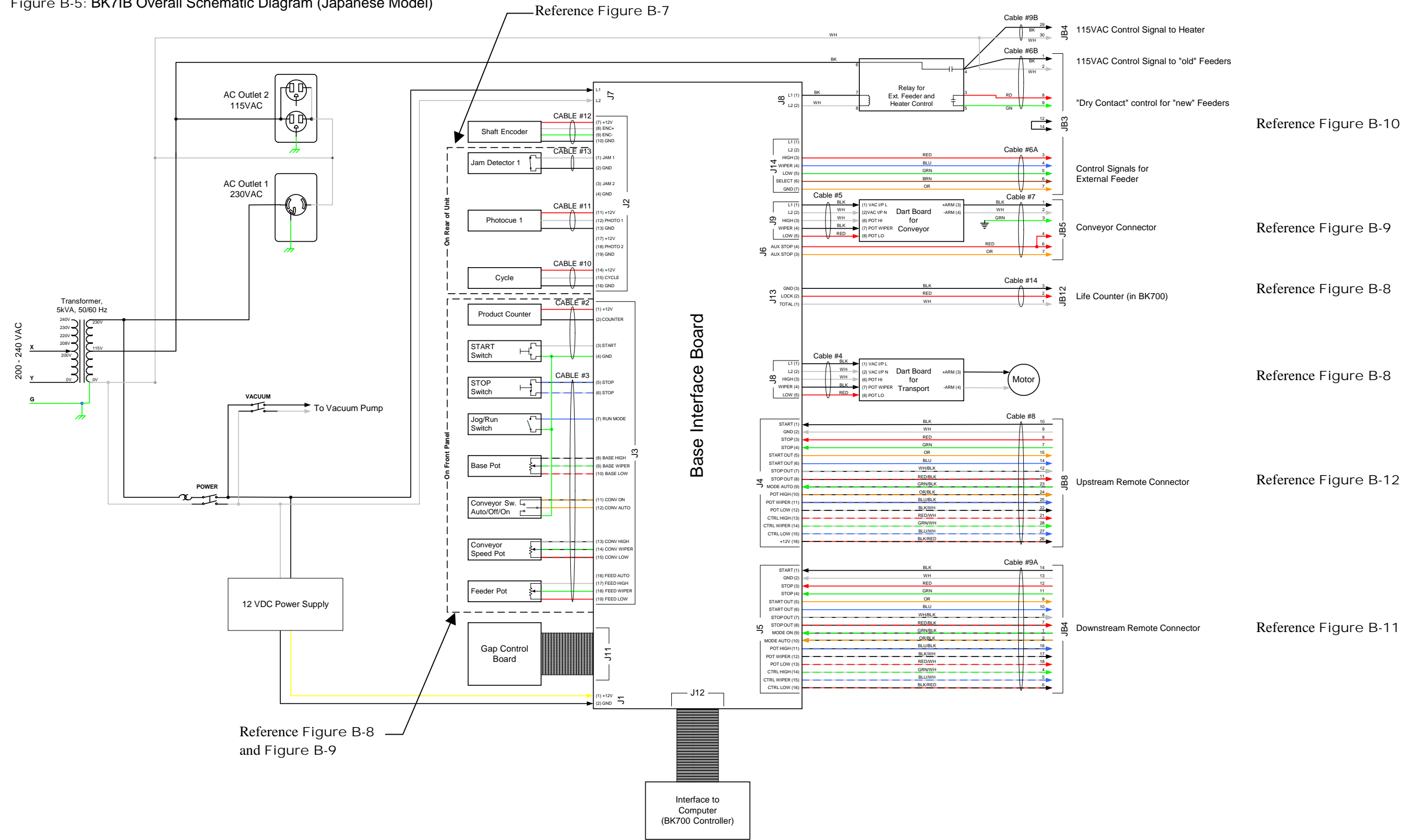
Reference Figure B-8

Reference Figure B-8

Reference Figure B-12

Reference Figure B-11

Figure B-5: BK7IB Overall Schematic Diagram (Japanese Model)



Reference Figure B-8 and Figure B-9

Reference Figure B-10

Reference Figure B-9

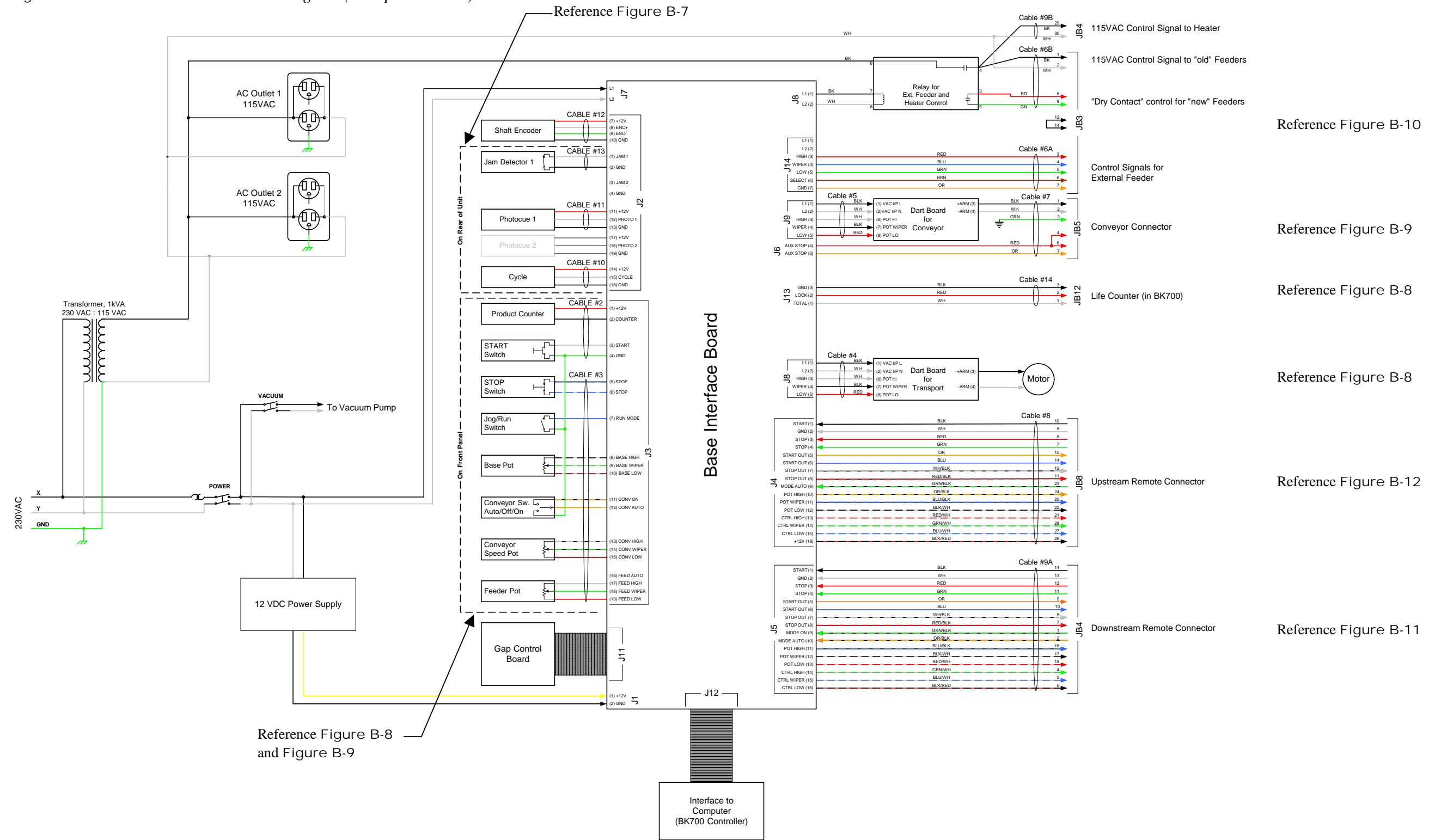
Reference Figure B-8

Reference Figure B-8

Reference Figure B-12

Reference Figure B-11

Figure B-6: BK7IB Overall Schematic Diagram (European Model)



Reference Figure B-8 and Figure B-9

Reference Figure B-7

Reference Figure B-10

Reference Figure B-9

Reference Figure B-8

Reference Figure B-8

Reference Figure B-12

Reference Figure B-11

Figure B-7: Power and Sensor Connection Schematics

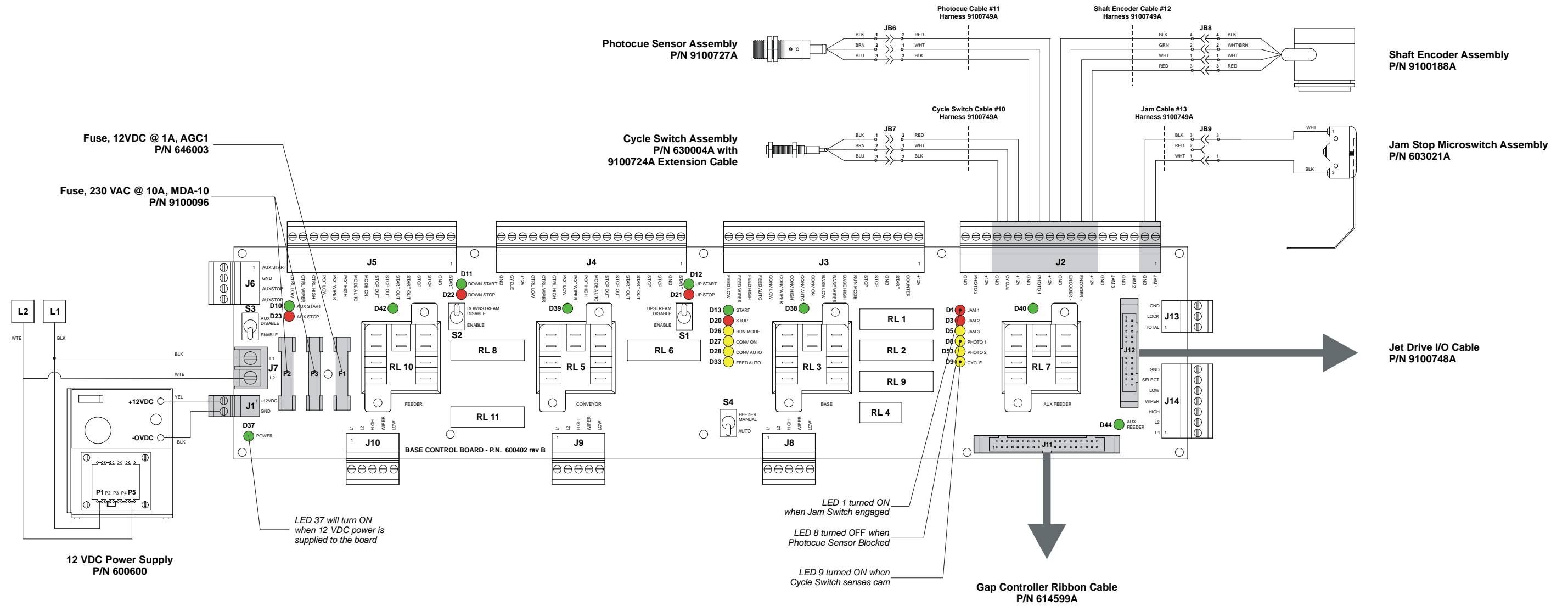


Figure B-8: Base and Life Counter Connections Schematic

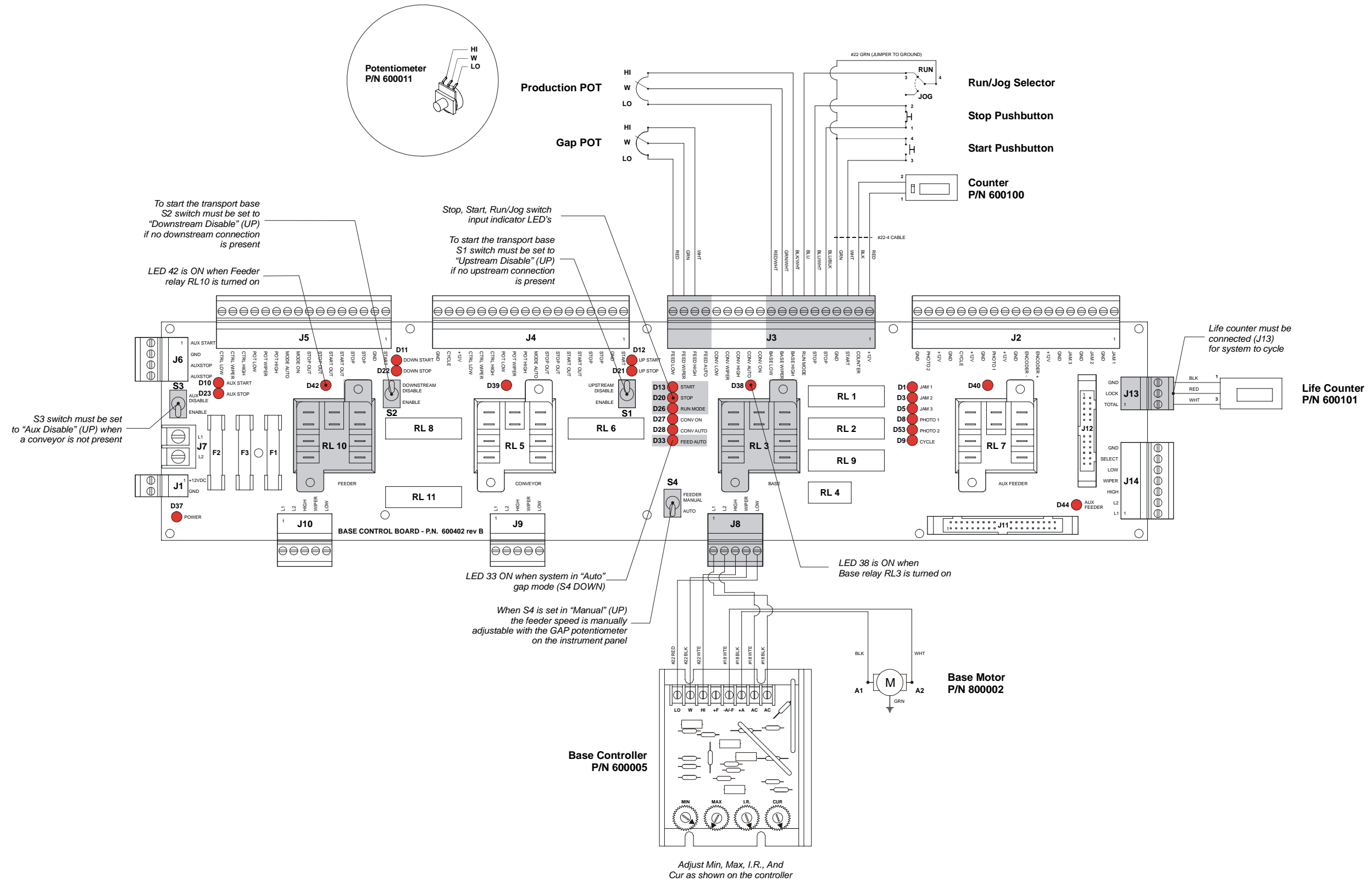


Figure B-9: Conveyor Connections Schematic

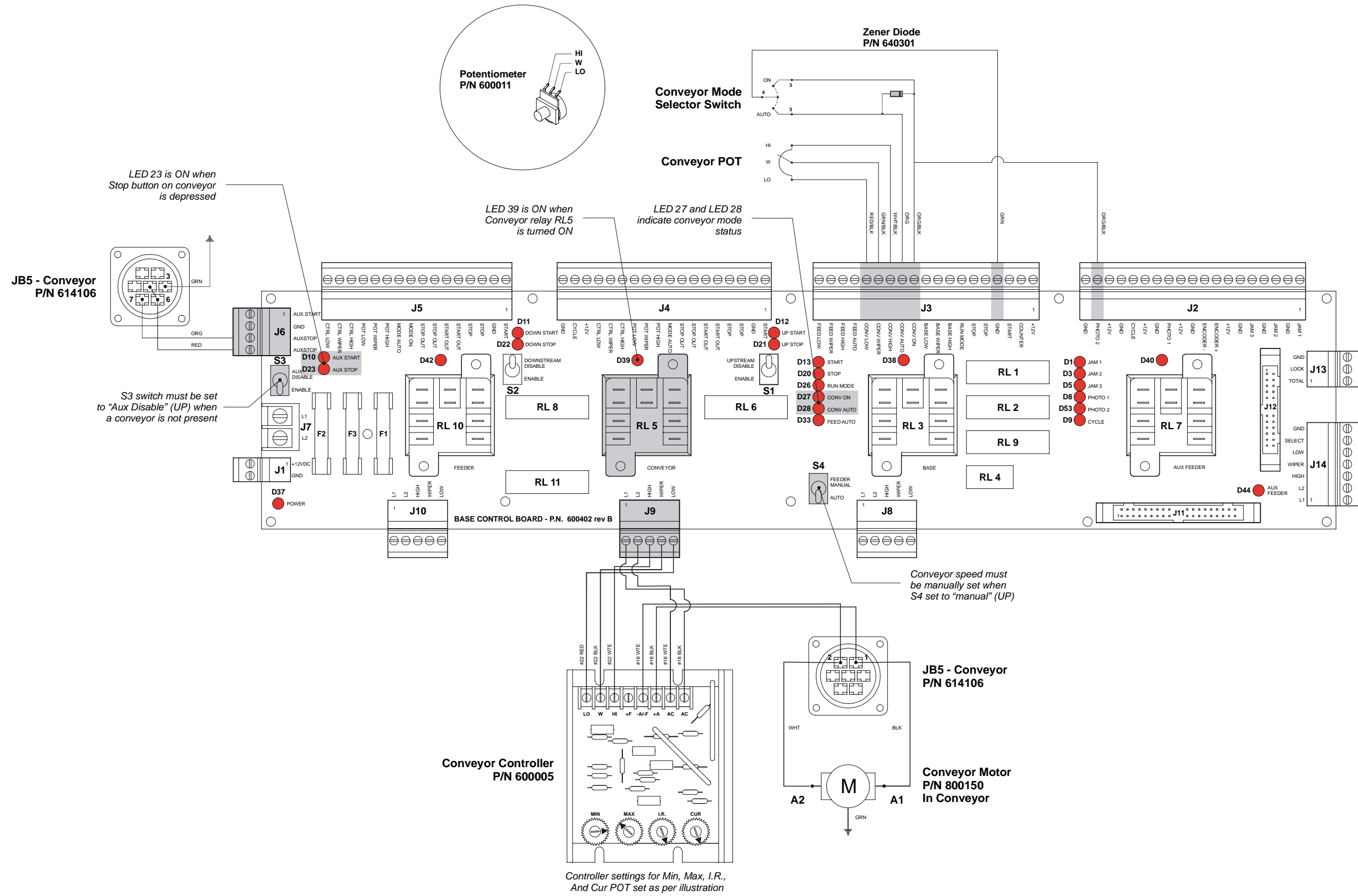


Figure B-10: Auxiliary Feeder Connections Schematic

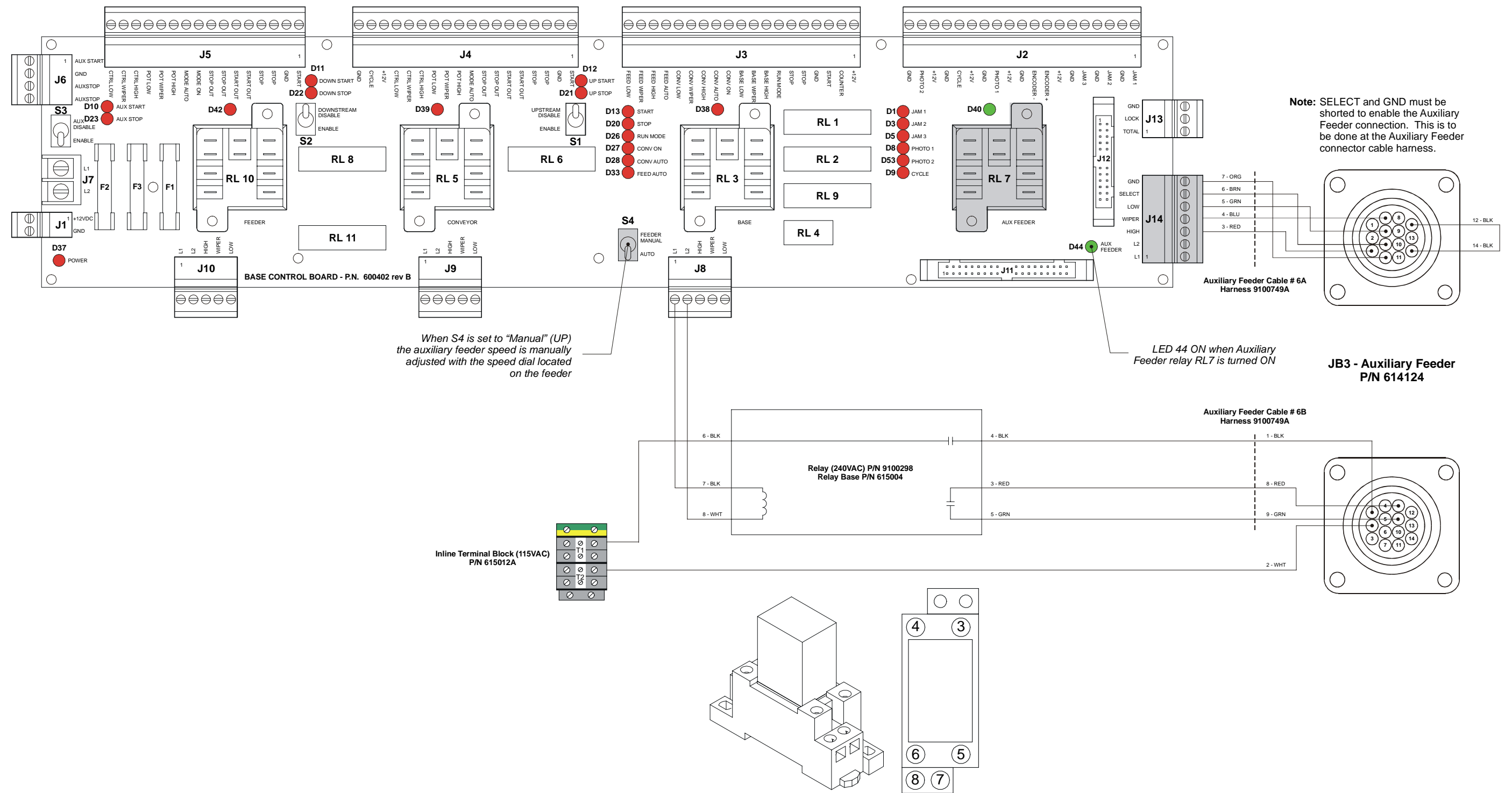


Figure B-11: Downstream Remote Connections Schematic

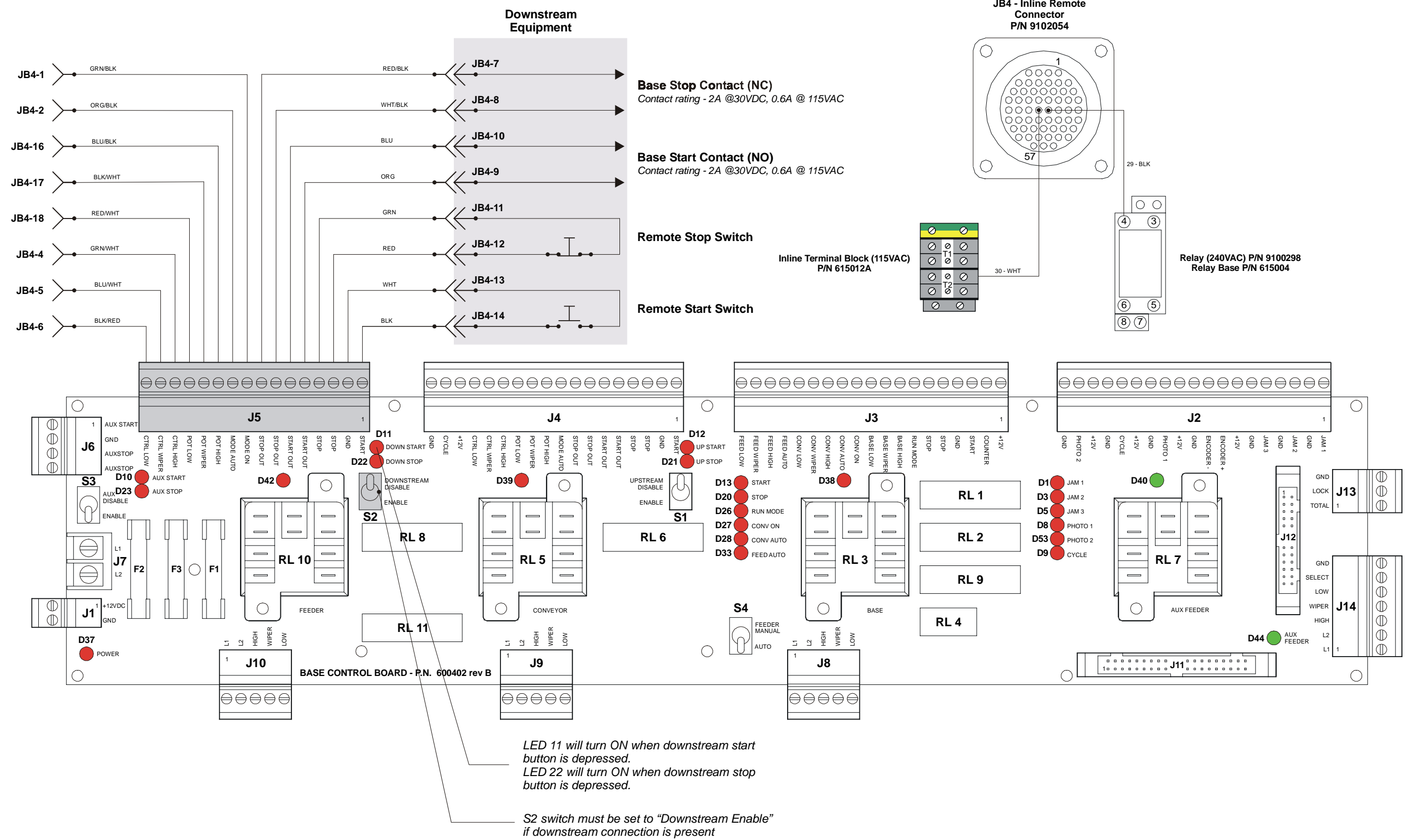


Figure B-12: Upstream Remote Connections Schematic

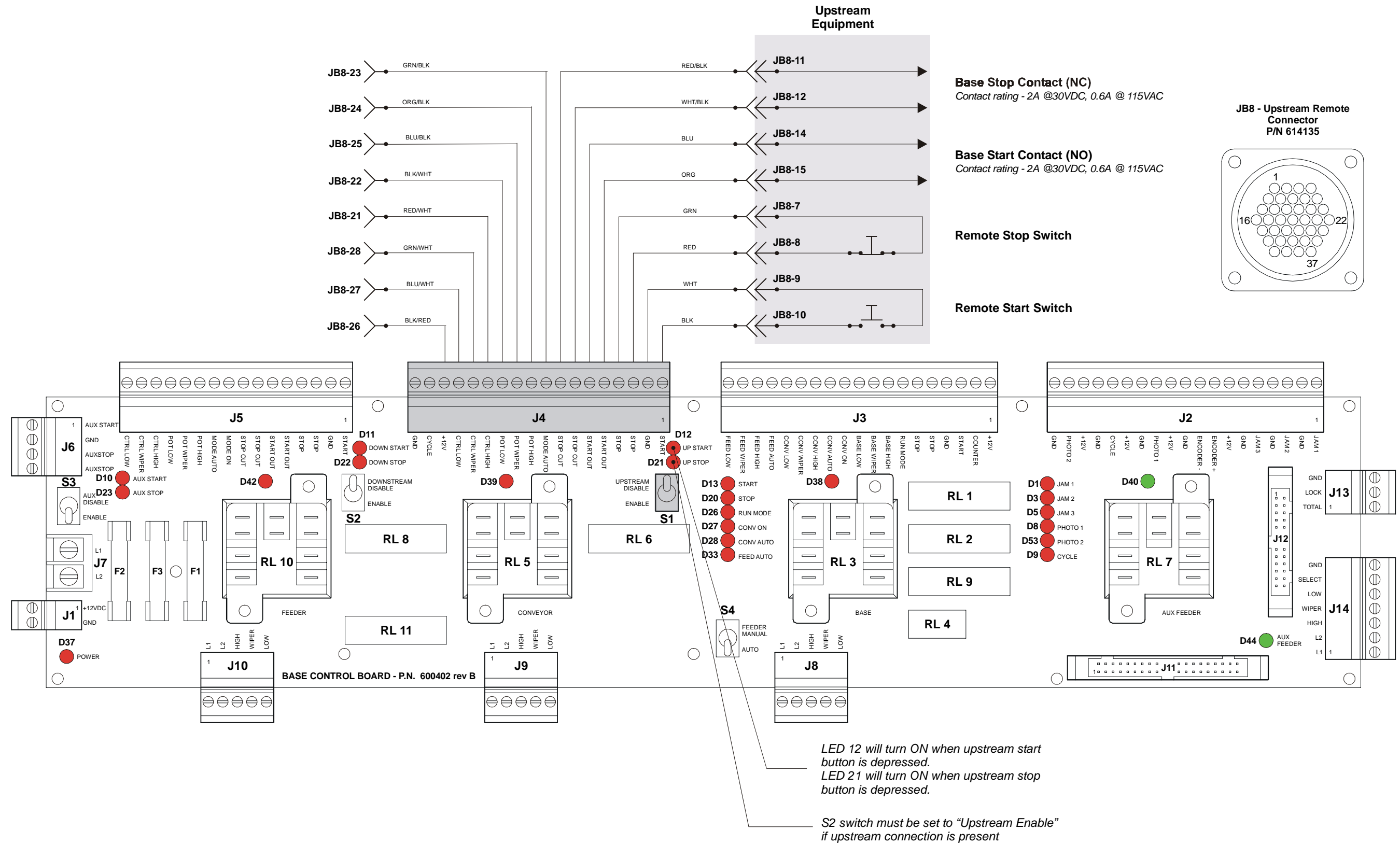
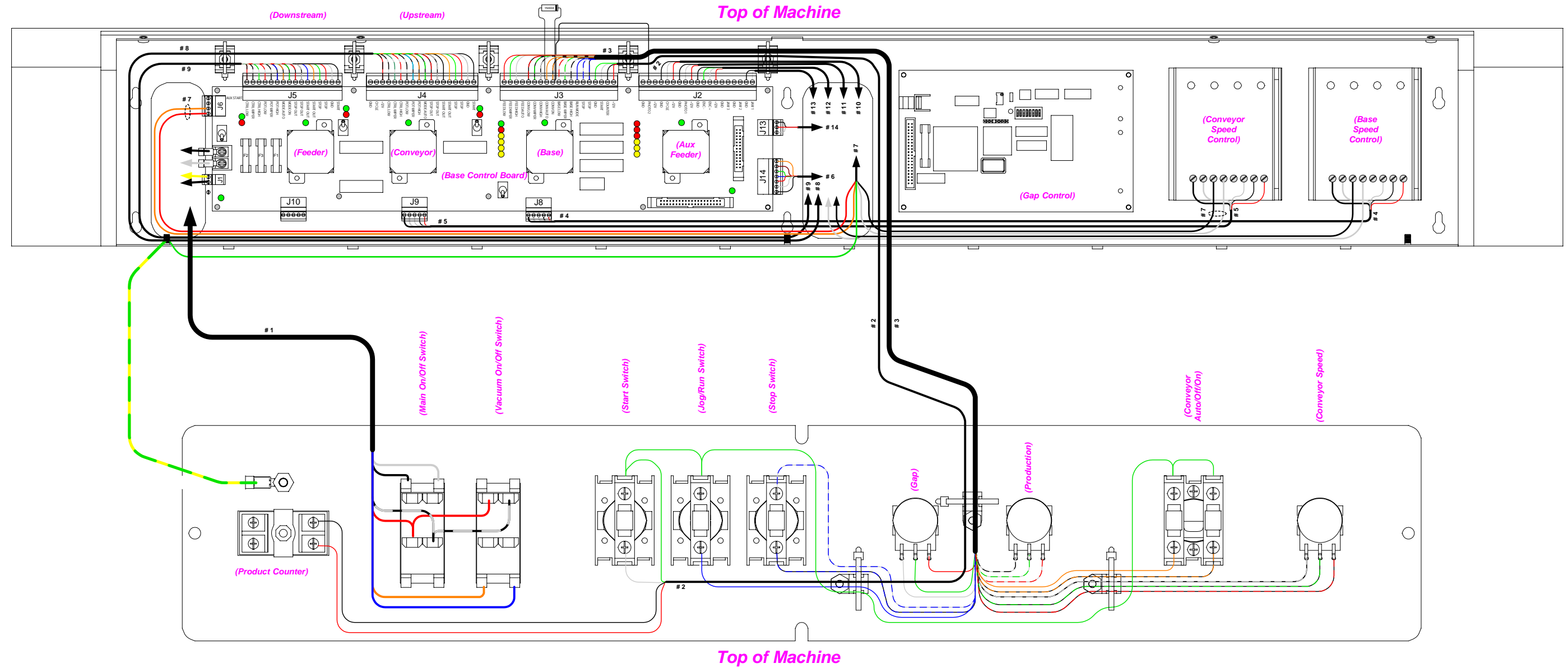


Figure B-13: Front Panel Enclosure Wiring (9100750A)



Note: Reference the appropriate schematics in this Appendix for wiring details.

Figure B-14: Rear Panel Enclosure Wiring, 220VAC (9100761A)

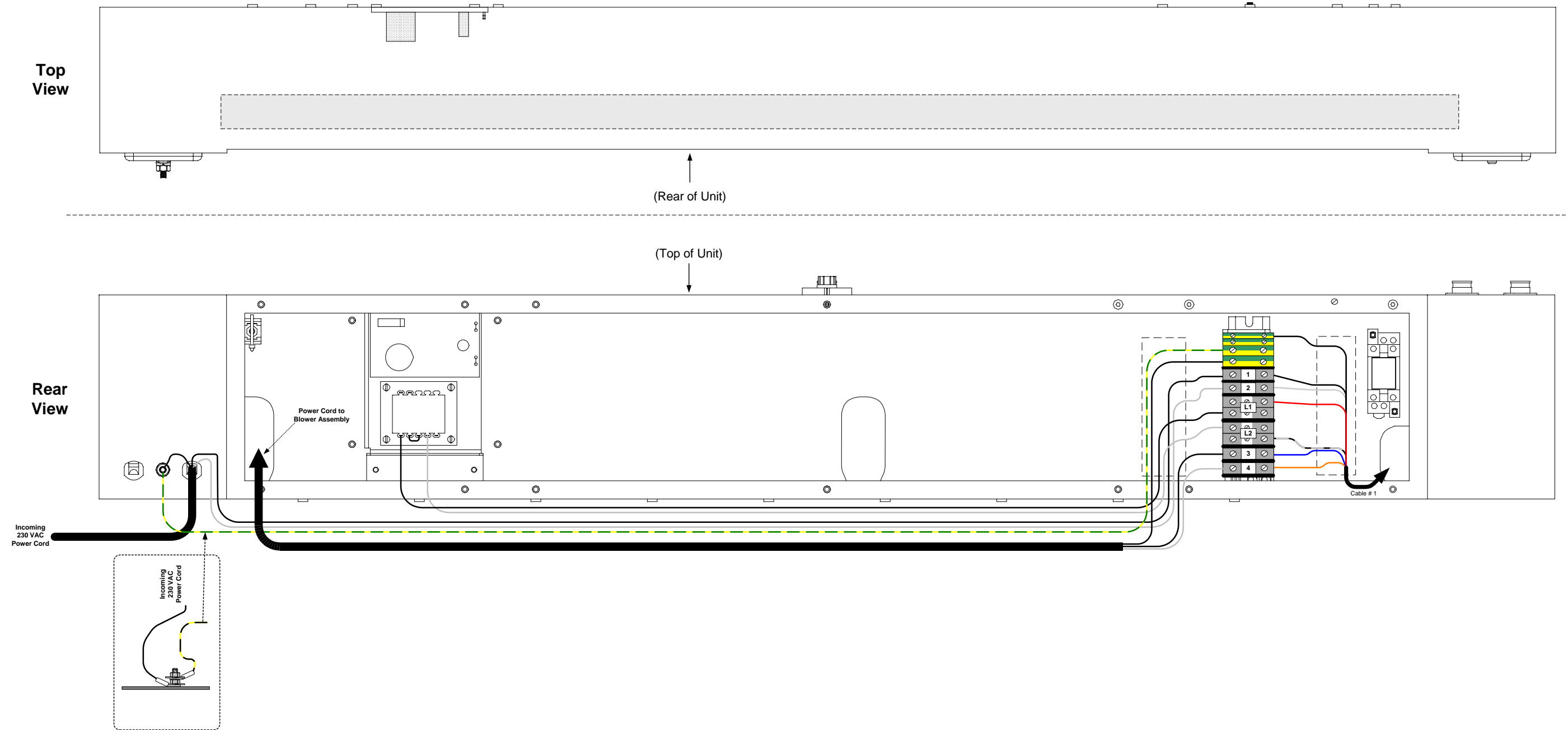


Figure B-15: Rear Panel Enclosure Wiring, 115VAC (9100761A)

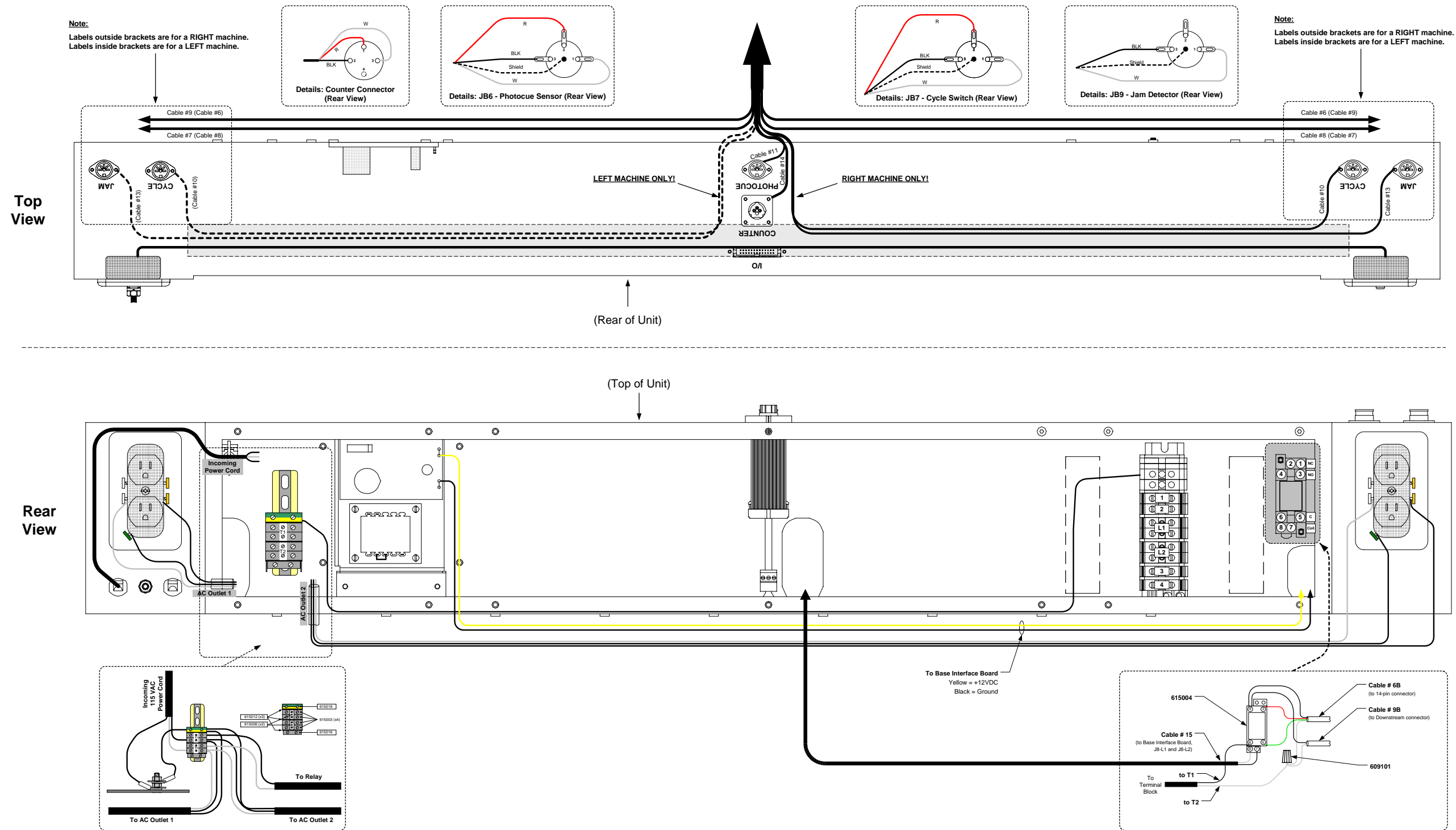


Figure B-16: Base Rear Connections, Right (BK7IBR)

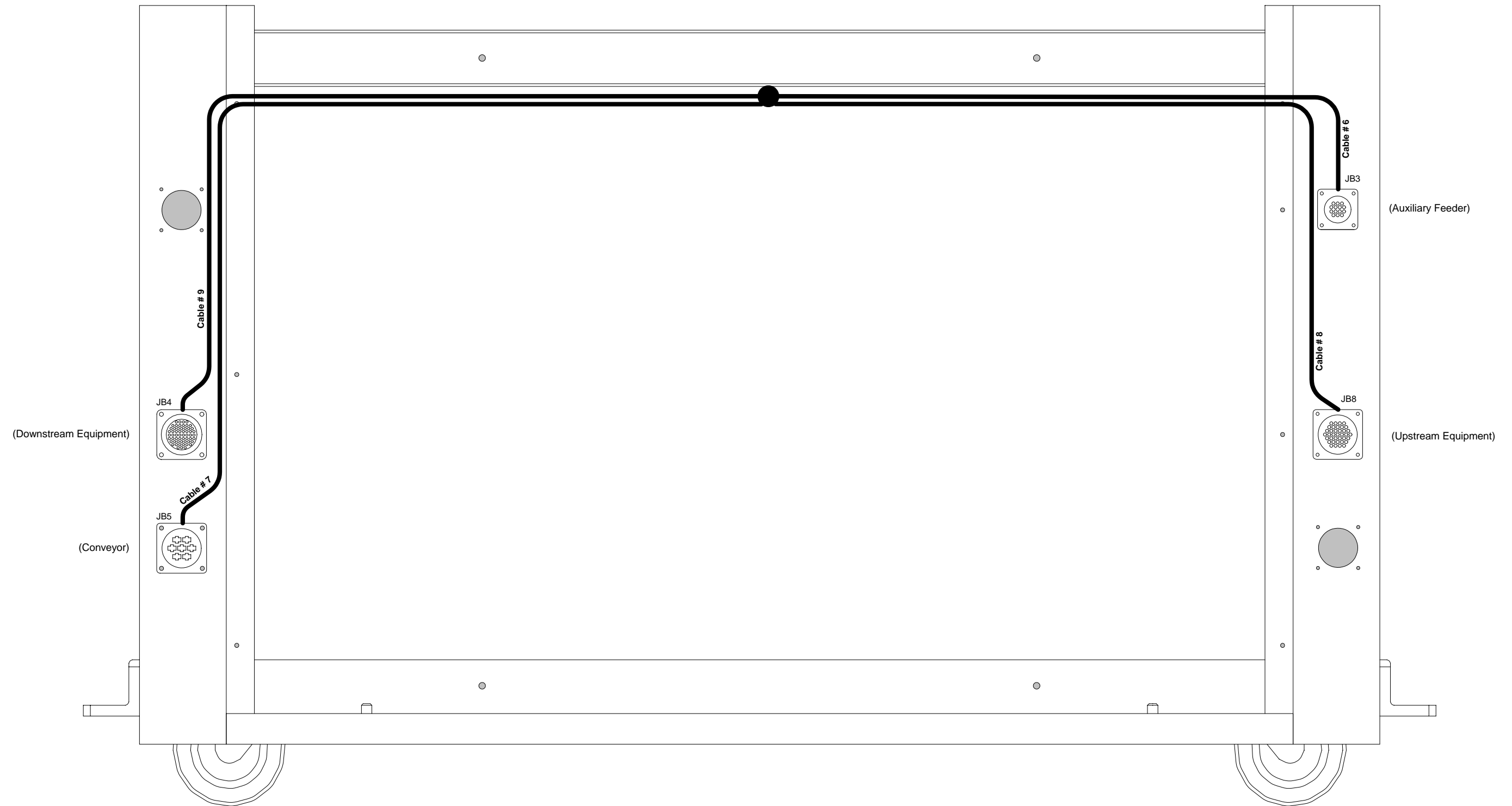


Figure B-17: Base Rear Connections, Left (BK7IBL)

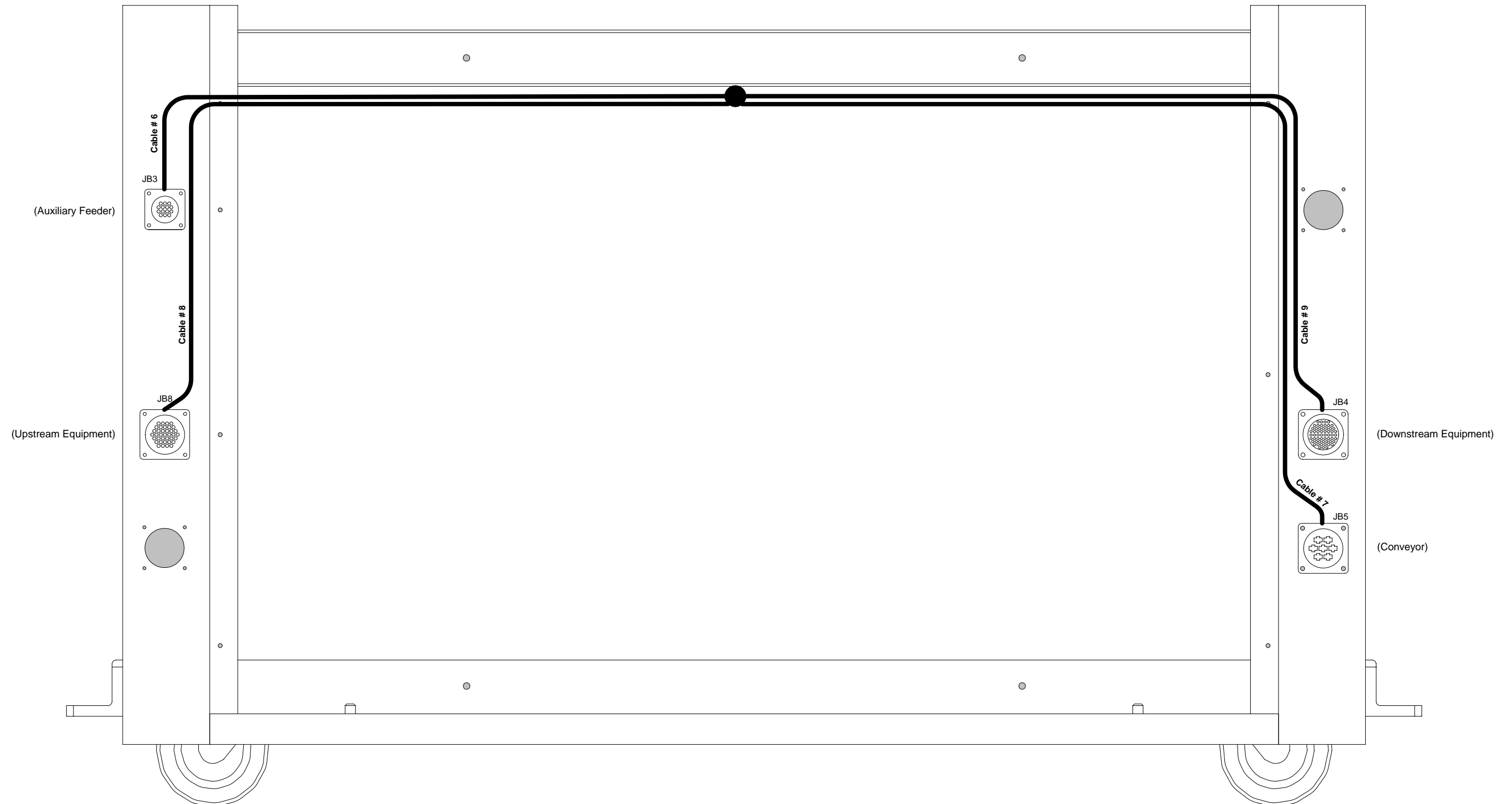


Figure B-18: Gap Control Board

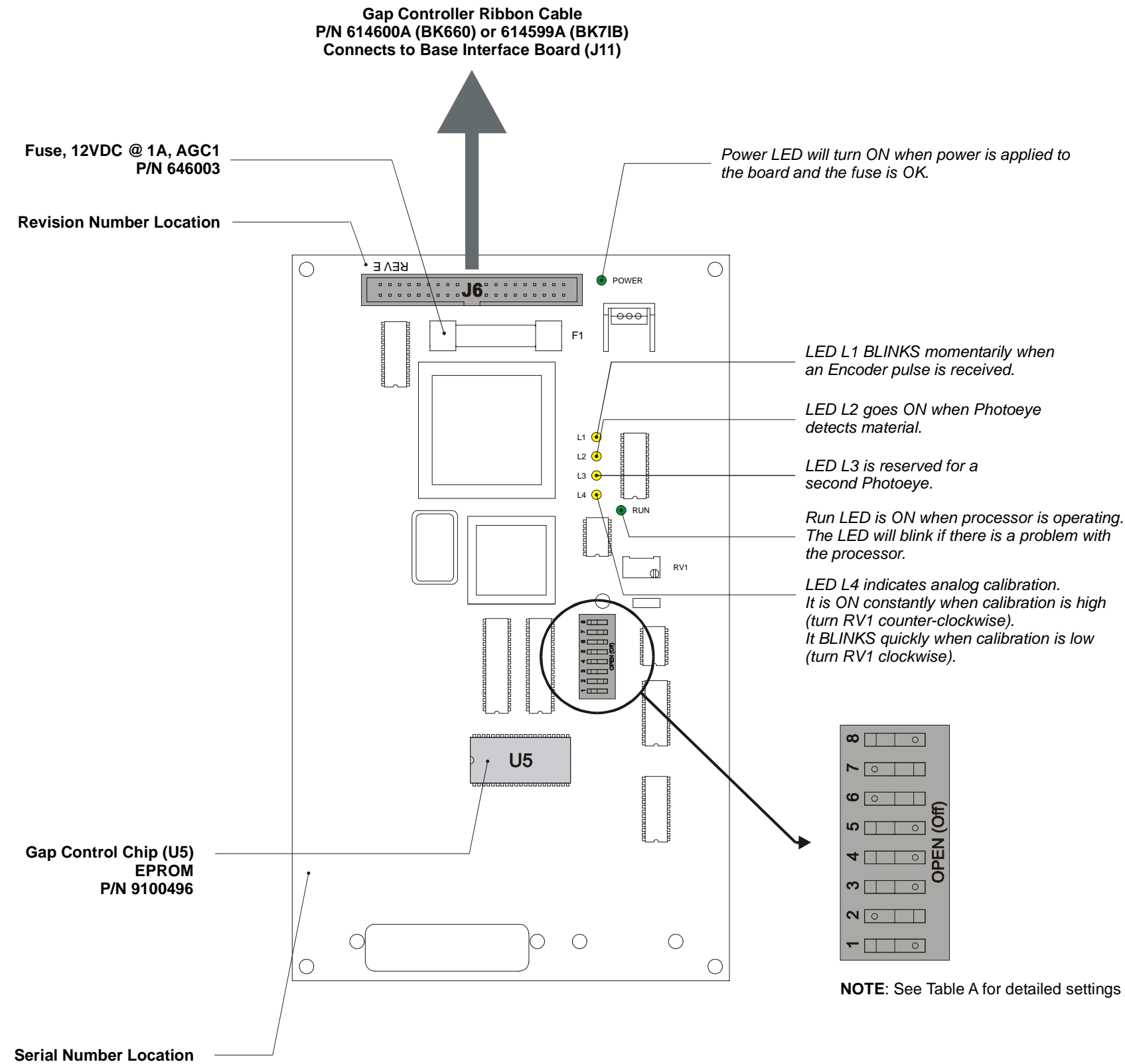


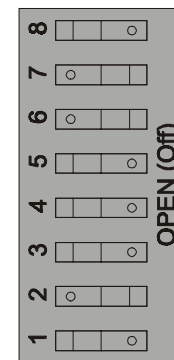
Table A - Gap Control Board DIP Switch Assignments

DIP	Setting	Function
8	On	Factory Reset (all other DIP switches must be Off)
	Off	Reserved for Factory Reset
7	On	For Rev E Board
	Off	For Rev A-D Board
6	On	Controller Gain Bit 1
5	Off	Controller Gain Bit 0
4 and 3		Pos 4 Pos 3 Stack Separation
		Off Off ++ Stack separation (min.)
		Off On ++++ Stack separation
		On Off ++++++ Stack separation
		On On ++++++++ Stack separation (max.)
2	On	High resolution encoder , 6000 ppr (used in HP Elite, and Atlas Inkjets)
	Off	Standard encoder, 1600 ppr (used in Trident Inkjet)
1	On	Set for normally closed Photoeye
	Off	Set for normally open Photoeye (default)

To reprogram the board:

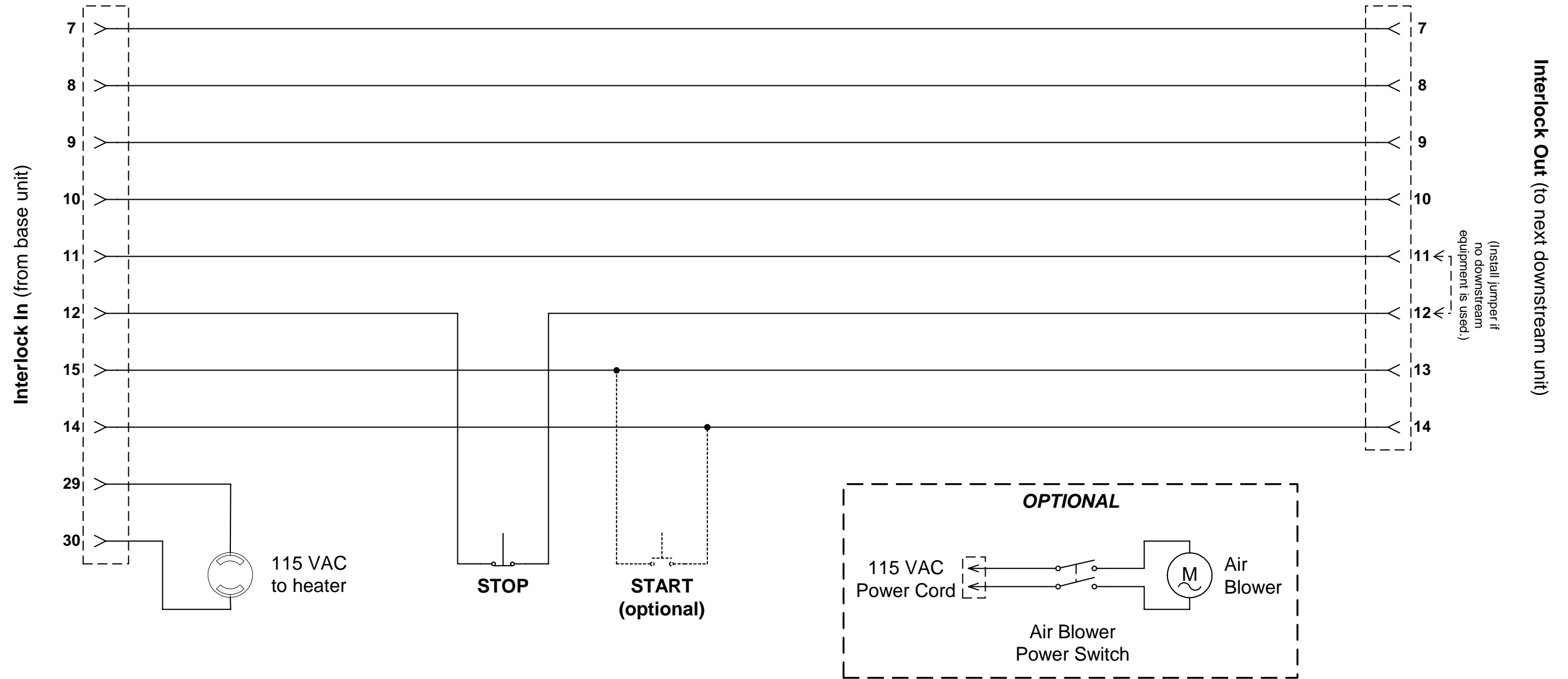
1. Turn the base power off.
2. Switch DIP 8 ON and all other DIP switches OFF.
3. Turn the base power on and wait at least 60 seconds.
4. Turn the base power off.
5. Return the DIP switch settings to normal (Reference Table A).

The board is now reprogrammed.



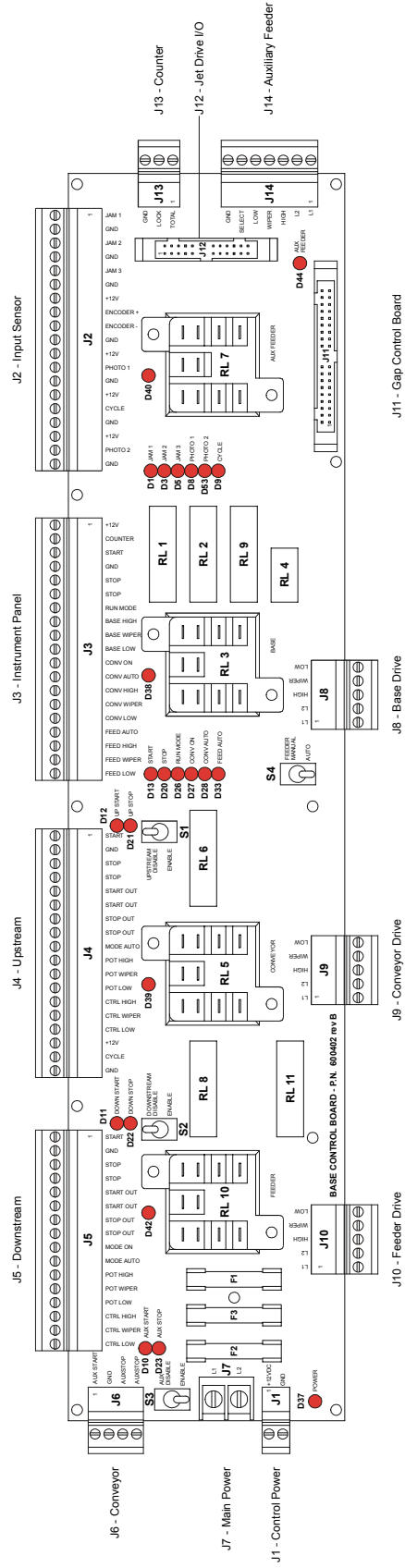
NOTE: See Table A for detailed settings

Figure B-19: Vacuum Extension Table Schematic



List of Connectors

J1	Control Power Connector	C-2
J2	Input Sensor Connector	C-3
J3	Instrument Panel Connector.....	C-4
J4	Upstream Connector.....	C-5
J5	Downstream Connector.....	C-6
J6	Conveyor Connector.....	C-7
J7	Main Power Connector.....	C-8
J8	Base Drive Connector	C-9
J9	Conveyor Drive Connector	C-10
J10	Feeder Drive Connector.....	C-11
J11	Gap Control Board Connector.....	C-12
J12	Jet Driver Board Connector	C-13
J13	Counter Connector	C-14
J14	Auxiliary Feeder Connector	C-15



J1 Control Power Connector

PART NUMBER: 615062

DESCRIPTION: Connector which provides 12 VDC power to the Base Interface Board providing power to all of the sensors.

TYPE: 2 pin Weidmuller connector, BLA2

REFERENCE: Weidmuller #12817.6

ORIGIN: Base Interface Board

DESTINATION: 12 VDC Power Supply



Pin	Function
1	+ 12 VDC
2	GND

Note: The LED labeled D37 will illuminate when the Control power is supplied to the Base Interface Board.

J2 Input Sensor Connector

PART NUMBER: 615081

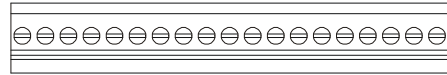
DESCRIPTION: Connector which interfaces the Base Interface Board with the jam stop switch, shaft encoder, photocue sensor, and the cycle switch.

TYPE: 19 pin Weidmuller connector, BLA19

REFERENCE: Weidmuller #12834.6

ORIGIN: Base Interface Board

DESTINATION: Various Sensor Connectors



Pin	Function
1	Jam 1
2	GND
3	Jam 2
4	GND
5	Jam 3
6	GND
7	+12 VDC, Shaft Encoder
8	Encoder +
9	Encoder -
10	GND
11	+ 12 VDC, Photocue
12	Photocue signal
13	GND
14	+ 12 VDC, Cycle Proximity Switch
15	Cycle Proximity Switch signal
16	GND
17	+ 12 VDC, Photcue 2
18	Photocue 2 signal
19	GND

Note: The LEDs labeled D1, D3, D5, D8, D53, and D9 will illuminate when the Base Interface Board receives a signal from the Jam 1, Jam 2, Jam 3, Photo 1, Photo 2, and Cycle, respectively.

J3 Instrument Panel Connector

PART NUMBER: 615081

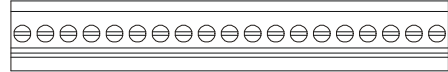
DESCRIPTION: Connector that interfaces the Base Interface Board with the instrument panel.

TYPE: 19 pin Weidmuller connector, BLA19

REFERENCE: Weidmuller #12834.6

ORIGIN: Base Interface Board

DESTINATION: Instrument Panel



Pin	Function
1	+ 12 VDC, Resettable Counter
2	Resettable Counter
3	Start pushbutton
4	GND, Start pushbutton
5	Stop pushbutton
6	Stop pushbutton
7	Run mode
8	Base/Production pot high
9	Base/Production pot wiper
10	Base/Production pot low
11	Conveyor on
12	Conveyor auto
13	Conveyor pot high
14	Conveyor pot wiper
15	Conveyor pot low
16	Spare
17	Gap/Feeder pot high
18	Gap/Feeder pot wiper
19	Gap/Feeder pot low

Note: The LEDs labeled D13, D20, D26, D27, D28, and D33 will illuminate when the Base Interface Board receives a signal from the Start pushbutton, Stop pushbutton, Run mode enabled, Conveyor On mode, Conveyor Auto mode, and Feeder Auto mode, respectively.

J4 Upstream Connector

PART NUMBER: 615080

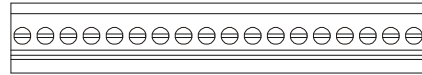
DESCRIPTION: Connector that interfaces the Base Interface Board with any upstream equipment.

TYPE: 18 pin Weidmuller connector, BLA18

REFERENCE: Weidmuller #12833.6

ORIGIN: Base Interface Board

DESTINATION: None



Pin	Function
1	Start
2	GND
3	Stop
4	Stop
5	Start Out
6	Start Out
7	Stop Out
8	Stop Out
9	Mode auto
10	Pot high
11	Pot wiper
12	Pot low
13	Control high
14	Control wiper
15	Control low
16	+ 12 VDC
17	Cycle Switch
18	GND

Note: The LEDs labeled D12 and D21 will illuminate when the Base Interface Board receives a signal from the Upstream Start and Upstream Stop, respectively.

J5 Downstream Connector

PART NUMBER: 615080

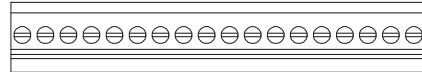
DESCRIPTION: Connector that interfaces the Base Interface Board with any downstream equipment. The default connection is preset to operate with the Buskro Tabber to allow starting and stopping from either machine.

TYPE: 18 pin Weidmuller connector, BLA18

REFERENCE: Weidmuller #12833.6

ORIGIN: Base Interface Board

DESTINATION: Inline Connector, JB4



Pin	Function
1	Start
2	GND
3	Stop
4	Stop
5	Start Out
6	Start Out
7	Stop Out
8	Stop Out
9	Mode on
10	Mode auto
11	Pot high
12	Pot wiper
13	Pot low
14	Control high
15	Control wiper
16	Control low

Note: The LEDs labeled D11 and D22 will illuminate when the Base Interface Board receives a signal from the Downstream Start and Downstream Stop, respectively.

J6 Conveyor Connector

PART NUMBER: 615066

DESCRIPTION: Connector that interfaces the Base Interface Board with the conveyor.

TYPE: 4 pin Weidmuller connector, BLA4

REFERENCE: Weidmuller #12819.6

ORIGIN: Base Interface Board

DESTINATION: Conveyor Connector, JB5



Pin	Function
1	Auxiliary Start
2	GND
3	Auxiliary Stop
4	Auxiliary Stop

Note: The LEDs labeled D10 and D23 will illuminate when the Base Interface Board receives a signal from the Conveyor Start and Conveyor Stop, respectively.

J7 Main Power Connector

PART NUMBER: Part of Base Interface Board.

DESCRIPTION: Connector that provides the 220 VAC power to the Base Interface Board.

TYPE: Screw connector

REFERENCE: None

ORIGIN: Base Interface Board

DESTINATION: Terminal Blocks, L1 and L2



Pin	Function
1	L1, 220 VAC
2	L2, 220 VAC

J8 Base Drive Connector

PART NUMBER: 615056

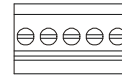
DESCRIPTION: Connector that interfaces the Base Interface Board base drive motor DC controller.

TYPE: 5 pin Weidmuller connector, BLA5

REFERENCE: Weidmuller #12820.6

ORIGIN: Base Interface Board

DESTINATION: Base Drive DC controller



Pin	Function
1	L1, 220 VAC
2	L2, 220 VAC
3	Base/Production pot high
4	Base/Production pot wiper
5	Base/Production pot low

J9 Conveyor Drive Connector

PART NUMBER: 615056

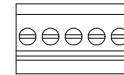
DESCRIPTION: Connector that interfaces the Base Interface Board conveyor drive motor DC controller.

TYPE: 5 pin Weidmuller connector, BLA5

REFERENCE: Weidmuller #12820.6

ORIGIN: Base Interface Board

DESTINATION: Conveyro Drive DC controller



Pin	Function
1	L1, 220 VAC
2	L2, 220 VAC
3	Conveyor pot high
4	Conveyor pot wiper
5	Conveyor pot low

J10 Feeder Drive Connector

PART NUMBER: 615056

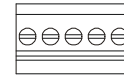
DESCRIPTION: Connector that interfaces the Base Interface Board feeder drive motor DC controller.

TYPE: 5 pin Weidmuller connector, BLA5

REFERENCE: Weidmuller #12820.6

ORIGIN: Base Interface Board

DESTINATION: Feeder Drive DC controller



Pin	Function
1	L1, 220 VAC
2	L2, 220 VAC
3	Feeder/Gap pot high
4	Feeder/Gap pot wiper
5	Feeder/Gap pot low

J11 Gap Control Board Connector

PART NUMBER: Part of Base Interface Board

DESCRIPTION: Connector that interfaces the Base Interface Board with the Gap Controller Board via the Gap Controller Ribbon Cable. Please refer to Appendix B for additional details on the Gap Controller Board.

TYPE: 40 pin Amp Connector

REFERENCE: None

ORIGIN: Base Interface Board

DESTINATION: Gap Controller Board



Pin	Function
1	Ground
2	Feeder Control PCM Input
3	Conveyor Control PCM Input
4 - 25	Not Connected
26	Stack Output to Gap Controller
27	Photoeye Output to Gap Controller
28	Not Connected
29	Encoder Output to Gap Controller
30	Feeder Rate Output to Gap Controller
31	Conveyor Output to Gap Controller
32 - 35	Not Connected
36	+ 5v from Gap Controller
37	+ 12 V to Gap Controller
38	+ 12 V to Gap Controller
39	Ground
40	Ground

J12 Jet Driver Board Connector

PART NUMBER: Part of Base Interface Board

DESCRIPTION: Connector that interfaces the base control with the Jet Driver Board via Jet Drive I/O Ribbon Cable

TYPE: 26 pin Amp Connector

REFERENCE: None

ORIGIN: Base Interface Board

DESTINATION: Jet Driver Board #1



Pin	Function
1	Ground
2	Spare Analog Input 1
3	Spare Analog Input 2
4	Spare Analog Input 3
5	Spare Analog Input 4
6	Spare Digital Input 1
7	Spare Digital Input 2
8	Stop Button Input
9	Machine Cycle-Proxi Switch Input
10	Jam Switch Input
11	Spare Output 1
12	Spare Output 2
13	Spare Output 3
14	Divert Relay Output
15	Stack Relay Output
16	Production Counter Output
17	Stop Relay Output
18	Power Supply Ground
19	Encoder Positive or Single Ended Input
20	Encoder Negative Input
21	Power Supply Ground
22	Photocue Input
23-26	Spare

J13 Counter Connector

PART NUMBER: 615063

DESCRIPTION: Connector that interfaces the Base Control with the non-resetable counter mounted on the Power Supply Board.

TYPE: 3 pin Weidmuller connector, BLA3

REFERENCE: Weidmuller #12818.6

ORIGIN: Base Interface Board

DESTINATION: Non-resetable counter



Pin	Function
1	Ground
2	Lock
3	Total

J14 Auxiliary Feeder Connector

PART NUMBER: 615075

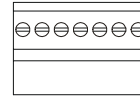
DESCRIPTION: Connector that interfaces the Base Control with an Auxiliary feeder. When connected, the inkjet base's feeder motor will automatically be disabled.

TYPE: 7 pin Weidmuller connector, BLA7

REFERENCE: Weidmuller #12822.6

ORIGIN: Base Interface Board

DESTINATION: Auxiliary Feeder Connector, JB3



Pin	Function
1	L1, 220 VAC
2	L2, 220 VAC
3	Auxiliary Feeder pot high
4	Auxiliary Feeder pot wiper
5	Auxiliary Feeder pot low
6	Auxiliary Feeder Select
7	Ground

Note : The Auxiliary Feeder Select must be jumpered to Ground to disable the inkjet base's feeder motor. The jumper should be installed on the Auxiliary Feeder's incoming connector.

The LED labeled D44 will illuminate when the Auxiliary Feeder is connected to the Base Interface Board.