

Part Number:7726535AW
Revision:1
Issue Date: October 2026

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Changes are periodically made to this document. Changes, technical inaccuracies, and typographic errors will be corrected in subsequent editions.

Revision History

Date	Revision	Description
October 2026	1	Initial Release

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GBC

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Contents

Safety 1

Safety Devices 1
Operational Safety 2
Important Safeguards 2

Introduction 3

Glossary of Acronyms 4
Specifications 5
Media Input 5
Serial Number 5
Supplies 5
User Interface 6
Home 6
Settings 7
Paper Type 8
User Functions 8
Center Alignment 8
Margin 9
Skew 9
First Sheet 9
Language & Units 9
Cut Stick 9
Info 10
Service Menu 11
User Functions 11
Cutter Blade 11
Sensors 11
Motors 12
Solenoids 12
Function Tests 13
Files 14
Options 1 14
Options 2 14
Alignment Offsets 14

Service Call Procedures 17

Tools Needed 19
Preventive Maintenance 19
Schedule 19
Cleaning 21

Exterior 21
Interior 21
Base 21
Trim Tray 22
Idler Roller 22
Steering Idler Roller and Springs 23
Drive Rollers 24
Feeder Driver Rollers 25
Steering Drive Rollers 25
Pressure Roller 26
Optical Sensor 27
Exit Panel (Inner) 28
Bypass Paper Path 29
Lamination Paper Path 30
Solenoid 31
Alignment Carriage Rails 33
Cutter Clutch 34
Cutter Out-feed Baffle 36
Cutter Blade 37
Diverter Solenoid (SOL1) Assembly 38
Trim Diverter 39
Trim Diverter Solenoid (SOL8) 40
Chip Reader 41
Pick Roller 42
Clutch Roller 42
Jam Clearance Knife 42
Inspection 43
Door Latch 43
Idler Roller and Idler Springs 44
Panel Latch 45
Paper Path Timing Belt 46
Cutter Blade 47
Cut Stick 48
Cartridge Rail 49
Cartridge Tray 50
Cartridge Frame 51
Pick Roller 52
Clutch Roller 52
Mylar Pad 52
Pressure Roller Bearing 53

Troubleshooting 54

Initial Troubleshooting 56

Advanced Jam Clearing 56
Roller Wraps 56
Lamination Quality 57
Film Refill 57
Paper Position 58
Film Alignment 61
Pressure Roller Line 61
Wrinkles 62
Curl 63
Poorly Sealed Edge 63
Incomplete Cuts 63
Angled Cuts 64
Bubbles / Trapped Particles 64
Dog Ears 65
Adhesive Marks 65
Operator Messages 66
Troubleshooting by LCD Message 67
Close Door 67
Check Cartridge 68
Trim Tray Out - Message 69
Trim Tray Out - No Message 70
Trim Tray Full 70
Troubleshooting by Error Code 72
E423: Unexpected Cut 72
E450: Check Cartridge 72
E451: Check Cartridge 72
Fault Codes 73
FAULT: PAPER AT CUTTER (S1B) 73
FAULT: NO FILM AT CUTTER 73
FAULT: SIZE MISMATCH (S20) 74
FAULT: LAMINATOR DRAWER OUT (SW3) 74
FAULT: NO SUPPLY 74
FAULT: TRIM PURGE BLOCKED (S29) 74
FAULT: PUSH IN STACKER (S21) 75
FAULT: FAILED TO PICK RESET STACK 75
FAULT: DOUBLE PICK 75
FAULT: SIZE MISMATCH (S16 or S20) 75
Power Faults 77
No AC Power 77
No DC Power 79
User Interface is Dark 81
Paper Jams 82
Checking for Obstructions 82
Cutter Jams 85

Clutch 86
Jam Codes 88
JBXX Jams 90
JFXX Jams 91
J1XX Jams 92
J2XX Jams 93
J3XX Jams 94
J4XX Jams 95
J5XX Jams 98
J6XX Jams 99
Jam: Cutter Knife Down 100
Resetting the Film Cartridge 101
Sensor Checks 103
Sensor Cables 104
Sensors S1 to S5, S25 to S27, S30, S31 106
Sensor 1B - Cutter 107
Sensors S6 to S10 109
Sensor S11 to S15 110
Sensor 21 110
Sensor S28 Align Home Sensor 111
Sensor S29 Trim Tray 112
Solenoid Checks 114
Solenoid SOL1, SOL8 114
Solenoid SOL6 114
Solenoids SOL2 - SOL3 114
Stepper Motor Checks 117
AC Motor Check 120
M6B Motor Stalling 121

Repair Procedures 122

Precautions 124
Tools Needed 124
Work Environment 124
Pre-Requisites 125
Rear Cover 125
Feeder Rear Cover 125

Cabinet
Top Cover 126
Laminator Door 127
Bottom Hinge Bracket 127
Panel Open Magnet 128
Door Latch 129
Laminator Interlock Switch 130
LCD Display 131
Casters 132

Exhaust Fan 132
Stacker Rails 134
Stacker Side Guides 135

Paper Path
Lower Entrance Panel 136
Lower Exit Panel 137
Inner Entrance Panel 138
Entrance Idler Panel 139
Entrance Drive Panel 141
Exit Idler Panel 142
Drive Exit Panel 144
Hinged Exit Panel 146
Upper Bypass Panel 147
Lower Bypass Panel 149
Bypass Diverter 149
Panel Close Magnet 151
Idler Rollers 152
Drive Roller Assembly 153
Idler Panel Mount Bracket 155
Flange Ball Bearing 155
Snap-in Bearing 157
Bearing Housing 158
Drive Idler Roller 159
Timing Pulley 159
Timing Belts 160
132T Timing Belt 160
166T Timing Belt 161
539T Timing Belt 161
197T Timing Belt 162
162T Timing Belt 162
Stepper and Mount Assembly 163
M8 Motor 164
Sensors 165
Sensors: S1, S25, S26 and S27 165
Sensors: S1B, S24 166
Sensors: S2, S3, S4, S5 168
Sensor S28 169
Sensors 6 through 10 170
Sensors 11 through 15 171
Sensor 16 171
Sensors 30 and 31 172
M1-7, M9, M10 Motor Driver (Stepper Board) 173
M8 Motor Driver (Stepper Board) 175
Solenoids 176
Diverter (SOL1 and SOL8) 177
Entrance Idler (SOL2 and SOL3) 178
Anti-Static Brush 179

Cutter Module
Motor ... 180
Belt ... 180
Clutch ... 181
Blade ... 183
Cutter Shaft Ball Bearing ... 186
Cutter Encoder ... 186
Jam Clearance Knife Blade ... 188

Trim Tray
Trim Tray Home Switch ... 190
Trim Level Emitter ... 191
Trim Level Receiver ... 191

Steering Module
Alignment Module ... 192
Laminator Alignment Stepper Motor, Pulley & Bracket ... 194
Alignment Carriage Sub-Assy ... 195
Steering Stepper Motor ... 197
Steering Motor Belt (65 Groove) ... 198
Steering Drive Roller Shaft ... 199
Steering Idler Panel Weldment ... 200
Steering Idler Roller Assembly ... 201
Steering Idler Roller Bearing ... 203
Steering Drive Panel Weldment ... 203

Laminator Module
M8 Motor Driver ... 205
Cartridge Rail Plate ... 208
Rollers - with Sensor ... 209
Lower ... 209
Upper ... 210
Locking Mechanism ... 212
Handle ... 214
Clamps ... 215
Alignment Sensor Bracket ... 217

Electronics & Controls
24V Power Supply ... 219
AC Filter ... 220
Main Control Board ... 221
Communication Board ... 222
Chip Reader ... 222
Bracket ... 223
Breakout Board ... 223

Feeder
Feeder Paper Path Belts (M6B) ... 225
Pick Roller Belt (M10) ... 226
Pick Roller Assembly ... 226

Clutch Roller 228
Mylar Pad 230
Pick Roller Drive Rollers 231

Adjustments 232

Precautions 233
Pre-Requisites 233
Rear Cover 233
Tools Needed 233
Base 234
Height Adjustment 234
Door Latch 235
Solenoids 236
Diverter Solenoid (SOL1) 236
Trim Diverter Solenoid (SOL 8) 237
Cartridge 238
Stop Magnet 238
Cartridge Foot 239
Stop Bracket 239
Rail Height 241
Paper Path 242
Magnets 242
Pressure Roller Idler 243
Timing Belts 244
Steering Sub-Assembly 244
539T Timing Belt (M6A) 244
166T Timing Belt (M2) 245
196T Timing Belt (M7) 246
197T Timing Belt (M9) 247
323T Timing Belt (M1) 247
Steering Motor Belt 248
Idler Panel Magnetic Latches 249
Drive Panel 250
Entrance Drive Panel 250
Exit Drive Panel 251
Lower Bypass Panel 253
Cutter Module 254
Motor Belt Tension 254
Clutch Indexing 255
Pivot 256
Connecting Rod Length 257
Connecting Rod Spring 259
Lamination Drawer 261
Alignment Pin 261
Drawer Switch 262

Cut Stick 262
Locking Mechanism Springs 263
Drawer Latch 264
Sensors 265
S1B - Cutter 265
Sensor 16 265
Feeder 266
Feeder Idler Roller 266
Feeder Magnet 266
Feeder Top Cover 267
Side Guides 267
Upper Pick Roller 267
Lower Pick Roller 268
Feeder Tray 268
Feeder Spring Index 269
Stacker 269
Sensor 21 269
Parts List 270
Cable Part Number Index 295
Wiring 296

Safety

Read all safety information in this manual before performing any maintenance or repairs on this unit.

Cautions, Warnings, and Note statements appear before the steps to which they apply. These statements should be read before continuing to the next step in a procedure.



CAUTION: A Caution statement indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.



WARNING: A Warning statement indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in personal injury or loss of life.

NOTE: A Note statement indicates an operating or maintenance problem, practice, or condition that is necessary to accomplish a task efficiently.

Safety Devices

The laminator has a door interlock to prevent personal injury when operating the machine.

When you open the front door, a safety interlock device automatically disables the drive motors until you close the Front Door.

When the front door is open, the UI displays the “CLOSE DOOR” message on the top line of the interface.

When you close the front door, the UI displays the “READY” message on the top line of the interface.



CAUTION: Certain components in the laminator are susceptible to damage from electrostatic discharge. Observe all ESD procedures to avoid component damage.

Operational Safety



CAUTION: Do not operate the laminator without the interlocks engaged.

Use care when a procedure in this manual instructs you to “insert an interlock cheater into the laminator door interlock switch SW1,” in order to test the operation of a component.



WARNING: Moving Parts, keep hands clear of nips and the belts when the Interlock Cheater is inserted.



DANGER: HIGH VOLTAGE

This safety message means you might get seriously hurt or killed if you open the product and expose yourself to hazardous voltage. NEVER remove the screwed on covers. ALWAYS refer service requirements to qualified service personal.

Important Safeguards

Use the laminator only for its intended purpose of laminating paper and covers and according to the indicated specifications.



WARNING: The printer ON/OFF switch does not cut off power from the laminator. Always disconnect the electrical power cord.

The laminator must be connected to a supply voltage corresponding to the electrical rating of the machine operation instructions (also listed on the serial number label).

The grounding plug is a safety feature and will only fit into the proper grounding-type power outlet. If you are unable to insert the plug into an outlet, contact a qualified electrician to have a suitable outlet installed.

Do not alter the plug on the end of the cordset (if provided) of the laminator. It is provided for your safety.

Unplug the laminator before moving the machine or whenever the machine is not in use for an extended period of time.

Do not operate the laminator if the machine has a damaged power supply cord or plug. Do not operate the machine after any malfunction. Do not operate the machine in case of liquid spills or if the machine has been damaged in any other way.

Do not overload electrical outlets beyond their capacity. To do so may result in fire or electrical shock.

Do not open any panels other than those indicated by this manual.

Pay particular attention to the WARNINGS and CAUTIONS listed in this and the Operator Manual.

Introduction

Click on the blue links, shown below, to be taken to the relevant section.

Glossary of Acronyms 4
Specifications 5
- Media Input 5
- Serial Number 5

Supplies 5
User Interface 6
- Home 6

Settings 7
- Paper Type 8
- User Functions 8
- Center Alignment 8
- Margin 9
- Skew 9
- First Sheet 9
- Language & Units 9
- Cut Stick 9
- Info 10
- Service Menu 11
- User Functions 11
- Cutter Blade 11
- Sensors 11
- Motors 12
- Solenoids 12
- Function Tests 13
- Files 14
- Options 1 14
- Options 2 14
- Alignment Offsets 14

Glossary of Acronyms

Acronyms you may encounter in this manual include:

Acronym	Definition
Assy	Assembly
CBL	Cable
DRV	Motor Driver (Stepper Board)
F	Fuse
GND	Ground
J	Connector
M	Motor
N	Nip Roller
P	Plug
PSU	Power Supply
S	Sensor
SOL	Solenoid
SW	Switch
UI	User Interface

Specifications

Media Input

Registration at pick up (includes skew)	±10mm (.39")
Maximum skew	±25 millirads (1.43 degree)
Feed speed	Set to match engine (maximum 1300mm/s)
Speed variance at pick up	±2%
Productivity	See Appendix A
Curl	Maximum of 10mm from mid face to edge



Acceptable Media

Paper weight	Plain	75gsm – 300gsm (20lb bond – 110lb cover)
	Coated	118gsm – 300 gsm (32lb bond – 110 lb cover)
Paper sizes	Standard	A4, A3, SRA4,SRA3, LTR, 9x12, 11x17,12x18
Sheet size tolerance		±0.75mm

Media stack in feeder not to exceed 10mm.

Serial Number

The serial number is located inside the front door on the front frame just below the bypass section.

Supplies

- Laminator Film Frame Refill
- Super Lube
- Cut Sticks

User Interface

Home



BACK - Returns you to the previous screen without making changes.

SAVE - Saves changes made in settings.

Status Messages

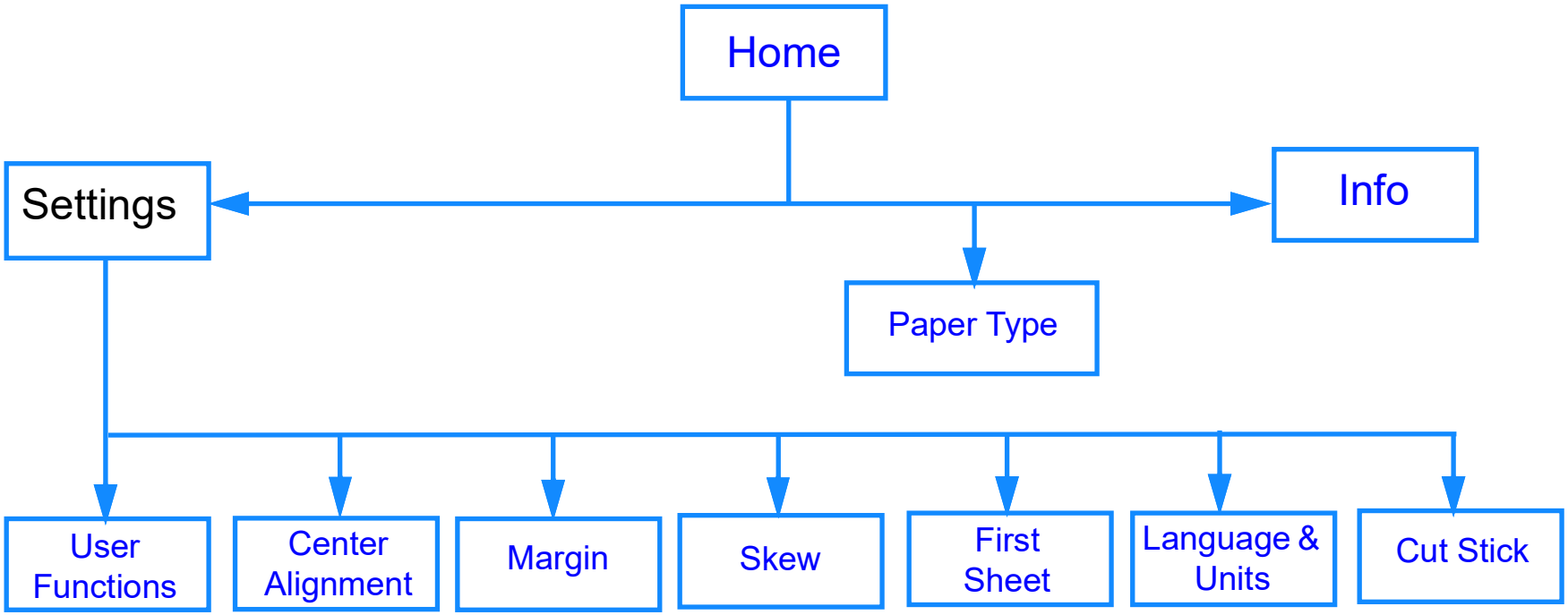
Interactive Buttons

The UI displays status messages and fault codes in two rows of text.

- The top row displays the status of the Laminator (Ready, Close Door).
- The bottom row displays the options selected on the UI.

Settings

Click on any blue text to be taken to additional information about the setting.



Paper Type

Set the laminator to ISO or ANSI paper sizes.

User Functions

User functions will change depending on what type of lamination material is currently installed.

Cycle Cutter

Use this to manually cycle the cutter. This can be used if a sheet has partially cut and needs to be fully cut to remove the drawer. The door needs to be closed to run this function.

Trim Film and Eject

This cycle will feed a length of laminated film 120mm into the trim tray. This is the same cycle that occurs before the first sheet of each job. The door needs to be closed to run this function.

Film Proof Test

This cycle will feed a length of laminated film around 200mm into the trim tray. The door needs to be closed to run this function. This cycle can be used to clear wrinkles after resealing the film, before running a new refill or to clear a partially laminated sheet.

Center Alignment

This setting controls the front/rear paper position relative to the film. Use the +/- buttons to shift the current paper position so that the sealed film edge is 4mm on each side.

1. On the Home screen, tap **Settings**.
2. Tap **Alignment**.
3. Select the desired adjustment.
4. Use the **+/- buttons** to change the offset by + or - 0.2mm.

   The maximum alignment change is + or - 2.0 mm
5. Press the **CHECK MARK** button to enter the new alignment value.
6. Click YES to save the value permanently or NO to save only until the next time the machine is turned on.

Margin

The "A" and "B" boxes will start off filled with a hyphen (-). Measure the dimensions of "A" and "B" on an outputted sheet and enter the values into the boxes and select the check mark button.

The machine will automatically calculate the Gap (AT) and Cut (AC) adjustment values needed based on the margin measurements and fill those boxes. Small edits to the Gap and Cut values can be made by clicking on the lower two boxes and using the +/- buttons.

Skew

1. On the Home screen, tap **Settings**.
2. Scroll to the third page and tap **Enter Service Mode**.
3. Type in password **422** and press **Enter**.
4. Select **Skew Offsets**.
5. Change your desired option to straighten the paper inside the laminate.

First Sheet

The margin screen controls the size of the film border on the lead and trail edges on all sheets except the first. To control the first sheet lead edge, use the adjust buttons +/- to increase/decrease the gap, as desired.

Language & Units

Select the language, English, Deutsch, Espanol, Francais, or Italiano for the UI. Set the units displayed on the UI by choosing MM for millimeters or IN for inches.

1. On the Home screen, tap **Settings**.
2. Scroll to find **Language & Units** and tap it.
3. Make your selection for the language and/or the units and then tap the **CHECKMARK** to set the change.
4. Click YES to save the selection permanently or NO to save only until the next time the machine is turned on.

Cut Stick

The cut stick screen displays the current amount of cuts on the cut stick groove out of the 1,000 total. Be sure to use the cut stick cycles reset to change the count back to zero if the cut stick is flipped to a new surface or replaced.

Info

To find information about the following:

1. On the Home screen, tap **Info**.
2. Tap the page pertaining to the features below.
3. Tap the back button to return to the Info screen.
4. Tap the back button again to return to the Home screen.

Laminator Cycles

Lists the number of lamination cycles completed by the film cartridge that is presently installed in the machine.

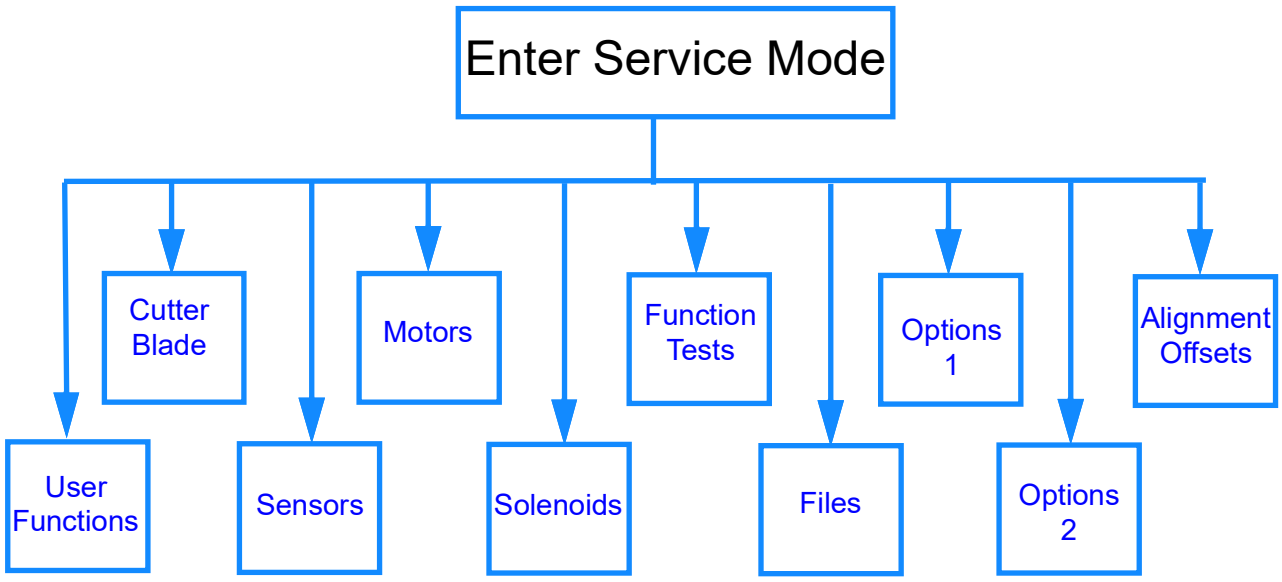
Firmware

Identifies the version of firmware installed.

Service Menu

‘Click on any blue text to be taken to additional information about the menu option.

This menu allows you to complete service adjustments on the system. This menu is not meant to be accessible by the user



User Functions

User functions are described in the user manual.

Cutter Blade

The blade cycles show the total cuts that the current blade has made during its lifetime. When servicing the machine and installing a new blade, make sure to use the Blade Cycles Reset button to reset the count to zero.

Sensors

A sensor can fail in two modes:

- **High state**: Machine thinks there is no sheet even when a sheet is present. In this mode, the LCD will always show “0” for that sensor, and will not go to “1” when a sheet is present.
- **Low state**: The converse of the above. “PAPER JAM” message will be seen on LCD.

It is unlikely for a sensor to fail in a Low state, therefore a bad sensor will most likely not give a “PAPER JAM” message.

When there is a paper jam, it is most likely because there is a sheet of paper or paper dust over the sensor.

View the state of each of the sensors.

- 0 - sensor is open.
- 1 - sensor is covered.

1. On the Home screen tap **Settings**.
2. Scroll to the third page and tap **Enter Service Mode**.
3. Type in password **422** and press **Enter**.
4. Tap the **Sensors** button.
5. Cover each sensor to check if the sensor status changes from 0 to 1.

Motors

Use this to test each of the motors in the machine.

IMPORTANT: The door needs to be closed when doing this procedure.

1. On the Home screen, tap **Settings**.
2. Scroll to the third page and tap **Enter Service Mode**.
3. Type in password **422** and press **Enter**.
4. You will hear the motors engage.
5. Press the motor button a second time to stop it.
6. Repeat as needed to check the other Stepper Motors.

Solenoids

Test the operation of each of the solenoids in the machine.

IMPORTANT: The door needs to be closed or the interlock cheater inserted.

1. On the Home screen, tap **Settings**.
2. Scroll to the third page and tap **Enter Service Mode**.
3. Type in password **422** and press **Enter**.
4. Tap **Solenoids**.
5. Press the specific solenoid button of the one you want to test.
   The selected solenoid will turn on temporarily.

6. Press the button a second time to disengage the solenoid.

IMPORTANT: If solenoid is left on for an extended period of time, it will turn off automatically to prevent over-heating.

7. Repeat as needed to check the other solenoids.

   If a Solenoid does not operate run through the cleaning procedures Solenoid on page 31, Diverter Solenoid (SOL1) Assembly on page 38 and Trim Diverter Solenoid (SOL8) on page 40.

Function Tests

Use this function to jog a short piece of film (120mm) without cutting it at the end. This function is used to test that the film is moving properly through the pressure rollers without the cutter.

1. On the Home screen, tap **Settings**.
2. Scroll to the third page and tap **Enter Service Mode**.
3. Type in password **422** and press **Enter**.
4. Select the desired test to run.

   Press **User Functions** to:

   Cycle Cutter starts the cutter motor, waits for 2 seconds, then triggers the cutter for 1 cycle.

   Press **Functions Tests** to:

   Aligner Test moves the home aligner clockwise 10mm, back to home, counter-clockwise 10mm, then back to home; repeating the cycle 5 times. After the test is complete it stops automatically.

   Fan turns the exhaust fan on and off.

Files

The Update Main/Comm buttons will update the machine firmware to the latest version when a USB with the proper .BIN file is inserted into the back of the machine.

The Save Log button will save the latest job information to a USB inserted into the back of the machine. Use this button if directed to by GBC to help troubleshoot issues in the field.

Additional information can be found in Firmware Update / Save Logs on page 15.

Options 1

Paper size can be switched between ANSI and ISO, depending on the preferred paper standard. For example, A4 would be ISO and LTR paper would be ANSI. If this is not set correctly, the machine will not be able to recognize the paper size that is being sent from the feeder.

Leave the Run Mode in Auto Run unless directed by GBC to change to Auto Cycle for troubleshooting. Auto Cycle allows certain mechanisms to cycle repeatedly. The machine will not process jobs from the feeder properly unless it is set to Auto Run mode.

Options 2

Ignore Cart Errors can be toggled to the on position to allow the machine to operate even when the cartridge chip is not properly connected. This will override the errors and allow jobs to be sent from the feeder. Caution should be taken when running this mode, because the machine will not know to stop if the film remaining reaches zero, and this could cause a jam.

Auto-Jam recovery can be toggled on/off. This setting is normally "on" to allow the machine clear jams easier. The setting can be toggled to "off" for troubleshooting.

Max Bypass controls the largest sheet length that is allowed to run through the bypass path of the machine. This setting does not have any effect on lamination mode. See additional information in Max Bypass on page 16.

Alignment Offsets

This panel is used during machine setup at the factory. Do not attempt to use this in the field.

Firmware Update / Save Logs

Firmware Update:

NOTE: Save the firmware file you want to upload to the USB flash drive provided. The firmware file will end in .BIN. Old firmware files can be saved in a new folder if needed.

IMPORTANT: Only one Main and one Comm file should be present in the USB flash drive.

1. Remove the (2) M4 screws and the USB port cover.
2. Open the front door and leave the door open until the procedure is complete.
3. On the Home screen, tap **Settings**.
4. Scroll to the third page and tap **Enter Service Mode**.
5. Type in password **422** and press **Enter**.
6. Use the scroll bar to navigate to the second page of the menu and tap the **Files** button.
7. Insert the USB drive with the firmware version you want to upload onto the machine.
8. Click on the option to be upgraded. If upgrading both, it is recommended to upgrade Main first.
   - Main - updates the control board and the Main firmware.
   - Comm - updates the communication board. The screen will turn black temporarily while COMM is updating.
9. Install the cover for the USB port and tighten the (2) screws.
10. Close the door.
11. Switch off the machine. Wait 10 seconds and then switch the machine back on again.
12. Press the **INFO** button to verify the new firmware revision is displayed on the Info screen.

Save Logs:

1. Remove (2) M4 screws and the USB port cover.
2. Insert a USB drive in the machine, then select Log on the UI.
3. On the Home screen, tap **Settings**.
4. Scroll to the third page and tap **Enter Service Mode**.
5. Type in password **422** and press **Enter**.
6. Use the scroll bar to navigate to the second page of the menu and tap on the **FIRMWARE/LOG** button.
7. Tap **Save Logs**.

   Information for the last 50 cut sheets will be downloaded to the USB drive.

   Debug data for last 50 sheets.

   - Sheet size measured i.e S,M,L,LG or XL
   - Skew sensors
   - First deskew steps
   - Alignment sensor used
   - Second deskew steps
   - Align fail safe stop (if occurred)

Sensor timings for last 10 sheets.

- Lamination mode, time from LE S1 to LE S8
- Lamination mode, time from LE S8 to LE at S25

Other data

- Lamination cycle count
- Bypass cycle count
- Individual die type counts
- Record the last 20 Jam codes in a column format
- Logs of E423 Unexpected Cuts

Max Bypass

1. On the Home screen, tap **Settings**.
2. Scroll to the third page and tap **Enter Service Mode**.
3. Type in password **422** and press **Enter**.
4. Select **Max Bypass**.
5. Use the +/- buttons to set the maximum sheet length that will be bypassed through the laminator.

NOTE: Setting the maximum sheet length to high allows large banner sheets to be bypassed by the laminator. A high value for max bypass will cause paper jams to be detected more slowly, which could lead to more wasted paper.

6. Press the **CHECK MARK** button to enter the new value.
7. Click YES to save the value permanently or NO to save only until the next time the machine is turned on.

Service Call Procedures

At each service call run through the procedures described in this chapter. Doing so may fix the issue for which the service call was initiated. Click on the blue links, shown below, to be taken to the relevant section or procedure.

NOTE: Cycles refers to lamination cycles.

Tools Needed 19
Preventive Maintenance 19
- Schedule 19

Cleaning 21
- Exterior 21
- Interior 21
- Base 21
- Trim Tray 22
- Idler Roller 22
- Steering Idler Roller and Springs 23
- Drive Rollers 24
- Feeder Driver Rollers 25
- Steering Drive Rollers 25
- Pressure Roller 26
- Optical Sensor 27
- Exit Panel (Inner) 28
- Bypass Paper Path 29
- Lamination Paper Path 30
- Solenoid 31
- Alignment Carriage Rails 33
- Cutter Clutch 34
- Cutter Out-feed Baffle 36
- Cutter Blade 37
- Diverter Solenoid (SOL1) Assembly .. 38
- Trim Diverter 39
- Trim Diverter Solenoid (SOL8) 40
- Chip Reader 41
- Pick Roller 42
- Clutch Roller 42
- Jam Clearance Knife 42

Inspection 43
- Door Latch 43
- Idler Roller and Idler Springs 44
- Panel Latch 45
- Paper Path Timing Belt 46
- Cutter Blade 47
- Cut Stick 48
- Cartridge Rail 49
- Cartridge Tray 50

Cartridge Frame..... 51
Pick Roller..... 52
Clutch Roller 52
Mylar Pad..... 52
Pressure Roller Bearing..... 53

Tools Needed

Recommended tools for servicing the machine.

Standard Tools (metric)

- 7mm Nut Driver
- 5.5mm Nut Driver
- 7mm Open End Wrench
- 5.5mm Open End Wrench
- Needle Nose Pliers
- Phillips Screwdriver
- Flathead Screwdriver
- Wire Cutters
- Metric Allen Key Set (1.5mm, 2mm, 2.5mm, 3mm, 4mm, 5mm)
- Super Lube

Preventive Maintenance

Perform any necessary procedures shown on the schedule. To view the period for each, follow these steps:

1. On the display, click Settings.
2. Enter your service code.
3. View the period for each area of the unit and compare with the schedule.

Schedule

Customer Maintenance

Item	Frequency
Cutting Stick	1,000 cycles, rotate and replace 4 times = 4,000 cuts
Lamination supply	Replace when empty

Periodic Maintenance

Area / Unit	Period	Measures
Cutter motor belt	1,000K cycles	Inspect
Alignment stepper belt	1,000K cycles	Inspect
Steering carriage belt	1,000K cycles	Inspect
Steering rollers	1,000K cycles	Inspect and clean
Cutter clutch	1,000K cycles	Clean
High speed sensors	500K	Clean with air and anti-static wipe
Drive and Idler rollers	1,000K cycles	Inspect and clean with alcohol
Solenoid module	1,000K cycles	Inspect
Paper path sensors	500K	Clean with air
Idler panel closing magnet latches	1,000K cycles	Inspect
Corner panel latches	1,000K cycles	Inspect
Paper path drive timing belts	1,000K cycles	Inspect and adjust if necessary
Diverter solenoid assemblies	1,000K cycles	Inspect
Supply recognition board pins	500K	Clean, replace if necessary
Pressure roller belt	500K	Inspect, replace if necessary
Pick roller assembly	50K	Inspect and clean with alcohol

Replacement of Consumable Parts

Area / Unit	No. of pcs.	Minimum Expected Life
Idler solenoid module	2	5M cycles
Cutter blade	1	250,000 cycles
Lamination pressure rollers	2	10,500 metres of film (approx. 160 film refills) (1/year)
Anti-static brush	3	500K cycles
Cutter clutch	1	250K cycles
Cartridge frame	multiple	3,000 cycles
Pick roller assembly	1	250,000 cycles

Cleaning

This section lists all of the different areas to clean.



WARNING: Disconnect the machine from its power source before cleaning. Failure to observe this warning could result in death or serious Injury.

Exterior

Clean the exterior covers with a lint-free cloth moistened with mild detergent and warm water.

IMPORTANT: Do not use chemical cleaners or solvents as these may have a harmful effect. Use detergent sparingly to avoid contact with electrical components.

Interior



WARNING: Make sure you disconnect the machine from its power source before cleaning. Failure to observe this warning could result in death or serious Injury.

1. Remove the covers and clean out paper dust and trims.

   Paper dust can accumulate throughout the laminator including around the motor and other electrical components.

   Use a vacuum cleaner if possible. A small paintbrush can also be used but **extreme care should be used around electrical components**.
2. Clean non-electrical components with isopropyl alcohol, an approved cleaner, or a lint-free cloth moistened with mild detergent and warm water.
3. Clean the rollers with isopropyl alcohol.

Base

Trims and paper dust fall to the bottom of the laminator. Clean with a vacuum cleaner every service call.

Educate the customer on how to do this between technician visits.

Trim Tray

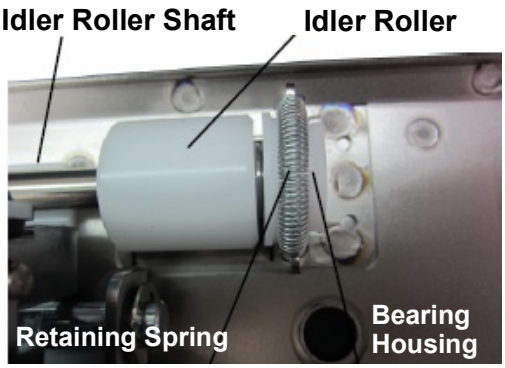


Do this on every service call. Remove the trim tray by lifting up and pulling out. Empty the tray, then vacuum out any remaining dust.

Idler Roller

Inspect and clean the idler rollers in these assemblies every 50K cycles.

- Entrance Idler Panel.
- Acceleration Roller Idler Assy.
- Exit Idler Panel.
- Bypass Idler Assembly

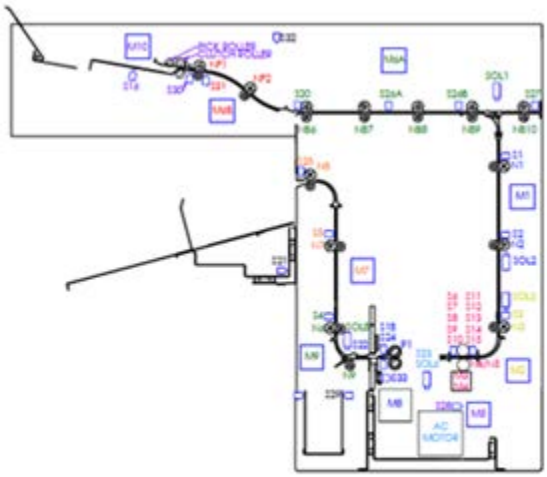


1. Follow instructions Idler Rollers on page 152 to remove.
2. Clean the Idler Rollers with a lint-free cloth and isopropyl alcohol.
3. Inspect rollers for wear patterns or grooves.

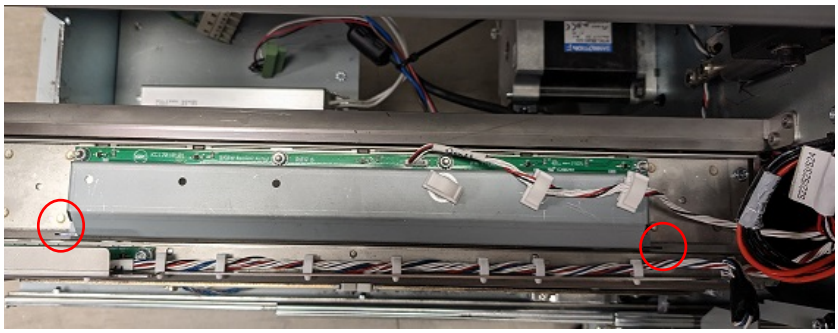
   The roller surface should be smooth.
4. Ensure the rollers turn freely on the shaft and that the idler roller shaft “floats” freely in the bushing forks.
5. See Idler Rollers on page 152 to install.

Steering Idler Roller and Springs

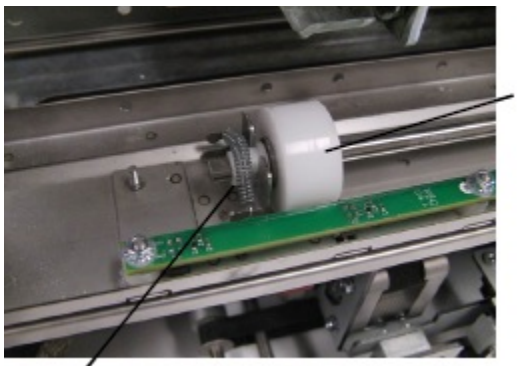
Inspect and clean Steering Idler Rollers and Springs N5 and N6 every 20K cycles.



1. Pull out the lamination drawer and remove the (2) 5.5mm nuts for the cover.



2. Clean the steering idler rollers with a lint-free cloth and iso-propyl alcohol.

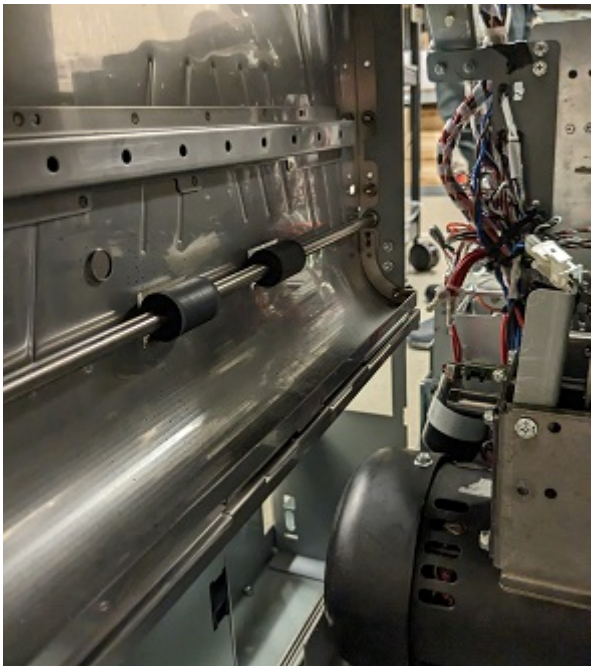


3. Confirm that the roller surfaces are free of debris, toner deposits, wear, unevenness, and dents.
4. Inspect the Steering Idler Springs.

   The springs should be hooked securely and should be wrapped around the bushing.
5. Follow instructions to clean the Drive Rollers on page 24.

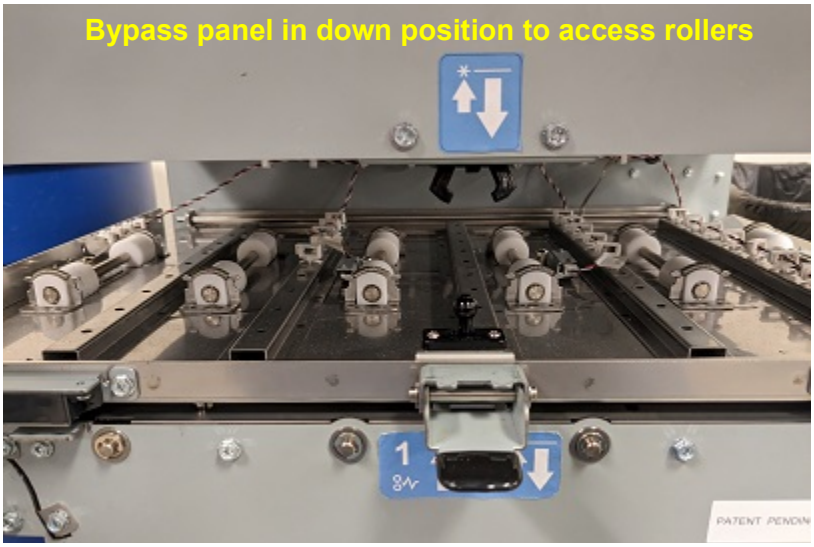
Drive Rollers

1. Remove the rear cover.
2. Open the laminator door and pull out the lamination drawer.
3. Go to back of machine and clean rollers on the left and right sides.



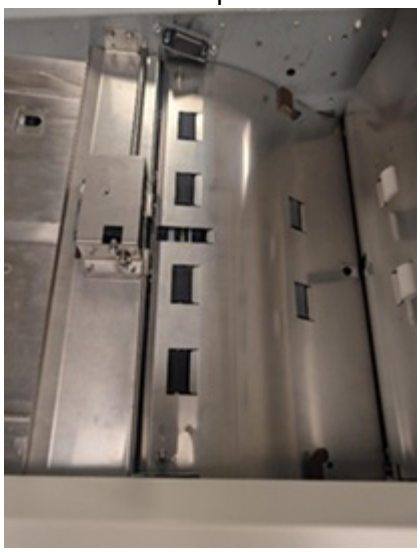


4. Return to the front, push lamination drawer in.
5. Lift up and pull down the bypass panel to reach and clean the rollers.



Feeder Driver Rollers

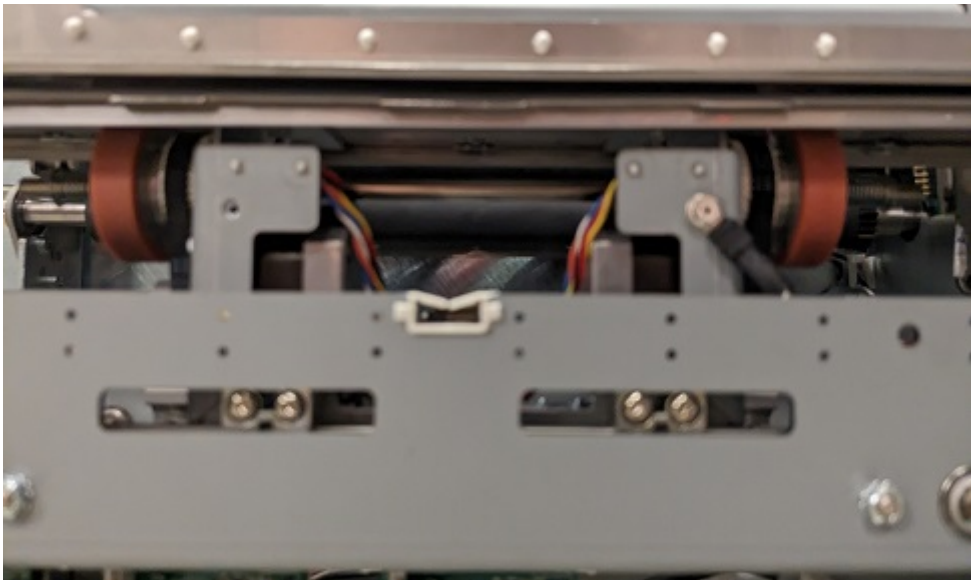
Lift the Feeder top cover.



Steering Drive Rollers

Inspect and clean the steering drive rollers every 20K cycles.

Some rollers are not easily accessible. Those that are should be inspected and cleaned when the idler rollers are removed.



1. Open the laminator door and pull out the lamination drawer.
2. Clean all steering drive rollers N1 – N16 with a clean cloth and isopropyl alcohol.

   The rollers should be free of toner deposits, wear marks, scuff marks, dents, etc.

Pressure Roller

Inspect and clean the pressure roller every 12K cycles.

1. Open the laminator door.
2. Pull out the lamination drawer and raise the locking mechanism.





3. Dampen a lint-free cloth with isopropyl alcohol and wipe roller until all adhesive build-up is removed.
4. Clean the lower pressure roller by using the knob to rotate it.



5. While cleaning the rollers, inspect roller bearings for wear.

   Rollers should not have a lot of play in them.

Optical Sensor

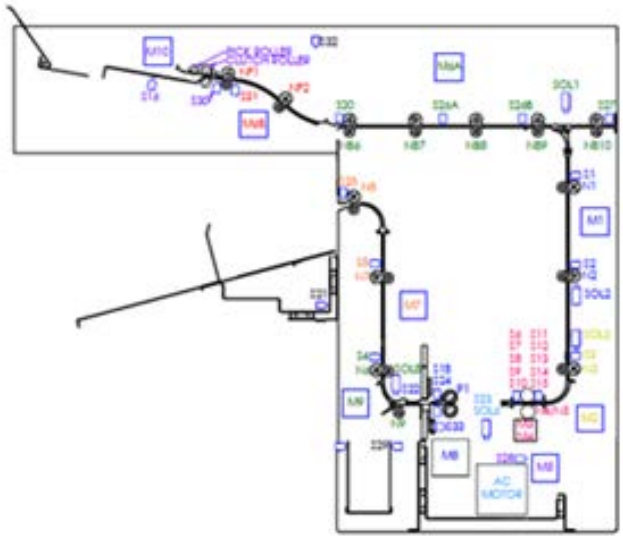
Inspect and clean every 50K cycles.

For paper path sensors S1–S5, S24–S27 use canned air or a clean cloth and isopropyl alcohol to remove the debris off each sensor eye.

For edge detection sensors S6-S15 use the folded corner of an anti-static, pre-moistened lens cleaning wipe (non- alcohol based) for cleaning the LED until the dust/debris is completely removed. Use canned air to remove dust/debris from the slot between the 2 LEDs.

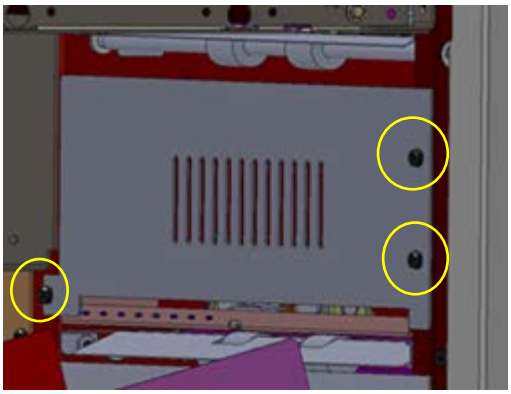
NOTE: Any group of sensors, for example S6 through S10, will be on one sensor array board while S11 through S15 will be on a different board.



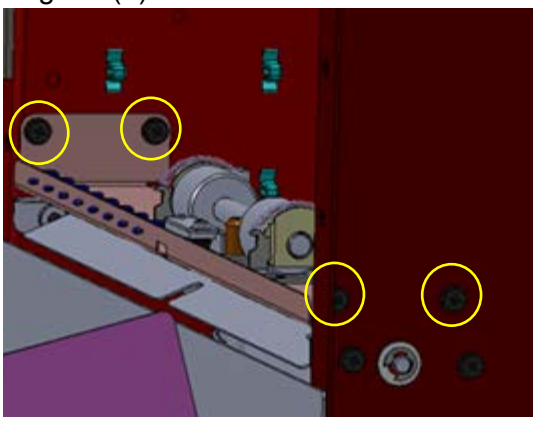


Exit Panel (Inner)

1. Open the laminator door.
2. Remove the side cover by removing the (3) 7mm screws.



3. Remove the exit panel by removing the (4) 7mm screws.



4. Unplug S27 and remove the wire from the wire saddles.
5. Use a lint-free cloth and isopropyl alcohol to remove any built-up adhesive on the plastic coated surface.
6. Inspect the plastic coating for cuts or tears and replace the panel if damage is found.
7. Plug S27 back in and route the wires through the saddles.
8. Reinstall the panel.
9. Reinstall the side cover.
10. Close the laminator door and connect the power.

Bypass Paper Path

Inspect and clean the bypass paper path every 20K cycles.

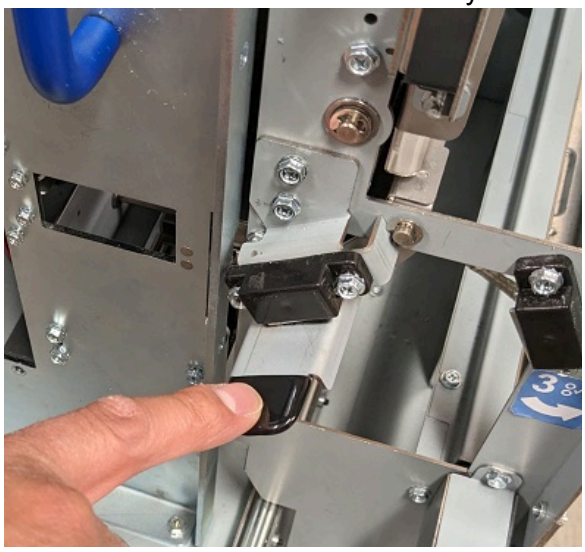
1. Inspect the underside of the bypass panel, on the exit side, and nip roller 8 for adhesive build-up and clean with a lint-free cloth and isopropyl alcohol.
2. Inspect the bypass panel, rollers, and entrance guide for wear, damage, and obstructions.
3. Inspect the rollers for wear patterns or grooves.
4. Clean rollers with a soft, lint-free cloth and isopropyl alcohol.
5. Raise the panel and ensure the latch holds it open.
6. Inspect the path for obstructions and clean as needed.
7. Close the panel and check that it is flat and that paper will pass under it.
8. Ensure the bypass diverter moves freely and returns to the bypass position.



Lamination Paper Path

Inspect and clean the paper path every 20K cycles.

1. Inspect the entire paper path through the laminator, looking for wear, damage, and obstructions.
2. Inspect the rollers for wear patterns or grooves.
3. Push down to open the entrance idler panel, acceleration panel, and exit idler panel and make sure there are no obstructions and that they hold the panel tightly in place.



NOTE: If the latch is bent or damaged, replace the Entrance Idler Panel on page 139, Entrance Drive Panel on page 141 or the Exit Idler Panel on page 142.

4. Clean as needed.
5. Pull the lamination drawer out.
6. Remove the Locking Mechanism on page 212.
7. Use isopropyl alcohol to clean the baffle, located between the bottom pressure roller and blade, until all adhesive buildup is removed.
8. Follow the steps in Lower Exit Panel on page 137 to remove the panel.
9. Inspect the black film for cuts, tears and adhesive build up.
10. If the film is damaged, replace the panel. Clean any adhesive build up using Isopropyl alcohol and a lint-free cloth.
11. Reinstall the panel.

Solenoid

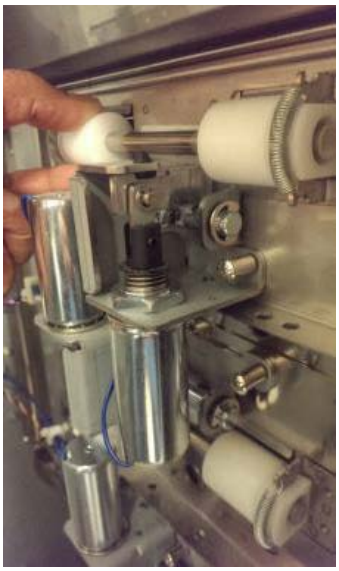
WARNING: Moving Parts, keep hands clear of nips and belts when the interlock cheater is inserted.

Clean the solenoids every 100K cycles.

1. Open the front the door and insert an interlock cheater into the door interlock.
2. Activate and deactivate the Solenoids on page 12.

   When the solenoid is not activated, the idler roller should be able to rotate freely and in turn will drive the drive roller.

   When the solenoid is fully activated, the idler roller should completely lift off and not be able to drive the drive roller.



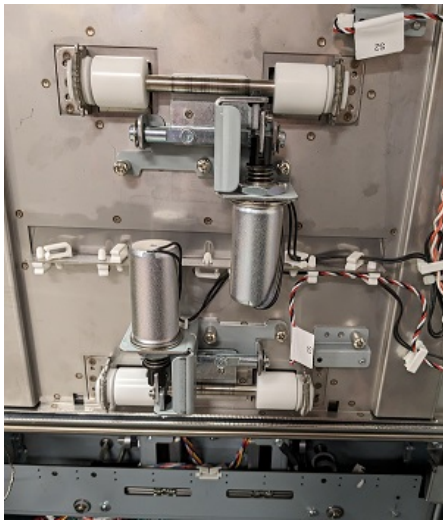
Not Activated



Fully Activated

NOTE: Disengaging solenoid modules need to be replaced every 5 million cycles.

3. Clean the solenoid and surrounding area with a vacuum cleaner and canned air.



4. Make sure the solenoid is clean and dry.
5. Inspect for obstructions, wear or damaged springs.
6. Ensure the solenoid linkage moves freely by pressing linkage down and releasing.

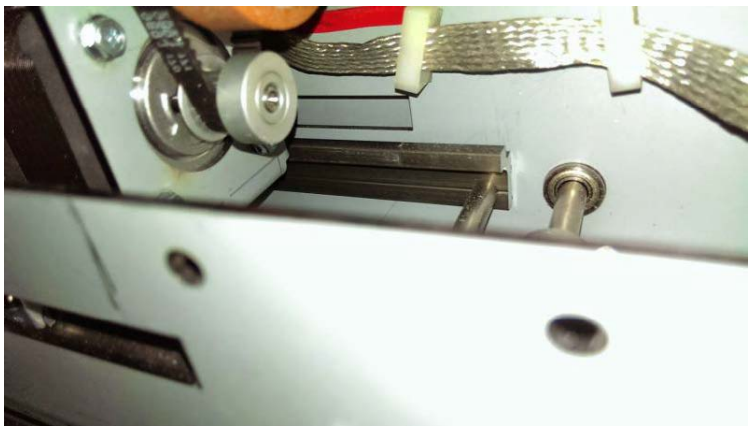
IMPORTANT: Do not apply lubricants to the solenoid or linkage.

Alignment Carriage Rails

Clean the alignment carriage rails every 20K cycles.

1. Open the laminator door and pull out the lamination drawer.
2. Use a can of compressed air to remove dust from the alignment carriage rails; moving the carriage back and forth on the rails to clean the entire surface.

   Alternately, a lint-free cloth and isopropyl alcohol can be used.



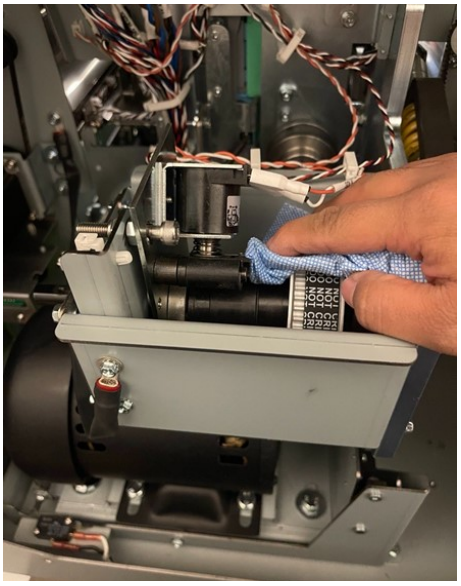
IMPORTANT: Do NOT use any lubricant on the rail.

3. After the rails are fully cleaned, check the motion of the alignment carriage on the rails.

   It should move when a force less than 2kgf is applied. If there is binding in the rails, replace the Alignment Carriage Sub-Assy on page 195.

Cutter Clutch

Clean the clutch every 100K cycles.

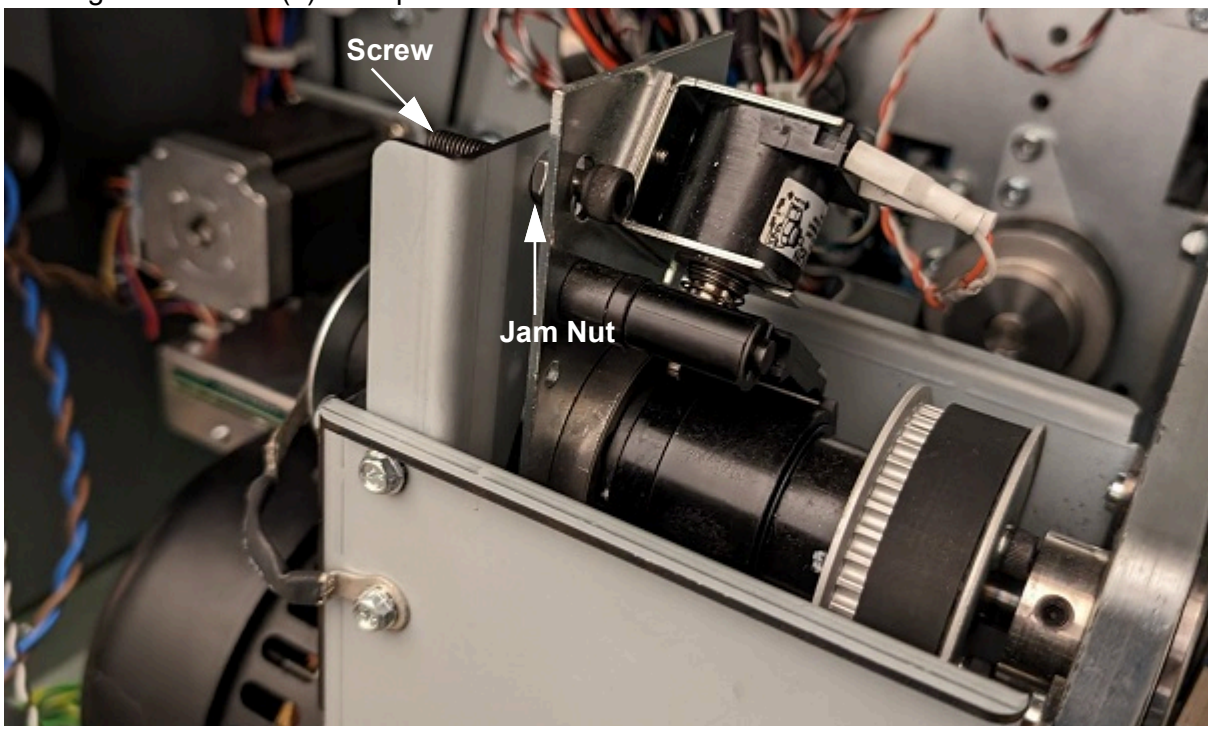


If the cutter module is removed from the machine for servicing other components, do all steps below. Otherwise do all steps except step 9.

1. Disconnect the power cord.
2. Remove the Rear Cover on page 125.
3. Use a lint-free cloth to wipe the collar of the clutch and remove any oil from the surface.
4. Inspect the collar stop and the metal insert pawl for any wear.



5. Check the tightness of the (2) cone point set screws in the clutch.



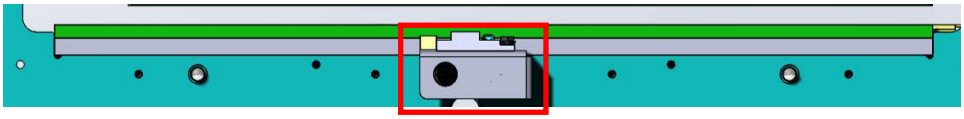
6. Inspect the tightness of the M6 lock nut and M6 socket head cap screw.
7. Check the Clutch Indexing on page 255.
8. Install the Rear Cover on page 125.
9. Connect the power cord.
10. Run the Function Tests on page 13.

Cutter Out-feed Baffle

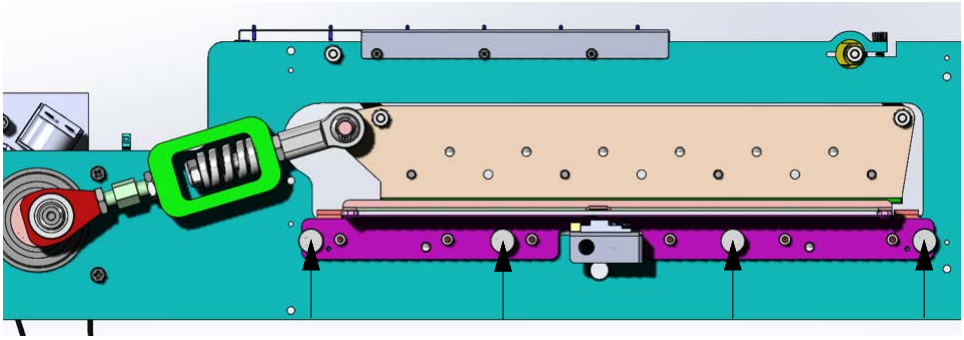
Clean the out-feed baffle every 12K cycles.

WARNING: Do not perform any cleaning with the power on or electrical power supplied to the machine.

1. Open the laminator door and pull out the lamination drawer.
2. Remove the screw holding the sensor plate and set aside.



3. Remove the (4) thumbscrews holding the cutter baffle and set aside.



4. Remove the baffle from the cutter module and inspect it for adhesive build-up, especially along the edges.

   If adhesive is stuck inside the baffle, remove the (4) screws to get to the inside.



5. Remove built-up adhesive using a paper towel soaked in isopropyl alcohol.

   When you slide your finger across the baffle and can no longer feel stickiness, it is clean.

NOTE: Baffle parts are covered with UHMW tape, which helps reduce friction and adhesive build-up, take care not to damage the tape.

6. Re-assemble the baffle, if needed, by securing the (4) screws and making sure the spacers between the baffle panels and screws are facing the correct direction.
7. Replace the baffle and return the machine to normal operation.
8. Feed laminate through the module by using the Jog Film command in the Service Menu > Function Test.

Adhesive build up is visible and can be felt. It will not be visible on the sheet output but can cause jams.

Cutter Blade

1. Perform the inspection for the Cutter Blade on page 47 through step 6.
2. Open the laminator door and locate the wrench mounted on the front of the lamination drawer.



3. Cut a strip from a scouring pad the same width as the wrench.
4. Dampen the pad with isopropyl alcohol and fold it over the raised end of the tool.
5. Confirm the toggle clamp is in the up position.
6. Place the wrench with the raised end parallel to the blade edge. The raised portion of the tool should slide upwards behind the blade edge.



   The pad should be wedged between the tool and the blade. The flat portion of the tool will rest against the foam that is in front of the blade.



CAUTION: Keep fingers clear from blade to avoid injury.

7. Slowly move the tool from left to right across the length of the blade.

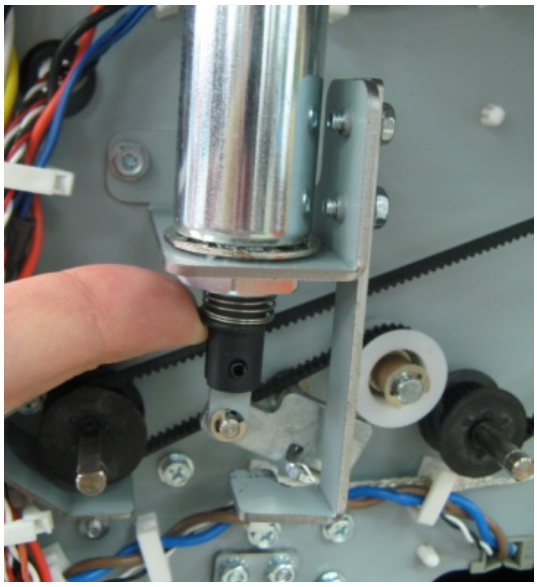
   If the pad tears or the gathers too much adhesive, use a different part of the pad.
8. Inspect the Cutter Blade on page 47, step 5 bullets and follow the steps in reverse order to replace the parts.
9. Connect the power cord.

Diverter Solenoid (SOL1) Assembly

WARNING: Moving Parts, keep hands clear of nips and belts when the interlock cheater is inserted.

Clean the diverter solenoid assembly every 50K cycles.

1. Disconnect the power cord.
2. Remove the Rear Cover on page 125.
3. Clean the solenoid and surrounding area with a vacuum cleaner and canned air.
4. Make sure the solenoid is clean and dry.
5. Raise the diverter solenoid by hand and release it to confirm it falls freely.
6. Ensure the linkage operates smoothly.



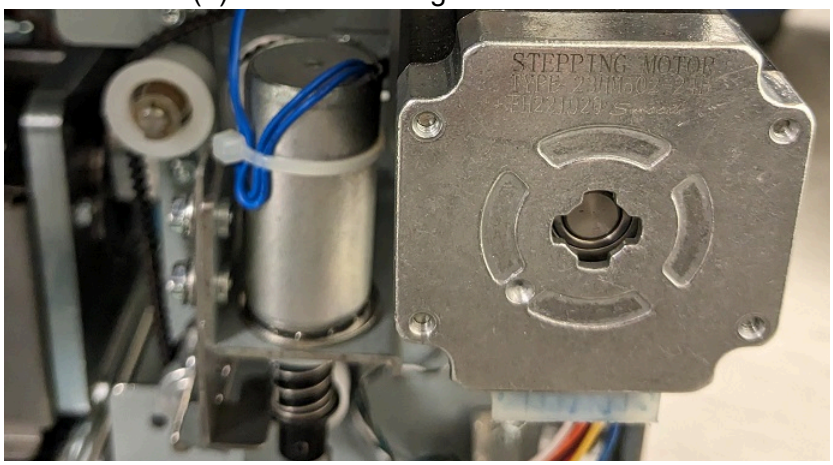
7. Open the laminator door and insert an interlock cheater into the door interlock switch.
8. Press the power switch to the ON position.
9. Activate and deactivate SOL1 by following Solenoids on page 12.

   The diverter gate should rise and fall when SOL1 is cycled.

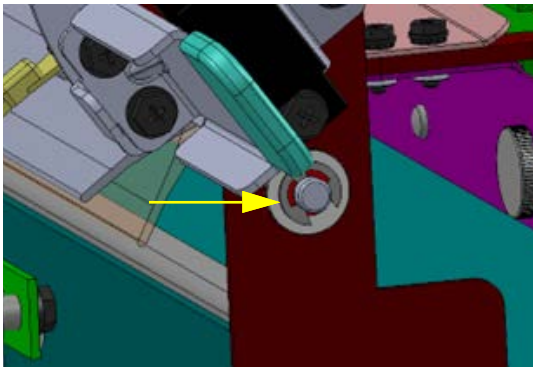
Trim Diverter

Clean the trim diverter assembly every 50K cycles.

1. Disconnect the power cord.
2. Remove the Rear Cover on page 125.
3. Remove the trim tray.
4. Use a 7mm wrench to remove the (2) screws securing the diverter solenoid to the shaft.



5. Remove the E-ring and plastic washer securing the shaft at the front of the machine and store in a safe location.



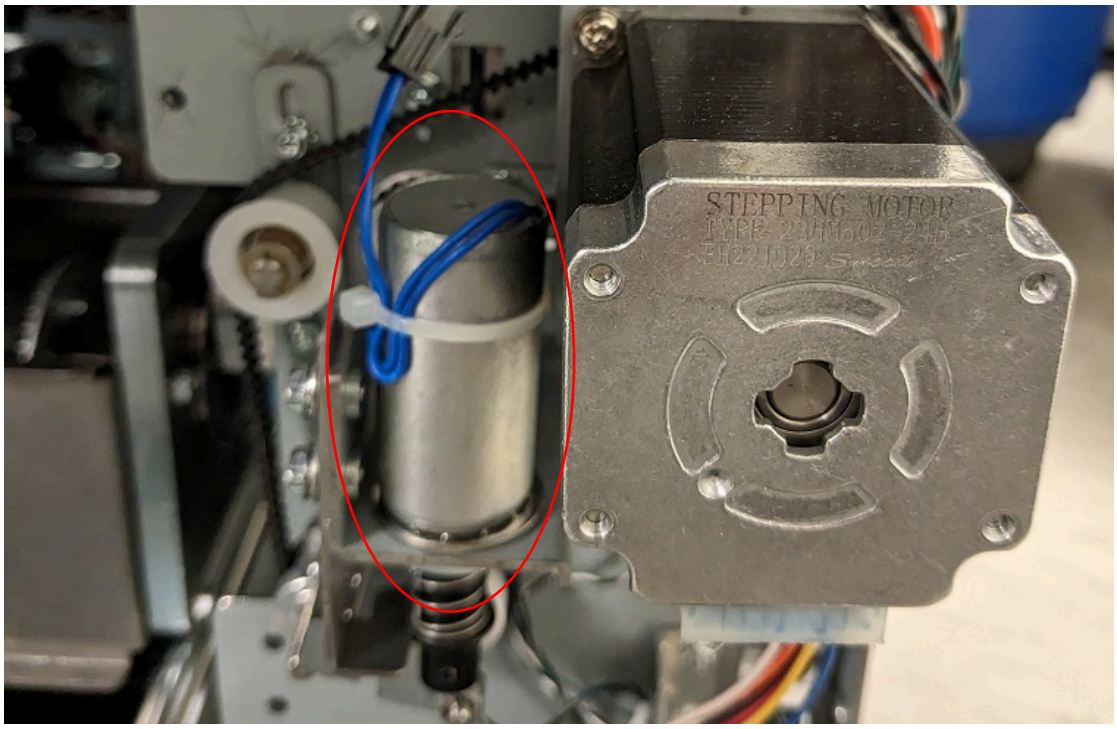
6. Push the diverter shaft towards the rear of the machine until the shaft releases from the front bearing.
7. Drop the shaft down and pull the diverter out through the trim tray opening.
8. Clean the plastic-coated sections of the diverter using isopropyl alcohol and a lint-free cloth.
9. Inspect the plastic for damage and replace the diverter assembly if there are tears or holes.
10. Install the diverter by inserting the shaft through the rear of the bearing and then pulling it through the front.
11. Insert the washer and E-ring.
12. Connect the solenoid bracket to the shaft with the (2) 7mm screws.
13. Perform the adjustment for the Trim Diverter Solenoid (SOL 8) on page 237.
14. Install the Rear Cover on page 125.

Trim Diverter Solenoid (SOL8)

WARNING: Moving Parts, keep hands clear of nips and belts when the interlock cheater is inserted.

Clean the trim diverter solenoid assembly every 50K cycles.

1. Disconnect the power cord.
2. Remove the Rear Cover on page 125.
3. Clean the solenoid and surrounding area with a vacuum cleaner and canned air.
4. Make sure the solenoid is clean and dry.
5. Raise the diverter solenoid by hand and release it to confirm it falls freely.
6. Ensure the linkage operates smoothly.



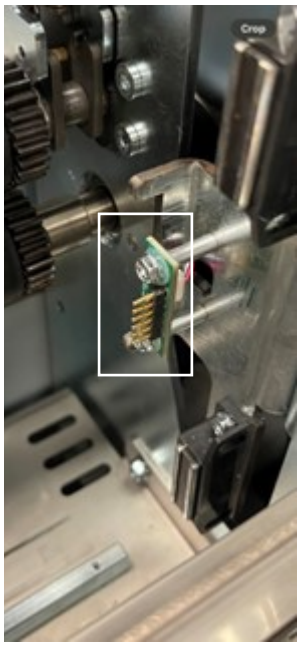
7. Open the laminator door and insert an interlock cheater into the door interlock switch.
8. Press the power switch to the ON position.
9. Activate and deactivate SOL8 by following Solenoids on page 12.

   The diverter gate should rise and fall when SOL8 is cycled.

Chip Reader

Inspect and clean the chip reader pins every 50K cycles.

1. Power off the machine.
2. Open the laminator door and pull out the laminator drawer.
3. Remove the film cartridge.
4. Locate the chip reader pins.



5. Using a soft, lint-free cloth, gently clean the pins of any debris or dust.
6. Reinsert the film cartridge and power on the machine.
7. Ensure that the film size and film count are correct on the screen.
8. Resume normal operation.

Pick Roller

1. Follow the steps for removing the Pick Roller Assembly on page 226 until the picker roller can be examined.
2. Clean the rollers with a shed free cloth and alcohol.
3. While this part is removed, clean the clutch roller (below) as well.
4. Reinstall the pick roller assembly.

Clutch Roller

1. Remove the Pick Roller Assembly on page 226 to see the clutch roller.
2. Clean the roller with a shed free cloth and alcohol.
3. While this part is removed, clean the pick roller (above) as well.
4. Reinstall the pick roller assembly.

Jam Clearance Knife

1. Remove the (4) thumb screws and Cutter Outfeed Guide.
2. Remove the cut-stick (see Cut Stick on page 48) taking note of the active groove for reinstalling.
3. Pull on the Knife Pull to bring the Knife Carriage to the front of the drawer.



4. Carefully clean off any film or paper with a microfiber towel and isopropyl alcohol.
5. Insert heaver weight paper between the pressure rollers and perform a test cut by actuating the knife with the knife pull. If the paper does not easily cut, replace the knife (see Jam Clearance Knife Blade on page 188).

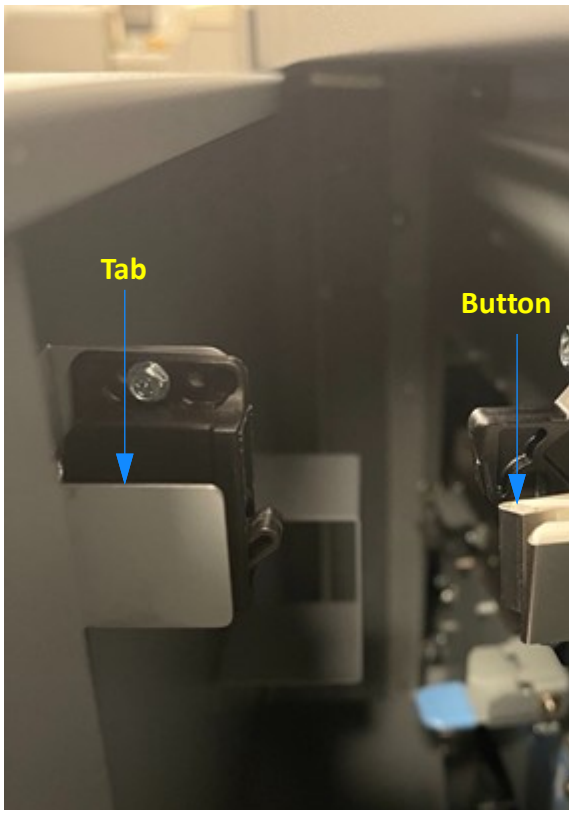
Inspection

Door Latch

Inspect the door latch every 1000K cycles.

The switch tab should press the switch button just so that it is close to bottom.

1. Ensure latch holds door closed.
2. Confirm the switch is activated when the door is closed.
3. Adjust the Door Latch on page 235.

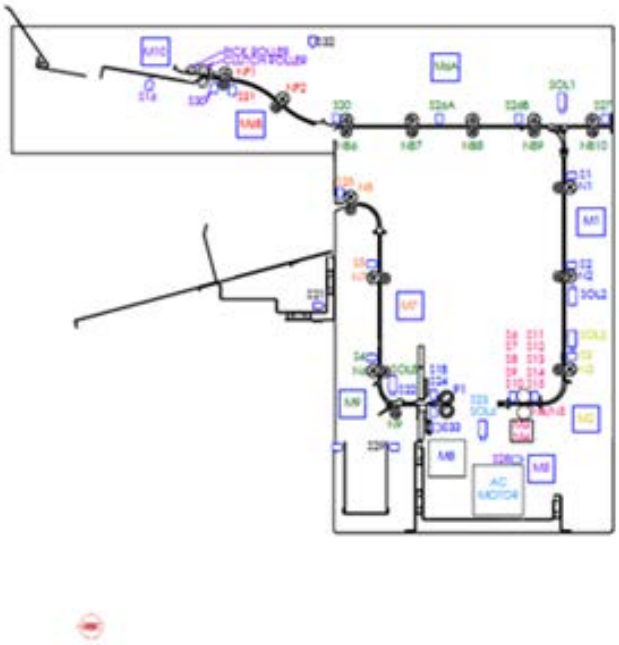


Idler Roller and Idler Springs

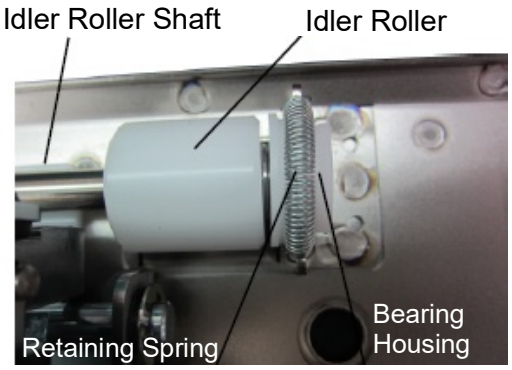
Idler rollers press against the drive rollers and move the paper through the bypass or the laminator. Inspect and clean every 100K cycles.

1. For the idler rollers in the following nip rollers, inspect the rollers for wear, debris, toner marks, unevenness, and dents.

N1	N8
N2	N9
N3	N10
N4	N11
N5	N12



2. Inspect (2) springs for each idler roller and make sure they are correctly hooked.



3. Inspect the bearing housing.
4. Press and rotate one roller and confirm that the other one moves in sync.

   The bearing housing should slide freely in the bearing forks.
5. See Idler Roller on page 22 for cleaning instructions.

Panel Latch

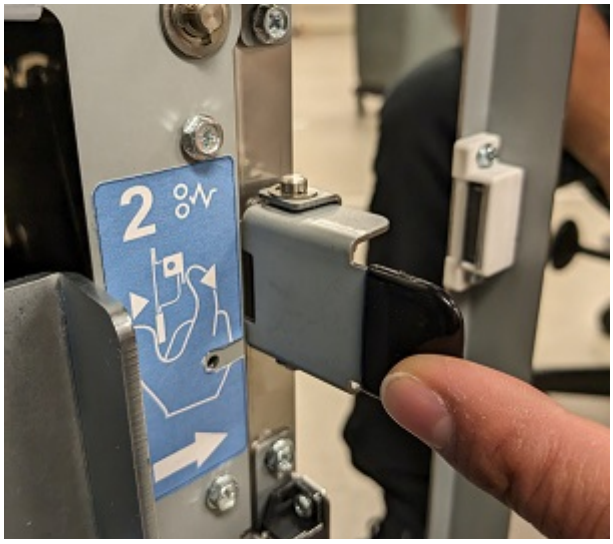
Magnetic latches on the entrance and exit idler panels and the upper bypass idler assembly hold the idler panels in place, which in turn keep even pressure on the idler rollers.

The latch for the acceleration idler panel ensures the acceleration panel remains firmly closed to keep even pressure on the acceleration idler roller. Inspect the latches every 1000K cycles.

1. Open the laminator door.

   When the idler panel is latched, the idler panel spacers (2 spacers for each idler assembly) should contact the drive panels completely.

   There should not be any movement in the idler assembly either toward or away from the drive panel.



2. Open and close the idler panel and confirm that the idler springs extend.

   This ensures proper idler roller pressure.



3. If necessary, follow the procedure to adjust the Idler Panel Magnetic Latches on page 249.

Paper Path Timing Belt

Inspect the timing belt every 100K cycles. There are seven (7) timing belts, five (5) of which are paper path.

Five of the belts at the rear of the frame have tensioner assemblies and it is these belts that should be checked.

1. Inspect all timing belts for wear, missing teeth, frayed edges, and cracks.
2. Check for proper deflection of belts.

   Belts should be slightly loose with approximately 1/4" deflection.

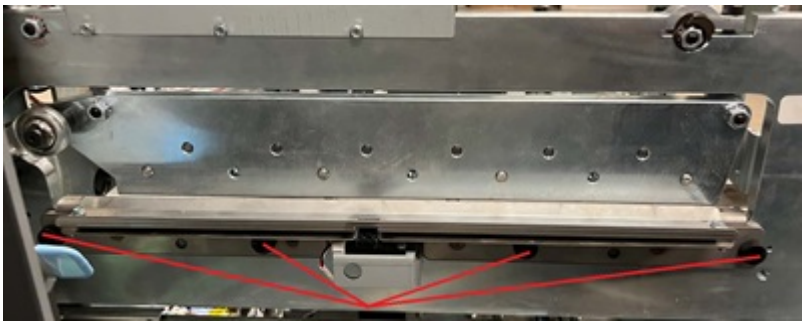
   Belts that are too loose will not drive properly and belts that are too tight can wear out prematurely or damage their driven components.
3. If replacement is necessary, see Timing Belts on page 160.

Cutter Blade

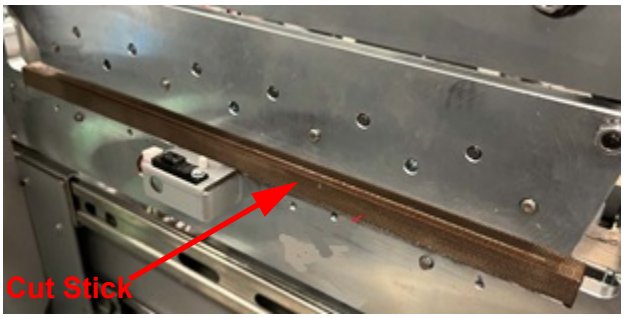
Inspect the cutter blade every 30,000 cycles.

WARNING: Do not perform any inspection with the power on or electrical power supplied to the machine.

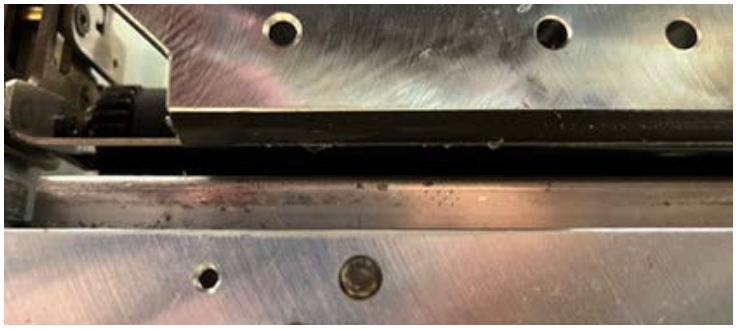
1. Open the laminator door and pull out the lamination drawer.
2. Remove the (4) thumbscrews holding the cutter baffle and set aside.



3. Remove the cut stick to view the blade.



4. Visually inspect the bottom edge of the blade, that is protruding downwards below the foam on the actuator arm, for the following:
   - Adhesive build-up on the edge, which may be in small chunks.
   - Small strands of plastic from the cut stick.
   - Bits of film that did not successfully purge from the machine.



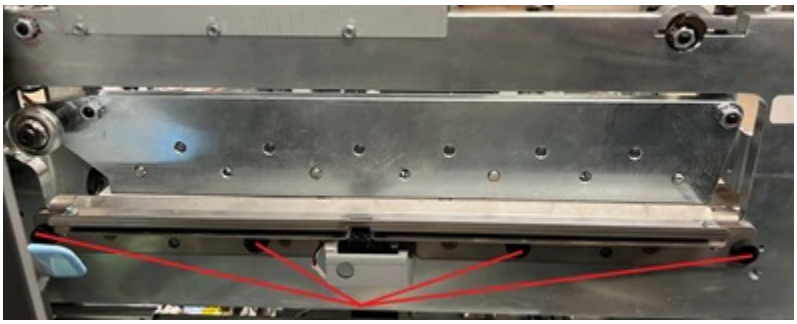
5. If any of the above is observed, follow the procedure to clean the Cutter Blade on page 37.
6. Follow the steps in reverse order to replace the various parts.
7. Connect the power cord.

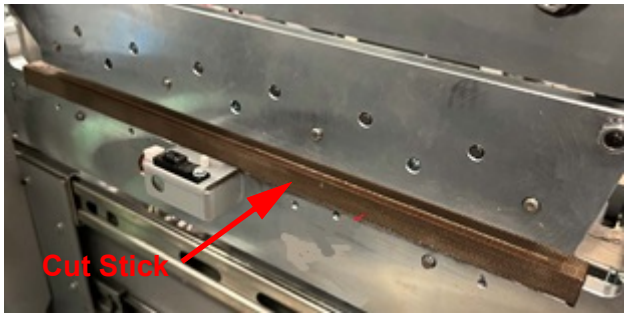
Cut Stick

Rotate the cut stick every 1,000 cuts following the instructions in the user manual. Replace after all four sides have been used.

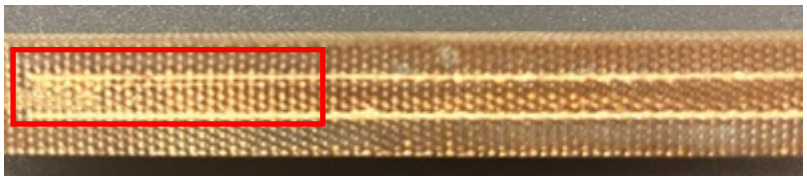
WARNING: Do not perform any inspection with the power on or electrical power supplied to the machine.

1. Open the laminator door and pull out the lamination drawer.
2. Remove the (4) thumbscrews holding the cutter baffle and set aside.





3. Remove the baffle and set it aside.
4. Remove the cut stick, keeping it in the same orientation that it was in the machine.
5. Inspect the cut groove (the one facing upwards and farthest away from you) for the following:
   - Multiple Grooves - There should only be one groove. If the stick or blade shifted during operation, then you may see multiple grooves parallel or intersecting each other. In this case, flip the cut stick to a new groove position or replace it Refer to Blade on page 183 to fix this issue.



   - Stick Material Fragments - As the groove expands over time it is normal for a small amount of material to break away from the edges. However, excess material can cause the cut to fail.

     Removing the excess material may repair the groove and allow additional cutting.

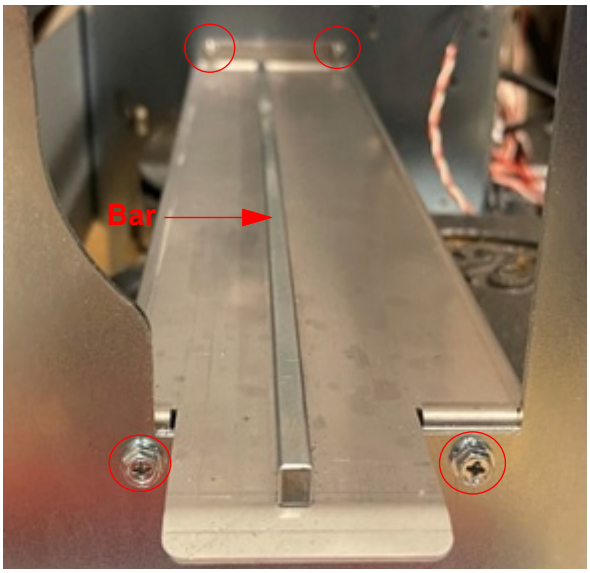


6. Follow the steps in reverse order to return the machine to working order.

Cartridge Rail

Inspect every 50K cycles.

1. Open the laminator door and pull out the lamination drawer.
2. Locate the cartridge tray and confirm that the bar is secure.
3. If the bar needs tightening, remove the (4) 7mm screws holding the tray..
4. Lift the tray up and tighten the (2) bottom screws.
5. Replace the tray and tighten the (4) 7mm screws.

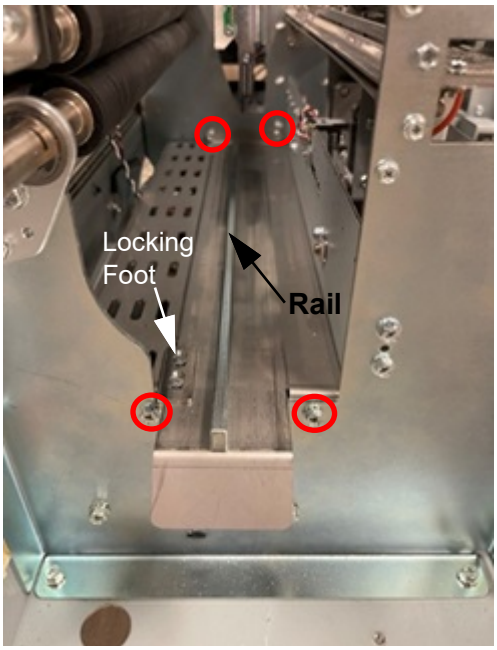


Cartridge Tray

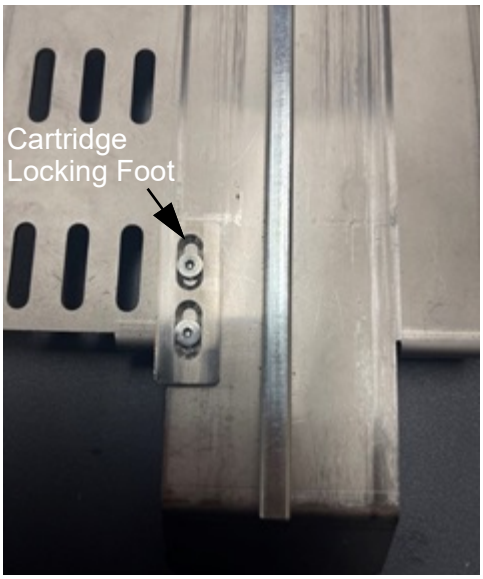
Inspect every 50K cycles.

1. Open the laminator door and pull out the lamination drawer.
2. Locate the cartridge tray and confirm that the rail and locking foot are secure.
3. If the rail needs tightening, remove the (4) 7mm screws.
4. Lift the cartridge tray up and locate the (2) 5.5mm screws at the bottom of the tray and tighten them.





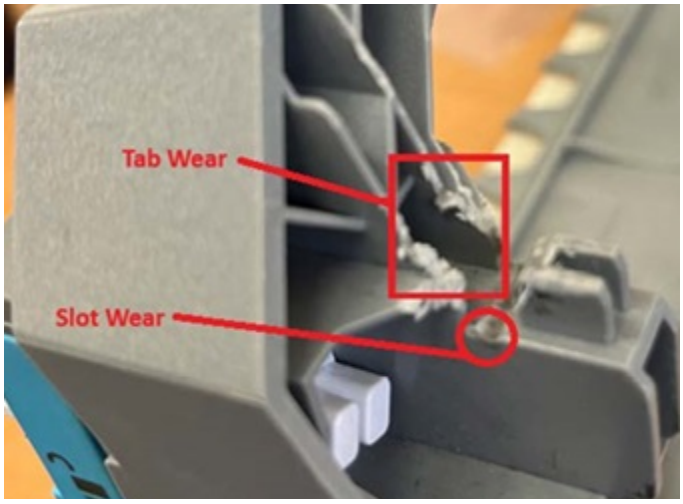
5. Replace the cartridge tray.
6. Confirm that the cartridge locking foot is secure. If the foot is loose use a 2mm Allen wrench to tighten the (2) socket screws.
7. If adjustment was made to the cartridge locking foot, ensure film alignment is correct.
8. If the alignment on the film is offset adjust the Cartridge Foot on page 239.
9. When the film alignment is correct resume normal operation.



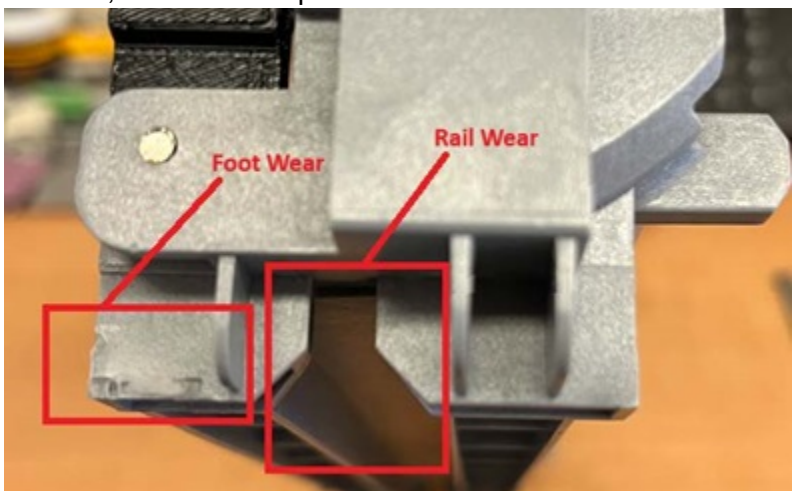
Cartridge Frame

There are specific areas of the cartridge frame that can wear over time and negatively affect the lamination performance of the machine. Follow the steps below to inspect the relevant areas of cartridge frame.

1. Inspect the frame from above to view the locking tabs.
   - The cartridge clamp will lower and lock into these tabs every time the cartridge is inserted and the handle is moved to the locked position. Over time, the tabs may wear to the point that they no longer can firmly hold the cartridge in place. Be sure to inspect the front and rear tabs.
   - If you notice that enough of the plastic tab has been worn off that the clamp could get caught on the edge of the tab, then replace the frame.
   - If you notice the slot at the bottom of the tab has worn down enough that the clamp can shift inside of the slot when in the locked position, then replace the frame.



2. Inspect the frame from the front to check the foot stop surface.
   - The cartridge is inserted into the drawer until it clicks into place behind the metal "foot". Over time, the plastic surface of the cartridge frame will wear down from repeatedly rubbing against the foot.
   - If you notice that the plastic near the foot position has worn enough that the foot does not hold the cartridge firmly in place when installed, it is time to replace the frame.

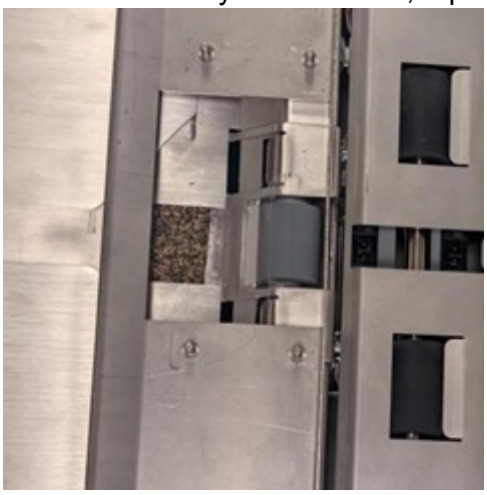


Pick Roller

1. Perform the repair procedure for Pick Roller Assembly on page 226 until the picker roller can be examined.
2. Examine the pick roller and takeaway roller assembly.
   - The rollers should rotate together.
   - The rollers should be smooth and gray.
3. If the pick roller is damaged, replace it (see Pick Roller Drive Rollers on page 231).

Clutch Roller

1. Perform the repair procedure for Pick Roller Assembly on page 226 to remove the pick roller assembly that covers the clutch roller.
2. Inspect the roller, which should be smooth and gray.
3. Check that the clutch roller rotates clockwise easily. If it does not, replace the Clutch Roller on page 228.



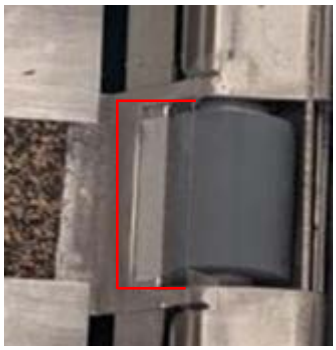
4. If the issue is not resolved, go to Feeder on page 266.

Mylar Pad

1. Follow instructions for Pick Roller Assembly on page 226 to remove the assembly that covers the mylar pad.
2. Inspect the mylar pad.

   The pad should be flat, touching the clutch roller, and adhered to the metal plate.

If that pad is not set correctly, replace it (see Mylar Pad on page 230).



Pressure Roller Bearing

1. Pull out lamination drawer and raise locking mechanism.





2. Check that the top pressure roller spins with easy by hand. Replace if there is resistance.
3. Check if the bearing is out of round.

   Roller should have very little movement in the bearing. Replace it if necessary.
4. Rotate the bottom roller by hand or with the knob.

   The roller should spin with ease.



5. Check the roller bearing for any movement or abnormal noise.

Some resistance is natural as this is also turning the motor. Replace it if necessary.

Troubleshooting

Use this chapter to troubleshoot the issue being reported by the customer. The links below show the sections relevant to the different problems, but you should always start with Initial Troubleshooting on page 56.

If after running through Initial Troubleshooting the issue is not resolved, return here to go to other sections. When following the troubleshooting procedures perform each step in order until the issue is resolved. Do not skip steps.

To help you locate components, part locators (PL x.y) are added which can then be found in Parts List on page 241.

Initial Troubleshooting 56
Advanced Jam Clearing 56
Roller Wraps 56
Lamination Quality 57
Film Refill 57
Paper Position 58
Film Alignment 61
Pressure Roller Line 61
Wrinkles 62
Curl 63
Poorly Sealed Edge 63
Incomplete Cuts 63
Angled Cuts 64
Bubbles / Trapped Particles 64
Dog Ears 65
Adhesive Marks 65
Operator Messages 66
Troubleshooting by LCD Message 67
Close Door 67
Check Cartridge 68
Trim Tray Out - Message 69
Trim Tray Out - No Message 70
Trim Tray Full 70
Troubleshooting by Error Code 72
E423: Unexpected Cut 72
E450: Check Cartridge 72
E451: Check Cartridge 72
Fault Codes 73
FAULT: PAPER AT CUTTER (S1B) 73
FAULT: NO FILM AT CUTTER 73
FAULT: SIZE MISMATCH (S20) 74
FAULT: LAMINATOR DRAWER OUT (SW3) 74
FAULT: NO SUPPLY 74
FAULT: TRIM PURGE BLOCKED (S29) 74
FAULT: PUSH IN STACKER (S21) 75
FAULT: FAILED TO PICK RESET STACK 75
FAULT: DOUBLE PICK 75
FAULT: SIZE MISMATCH (S16 or S20) 75
Power Faults 77
No AC Power 77
No DC Power 79
User Interface is Dark 81
Paper Jams 82
Checking for Obstructions 82
Cutter Jams 85
Clutch 86
Jam Codes 88
JBXX Jams 90
JFXX Jams 91
J1XX Jams 92
J2XX Jams 93
J3XX Jams 94
J4XX Jams 95

J5XX Jams 98
J6XX Jams 99
Jam: Cutter Knife Down 100
Resetting the Film Cartridge..... 101
Sensor Checks 103
Sensor Cables..... 104
Sensors S1 to S5, S25 to S27, S30, S31.... 106
Sensor 1B - Cutter..... 107
Sensors S6 to S10 109
Sensor S11 to S15 110
Sensor 21 110
Sensor S28 Align Home Sensor..... 111
Sensor S29 Trim Tray 112
Solenoid Checks 114
Solenoid SOL1, SOL8 114
Solenoid SOL6 114
Solenoids SOL2 - SOL3 114
Stepper Motor Checks 117
AC Motor Check..... 120
M6B Motor Stalling..... 121

Initial Troubleshooting

Always do this procedure first before making any adjustments or repairs to the machine.

1. Review the cut stick and blade cycle counts and note their values.
   - If the cut stick exceeds 1,000 cuts, rotate the cut stick following the procedure in the user manual.
   - If the blade exceeds 250,000 cycles, replace the Cutter Blade on page 37.
2. If the machine is functioning, but there are issues with the quality of the laminated output, refer to Lamination Quality on page 57.
3. Check the machine for error codes
   - If there is an error or jam code on the screen, go to page 54 to look for the section that corresponds with that code.
   - If no codes are on the screen, the last codes can be recovered from the log file.
4. Is there a Power Fault (No AC Power, No DC Power, No power to Control Board, Operator Panel Does Not Illuminate) go to Power Faults on page 77.
5. Is the problem one of the faults that does not generate a message on the Operator Interface (Cartridge Will Not Slide Out Easily, Drawer Will Not Pull Out).
6. Go to Advanced Jam Clearing on page 56.

Advanced Jam Clearing

Roller Wraps

A roller wrap can occur if the pressure rollers continue to drive the film when something has obstructed the paper path. S22 monitors the sheets leaving the cutter for lead and trail edges and will stop the laminator from operating if either edge does not appear when expected.

If the machine has repeated roller wraps:

- Perform the Area 4 check under Checking for Obstructions on page 82.
- Clean the Pressure Roller on page 26.
- Clean the Lamination Paper Path on page 30.
- Clean the Exit Panel (Inner) on page 28.

IMPORTANT: Do not use a blade to cut wrapped film off a roller as this can damage the roller.

To remove a roller wrap, follow the steps below.

1. Clear all jams outside of area 4 before attempting to clear the roller wrap jam.
2. Pull the lamination drawer out.

   If necessary, perform a cut from the LCD user menu open the drawer.

   Pulling the drawer out makes this operation easier but is not required. If the drawer cannot be opened due to the wrap, you can still follow the steps. Once the wrap Is partially resolved you should be able to open the drawer.

3. Use the manual advancement knob to rotate the pressure roller counter-clockwise.

   If the wrap occurred on only the lower pressure roller, disengage it using the locking lever. If the wrap occurred on the upper pressure roller, keep the cartridge lock down.

4. Continue to rewind the film until there is enough slack around the roller to get a grip on.

   The drawer should be able to be pulled out at this point if not previously.

5. Disengage the upper roller, if it is still engaged, and pull the slack out until the wrap is resolved.
6. Use a blade to cut the film between the pressure roller and the refill rolls.
7. Reseal the refill following the procedure in the user manual.
8. Resume normal operation.

Lamination Quality

This section will help resolve quality issues of laminated sheets. It does not detail how to clear jams or improve output quality on sheets affected by jams.

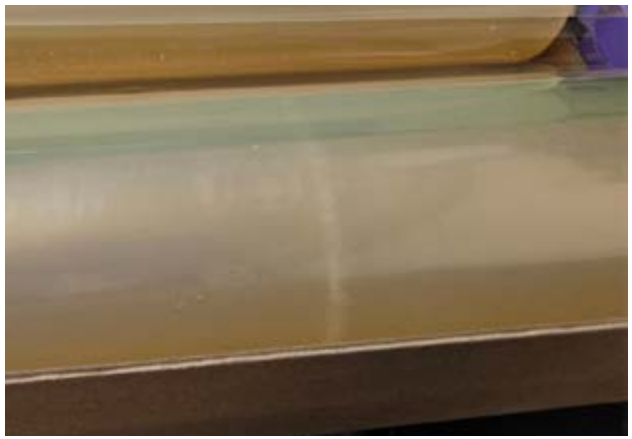
Use this section only to improve output quality on jobs that successfully make it through the finisher.

Film Refill

If the output from the machine has quality issues, then it is possible that the film refill itself is defective or installed incorrectly. Below are a few film refill quality issues to check before moving on in this section.

White Rings

White rings are caused by variances in the plastic thickness of the film supply. These rings are formed during the manufacturing process. Extra glue marks may occur on laminated sheets in the same position as the white rings on the spool. These glue marks are typically not very noticeable unless the white rings are wide. Glue marks will fade on the film roll within 24-48 hours.



Hub Position

Each refill cartridge has four plastic hubs that are pressed into the ends of the top and bottom spools. If these hubs are loose, the refill may not fit into the cartridge frame which can then cause the film to curl or overlap as it is pulled through the machine. Check that the hubs on the refill are tight against the spools with no gaps.



Paper Position

There are three different paper position checks:

- **Center Alignment** - Sheet centering in the cross-path direction
- **Margin** - Lead edge and trail edge margins
- **Skew** - Paper angle with respect to the lamination film

Center Alignment

If the center alignment of the laminated sheet is incorrect, there are two methods to adjust it. The first method is to use the Center Alignment Screen inside of Settings on the LCD:

1. Measure how far you would like to shift the paper sheet frontwards or backwards relative to the film position.
2. On the Home screen, tap **Settings**.
3. Tap **Alignment**.
4. Enter the adjustment value inside the box at the bottom of the screen.

   A positive adjustment will shift the sheet towards the back edge of the film. A negative adjustment will bring the sheet close to the front.
5. Click the **check mark** to confirm the adjustment.
6. Run an additional sheet and measure the updated alignment.
7. Make further changes to the adjustment value as needed.

   If you maxed out the adjustment value (+/-4mm), then adjusting the magnet, which is the second method, will be necessary. Shifting the cartridge stop magnet's position either forwards or backwards will shift the position of each sheet inside the film. See Cartridge on page 238.

Margin

There are two margin adjustment options under Settings:

- First Sheet Lead Edge Margin
- Lead and Trail Edge Margins

Before you make these adjustments, check the machine for inconsistent margin. Inconsistent margin can be caused by insufficient tension on the Pressure Roller Idler. If multiple sheets from the same job all have different margin measurements, then an adjustment using the LCD in the following sections will likely not help.

First attempt to tighten the belt by following the Pressure Roller Idler on page 243 Adjustment. Once the margin is consistent between sheets, then proceed to dial in the gap size as detailed in the following procedure.

First Sheet Lead Edge Margin

The margin adjustment for the lead edge of the first sheet is in a different menu than the other margin adjustments. This is because the first sheet is tied to the purge operation, so it needs to be controlled on its own.

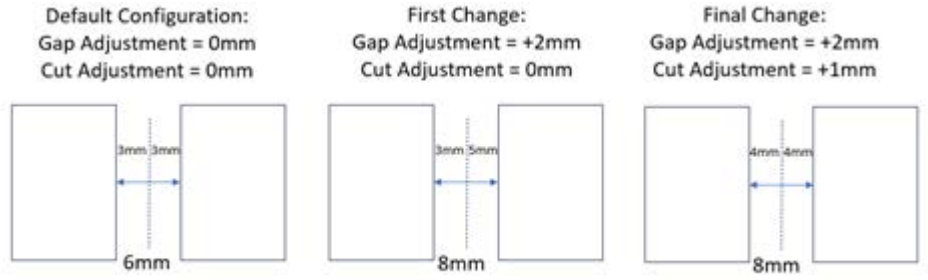
1. Go to the Settings menu and select **First Sheet**.
2. Measure the current gap size on the lead edge of an outputted sheet between the edge of the film and the paper.

   It should be 4mm.
3. If the measured value is not 4mm, then enter the adjustment needed inside of the X box as a +/- value.
4. Press the confirm button, then run another sheet to check the adjusted sheet output.
5. Continue to make adjustments until you reach 4mm.

Lead and Trail Edge Margins

Use this adjustment to change the gap between edge of film and edge of laminated sheet in direction of paper flow. This setting applies to all sheets except for the first sheet lead edge, which can be adjusted using the “First Sheet Lead Edge Margin” above.

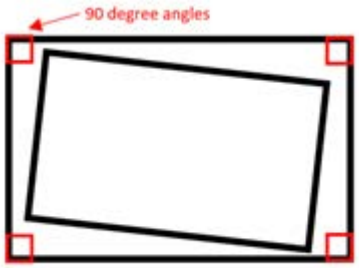
1. Go to the Settings menu and select **Margin**.
2. Measure the lead and trail edge gaps on an outputted sheet.
3. Enter the current values inside the respective A (LE) & B (TE) boxes.
4. Select the confirm check button and the Laminator G4 will automatically calculate the adjustment needed to set both gaps to their 4mm specification.
5. Run a new sheet through the laminator.
6. Measure the margins on the new sheet and enter the A/B values to define the margin setting even further.
7. If the margins are still not correct after multiple A/B adjustments, then instead of entering values inside of the A & B section, edit the Gap and Cut boxes (located towards the bottom of the screen). Use the example below to understand how Gap and Cut Adjustments function and can be used to make small changes to the sheet margin.



Possible example showing how to adjust margin from 3mm to 4mm on lead and trail edges.

Skew

If laminated sheets are turned at an angle inside of the film then they are skewed and a skew adjustment is required. Ensure this is a skew problem and not an angled cut problem by inspecting an outputted sheet. Check that the corners where the film was cut are 90 degrees. If they are drastically off-square, refer to Angled Cuts on page 64.



Sheet skewed along its length.

If the cut appears square, proceed with the following skew adjustment steps.

1. Go to the Settings menu and select **Skew**.
2. Use the +/- buttons to edit the current skew value.

   More positive will turn the sheet clockwise inside of the film. A more negative value will turn the sheet counter-clockwise.
3. Continue to make small adjustments of around 0.5 at a time, running a few sheets to test how the output is changing with each adjustment, until the skew on the sheet is correct.

If skew is correct on the lead edge of the sheet, but the trail edge of the sheet still seems skewed on longer paper sizes, then you may need to make a further adjustment to the machine.

Follow the procedure Locking Mechanism Springs on page 263 to make adjustments.

NOTE: The springs need to be set to the exact same compressed length on both sides of the locking mechanism or the sheet will skew as it runs through the rollers.

Test a few more sheets after adjusting the locking mechanism springs to ensure the rear of the sheet is no longer skewed.

Film Alignment

Use this procedure if the top and bottom layers of film on an outputted sheet are misaligned. When misalignment occurs the adhesive on the of the film layer will be exposed on the front and rear edges. Touch the front/rear edge of a laminated sheet to see if you can feel the adhesive on the sheet.

1. Remove the current film supply from the cartridge frame and re-seat.

   It is possible the cartridge was not completely seated into the cut-outs and was in the incorrect position during lamination.

2. If the misalignment persists, swap the current film with a different roll.

   On rare occasion, supply may be manufactured incorrectly creating a misalignment. If a new cartridge refill fixes the problem, then the issue is not related to the machine itself, but rather a defective film refill.

3. If multiple film supplies are all experiencing identical film misalignment, Stop Magnet on page 238 will need to be adjusted.

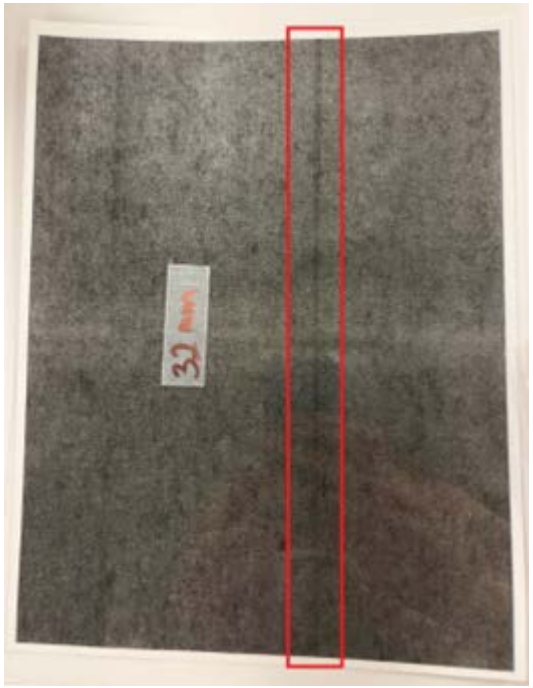
   If the bottom layer of film is exposed in the front (sticky portion facing up), then you will need to tilt the top of the magnet toward the user. If the top layer is exposed (sticky portion facing down), tilt the bottom of the magnet away from the user.

4. After adjusting the cartridge tilt, you will need to also perform Stop Bracket on page 239 and Cartridge Foot on page 239 adjustments in order to ensure the cartridge is held tightly in place with the new magnet stop position.



Pressure Roller Line

The pressure roller line is caused by the sheet stopping briefly inside the pressure rollers during lamination. This behavior is normal and the line cannot be eliminated completely. The line is more noticeable on darker paper and prints.



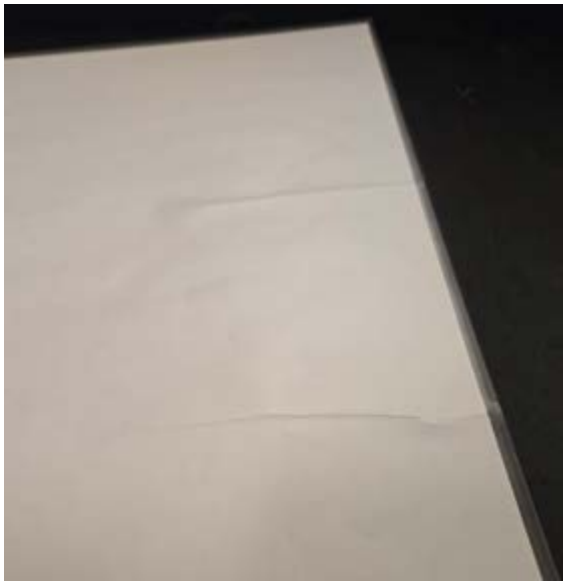
If the line is excessively thick, it can be improved by loosening the locking mechanism springs slightly ~1-2mm. Follow the adjustment procedure for Locking Mechanism Springs on page 263.

IMPORTANT: Ensure the springs are set to the same height when the adjustment is completed.

Wrinkles

Paper

These wrinkles appear as small creases in the paper inside of a laminated sheet. The film may still appear smooth on top of the creases inside. This issue is connected to the pressure rollers for which the pressure along the rollers may be inconsistent and cause the sheet to bow inwards as it runs through them.



1. Inspect the rollers for damage (see Pressure Roller on page 26).
2. If any damage is present on the rubber surface, replace the damaged roller (Lower or Pressure) using the repair procedure Rollers - with Sensor on page 209.
3. If no damage is present, but the rollers appear dirty or have small bits of debris stuck to the rubber, clean the roller (see Pressure Roller on page 26).
4. Check that the toggle springs are set correctly by referencing the adjustment procedure for Locking Mechanism Springs on page 263.

Film

Wrinkles to the film can often occur after installing a new film refill. Occasionally the pressure rollers need to run a few meters of film before the film smooths out again. If a sheet is sent through the system before getting the wrinkles out of the film, the machine will likely jam around the cutter area.



1. Check that the film can be fed through the pressure rollers, underneath the cutter blade, and out of the cutter outfeed baffle using the manual adjustment knob.
2. If the above step is not possible, back the film out of the machine and refer to the procedure on Resetting the Film Cartridge on page 101.
3. Once wrinkled film passes through the paper path successfully, go to the User Functions menu on the LCD and run the “Film Proof Test” commands one at a time to run the film through the system until the wrinkles all disappear.

   Opening and closing the locking mechanism between proofs can help this issue resolve more quickly. Be sure to inspect for improvement and remove the proof portion in section 4 of the machine between each command.

Curl

Cross Path

Cross path film curl can be caused by a defective film supply. Try switching to a new film supply refill. If the issue persists, follow the recommendations in the “Film Flow Curl” section below.



Film Flow

Unlike cross path curl, film flow curl is not usually caused by the film supply. Curl in the direction of the film flow will require a machine adjustment – specifically, the locking mechanism & pressure rollers.



1. Inspect and clean the Pressure Roller on page 26.
2. Check that the pressure rollers come together evenly in the engage handle position. Make sure there are no obstructions between the rollers.
3. If the toggle mechanism seems loose, remove it from the lamination drawer following the removal procedure for the Locking Mechanism on page 212. Also check if other components are loose and need to be tightened.
4. Check that the toggle spring lengths are accurate and even following the procedure Locking Mechanism Springs on page 263.
5. If there is a large amount of film misalignment (>1mm), then attempt to resolve this by referencing Film Alignment on page 61.
6. After making adjustments and repairs, run a new job to check if the curl has been eliminated.

Poorly Sealed Edge

A poorly sealed edge can be caused by insufficient roller pressure. Reference Locking Mechanism Springs on page 263 for information on increasing the spring pressure.

Incomplete Cuts



An incomplete cut will result in a machine jam because the front sheet will not be able to separate from the laminated sheet behind it. A J422-No Trail Edge Jam error message is another indicator that the machine may not be cutting the sheets completely.

1. Go to the Settings menu and select **Cut Stick**.

   If this value is over 1,000 the cut stick surface needs to be changed. Refer to Cut Stick on page 48 for information on inspecting and changing to a new cut stick surface.

   If the value is not to 1,000 cuts, then follow the steps below until the problem is resolved.

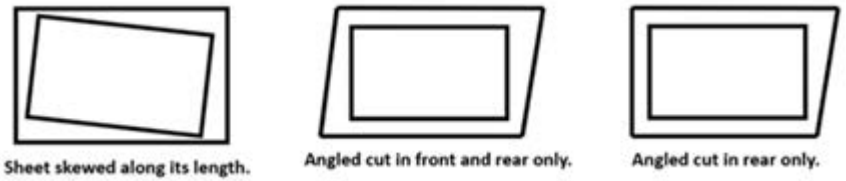
2. Take the cut stick out of the machine (follow instructions for Cut Stick on page 48) and measure the thickness of the stick at 5 points along its length using calipers or a micrometer.
3. Ensure the stick is between 12.4-13.0mm in all points.

   If the stick does not conform to these measurements it is defective and should be replaced.

4. Inspect the stick for signs of damage or imperfections along the surface (besides the groove itself).
5. If the cut is missing on one end of the sheet, follow the procedure for Pivot on page 256.
6. If the cut is missing in the center, tighten the connecting rod spring slightly using the procedure Connecting Rod Spring on page 259.

Angled Cuts

An angled cut is linked to skew. There are three options below that could describe the specific angle cut situation you are experiencing.



1. If the sheet is skewed all the way across its length, adjust the Skew on page 60.
2. If the sheet is skewed only in the rear of the sheet, but not in the front, then a locking mechanism spring pressure adjustment may be required (see Skew on page 60).
3. If the lead edge and trail edge cuts are angled, but the sheet is not skewed in the middle (along its length), then a physical adjustment to the cutter may be required.
   - Ensure the pivot on the cutter is flush with the frame (see Pivot on page 256). If the film is cutting successfully on both edges, but is missing in the middle, then a pivot adjustment is no longer required. Instead, the connecting rod length or spring length must be adjusted. See Connecting Rod Spring on page 259.
   - Ensure the cutter links are tight by referencing Clutch on page 181.

Bubbles / Trapped Particles

Bubbles or trapped particles in the film can look like glue marks at first. However, unlike glue marks, these bubbles will not fade over time. Bubbles are caused by small particles getting in between the two layers of film and preventing the film from sealing smoothly. The issue is most likely a defective film supply due to the film manufacturer not using a clean room, which then allows particles to enter the film rolls during the manufacturing process.

To ensure that particles are not being introduced during the lamination process:

NOTE: The trim tray pieces can have small pieces of debris that may have been cleared at the start of the job or entered the tray during storage. Do not worry about dust/debris on film pieces inside of the trim tray.

1. The pressure rollers should routinely be inspected for dirt or debris and cleaned using the procedure for Pressure Roller on page 26 to ensure none of these particles are entering the film during the lamination process.

2. Clean the sheet metal parts following the procedure for the Lamination Paper Path on page 30.
3. If running from the feeder, inspect the pick roller following Pick Roller on page 42.

Dog Ears

Dog ears can be identified as a folded corner on the lead edge of a sheet.

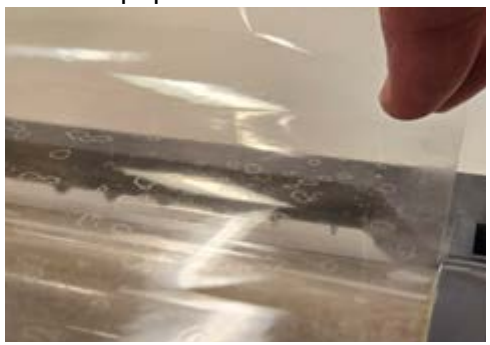


These usually occur when a sheet hits a small obstruction in the paper path but is still able to make it through the machine without jamming. Most dog ears are caused in area 3 of the machine. Try these two physical adjustments in the order listed:

- Adjust the curved panel height, see Paper Path on page 242.
- Adjust the Drawer Switch on page 262.

Adhesive Marks

Adhesive marks (glue marks) can appear as small circles on the surface of the film. These marks will disappear on their own within 24-28 hours after laminating a sheet of paper.



Operator Messages

The LCD will display status messages and fault codes.

For each message, perform the initial action. If the initial action does not resolve the issue, proceed to the that message's trouble shooting procedure.

Message	Description	Initial Action
CLOSE DOOR	The laminator door is open.	Close the front door. If the message does not go away, check alignment for the Lamination Drawer on page 261.
READY	The system is ready.	Proceed as normal.
BYPASS MODE	The system has been put into bypass mode through the user settings.	Turn off bypass mode in the user settings.
CHECK CARTRIDGE	Indicates the machine cannot detect the cartridge chip.	Remove the cartridge and reinsert it. See Check Cartridge on page 68
TRIM TRAY OUT	The trim tray has not been inserted all the way.	Open the door, reseat the trim tray, and then close the door. See Trim Tray Out - Message on page 69 or Trim Tray Out - No Message on page 70.
TRIM TRAY FULL	The trim tray is full and required emptying.	Open the door, remove and empty the trim tray, reinstall the tray, and close the door. See Trim Tray Full on page 70.
LOAD PAPER	This message appears when paper is not detected in the feeder tray.	If paper is loaded, check S16 using Sensor Checks on page 103. If the error continues, escalate to next level support.
FILM TOO LOW	This message is displayed when the roll had less film than can be run. When in printer mode, this limit is higher to prevent jams. Running in feeder mode will let you use more of the remaining film on a roll..	Replace the refill.

Troubleshooting by LCD Message

Close Door



WARNING: Moving Parts, keep hands clear of nips and belts when the Interlock Cheater is inserted.

1. Check that the laminator door is closed.
2. Open the laminator door. Insert an interlock cheater in the laminator door interlock switch.
   - If the message is cleared, adjust the Door Latch on page 235.
3. If the error cannot be cleared with interlock cheaters in the interlock, remove the Rear Cover on page 125.
4. Check that the interlock cable (7725566) is connected to J8 of the main control board.
5. Remove the Feeder Rear Cover on page 125.
6. Check that the interlock cable (7726010) is connected to the panel mount connector on the side of the laminator and to J10 on the NFX board.
7. Follow the steps for Laminator Interlock Switch on page 130.
8. See Firmware Update / Save Logs on page 15 to re-flash the firmware.
9. Check the cables 775566, 7726010 for continuity. Replace the cables that fail the inspection.
10. Replace the NFX Board 7726150.
11. Replace the main control board 7729821.

Check Cartridge

The CHECK CARTRIDGE message indicates that the film cartridge is either missing or not fully installed.

1. Open the laminator door and remove and re-insert the film cartridge so that contact is made between the film chip board and the chip reader.

This clears the fault.

Yes- Return to normal operation; **No**- Go to step 2

2. Replace the film cartridge with a new one.

This clears the fault.

Yes- Return to normal operation; **No**- Go to step 3

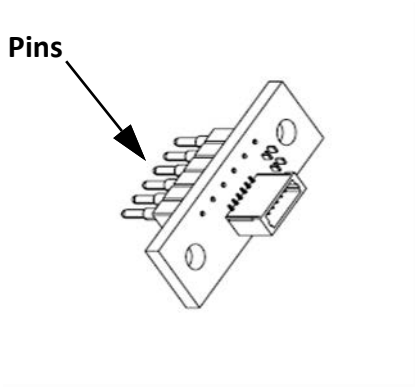
3. Remove the cartridge and check that the pins on chip reader are not damaged or missing.

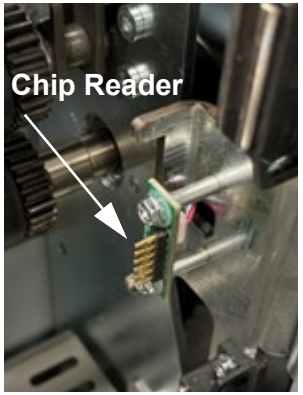
Pins are missing or damaged.

Yes- Replace the Chip Reader on page 222; **No**- Go to step 4

4. Is the chip reader loose on the bracket.

Yes- Secure board on the bracket; **No**- Go to step 5





5. Remove the Rear Cover on page 233, locate the chip reader and confirm that the connection is properly seated.

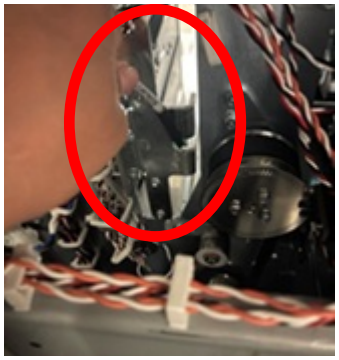
Yes- Connection is secure; **No**- Fully seat the connector.



6. Locate the Chip Reader cable 7725161 and check the continuity to ensure the wire is not faulty.

Continuity test fails.

Yes- Replace the cable; **No**- Go to step 7





7. Perform the adjustment for the Stop Magnet on page 238. If the error message remains proceed to step 8.
8. Perform the adjustment for the Rail Height on page 241.
9. If the error message remains, follow instructions to replace the Chip Reader on page 222.
10. If the error message remains, follow instructions to replace the replace the Main Control Board on page 221 (PL 6.1).
11. If all of the above actions have been executed and the message still remains, escalate to next level of support.

Trim Tray Out - Message

This message is displayed when the trim tray is removed from the machine or when the trim tray is not fully inserted.

1. Open the laminator door and insert the trim tray firmly.

This clears the fault.

Yes- Return to normal operation; **No**- Go to step 2

2. Inspect the spring clip on the trim tray home switch. If the spring clip is broken, replace the Trim Tray on page 190.

This clears the fault.

Yes- Return to normal operation; **No**- Go to step 3

3. Do a firmware upgrade (see Firmware Update / Save Logs on page 15).

Re-flashing the firmware clears the fault.

Yes- Return to normal operation; **No**- Go to step 4

4. Replace the Trim Tray on page 190.

This clears the fault.

Yes- Return to normal operation; **No**- Go to step 5

5. Replace Cable (7725565) See Wiring on page 273.

This clears the fault.

Yes- Return to normal operation; **No**- Replace the Main Control Board on page 221.

Trim Tray Out - No Message

The trim tray is out of the machine but no message is displayed.

1. Make sure the (2) spade connectors to the trim tray home switch are securely inserted. (See Trim Tray on page 190)

Connectors are securely connected.

Yes- Go to step 2; **No**- Securely connect the (2) spade connectors

2. Remove the Rear Cover on page 125 and check that cable 7725565 is connected to J27 at the main control board (See Wiring on page 273)

   See the Sensor Cables on page 104 for cable numbers.

The connection is good.

Yes- Go to step 3; **No**- Make the connection and return to normal operation.

3. Do a firmware upgrade (see Firmware Update / Save Logs on page 15).

Re-flashing the firmware clears the fault.

Yes- Return to normal operation; **No**- Go to step 4

4. Replace the Trim Tray on page 190.

This clears the fault.

Yes- Return to normal operation; **No**- Go to step 5

5. Replace Cable 7725565 (see Trim Level Emitter on page 191 and Trim Level Receiver on page 191.

This clears the fault.

Yes- Return to normal operation; **No**- Replace the Main Control Board on page 221.

Trim Tray Full

The “Trim Tray Full” message is displayed when the trim fill capacity is exceeded.

1. Remove the trim tray and empty the trim scraps.

This clears the fault.

Yes- Return to normal operation **No**- Go to step 2

2. Remove the trim tray and check if the trim level emitter and trim level receiver are plugged in.

The trim level emitter and receiver are located in the trim tray cavity in the lower portion of the front frame. See Trim Level Emitter on page 191 and Trim Level Receiver on page 191 for more details.

The connections are good.

Yes- Remove the Rear Cover on page 125 and go to step 4;
No- Make the connection and return to normal operation.

3. Check if cable 7725565 is connected to J27 at the Main Control Board (see Wiring on page 273).

The connection is good.

Yes- Go to step 5; **No**- Make the connection and return to normal operation.

4. Perform the S29 sensor check on page 112.

5. Do a Firmware Upgrade (see Firmware Update / Save Logs on page 15) to re-flash the firmware.

Re-flashing the firmware clears the fault.

Yes- Return to normal operation; **No**- Go to step 6

6. Replace the Trim Level Emitter on page 191.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 7

6. Replace the Trim Level Receiver on page 191.

This clears the fault.

Yes- Return to normal operation; **No**- Go to step 8.

7. Replace cable 7725565 (See Wiring on page 273)

This clears the fault.

Yes- Return to normal operation; **No**- Replace the Main Control Board on page 221.

Troubleshooting by Error Code

Fault	Sensor	Details
E423: UNEXPECTED CUT	S23	This error is displayed if S23 detected a second rotation of the cutter flag. This should not cause a jam, but if a jam occurs and this was detected, this error message should be displayed instead of whatever caused the jam. This should also be saved to the log file.
E450: CHECK CARTRIDGE	Chip Reader	This indicates the wrong supply is being used.
E451: CHECK CARTRIDGE	Chip Reader	This indicates there was a read error on the cartridge.

E423: Unexpected Cut

This error occurs when a J423 NO FILM AT CUTTER jam occurs accompanied by the KNIFE HOME position sensor S23 detecting an extra activation of the cutter. When these jams occur, they will be logged in the log file.

1. Perform the cleaning procedure for the Cutter Clutch on page 34.
2. Troubleshoot the clutch for damage, see Sensor Checks on page 103.
   - If damage is present, replace the Clutch on page 181 (PL 4.1).
3. If the problem persists, escalate to the next level of support.

E450: Check Cartridge

This error occurs when the film meant for a different model the laminator is inserted into the machine. See Check Cartridge on page 68.

E451: Check Cartridge

This error occurs when the chip reader cannot read the chip on the refill. See Check Cartridge on page 68.

Fault Codes

Fault	Sensor	Details
FAULT: PAPER AT CUTTER	S1B	S1B is detected as blocked.
FAULT: SIZE MISMATCH	S16 or S20	S16 or S20 (feeder mode) measure the first sheet as the incorrect size.
FAULT: SIZE MISMATCH	S20	When a sheet fed is not a valid size.
FAULT: DOUBLE PICK CLEAR AREA 1	S20	S20 measured a sheet longer than the expected sheet length.
FAULT: PUSH IN STACKER	S21	S21 does not detect the drawer flag.
FAULT: TRIM TRAY FULL	S29	Film is detected protruding above the trim tray. Cleared after the SW2 cycles, S29 is unblock, and the interlock has cycled.
FAULT: TRIM PURGE BLOCKED	S29	Film or paper is detected protruding above the trim tray at an unexpected time. Cleared after S29 is unblocked and the interlock is cycled. (SW2 does not need to be cycled to clear).
FAULT: FAILED TO PICK RESET STACK	S30	S30 did not detect the sheet entering.
FAULT: INSERT TRIM TRAY	SW 2	SW 2 switch does not detect the bin.
FAULT: PUSH IN LAMINATOR	SW 3	SW 3 switch does not detect the lamination drawer.
FILM TOO LOW		The film remaining in the refill is less than the FEEDER FILM LOW level in feed mode.
FAULT: LAMINATOR DRAWER OUT	SW 3 Open	SW3 does not detect the laminator as closed.

FAULT: PAPER AT CUTTER (S1B)

This occurs when a jam condition is not completely cleared. Advance the knob on the lamination drawer until the message is cleared and then advance the knob one additional rotation. Perform a cutter cycle and remove the sheet from Area 5.

FAULT: NO FILM AT CUTTER

This fault occurs when S24 does not detect the laminate when performing an initial feed

1. Check that the cartridge is loaded correctly.
2. Perform the sensor check for S24
3. Check M8 functions by performing a Trim Film & Eject user function.
4. Escalate to the next level of support.

FAULT: SIZE MISMATCH (S20)

1. This message appears when the sheet sent from the feeder does not match the size set on the feeder.Check that the size set on the feeder screen matches the paper being used.
2. Check that the laminator is set to the correct paper type (ANSI/ISO) in the user menu.
3. When operating in feeder mode, a double pick on the first sheet can cause this to occur. This will be evident by the presence of two over-lapping sheets in the bypass panel. If this occurs repeatedly, even when the feeder is loaded correctly, go to (FAULT: DOUBLE PICK on page 75). If this does not resolve the issue, proceed to step 7.
4. When this occurs in feeder mode, check if the paper is feeding from the feeder tray is skewed; which can be determined by watching the sheets as they feed from the tray. Skewed sheets will twist in the tray, and a wave will appear in them. If this occurs, check and correct the Skew on page 60.
5. When this occurs in feeder mode, check S20 following steps found in Sensor Checks on page 103.
6. Check the voltage on the main control board following the steps in No DC Power on page 79.
7. Escalate to next level support.

FAULT: LAMINATOR DRAWER OUT (SW3)

This fault occurs when switch 3 detects that the laminator drawer is out when the door is closed.

1. Check for anything that may be obstructing the drawer's travel from engaging the drawer catch.

   If the drawer catch is not engaging, clear the obstruction.
2. Pull out the drawer and push it back firmly.
3. Perform the Alignment Pin on page 261 adjustment procedure.
4. Adjust the Drawer Switch on page 262.
5. If the switch is being pressed, but the machine is not recognizing as closed, replace the switch (7301296 on PL 5.1).
6. Check the cable continuity of cable 7725510. Replace if needed. See Wiring on page 273.
7. Replace the Main Control Board on page 221.
8. Escalate to the next level of support.

FAULT: NO SUPPLY

This occurs when the machine cannot detect a film supply.

Perform the steps for Check Cartridge on page 68.

FAULT: TRIM PURGE BLOCKED (S29)

This occurs when film or paper is detected protruding above the trim tray at an unexpected time. To clear this S29 must be unblocked when the interlock is cycled.

If this cannot be cleared, or occurs when nothing is blocking the sensor, perform the procedures in Trim Tray Full on page 70.

FAULT: PUSH IN STACKER (S21)

This occurs when the sensor does not detect the stacking tray in the full back position. This fault is meant to prevent jams caused by exiting sheets hitting the sheet guides. If simply pushing the tray in does not resolve the fault, follow these steps:

1. Check sensor S21 using steps found in Sensor Checks on page 103.
2. If the sensor works, perform the adjustment for Sensor 21 on page 269.
3. Check the tray rail for any obstruction or damage that would prevent the tray from closing.

   If the rail is damaged, replace it following Stacker Rails on page 134.

FAULT: FAILED TO PICK RESET STACK

This occurs when S30 does not detect a sheet in the expected time after M10 starts. If this repeats consistently, perform the following steps:

1. Check sensor S30 using steps found in Sensor Checks on page 103.
2. Test the M10 following the procedure in Motors on page 12.
3. Inspect the clutch and pick rollers following Pick Roller on page 42 and Clutch Roller on page 52.
4. Perform the adjustment for the Feeder on page 266.

FAULT: DOUBLE PICK

This occurs when S20 measures the length of a sheet fed from the feeder as longer than expected.

1. Check if the sheet that triggered the jam (just after S20) was a double fed sheet.
   - If it was, go to Feeder Idler Roller on page 266.
   - If the sheet was not a double pick, continue here.
2. If the feeder is skewing the sheets, they will measure as longer. This can best be noticed by watching the sheets as the feeder picks them.
   - See Skew on page 60.
3. Inspect sensor S20 using steps found in Sensor Checks on page 103.
4. Perform the procedure for JFXX Jams on page 91.
5. Perform the adjustment for the Feeder on page 266.

FAULT: SIZE MISMATCH (S16 or S20)

This occurs when the measured length of the first sheet of a job does not match the size set on the screen for the feeder. If this repeats consistently, check the following:

1. Check if the actual size of the sheet matches the size set on the printer, resolve the mismatch and continue running.
2. See if the sheet that triggered the stop part of a double pick.

   If two sheets are fed together overlapping for the first sheet in a job it will read it as a size mismatch. See FAULT: DOUBLE PICK on page 75.
3. Check if the sheet was skewed.

   Excessively skewed sheets can cause the sensors to measure them longer than they are.

   a. If the fault is caused in printer mode, resolve the skew on the upstream devices and retest.

   b. If the fault is caused in feeder mode, see Skew on page 60.
4. Check sensors S16 or S20 using steps found in Sensor Checks on page 103.

5. Perform the steps for JBXX Jams on page 90 for printer size mismatches and J1XX Jams on page 92 and JFXX Jams on page 91 for feeder mismatches.

Power Faults

No AC Power

The UI does not illuminate and the laminator does not operate.

1. Check that the power cord is attached to the AC filter on the rear of the machine.

Power Cord is attached to AC Filter.

Yes- Go to step 2; **No**- Attach the power cord.

2. Check that the power cord is properly plugged into the wall.

Power Cord is plugged into the wall.

Yes- Go to step 3; **No**- Plug in the power cord.

3. Disconnect the power cord from the power source and check for input voltage - 110 VAC (60 Hz) or 240 VAC (50 Hz) - at the power receptacle.

AC power is present at the receptacle.

Yes- Go to step 4; **No**- If there is no power at the outlet, ask the customer to call an electrician to restore the AC power.

4. Reconnect the power cord to laminator.
5. Check that ground wire (7715525) is connected to the ground and to the AC filter.

Ground wire is connected.

Yes- Go to step 6; **No**- Connect the ground wire.

6. Check that cable 7715498 is connected at the AC filter.

Cable is connected at the AC filter.

Yes- Go to step 7; **No**- Connect the cable.

7. Check that cable 7715498 is connected to the communication board at pin J14.

Cable is connected to the communication board.

Yes- Go to step 8; **No**- Connect cable 7715498 to the communication board.

8. Check the fuse on the communications board.

Fuse is okay

Yes- Go to step 9; **No**- Replace the fuse.

9. Check that wire 7715494 is connected to pin J15 on the communications board.

Wire 7715494 is connected to pin J15 on the communications board.

Yes- Go to step 10; **No**- Connect wire 7715494 to pin J15 on the communications board.

10. Check that wire 7715494 is connected to pin J4 on the control board.

Wire 7715494 is connected to Pin J4 on the control board.

Yes- Go to step 11; **No**- Connect wire 7715494 to pin J4 on the control board.

11. Check for input voltage - 110 VAC (60 Hz) or 240 VAC (50 Hz) - at the AC filter.

There is AC power at the AC filter.

Yes- Go to step 12; **No**- Replace the AC power cord to the AC filter.

12. Check for input voltage - 110 VAC (60 Hz) or 240 VAC (50 Hz) – on cable 7715498 at the AC filter (BRN & BLU wires).

There is AC power on Cable 7715498 at the AC filter.

Yes- Go step 13; **No**- Replace AC Filter on page 220.

13. Check for input voltage - 110 VAC (60 Hz) or 240 VAC (50 Hz) – on cable 7715498 at the pin J14 on the communications board (BRN & BLU wires).

There is AC power on Cable 7715498 at Pin J14 on the communications board.

Yes- Go to step 14; **No**- Replace cable 7715498.

14. Check for input voltage - 110 VAC (60 Hz) or 240 VAC (50 Hz) – on cable 7715494 at pin J15 on the communications board (BLU & BRN wires).

There is AC power on cable 7715494 at Pin J15 the communications board.

Yes- Go to step 15; **No**- Replace Communication Board on page 222.

15. Check for input voltage - 110 VAC (60 Hz) or 240 VAC (50 Hz) – on cable 7715494 at pin J4 on the control board (BLU & BRN wires).

There is AC power on Cable 7715494 at Pin J4 the control board.

Yes- Replace the Main Control Board on page 221; **No**- Replace cable 7715494

No DC Power



WARNING: Moving Parts, keep hands clear of nips and the belts when the Interlock Cheater is inserted.



DANGER: HIGH VOLTAGE Do not touch the open terminals of the power supply or any other connector with the AC power cord connected. The machine components contain dangerous electrical voltages that can result in electrical shock and possible serious injury.

1. Remove the Rear Cover on page 125.
2. Plug in the AC power cord and turn the AC power switch to ON.
3. Check the LEDs on the control board.
   - With the laminator door closed there will be (4) LEDs that will be lit.
   - With the laminator door open, there will be (3) LEDs that will be lit.

The LEDs are lit.

Yes- Go to step 9; No- Go to step 4.

4. Check for line voltage on wire 7715493 at connector J3 on the main control board (See Wiring on page 273).

There is line voltage.

Yes- Go to step 5; No- Follow steps for No AC Power on page 77.

5. Check the following connections:
   - Cable 7715492 at J1 at the main control board.
   - Cable 7715493 at J3 at the main control board.

Connections are good.

Yes- Go to step 6; No- Make the connections then return to normal operation.

6. Remove the 24V Power Supply on page 219.
7. With the power supply outside the machine, make the connections at J1 and J3 and the ground cable.
8. Check if the LED in the power supply is lit.

LED is lit

Yes- Go to step 10; No- Go to step 9

9. Replace cable 7715493.

This clears the fault.

Yes- Return to normal operation; No- Replace the 24V Power Supply on page 219.

10. Check if there is no 24V power to any other components like a solenoid or a stepper motor.

There is no 24V power to any other components

Yes- Replace Main Control Board on page 221; No- Go to step 11

11. Check for 24 VDC on cable 7715492 at connector J1 on the control board.
    - Pin 1 = ORG Wire
    - Pin 2 = ORG Wire
    - Pin 3 = ORG Wire
    - Pin 6 = BLK Wire
    - Pin 7 = BLK Wire
    - Pin 8 = BLK Wire

There is 24 VDC at Connector J1 on the control board.

Yes- Go to step 12; No- Replace cable 7715492.

12. Determine if you have been directed here from another troubleshooting procedure because there is no 24 VDC power output from the control board to another component.

There is 24 VDC power output from the control board to another component.

Yes- Return the machine to normal operation; **No**- Replace Main Control Board on page 221.

User Interface is Dark



DANGER: HIGH VOLTAGE **Do not perform repair activities with the power on or electrical power supplied to the machine. Some machine components contain dangerous electrical voltages that can result in electrical shock and possible serious injury.**

Use this procedure when the UI does not illuminate.

1. Unplug the machine and plug it back in after 20 seconds.

The User Interface illuminates.

Yes- Normal operation; **No**- Go to step 2

2. Remove the Rear Cover on page 125.
3. Plug in the AC power cord and turn on the power switch.
4. Check the LEDs on the control board.

   The LEDs are labeled and all are located near the center of the control board.

   - LED3: 24V
   - LED5: 3.3V
   - LED1: 5V

The LEDs are lit.

Yes- Go to step 5; **No**- Follow steps for No DC Power on page 79.

5. Check that LCD cable is connected at connector J36 on the control board (See Wiring on page 273).

Cable 7724421 is connected at connector J36.

Yes- Go to step 6; **No**- Connect cable 7724421

6. Check that LCD cable 7724421 is connected at the adapter PCB on the top cover assembly.

   Do the following to access the LCD cable.

   - Open the laminator door.
   - Check if cable (large flat ribbon cable) is connected at the LCD adapter PCB.
   - If necessary, remove the top cover to better access the LCD display assembly.

Cable 7724421 is connected at the adapter PCB.

Yes- Go to step 7; **No**- Connect cable 7715523. Power cycle the laminator to confirm the fault is cleared.

7. Check if the adapter ribbon cable is connected at the adapter PCB and the LCD display.

LCD cable 7724422 is connected.

Yes- Go to step 8; **No**- Connect the Adapter Ribbon Cable. Unplug and plug in the machine to confirm if the fault is cleared.

8. Inspect the LCD display 7723665.

LCD Display looks OK

Yes- Go to step 9; **No**- Replace LCD Display on page 131

9. Replace the Adapter Ribbon Cable and LCD Ribbon Cable. Power cycle the laminator.

This resolves the issue

Yes- Normal Operation; **No**- Go to step 10.

10. Replace the Main Control Board on page 221.

This resolves the issue

Yes- Normal Operation; **No**- Escalate to next level of support

Paper Jams

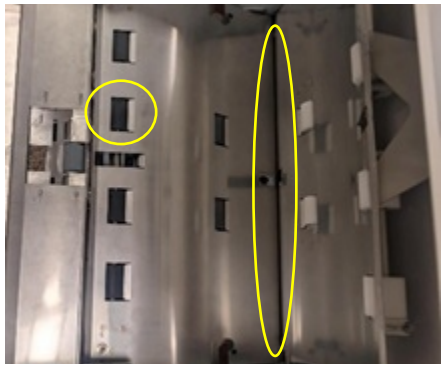
This section describes paper jams based on the position of the lead edge/trail edge of the first jammed sheet and by jam codes.

Checking for Obstructions

When inspecting for obstruction to paper path, look for any ripped pieces of paper or any other objects like loose fasteners along the paper path. A few key areas to inspect are shown below:

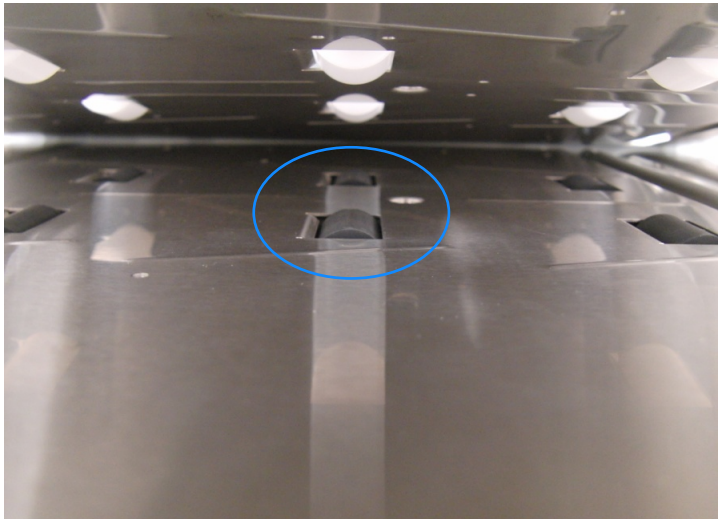
Area F (Feeder)

1. Open the top cover.
2. Inspect the gap between the drive rollers and the sheet metal panel for any objects.
3. Check the bottom of the incline of the paper path for any items that fell to the bottom.



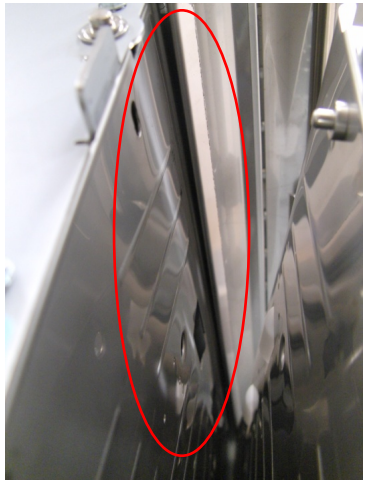
Area 1 (Entrance and Bypass)

1. Open the laminator door.
2. Open the bypass panel.
3. Inspect the gap between the drive roller and the sheet metal panel for any objects.



Area 2 (Entrance Idler Panel Assembly)

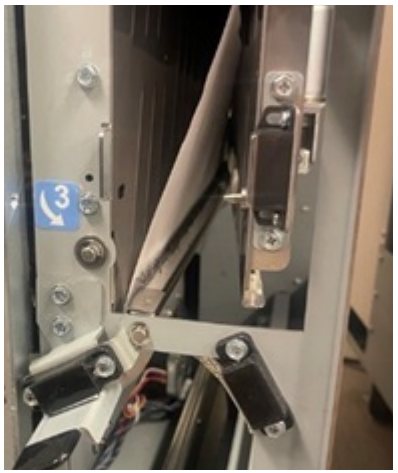
1. At the top of Area 2, check if there is a 2 to 3mm gap for sheet flow.
2. If the lower entrance panel is bent, replace it (see Lower Entrance Panel on page 136); If the inner entrance panel is bent, replace it (see Inner Entrance Panel on page 138).

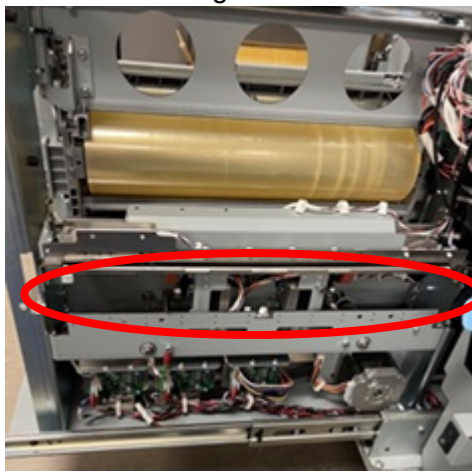


Area 3 (Paper Path)

1. Open the laminator door and pull out the lamination drawer.
2. Remove the film cartridge.

3. Look for sheets stuck in Area 3.
4. If there are no sheets, check that **sensor 3** is working (see Sensors S1 to S5, S25 to S27, S30, S31 on page 106).
5. If the sensor is fully functional, ensure panel 3 is properly latched.
6. If panel 3 is not latching correctly, adjust the magnet (see Paper Path on page 242).
7. If panel 3 is properly latched, look for obstructions in aligner module.



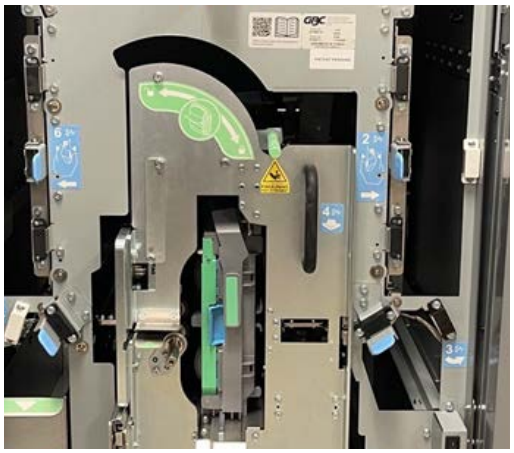


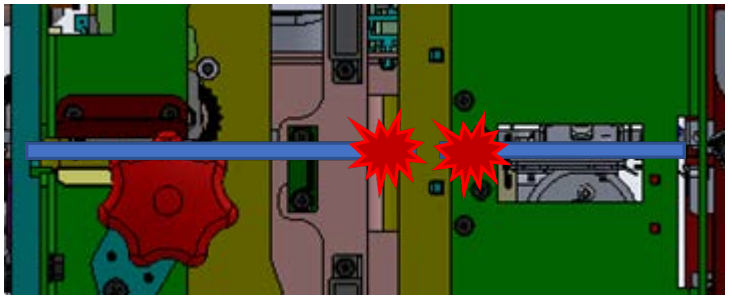
8. If no obstructions are present, ensure that film cartridge is not broken or damaged (Cartridge Frame on page 51).
9. If the film cartridge is not damaged or broken, check that the sensors are fully functioning (User Functions on page 11).
10. If the problem is not fixed, escalate to next level of support.

Area 4 (Cartridge Area)

Follow these steps when the first sheet jam is occurring in the cartridge area.

If the sheet has stopped in the pressure roller, partially laminated with the lead edge undamaged and the next sheet had crashed into its trail edge. Check the following:





1. Inspect the cartridge for damage (Cartridge Frame on page 51).

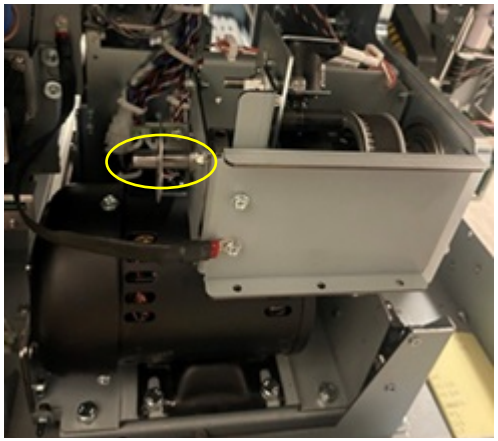
   Damage could allow the cartridge to touch the rollers resulting in motor stalls.
2. Inspect the area after the cutter for small pieces of laminate that may not have been purged properly. This can be checked by removing the cartridge and looking through the unlocked pressure rollers. Alternatively, remove the cutter out feed guide to look from the other end.
3. Inspect the lamination roll for damage, as described in the user manual.
4. Inspect the pressure roller gears for damage or obstructions
5. Inspect the pressure rollers.
6. Inspect the Idler Roller on page 22.

If the rail is loose or damaged it can allow the cartridge to touch the rollers resulting in motor stalls.

7. Check that the M8 belt tension is correct following the adjustment procedure Steering Motor Belt on page 248.
8. Inspect S6-10 (Sensors S6 to S10 on page 109).
9. Try using a different cartridge and refill.

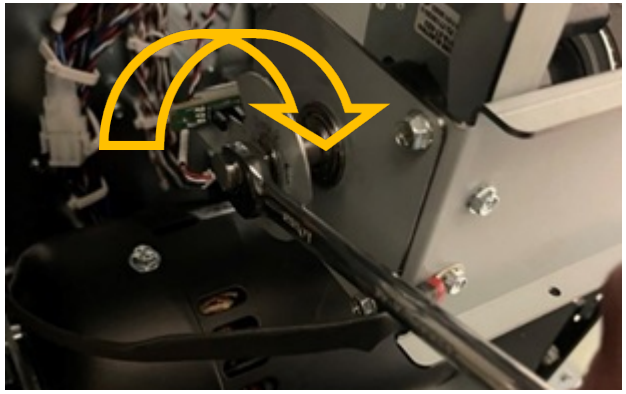
Cutter Jams

1. Remove the Rear Cover on page 125.
2. Locate the cutter shaft at the rear of machine.



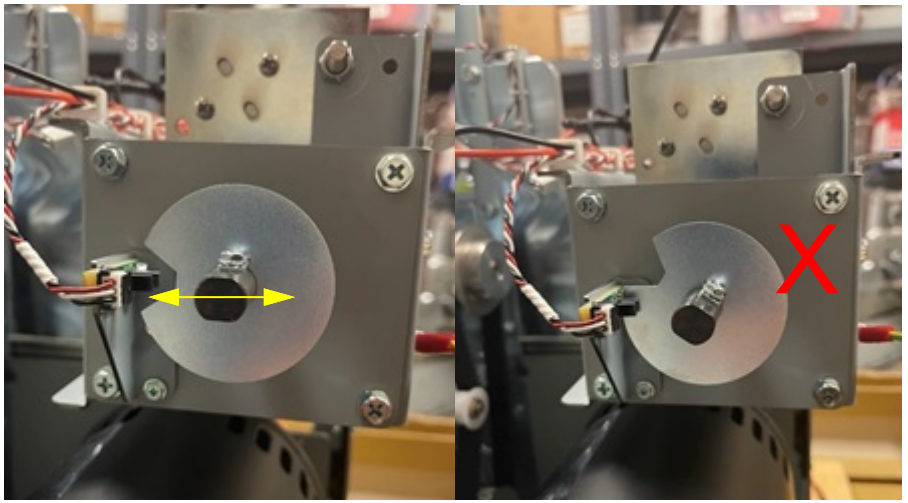
3. Use a 10mm wrench to turn the shaft clockwise (forward).

CAUTION: Use Extreme caution when turning the shaft and grip the wrench tightly. Once the blade is unjammed the wrench will forcefully move forward.



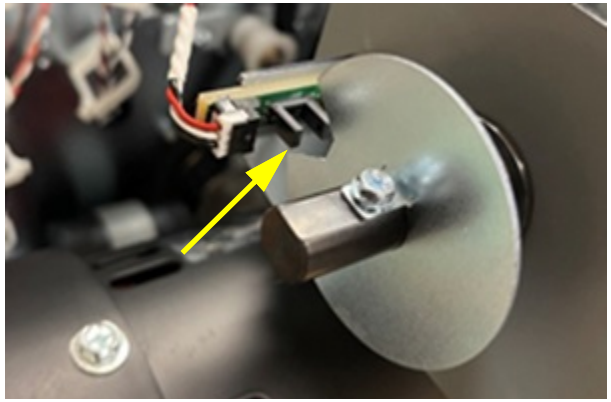
4. Confirm that the shaft is in the proper home position when the blade is unjammed.

   If the shaft is not in the home position preform the Clutch Indexing on page 255 adjustment.



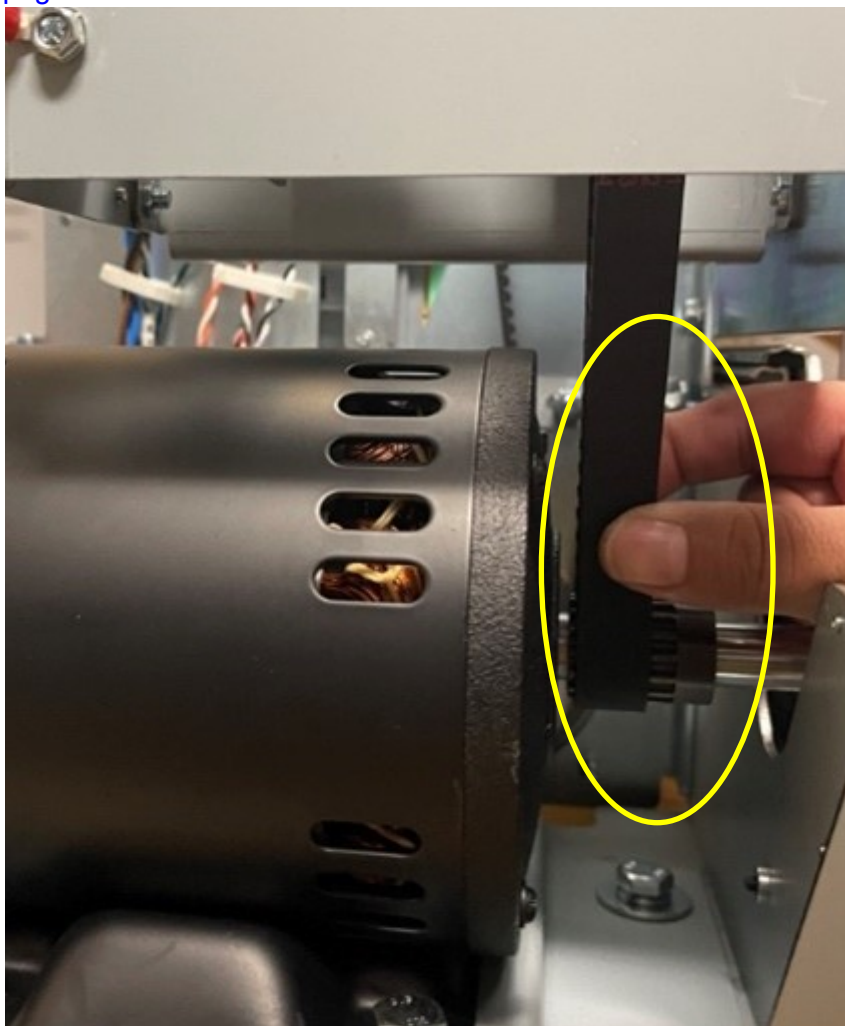
5. Verify the encoder disc window is not blocking the sensor when the blade is in the proper position.

   This will also ensure that the shaft is in the home position.



6. If the encoder disc is broken, replace it using the instructions for Cutter Encoder on page 186.

7. Confirm that the belt tension has about 6-8mm defection. If the belt is loose follow the adjustment procedure Steering Motor Belt on page 248.



8. If jamming issues persists, follow the steps in Clutch Indexing on page 255.

Clutch

Perform the following steps in order to troubleshoot the cutter clutch . The machine should be powered off for all of these steps.

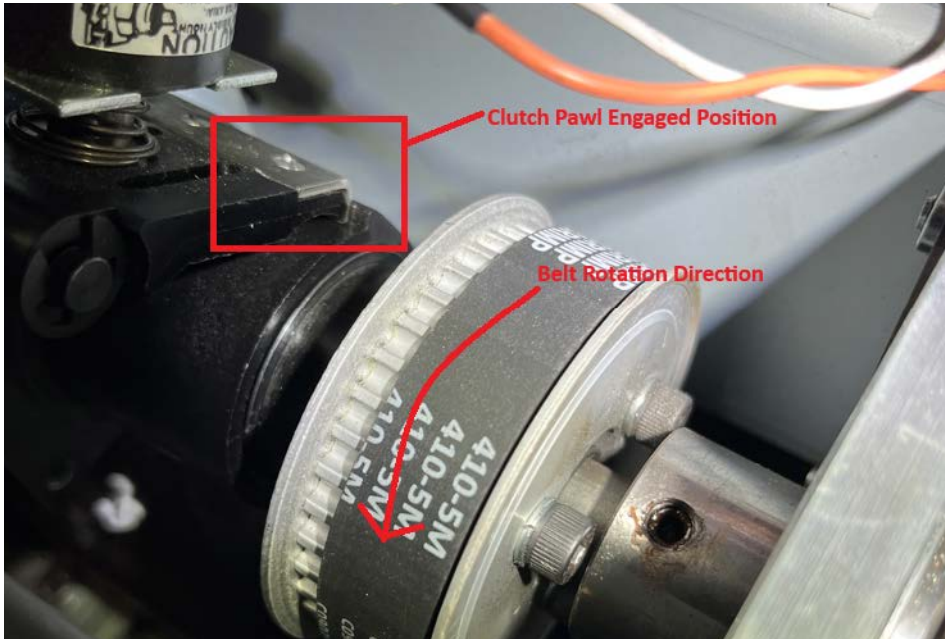
1. Check that the clutch is in the proper home position (~2 o'clock) and is not stuck in the “down” position.

   If the clutch is not in the correct home position, clear the cutter jam (Cutter Jams on page 85). If necessary, modify the clutch index by following the procedure Clutch Indexing on page 255.

2. Rotate the clutch belt counter-clockwise by hand.

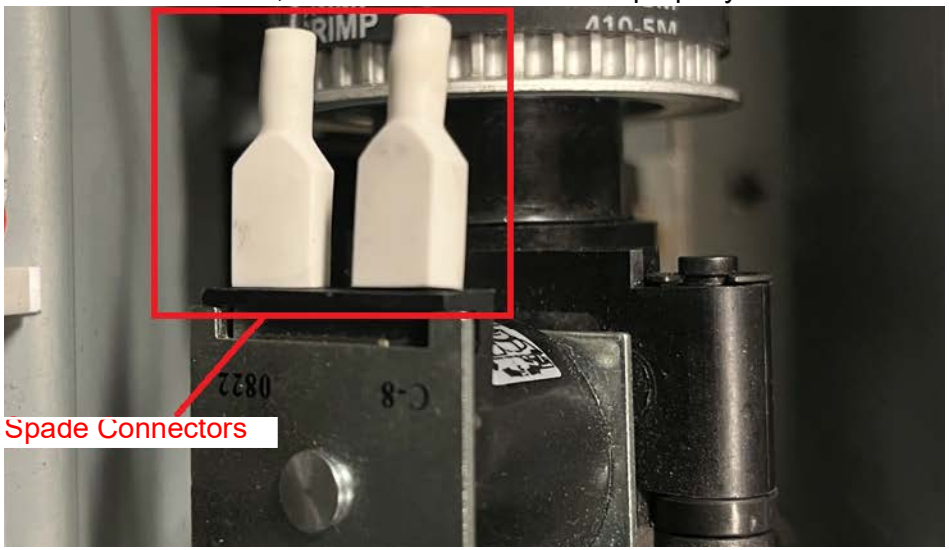
   The belt and pulley should spin freely. The blade should not move with the clutch because the clutch pawl will still be engaged.

   If the pulley does not spin freely, try loosening the belt. If the clutch pulley is still bound up and will not spin, then it will need to be replaced.

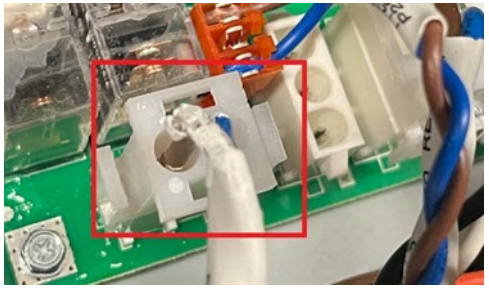


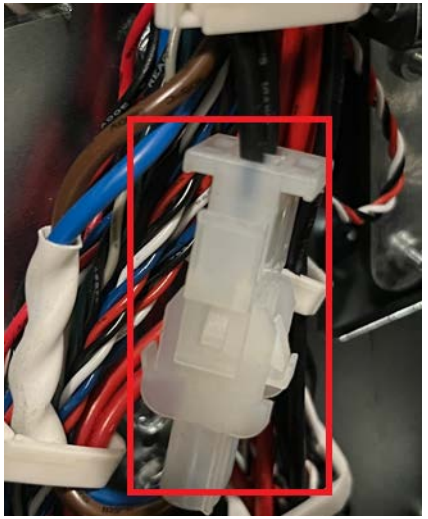
3. Check that the clutch solenoid is plugged in via the (2) spade connectors.

   If these are loose, the clutch will not activate properly.



4. Check that the AC Cutter Motor is plugged in to the control board by looking for the larger two-pin connectors on the rear of the drawer and on the control board.





Jam Codes

Jam	Sensor	Details
JF030: FEED JAM CLEAR AREA F2	S30	This occurs when S30 is not unblocked as expected.
JF130-J131: PAPER IN FEEDER PATH	S30-S31	These jams occur when a S30 or S31 jam timeout is detected.
J101: PAPER AT ENTRY CLEAR AREA 1	S1	Paper detected at S1 beyond jam timeout.
J127: PAPER AT EXIT CLEAR AREA 1	S27 blocked	Paper detected at S27 beyond jam timeout.
J201-203: PAPER AT VERTICAL LAM ENTRY CLEAR AREA 2	S1-S3	Paper detected at S1-S3 beyond jam timeout.
J306-J315 PAPER IN ALIGNER CLEAR AREA 3	S6-15	Paper detected at S6-15 beyond jam timeout.
J325: NO FILM AT CUTTER	S24	No film detected at S24.
J328 ALIGN HOME TIMEOUT	S28	Align home sensor not triggered before timeout.
J408: PRESSURE ROLLER JAM CLEAR AREA 4	S8	Detects when the sheet does not leave the pressure rollers.
J41B: NO LEAD EDGE AT CUTTER	S1B	Occurs when no lead edge is detected at S1B when expected.
J42B: NO TRAIL EDGE AT CUTTER	S1B	Occurs when no trailing edge is detected at S1B when expected.
J422: FILM TIME OUT AT CUTTER	S22	The trail edge of the cut sheet was not detected after the cutter.
J423: NO FILM AT CUTTER	S22	The lead edge of the next sheet did not pass through the cutter successfully.
J424: UNEXPECTED TRAIL EDGE	S22	The cut edge was pulled back into the pressure rollers.
J514: NO SHEET AT EXIT	S4	This jam occurs when the LE of the sheet is not detected at S4 in the expected time.
J604: PAPER IN EXIT CLEAR AREA 6	S4	This jam occurs when a S4 timeout is detected.

Jam	Sensor	Details
J605: CLEAR AREA 6	S5	This jam occurs when a S5 timeout is detected.
J625: PAPER IN EXIT	S25	This jam occurs when the sheet does not exit the machine in lamination or feeder mode.
JAM: CUTTER KNIFE DOWN	S23	This jam occurs when the cutter knife is not detected in the home position.
PAPER IN BYPASS CLEAR AREA 1	S20, S26A, S26B	Paper detected at S25/26 beyond jam timeout.

JBXX Jams

Perform the following procedures if JBXX jams repeatedly occur.

1. Check to see if there is any obstruction to paper flow at the bridge of the machine.

   See Checking for Obstructions on page 82 in Paper Path - **Area B (Entrance)**

This clears the fault

Yes- Return to normal operation; **No**- Go to step 2

2. Check that the bridge idler panel is closed correctly following the (bridge adjustment latch pins) procedures.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 3

3. See Stepper Motor Checks on page 117 to check M6A and M6B.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 4

4. Check the nip force of rollers NB1-NB5. This can be done by:
   - Perform Steering Idler Roller and Springs on page 23 to inspect and clean the idler roller springs for these rollers.
   - Perform Drive Rollers on page 24 to check the drive roller condition. Clean, if necessary.
   - Check the paper path drive panel positions- see Drive Panel on page 250, and perform adjustments if necessary.

This clears the fault

Yes- Return to normal operation; **No**- Escalate to next level of support.

5. Inspect and clean the Idler Roller on page 22 and Drive Rollers on page 24 to inspect and clean the rollers in the bypass area.

This clears the fault

Yes- Return to normal operation; **No**- Escalate to next level of support

JFXX Jams

Perform the following procedures if JFXX jams repeatedly occur.

1. Check to see if there is any obstruction to paper flow at the entrance of the machine.

   See Checking for Obstructions on page 82 in Paper Path - **Area 1 and Area F (Entrance)**

This clears the fault

Yes- Return to normal operation; **No**- Go to step 2

2. Replace Sensors **S30 and S31** Sensors 30 and 31 on page 172.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 3

3. See Stepper Motor Checks on page 117 to check M6B.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 4

4. Check the nip force of rollers NF1 and NF2. This can be done by:
   - Perform Idler Roller on page 22 to inspect and clean the idler roller springs for these rollers.
   - Perform Drive Rollers on page 24 to check the drive roller condition. Clean, if necessary.
   - Check the paper path drive panel positions- see Drive Panel on page 250, and perform adjustments if necessary.
   - Check the exit idler panel position (see Feeder Magnet on page 266) and perform adjustment as necessary.

This clears the fault

Yes- Return to normal operation; **No**- Escalate to next level of support.

5. Inspect and clean the Idler Roller on page 22 and Drive Rollers on page 24 to inspect and clean the rollers in the bypass area.

This clears the fault

Yes- Return to normal operation; **No**- Escalate to next level of support.

J1XX Jams

Jams

Perform the following procedures if J1XX jams repeatedly occur.

1. Check to see if there is any obstruction to paper flow at the entrance of the machine.

   See Checking for Obstructions on page 82 in Paper Path - **Area 1 (Entrance)**

This clears the fault

Yes- Return to normal operation; **No**- Go to step 2

2. Check Sensors **S20, S26A, S26B** and **S27** in Sensors S1 to S5, S25 to S27, S30, S31 on page 106.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 3

3. See Stepper Motor Checks on page 117 to check M1 and M8.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 4

4. Check the diverter mechanism, replace the Diverter (SOL1 and SOL8) on page 177.

This clears the fault

5. Check the diverter mechanism, replace the Diverter Diverter (SOL1 and SOL8) on page 177.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 6

6. Check the nip force of rollers NB5 to NB10. This can be done by:

   • Perform Idler Roller on page 22 to inspect and clean the idler roller springs for these rollers.

   • Perform Drive Rollers on page 24 to check the drive roller condition. Clean, if necessary.

   • Check the paper path drive panel positions- see Drive Panel on page 250, and perform adjustments if necessary.

   • Check the exit idler panel position (see Idler Panel Magnetic Latches on page 249) and perform adjustment as necessary.

This clears the fault

Yes- Return to normal operation; **No**- Escalate to next level of support.

7. Check the nip force of rollers N1, N8, N9, N10, N11, and N12. This can be done by:

   • Perform Idler Roller on page 22 to inspect and clean the idler roller springs for these rollers.

   • Perform Drive Rollers on page 24 to check the drive roller condition. Clean, if necessary.

   • Check the paper path drive panel positions- see Drive Panel on page 250, and perform adjustments if necessary.

   • Check the exit idler panel position (see Idler Panel Magnetic Latches on page 249) and perform adjustment as necessary.

This clears the fault

Yes- Return to normal operation; **No**- Escalate to next level of support.

8. Inspect and clean the Idler Roller on page 22 and Drive Rollers on page 24 to inspect and clean the rollers in the bypass area.

This clears the fault

Yes- Return to normal operation; **No**- Escalate to next level of support

J2XX Jams

Do the following if the lead edge is past nip N1 but is stopped just before nip N4/5.

1. Check to see if there is any obstruction in the paper path from nip N1 to nip N3.

   See Checking for Obstructions on page 82 in Paper Path - **Area 2 (Entrance Idler Panel Assembly)**.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 2

2. Perform the adjustment for the Drawer Switch on page 262.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 3

3. Check Sensors S2 and S3.

   • See Sensors S1 to S5, S25 to S27, S30, S31 on page 106 for information on S2 and S3.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 4

4. Go to Stepper Motor Checks on page 117 to check Motor M1 and Motor M2.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 5

5. Check solenoids SOL2 and SOL3 in Solenoids SOL2 - SOL3 on page 114.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 6

6. Check the diverter mechanism by checking Solenoid SOL1, SOL8 on page 114.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 6

7. Check the nip force of rollers N2, N3. This can be done by:

   • Perform Idler Roller on page 22 to inspect and clean the idler roller springs for these rollers.

   • Perform Drive Rollers on page 24 to check the drive roller condition. Clean, if necessary.

   • Check the paper path drive panel positions- see Drive Panel on page 250, and perform adjustments if necessary.

   • Check the entrance idler panel position (see Idler Panel Magnetic Latches on page 249) and perform adjustment as necessary.

This clears the fault

Yes- Return to normal operation; **No**- Escalate to next level of support

J3XX Jams

Do the following if the lead edge is stopped in the lamination drawer, but before the pressure rollers.

1. Check to see if there is any obstruction in the paper path.

   See Checking for Obstructions on page 82 in Paper Path – **Area 3 (Acceleration Roller Idler)**

This clears the fault

Yes- Return to normal operation; **No**- Go to step 2

2. Remove the film cartridge and inspect. Make sure there is nothing restricting the flow of paper.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 3

3. Check to see if the lamination drawer is pushed all the way in by performing the adjustment for Lamination Drawer Latch on page 264.

   Yes- Return to normal operation; **No**- Go to step 4

4. Check Sensors S6, S7, S8, S9, S10.

   • Check Sensors S6 to S10 on page 109

This clears the fault

Yes- Return to normal operation; **No**- Go to step 5

5. See Stepper Motor Checks on page 117 to check motors M3, M4, and M5.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 6

6. See Checking for Obstructions on page 82 – Area 4 (cutter module).

This clears the fault

Yes- Return to normal operation; **No**- Go to step 7

7. Check that the cutter is not stuck in the down position.

   If it is, perform the Cutter Jams on page 85 procedure.

   If no message appeared on the screen to warn of the jammed cutter, replace the Cutter Encoder on page 186.

This clears the fault

Yes- Return to normal operation;

No- Perform the troubleshooting steps for J4XX jams. If the issues persist after that, escalate to the next service level

J4XX Jams

Follow these procedures when the first sheet jam is occurring in lamination drawer after S6-S10.

Message Based Troubleshooting

J408: Pressure Roller Jam

This message is displayed when the sheet did not leave the steering module in the expected amount of time.

If the sheet has stopped in the pressure roller, partially laminated with the lead edge undamaged and check the following in order until a the issue is resolved.

1. Inspect the pressure roller gears for damage or obstructions.
2. Check that the M8 belt tension is correct following the adjustment procedure Steering Motor Belt on page 248.
3. Check that M8 functions following the procedure for Stepper Motor Checks on page 117.
4. Inspect the pressure rollers and bearings following the procedure Pressure Roller Bearing on page 53.
5. Check Sensors S6-S10 by performing the procedure in Sensors S6 to S10 on page 109.
6. Inspect the Cartridge Frame on page 51 for damage.

   Damage to the cartridge can allow the cartridge to touch the rollers resulting in motor stalls.

   Inspect the lamination roll for damage as described in the user manual.
7. Inspect the Cartridge Rail on page 49.

   If the rail is loose or damaged, it can allow the cartridge to touch the rollers resulting in motor stalls.
8. Try using different cartridge and refill.

NOTE: A refill may have insufficient friction against the upper and lower spools which will cause the film to stick to the frame after each jog.

9. Perform the troubleshooting procedures for J3XX Jams on page 94.
10. If the issue persists, perform the troubleshooting steps for J422: Film Timeout at Cutter on page 95.

J41B: NO LEAD EDGE AT CUTTER

This jam occurs when the lead edge of a sheet does not reach sensor S1B in the expected amount of motor steps after being detected at S6, as measured by M3. This is meant to prevent M8 from running away if the sheet is held up in the cartridge.

- Check the cartridge paper path for obstructions.

Perform steps for J408: Pressure Roller Jam on page 95.

J42B: NO TRAIL EDGE AT CUTTER

This jam occurs when the trail edge of a sheet does not reach sensor S1B in the expected amount of motor steps after being detected at S6, as measured by M8. This is meant to prevent M8 from running away if the sheet begins to wrap around the pressure rollers.

- Inspect the area between the pressure rollers and the blade for obstructions.

  Perform steps for J408: Pressure Roller Jam on page 95.

J422: Film Timeout at Cutter

This jam occurs when the trail edge of the cut sheet is not detected leaving the cutter.

1. If the cutter is stuck in the down position, go to the procedure Jam: Cutter Knife Down on page 100.
2. Check S22 by following instructions on Sensors S1 to S5, S25 to S27, S30, S31 on page 106.
3. Check Area 5 for any obstructions in the paper path.
4. Inspect the sheet that had its trail edge cut.
   - If the trail edge failed to cut, or the cut was uneven, go to the Incomplete Cuts on page 63.
5. If there is no indication the cutter attempted to cut the film:

- Check Sensors S1B and S24 in the Sensor 1B - Cutter on page 107 and Sensors S1 to S5, S25 to S27, S30, S31 on page 106.
- Check that the cutter still functions by performing a Film Proof function in the user menu.
- If the AC motor cutter failed to turn on, perform the steps in AC Motor Check on page 120.
- If the AC motor turned on, but the clutch did not activate perform the troubleshooting procedure for the Sensor Checks on page 103.

6. Check M7 and M9 following the procedure for Stepper Motor Checks on page 117.
7. Perform the adjustment for Trim Diverter Solenoid (SOL 8) on page 237 to check that the diverter is set correctly.

   If the Limiter is set too high, M9 stalls can occur, resulting in J422s.
8. Check that the lamination drawer latch is set properly following Lamination Drawer on page 261.
9. Escalate to the next level of support.

J423: No Film at Cutter

This jam occurs when the lead edge of the sheet does not exit the cutter after a cut is performed.

1. If the cutter is stuck in the down position, go to the Jam: Cutter Knife Down on page 100.
2. Clean the blade following the Blade cleaning procedure.
3. Rotate the cut stick to a new face, and clean the surface.
4. Check the cutter area for debris. Small slivers of film can get caught in the cutter areas after jams which cause issues in later cuts.
5. Clean the Pressure Roller on page 26.
6. Check S22 following the procedure Sensors S1 to S5, S25 to S27, S30, S31 on page 106.
7. Check that the clutch is properly indexed following the steps in Clutch Indexing on page 255.
8. Follow the log saving procedure and check the log file for the presence of a E423 error,

   If E423 error is listed in the log file, refer to E423: Unexpected Cut on page 72.
9. Check that the M8 belt tension is correct following the M8 belt tension adjustment in Steering Motor Belt on page 248.
10. Check that M8 motor functions following Stepper Motor Checks on page 117.
11. Check that the locking mechanism springs are set correctly following the adjustment Locking Mechanism Springs on page 263.
12. Inspect the cartridge for damage following Cartridge Frame on page 51.
13. Escalate to the next level of support.

J424:Unexpected Trail Edge

This jam occurs when a trail edge is detected at S22 when one is not expected. This stop occurs to prevent the film from being pulled back into the pressure rollers causing a wrap.

1. Inspect the cutter outfeed baffle area for debris following the Cutter Out-feed Baffle on page 36 procedure.
2. Check S22 following Sensors S1 to S5, S25 to S27, S30, S31 on page 106.
3. Perform the Trim Diverter Solenoid (SOL 8) on page 237 adjustment to check that the diverter is set correctly. If the Limiter is set too low, sheets exiting the cutter can hit it, causing J424s
4. Check the lamination drawer position following the steps in Lamination Drawer on page 261.
5. Escalate to the next level of support.

J425: FAIL TO PURGE

This jam occurs when the trail edge of the trimmed film is not detected at S22 after the initial cut at the beginning of a job.

1. Examine the trailing cut edge of the trim piece that failed to purge.
   - If the trail edge failed to cut, or the cut was uneven, go to Incomplete Cuts on page 63.
2. If there is no indication the cutter attempted to cut the film:
   - Check Sensors S1B and S24 in the Sensor 1B - Cutter on page 107 and Sensors S1 to S5, S25 to S27, S30, S31 on page 106.
   - Check that the cutter still functions by performing a Film Proof function in the user menu.
   - If the AC motor cutter failed to turn on, perform the steps in AC Motor Check on page 120.
   - If the AC motor turned on, but the clutch did not activate perform the troubleshooting procedure for the Sensor Checks on page 103.
3. Check the purge diverter for obstructions that could prevent the trimmed piece from purging.
4. Empty the trim tray.
5. Check M7 following the procedure for Stepper Motor Checks on page 117.
6. Perform the adjustment for Trim Diverter Solenoid (SOL 8) on page 237 to check that the diverter is set correctly.
   - If the Limiter is set too high, M9 stalls can occur, resulting in J425s.
7. Check that the lamination drawer latch is set properly following Lamination Drawer on page 261.

   Escalate to the next level of support.

J5XX Jams

J514: No Sheet at Exit

This jam occurs when the lead edge of a short edge feed sheet is not detected at S4 in the expected amount of time. This is meant to prevent the film from wrapping on the roller.

1. Check S4 following the procedure for Sensors S1 to S5, S25 to S27, S30, S31 on page 106.
2. Perform the steps outlined in J424:Unexpected Trail Edge on page 96.
3. Return here and carry on with the steps below if the problem persists.

Do the following if the first jammed sheet's trail edge is past N6 and N7.

1. Check to see if there is any obstruction in the paper path from N4 and N5.

   Checking for Obstructions on page 82.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 2

2. See Sensors S1 to S5, S25 to S27, S30, S31 on page 106 to check Sensors S4, and S5.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 3

3. See Sensors S6 to S10 on page 109.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 4

4. See Stepper Motor Checks on page 117 to check Motors M7 and M9.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 5

5. Check the nip forces of roller N6 and N7. This can be done by:

   - Perform Idler Roller on page 22 to inspect and clean the idler roller springs for these rollers.
   - Perform Drive Rollers on page 24 to check the drive roller condition. Clean, if necessary.
   - Check the paper path drive panel positions- see Drive Panel on page 250, and perform adjustments if necessary.
   - Check the exit idler panel position (see Idler Panel Magnetic Latches on page 249) and perform adjustment as necessary.

   This clears the fault

   Yes- Return to normal operation; **No**- Escalate to next level of support

J6XX Jams

Do the following if the lead edge is past nip N6.

1. Check that the paper in the stacker is stacked neatly and not obstructing the exiting sheets.
2. Ensure that the stacker drawer is fully inserted and the sheet side guides are correctively set for the width of the output.
3. Check to see if there is any obstruction in the paper path from nip N6 to nip N8.

   See Checking for Obstructions on page 82 in Paper Path - **Area 6 (Entrance Idler Panel Assembly)**.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 2

4. Perform the adjustment for the Drawer Switch on page 262.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 3

5. Check Sensors S4, S5 and S25.
   - See Sensors S1 to S5, S25 to S27, S30, S31 on page 106 for information on S2 and S3.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 4

6. Go to Stepper Motor Checks on page 117 to check Motor M7 and Motor M9.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 5

7. Check the nip force of rollers N6, N8. This can be done by:
   - Perform Idler Roller on page 22 to inspect and clean the idler roller springs for these rollers.
   - Perform Drive Rollers on page 24 to check the drive roller condition. Clean, if necessary.
   - Check the paper path drive panel positions- see Drive Panel on page 250, and perform adjustments if necessary.
   - Check the entrance idler panel position (see Idler Panel Magnetic Latches on page 249) and perform adjustment as necessary.

This clears the fault

Yes- Return to normal operation; **No**- Escalate to next level of support

Jam: Cutter Knife Down

This message occurs when the cutter knife does not return to the home position after cutting.

1. Unjam the cutter following the procedure Cutter Jams on page 85.
2. Check that the cutter encoder is functioning properly following the Cutter Encoder on page 186 repair procedure.
3. Check S23, following instructions in Sensors on page 11, to confirm that it is working.
4. Check that the clutch is properly indexed following Clutch Indexing on page 255.
5. Check the cutter motor belt tension is set properly following the adjustment procedure Motor Belt Tension on page 254.
6. Check the connecting rod length and spring settings following Connecting Rod Length on page 257 and Connecting Rod Spring on page 259.
7. Perform the AC Motor Check on page 120 procedure.
8. Check that the wall supply is receiving the correct voltage.

   The wall should supply between 104V to 127V for 115V machines and between 207V and 253V for 230V machines.
9. Perform the No AC Power on page 77 procedure.
10. Replace the cutter motor following the procedure Cutter Module on page 180.
11. Escalate to the next level of support.

Resetting the Film Cartridge

Follow this procedure after the laminator has experienced a bad jam.

Clear any jams before executing this procedure.

If the film spools are not aligned, the film will either look crumpled or the two sides will not be mated properly.



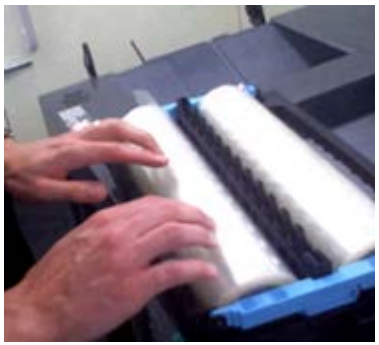
1. Use a scissors to cut below the point where the top and bottom spools come together and dispose of the damaged film.

   With the top spool and bottom spool now independent of each other the two pieces of film should not be attached to each other anymore



2. Find the edge of the film on the bottom spool and fold it backwards so that the adhesive side of it is facing upwards.

   The film should be resting on the spool.



3. Hold the bottom spool film in place with one hand and with your other hand grab the edge of film from the top spool.
4. Pull the top film downwards until it is aligned with the bottom spool and then press both pieces of film together.



IMPORTANT: The edges of the two film layers must be lined up on the left and right. If they are not, the film will not run correctly in the machine.

5. Use a scissors to cut the attached film so that only 1-2 inches are pressed together.

   If the overlap is more than this the cartridge will not be able to be inserted back inside the machine.
6. Insert the film cartridge back into the machine.

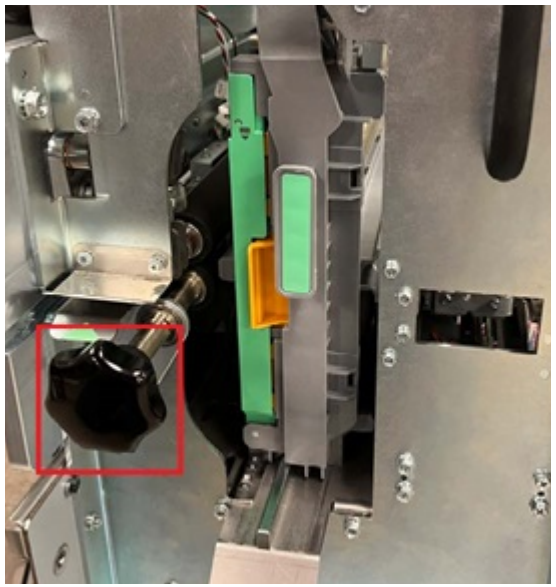
After inserting the cartridge back into the machine, it may be necessary to follow the next steps if you are unable to get the film to feed through

the baffle when using the LCD. This is particularly true if you weren't able to place the two layers of film together evenly in the previous page (see example below).



7. Ensure the machine is off and the drawer is pulled out.
8. Slowly turn the lamination knob counter-clockwise to begin to feed the film through the rollers.

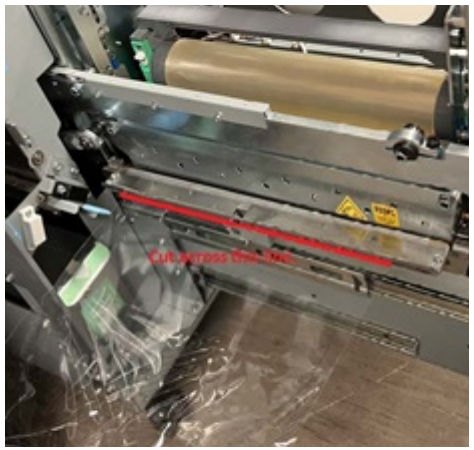
   The film will most likely not be able to exit the cutter outfeed baffle smoothly. Get at least one section of the film to pass through enough to grab with your fingers. If none of the film can make it through, repeat steps 1-6, from the previous page, until the film is reset more smoothly.



9. Once a small section of film is able to make it out of the baffle, stop turning the knob. Open the locking mechanism to the open position.
10. Grab the piece of film that is protruding and tug the film outwards approximately 1-2 feet until most of the uneven film is outside the baffle and smooth film is starting to appear.



11. Close the locking mechanism handle and cut the excess film using a small knife.



12. Push the drawer in and close the machine door.
13. Test run film through the machine using the user functions menu.

Sensor Checks

This procedure is for all sensors, details for which can be found on succeeding pages.

1. Perform steps in User Functions on page 11. Make sure all sensors show “0” on the LCD when uncovered and “1” when covered.

   If any sensor shows “1” when uncovered, clean that sensor. Also check if there is any obstacle in the sensor window.

All sensors show “0” when uncovered and “1” when covered

Yes- Return to the RTP that directed you here.; **No**- Go to step 2

2. Check the connections to the faulty sensor(s).

See the table Sensor Cables on page 104 for cable numbers.

- Remove Rear Cover on page 125. Check the connection at the header in the cutter frame and the main control board. See Wiring on page 273 for the location of the Connector.
- Remove the cutter module. Check the connection from the sensor board to the header in the laminator frame. S18 to 21 do not have headers, so inspect the connection at sensor board and main control board.

All the connections are made securely

Yes- Go to step 3; **No**- Make connection and return to normal operation.

3. Light from sensor components can be viewed with a cell phone camera, if the sensor is working you will be able to see a bright light. Alternately a small mirror can be used.



WARNING: Sensor emits high intensity narrow angle infrared beam (940nm). It is invisible to naked eye, avoid looking directly at the sensor when the machine is powered ON.

- If there is no light from any sensor on that particular board (S6-S10; S11-S15; S16-17; S18-19; S20-21):
  - Replace cable from the sensor board to laminator frame first. If that does not solve the issue, replace cable from frame to main control board. See Sensor Cables on page 104 for cable numbers.
  - Replace the faulty Sensor Board. See Sensors on page 165).
- On the same board, if there is light from one sensor and there is no light from another sensor:
  - Replace the faulty sensor board. See Sensors on page 165).
  - Replace the sensor cable from the sensor board to laminator frame first. If that does not solve the issue, Replace the sensor cable from the frame to main control board. See the table Sensor Cables on page 104 for cable numbers.

There is a bright light from all the sensors

Yes- Go to step 4; **No**- Replace the faulty component and resume normal operation

4. Replace the faulty sensor board. See Sensors on page 165).

This clears the fault

Yes- Resume normal operation; **No**- Go to step 5

5. Replace the faulty sensor cable

   See the table Sensor Cables on page 104 for cable numbers.

This clears the fault

Yes- Resume normal operation; **No**- Go to step 6

6. Upgrade firmware (see Firmware Update / Save Logs on page 15).

This clears the fault

Yes- Resume normal operation; **No**- Go to step 7

7. Replace the Main Control Board on page 221.

This clears the fault

Yes- Resume normal operation; **No**- Escalate to next level of support.

Sensor Cables

Sensor	Description	Cable #	Header	Interim Cable #	Control Board Connector	NFX Board 7726150	Signal Splitter Board 7726230	Other Info
S1	Vertical entry sensor	7726019			J21		J2	Shares cables with S25
S1B	Cut sensor	7725152	Header	7725583	J29			Shares cables with S29 Emitter
S2	Vertical entry sensor	7725552			J22			Shares cables with S3, S4, S5
S3	Vertical entry sensor	7725552			J22			Shares cables with S2, S4, S5
S4	Exit sensor	7725552			J22			Shares cables with S2, S3, S5
S5	Exit sensor	7725552			J22			Shares cables with S2, S3, S4
S6-S10	Skew sensor board	7725573	Header	7725553	J23			
S11-S15	Alignment sensors	7725574	Header	7725554	J24			
S16	Feeder paper	7726014				J5		Shares cable with S17
S20	Laminator entry sensor	7726009						Cable plugs into control board and NFX board
S21	Stacker drawer sensor	7726022		7726016		J7		Shares cable with S18A, S18B, S19
S22	Post cut sensor	7725155	Header	7725557	J28			Shares cable with S23, S24
S23	Knife home sensor	7725155	Header	7725557	J28			Shares cable with S22, S24
S24	Waste Sensor	7725155	Header	7725557	J28			Shares cable with S22, S23

Sensor	Description	Cable #	Header	Interim Cable #	Control Board Connector	NFX Board 7726150	Signal Splitter Board 7726230	Other Info
S25	Stacker- exit sensor	7725551			J21		J2	Shares cables with S1
S26A	Bypass	7726018		7725551			J4	Shares cables with S1, S26B, S25
S26B	Bypass	7726018		7725551			J3	Shares cables with S1, S26A, S25
S27	Bypass exit sensor	7715462			J30			
S28	Align home	7725575	Header	7726009	J25			
S29	Trim Tray level sensor - Emitter/Receiver	7725565- Receiver 7725583- Emitter	Header Header		Receiver J27 Emitter J29			Receiver Shares with Trim tray home switch. Emitter Shares with S1B
S30	Feeder sheet exit sensor	7726015				J6		Shares cables with S31, S32
S31	Feeder sheet fed sensor	7726015				J6		Shares cables with S30, S32
S32	Feeder Cover	7726015				J6		Shares cables with S30, S31
S33	M8 Encoder	7725186	Header	7725185	J4 and J9			

Sensors S1 to S5, S25 to S27, S30, S31

1. Ensure that the laminator door is properly closed.

   An interrupted interlock connection can trigger sensor paper jam codes.

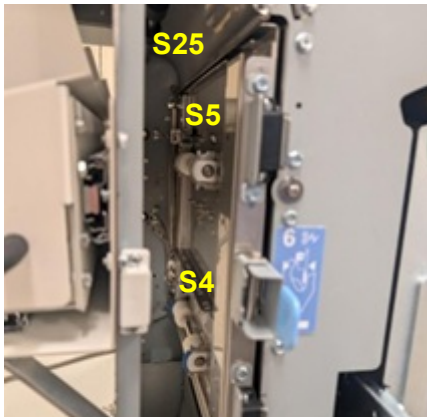
2. Perform User Functions on page 11. Check to make sure all sensors show “0” on the UI when uncovered and “1” when covered.

   If any sensor shows “1” when uncovered, clean that sensor. Also check if there any obstacle in the sensor window.

Sensors 1, 2, and 3 are on the entrance side panel



Sensors 4, 5, and 25 are on the exit side panel.



All sensors show “0” when uncovered and “1” when covered

Yes- Return the machine to normal operation; **No**- Go to step 3

3. Make sure the sensor wire is connected securely at the sensor and at the main control board. Remove the Rear Cover on page 125 to gain access to the connector at the control board.

   See the table Sensor Cables on page 104 for cable numbers.

   See Wiring on page 273 for details on connection at the sensor(s).

All the connections are made securely

Yes- Go to step 4; **No**- Make the connection and return to normal operation.

4. Replace the sensor with a new one (alternatively, swap the sensor in the faulty position with a sensor from a different good position to check if it is a bad sensor). See Sensors on page 165 for replacement.

Replacing the sensor corrects the issue

Yes- Use the new sensor and return to normal operation; **No**- Go to step 5

5. Laminator Door on page 127 and visually inspect the cable from the sensor all the way to the control board. Replace the cable if it is damaged. Additionally, check the continuity of each wire.

   See the table Sensor Cables on page 104 for cable numbers.

Sensor cable looks okay

Yes- Go to step 6; **No**- Replace the sensor cable.

6. Updgrade the firmware (see Firmware Update / Save Logs on page 15).

Re-flashing firmware clears the fault

Yes- Resume normal operation; **No**- Go to step 7

7. Replace the sensor cable.

   • Remove the faulty cable from the sensor by releasing the required cable clamps.

   • Replace with a new cable.

   See the table Sensor Cables on page 104 for cable numbers.

Replacing the sensor cable corrects the issue

Yes- Resume normal operation; **No**- Go to step 8

8. Replace the Main Control Board on page 221.

This clears the fault

Yes- Resume normal operation; **No**- Escalate to next level of support

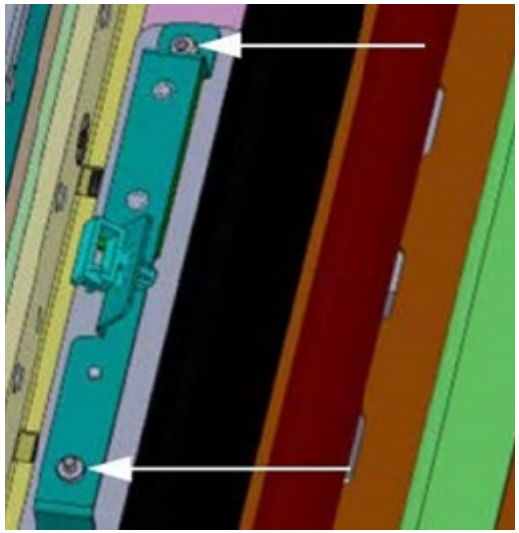
Sensor 1B - Cutter

To locate the sensor, do the following:

LCD shows “0” when unblocked and “1” when blocked

If the cutter sensor, S29, is always reading as blocked perform the following steps in order until the issue is resolved. If the sensor is reading unblocked, start at step 3.

1. Check that the emitter and receiver are both connected.
2. Check that they are both connected to J5 on the breakout board and J30 on the control board.
3. Check the voltage and resistance measurements for S1B by following the adjustment for S1B - Cutter on page 265. If you cannot resolve the issue, return here.
4. Pull the lamination drawer out and ensure the sensor bracket is connected tightly to the baffle beneath it via (2) nuts. Check that the bracket is not bent or bowed in the middle, which could cause the sensors to be mounting position to be incorrect. If this is the case, the bracket will need to be replaced.



5. Replace the Trim Level Emitter on page 191 and Trim Level Receiver on page 191.

6. Check all of the connections to the breakout board. If it is plugged in and still not reading the correct voltage, replace the Breakout Board on page 223.
7. Replace the Main Control Board on page 221.

Sensors S6 to S10

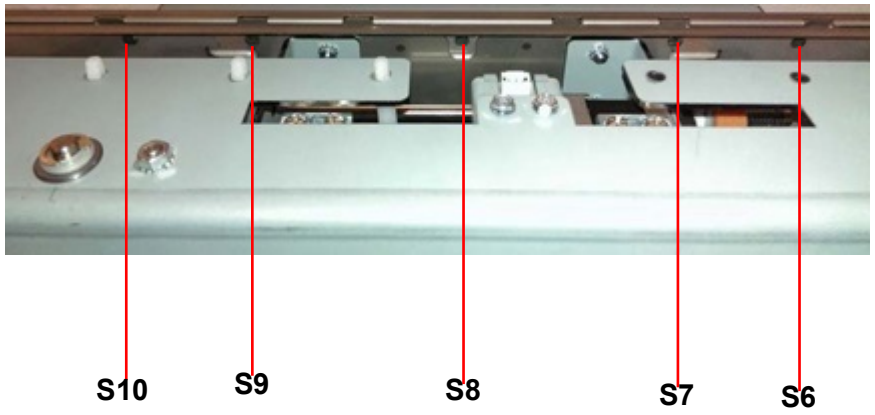
Sensors S6, S7, S8, S9, S10

To access the sensors do the following:

- Open laminator door.
- Remove the cartridge.
- Pull out the lamination drawer.

Sensors are on the skew sensor board.

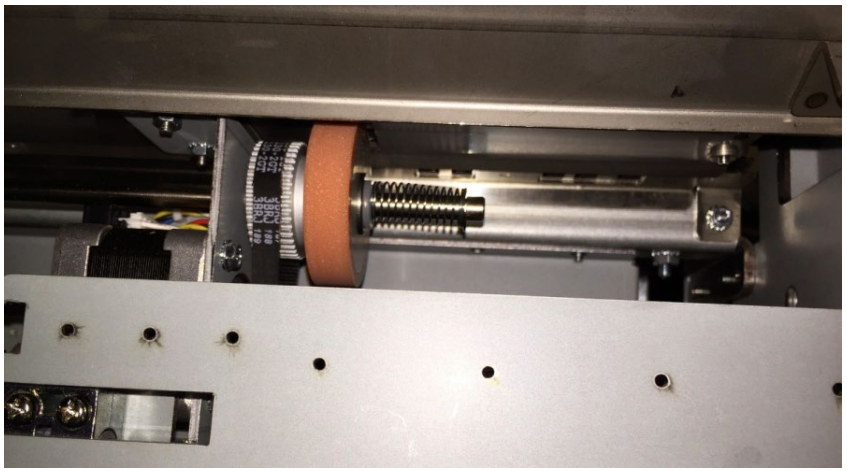


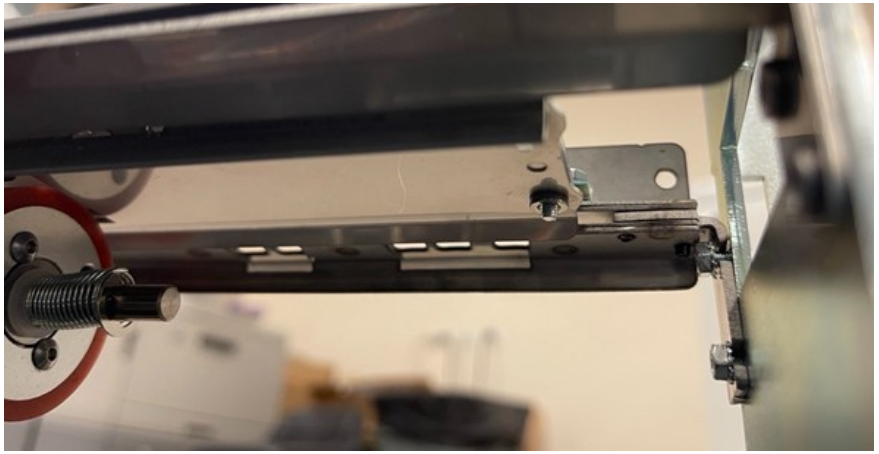


Sensor S11 to S15

To access the sensors do the following:

- Open laminator door.
- Remove the cartridge.
- Pull out the lamination drawer.





Sensor 21

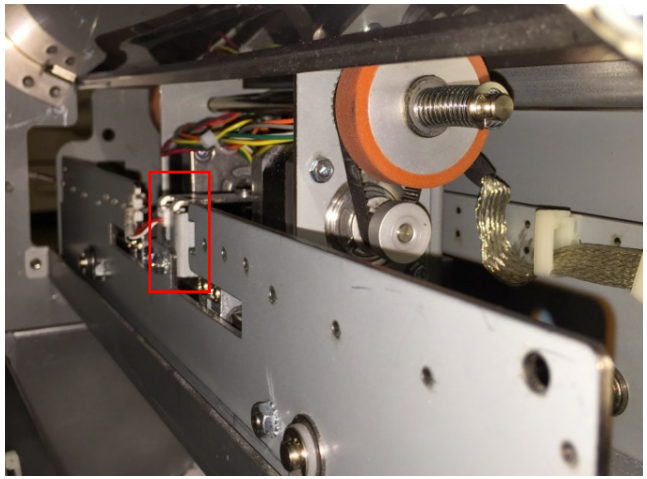
Pull out the stacking tray to locate S21 on the rear of the machine, as shown below.



Sensor S28 Align Home Sensor

To locate the sensor, do the following:

- Open the laminator door.
- To uncover this sensor, slide the alignment carriage towards the front of the machine.
- To cover this sensor, slide the alignment carriage towards the rear of the machine.



1. Perform the User Functions on page 11 procedure. Check to make sure the sensor shows “1” on the LCD when the Alignment carriage flag blocks the sensor and “0” when the Alignment carriage flag unblocks the sensor.

LCD shows “0” when unblocked and “1” when blocked

Yes- Return to the RTP that directed you here.; **No**- Go to step 2

2. Make sure the sensor wire is connected securely at the header in the cutter module frame and the main control board.

   See the table Sensor Cables on page 104 for cable numbers.

   See Wiring on page 273 for the location of the connector.

Connection is secure at the laminator frame and control board.

Yes- Go to step 3; **No**- Make the connection and resume normal operation

3. With the laminator door open, check if the sensor wire is connected securely at the sensor and the cutter module frame on the inside.

Connection is secure at both ends

Yes- Go to step 4; **No**- Make the connection and resume normal operation

4. Replace the align home sensor, see Sensors on page 165.

This clears the fault

Yes- Resume normal operation; **No**- Go to step 5

5. Visually inspect the sensor cable 7715519 from sensor to laminator frame header; 7715457. Then from laminator frame header to control board. If the cable is damaged, replace the cable.

Cable appears to be damaged

Yes- go to step 7 or 8; **No**- Go to step 6

6. See Firmware Update / Save Logs on page 15 to upgrade the firmware.

This clears the fault

Yes- Resume normal operation; **No**- Go to step 7

7. Replace the sensor cable from align home sensor to header; refer to Wiring on page 273.

This clears the fault

Yes- Resume normal operation; **No**- Go to step 8

8. Replace the cable from header to main control board, refer to Wiring on page 273.

This clears the fault

Yes- Resume normal operation; **No**- Go to step 9

9. Replace the Main Control Board on page 221.

This clears the fault

Yes- Resume normal operation; **No**- Escalate to next level of support

Sensor S29 Trim Tray

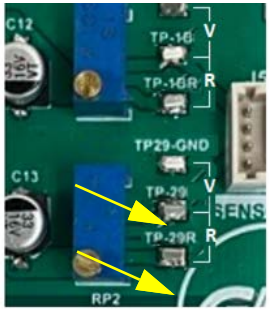
To locate the sensor, do the following:

LCD shows “0” when unblocked and “1” when blocked

If the trim tray sensor, S29, is always reading as blocked perform the following steps in order until the issue is resolved. If the sensor is reading unblocked, start at step 3.

1. Check that the emitter and receiver are both connected.
2. Check that they are both connected to J5 on the breakout board and J21 on the control board.
3. With the power off, check the resistance across TP-29 and TP-29R on the break out board using a multimeter.

   It should be set to an ohm reading from 350-500 ohms. If it is not, adjust the screw on the potentiometer next to the test points until the correct resistance is achieved.



4. With the power on and door closed, check the voltage across TP29-GND and TP-29.

   It should read >4.5V. Move on if this is correct. If it does not read >4.5V, check all the connections to the breakout board.

5. Ensure that the trim tray sensor is unblocked, then check the voltage reading on the control board from TP29 to ground.

   This should read <1.3V when unblocked.

If it reads 0, replace the receiver. If replacing the receiver does not resolve the issue, replace the wiring harnesses 7725152 and 7725583.

If it reads 5V (exactly), replace the emitter and receiver.

If it reads <1.3V and >5V, adjust the resistor on the break out board until the voltage reads 1.1V or lower. You must INCREASE the voltage as measured on the breakout board to lower the unblocked voltage measured on the control board.

6. Replace the Main Control Board on page 221.

Solenoid Checks

Solenoid SOL1, SOL8

Solenoid SOL1 is the diverter solenoid- mechanical adjustment is covered in Diverter Solenoid (SOL1) on page 236.

1. Open the front the door and insert an interlock cheater into the door interlock switch SW4.



WARNING: Moving Parts, keep hands clear of nips and the belts when the interlock cheater is inserted.

2. See Solenoids on page 12 to activate and deactivate SOL1 or SOL8.

   The diverter gate should rise and fall when SOL1 or SOL8 is cycled.

Diverter gate rises and falls when SOL1 or SOL8 is cycled

Yes- Return to the RTP that directed you here; **No**- Go to step 3 and choose the appropriate condition

3. If SOL1 or SOL8 does not function, do the following:
   - Remove the Rear Cover on page 125.
   - Check the cable from the solenoid to the in-line header. This cable is part of the solenoid body.
   - Check cable 7715466 that connects the in-line header to the main control board.
   - Replace the solenoid (Diverter (SOL1 and SOL8) on page 177), as needed.

   If the solenoid functions, do the below steps:

   - Go to Diverter Solenoid (SOL1) on page 236 or Trim Diverter Solenoid (SOL 8) on page 237 to perform an adjustment, if necessary.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 4

4. See Firmware Update / Save Logs on page 15 to upgrade the firmware.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 5

5. Replace Diverter (SOL1 and SOL8) on page 177.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 6

6. Replace the Main Control Board on page 221.

This clears the fault

Yes- Return to normal operation; **No**- Escalate to next level of support

Solenoid SOL6

Solenoid SOL6 is the cutter clutch, see:

- Clutch on page 86.

Solenoids SOL2 - SOL3

1. Open the front the door and insert an interlock cheater into the door interlock switch SW4.



WARNING: Moving Parts, keep hands clear of nips and the belts when the Interlock Cheater is inserted.

2. Do the steps for Solenoids on page 12 to activate and deactivate the affected solenoid.

When the solenoid is not activated, the idler roller should be able to rotate freely, and in turn drive the drive roller.

When the solenoid is fully activated, the idler roller should completely lift off and not be able to drive the drive roller.

NOTE: Disengaging solenoid modules need to be Replaced every 5 million cycles.

To check the holding force of the solenoid, go to step 3

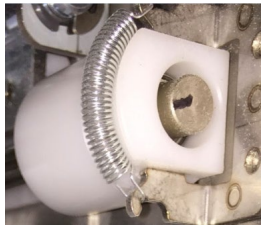
If the solenoid does not actuate, go to step 4

Alternate solenoid inspection method:

Mark a line on the idler roller shaft, as shown in the picture.

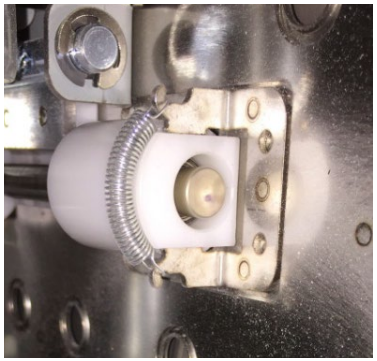


Motor running + Solenoid actuated = Line not visible
Motor running + Solenoid not actuated = Line visible



Picture shows Motor running and solenoid actuated.

From the service mode solenoid can be actuated using GP 6.2.6 Solenoids Procedure, and the corresponding drive roller rotated manually to check this.



3. Do the following to check the holding force of the Solenoid:
   - Activate a good solenoid and the solenoid in question (bad solenoid).
   - Try to push the plunger of the solenoid away from the body of the solenoid. Both solenoids should have approximately the same holding force. If the bad solenoid‘s holding force is low, follow instructions in Solenoids on page 176 to replace.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 6

4. If the solenoid does not activate at all, inspect the cables from solenoid to header to control board- See Wiring on page 273.

The solenoid cables look okay

Yes- Go to step 5; **No**- Replace the cable

5. Follow instructions in Solenoids on page 176 to replace.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 6

6. Do a firmware upgrade following the steps in Firmware Update / Save Logs on page 15.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 7

7. Replace the cable from header to the main control for the solenoid in question. 7715466 or 7715467, see Wiring on page 273.

This clears the fault

Yes- Return to normal operation; **No**- Go to step 8

8. Replace the Main Control Board on page 221.

This clears the fault

Yes- Return to normal operation; **No**- Escalate to next level of support

Stepper Motor Checks

To troubleshoot the stepper motors, follow these steps.

1. Open the front the door and insert an interlock cheater into the door interlock Switch SW4.



WARNING: To check M6B, you must cover the S32 sensor that is exposed on the rear of the feeder once the top cover is opened.**Moving Parts, keep hands clear of nips and the belts when the Interlock Cheater is inserted.**

2. For motors M1, M2, M3, M4, M6, M6A, M6B, M7, M9, M10; see Motors on page 12 to check that the corresponding nip rollers turn (check drive and idler rollers, for the identifying the motors).

   For Motor M5, do Function Tests on page 13 (Aligner Test).

Table below identifies the nip rollers driven by the corresponding motors:

Motor	Nip rollers
M1	N1, N2
M2	N3
M3	N4 (Front steering)
M4	N5 (Rear steering)
M5	Alignment Carriage
M6A	NB5-NB9
M6B	NF1, NF2
M7	N7, N8
M8	P1
M9	N6, N13
M10	NP1, NP2

3. Remove the Rear Cover on page 125.
4. If you are troubleshooting M3 or M4 or M5, do the step below; for other motors directly go to step 5.

   M3- Make sure the connector for M3 is inserted into the header at the back of the cutter module.

   M4- Make sure the connector for M3 is inserted into the header at the back of the cutter module.

   M5- Make sure the connector from M5 stepper motor is inserted into the driver board for motor M5.

All the connectors are securely connected.

Yes- Go to step 5; **No**- Make the connection and resume operation

5. For the motor in question, make sure three connectors at the stepper driver board (J1, J2 and J3) and the below two connectors at the main control board are inserted firmly.

   • J17 and J16 for M3, M4 and M5
   • J17 and J15 for M6, M7 and M8
   • J17 and J40 for M9
   • J17 and J14 for M1, M2, M6A and M6B

For motors M6B and M10, the stepper boards are located in the rear of the feeder. You must also check their connections to the NFX board. Both use connectors J3 and J13 on the NFX board.**All the connectors are securely connected.**

Yes- Go to step 6; **No**- Make the connection and resume operation

6. Inspect the timing belt for the correspond motor drive, see Paper Path Timing Belt on page 46. Follow the procedure to inspect the belts and replace if necessary (Timing Belts on page 160).

NOTE: If the timing belt of motor M5 is damaged, see Alignment Carriage Sub-Assy on page 195 to replace the entire sub-assembly.

For M5 alignment stepper motor, inspect the open ended belt in the alignment carriage sub-assembly. If it is damaged, replace the Alignment Carriage Sub-Assy on page 195.

All timing belts are okay

Yes- Go to step 7; **No**- Replace the faulty belt and resume operation

7. Check the tightness of the set screw of pulley on the stepper motor shaft. Also check the set screws/coiled spring pins for all the pulleys that are driven by the stepper motor in question.

All the set screws are secured tightly

Yes- Go to step 8; **No**- Tighten the loose set screw and resume operation

8. For the motor in question, check the DIP switch settings for the corresponding Driver Board (see M1-7, M9, M10 Motor Driver (Stepper Board) on page 173).

All the DIP switch setting are correct

Yes- Go to step 9; **No**- Correct the DIP switch and resume operation.

9. Check if there is power to the driver board. LED 1 on the board should be lit.
   - If LED 1 is lit, it means there is 24V DC power to the driver board from the main control board.
   - If LED 2 is lit, it means there is a fault with either the driver board or the stepper motor.

Continue to step 10

10. Check the cable connecting the stepper motor to the driver board (hard-wired to motor); and two cables connecting the driver board to the main control board
    - 7725564 715474 and 7725159 for M3, M4 and M5
    - 7725564 and 725150 for M6, M6A, M7 and M8
    - 7725175, 7725643, 7725653 and 7725562 for M8
    - 725564 and 7725560 for M1 and M2

7726012 and 7726013 for M6B and M10**The cables are not damaged**

Yes- Go to step 11; **No**- Replace the faulty cable and resume normal operation

11. See Firmware Update / Save Logs on page 15 to upgrade the firmware.

This clears the fault

Yes- Resume normal operation; **No**- Go to step 12

12. Replace the driver board for the faulty motor, with DIP switch set correctly for the position you are replacing- M1-7, M9, M10 Motor Driver (Stepper Board) on page 173.

This clears the fault

Yes- Resume normal operation; **No**- Go to step 13

13. Replace the faulty stepper motor
    - For M1, M2, M6A, M6B, M7, M9 and M10 see Stepper and Mount Assembly on page 163
    - For M3 and M4 see Steering Stepper Motor on page 197
    - For M5 see Steering Module on page 192

This clears the fault

Yes- Resume normal operation; **No**- Go to step 14

14. Replace the cables from control board to driver board.

If LED1 of any of the driver board is not lit, replace 725564 or 7726013 for M6B and M10

For other issues, Replace one of the below cables:

- 7725564 715474 and 7725159 for M3, M4 and M5
- 7725564 and 725150 for M6, M6A, M7 and M8
- 7725175, 7725643, 7725653 and 7725562 for M8
- 725564 and 7725560 for M1 and M2
- 7726012 and 7726013 for M6B and M10

7726012 for M6B and M10**This clears the fault**

Yes- Resume normal operation; **No**- Go to step 15

15. Replace the Main Control Board on page 221.

This clears the fault

Yes- Resume normal operation; **No**- Escalate to next level of support

AC Motor Check

If the AC motor that drives the cutter does not function, perform these troubleshooting steps.

1. Check that the cutter is not jammed.
   - If it is, perform the Jam: Cutter Knife Down on page 100 clearing procedure.
   - If the cutter continues to jam, go to step 6.
2. Go to the User Functions menu on the LCD and run the "Cycle Cutter" function.
   - If the motor does not power on, continue to step 3.
   - If the motor powers on, but does not complete a cut rotation, go to step 6.
3. Confirm the motor is plugged in, the motor cable is plugged into the main control board at J20, and the breakout board at J1.
4. Use a multimeter to measure the voltage enter the main control board at J20. This value should match the voltage measured at the wall outlet.
   - If this does not, measure the voltage at J1 of the breakout board (7725522).
   - If the voltage out does not match the wall outlet, replace the breakout board (7725522).
   - If the voltage in does not match the wall outlet, replace the cable (7725569).
5. Use a multimeter to check the wire continuity from the AC motor to where it connects to the main control board at J36.
   - If there is no continuity, identify where the connection is broken and replace that wire.
6. Check wall voltage.
   - The wall voltage should measure 104V-127V for 115V machines and 207V-253V for 230V machines. If the voltage is out of this range, resolve this before continuing troubleshooting.
7. Check the belt tension following the Motor Belt Tension on page 254 and tighten the belt if loose.
8. Check if the pulley on the clutch can rotate freely by hand when the clutch is in the disengaged position.
   - Replace the clutch if it is difficult to rotate following Clutch on page 181.
9. If all of the above actions have been executed and the AC motor still does not function, escalate to next level of support.

FeederSkewed SheetsSheets could become skewed when they are picked by the single pick roller before they reach the drive rollers further along in the panel. Skewed sheets can result in FAULT: SIZE MISMATCH (S20), FAULT: DOUBLE PICK, and poor lamination output.

If the feeder side guides are not set properly, sheets can become skewed. When the guides are too tight, the paper will curl upward where they meet the guides. This can allow for the paper to ride up the edge of the guide, becoming skewed. Alternatively, if the guides are too loose, the paper has room to skew which can cause similar issues.

If sheets become skewed follow these steps:

1. Ensure that the guides are set properly by opening them fully, inserting a stack of paper, and then closing them until they just barely contact the pages.
2. If the side guides move too easily and move during operation, perform the adjustment for Side Guides on page 267.
3. Open the top feeder door and examine it for debris that may be obstructing the paper path.

4. Perform the adjustment for the Feeder Magnet on page 266
5. Perform the Pick Roller on page 52.

Inspect the Feeder Idler Roller on page 266.

M6B Motor Stalling

M6B is the motor that brings the paper out of the pick roller and into the lamination paper path. If this motor is stalling when feeding, follow the procedures below.

1. Check the feeder and bypass paper path for obstructions.
2. Open the feeder sheet guides slightly to see if the issue goes away.

   If these guides are too tight, they will increase the force required to feed sheets and cause motor stalls.
3. Check the belt tension following the Feeder Paper Path Belts (M6B) on page 225
4. Check the stepper motor following the Stepper Motor Checks on page 117.
5. Check the stepper driver board following the M1-7, M9, M10 Motor Driver (Stepper Board) on page 173. Also, re-seat the connections to the stepper driver board.
6. Perform the adjustment for the Feeder Idler Roller on page 266 to raise both magnets to reduce the idler pressure.

Inspect the clutch roller following Clutch Roller on page 52.

Repair Procedures

The repair procedures are organized by different major components. Click on the blue links, shown below, to be taken to the relevant section or repair procedure.

Precautions 124
Tools Needed 124
Work Environment 124
Pre-Requisites 125
- Rear Cover 125
- Feeder Rear Cover 125

Cabinet 126

Top Cover 126
Laminator Door 127
- Bottom Hinge Bracket 127
- Panel Open Magnet 128
- Door Latch 129
- Laminator Interlock Switch 130

LCD Display 131
Casters 132
Exhaust Fan 132
Stacker Rails 134
Stacker Side Guides 135

Paper Path 136

Lower Entrance Panel 136
Lower Exit Panel 137
Inner Entrance Panel 138
Entrance Idler Panel 139
Entrance Drive Panel 141
Exit Idler Panel 142
Drive Exit Panel 144
Hinged Exit Panel 146
Upper Bypass Panel 147
Lower Bypass Panel 149
Bypass Diverter 149
Panel Close Magnet 151
Idler Rollers 152
Drive Roller Assembly 153
Idler Panel Mount Bracket 155
Flange Ball Bearing 155
Snap-in Bearing 157
Bearing Housing 158
Drive Idler Roller 159
Timing Pulley 159
Timing Belts 160
- 132T Timing Belt 160
- 166T Timing Belt 161
- 539T Timing Belt 161
- 197T Timing Belt 162
- 162T Timing Belt 162

Stepper and Mount Assembly 163
M8 Motor 164
Sensors 165
- Sensors: S1, S25, S26 and S27 165
- Sensors: S1B, S24 166
- Sensors: S2, S3, S4, S5 168
- Sensor S28 169
- Sensors 6 through 10 170
- Sensors 11 through 15 171
- Sensor 16 171
- Sensors 30 and 31 172

M1-7, M9, M10 Motor Driver (Stepper Board) 173
M8 Motor Driver (Stepper Board) 175
Solenoids 176

Diverter (SOL1 and SOL8) 177
Entrance Idler (SOL2 and SOL3) 178
Anti-Static Brush 179

Cutter Module 180

Motor 180
Belt 180
Clutch 181
Blade 183
Cutter Shaft Ball Bearing 186
Cutter Encoder 186
Jam Clearance Knife Blade 188

Trim Tray 190

Trim Tray Home Switch 190
Trim Level Emitter 191
Trim Level Receiver 191

Steering Module 192

Alignment Module 192
Laminator Alignment Stepper Motor, Pulley & Bracket 194
Alignment Carriage Sub-Assy 195
Steering Stepper Motor 197
Steering Motor Belt (65 Groove) 198
Steering Drive Roller Shaft 199
Steering Idler Panel Weldment 200
Steering Idler Roller Assembly 201
Steering Idler Roller Bearing 203
Steering Drive Panel Weldment 203

Laminator Module 205

M8 Motor Driver 205
Cartridge Rail Plate 208

Rollers - with Sensor 209
Lower 209
Upper 210
Locking Mechanism 212
Handle 214
Clamps 215
Alignment Sensor Bracket 217

Electronics & Controls 219

24V Power Supply 219
AC Filter 220
Main Control Board 221
Communication Board 222
Chip Reader 222
Bracket 223
Breakout Board 223

Feeder 225

Feeder Paper Path Belts (M6B) 225
Pick Roller Belt (M10) 226
Pick Roller Assembly 226
Clutch Roller 228
Mylar Pad 230
Pick Roller Drive Rollers 231

Precautions



WARNING: Do not perform any repair with the power on or electrical power supplied to the machine.



DANGER: HIGH VOLTAGE

Before starting repair, please note the following precautions:

- Read all instructions carefully before operating the machine and prior to performing any procedure.
- Do not place anything on top of the unit.
- Keep the top clear of obstructions.
- Do not block the slots and opening on the unit, which are provided for ventilation.
- Do not place anything on the power cord.
- This equipment is not intended for use by children.

Tools Needed

- Needle nose pliers
- Torx Screwdrivers: T6, 10, 20
- Phillips Screwdriver
- Flathead Screwdriver
- 7mm Nut Driver
- 5.5mm Nut Driver
- 7mm Open End Wrench
- 5.5mm Open End Wrench
- Needle Nose Pliers
- Phillips Screwdriver
- Flathead Screwdriver
- Wire Cutters
- Metric Allen Key Set (1.5mm, 2mm, 2.5mm, 3mm, 4mm, 5mm)

Work Environment

Be sure to have a stable, clean working environment. Dust and dirt can get into the system components and cause a malfunction. Adequate lighting and proper tools can prevent accidentally damaging the internal components.

Pre-Requisites

In many cases it will be necessary to remove other parts to get to the area for repair.

Rear Cover

Remove

1. Hold the rear cover in place while removing the (6) M4 X 8 screws from the rear cover.
2. Grasp the handle and remove the rear cover.

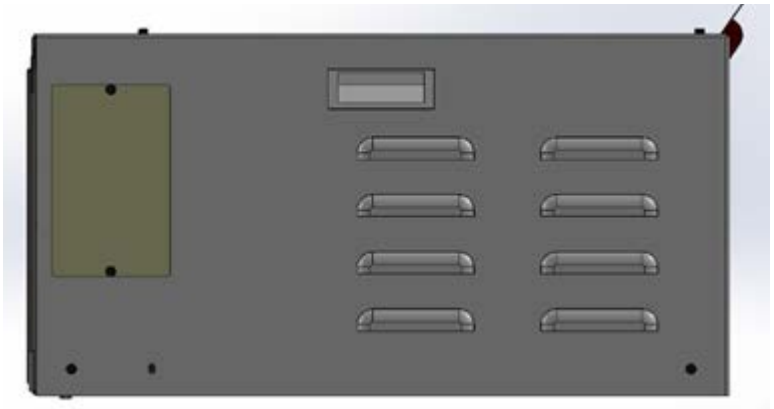


Install

1. Place the rear cover in position and tighten the (6) screws.
2. Install the MK 737 boxes.
3. Connect the communication cables.
4. Connect the power cord.

Feeder Rear Cover

Removing the rear cover from the feeder is as simple as remove the (4) screws holding it in place.

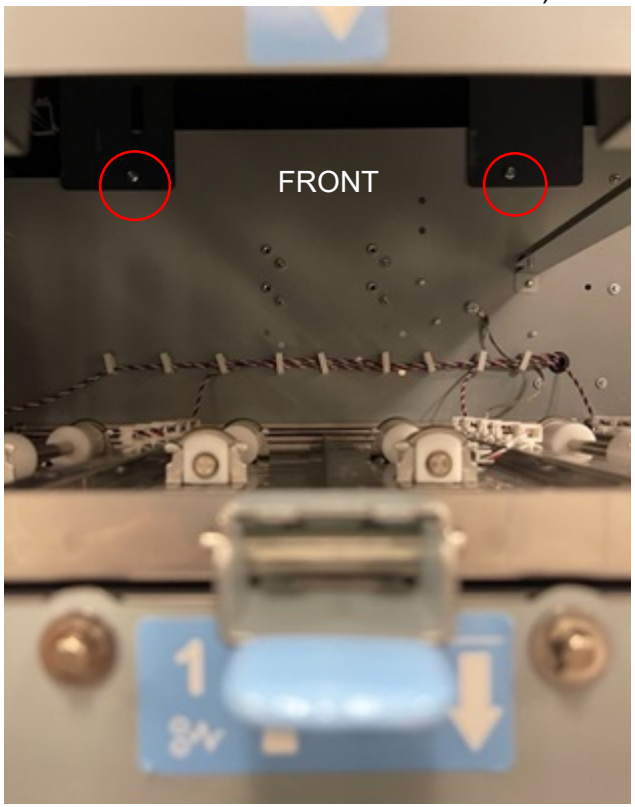


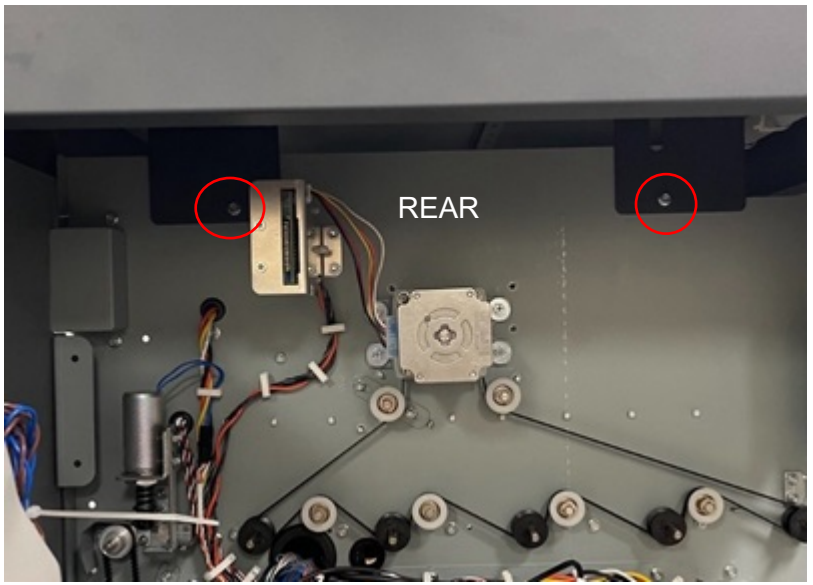
Cabinet

Top Cover

Remove

1. Open the laminator door.
2. Remove the Rear Cover on page 125.
3. Remove the (4) Phillips screws from the top cover tabs (2 screws on front side and 2 screws from rear side).





4. Disconnect the LCD panel connector and release the LCD cable from wire saddles.
5. Remove the top cover.

Install

1. Place the top cover in position so the tabs overlap the front and rear frame.
2. Install and tighten the (4) Phillips screws through the tabs.
3. Connect the LCD panel connector and place the LCD cable in the wire saddles.
4. Close the laminator door.
5. Install the Rear Cover on page 125.
6. Connect the Power Cord.

Laminator Door

1. Open the laminator door.
2. Support the door while removing the (2) screws from the bottom hinge bracket on the laminator door.





3. Lower the door down off the pin on the top hinge bracket.
4. Remove the laminator door.
5. Remove the Laminator Interlock Switch on page 130 from the old door and install it on the new one.
6. Remove the magnet strike plate from the old door and install it on the new one.



Install

1. Insert the upper part of the door on to the pin.
2. Align the holes on the bottom hinge to the bracket and screw into place.
3. Close the door.
4. Run the Door Latch on page 235 adjustment procedure.
5. Connect the power cord.

Bottom Hinge Bracket

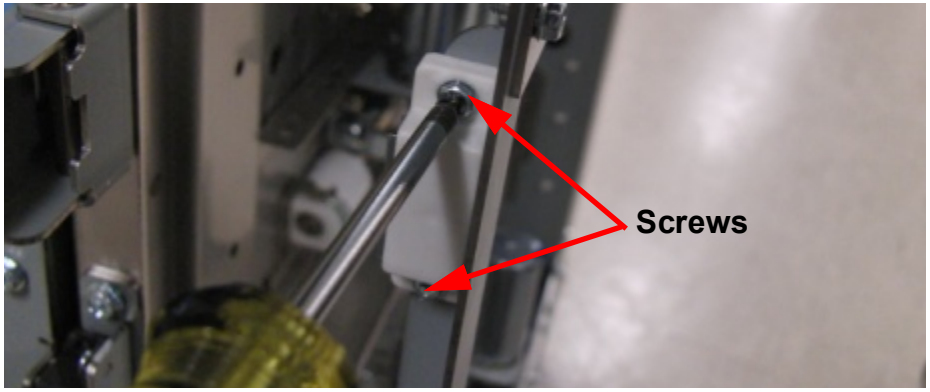
1. Remove the Laminator Door on page 127.
2. Remove the (2) screws from the bottom hinge bracket on the frame.



3. Install the new bracket on the door.
4. Align the holes on the bottom hinge to the frame and screw into place.
5. Close the door.
6. Run the Door Latch on page 235 adjustment procedure.

Panel Open Magnet

1. Open the laminator door.
2. Remove the (2) screws holding the magnet.



3. Install the new magnet and tighten the (2) screws.
4. Close the door.
5. Connect the power cord.

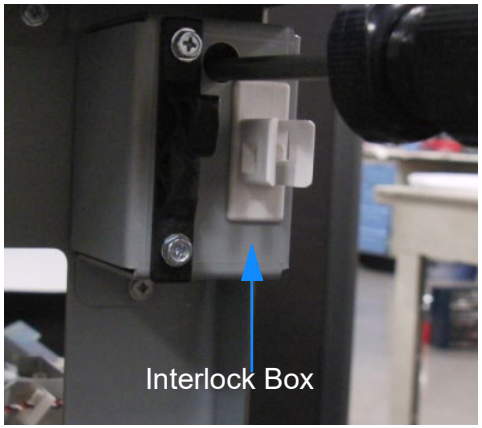
Door Latch

The door latch holds the door closed and the activating bracket tab depresses the door switch. The tab should press the switch button just so that it is close to bottoming out.

1. Open the laminator door and remove the (2) screws holding the latch.



2. Remove (1) screw from the top of the interlock box.



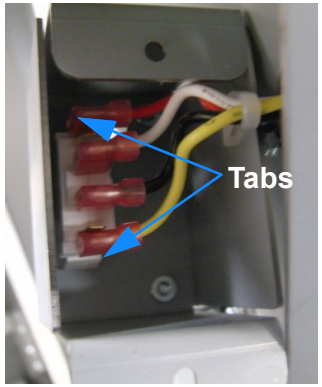
3. Place the new latch in position.
4. Replace the (2) screws on the interlock box.
5. Replace the (2) screws on the door latch.
6. Run the adjustment for the Door Latch on page 235.
7. Close the laminator door.
8. Connect the power cord.
9. Test the door latch operation.

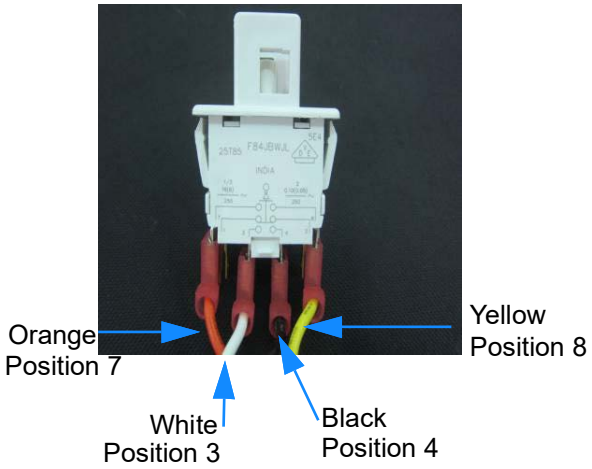
Laminator Interlock Switch

1. Open the laminator door.
2. Remove the (1) screw above the interlock box.



3. Press in the (2) tabs on the sides of the switch and remove the interlock switch from the bracket.
4. Note the location of the (4) wires, then disconnect them from the interlock switch.





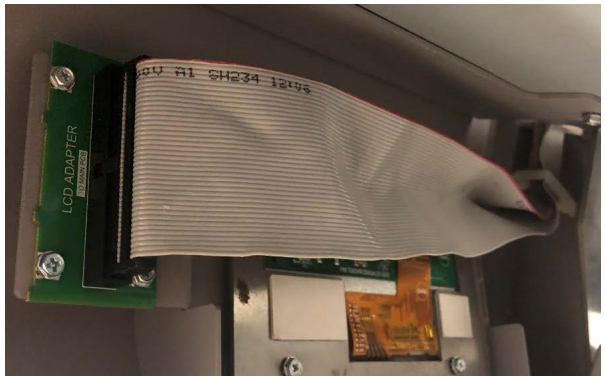
5. Place the new interlock switch into the bracket and press down until the tabs lock in place.
6. Connect the (4) wires to the new switch.
7. Place the bracket in place and tighten down the (2) screws.
8. Close the laminator door.
9. Connect the power cord.

LCD Display

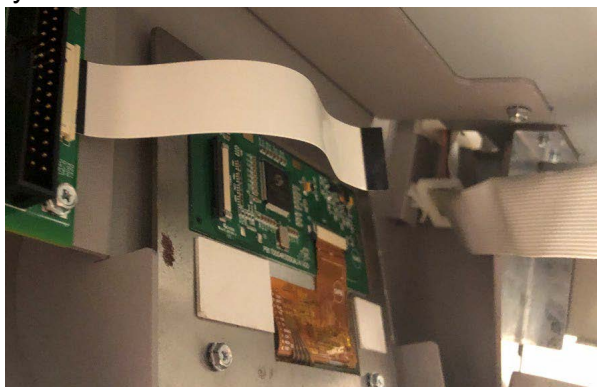
The display can be removed without removing the top cover, but removing the top cover may make it easier to access the components.

Remove

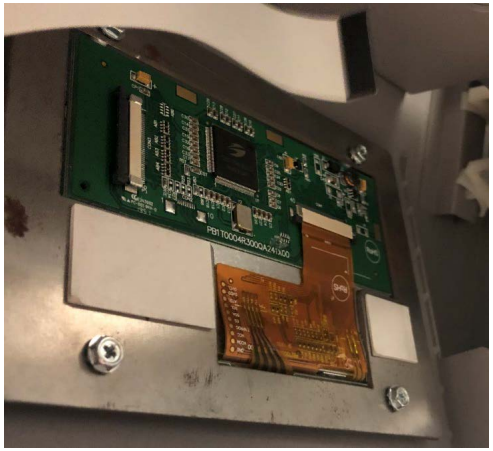
1. (optional) Remove the Top Cover on page 126.
2. Open the laminator door.
3. Locate the LCD display under the top cover and disconnect the large ribbon cable from the LCD adapter board.



4. Disconnect the small ribbon cable from the LCD by gently pulling horizontally on the tabs of the cable connector to release it.



5. From underneath the top cover, remove the (4) screws holding the LCD display to the cover and remove the display.

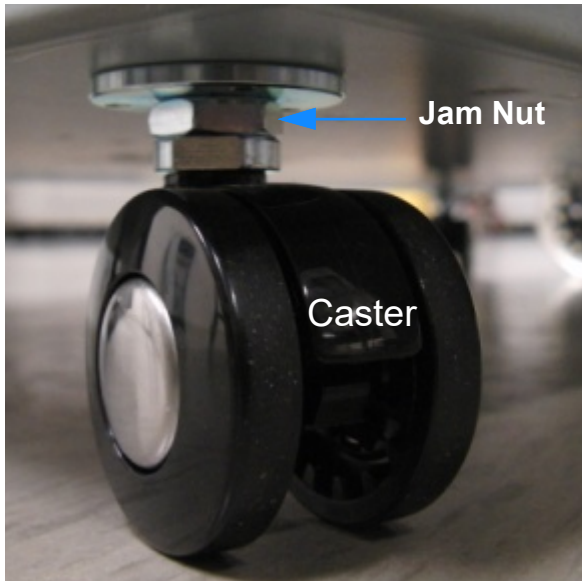


Install

1. Place the new LCD display in position on the underside of the top cover and tighten the (4) screws.
2. Connect the small ribbon cable to the LCD screen by placing the cable flat and pressing in on the plastic tabs of the cable connector to secure.
3. Connect the large ribbon cable to the adapter board.
4. Close the laminator door.
5. Connect the power cord.

Casters

1. Carefully lift the corner of the machine by the caster.
2. Loosen the jam nut.

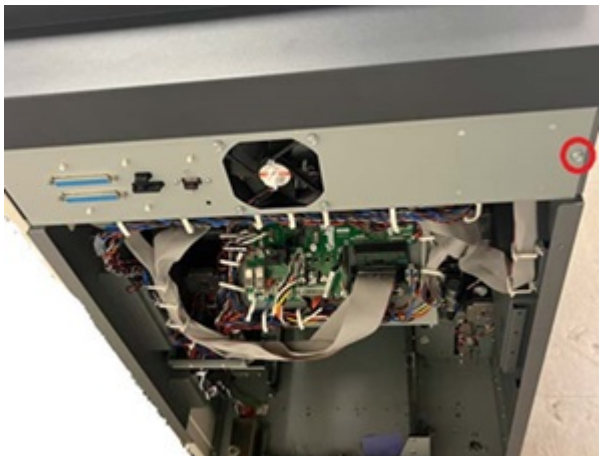


3. Unscrew the caster to remove it.
4. Place the new caster in position and screw it in.
5. Tighten the jam nut.
6. Lower the machine.
7. Connect the power cord.

Exhaust Fan

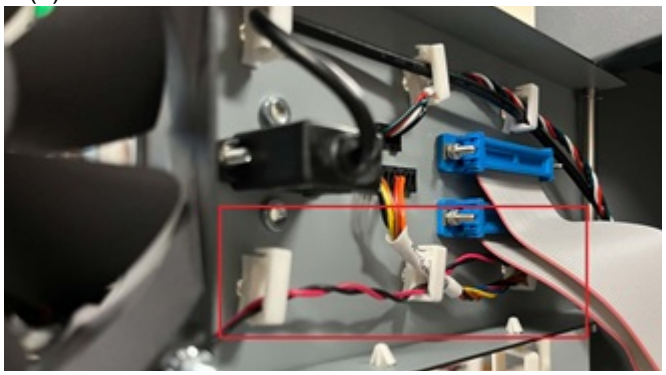
Remove

1. Remove the Rear Cover on page 125.
2. Remove the screw on the right hand side of the exhaust fan bracket.

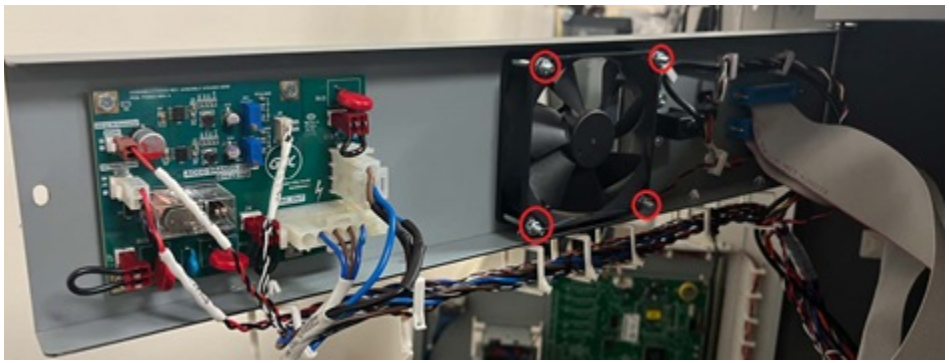


3. Tilt the exhaust fan bracket open by pulling from the right side.

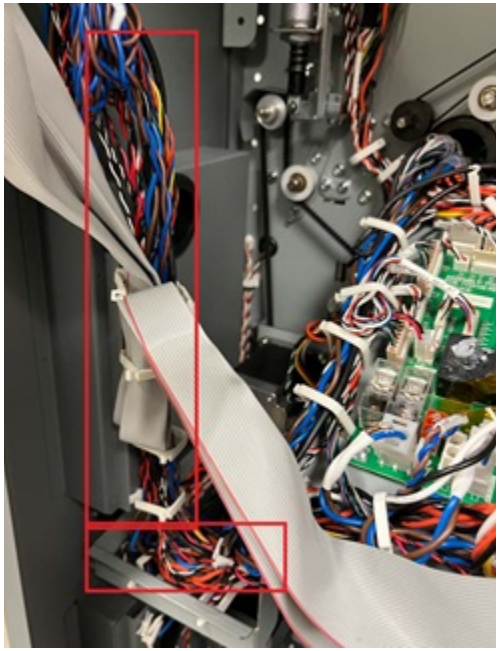
   The left side has a hinge that will allow the bracket to open outwards.
4. To remove the exhaust fan from the bracket, disconnect cable (7715267) at connector J20 on the control board (Wiring on page 273).
5. Open the (3) wire saddles towards the bottom of the bracket.



6. Remove the (4) screws from the front and the (4) nuts from the rear of the bracket.



7. Open the wire saddles along the side of the frame that leads to the control board. Any saddle you can see the black/red fan wiring routed through needs to be opened in this step. Note the wire path boxed in red in the image below.



8. Remove the fan.

Install

1. Place the new fan in position on the bracket.

IMPORTANT: The fan should be installed such that air flows out of the machine. An arrow mark in the exhaust fan indicates the direction of air flow.

2. Install the (4) screws into the front and tighten the (4) nuts on the rear of the bracket.
3. Place cable (7715267) into the wire saddles.
4. Place the exhaust fan bracket assembly in position and tighten the screw.
5. Connect cable (7715267) to connector J20 on the control board (Wiring on page 273).
6. Install the Rear Cover on page 125.
7. Connect the power cord.

Stacker Rails

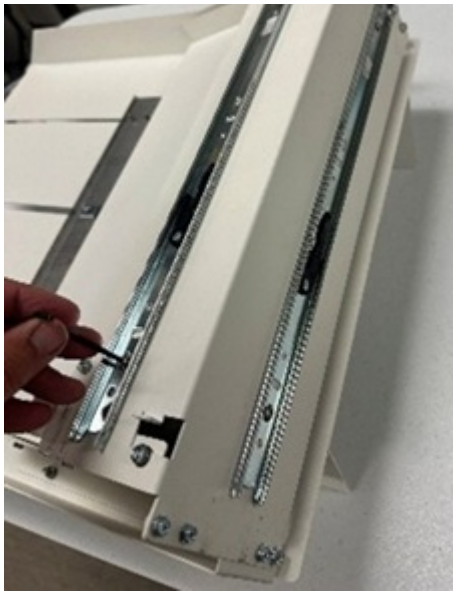
1. Remove the lower drawer stop.



2. Slide the drawer out until it stops.
3. Push down on the tabs on both slides.



4. While supporting the back of the stacker, carefully remove the drawer.
5. Remove screws from the rails on the machine and the stacker.





6. To separate the replacement rails, push down on the tabs.
7. Install all new rails by centering the screw in the slot.



8. Align the rails and push drawer in to engage the locks.

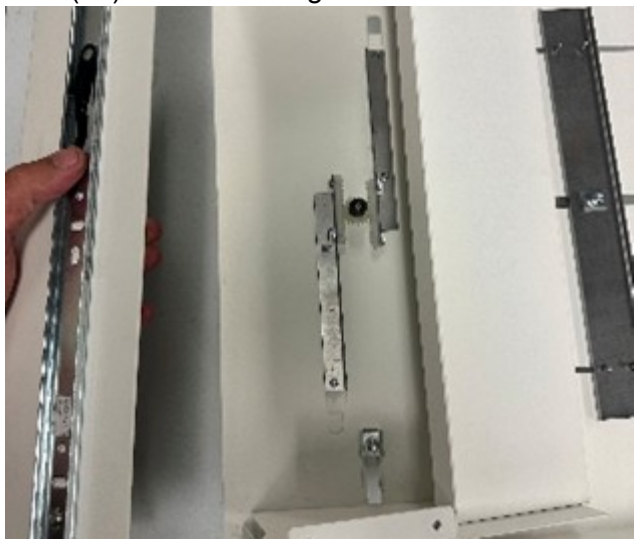
Replace the lower drawer stop.

Stacker Side Guides

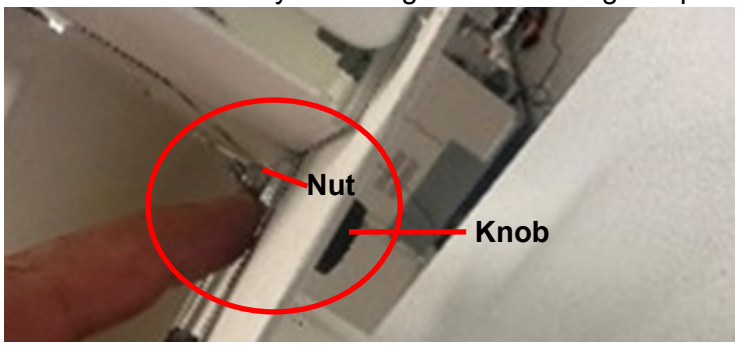
1. Remove the stacker by following the first four steps in Stacker Rails on page 134.
2. Slide side guides to their widest points.
3. Turn the stacker upside down and support the middle with two reams of paper so that the guides do not touch any surface..



4. Remove the (12) screws holding the cover.



5. Remove the thumb screw by removing the nut holding it in place.



6. Remove the nuts holding the side guides and replace guides and nuts. Refer to the picture below for gear alignment.



7. Replace thumb screw and tighten knob until snug, then loosen by a half turn.
8. Hold knob, thread nut on shaft and snug nut down while keeping the knob from moving.
9. Confirm that the side guides move smoothly. If not, loosen knob by another half turn.

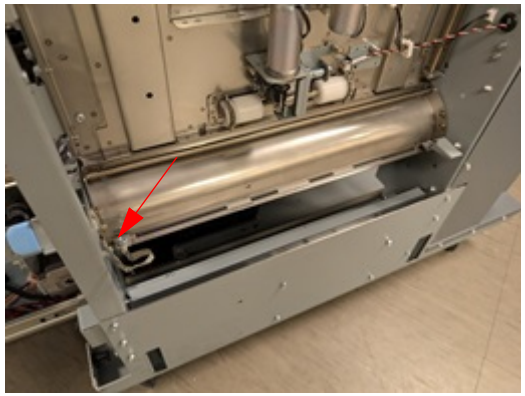
Reinstall cover.Install stacker, following steps 8 and 9 in Stacker Rails on page 134.

Paper Path

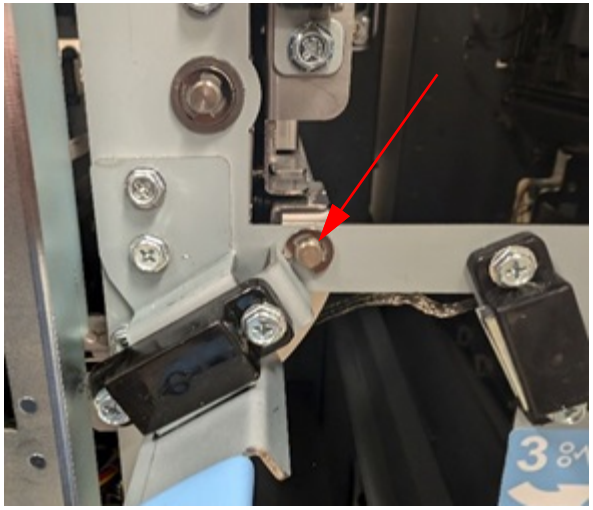
Lower Entrance Panel

Remove

1. Open the laminator door.
2. Remove the (1) screw holding the grounding strap.



3. Remove the (1) E-clip from the front of the shaft.



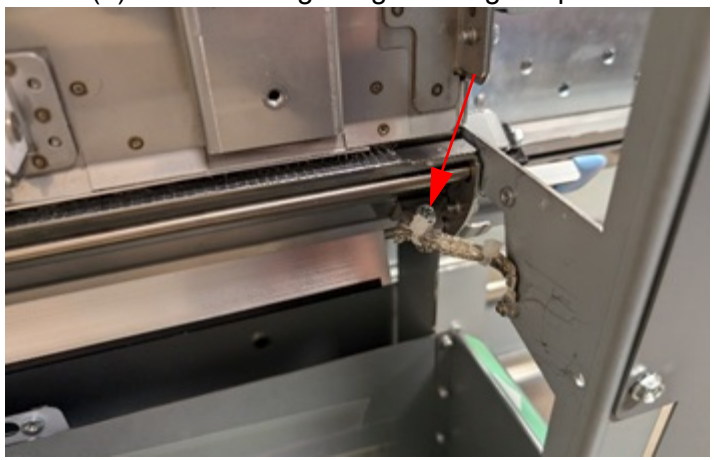
4. Slide the shaft backwards until you can angle it downward.
5. Pull the panel out of the machine, sliding it down the shaft.

Install

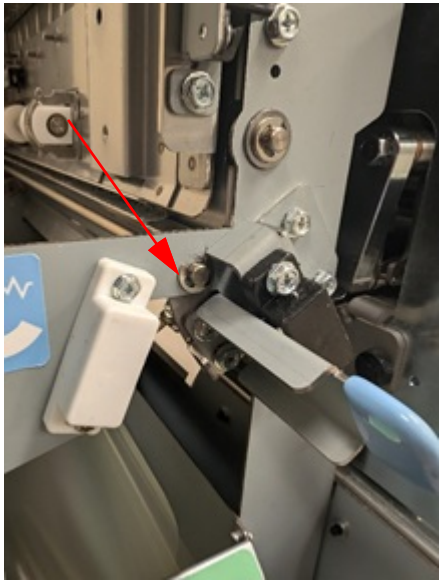
1. Slide the panel up the shaft.
2. Reseat the shaft in the front frame.
3. Install the E-clip at the front end of the shaft.
4. Install the grounding strap.

Lower Exit Panel

1. Open the laminator door.
2. Remove the (1) screw holding the grounding strap.



3. Remove the (1) E-clip from the front of the shaft.



4. Slide the shaft backwards until you can angle it downward.
5. Pull the panel out of the machine, sliding it down the shaft.

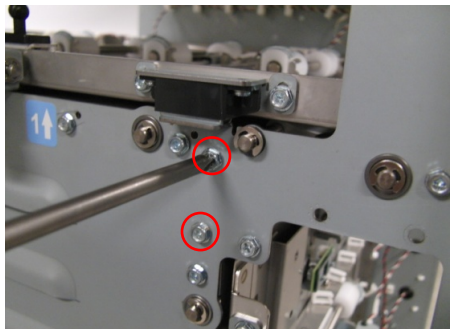
Install

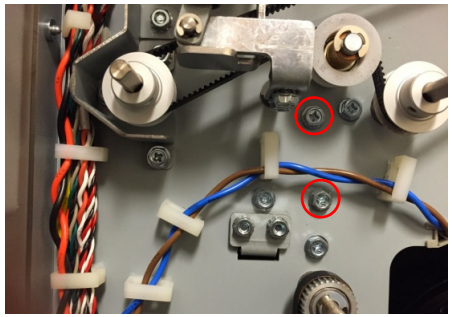
1. Slide the panel up the shaft.
2. Reseat the shaft in the front frame.
3. Install the E-clip at the front end of the shaft.
4. Install the grounding strap.

Inner Entrance Panel

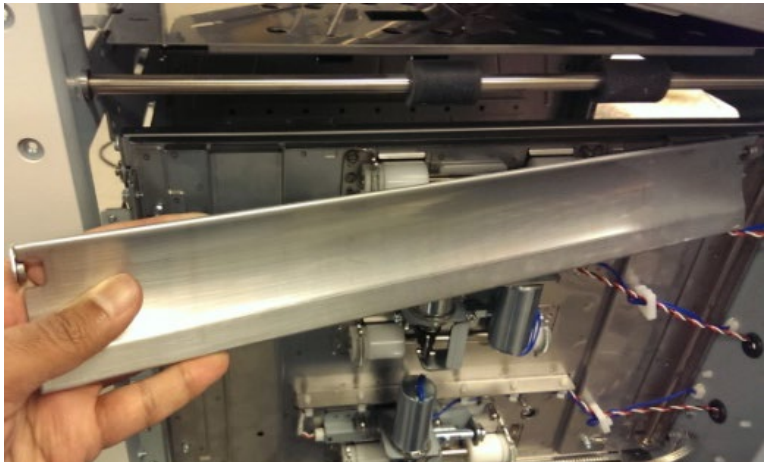
Remove

1. Remove the side panel.
2. Remove the Rear Cover on page 125.
3. Remove the Lower Entrance Panel on page 136.
4. Remove the (2) screws from the front frame and the (2) screws from the rear frame that are used to mount the inner entrance panel.





5. Remove the Inner Entrance Panel.



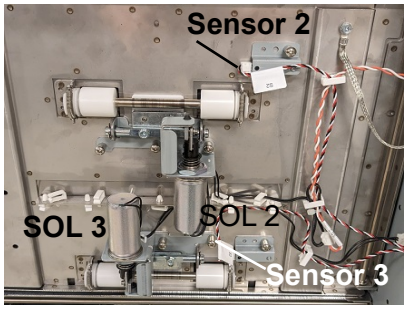
Install

1. Place the inner entrance panel in position and tighten the (2) screws in the front frame and the (2) screws in the rear frame that are used to mount panel.
2. Install the Lower Entrance Panel on page 136.
3. Install the Rear Cover on page 125.
4. Connect the power cord.

Entrance Idler Panel

Remove

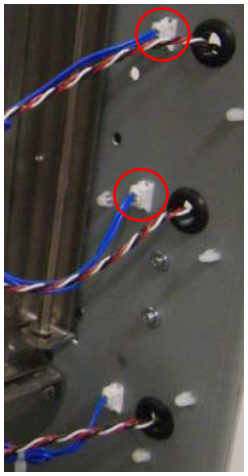
1. Open the laminator door.
2. Open the cable clamps to release all the sensor cables.



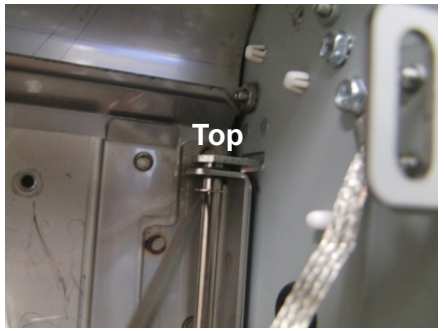
3. Disconnect the connectors for sensors S2 and S3.
4. Remove the screw for the ground strap.

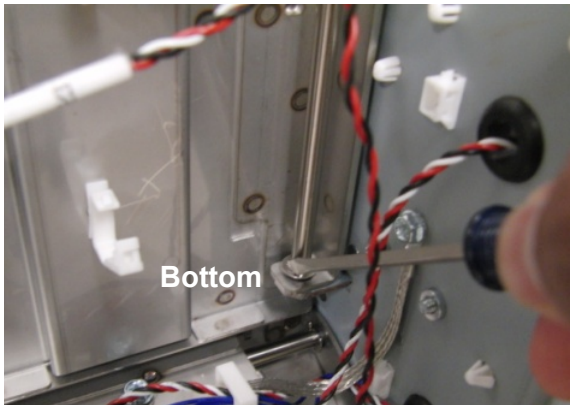


5. Disconnect the connectors for solenoids SOL3 and SOL4 from the header.



6. Remove the E-rings from the top and bottom of the idler panel shaft.

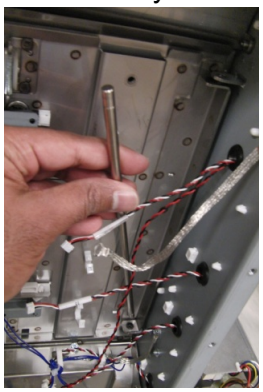




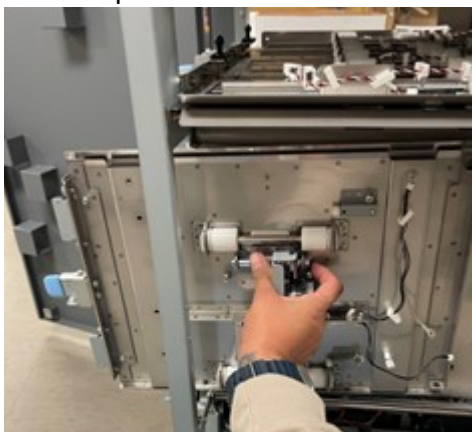
7. Open the entrance idler panel from the front side.



8. Carefully remove the shaft.



9. Grasp and remove the entrance idler panel.



10. Do the following to transfer the sensors, solenoid modules, idler rollers, springs, and panel magnets to the new weldment.
    - Idler Rollers on page 152
    - Sensors: S2, S3, S4, S5 on page 168 (Sensors 2 and 3 only)
    - Entrance Idler (SOL2 and SOL3) on page 178

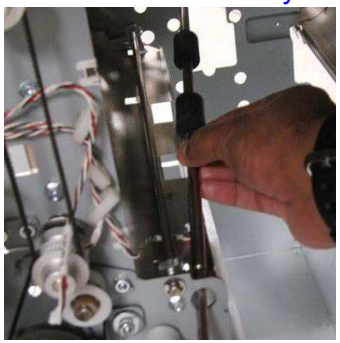
Install

1. Place the entrance idler panel in position.
2. Insert the shaft through the (2) holes at the left side of the entrance idler panel.
3. Install the (2) E-rings at the top and bottom of the shaft.
4. Connect the connectors for solenoids SOL3 and SOL4 to the header.
5. Connect the connectors for sensors S2, S3, and S4.
6. Place the sensor cables into the cable clamps, and close the clamps.
7. Install the screw for the ground strap.
8. Adjust the Idler Panel Magnetic Latches on page 249.
9. Close the laminator door.
10. Connect the power cord.

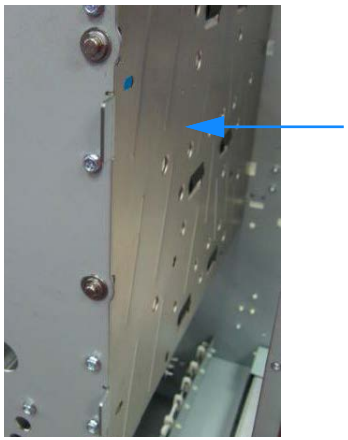
Entrance Drive Panel

Remove

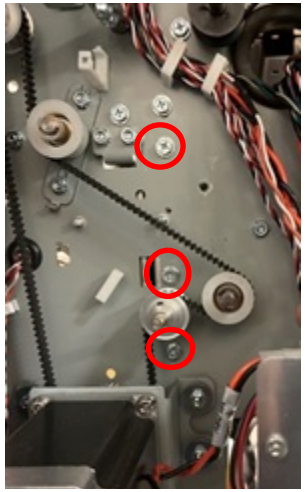
1. Remove the Rear Cover on page 125.
2. Remove the Cutter Module on page 180.
3. Remove the Entrance Idler Panel on page 139.
4. Remove the Stepper and Mount Assembly on page 163.

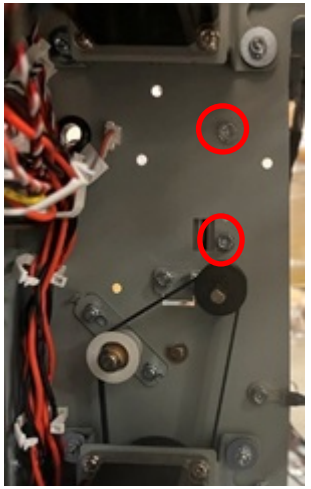


5. Remove the (5) screws that hold the entrance drive panel to the front frame.



6. Remove the (5) screws that hold the panel to the rear frame.





If you cannot remove the entrance drive panel, remove the Idler Panel Mount Bracket on page 155 from the lower position only.

7. Remove the Entrance Drive Panel.
8. Transfer the sensor boards and the clear cover sensor to the new panel weldment.

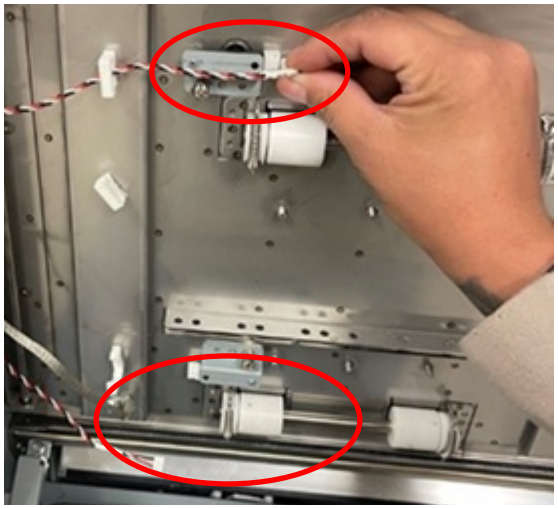
Install

1. Place the entrance drive panel in position.
2. Install the Idler Panel Mount Bracket on page 155 at the lower position.
3. Install the (5) screws (5) that hold the entrance drive panel to the rear frame and the (5) screws that hold it to the front frame.
4. Connect the (2) sensor board connectors.
5. Install the Stepper and Mount Assembly on page 163.
6. Install the Entrance Idler Panel on page 139.
7. Adjust the Drive Panel on page 250.
8. Install the Rear Cover on page 125.
9. Connect the power cord.

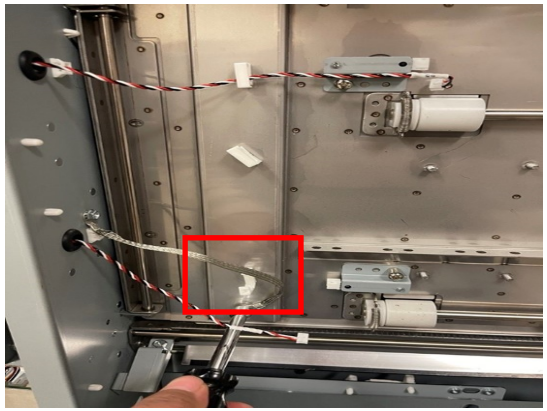
Exit Idler Panel

Remove

1. Open the laminator door.
2. Remove stacker and side panel.
3. Open the cable clamps and release sensor cables S4 and S5 at the sensor.

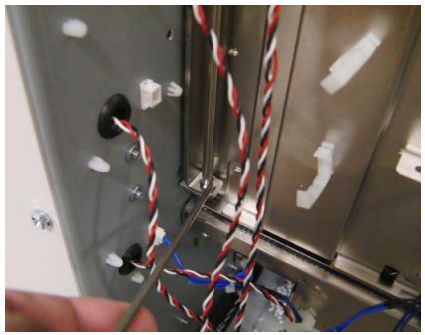


4. Remove the M4 screw for the ground strap.



5. Remove the E-ring from the top and bottom of the idler panel shaft.





6. Open the entrance idler panel from the front side.



7. Carefully remove the shaft.



8. Grasp and remove the exit idler panel.



To replace the exit idler panel weldment, do the following procedures to remove and install these components.

- Idler Rollers on page 152.
- Panel Close Magnet on page 151.

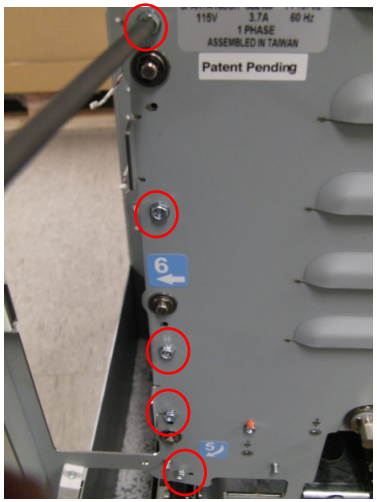
Install

1. Place the exit idler panel in position.
2. Insert the shaft through the holes at the left side of the Exit Idler Panel.
3. Install the E-Rings at the top and bottom of the shaft.
4. Place the sensor cables into the cable clamps and close.
5. Install the ground strap.
6. Install the stacker and side panel.
7. Close the laminator door.
8. Connect the power cord.

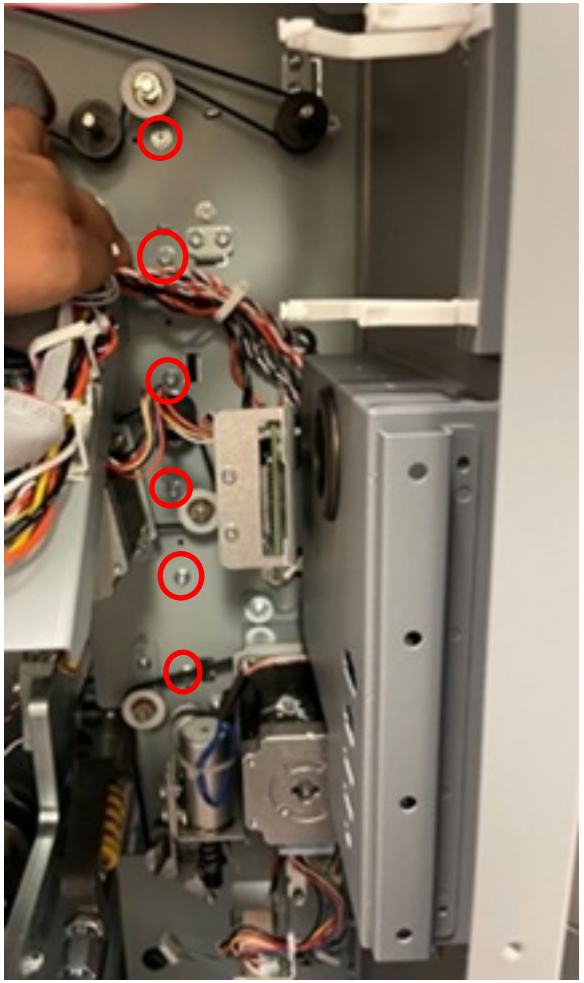
Drive Exit Panel

Remove

1. Remove the Lower Exit Panel on page 137.
2. Remove the Exit Idler Panel on page 142.
3. Remove (5) screws from the front frame which mount the exit drive panel.



4. Remove (6) screws from the rear frame that mount the drive exit panel.



5. Remove the drive exit panel.

Install

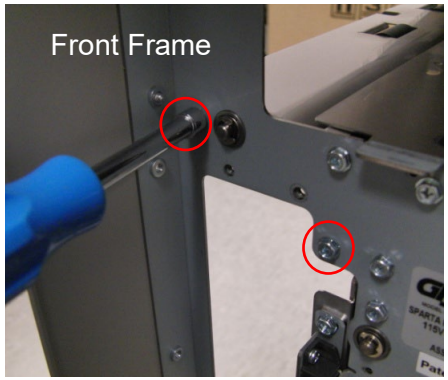
1. Place the drive exit panel in position.
2. Install the (5) screws in the front frame and (5) screws in the rear frame.

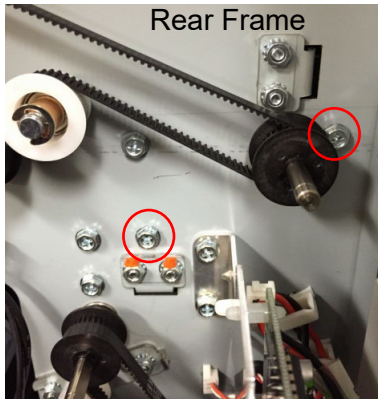
3. Adjust the Drive Panel on page 250.
4. Install the Exit Idler Panel on page 142.
5. Adjust the Idler Panel Magnetic Latches on page 249.
6. Connect the power cord.

Hinged Exit Panel

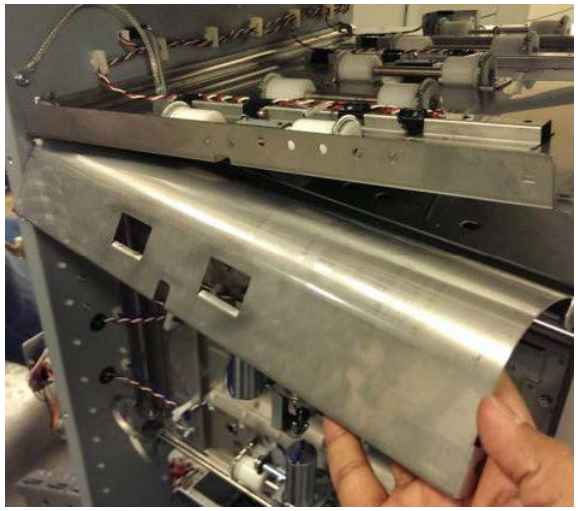
Remove

1. Remove the Rear Cover on page 125.
2. Remove the Drive roller cover removal to remove the downstream side roller cover.
3. Open the upper bypass panel.
4. Remove the (2) screws from the front frame and the (2) screws from the rear frame which mount the laminator lower exit panel.





5. Remove the laminator lower exit panel.



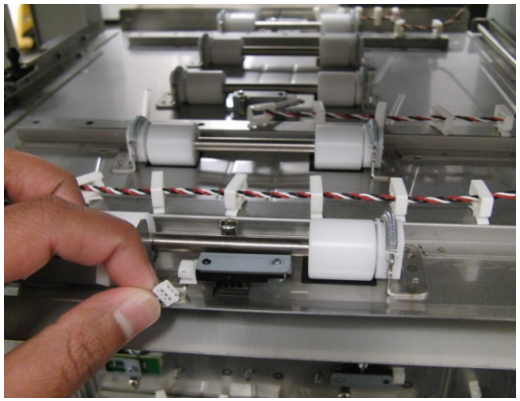
Install

1. Place the laminator lower exit panel in position.
2. Tighten the (4) screws used to mount the Inner Entrance Panel on page 138.
3. Install the Rear Cover on page 125.
4. Install Drive roller cover.
5. Connect the power cord.
6. Adjust the Diverter Solenoid (SOL1) on page 236.

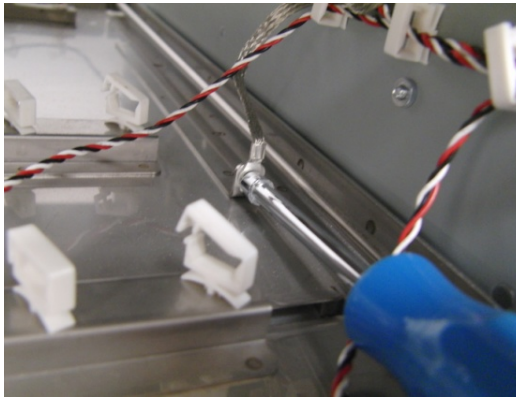
Upper Bypass Panel

Remove

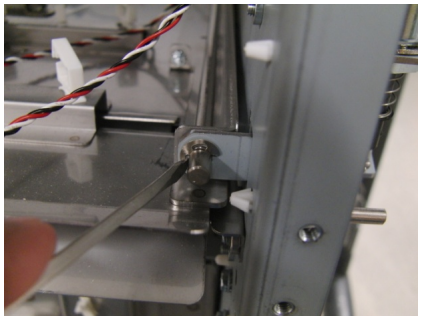
1. Remove the Rear Cover on page 125.
2. Unplug the sensors from the upper bypass panel and release the sensor cables from the cable clamps.

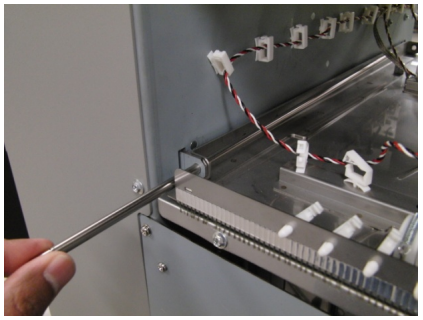


3. Remove the screw and nut for the ground strap.

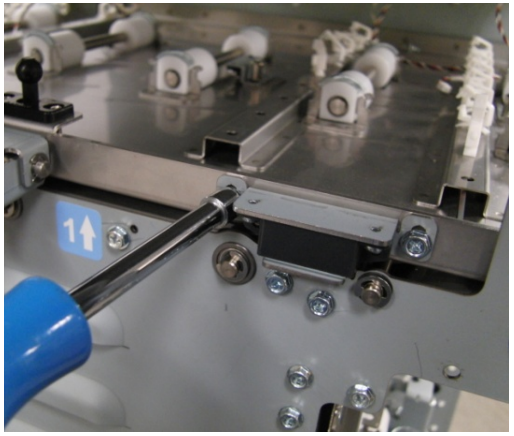


4. Remove (2) E-clips from the hinge shaft and remove the shaft.

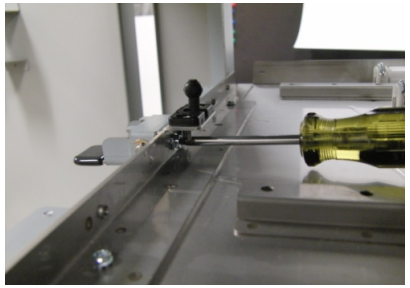




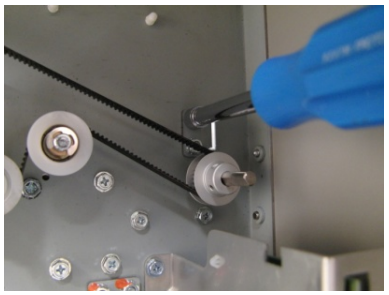
5. Remove (2) idler panel magnetic latches from the upper bypass assembly by unscrewing (4) screws.



6. Remove the (2) screws from the handle assembly.



7. Remove the Idler Panel Mount Bracket on page 155 (singular) from the rear frame.





8. Remove the upper bypass assembly.

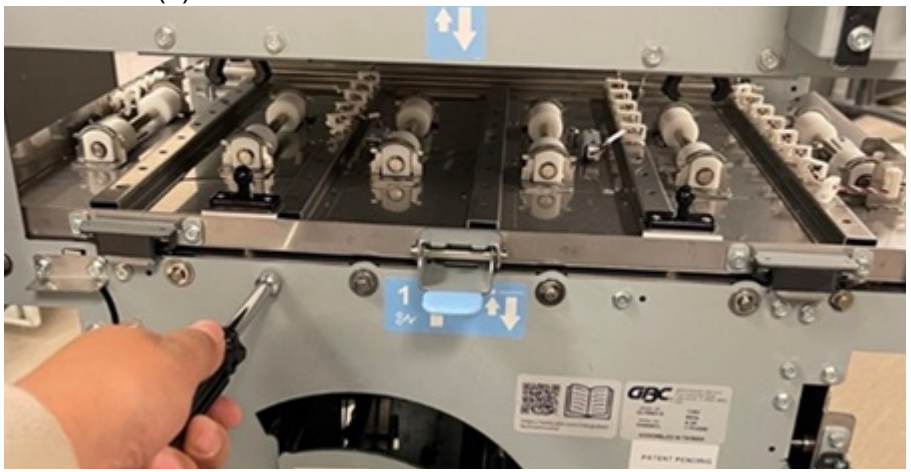
Install

1. Transfer the idler rollers, springs, sensors, bypass open sensor flag, and magnetic latches to the new part.
2. Place the upper bypass assembly in position.
3. Install the handle assembly.
4. Install the (2) idler panel magnetic latches.
5. Install the idler panel mount bracket on the rear frame.
6. Place the shaft in position and install the (2) E-clips.
7. Connect the sensors from the upper bypass panel and place the sensor cables in the cable clamps.
8. Install the ground strap.
9. Install the Rear Cover on page 125.
10. Adjust the Idler Panel Magnetic Latches on page 249.
11. Connect the power cord.

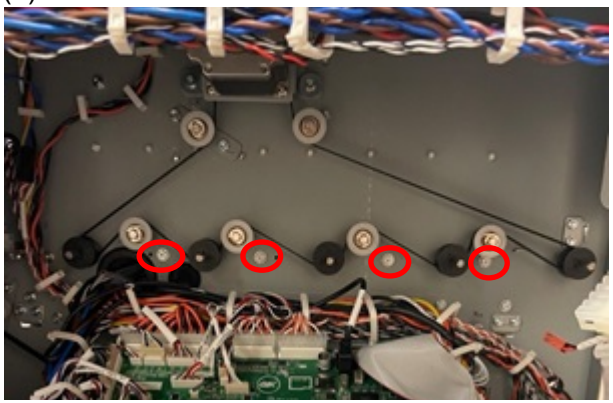
Lower Bypass Panel

Remove

1. Remove the Upper Bypass Panel on page 147.
2. Remove (4) M4 screws from the front frame.



3. Remove (4) M4 screws from the rear frame.



Install

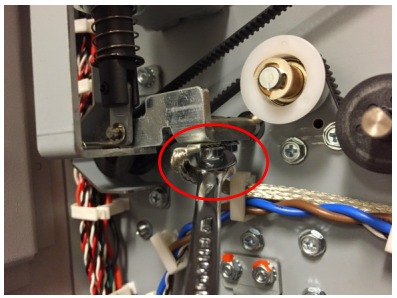
Do the steps in reverse order.

Bypass Diverter

Remove

1. Remove the Rear Cover on page 125.
2. Remove the E-clip from the diverter shaft on the front side.





3.Remove the M4 screws (2) from the diverter shaft on the rear side.

4. Remove the E-clip from the diverter shaft on the rear side.



5. Slide the diverter assembly to the back side and remove the part.



Install

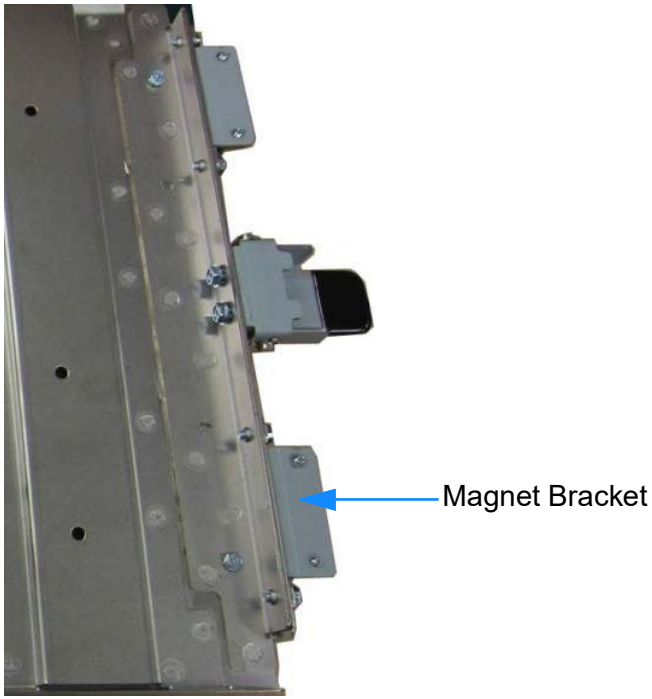
1. Slide the diverter assembly into position through to the rear side.
2. Install the E-clip on the diverter shaft at the rear side.
3. Install the (2) M4 screws on the diverter shaft at the rear side.
4. Install the E-clip on the diverter shaft at the front side.
5. Install the Rear Cover on page 125.
6. Connect the power cord.
7. Adjust the Diverter Solenoid (SOL1) on page 236.

Panel Close Magnet

Use this procedure to replace the magnet and magnet bracket in these assemblies:

- Entrance Idler Panel on page 139
- Exit Idler Panel on page 142
- Upper Bypass Panel on page 147

1. Remove the (2) screws and (2) nuts.
2. Remove the magnet bracket.
3. Remove the old magnet.



4. Place the magnet bracket in position and insert the screws and nuts.
5. Adjust the Idler Panel Magnetic Latches on page 249.



6. Connect the power cord.

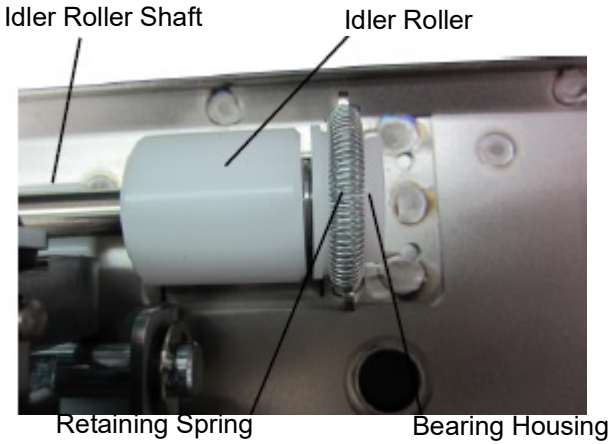
Idler Rollers

Use this procedure for the idler rollers or the retaining springs in these assemblies:

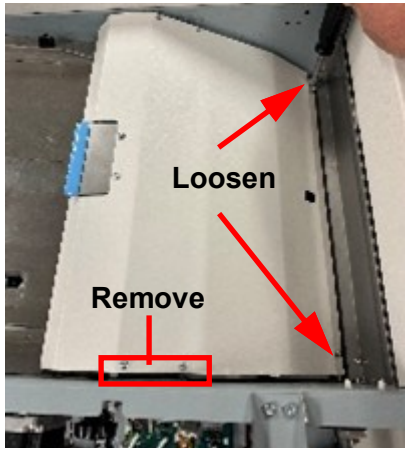
- Entrance Idler Panel on page 139
- Entrance Drive Panel on page 141
- Exit Idler Panel on page 142
- Upper Bypass Panel on page 147

Remove

1. For the idler rollers in the entrance idler panel, acceleration roller panel, or exit idler panel, remove the side panel.
2. For the idler rollers in the upper bypass panel, open the laminator door.
3. Lift the (2) extension springs up off of each of the (2) bearing housings at each end of the idler roller shaft.

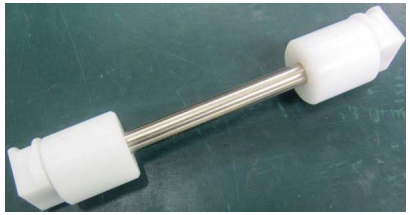


4. For feeder path rollers, loosen, but **do not remove**, the (2) screws on the feeder door cover.



- Remove the (2) screws by the handle.
- Remove the cover.

5. Remove the idler roller with the (2) bearing housings from the bushing forks.



6. Remove the (2) bearing housings at each end of the idler roller shaft.



7. Replace the idler rollers.
8. Install the cover.

Install

1. Place the (2) bearing housings on the ends of the idler roller shaft.
2. Place the new idler roller into the bushing forks making sure the flat surface of the bushing aligns in the fork.

   Rollers are non-directional so it does not matter which end goes in each fork.



3. After the assembly is in place, gently pull the assembly outward and release to ensure it moves freely in the fork.
4. Place the (2) extension springs over the (2) bearing housings.
5. Place the hooks on the ends of the springs on the notches at the top of the bushing forks.
6. Connect the power cord.

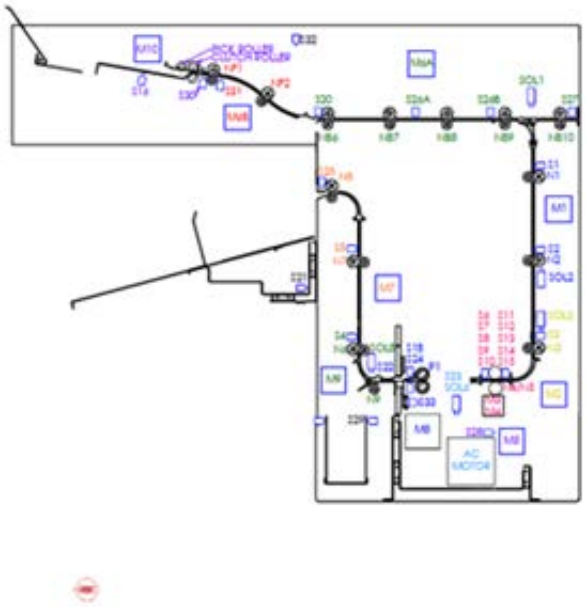
Drive Roller Assembly

Use this procedure to remove and install the drive roller assembly used in Nips N1 - N14 only.

For Nip N5, see Stepper and Mount Assembly on page 163.

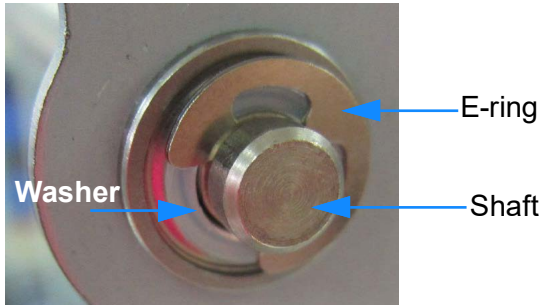
Remove

1. Remove the Rear Cover on page 125.
2. Open the laminator door.
3. Locate the relevant driver roller.

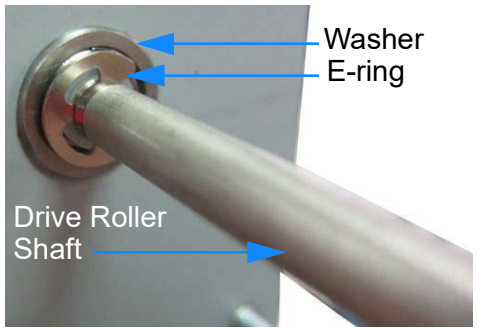


4. For all drive rollers except N1 and N11, remove the cutter module.
5. Remove the Timing Belts on page 160 from the appropriate driver roller shaft.

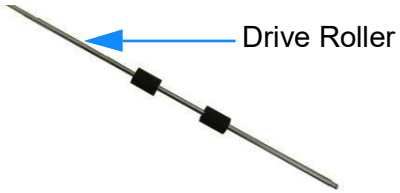
6. Remove the Timing Pulley on page 159 from the appropriate driver roller shaft.
7. Remove the E-ring and the washer from the end of the drive roller shaft at the **front** of the machine.



8. Remove the E-ring and the washer from the end of the drive roller shaft at the **rear** of the machine.



9. Remove the drive roller.



10. Remove the bearing from the **front** of the machine.
11. Remove the bearing from the **rear** of the machine.

Install

1. Place the drive roller in position.
2. Place the bearing in position at the **front** of the machine.
3. Place the bearing in position at the **rear** of the machine.
4. Place the washer and the E-ring in position at the end of the drive roller shaft at the **front** of the machine and do the same for the **rear** of the machine.
5. Install the Timing Pulley on page 159 on the appropriate drive roller.
6. Install the Timing Belts on page 160 on the appropriate drive roller.
7. Install the Rear Cover on page 125.
8. Close the laminator door.
9. Connect the power cord.

Idler Panel Mount Bracket

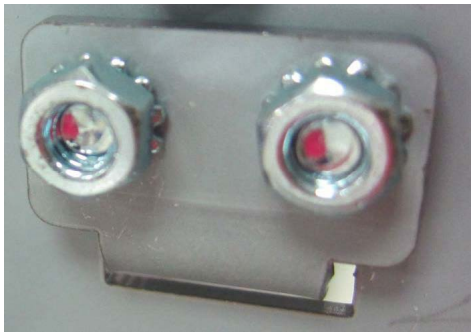
Remove

1. Remove the Rear Cover on page 125.
2. Locate the appropriate idler panel mount bracket.

   There are (6) idler panel mount brackets in the machine.

NOTE: To remove the Entrance Drive Panel on page 141, you need only remove the lower idler panel mount bracket.

3. Remove the (2) nuts on the bracket.

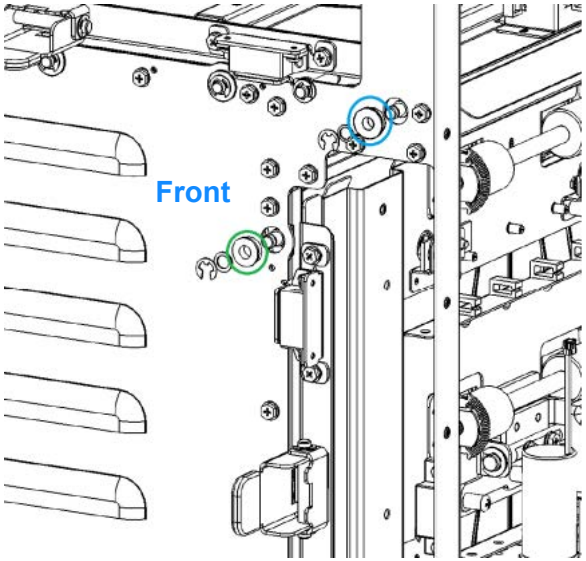


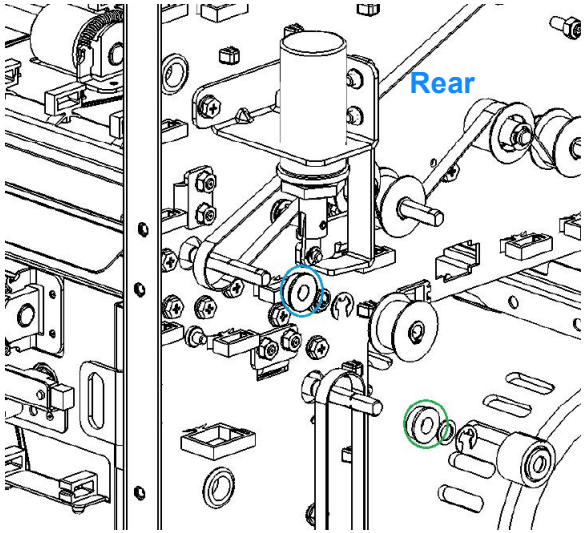
Install

1. Place the bracket in position and tighten the nuts.
2. Install the Rear Cover on page 125.
3. Connect the power cord.

Flange Ball Bearing

1. Locate the flange ball bearing.





There are 22 flange ball bearings on the frame - shown in blue color.

There are 2 flange ball bearings on the frame - shown in green color.

2. Remove the E-ring.
3. Remove the flat washer.
4. Remove the flange ball bearing.

NOTE: To replace a bearing from the rear side, see Timing Pulley on page 159 to remove the pulley.

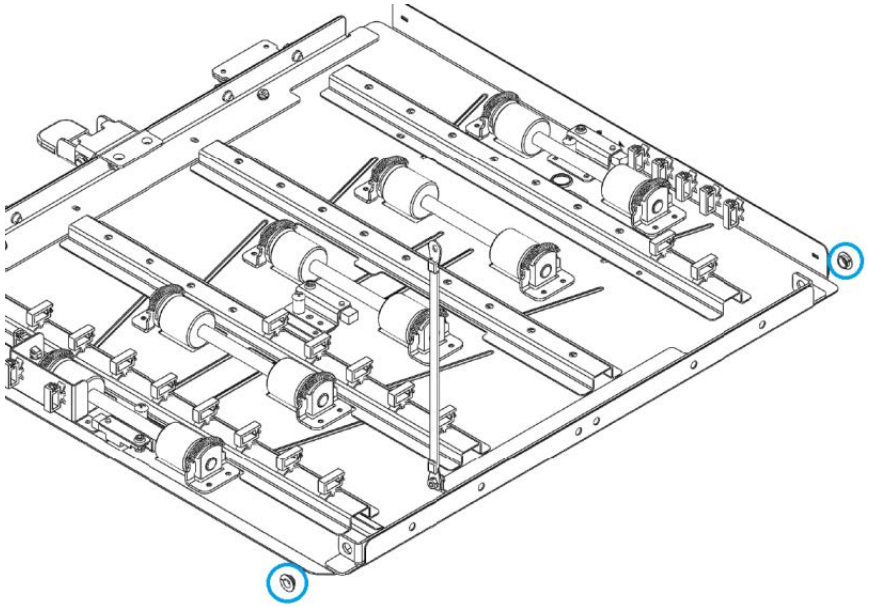
5. Place the new flange ball bearing in position.
6. Install the flat washer.
7. Install the E-ring.
8. Connect the power cord.

Snap-in Bearing

Use this procedure for the snap-in bearings located in the following assemblies:

- Entrance Idler Panel on page 139
- Entrance Drive Panel on page 141
- Upper Bypass Panel on page 147
- Exit Idler Panel on page 142
- Lower Exit Panel on page 137

1. Click on the relevant panel link above to remove and access the snap-in bearing.



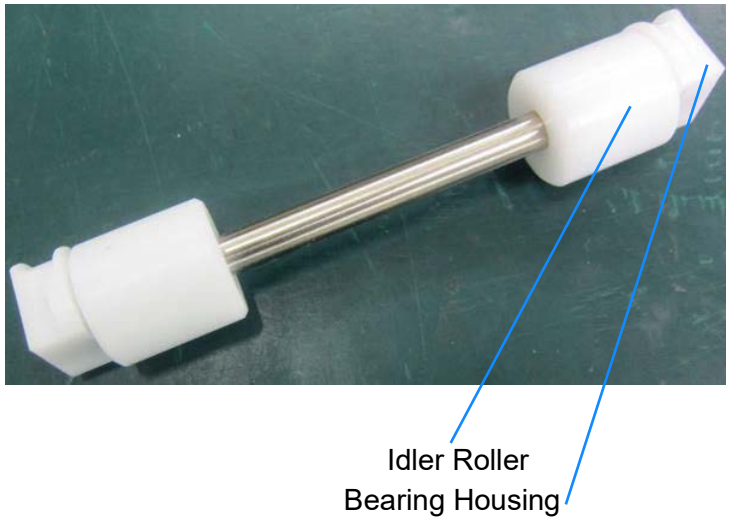
2. Remove the snap-in bearing.
3. Place the new bearing in position.
4. Install the panel:
   - Entrance Idler Panel on page 139
   - Entrance Drive Panel on page 141
   - Upper Bypass Panel on page 147
   - Exit Idler Panel on page 142
   - Lower Exit Panel on page 137
5. Connect the power cord.

Bearing Housing

Use this procedure to for the bearing housings on the idler rollers in these assemblies:

- Entrance Idler Panel on page 139.
- Entrance Drive Panel on page 141.
- Exit Idler Panel on page 142.
- Upper Bypass Panel on page 147.

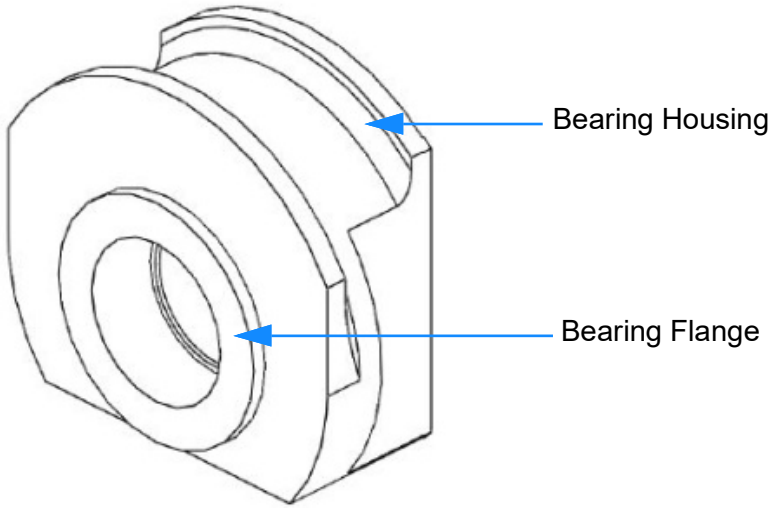
1. Remove Idler Rollers on page 152.



2. Remove the (2) bearing housings from the end of the shaft.



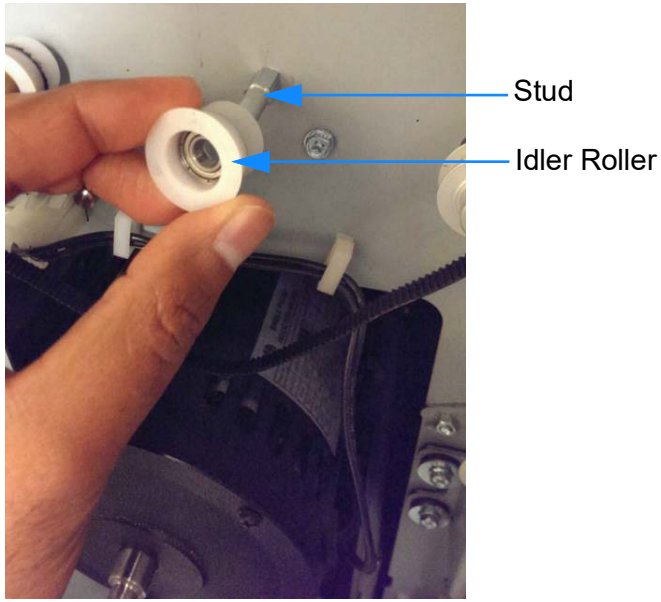
3. Place the new bearing housings on the ends of the shaft with the flange of the bearing facing in toward the idler roller.



4. Install the Idler Rollers on page 152.

Drive Idler Roller

1. Remove the Drive Roller Assembly on page 153.
2. Remove the E-ring and the spacer.
3. Slide out the old idler roller from the stud.



4. Place the new idler roller on the stud.
5. Install the spacer and E-ring.
6. Install the Drive Roller Assembly on page 153.
7. Connect the power cord.

Timing Pulley

1. Remove the Rear Cover on page 125.
2. Replace the appropriate Timing Belts on page 160.
3. Remove the retaining ring from the roller shaft.
4. Slide out the timing pulley.





5. Slide the new timing pulley in position on the shaft and install the retaining ring.
6. Install the appropriate timing belt.
7. Adjust the relevant timing belt (see Adjustments on page 232).
8. Install the Rear Cover on page 125.
9. Connect the power cord.

Timing Belts

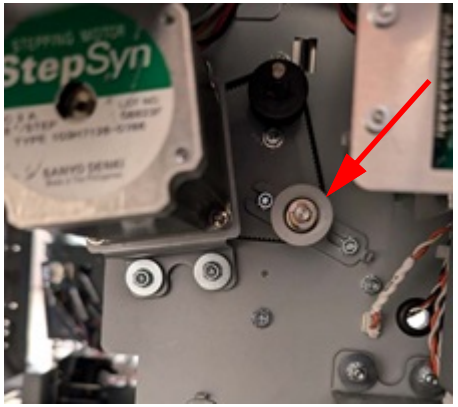
Single Sided Belts

Belt Type	Qty	Motor	Replacement
539T, 2mm 2GT	1	M6	Drive Roller Assembly on page 153
132T, 2mm 2GT	1	M7	132T Timing Belt on page 160
166T, 2mm 2GT	1	M2	166T Timing Belt on page 161
197T, 3mm 3GT	1	M1	197T Timing Belt on page 162
162T, 3mm 3GT	1	M9	162T Timing Belt on page 162

132T Timing Belt

The 132T belt is on motor M7.

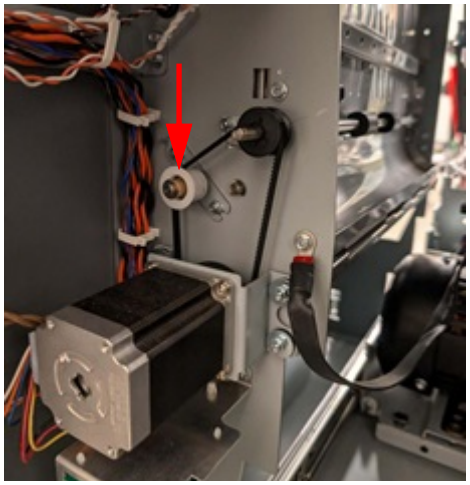
1. Remove the Rear Cover on page 125.
2. Loosen the tensioner and remove the belt.



3. Place the new belt around the pulleys.
4. Adjust the belt tension, see 196T Timing Belt (M7) on page 246.
5. Install the Rear Cover on page 125.
6. Connect the power cord.

166T Timing Belt

1. Remove the Rear Cover on page 125.
2. Loosen the tensioner and remove the belt.

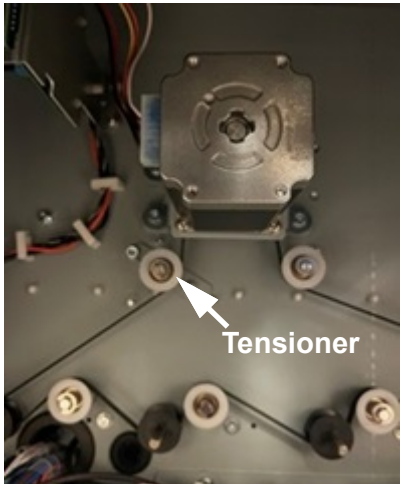


3. Place the new belt around the pulleys.
4. Adjust the belt tension per 166T Timing Belt (M2) on page 245.
5. Install the Rear Cover on page 125.
6. Connect the power cord.

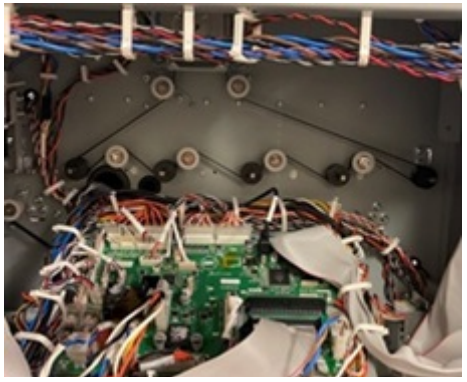
539T Timing Belt

The 539T is located on the M6 bypass motor.

1. Remove the Rear Cover on page 125.
2. Loosen the tensioner and remove the belt.



3. Place the new belt around the (11) pulleys.



4. Adjust the belt tension per 539T Timing Belt (M6A) on page 244.
5. Install the Rear Cover on page 125.
6. Connect the power cord.

197T Timing Belt

1. Remove the Rear Cover on page 125.
2. Loosen the tensioner and remove the belt.

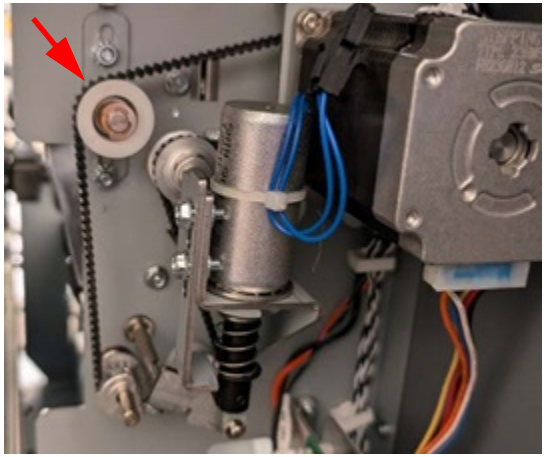


3. Place the new belt around the pulleys.
4. Adjust the belt tension per 197T Timing Belt (M9) on page 247.
5. Install the Rear Cover on page 125.
6. Connect the power cord.

162T Timing Belt

The 162T Timing Belt is located on the M9 motor.

1. Remove the Rear Cover on page 125.
2. Loosen the tensioner and remove the belt.



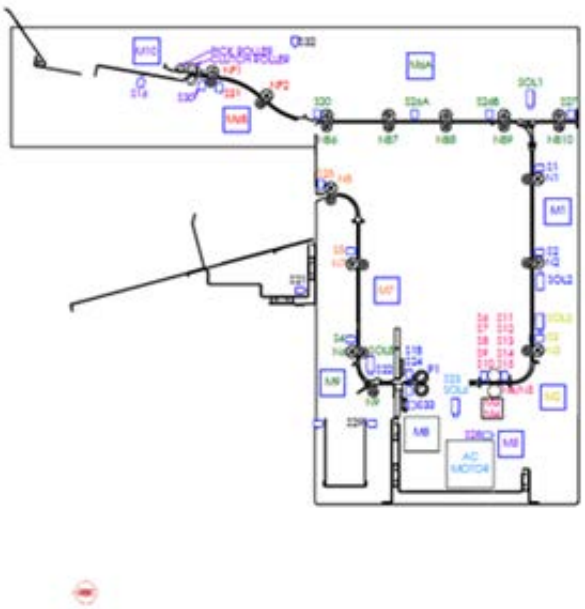
3. Place the new belt around the pulleys.
4. Adjust the belt tension per 323T Timing Belt (M1) on page 247.
5. Install the Rear Cover on page 125.
6. Connect the power cord.

Stepper and Mount Assembly

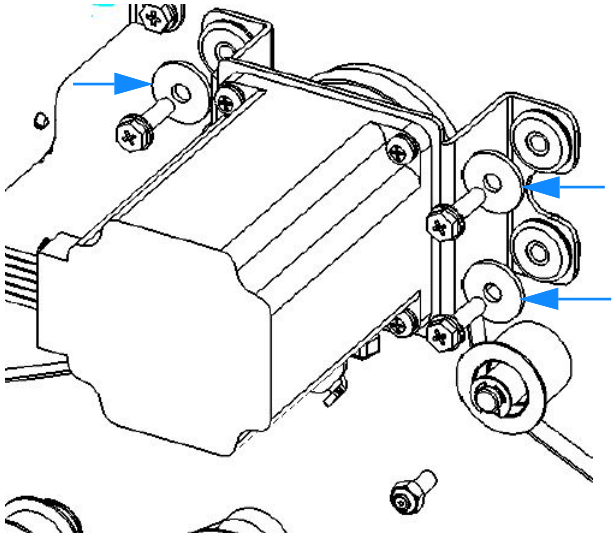
Use this procedure for the Entrance Motor (M1), Accel Motor (M2), Exit Motor (M6), Decel Motor (M7), or Bypass Motor (M9).

Remove

1. Remove the Rear Cover on page 125 and locate the affected motor.



2. Disconnect the motor connector from the corresponding motor driver.
3. Loosen the corresponding timing belt tensioner by loosening the (2) M4 nuts.
4. Remove the (4) M4 screws or nuts and the flat washer and the stepper and mount assembly from the rear panel.



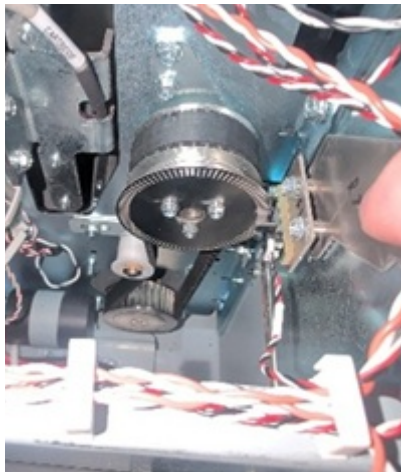
The 4th set is on the bottom left side of the motor, which is not shown.

Install

1. Place the stepper and mount assembly in place and tighten the (4) screws.
2. See Timing Belts on page 160 and adjust the relevant belt's tension.
3. Connect the motor connector.
4. Install the Rear Cover on page 125.
5. Connect the power cord.

M8 Motor

1. Remove the Rear Cover on page 125.
2. Open laminator door and remove film cartridge, if needed.
3. On the back of the machine loosen the belt tension and remove belt.

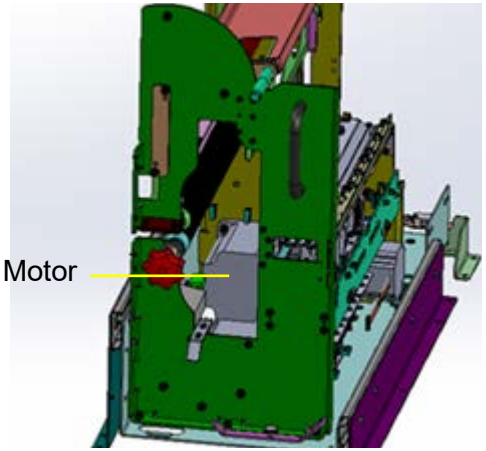


4. Remove motor gear/pulley by loosening the set screws.

On the front of machine pull the drawer out and remove the rail, following the steps in Cartridge Rail Plate on page 208..



5. Remove the (4) bolts on motor, noting that the bottom two bolts are under the drawer.



6. Reinstall in reverse order.
7. Follow adjustment procedures for Rail Height on page 241 and Motor Belt Tension on page 254.

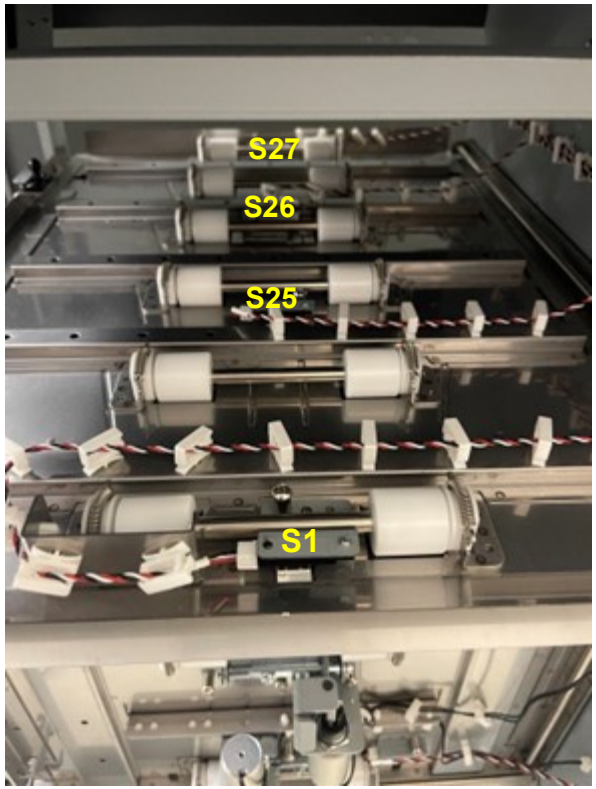
Sensors

Parts List on page 270.

Sensor #	Sensor Type
1 on page 165	Entrance
1b on page 166	Paper Trail Edge
2, 3, 4 & 5 on page 168	Paper Path
6 - 10 on page 170	Skew Sensor Board
11 - 15 on page 171	Alignment
16 on page 171	Stacker
21	
22 on page 166	Post Cut
24 on page 166	Film Present
25 - 26 on page 165	Bypass
27 on page 165	Exit
28 on page 169	Align Home
29 page 112	Trim Tray
30 & 31 on page 172	Feeder

Sensors: S1, S25, S26 and S27

1. Open the laminator door.

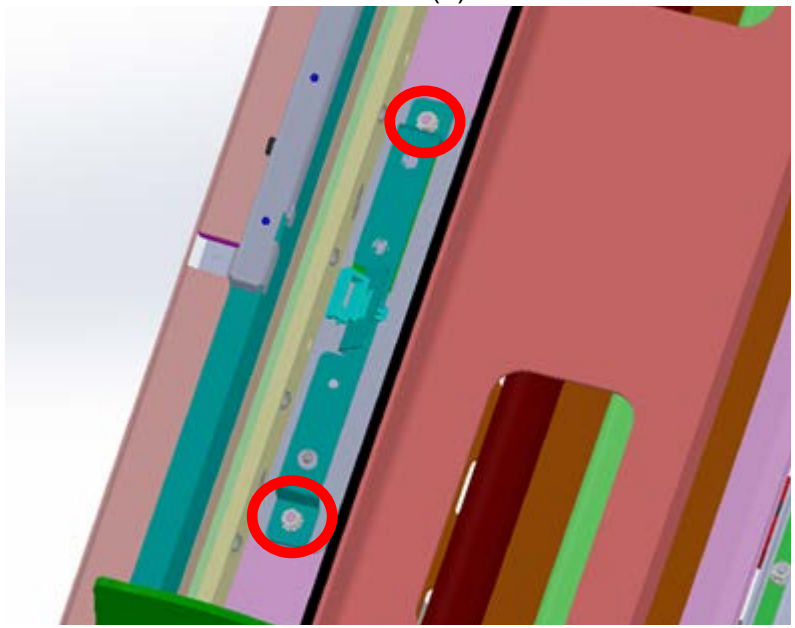


2. Disconnect the sensor connector at the sensor.
3. Remove the barrel screw that secures the sensor to the sheet metal part.
4. Remove the old sensor and place the new one in position and tighten the barrel screw.
5. Close the laminator door.
6. Connector the power cord.

Sensors: S1B, S24

S1B Receiver or S24 Sensor

1. Open the laminator door and pull out the lamination drawer.
2. Use a 5.5mm driver to remove the (2) nuts on the sensor assembly.



3. Lift the sensor assembly out of the machine and unplug **S1B Receiver or S24 sensor**.
4. Remove the (2) nuts using a 7mm driver and replace the S1B receiver.

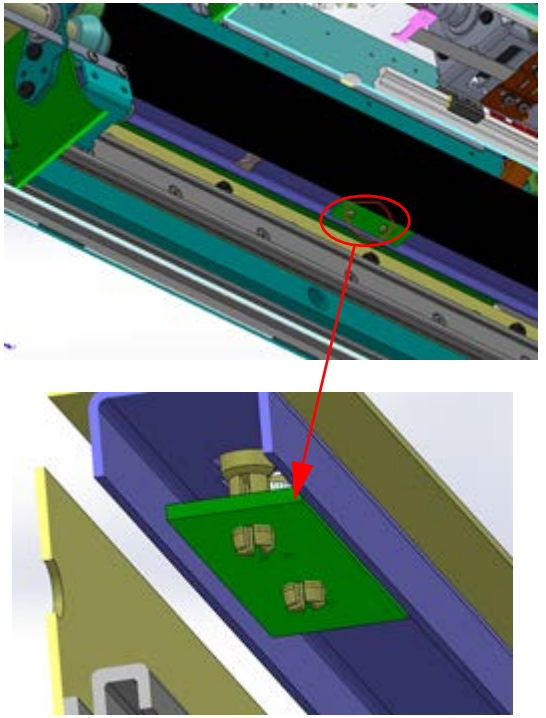
OR

5. Remove the screw using a 5.5mm driver and replace the **S24** sensor.
6. Plug the sensor in and install the sensor assembly bracket.
7. Push the lamination drawer in and close the laminator door.
8. Connect the power cord.

S1B Emitter - Snap In

1. Move the jam clearance knife carriage to the front of the machine.
2. Reach under the lower pressure roller and pull down gently on the emitter board it to loosen it from its snap fittings.

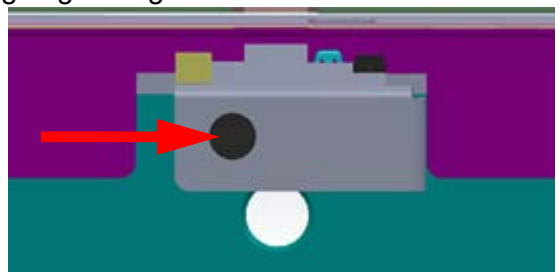
A slight wiggle can help to detach the board if it does not come off easily.



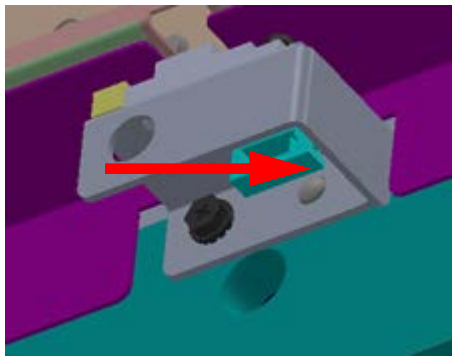
3. After inspecting the board and replacing if necessary, ensure the harness is attached and then align the snap-fit standoffs with the board's holes and push upward with a light force until the board is fully seated.

S22 Sensor

1. Open the laminator door and pull out the lamination drawer.
2. Use a Phillips screwdriver to remove the screw securing the sensor bracket by going through the hole in the bracket to access the screw.



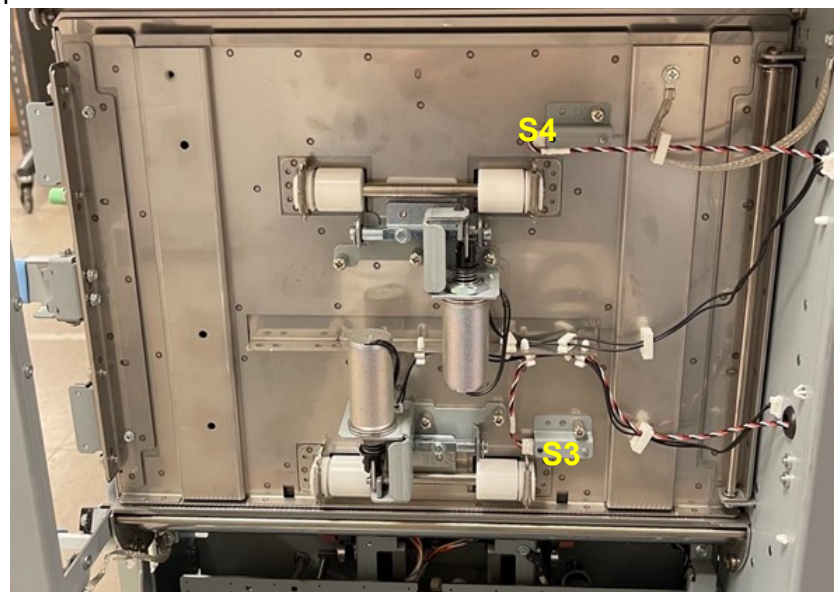
3. Remove the bracket and unplug **S22 sensor**.
4. Remove the screw using a 5.5mm driver and replace the S22 sensor.
5. Plug in the sensor.
6. Install the bracket, properly aligning the dowel hole.

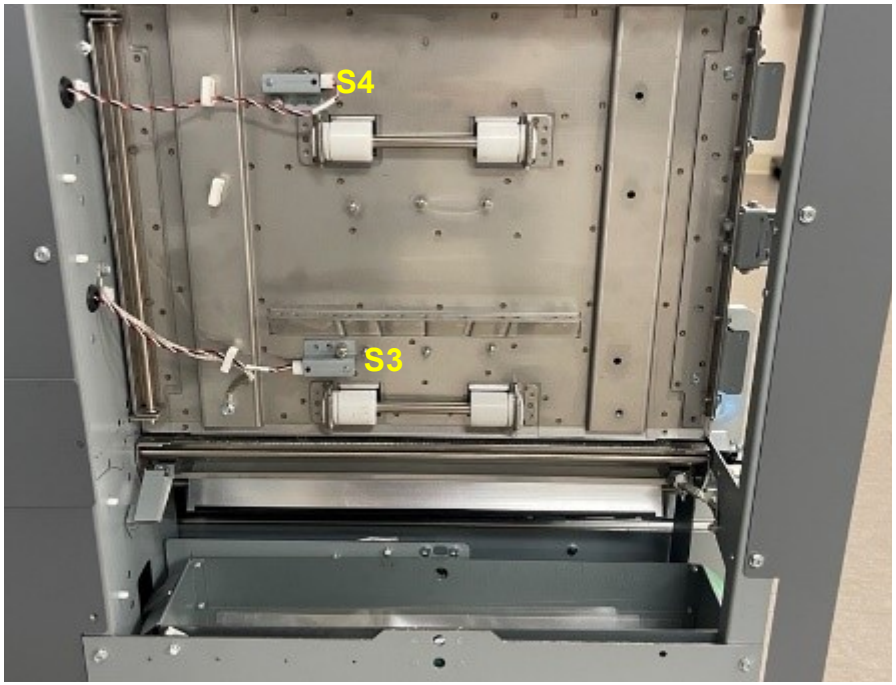


7. Push the lamination drawer in and close the laminator door.
8. Connect the power cord.

Sensors: S2, S3, S4, S5

1. Remove the side panel.
2. Remove the bracket, as needed, to access the sensor.
3. Disconnect the sensor wire and the sensor.
4. Remove the barrel screw that secures the sensor to the sheet metal part.

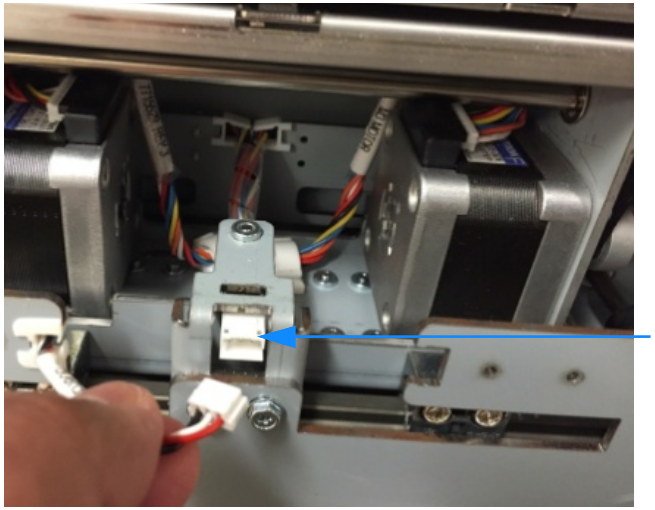




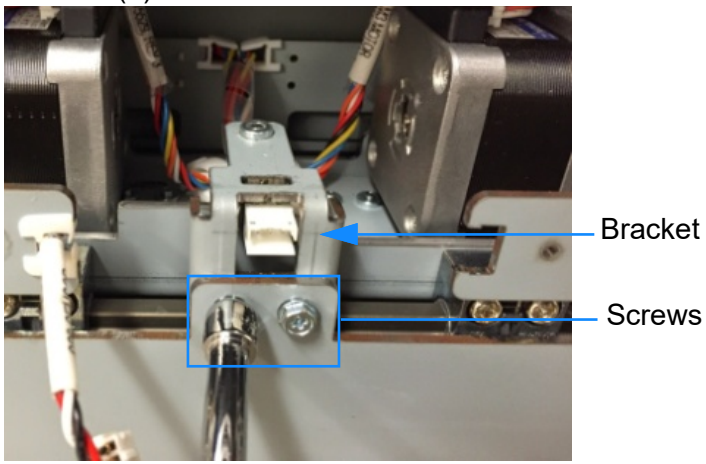
5. Remove the old sensor and place the new one in position and tighten the barrel screw.
6. Replace the side panel.
7. Connector the power cord.

Sensor S28

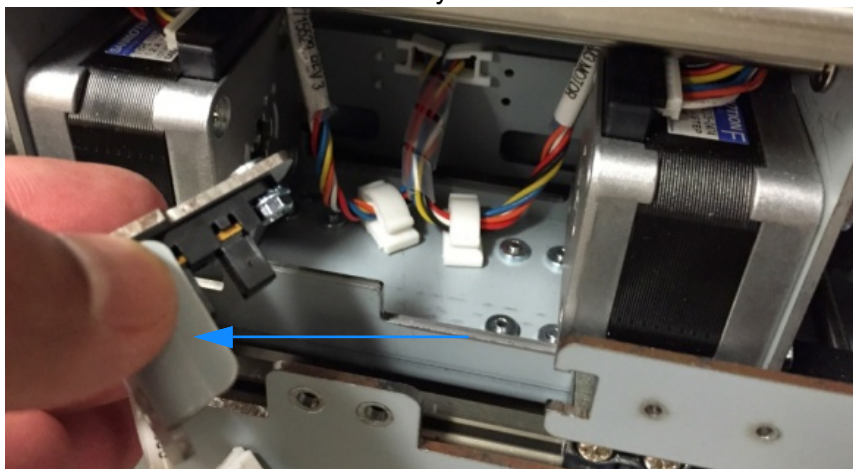
1. Remove the side panel.
2. Disconnect the sensor connector at the sensor.



3. Remove the (2) M3 screws that secure the sensor to the bracket.



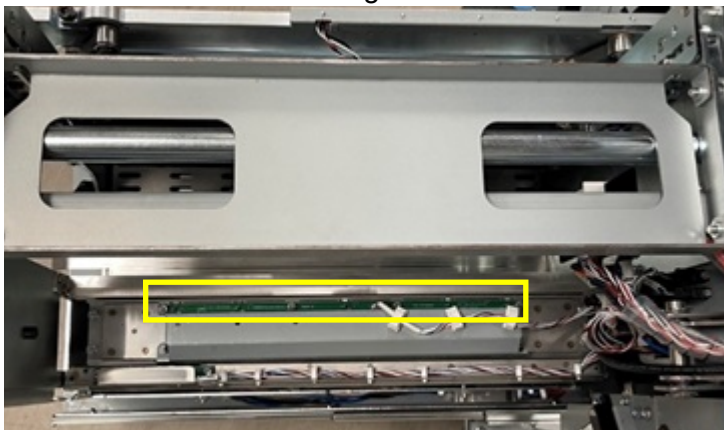
4. Remove the sensor sub-assembly.



5. Place the new sensor in position and tighten the (2) M3 screws that secure the sensor to the bracket.
6. Connect the sensor connector to the sensor.
7. Install the side panel.
8. Connector the power cord.

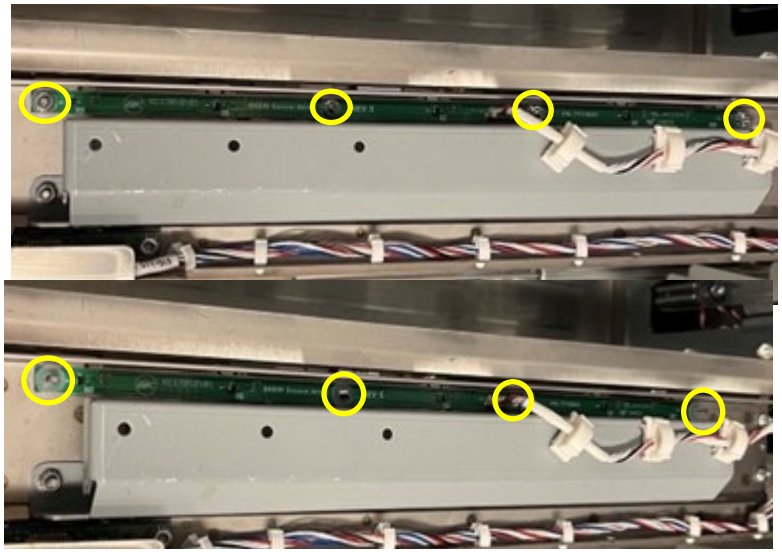
Sensors 6 through 10

1. Open the laminator door.
2. Pull out the laminator drawer.
3. Locate the skew board on the aligner module



4. Remove the (4) M4 nuts and (4) washers located beneath the nuts.

IMPORTANT: Do NOT remove the washers beneath the board.



5. Disconnect the skew board connector and remove the skew board.
6. Install the new skew sensor board in position ensuring that S6 is oriented closest to the front of the door.
7. Install the (4) washers and tighten the (4) nuts.
8. Connect the skew sensor board connector.
9. Push in the laminator drawer.
10. Connector the power cord.
11. Run Sensors on page 11 to confirm the skew board is fully functioning.
12. Resume normal operation.

Sensors 11 through 15

1. Open the laminator door.
2. Pull out the laminator drawer.
3. Remove the Alignment Sensor Bracket on page 217.
4. After the sensor bracket is out, remove the (2) M4 nuts and the (2) washers located beneath the nuts



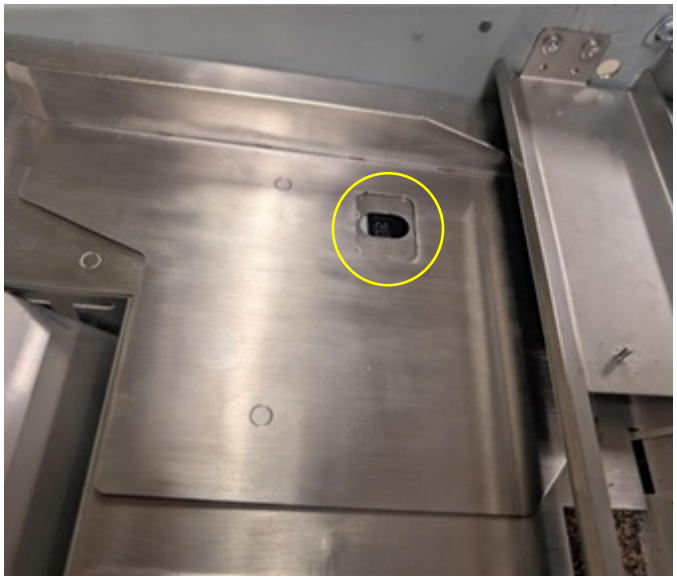

5. Remove the alignment sensor board.

NOTE: Make sure there are washers below the board. If there are not, you will need them when reinstalling.

6. Place the new alignment sensor board in position.
7. Install the (2) washers and tighten the (2) nuts.
8. Connect the alignment sensor board connector.
9. Push in the laminator drawer.
10. Connect the power cord.
11. Run Sensors on page 11 to ensure the alignment board is fully functioning.
12. Resume normal operation.

Sensor 16

1. Slide out the stacker.
2. Disconnect the sensor connector on each end of the wires



3. Replace the sensor.
4. Slide the stacker back into place.

Connect the power cord.

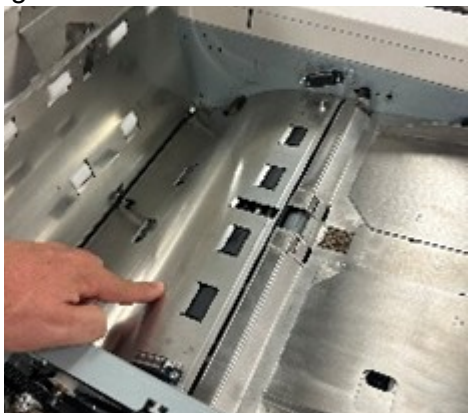
Sensors 30 and 31

Remove the rear cover and open the front cover on the feeder.

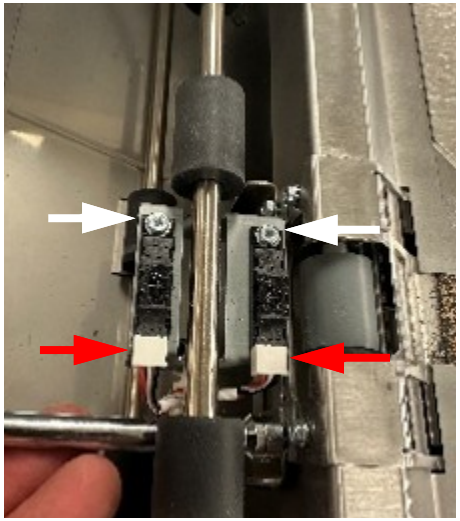


NOTE: Before removing the magnets in the next step, trace around the magnets to help with location when installing them.

1. Remove the (6) screws on each side to remove the roller cover and remove the magnets.



2. Disconnect the wires from the sensors and remove the (2) screws holding the sensors and replace.



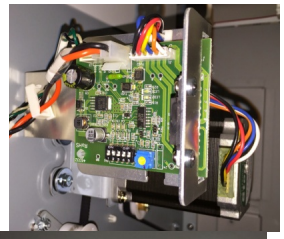
3. Connect the power cord and power on the machine.
4. Go to Settings menu (page 7) and verify the sensors' change in value.
5. Remove power to the machine.

Install the remaining parts back to normal operating condition.

M1-7, M9, M10 Motor Driver (Stepper Board)

Use this procedure for DRV M1, DRV M2, DRV M3, DRV M4, DRV M5, DRV M6, DRV M7, or DRV M9.

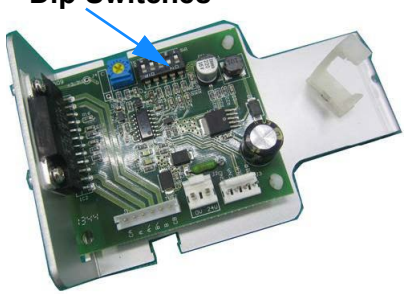
1. For motors M6B and M10 remove the Feeder Rear Cover on page 125.
2. Disconnect the (3) connectors.



3. Remove the (2) M4 screws and the driver and bracket assembly.
4. Disconnect the cables from the motor driver board.



5. Set the (5) dip switches on the new motor driver in accordance with the table to the right.



M1 Motor Driver		M2 Motor Driver		M3 Motor Driver	
1	Off	1	Off	1	Off
2	On	2	On	2	Off
3	Off	3	Off	3	On
4	On	4	On	4	Off
5	Off	5	Off	5	On
M4 Motor Driver		**M5 Motor Driver**		**M6A Motor Driver**	
1	Off	1	Off	1	Off
2	Off	2	Off	2	On
3	On	3	On	3	Off
4	Off	4	Off	4	On
5	On	5	Off	5	Off
M6B Motor Driver		**M7 Motor Driver**		**M9 Motor Driver**	
1	Off	1	Off	1	Off
2	On	2	On	2	On
3	Off	3	Off	3	Off
4	Off	4	On	4	Off
5	Off	5	Off	5	Off
M10 Motor Driver					
1	Off				
2	On				
3	Off				
4	On				
5	Off				

6. Place the driver and bracket assembly in position and tighten the (2) M4 Screws.

7. Connect the (3) connectors.
8. Install the Rear Cover on page 125.
9. Connect the power cord.

M8 Motor Driver (Stepper Board)

Use this procedure for DRV M8.

1. Perform the M8 Motor Driver on page 205 repair procedure and stop at step 9 before removing the driver.
2. Check that the dip switches and drivers are set in accordance to the table and images below.

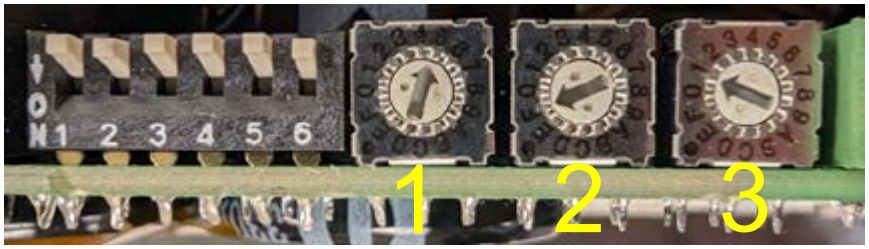
IMPORTANT: Turn dials 1, 2 and 3 back and forth slightly to ensure they click into place. They can appear to be set correctly, but even slightly out of position will cause slow driving.

3. Use a small flat head screwdriver to adjust any settings that do not match.

NOTE: If the M8 is not functioning correctly when the dials appear correct, change the setting to a different value, and then turn it back, ensuring the dial clicked into place.

Examples of incorrect functioning are the motor traveling in the wrong direction or at the wrong speed.

4. Install the driver following the install instructions for M8 Motor Driver on page 205.



M8 Motor Driver		M8 Motor Driver Dials	
1	Off	Dial 1	5
2	On	Dial 2	F
3	Off	Dial 3	1
4	Off		
5	Off		
6	Off		

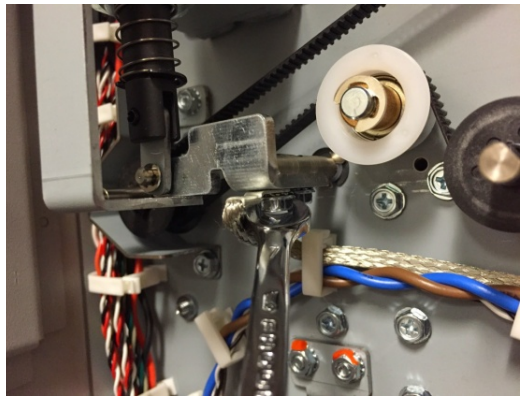
Solenoids

Solenoid #	Solenoid Type	Replacement Procedure
SOL1, SOL8	Diverter	page 177
SOL2	Entrance Idler, Top	page 178
SOL3	Entrance Idler, Bottom	page 178
SOL6	Cutter Clutch	page 181

Diverter (SOL1 and SOL8)

Remove

1. Remove the Rear Cover on page 125.
2. When replacing solenoid 1 only, remove the bracket from the Exhaust Fan on page 132.
3. Remove the (2) M4 screws from the diverter shaft.

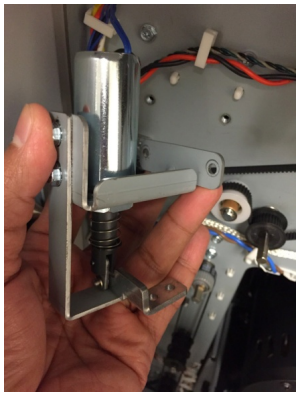




4. Disconnect the inline connector for the diverter solenoid sub-assembly.
5. Remove the (2) screws from the diverter solenoid sub-assembly.



6. Remove the diverter solenoid sub-assembly.

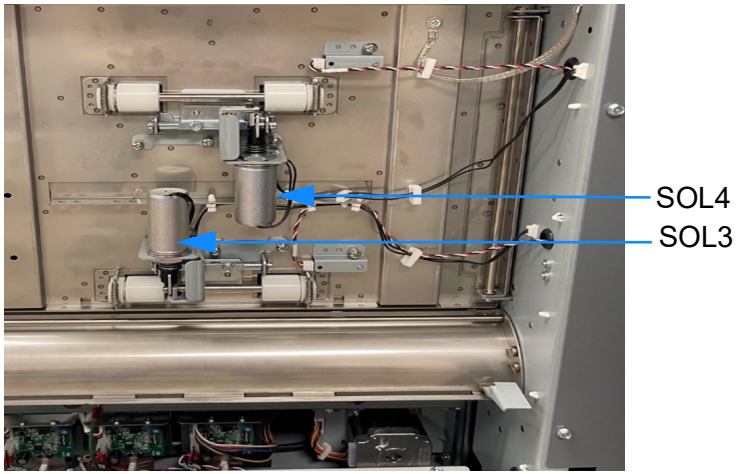


Install

1. Place the new solenoid in position and tighten the (2) screws to the rear frame and (2) screws to the diverter shaft.
2. Connect the inline connector for the diverter solenoid.
3. Place the cable into the cable clamps and close the cable clamps.
4. Do the adjustment for the Diverter Solenoid (SOL1) on page 236 or Trim Diverter Solenoid (SOL 8) on page 237.
5. Install the bracket for the Exhaust Fan on page 132.
6. Install the Rear Cover on page 125.
7. Connect the power cord.

Entrance Idler (SOL2 and SOL3)

1. Open the laminator door.
2. Disconnect the solenoid connector for the solenoid being replaced.

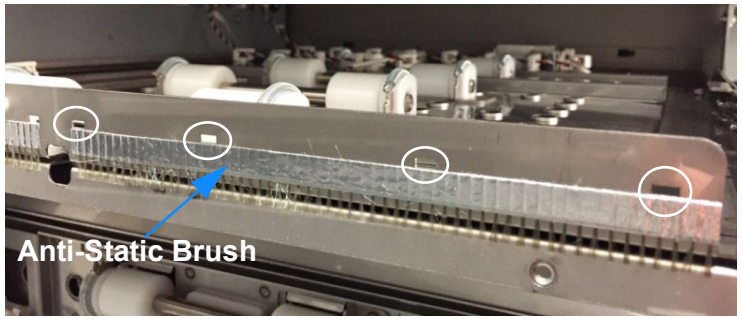


3. Open the cable clamps and remove the cable.
4. Remove the (3) M4 barrel screws and the solenoid assembly.
5. Place the new solenoid assembly in position and tighten the barrel screws.
6. Connect the solenoid connector.
7. Place the cable into the cable clamps and close the clamps
8. Close the laminator door.
9. Connect the power cord.

Anti-Static Brush

This part is located on the Upper Bypass Panel.

1. Remove the side panel.

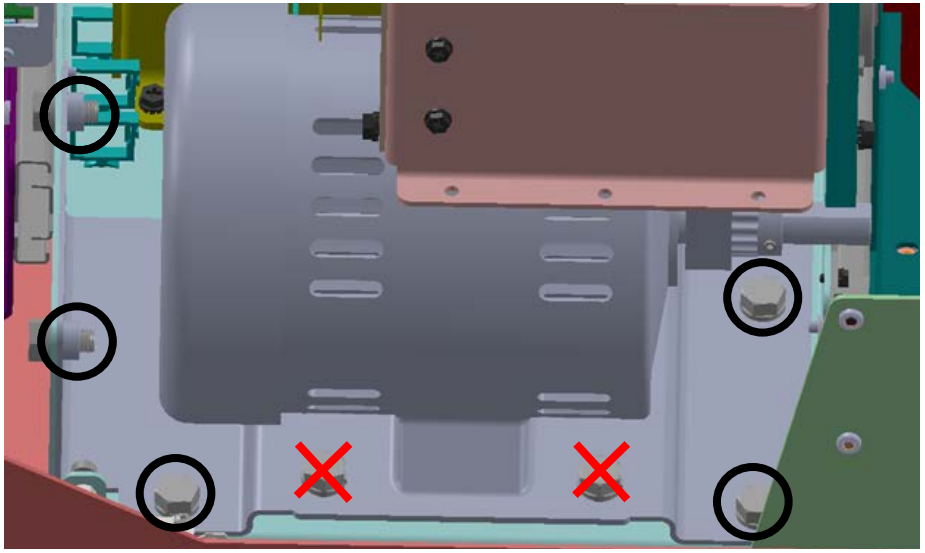


2. Peel off the old anti-static brush.
3. Clean the surface with some isopropyl alcohol.
4. Affix the new brush inside, referencing the cut-outs as shown above.
5. Replace the side panel.
6. Connect the power cord.

Cutter Module

Motor

1. Remove the Rear Cover on page 125.
2. Remove the (5) bolts using a 13mm wrench.

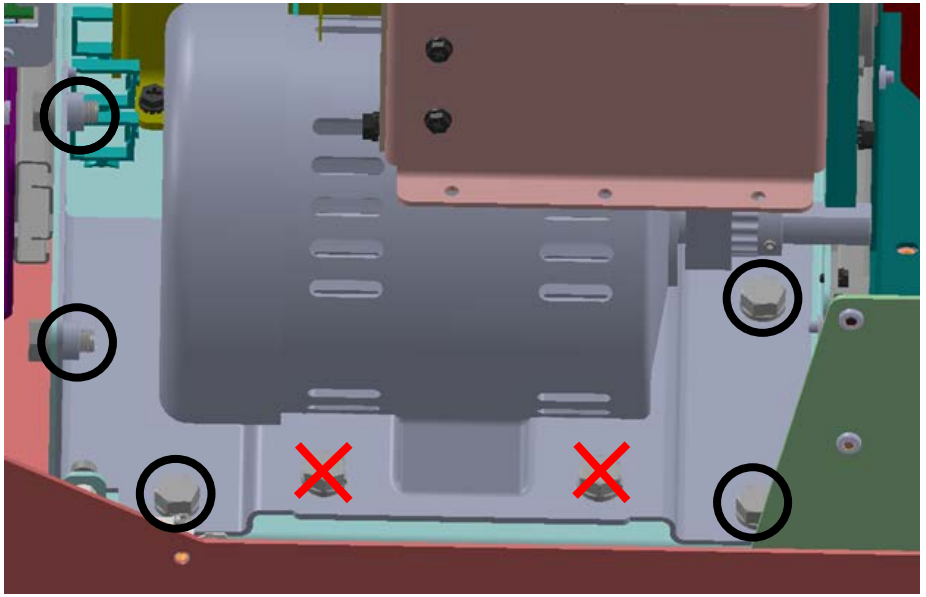


3. Lift the motor up and slip the belt off of the clutch pulley toward the cutter plate to remove the motor.
4. Install the new motor and place the belt around both pulleys.
5. Perform the adjustment for Motor Belt Tension on page 254.
6. Tighten the (5) bolts.
7. Install the Rear Cover on page 125.
8. Connect the power cord.

Belt

1. Remove the Rear Cover on page 125.
2. Loosen the (5) bolts using a 13mm wrench.

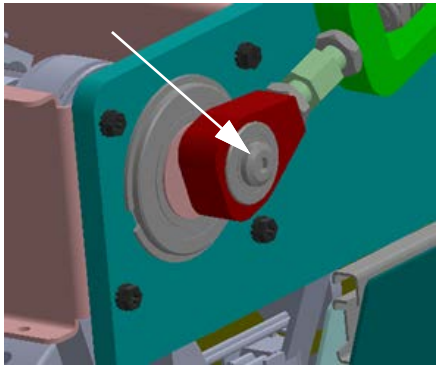
IMPORTANT: Do not remove the bolts and do not loosen the bolts marked with red in the drawing below.



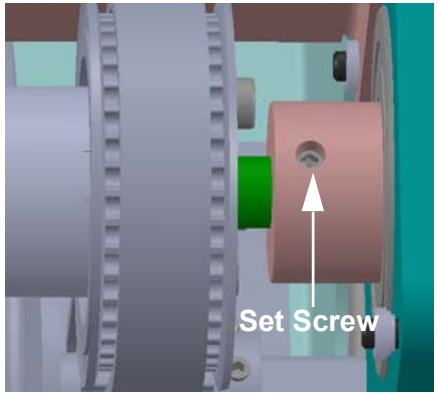
3. Lift the motor and slide the belt off the motor shaft.
4. Replace the belt.
5. Adjust the belt tension following instructions for Motor Belt Tension on page 254
6. Tighten the bolts.
7. Install the Rear Cover on page 125.

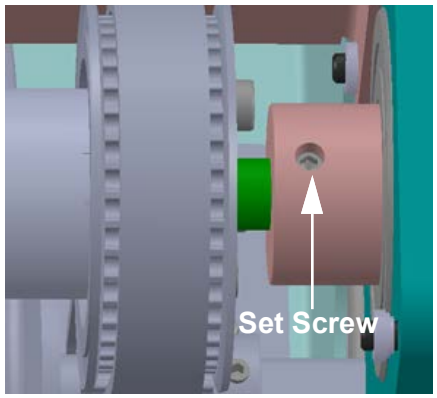
Clutch

1. Remove the Rear Cover on page 125.
2. Perform the belt removal procedure on page 180 and return here once the belt is removed.
3. Lift the motor up and slip the belt off of the clutch pulley.
4. Use a 5mm hex wrench to remove the shoulder bolt from the crank.



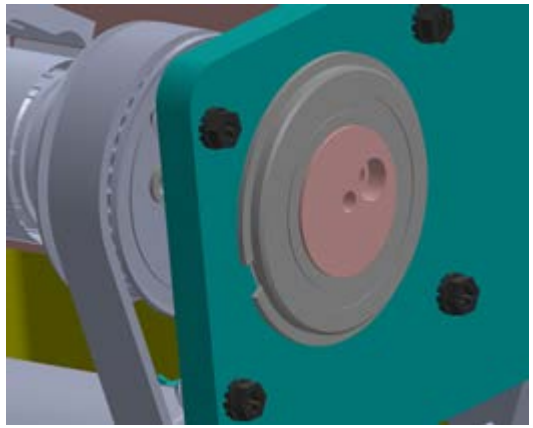
5. Gently lower the connecting rod while making sure the washer between the rod and crank does not fall into the machine. Remove the set screw securing the shaft to the crank.



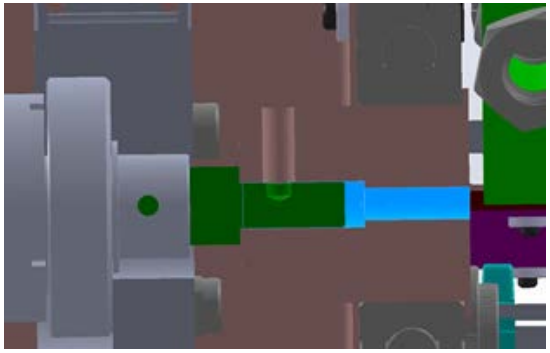


6. Remove the set screw securing the shaft to the crank.
7. Install and tighten the M6 bolt, supplied with the new clutch, with a wrench while supporting the clutch.

IMPORTANT: You may need to hold the pulley to prevent rotation.

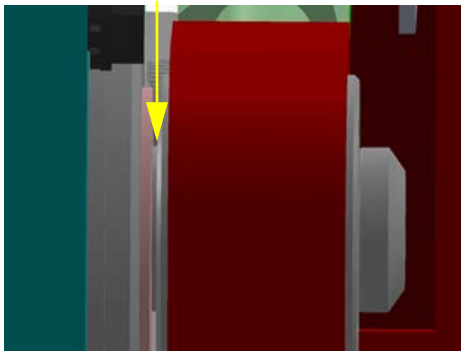


NOTE: As the bolt is tightened, the shaft will push out of the crank.



8. Once the shaft is free, remove the pulley from the old clutch and install it onto the new clutch and shaft assembly by removing the three socket head cap screws with a 5mm Allen wrench.
9. Install the new clutch and shaft assembly on the crank, ensuring that the set point on the screw is aligned with the set screw hole.
10. Apply blue thread locker when installing the set screw.
11. Follow Belt on page 180, reinstall the belt, up to and including reinstalling the motor plate.
12. Apply red thread locker to the bolt, provided with the kit, and use to secure the connecting rod to the crank.

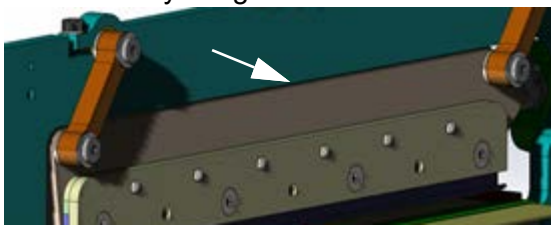
IMPORTANT: Place the washer between the bearing and crank.



13. Tighten the shoulder bolt until it is bottomed out.

    There should be no room for the bearing assembly to move on the shoulder bolt.

IMPORTANT: To tighten the shoulder bolt fully, place a 7-10mm thick tool, such as an Allen wrench, between the cutter actuator and frame to prevent the cutter from moving through a stroke while you tighten it.



14. Wait one hour for the thread locker to dry.
15. Install the covers.
16. Connect the power cord.
17. Perform a cutter adjustment to confirm the cutter is cutting correctly (see Cutter Module on page 254).

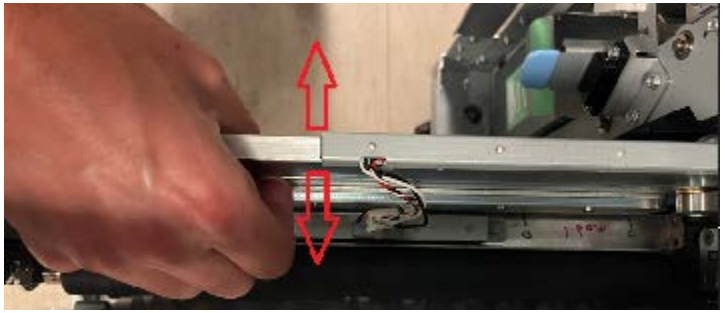
Blade



CAUTION: Blade is sharp. Take care when handling.

This procedure outlines how to repair a loose blade assembly, which can cause issues with cutting until fixed.

1. Open the laminator door and pull out the lamination drawer.
2. Remove the Locking Mechanism on page 212.
3. Test the rigidity of the blade assembly by carefully pushing/pulling it side-to-side. There should be no give or looseness. If the assembly feels loose, proceed to step 4.

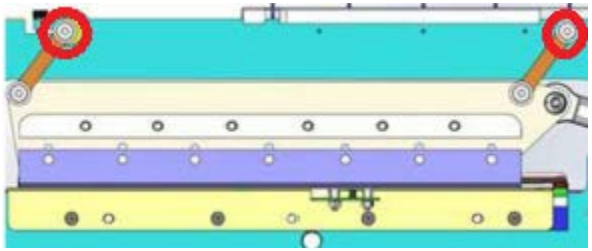


4. Use a #10 socket to remove the (4) nuts on the rear of the two links.

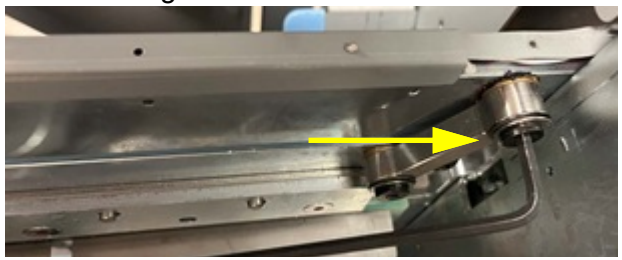


5. Beginning with the top two shoulder bolts, remove them using a #4 Allen wrench.

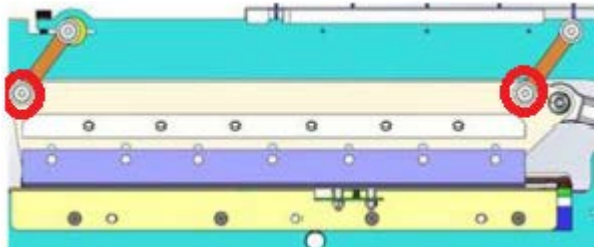
   Use caution as the assembly will become disconnected from the frame.



6. Add red Loctite to the thread of the shoulder bolts, then install the shoulder bolts until tight.



7. Install (2) of the nuts, while the Allen wrench holds pressure against the shoulder so the nuts do not loosen the shoulder bolt.
8. Repeat steps 5-8 with the lower (2) shoulder bolts.

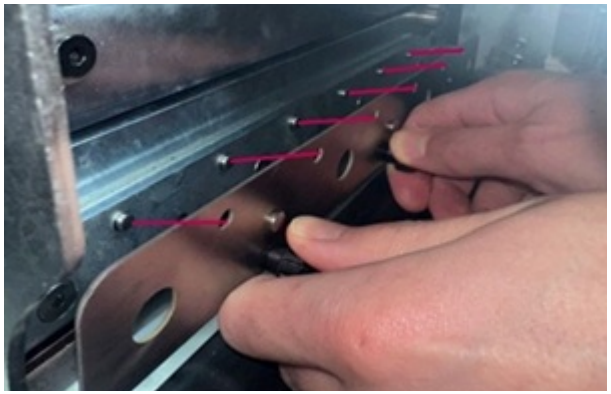


9. Confirm the blade assembly is tight and resistant to sideways motion.
10. Push in drawer, connect the power cord, and run some test cuts.
11. Check that double groove from Cut Stick on page 48 inspection is no longer present.

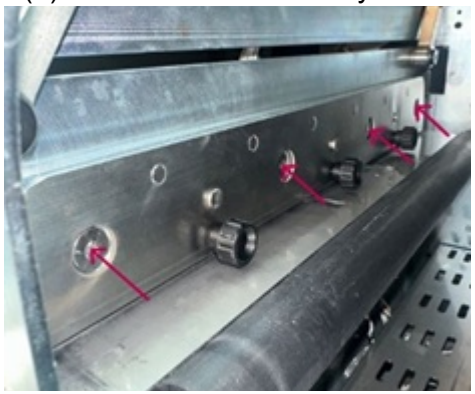
CAUTION: Blade is sharp. Take care when handling.

This process outlines how to replace the blade.

1. Open the laminator door and pull out the lamination drawer.
2. Remove the Locking Mechanism on page 212.
3. Attach the empty blade holder and align the (6) top pins holes. The magnets will hold the tool in place after fully inserted onto the pins.

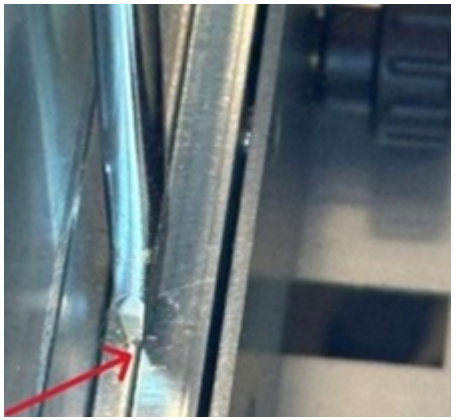


4. Loosen the (4) allen head bolts and remove the (2) middle bolts. Leave the outer (2) allen head bolts loosely attached.



5. Use a flat head screwdriver to separate the plates (shown below).

NOTE: Newer versions will have a cut-out in between the plates to place the screwdriver. You may have to loosen the outer allen bolts further to create a larger gap.





6. Once the plates are separated remove the remaining outer (2) allen bolts while holding the black knobs with one hand.
7. Remove the tool with the blade and steel clamping plate together by using the two outer black knobs.

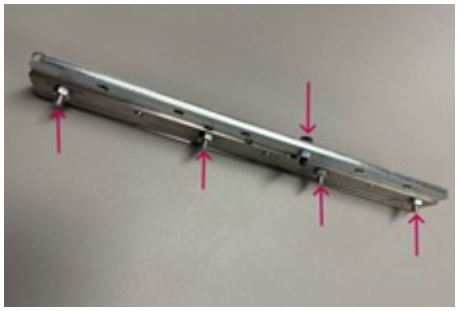


8. Set the old blade holder assembly on a table or other flat surface.
9. Locate the new blade assembly from the service kit.

   The new blade assembly will look identical to the one you just removed, but will come with (4) new allen bolts and nuts through the pin holes that holds the assembly together.

   There will also be one or two bolt and nut pairs along the top which temporarily secures the blade to the tool during shipping.

10. Remove all of the bolts from the new assembly but do **not** separate the parts.



11. Remove all the bolts from new assembly, but do **not** separate the parts.
12. Attach the (4) allen bolts from the old blade assembly with the new nuts from the new blade assembly to the old blade assembly.

    Place the one or two bolt and nut pairs through the top pin holes to secure the tool to the assembly.

    The old blade assembly can now be disposed of safely.

13. Inspect the new blade assembly to be sure blade is positioned correctly.

    If incorrect, use caution and wear personal protective equipment to remove blade and position correctly.

    Strong magnets hold this assembly together.



14. Attach new assembly to machine by aligning the top (6) pin holes and securing in place with the (4) new allen bolts.

    Alternate tightening the four bolts to bring the blade assembly in evenly. Refer to step 3 and 4 for images.

15. When the bolts are snug, but **not** fully tightened, remove and discard the blade holder.
16. Install the Locking Mechanism on page 212.
17. Push in drawer, close the door, and connect the power cord.
18. Power up the machine and using the LCD interface, Cycle Cutter by referring to User Functions on page 8.
19. Power down the machine, remove the plug from the outlet, open the door and pull out the lamination drawer.
20. Fully tighten the (4) allen bolts on the blade assembly.

NOTE: Lower the locking mechanism, if needed, to access the middle bolts.

21. Push in drawer, close the door, and cycle power on the machine.
22. Reset the blade count to zero (see Cutter Blade on page 11).

Cutter Shaft Ball Bearing

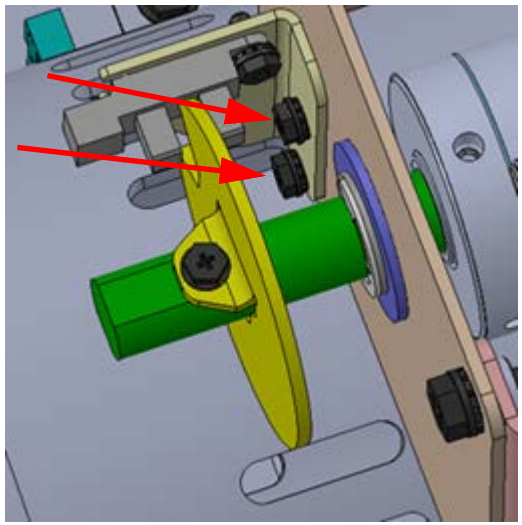
1. Remove the Rear Cover on page 125.



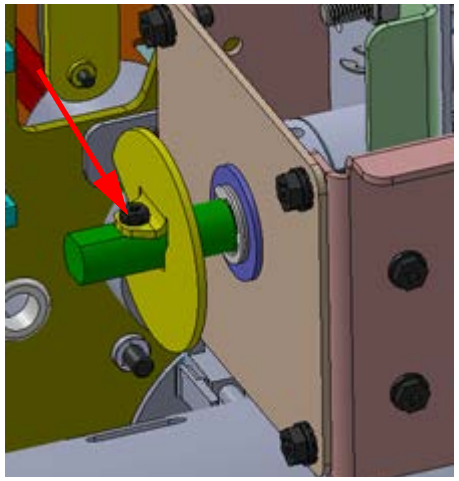
2. Remove the E-ring.
3. Remove the nylon washer.
4. Remove the ball bearing.
5. Place the new ball bearing in position.
6. Place the nylon washer in position.
7. Place the E-ring in position.
8. Install the Rear Cover on page 125.
9. Connect the power cord.

Cutter Encoder

1. Remove the Rear Cover on page 125.
2. Remove the (2) screws on the sensor bracket using a 5.5mm driver.



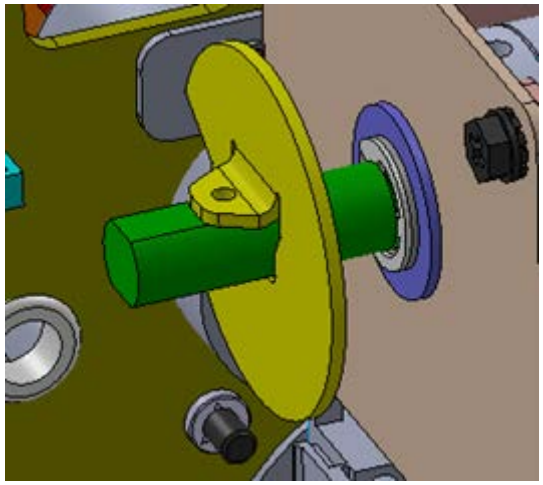
3. Use a Phillips screwdriver to remove the M3 screw securing the encoder and pull the encoder off of the shaft.



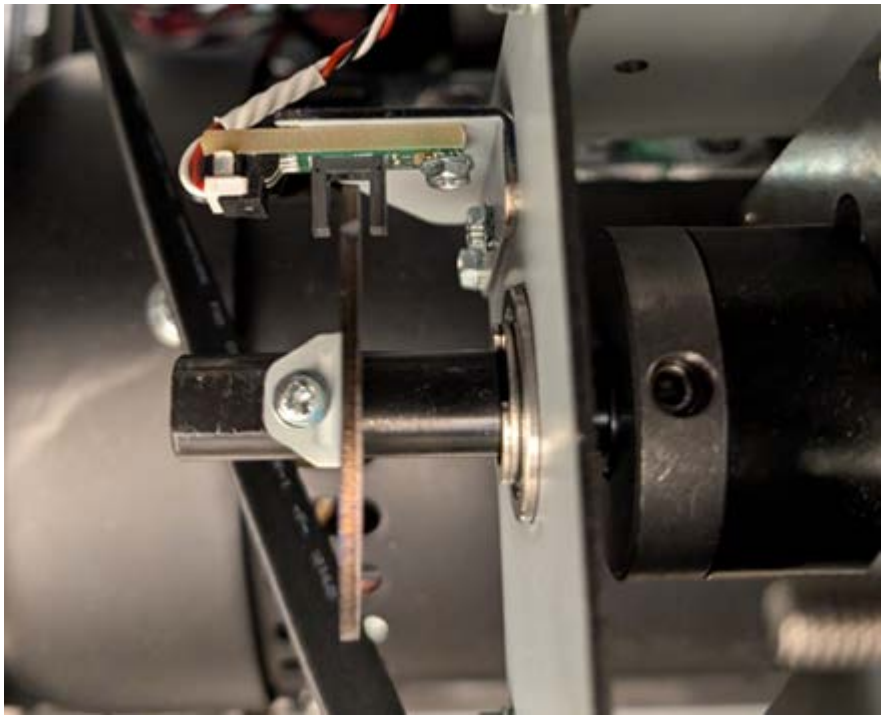
Install

NOTE: The cutter must be in the home position when installing the new encoder. Ensure that the AC cutter motor rotates freely and the clutch is indexed correctly before starting. See the Motor Belt Tension on page 254 and Clutch Indexing on page 255 to confirm.

1. Slide the encoder onto the shaft with the tab oriented as shown. The cutter must be in the position shown.



2. Apply blue threadlocker to the M3 screw provided with the encoder and secure the encoder in place. Do not fully tighten the screw.
3. Install the sensor bracket using a 5.5mm driver to tighten the (2) screws.
4. Confirm that the encoder is centered in between the sensor veins and tighten the M3 screw the rest of the way.



5. Wait 30 minutes for the threadlocker to cure before running the cutter.
6. Install the Rear Cover on page 125.
7. Connect the power cord.

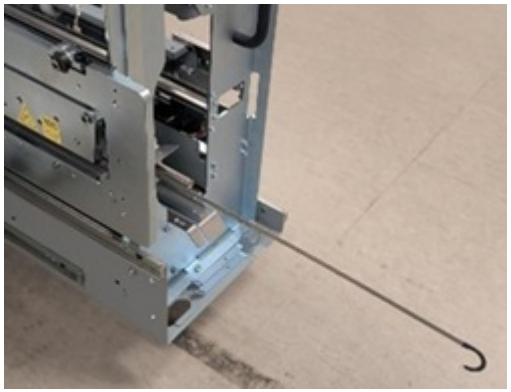
Jam Clearance Knife Blade



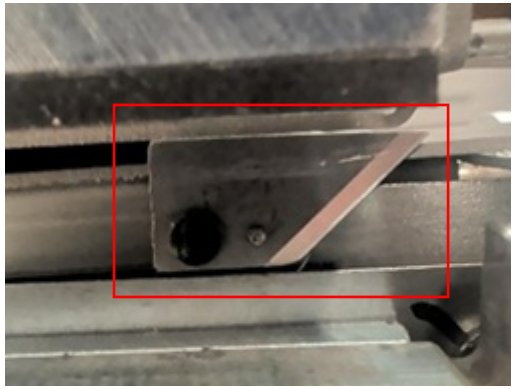
CAUTION: Blade is sharp. Take care when handling.

Remove

1. Remove the (4) thumb screws and Cutter Outfeed Guide.
2. Remove the cut-stick (see Cut Stick on page 48) taking note of the active groove for reinstalling.
3. Pull on the knife pull to bring the knife carriage to the front of the drawer.



4. Remove the M2.5 screw and jam clearance knife.
5. Use a magnetized L-key to remove and hold the screw and a magnet to hold the blade.



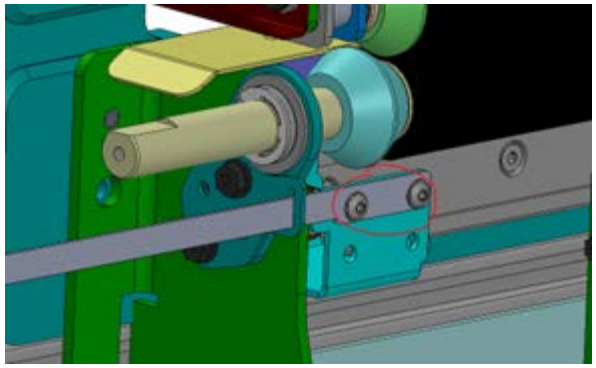
Install

NOTE: Use a magnetized L-key to hold the screw while installing the new knife blade or use a magnet to hold the blade in place while installing the screw.

1. Place the blade so that the pin on the knife carriage extends through the small hole on the blade.
2. Insert the M2.5 screw into the large hole and tighten.
3. Confirm that the top edge of the knife blade is above the edge of the cutter infeed guide when the locking mechanism is closed.

   This ensures that the knife blade will not slip under the paper during a jam and fail to cut.

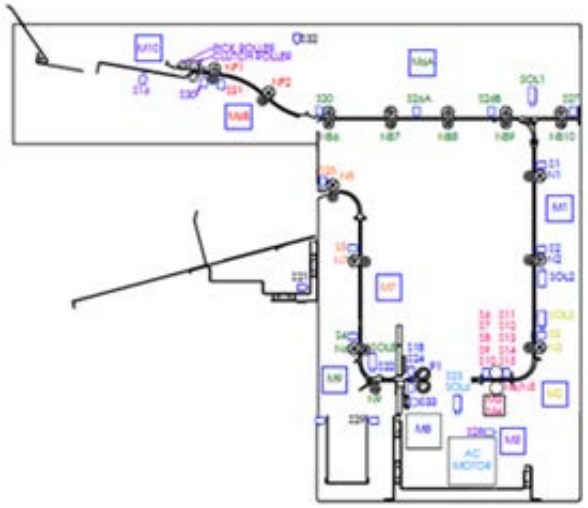
4. Verify that the 2x M3 flanged button head screws attaching the knife pull to the carriage are sufficiently tight.



Trim Tray

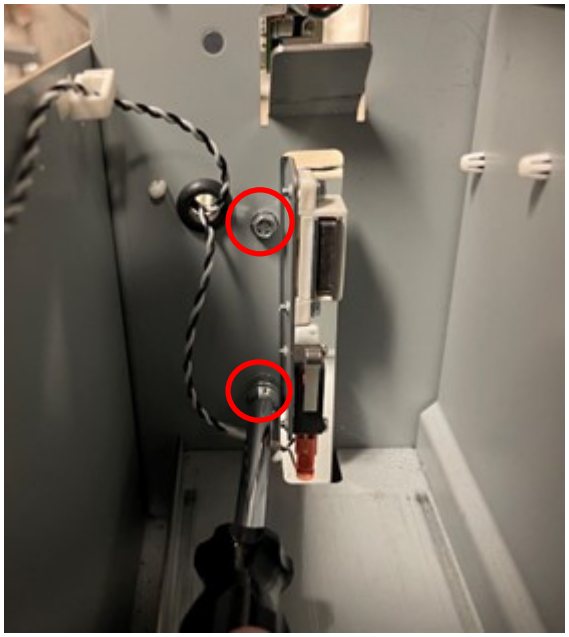
Trim Tray Home Switch

1. Open the laminator door.



2. Remove the trim tray.

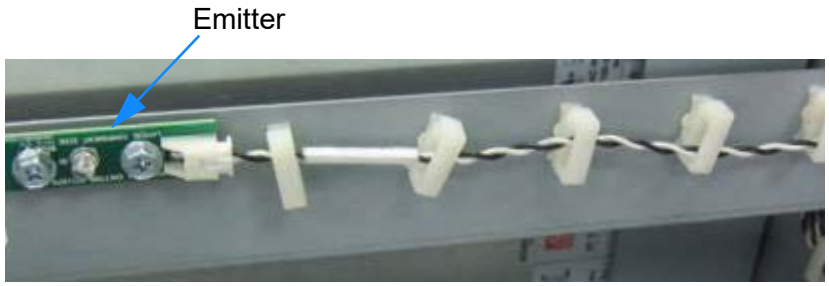
3. Disconnect cable (7725565) at the trim tray home switch.



4. Remove the (2) screws and the old trim tray home switch bracket.
5. Place the new bracket in position and tighten the screws.
6. Connect cable at the trim tray home switch.
7. Put the trim tray in position and push in firmly until it latches.
8. Close the laminator door.
9. Connect the power cord.

Trim Level Emitter

1. Open the laminator door.
2. Remove the trim tray.
3. Locate the trim level emitter on the frame at the left (downstream) side of the trim tray compartment.
4. Disconnect cable at the trim level emitter.

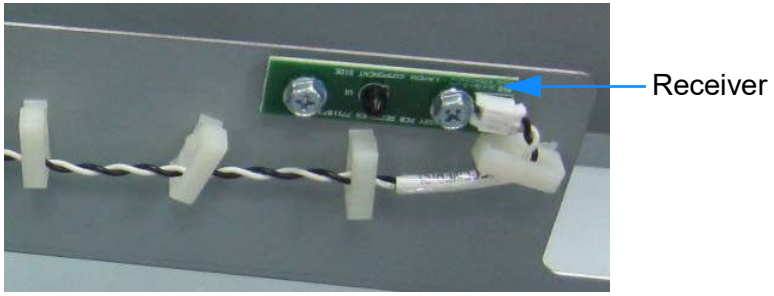


5. Remove the (2) screws and the old trim level emitter.

   There will be (4) washers between the sensor and the sheet metal bracket.
6. Place the new emitter, and the washers, in position and tighten the screws.
7. Connect the cable to the emitter.
8. Put the trim tray in position and push in firmly until it latches.
9. Close the laminator door.
10. Connect the power cord.

Trim Level Receiver

1. Open the laminator door.
2. Remove the trim tray.
3. Locate the trim level receiver on the frame at the right (upstream) side of the trim tray compartment.
4. Disconnect cable at the trim level receiver.



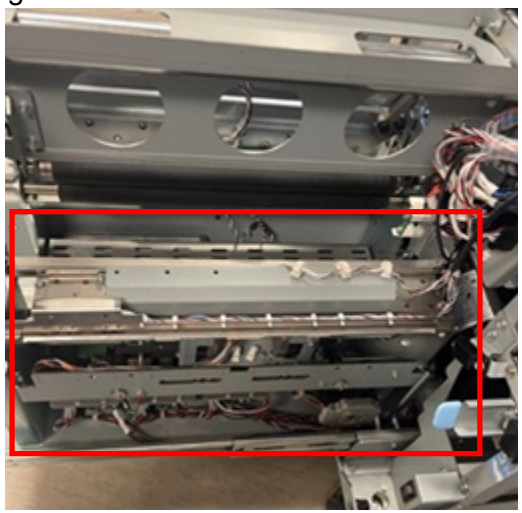
5. Remove the (2) screws and the old trim level receiver.

   There will be (4) washers between the sensor and the sheet metal bracket.
6. Place the new receiver, and the washers, in position and tighten the screws.
7. Connect the cable to the receiver.
8. Put the trim tray in position and push in firmly until it latches.
9. Close the laminator door.
10. Connect the power cord.

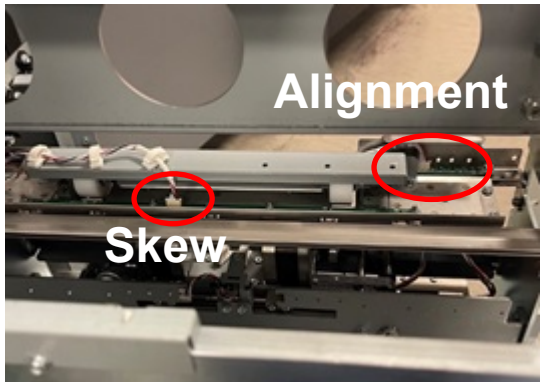
Steering Module

Alignment Module

1. Power off the machine and unplug from the outlet.
2. Open the door and pull out the laminator drawer.
3. Locate the alignment module.

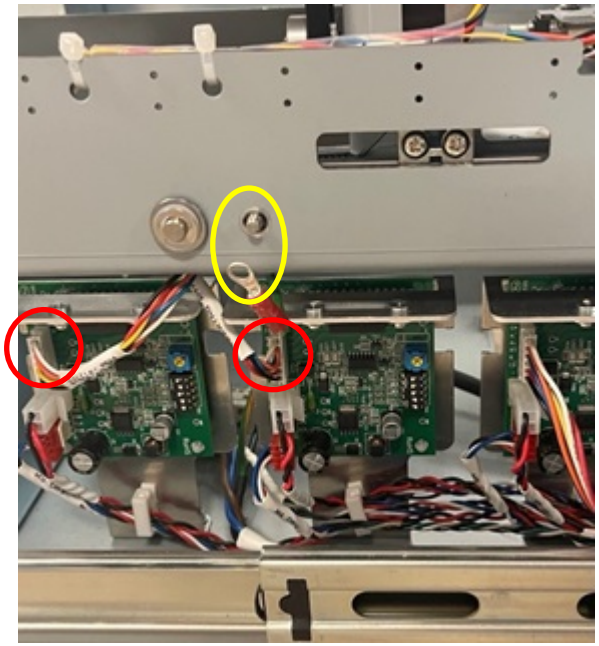


4. Disconnect and unclamp the skew and alignment board cables and gently move them away from the alignment module.

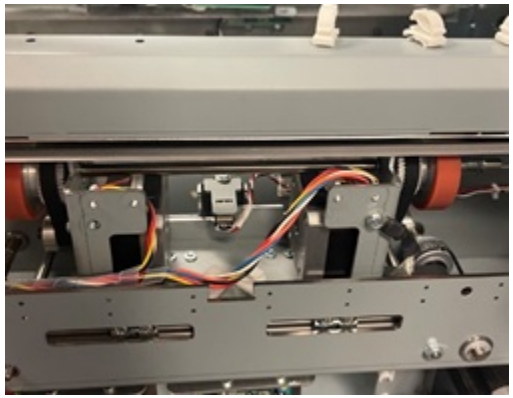


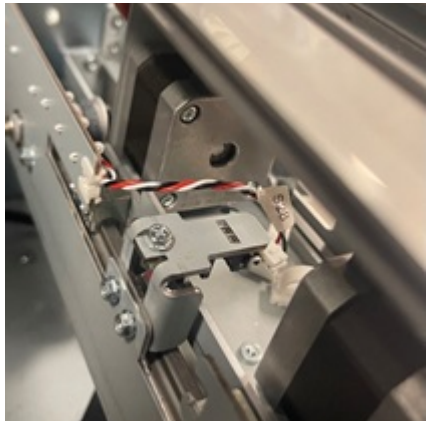


5. Locate and disconnect M3 & M4 Driver board cables and remove the grounding strap.

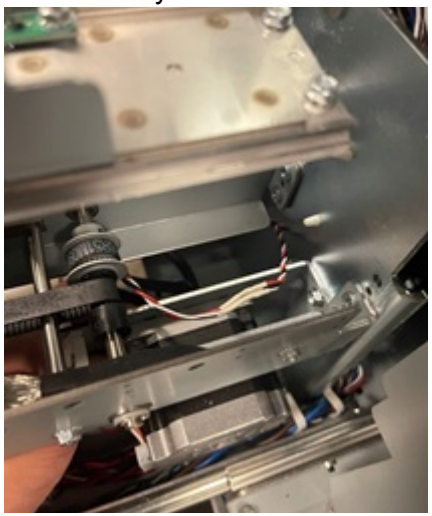


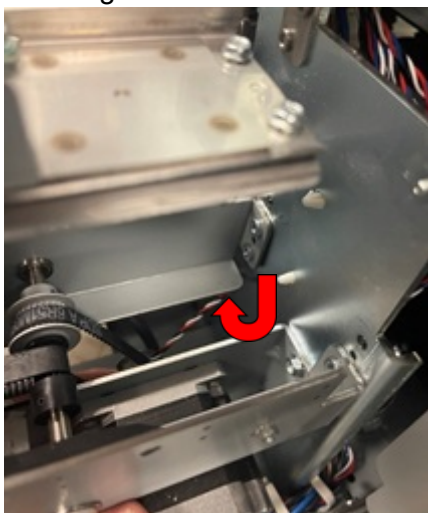
6. Remove the Alignment Sensor Bracket on page 217.
7. Locate and disconnect the S28 alignment home sensor and remove it from the wire harnesses.





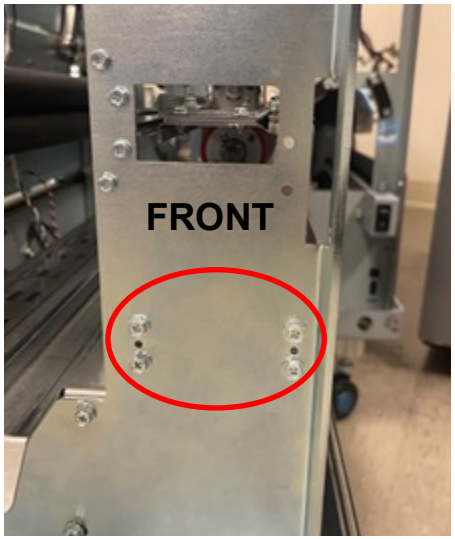
8. Carefully tuck the S28 cable beneath the alignment module.

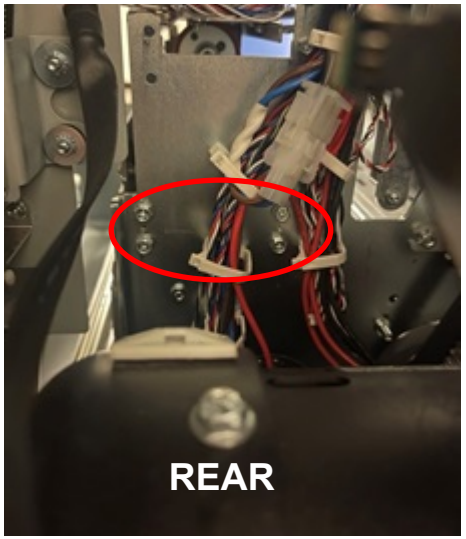




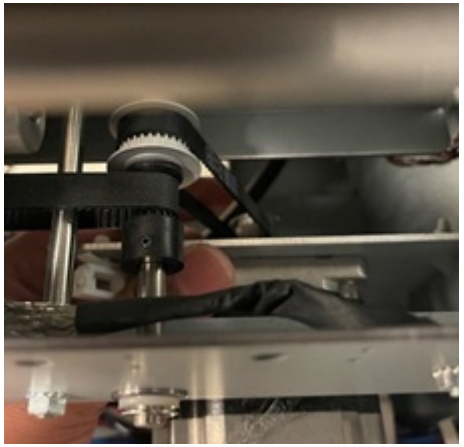
9. Remove the (4) 7mm screws located at the front and the (4) screws at the rear of the laminator drawer.

NOTE: *Alignment module will drop down when all screws are removed*.





10. After removing all screws, hold the alignment module until the toothed belt becomes loose then remove it from the pulley.





11. Hold the module by the base then pull up and out.



Laminator Alignment Stepper Motor, Pulley & Bracket

Use this procedure for the alignment stepper motor (M5) and pulley, or the alignment stepper mount bracket.

1. Open the laminator door.
2. Pull out the laminator drawer.
3. Remove the Cartridge Rail Plate on page 208.

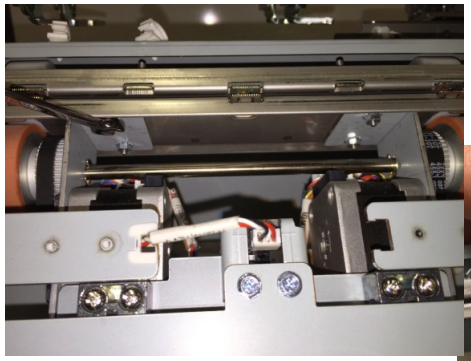


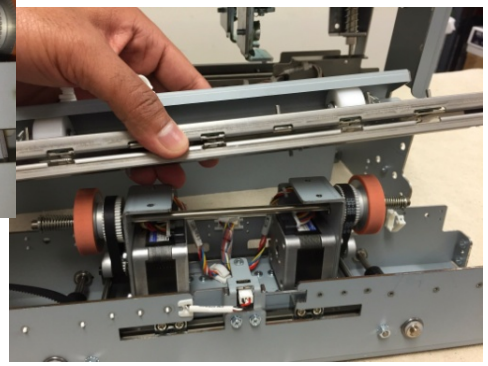
4. Remove the (4) Phillips screws and the timing belt.
5. Replace the alignment stepper mount bracket by removing the (2) screws holding the bracket.
6. Place the new bracket in position and tighten the screws.
7. Remove the stepper motor and pulley.
8. Place the timing belt around the pulley.
9. Adjust the tension on the belt.
10. Tighten the (4) Phillips screws.
11. Install the cartridge rail.
12. Push in the laminator drawer.
13. Close the laminator door.
14. Connect the power cord.

Alignment Carriage Sub-Assy

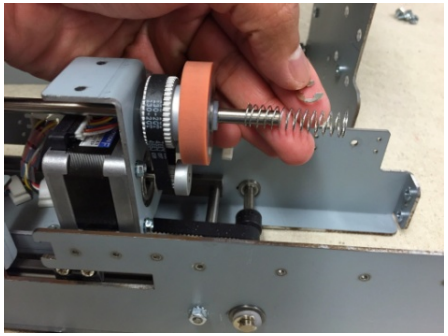
Remove

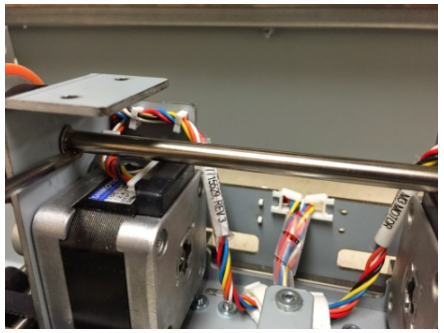
1. Remove the Alignment Module on page 192.
2. Remove the steering idler and drive panel assemblies by removing the (4) M3 nuts.



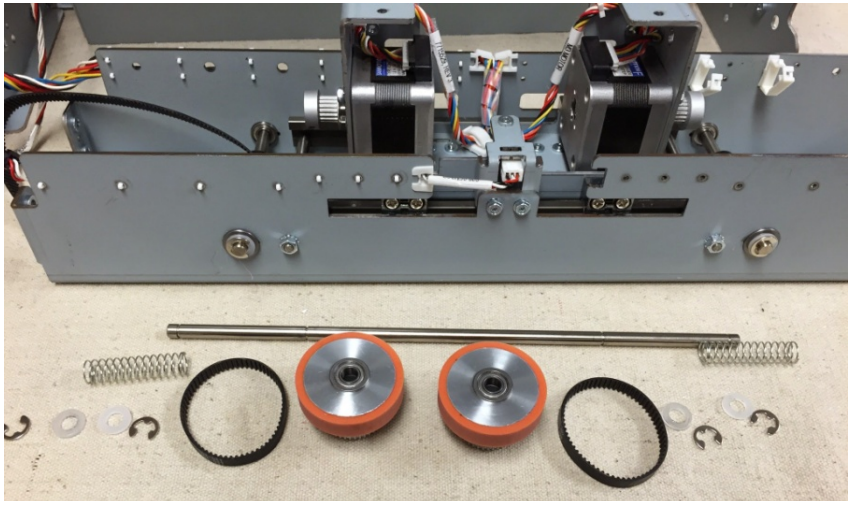


3. Remove (4) E-clips from steering drive roller shaft.

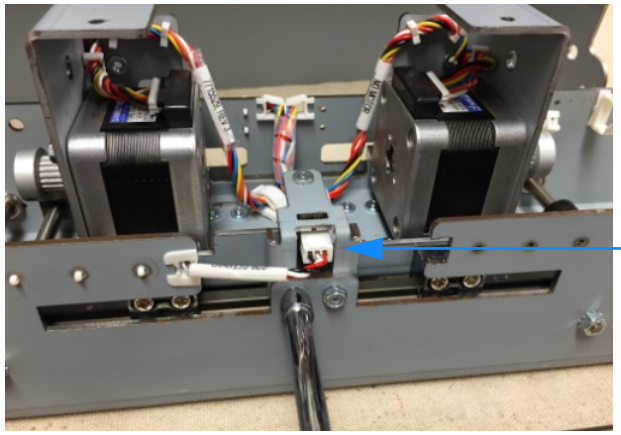




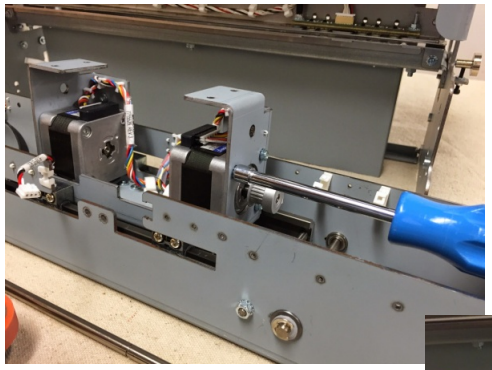
4. Remove the drive roller shaft and all of the components (4 plastic washers; 2 springs; 2 drive rollers; 2 belts; 4 e-clips) on the drive shaft.

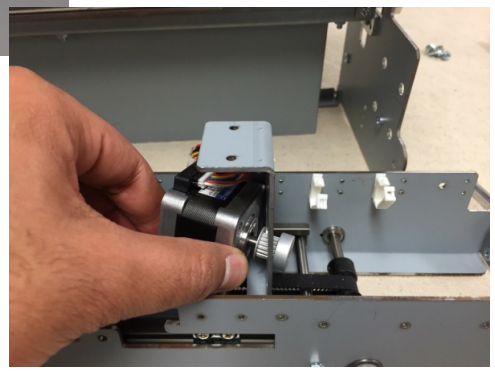


5. Remove the align home sensor bracket sub-assembly by removing the (2) screws and its cable.



6. Remove left and right steering stepper motors, along with their corresponding cables, by removing the (8) screws.

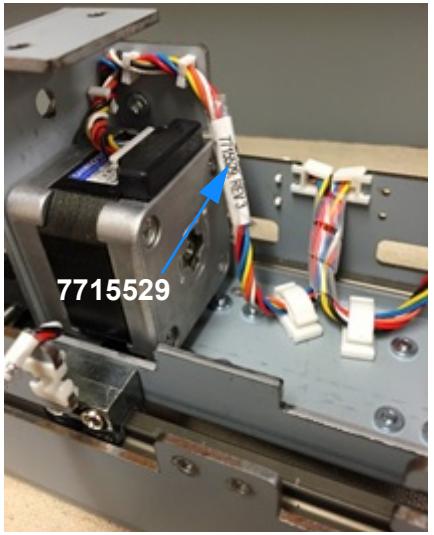


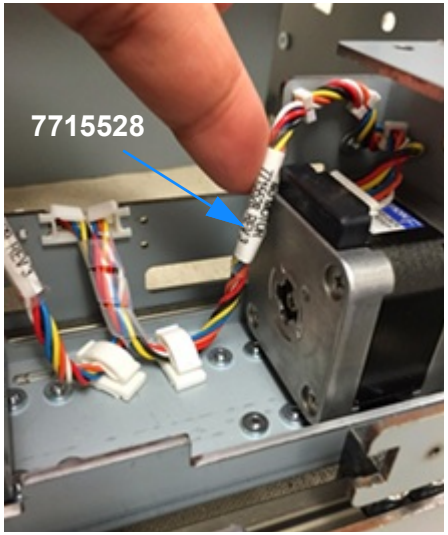


Install

1. Install the parts that were removed in the new alignment carriage sub-assembly.

Installation Tip: Look at the images for selecting the proper cable for the motors:





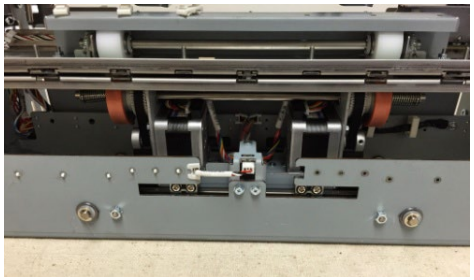
2. Install the Steering Module on page 192.
3. Push in the laminator drawer.
4. Install the Rear Cover on page 125.
5. Connect the power cord.

Steering Stepper Motor

Use this procedure for the front/left stepper motor (M3) or the rear/right stepper motor (M4).

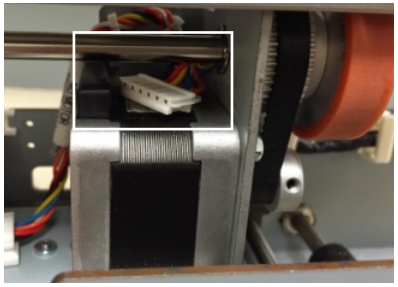
Remove

1. Remove the Alignment Module on page 192.

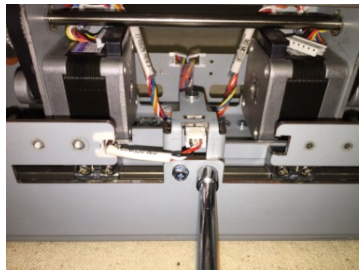


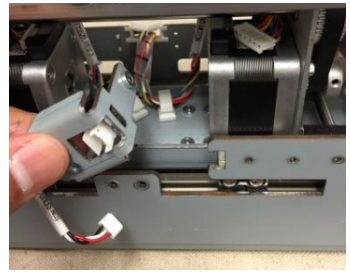
Remove the rear side steering motor, the Steering Module on page 192 needs to be removed.

2. Disconnect the steering motor cable at the motor and at the header.

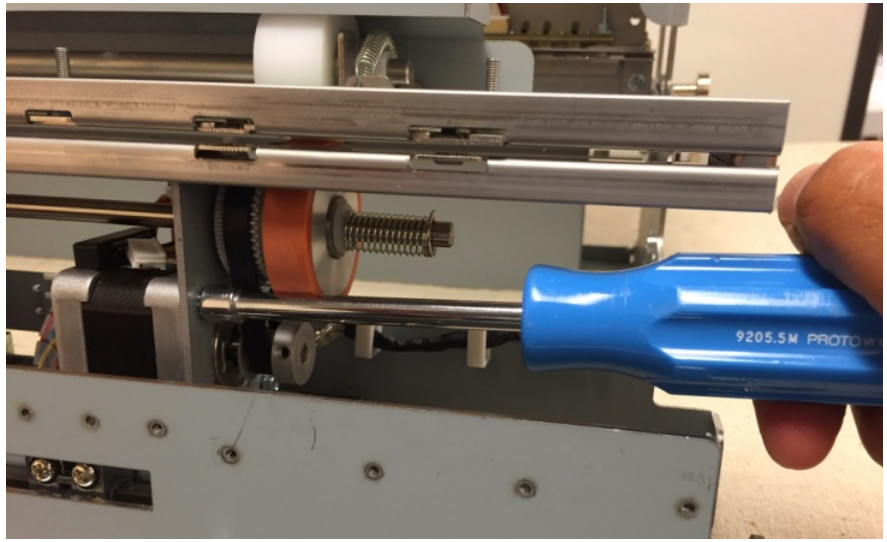


3. Remove the (2) M3 screws and the align home sensor bracket to create more room.

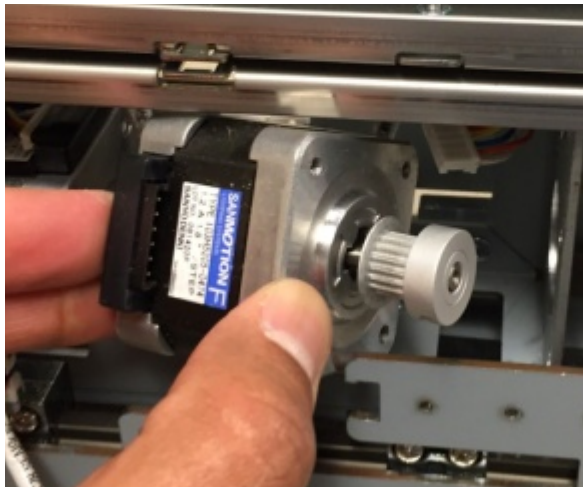




4. Remove the (4) M3 Phillips screws.



5. Remove the motor.



Install

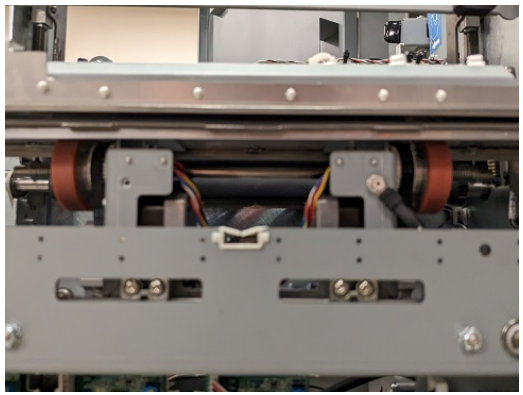
1. Place the new motor in positions and tighten the (4) screws.
2. Connect the steering motor cable at the motor and at the header.
3. Install the (4) screws and tighten with the belt in place making the belt tension uniform between both sides.
4. Install the align home sensor bracket and tighten the (2) M3 screws.
5. Install the Steering Module on page 192.
6. Push in the laminator drawer.
7. Connect the power cord.

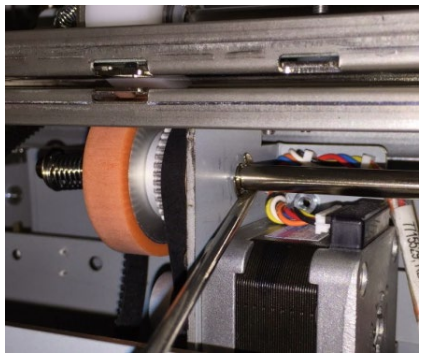
Steering Motor Belt (65 Groove)

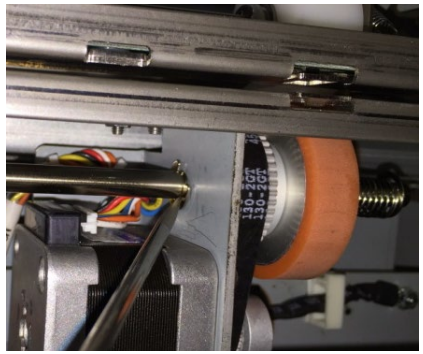
Remove

Use this procedure for the 65 groove steering belt, the steering drive roller assembly or the steering drive roller spring.

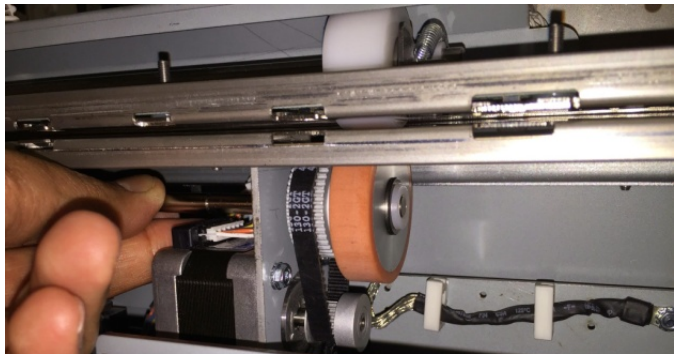
1. Remove the Alignment Module on page 192.
2. Remove the E-ring from the steering drive roller shaft from the side that needs to be replaced and the two E-rings inside the bracket.





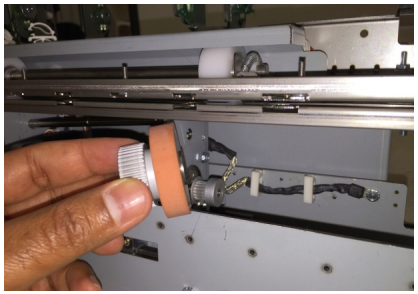


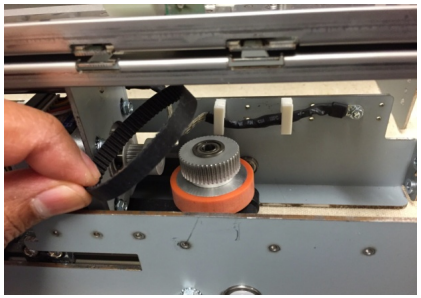
3. Slide the shaft in the opposite direction so that the (2) steering drive roller springs, plastic washers and steering drive roller can be removed (from the side that needs the part replaced).



With the above parts removed, one or more of the following parts can be replaced:

- 65 Groove Steering Belt
- Steering Drive Roller
- Steering Drive Roller Spring



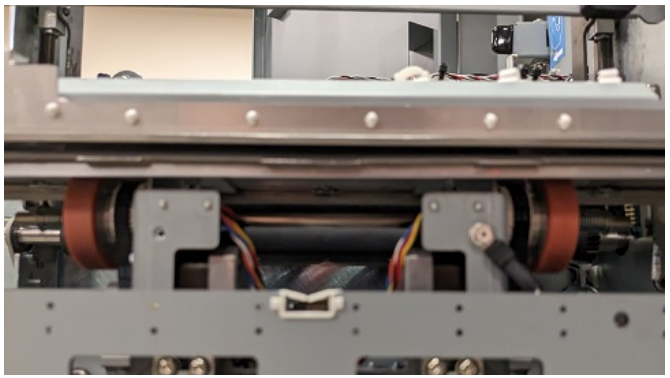


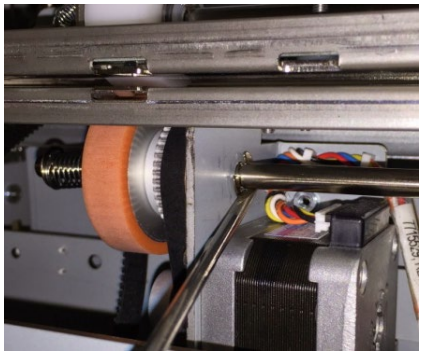
Install

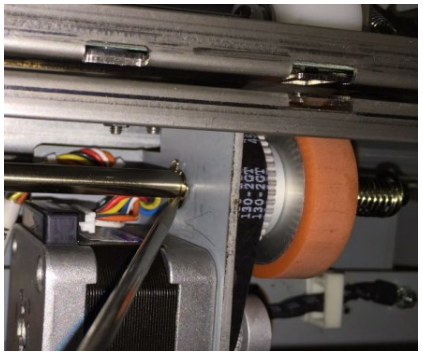
1. Place the belt around the timing pulley.
2. Install the steering drive roller and the (2) flat washers and the spring on the end of the shaft.
3. Install the E-rings on the steering drive roller shaft.
4. Push in the laminator drawer.
5. Connect the power cord.

Steering Drive Roller Shaft

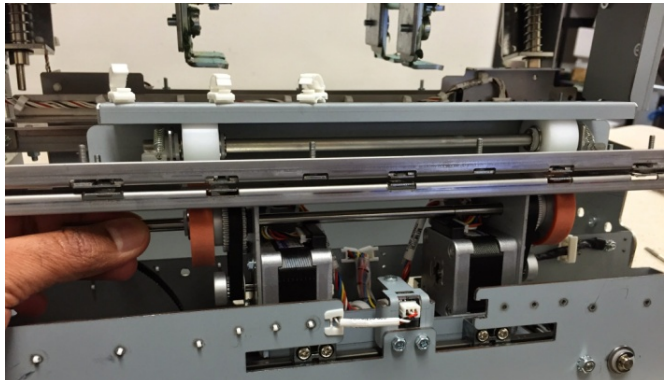
1. Remove the Alignment Module on page 192.
2. Remove the (2) E-rings, the spring, the steering drive roller and the (2) flat washers from each end of the shaft.







3. Remove the shaft from the drive panel steering sub-assembly.

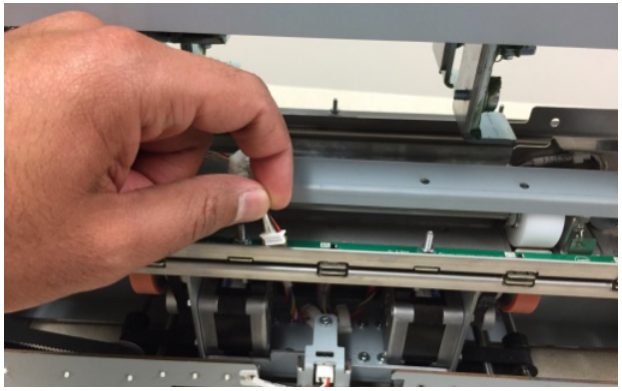


4. Place the new shaft into the drive panel steering sub-assembly.
5. Install the (2) E-rings, spring, steering drive roller and the (2) flat washers on each end of the shaft.
6. Install the Steering Module on page 192.
7. Push in the laminator drawer.
8. Connect the power cord.

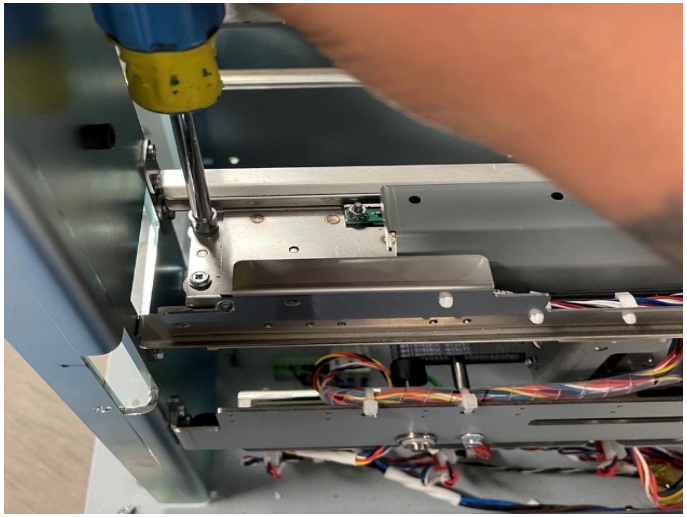
Steering Idler Panel Weldment

Remove

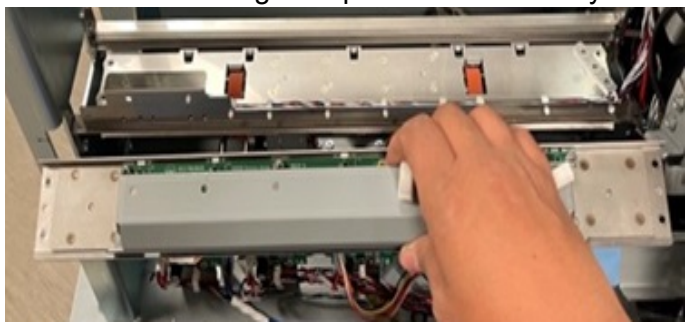
1. Remove the Alignment Module on page 192.
2. Unplug the skew senor and release the cable clamp.



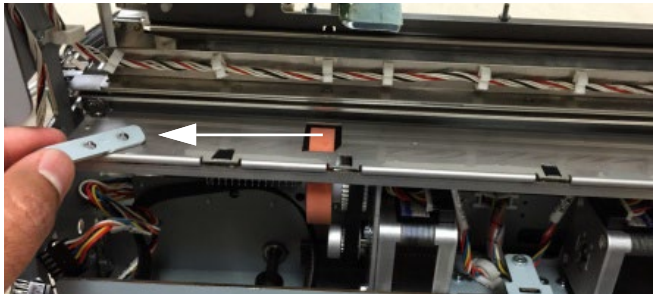
3. Remove the (4) screws that hold the steering idler panel sub-assembly to the drive panel steering sub-assembly.



4. Remove the steering idler panel sub-assembly.



5. Keep track of the spacers on either end of the drive panel.



6. Transfer the skew sensor, steering idler roller, idler roller cover, and all fasteners to the new weldment.

NOTE: There is one nylon washer below and above the sensor board at each of the four locations.

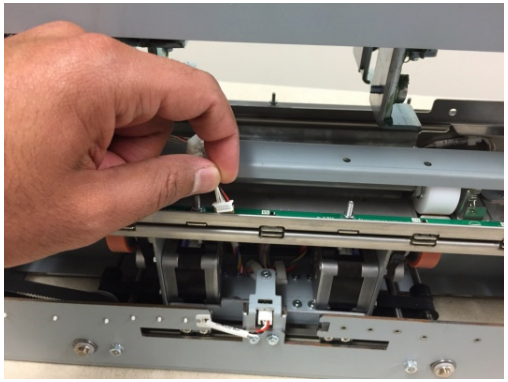
Install

1. Make sure the (2) spacers are in position on the steering drive panel weldment (use semi perfs for placement).
2. Place the steering idler panel sub-assembly in position on the drive panel steering sub-assembly.
3. Install the (4) screws.
4. Push in the laminator drawer.
5. Connect the power cord.

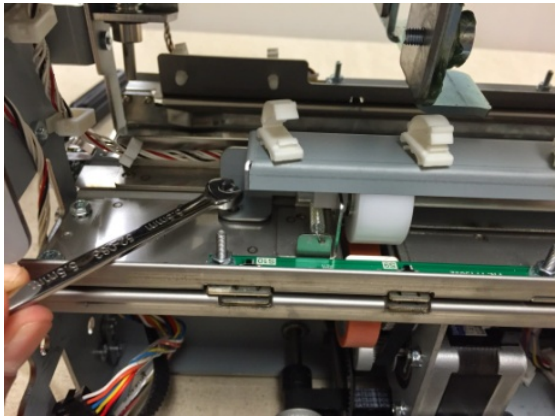
Steering Idler Roller Assembly

Remove

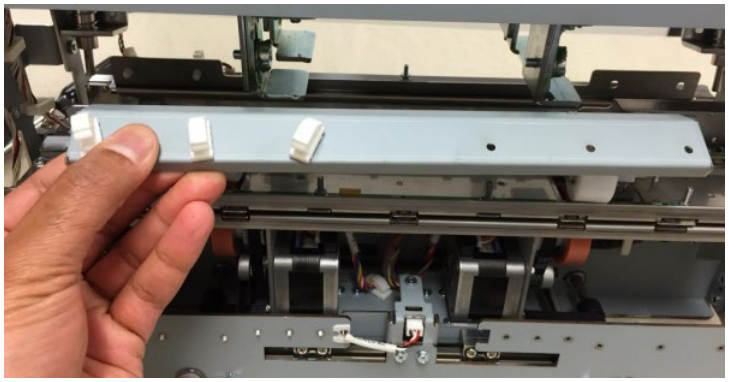
1. Power off the machine and unplug from the outlet.
2. Open the laminator door.
3. Pull out the laminator drawer.
4. Disconnect the skew sensor board connector.



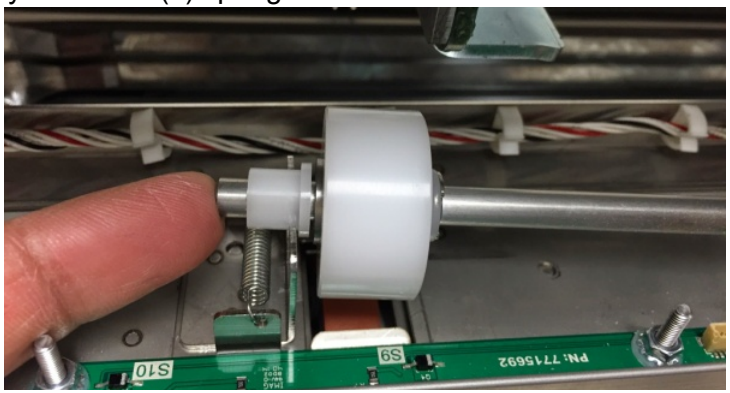
5. Release the cable clamp and move the cable out of the way.
6. Remove the (2) M4 Nuts.



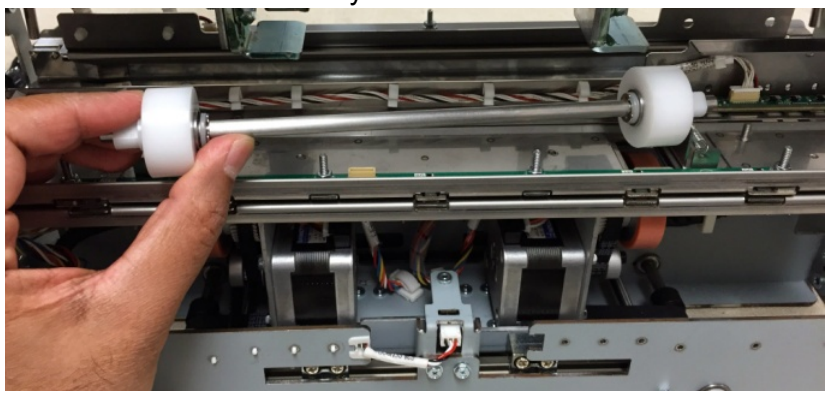
7. Remove the roller cover.



8. Gently move the (2) springs off the ends of the roller.

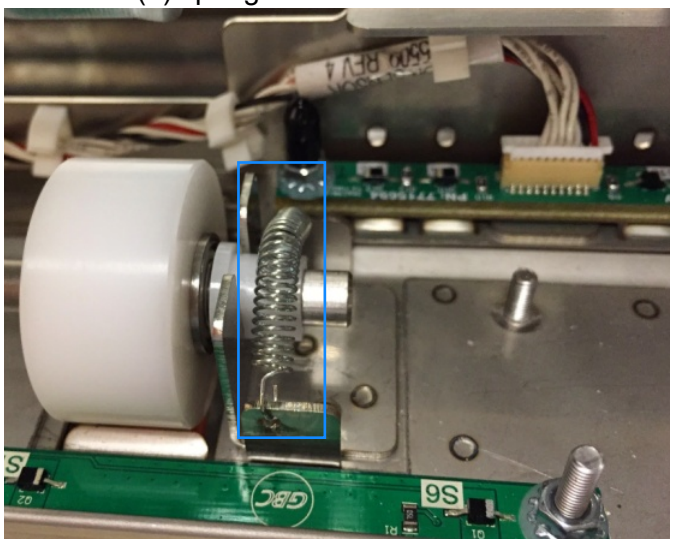


9. Remove the roller assembly.



Install

1. Place the new idler roller assembly in position.
2. Gently move the (2) springs on to the ends of the roller.

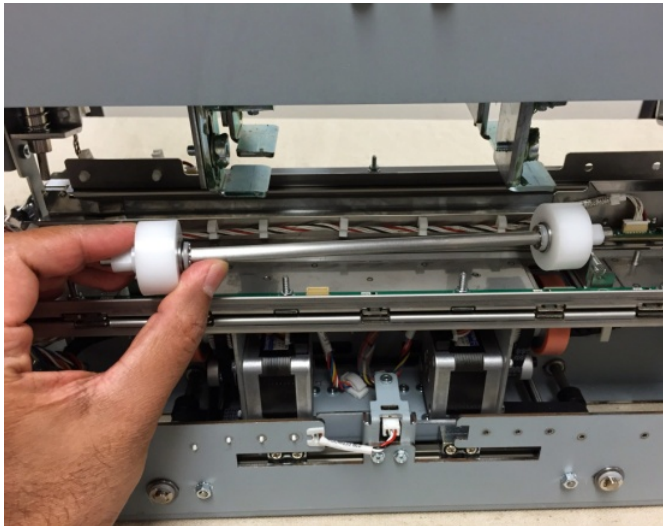


3. Ensure the springs are over the white roller bushings.
4. Place the roller cover in position.
5. Install and tighten the M4 Nuts.
6. Place the skew sensor board cable in the cable clamp and close.
7. Connect the skew sensor board connector.
8. Push in the laminator drawer.
9. Connect the power cord.

Steering Idler Roller Bearing

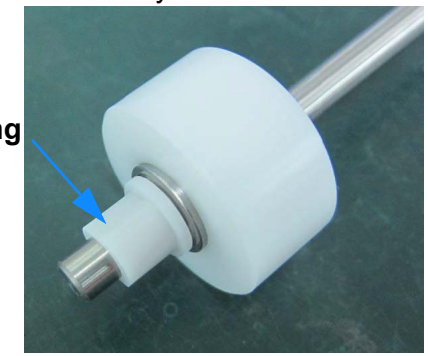
Use this procedure for the steering idler roller double "D" flange bearing.

1. Remove the Steering Idler Roller Assembly on page 201.



2. Remove the (2) steering idler roller bearings from the ends of shaft on the steering idler roller assembly.

Roller Bearing

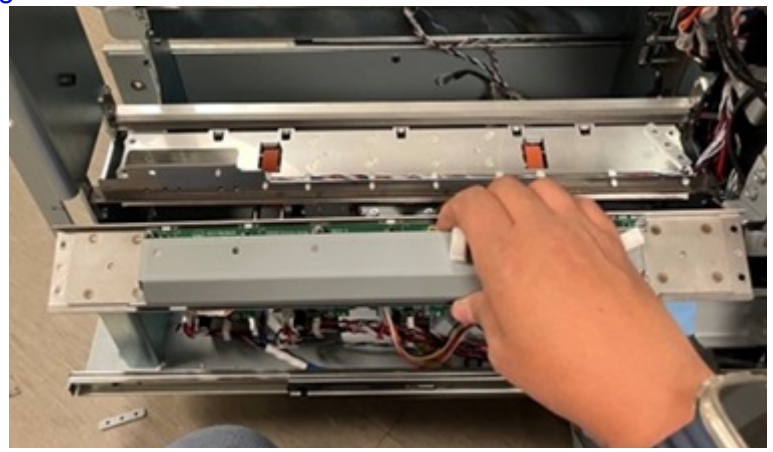


3. Place the new steering idler roller bearings on to the ends of shaft .
4. Replace the Steering Idler Roller Assembly on page 201.

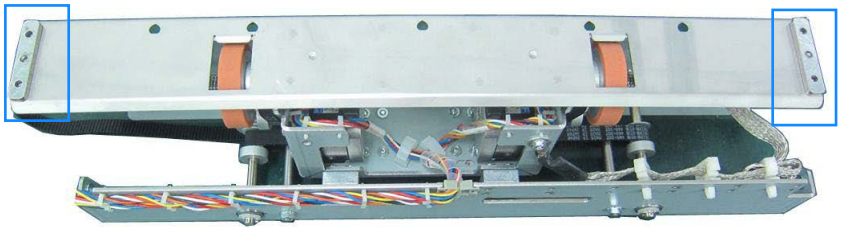
Steering Drive Panel Weldment

Remove

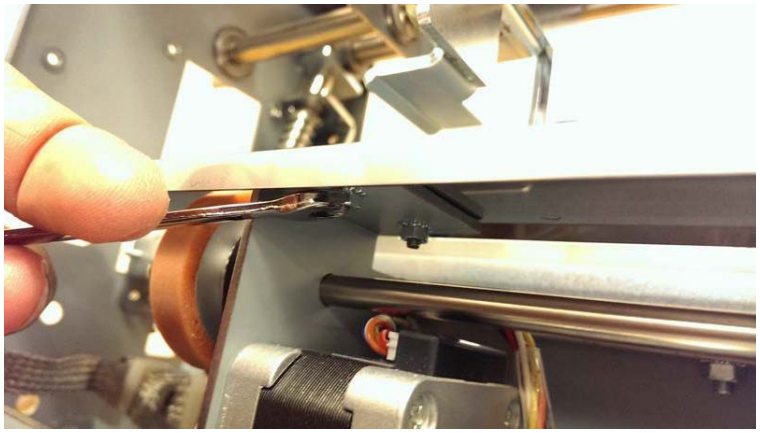
1. Do steps 1-5 in the removal of the Steering Idler Roller Assembly on page 201.



2. Remove the (2) spacers.



3. Remove the (4) nuts holding the steering drive panel weldment.



4. Replace with new part.

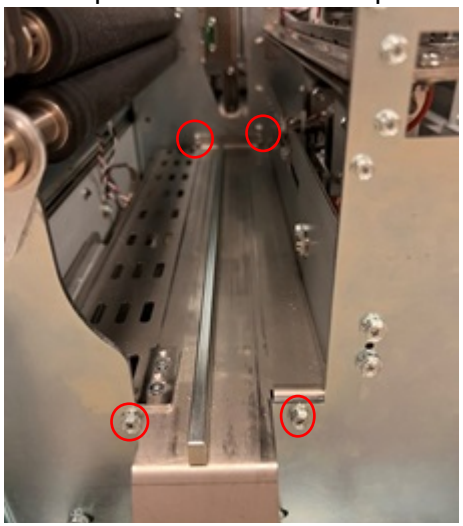
Install

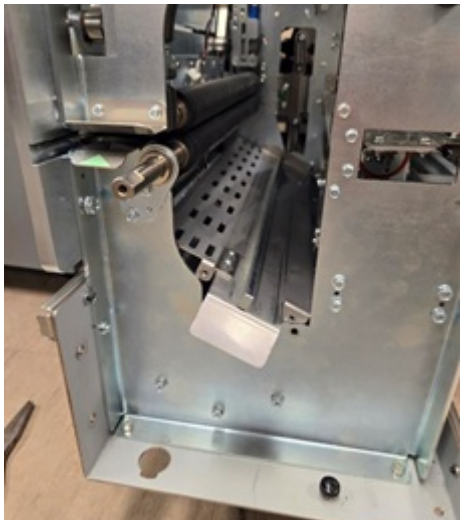
1. Place the steering drive panel weldment in place.
2. Tighten the nuts that hold the weldment.
3. Install the spacers.
4. Install the Steering Idler Roller Assembly on page 201.
5. Connect the power cord.

Laminator Module

M8 Motor Driver

1. Power off the machine and unplug from the outlet.
2. Open the laminator door.
3. Pull out the laminator drawer.
4. Use a 7mm driver to remove the (4) screws holding in the cartridge rail plate and then lift the plate out and set it aside.

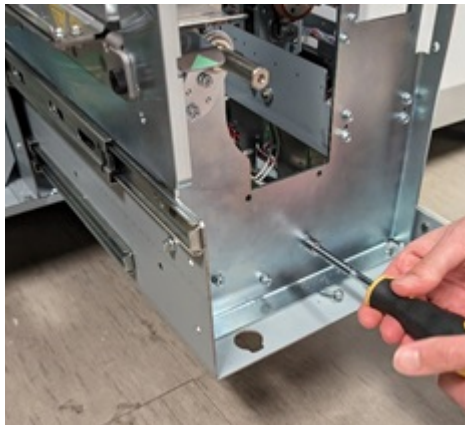




5. Unplug all (4) cables from the driver board.



6. Remove the (3) screws in the front using an 8mm driver.

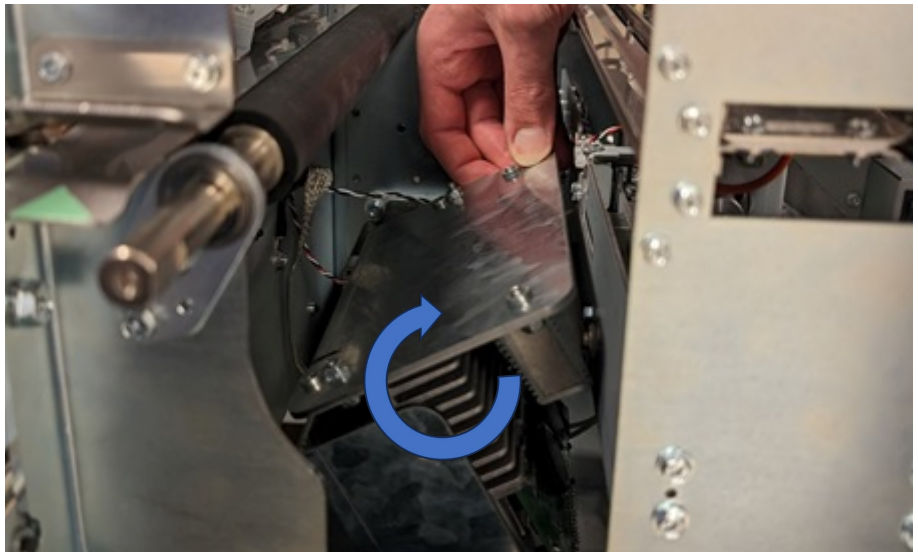


7. Slide the driver plate assembly towards the aligner mechanism.

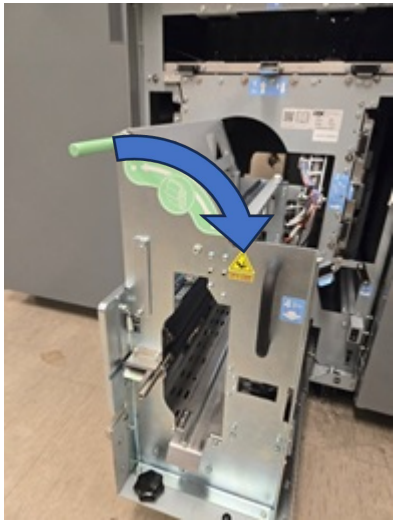


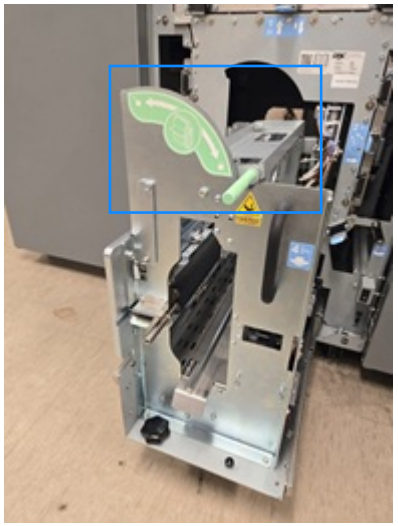
8. Rotate the assembly clockwise 270° to orient it for removal.

IMPORTANT: Do not try to rotate it counter clockwise. It will not fit and may cause damage to the machine.



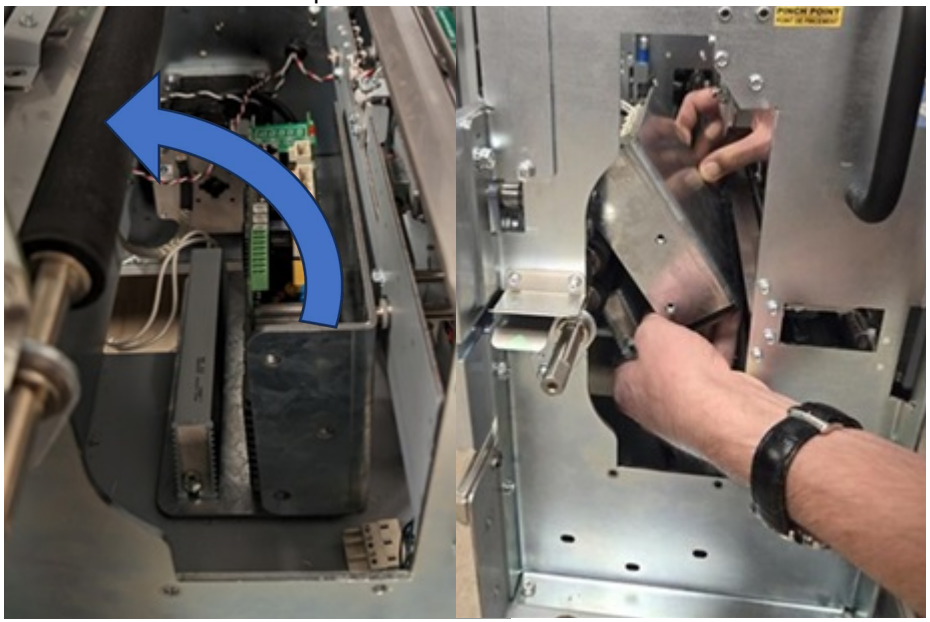
9. Confirm that the locking mechanism is in the down position before lifting out the assembly.



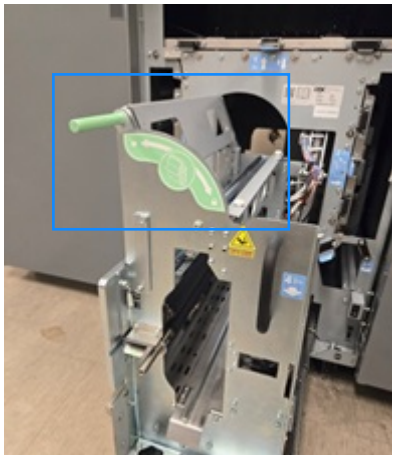


10. Lift the assembly out by rotating it slightly counterclockwise around the pressure roller.

    Once the assembly has cleared the top roller, you can lift the locking mechanism to create more space to remove the driver.

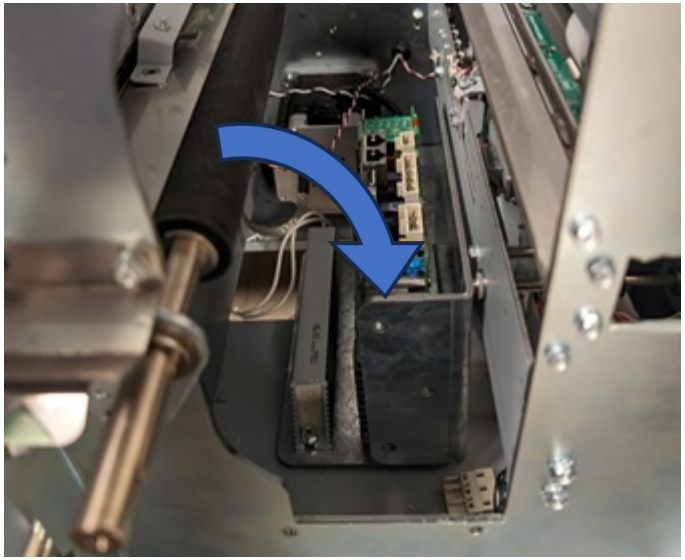






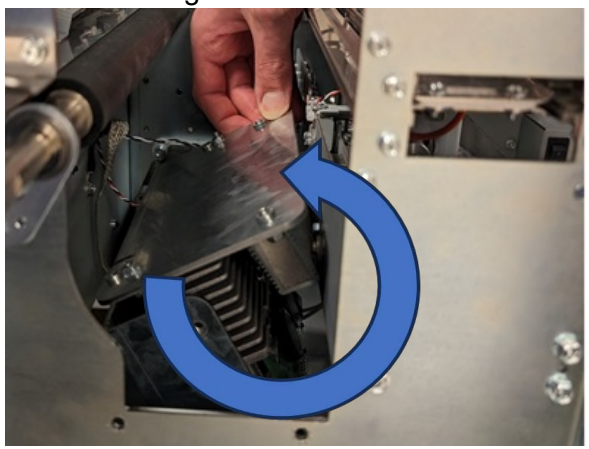
Install

1. Before installing the M8 motor driver, check the dip switch and dial settings are correct, see M8 Motor Driver (Stepper Board) on page 175.
2. Open the laminator door.
3. Pull out the laminator drawer.
4. Close the locking mechanism lever to lower the pressure roller.
5. Lower the driver into the lamination drawer in the orientation shown below. You will need to rotate it as you lower it in to clear the pressure roller.



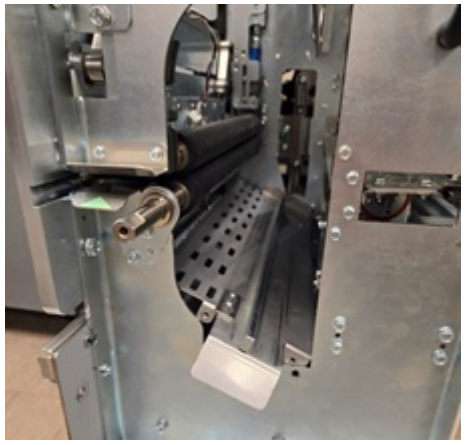
6. Rotate the assembly 270° counterclockwise until the resistor is on top.

IMPORTANT: Do not try to rotate it clockwise. It will not fit and may cause damage to the machine.



7. Once the assembly is in the correct rotation, plug the (4) cables into the driver.
8. Align the plate with the three holes and replace the (3) 8mm screws at the front of the lamination drawer.
9. Place the cartridge rail plate back into the machine.

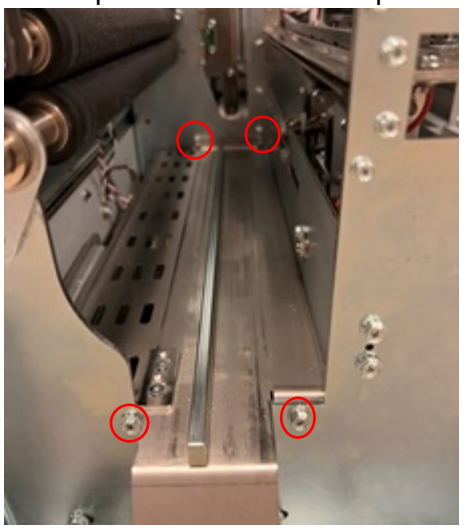
NOTE: If the plate does not drop in easily, you will need to press or tap the flange tabs in to get them inside the frame.

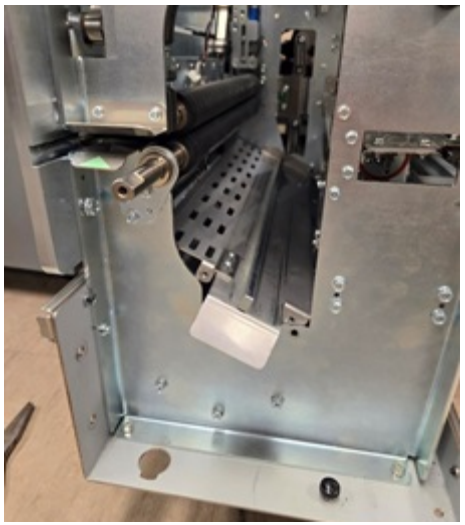




Cartridge Rail Plate

1. Power off the machine and unplug from the outlet.
2. Open the laminator door.
3. Pull out the laminator drawer.
4. Use a 7mm driver to remove the (4) screws holding in the cartridge rail plate and then lift the plate out and set it aside.





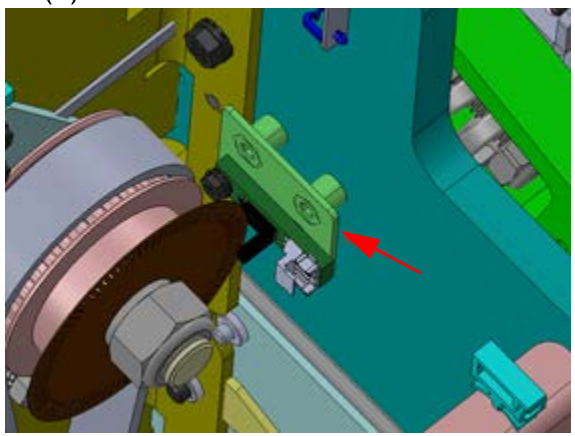
NOTE: After installing the new cartridge rail, adjust the Rail Height on page 241.

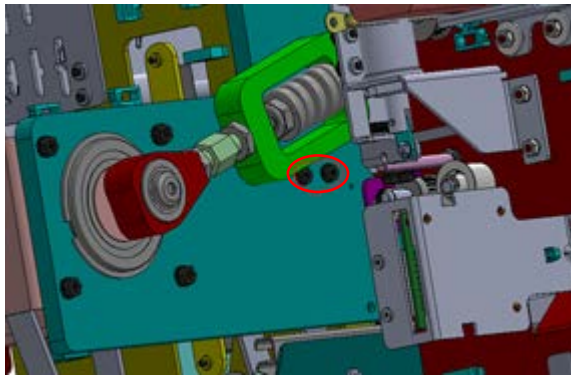
Rollers - with Sensor

Lower

Remove

1. Remove the Rear Cover on page 125.
2. Disconnect the harness and remove the S33 sensor bracket by removing the (2) M4 screws.

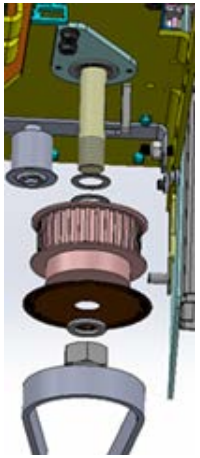




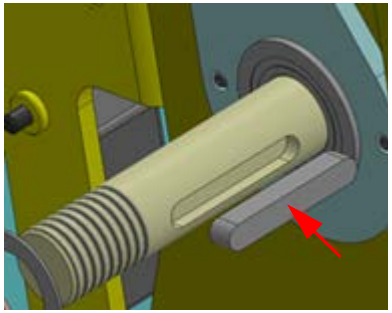
NOTE: Removing the AC motor makes accessing the tensioner much easier.

3. Remove, rather than loosen, the tensioner to remove the belt and avoid damaging the encoder disk.
4. Loosen, but do not remove, the M5 set screw in the pulley.
5. Remove M12 locknut 1824106.
6. Have a second set of hands keep the shaft still by firmly holding the knob, while removing the nut.

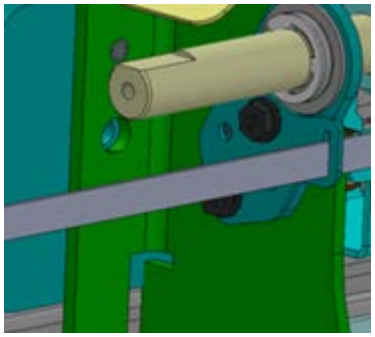
   Closing the Locking Mechanism and pressing the upper onto the lower roller seems sufficient if the nut is not over-tightened.
7. Remove the shim, encoder disk, and pulley. Discard the encoder disk as it is no longer needed..



8. Use a needle nose pliers and light force to remove the key from the lower pressure roller shaft..



9. Remove the (2) shims.
10. On the front of the machine remove the (2) M4x10 screws holding the knife pull guide and the bearing housing.



11. Push the knife pull with guide attached out of the way and pull the lower pressure roller with housing attached straight outward.

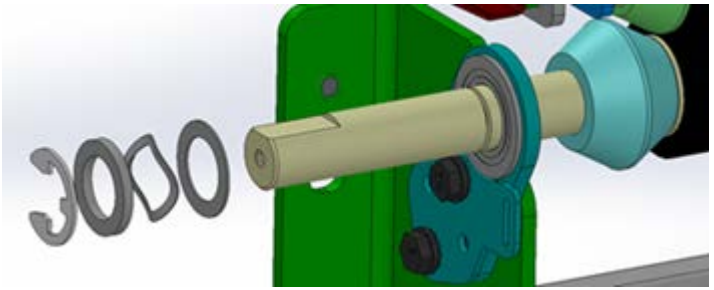
NOTE: The pins holding the bearing housing may be tight.

12. With the lower pressure roller outside the machine, remove the JE-9 e-ring, shim, wave spring, and the shim along with the bearing housing and bearing.

Install Lower

Install Lower Roller first for better visibility

1. With the lower roller still out of the machine, reinstall the JE-9 e-ring, shim, wave spring, and the shim along with the bearing housing and bearing.

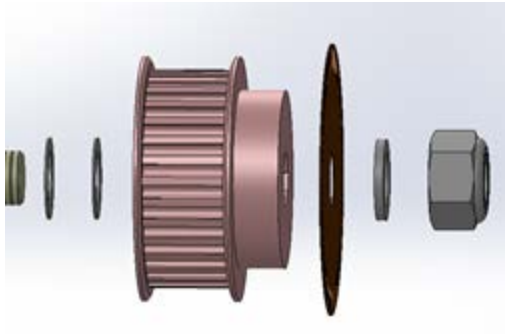


2. Push the knife pull with 7725604 guide aside and insert the lower roller and housing assembly into the machine taking care to pass the end through the bearing on the rear frame without pushing it loose.
3. Ensure the knife guide sits in front of the bearing housing and reinstall the (2) M4x10 screws.
4. Move to the rear of the machine.

IMPORTANT: Install the (2) shims before installing the key.

5. Install the key with light pressure to press into the keyway.
6. Install the shim, pulley, and M12 locknut.

IMPORTANT: Do not over-tighten the M12 locknut. Final adjustment is performed after checking alignment with upper roller.



Upper

Remove

Pull out the drawer and remove the locking mechanism (see Locking Mechanism on page 212).

NOTE: To minimize danger of being cut after removal of the toggle clamp, check that the jam clearance knife carriage is positioned at the rear of the machine.

IMPORTANT: The pressure roller kit comes with (2) bearings (bagged separately and pre-greased). These should be replaced whenever the upper roller is too.

A light force should pop them out of the toggle clamp frames.

Install

1. Install the (3) shims and the wave spring.



NOTE: The gear must be toward the rear side of toggle clamp.

2. Adjust the lower roller by either tightening or loosening the M12 locknut until the edges of the rubber on the upper and lower pressure rollers are coplanar.

IMPORTANT: Even a small misalignment may lead to issues in lamination quality, like excessive curl.

IMPORTANT: If the edges of the rollers are not aligned, double check for proper installation of all shims.

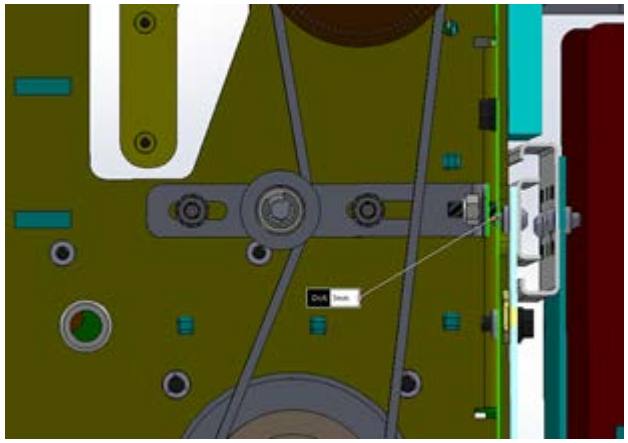
3. Tighten the M5 set screw on the pulley.

IMPORTANT: Do not over-tighten. This set screw is only meant to minimize wear on the keyway, not to hold the pulley in place. Over-tightening will make the next replacement much more difficult.

4. Install the belt.
5. Install the S33 sensor bracket and reconnect the harness.

NOTE: Encoder S33 is no longer used.

6. Install the tensioner and tighten the M5 locknut it until the flange is approximately 3mm from the rear frame or the belt feels tight.



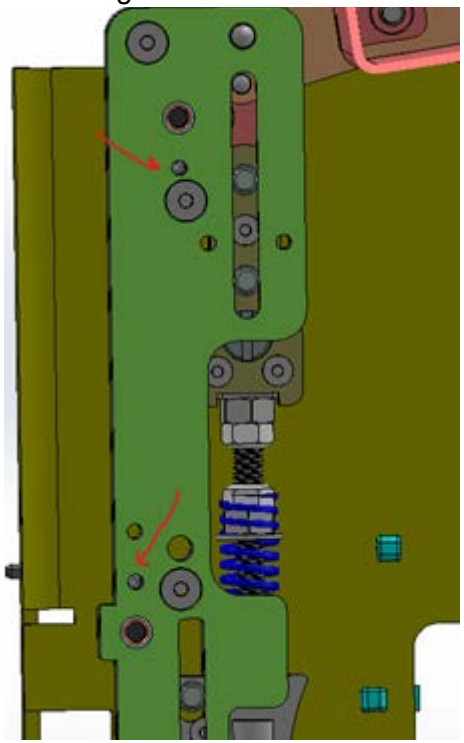
7. Install the AC motor and rear cover.

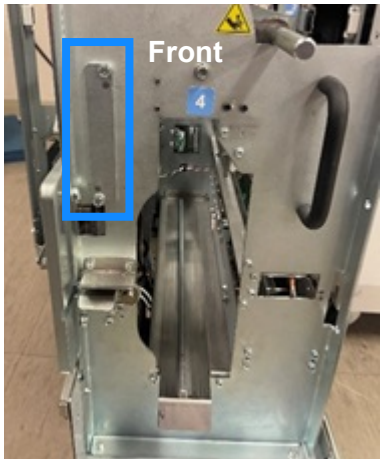
Locking Mechanism

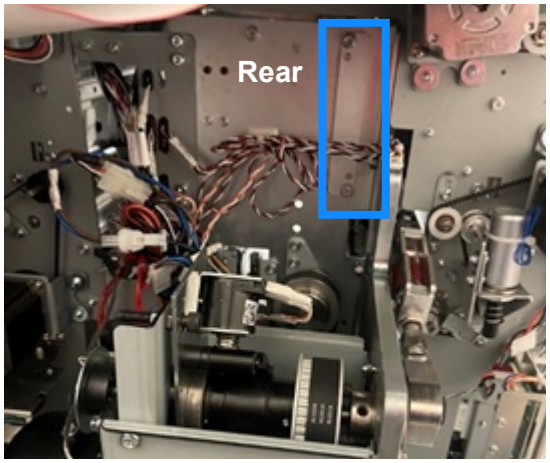
Remove

1. Open the laminator door.
2. Remove the cartridge.
3. Pull out the lamination drawer.
4. Locate the front and rear bracket and remove the (2) 8mm screws and set the brackets aside.

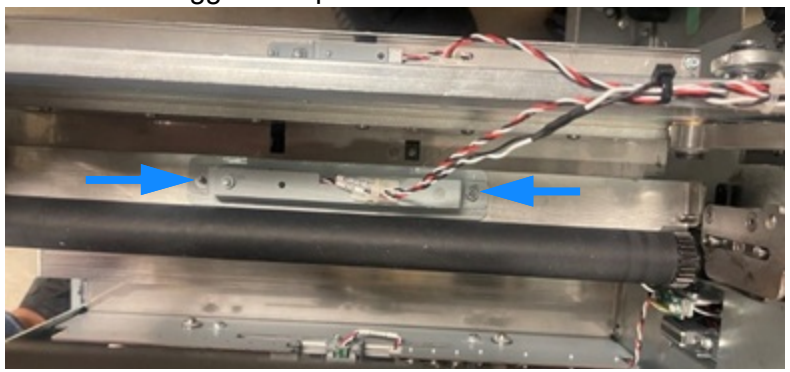
NOTE: Front and rear locking mechanism brackets can be more easily removed by inserting a 3mm L-key into the holes corresponding with the pins holding each on.



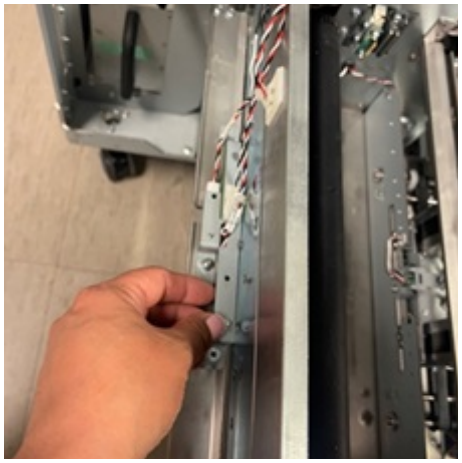




5. Remove the (2) 5.5mm screws holding the S24/receiver bracket, located on the toggle clamp baffle.

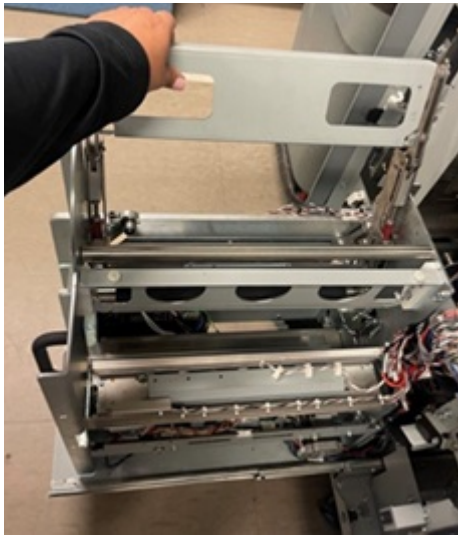


6. Place the S24/receiver bracket on exit baffle.



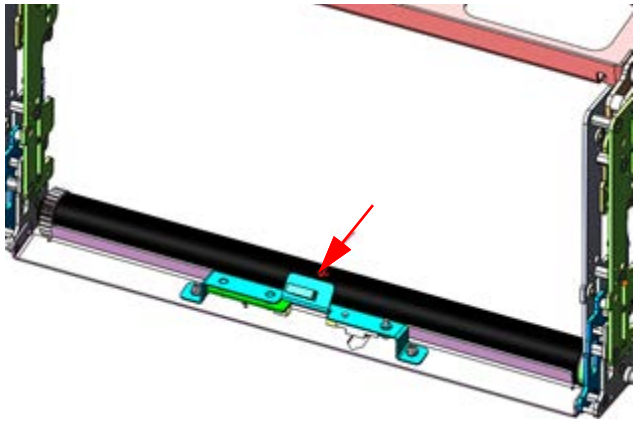
7. Grasp the toggle clamp bar and pull the locking mechanism up and out.

IMPORTANT: Keep it as straight as possible to avoid getting stuck on the frame walls.



Install

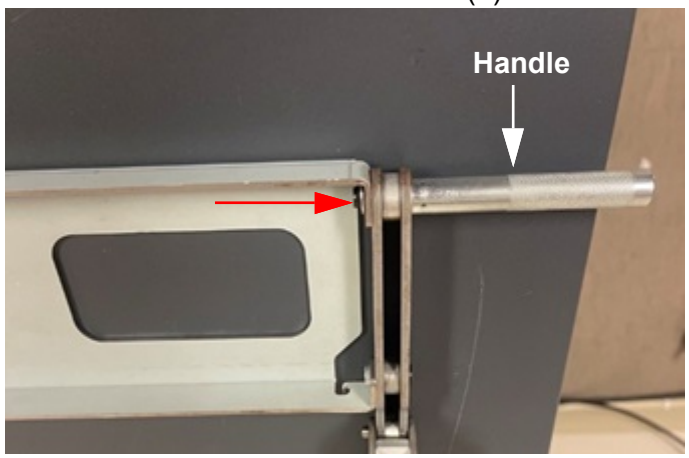
NOTE: The flange on the sensor bracket must point toward the upper roller in order to ensure proper sensor operation and avoid interference with the cutter frame.



Install the new locking mechanism and follow the steps in reverse order and connect the power cord.

Handle

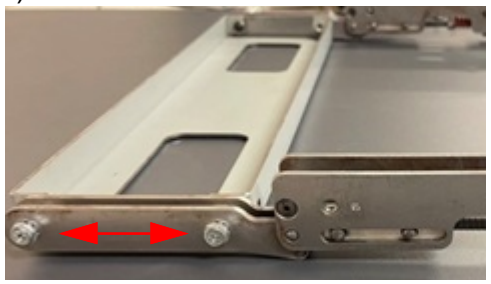
1. Open the laminator door and pull out the lamination drawer.
2. Use a 2.5mm Allen wrench to remove the (1) socket head cap screw.

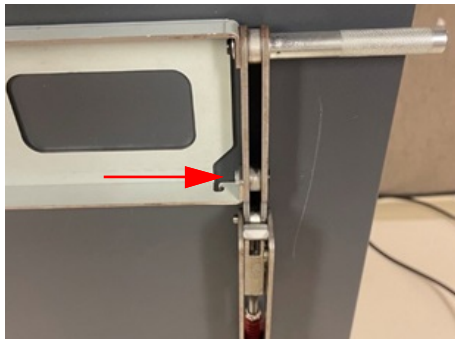


3. Install the new handle and tighten down the cap screw.
4. Push the lamination drawer in and close the laminator door.
5. Connect the power cord.

Clamps

1. Open the laminator door and pull out the lamination drawer.
2. Remove the Locking Mechanism on page 212.
3. Remove the (2) 8mm screws.

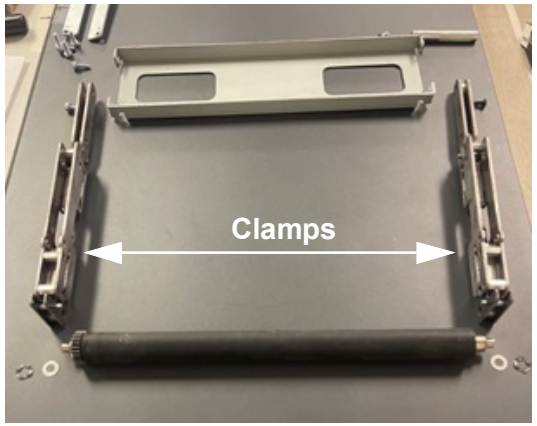




4.Remove the 2.5mm socket head cap screw.

5.Remove the handle, per the previous instructions.

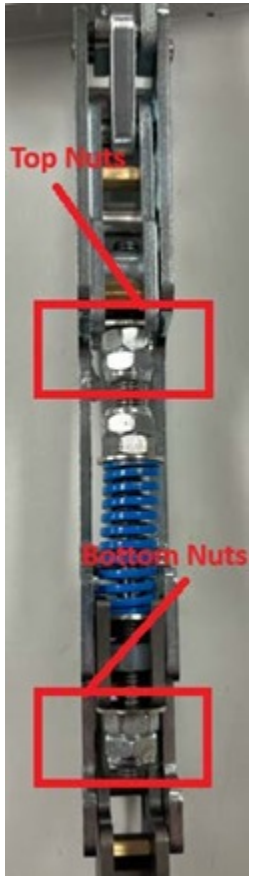
6.Take the roller off of the clamps and either repair or replace the clamps by following the steps below.



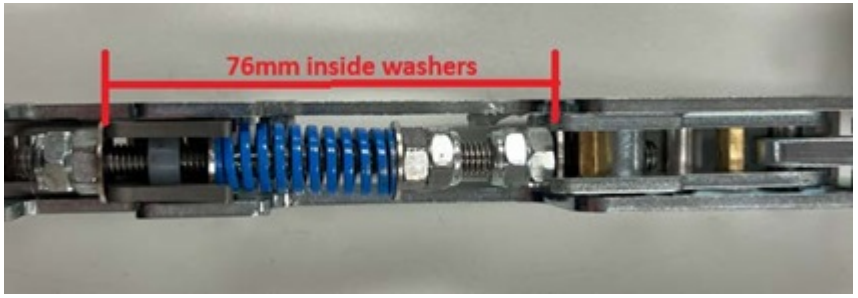
Follow the below instructions for each of the two toggle clamps.

7. Confirm that all of the flathead screws on the outside of each toggle are tight. It is especially important to check the four larger M4X8 screws (total of 8) and two smaller M3X5 (total of 4) on each face. Tighten these with an Allen wrench if required. See the diagram below.
8. Inspect the Locking Mechanism Springs on page 263. If the springs are set incorrectly on either clamp, then adjust them following that procedure.
9. Inspect the top nut positions on the toggle clamp in the open position. See the picture below to check the meaning of "Top Nuts" and "Bottom Nuts". The top nuts should be tight with the rectangular washer at the top. If they have loosened, turn them with a 10mm wrench until they are snug against each other and the top washer.





10. Once the top nuts are tight, leave the toggle open. Measure the distance to the lower nuts using a pair of calipers and ensure it is 78mm. See the diagram to the right for where to measure. If the position is incorrect, adjust the bottom nuts using a 10mm wrench until the distance is correct. Make sure the two bottom nuts are snug with each other when finished.



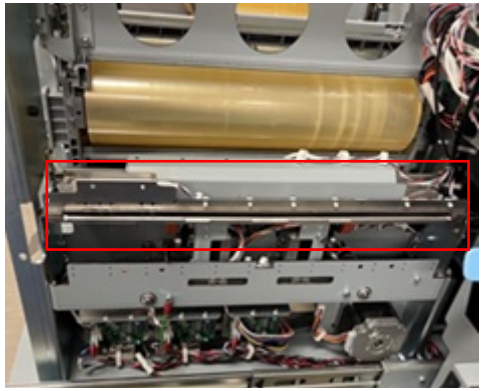
11. Close the toggle and check that the lower nuts have separated from the rest of the mechanism in this position. There should be an visible gap above the washer.



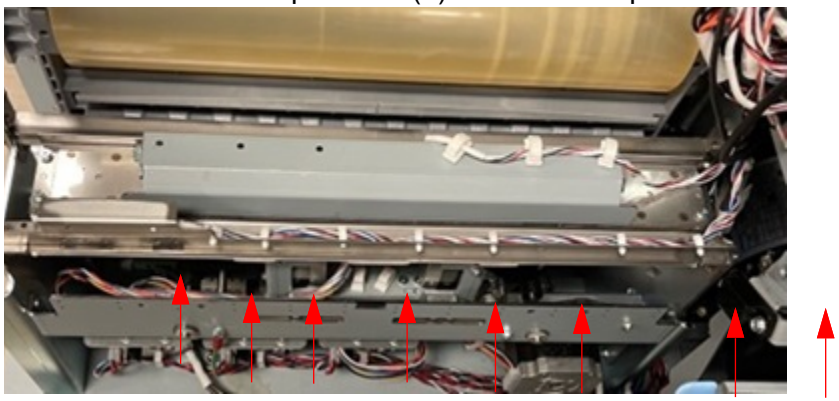
12. Repeat the steps in reverse order to re-install and connect the power cord.
13. Check if the locking mechanism is working as intended by running a short test job. If the mechanism is still not working, it will need to be replaced. Follow the previous repair steps, but instead of fixing the existing locking mechanism, replace it with new service parts.

Alignment Sensor Bracket

1. Open the front cover and pull out the lamination drawer.
2. Locate the alignment sensor bracket mounted on the aligner module.

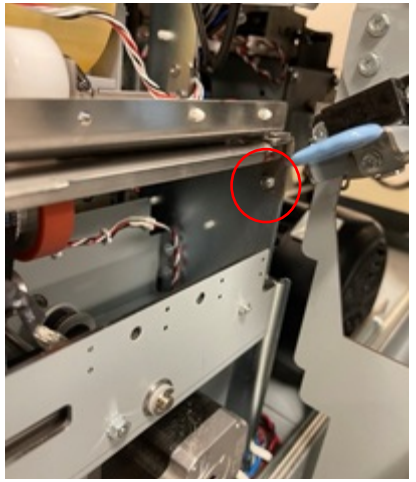


3. For easier removal push out (8) wire harness pins.

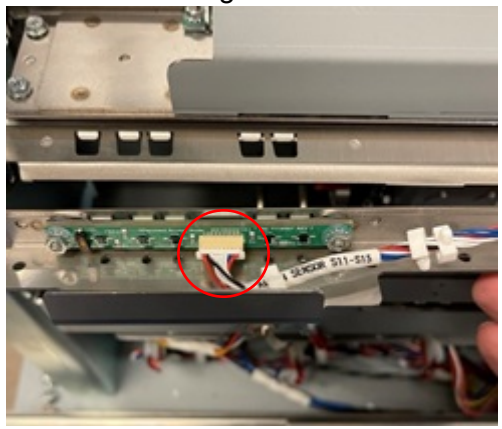


4. Loosen but do not remove the (2) 5.5mm nuts located below the alignment sensor bracket.



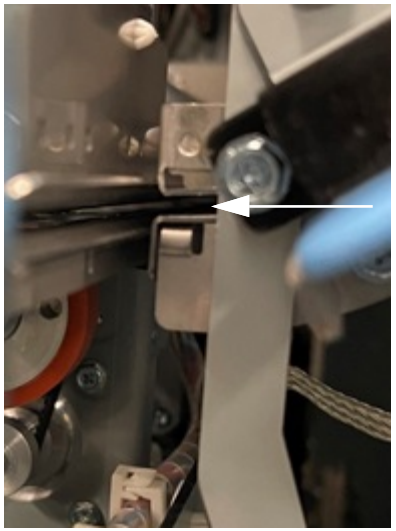


5. Carefully pull the bracket out until the alignment sensor connector is visible, then disconnect the alignment sensor board cable.



6. Perform procedure Sensors 11 through 15 on page 171 to remove the board and install it onto the new alignment board bracket.
7. After the new bracket is installed ensure that both paper paths are at the same height and that the sheets will not be obstructed.





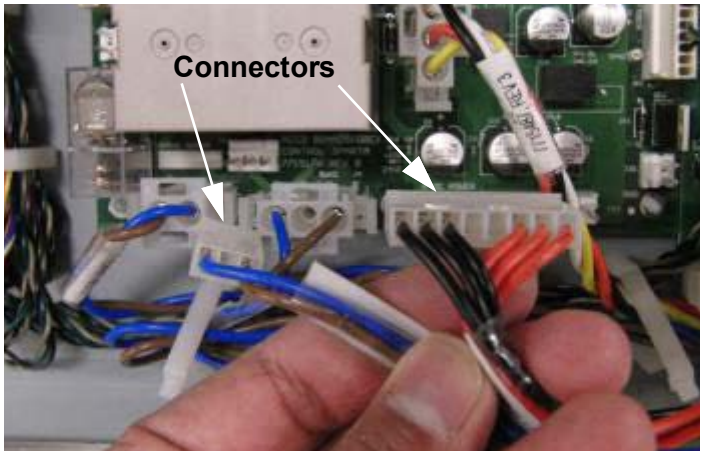
8. If the paper paths do not align, loosen the (2) 5.5mm nuts and adjust the bracket to the proper position, tightening the (2) nuts after.
9. Reconnect the power cord and run a single sheet to confirm that the alignment sensor bracket is not causing obstructions in the paper path.
10. If no jam occurs resume normal operation.

Electronics & Controls

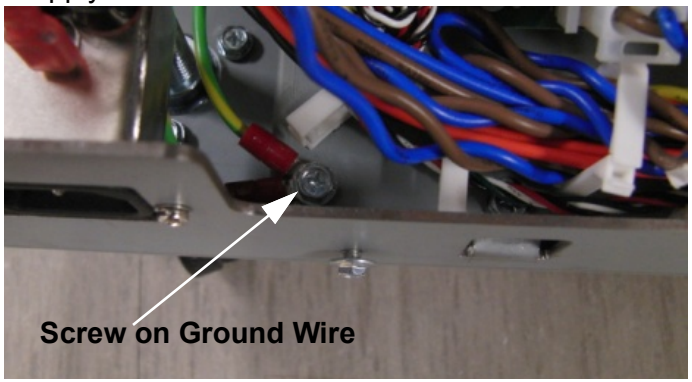
24V Power Supply

Remove

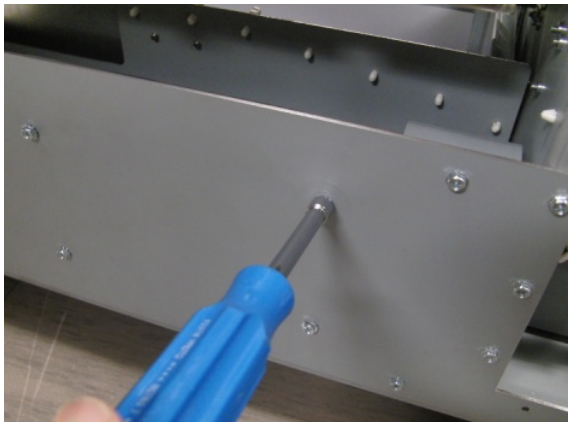
1. Remove the Rear Cover on page 125.
2. Disconnect connectors J1 and J3 from the main control board.



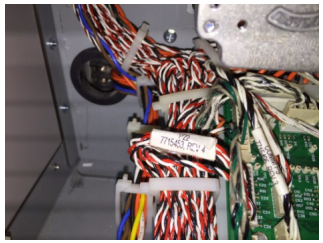
3. Remove the (1) M4 screw and remove the ground cable from the power supply.

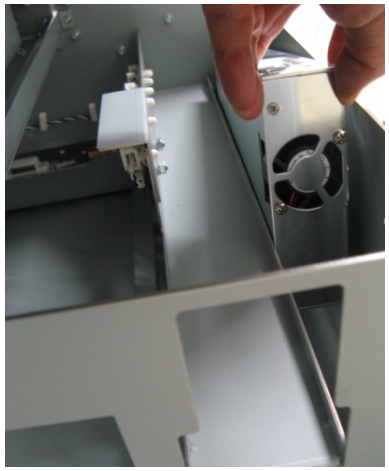


4. Remove the (4) M4 screws from the side of the base frame.



5. Remove the power supply and the cables through the opening on top by releasing the cable clamps and guiding the connectors through the grommet.





6. Transfer all wires to the new Power Supply.

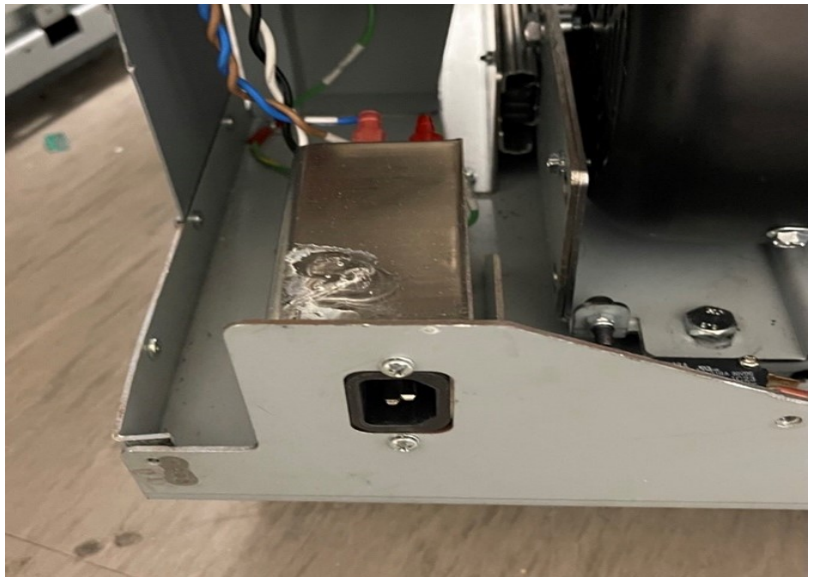


Install

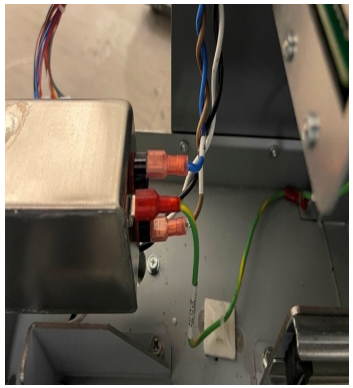
1. Tilt the power supply to insert it through the trim tray opening.
2. Tighten the (4) M4 screws on the side of the base frame.
3. Place the ground cable in position on the power supply and tighten the M4 screw.
4. Connect connectors J1 and J3 to the main control board.
5. Install the Rear Cover on page 125.
6. Connect the power cord.

AC Filter

1. Remove the Rear Cover on page 125.
2. Remove the (2) Phillips screws and the AC filter-USB bracket mount.



3. Note the location of the (3) wires.
4. Remove the (3) wires and the AC filter.
5. Position the new AC filter and tighten the screws.
6. Install the Rear Cover on page 125.
7. Connect the power cord.

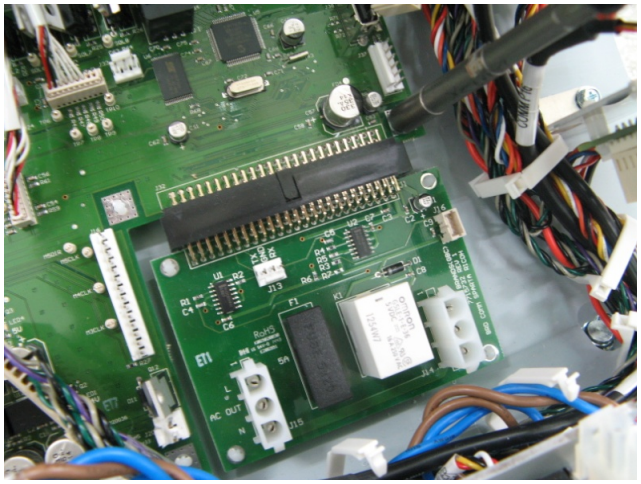


Main Control Board

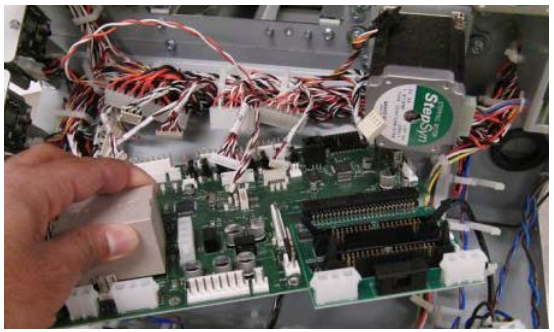
IMPORTANT: Before replacing, get the number of lamination cycles. See Laminator Cycles on page 10.

Remove

1. Remove the Rear Cover on page 125.
2. Remove the (4) M4 screws holding the PCB cover plate.
3. Remove the M3 screws from the main control and comm boards.



4. Disconnect the connectors from the main and comm boards and remove the boards.
5. Remove the plug-in connector from the comm to the main control board.



Install

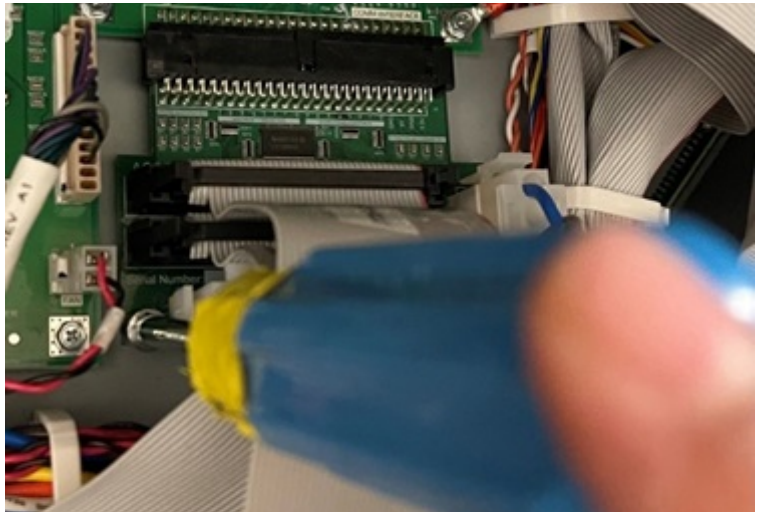
1. Install the comm board on the main control board using the plug-in connector.
2. Place the new main control board and comm board in position.
3. Tighten the M3 screws to secure the boards.
4. Connect the connectors, using the previous positions as a guide.

   Refer to Wiring on page 273.
5. Replace the PCB cover plate using the (4) M4 Screws.
6. Install the Rear Cover.
7. Connect the power cord.

Communication Board

Remove

1. Remove the Rear Cover on page 125.
2. Remove the (4) M4 screws holding the PCB cover plate.
3. Disconnect the (3) connectors.
4. Remove the M3 screw securing the comm board to the electrical panel.



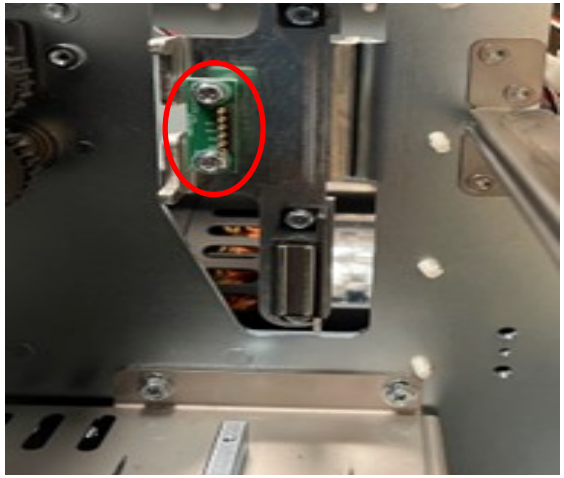
Install

1. Place the new comm board in position by inserting the plug-in connector to the main board and pressing on (4) standoffs until it snaps in place.
2. Connect the (3) connectors.
3. Replace the PCB cover plate using the M4 screws.
4. Install the Rear Cover on page 125.
5. Connect the power cord.

Chip Reader

Remove

1. Remove film cartridge.
2. Remove the Rear Cover on page 125.
3. Locate the chip reader and disconnect the cable (may have to undo the first wire saddles).
4. Open the laminator door and remove the (2) M3 screws holding the reader.



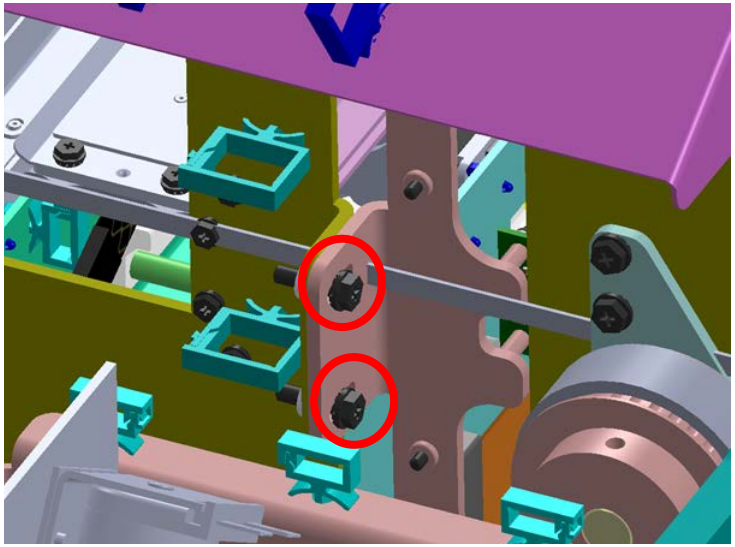
Install

1. Place the new chip reader in position and secure with (2) M3 screws.
2. At the rear, seat the cable connection and saddle.
3. Insert film cartridge so that contact is made between the film chip board and the chip reader.
4. Install the Rear Cover on page 125.
5. Connect the power cord.

Bracket

Remove

1. Remove film cartridge.
2. Remove the Rear Cover on page 125.
3. Locate the chip reader and disconnect the cable.
4. Remove the (2) 7mm screws holding the bracket.

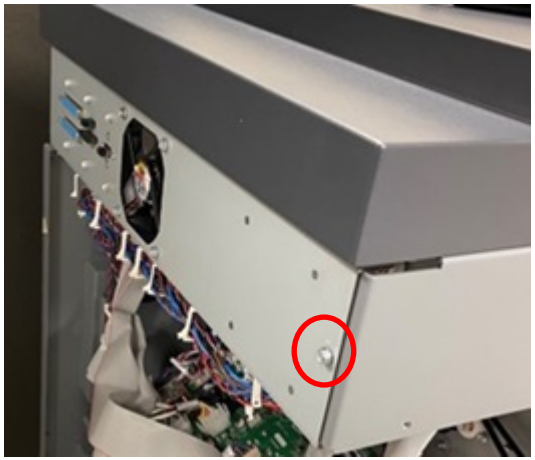


Install

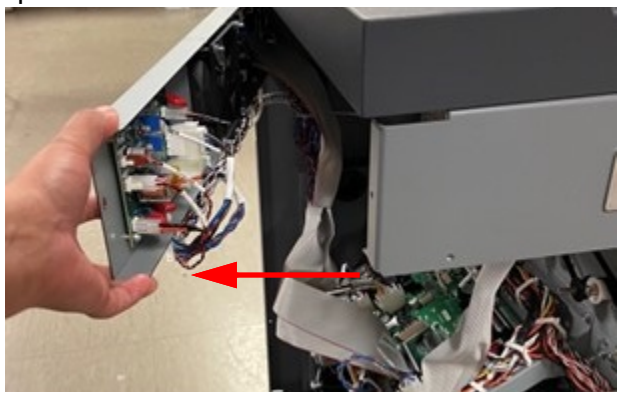
1. Place the new bracket in position and secure with (2) screws.
2. Connect the cable.
3. Perform the adjustment for the Cartridge Stop Magnet on page 238.
4. Install the Rear Cover on page 125.
5. Connect the power cord.

Breakout Board

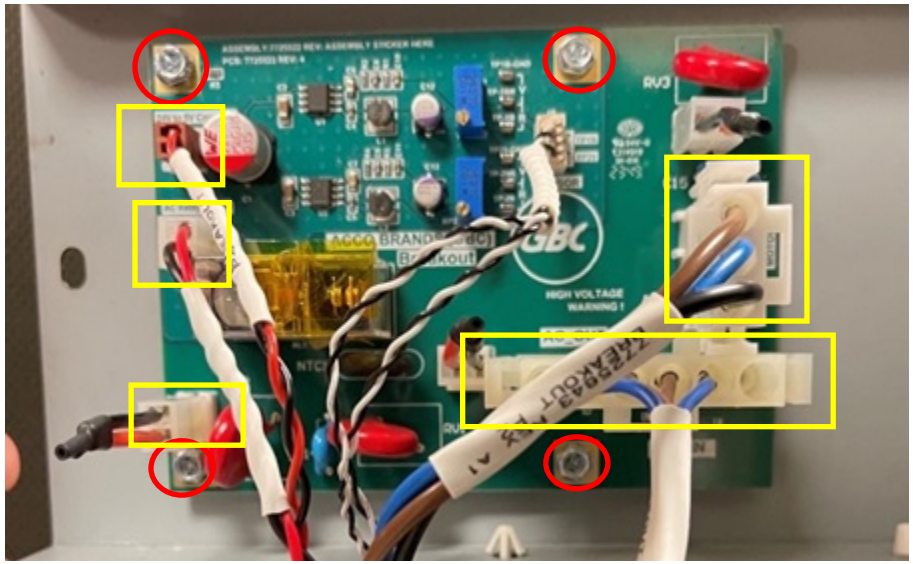
1. Remove the Rear Cover on page 125.
2. Locate the upper fan mount panel and remove the (1) 7mm screw.



3. Open the panel outward.



4. Disconnect the (5) connectors on the breakout board and remove the (4) 5.5mm screws.



5. Replace the board.

   The Breakout Board replacement should have 3 jumpers.



6. Secure the board using the (4) 5.5mm screws.
7. Reconnect the (5) cables.
8. Use procedures S1B - Cutter on page 265 and Sensor S29 Trim Tray on page 112 to check the resistance and voltages.
9. Replace the (1) 7mm screw to secure the fan bracket.
10. Install the Rear Cover on page 125.

Feeder

Feeder Paper Path Belts (M6B)

1. Remove the Feeder Rear Cover on page 125.
2. Loosen the tensioners on both the single and double-sided belts.




3. Remove the double-sided belt from the pulley and set aside.
4. Replace the single-sided paper path belt.
5. Install the double-sided belt.
6. Adjust the tension for both belts so that there is a deflection of approximately 4 - 6mm.
7. Install the rear feeder cover.
8. Connect the power cord.

Pick Roller Belt (M10)

1. Remove the Feeder Rear Cover on page 125.
2. Disconnect the wires from the motor.
3. Remove the (4) nuts holding the motor.

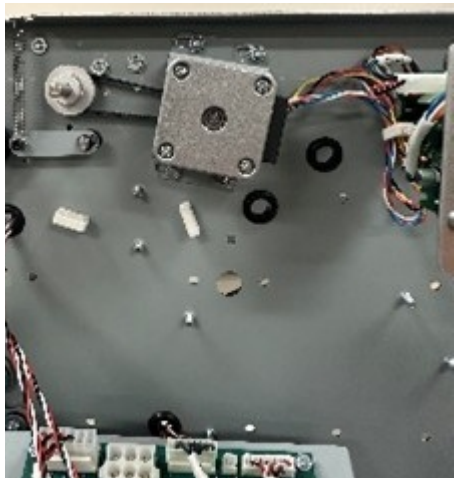
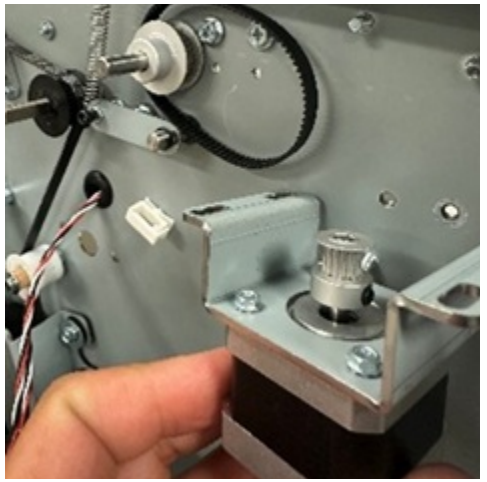



4. Set the motor aside.
5. Replace the belt.
6. Replace the motor and slide to the right to tighten the belt.
7. Adjust the belt tension so that there is a deflection of approximately 2-3mm.
8. Install the rear feeder cover.
9. Connect the power cord.

Pick Roller Assembly

Remove

1. Remove the Feeder Rear Cover on page 125 and open the front cover on the feeder.
2. Disconnect the wires from the motor and remove the (4) nuts holding the motor.

3. Remove the pulley from the shaft, as well as the clip and plastic spacer.



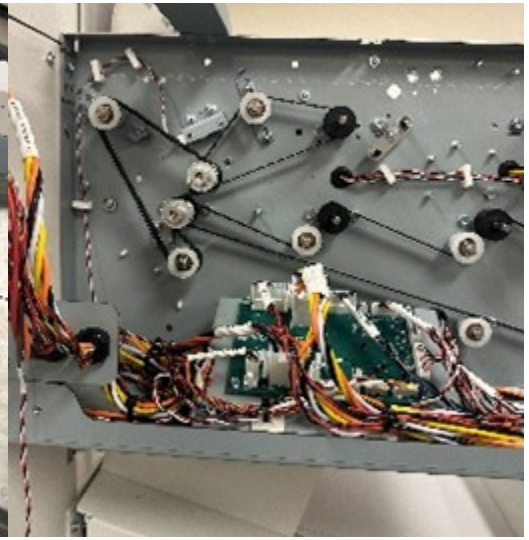
4. Remove the (4) screws holding the top plate assembly.



NOTE: Before removing the magnets in the next step, trace around the magnets to help with location when installing them.

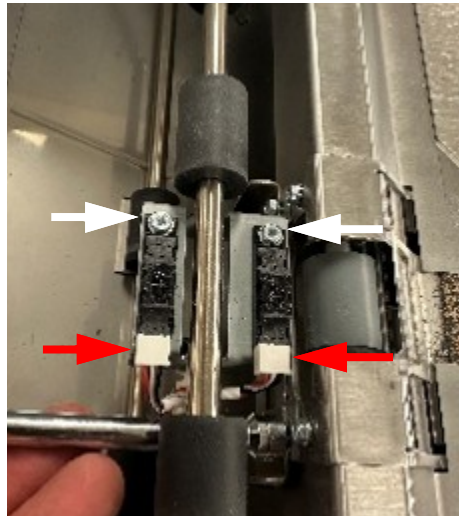
5. Remove the (6) screws on each side to remove the roller cover and remove the magnets.



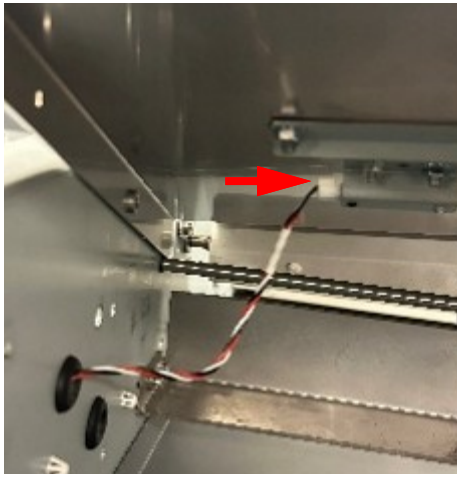


NOTE: Images may vary from what is seen in the product.

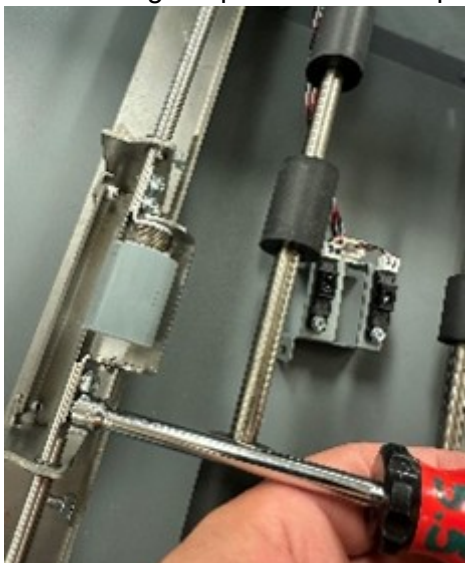
6. Disconnect the wires from the sensors and remove the (2) screws holding the sensors.



7. Remove the (4) screws on either side of the feeder tray.
8. Disconnect the wires from the sensor and remove tray.



9. Remove (4) screws holding the pick roller and replace.



Install

Perform the removal steps in reverse. Connect the power cord.

Clutch Roller

Remove

1. Remove the Feeder Rear Cover on page 125 and open the front cover on the feeder.
2. Disconnect the wires from the motor and remove the (4) nuts holding the motor.





3. Remove the pulley from the shaft, as well as the clip and plastic spacer.

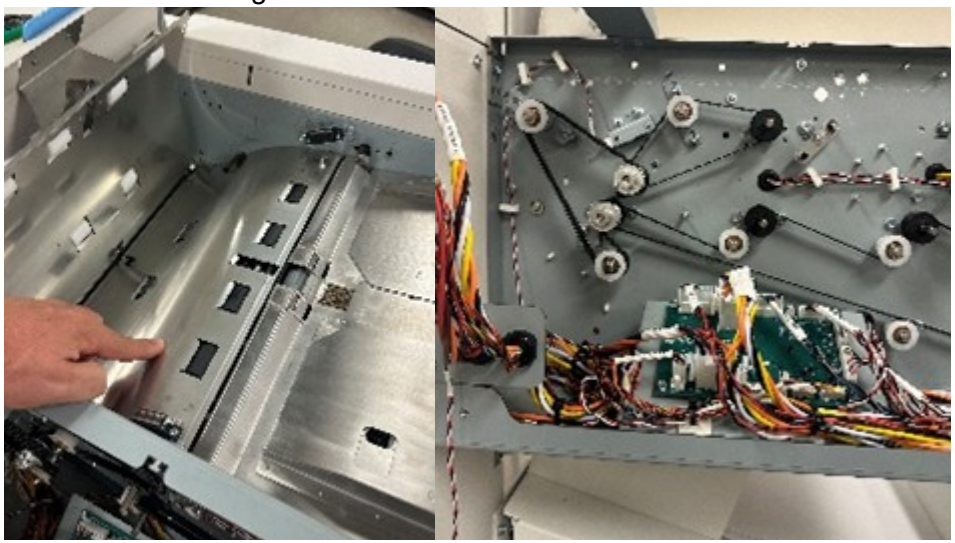


4. Remove the (4) screws holding the top plate assembly.

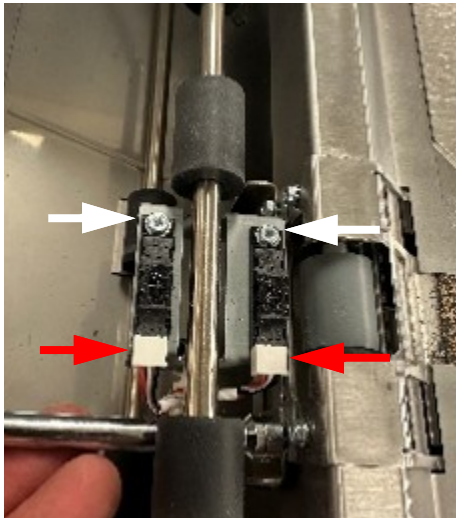


NOTE: Before removing the magnets in the next step, trace around the magnets to help with location when installing them.

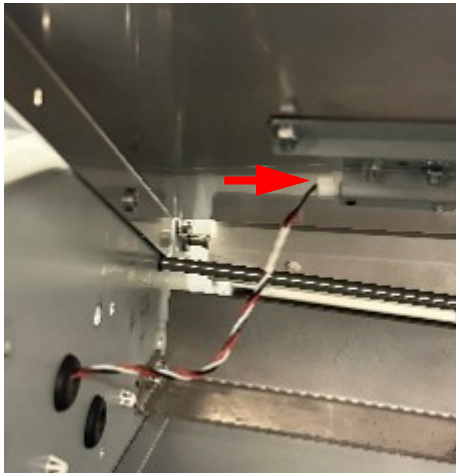
5. Remove the (6) screws on each side to remove the roller cover and remove the magnets.



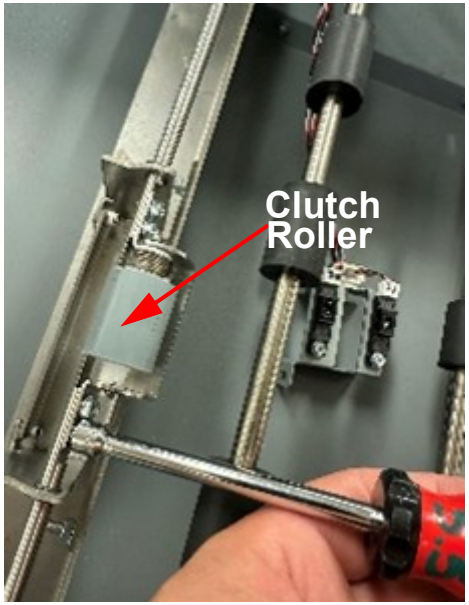
6. Disconnect the wires from the sensors and remove the (2) screws holding the sensors.



7. Remove the (4) screws on either side of the feeder tray.
8. Disconnect the wires from the sensor and remove tray.



9. Remove (4) screws holding the CLUTCH roller and replace.



Install

Perform the removal steps in reverse. Connect the power cord.

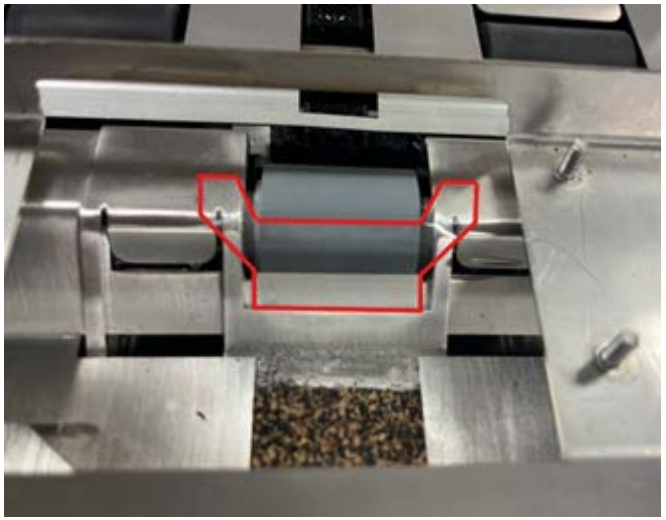
Mylar Pad

If the mylar pad mounted against the lower pick roller is damaged or its position has shifted, it can cause both double-picks and failure to pick. To access the mylar pad, follow instructions to remove the Pick Roller Assembly on page 226.

Inspect the mylar pad to ensure the following:

- The two pointed ends are not bent or stuck at an unusual position.
- The bottom is still firmly adhered to the feeder tray and there is not a sharp edge raised above into the paper path.
- The mylar pad has no cuts or catch points.
- A sheet of paper can pass over the mylar pad and reach the lower pick roller without catching on any edges.

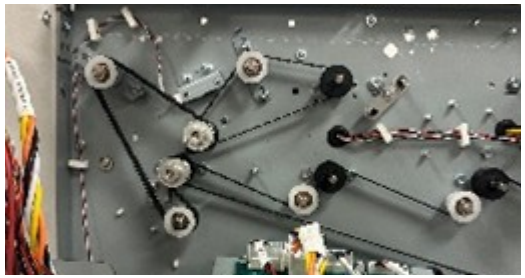
If any defects are present replace the mylar pad by adhering the new pad to the same location, making sure it is centered on the roller.



Pick Roller Drive Rollers

Remove

1. Remove the Feeder Rear Cover on page 125 and open the front cover on the feeder.
2. Loosen both belt tensioners and remove belts.



3. Remove clips and pulley from the rollers being replaced.
4. Remove the (4) screws on either side of the paper path and remove.



5. Remove clips and washers from rollers.
6. Replace roller(s).

Install

Perform the removal steps in reverse. Connect the power cord.

Adjustments

Click on the blue links, shown below, to be taken to the relevant adjustment procedure.

Precautions 233
Pre-Requisites 233
Rear Cover 233
Tools Needed 233
Base 234
Height Adjustment 234
Door Latch 235
Solenoids 236
Diverter Solenoid (SOL1) 236
Trim Diverter Solenoid (SOL 8) 237
Cartridge 238
Stop Magnet 238
Cartridge Foot 239
Stop Bracket 239
Rail Height 241
Paper Path 242
Magnets 242
Pressure Roller Idler 243
Timing Belts 244
Steering Sub-Assembly 244
539T Timing Belt (M6A) 244
166T Timing Belt (M2) 245
196T Timing Belt (M7) 246
197T Timing Belt (M9) 247
323T Timing Belt (M1) 247
Steering Motor Belt 248
Idler Panel Magnetic Latches 249
Drive Panel 250
Entrance Drive Panel 250
Exit Drive Panel 251
Lower Bypass Panel 253
Cutter Module 254
Motor Belt Tension 254
Clutch Indexing 255
Pivot 256
Connecting Rod Length 257
Connecting Rod Spring 259
Lamination Drawer 261
Alignment Pin 261
Drawer Switch 262
Cut Stick 262
Locking Mechanism Springs 263
Drawer Latch 264
Sensors 265
S1B - Cutter 265
Sensor 16 265
Feeder 266
Feeder Idler Roller 266
Feeder Magnet 266
Feeder Top Cover 267
Side Guides 267
Upper Pick Roller 267
Lower Pick Roller 268
Feeder Tray 268
Feeder Spring Index 269
Stacker 269
Sensor 21 269

Precautions



WARNING: Before executing any adjustments turn power off and unplug power cord.



DANGER: HIGH VOLTAGE

Pre-Requisites

In many cases it will be necessary to remove other parts to get to the area for adjustment.

Rear Cover

Removal

1. Disconnect the communication cables from the rear side of the machine and remove the MK 737 boxes.
2. Hold the rear cover in place while removing the (6) M4 X 8 screws from the rear cover.
3. Grasp the handle and remove the rear cover.

Installation

1. Place the rear cover in position and tighten the (6) screws.
2. Install the MK 737 boxes.
3. Connect the Communication cables.
4. Connect the power cord.

Tools Needed

Recommended tools for making adjustments.

Standard Tools (metric)

- Phillips Screwdriver
- Ruler
- 5.5mm Allen Wrench
- 5.5mm Hex Wrench
- 8mm Hex Wrench
- 7mm Hex Driver
- 9mm Crescent Wrench
- 13mm Crescent Wrench
- 14mm Crescent Wrench
- 15mm Combination Wrench
- 17mm Combination Wrench

Other Recommended Tools and Supplies

- 0.25mm, 0.50mm Shim Gauges

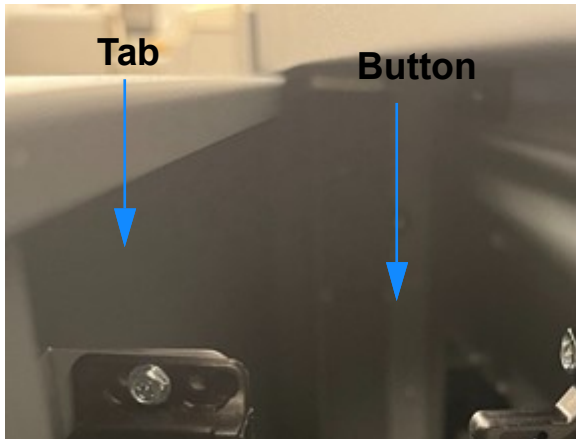
Base

Height Adjustment

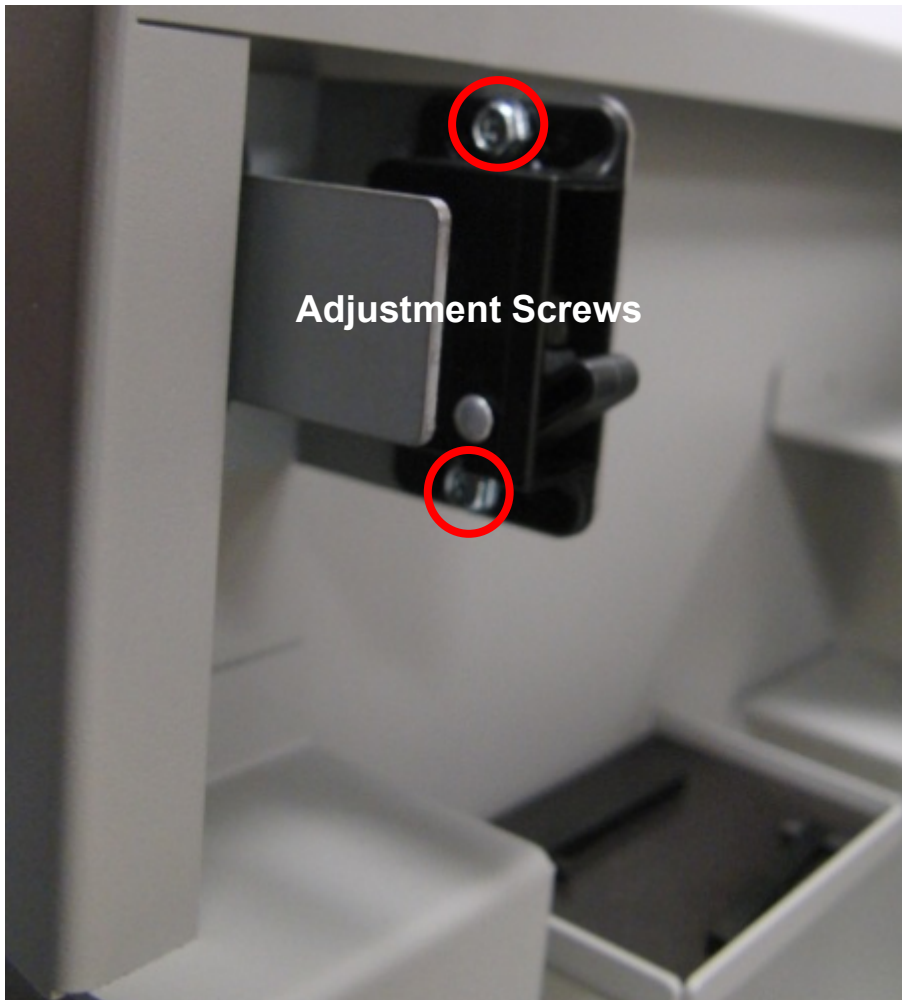
See Casters on page 132.

Door Latch

Do the following to ensure the door latch holds the door closed and that the activating bracket tab depresses the door switch. The tab should press the switch button just so that it is close to bottoming out.



1. Open the laminator door.
2. Loosen the (2) adjustment screws on the door latch.
3. Do one of the following:
   - Move the door **in** by moving the latch towards the front of the door.
   - Move the door **out** by moving the latch away from the front of the door.
4. Tighten the Adjustment Screws (2).
5. Close the laminator door.
6. Connect the Power Cord.
7. Test the Door Latch operation.



Solenoids

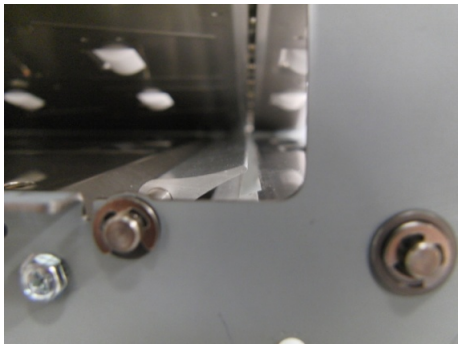
Diverter Solenoid (SOL1)

DANGER: HIGH VOLTAGE

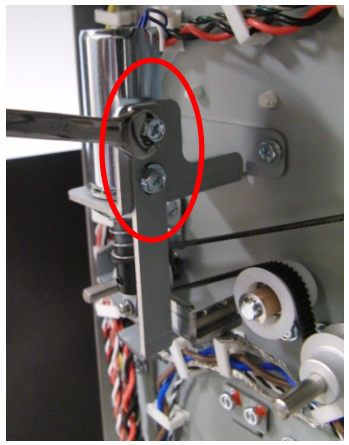
1. Open the laminator door.
2. Remove the Rear Cover on page 233.
3. Insert the interlock cheater.
4. Follow instructions in Solenoids on page 12to activated SOL1.

   This will switch the diverter gate to lamination mode allowing the diverter gate to rise and hit the upper bypass panel.

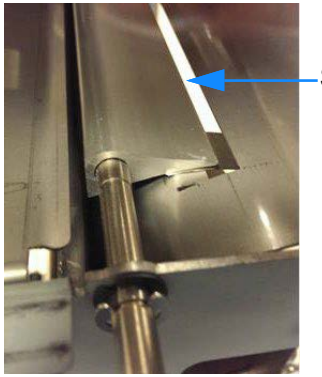




When the solenoid in not actuated, it needs to rest on the diverter limiter bracket.



5. Adjust the position of the limiter bracket, by loosening the (2) screws on the bracket.
6. Insert a 0.25 to 0.5mm shim between the diverter and the lower entrance panel.



7. Raise the limiter bracket so that it just touches the diverter link and tighten the (2) screws.

NOTE: Raising the limiter bracket too high will position the diverter gate higher, which will obstruct the paper flow and cause jams.



8. Check that the clearance between the diverter and the cutout in the lower entrance panel at both sides has a minimum clearance of 1.0mm.
9. Install the Rear Cover on page 233.

Trim Diverter Solenoid (SOL 8)

If the trim diverter solenoid is not set correctly, jams will occur in the area immediately after the knife. The trim diverter must be set so that when it activates and switches to the laminate path position, it is open wide enough to accept sheets, but not so wide as to touch the trim drive rollers.

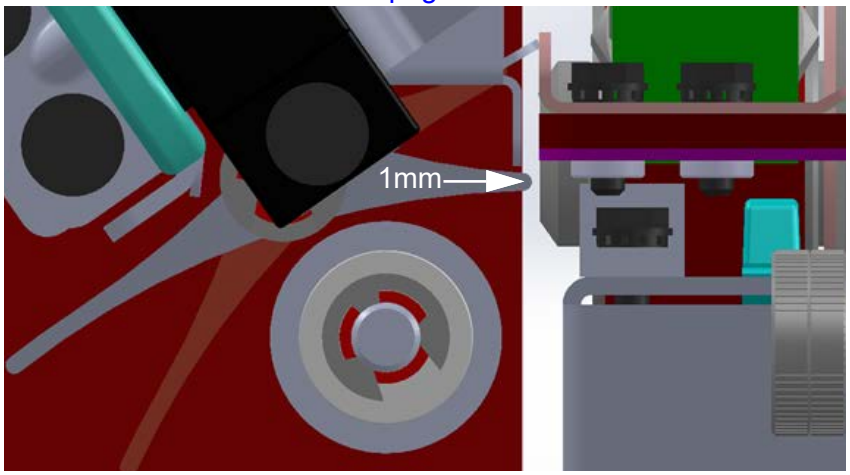
If trim pieces were not purging correctly, start with step 1.

If M9 was stalling, skip to step 2.

1. Open the laminator door and check that the diverter is sitting within the position of the brown diverter shown in the drawing below.

   The top should be touching the upper paper path panel and there should be no contact with the rollers.

   - To check for roller to diverter contact, slide a piece of paper between the roller and diverter. Hold the roller with one hand, to prevent it from spinning, and remove the paper with the other. There should only be light resistance to the paper coming free.
   - If the paper is tight, or forces the roller to turn, follow the procedure to clean the Trim Diverter on page 39.



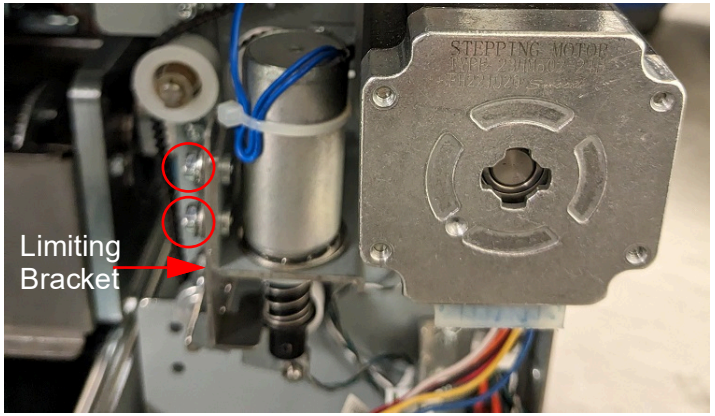
2. Plug in the power cord, power up the machine and follow the instructions for Solenoids on page 12 to power on SOL8.

   The diverter should be in the gray position as shown in the aforementioned drawing. The tip of the diverter should be 1-2mm below the plane of the lower panel of the cutter outfeed.

3. Power off the machine and unplug the power cord.
4. Remove the Rear Cover on page 233.
5. Loosen the (2) 7mm screws holding the solenoid limiting bracket.

IMPORTANT: Do NOT remove the screws.

6. If the diverter is sitting too high, raise the limiter slightly (<1mm) and if sitting too low, lower it slightly (<1mm) and tighten the screws.



7. Repeat the steps until the diverter is in the correct position.
8. Run the procedure Solenoids on page 12 to power on SOL8 and the Motors on page 12 to confirm that M9 is not stalling.

   If M9 is stalling repeat the steps to adjust the limiting bracket. If M9 will not operate correctly with the diverter in the correct position, check the tension on 197T Timing Belt (M9) on page 247.

9. Install the Rear Cover on page 233.
10. Connect the power cord.

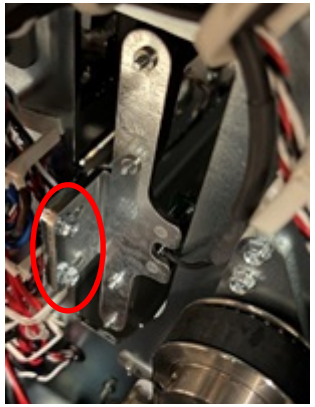
Cartridge

Stop Magnet

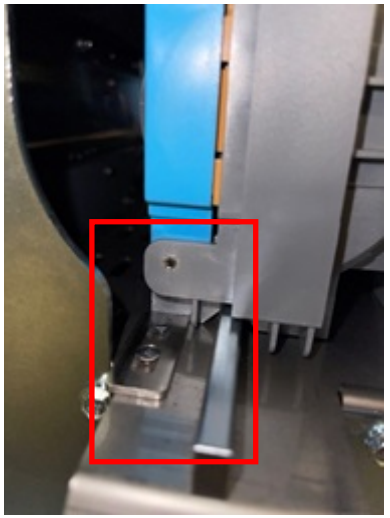
1. Remove the film cartridge.
2. Locate the cartridge magnet bracket.



3. Remove the back cover
4. From the rear of the machine, locate the cartridge magnet bracket
5. Loosen, but do NOT remove, the (2) screws on the bracket.



6. Reinsert the film cartridge.
7. Using the cartridge foot as a stopper, ensure that the cartridge sits flush against the foot.

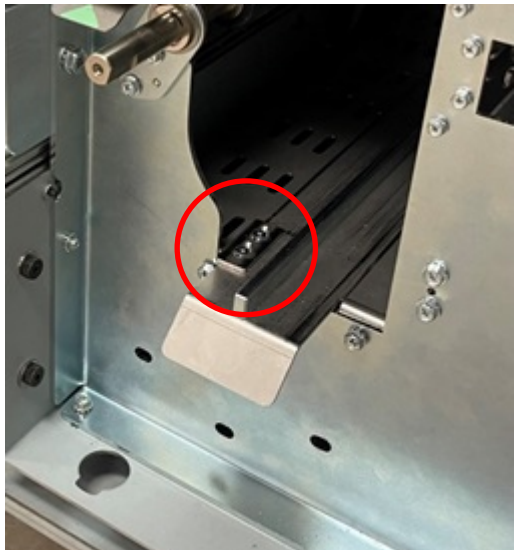




8. Go to the rear of the machine and adjust the cartridge magnet bracket forward or backward, as needed, ensuring it makes contact with the cartridge magnet and that the cartridge is sitting flush against the foot.
9. Tighten the (2) screws on the bracket.
10. Connect the power cord and resume normal operation.

Cartridge Foot

1. Open the laminator door and pull out the laminator drawer.
2. Remove the film cartridge.
3. Locate the Cartridge foot.



4. Loosen, but do NOT remove, the (2) screws on the cartridge foot.
5. Move the cartridge foot forward or backward, as needed, to achieve the correct alignment position.
6. Tighten the two screws securely.
7. Perform the adjustment for Stop Magnet on page 238.
8. Insert the film cartridge and run one laminated sheet to confirm the alignment adjustment is correct.

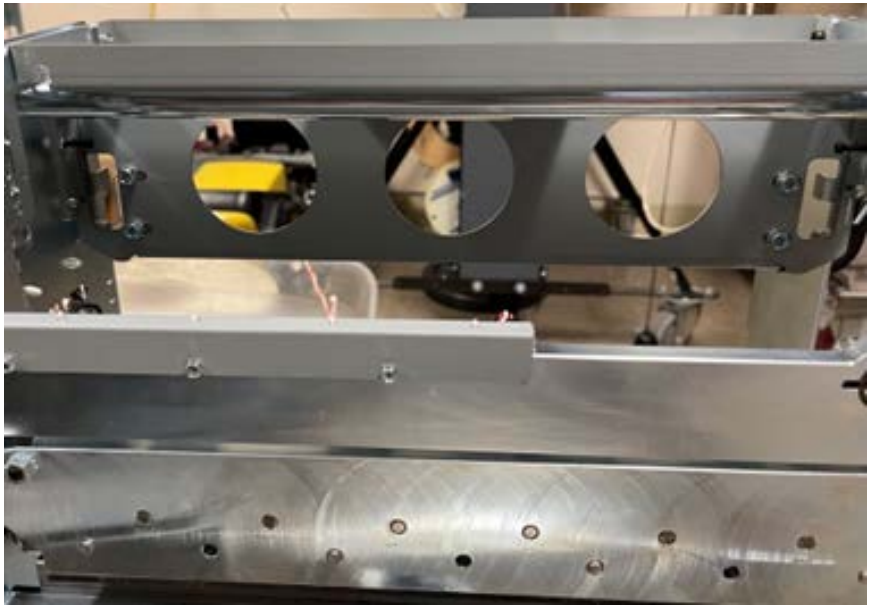
NOTE: The sheet should be centered in the film when the LCD margin adjustment is set to within 0 +/-0.5mm. The LCD margin adjustment is not meant to make up for gross film misalignment.

9. Connect the power cord and resume normal operation.

Stop Bracket

This procedure is necessary after a cartridge magnet adjustment.

1. Open the laminator door and pull out the laminator drawer.
2. Remove the cartridge frame, if present, in the slot.
3. Raise the handle on the pressure roller lock to the open position.
4. Locate and loosen the (2) bolts, holding the cartridge lock in place on the clamp crossmember, until the locks can move freely in their respective slots.



5. Insert the cartridge back into the drawer.
6. Move the handle to the locked position on the pressure roller lock.
7. Inspect where the cartridge locks are contacting the frame tabs.

   They should be just in front of the tabs and preventing the cartridge from shifting forwards.

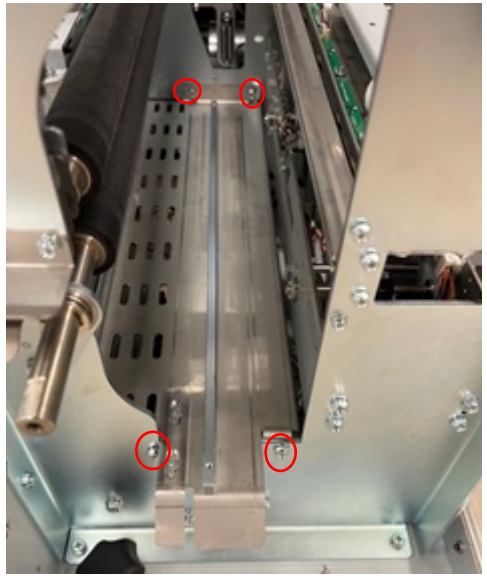
8. Adjust the tabs to the proper position as shown in the next pictures.



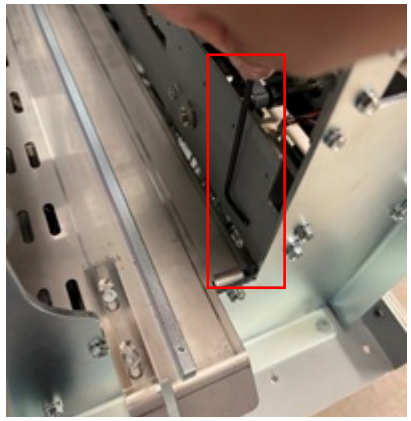
9. Tighten the (4) bolts back in place to fix the cartridge locks into their new position.
10. Push the drawer into the machine.
11. Connect the power cord and power on the machine.

Rail Height

1. Open the laminator door and pull out the laminator drawer.
2. Loosen the (4) screws located on the cartridge tray.



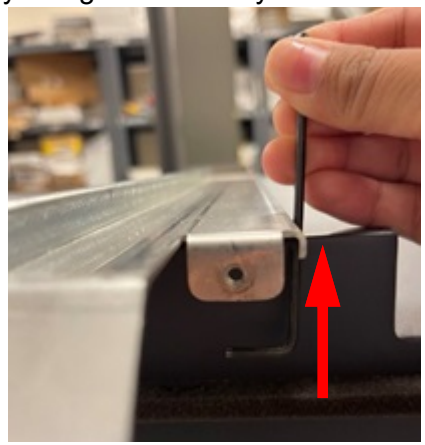
3. To lower the cartridge tray, lightly tap on the front and rear of the tray.
4. To raise the tray, insert an Allen key in the gap between the tray & aligner module.



5. Carefully rotate the Allen key while it is inserted between the tray and aligner module.



6. Pull up on the tray using the Allen key.



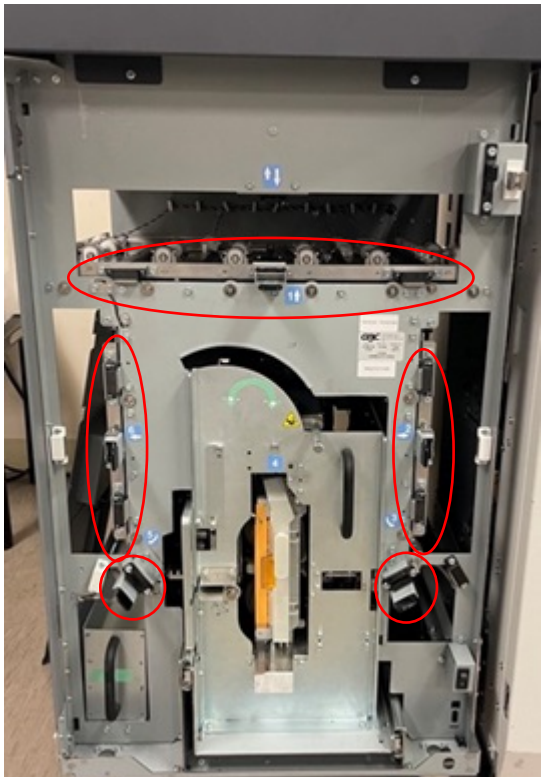
7. Repeat this process on all four sides of the cartridge tray.
8. Tighten the (4) screws on the cartridge tray after making the proper adjustments.
9. Insert the film cartridge and ensure the film size and count are being read properly on the screen.
10. Connect the power cord and resume normal operation.

Paper Path

Magnets

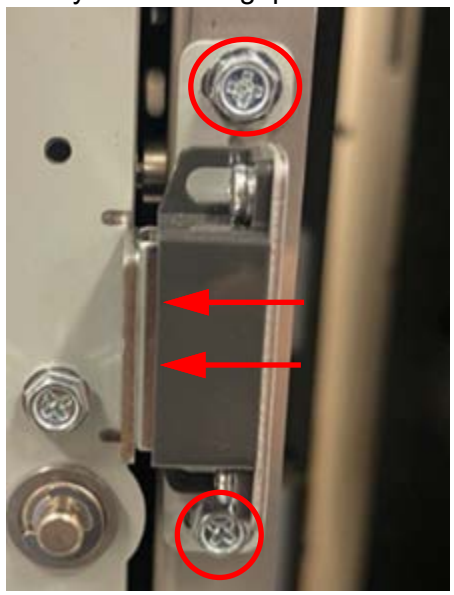
When the paper path panels are latched there should not be any movement or gaps in the panels. If there is, adjust the magnet by doing the following:

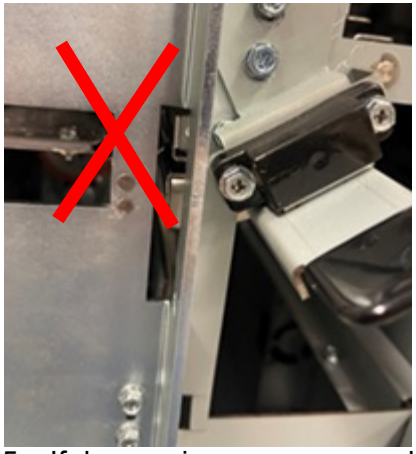
1. Open the laminator door.
2. Locate the magnets shown in the picture below.

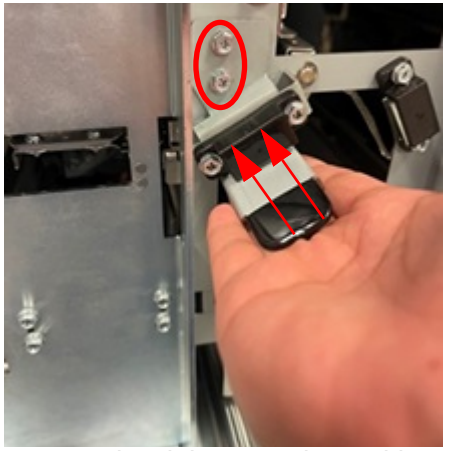


3. Loosen the (2) screws that hold the magnet.
   The screws should be tightened while the panel is fully closed.
4. Push the panel in or up to eliminate any movement/gaps.









5. If dog ear issues occur on sheets, ensure the right curved panel in area 3 is properly adjusted.

6. To further adjust the right curved panel, locate the magnet found towards the rear of the panel.



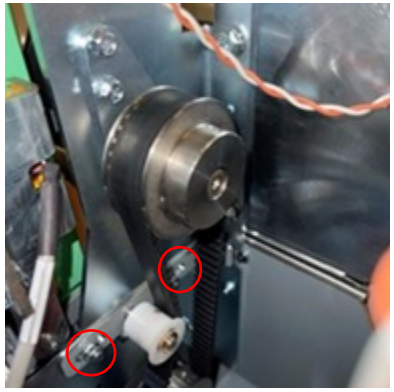
7. Loosen the nut on the magnet plate and push the panel inward ensuring contact between the two.



8. Run a test job to ensure dog eared sheets are gone.
9. Connect the power cord and resume normal operation.

Pressure Roller Idler

1. Remove the Rear Cover on page 233.
2. Locate the idler roller, found near M8.
3. Loosen the (2) nuts on the idler bracket.



4. Tighten the bolt, located on the frame of the laminator, by tightening the (2) nuts on the bracket.



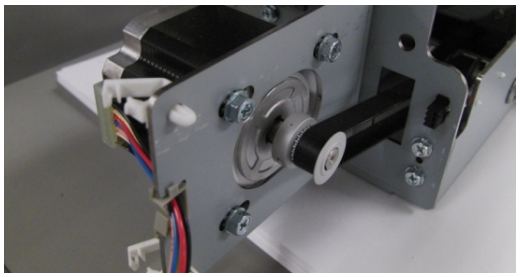
5. Ensure the belt is tight.
6. Connect the power cord and resume normal operation.

Timing Belts

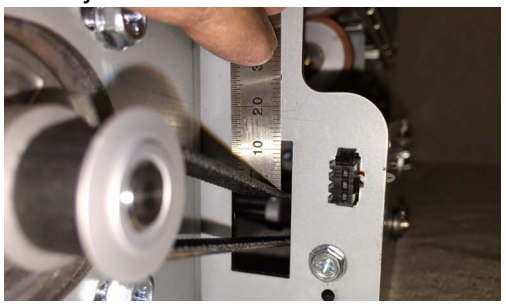
Steering Sub-Assembly

DANGER: HIGH VOLTAGE

1. Open the laminator door.
2. Pull out the laminator drawer.
3. Remove the (4) screws in the cartridge rail.



4. Adjust the belt tension such that there is a deflection of 1~2mm.



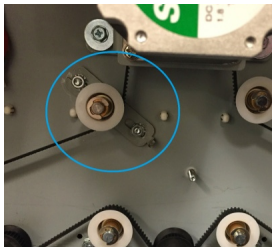
5. Tighten the (4) Phillips screws.
6. Install the cartridge rail.
7. Push in the drawer and close the door.
8. Connect the power cord.

539T Timing Belt (M6A)

Use this procedure to adjust the tension of 539T timing belt.

DANGER: HIGH VOLTAGE

1. Remove the Rear Cover on page 233.
2. Loosen the tensioner.
3. Adjust the belt tension such that there is a deflection of 6~8mm.





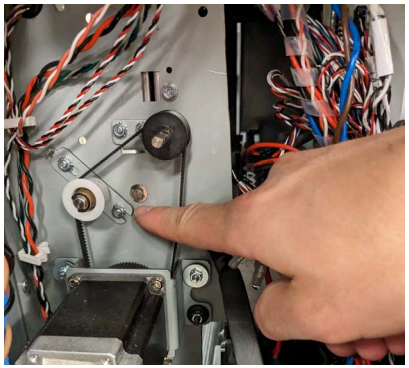
4. Tighten the tensioner.
5. Install the Rear Cover on page 233.
6. Connect the power cord.

166T Timing Belt (M2)

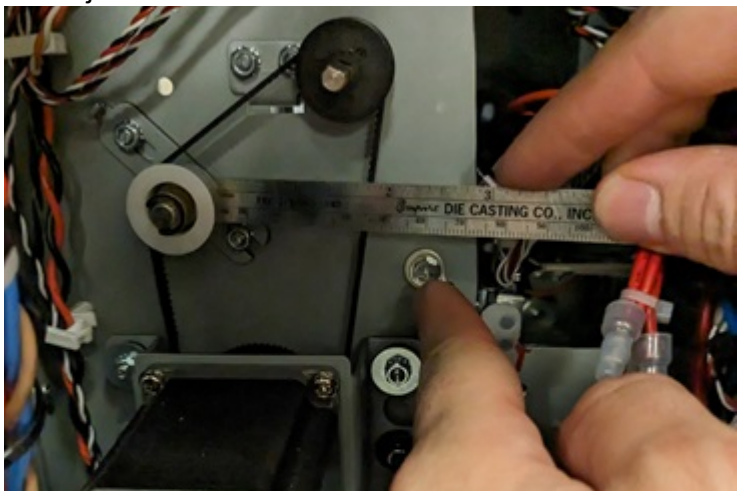
Use this procedure to adjust the tension of 166T timing belt.

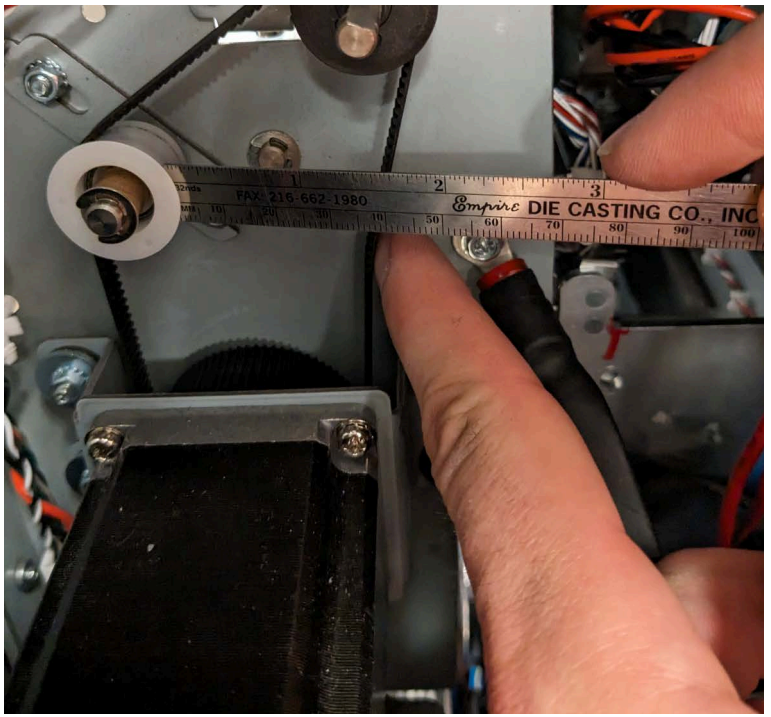
DANGER: HIGH VOLTAGE

1. Remove the Rear Cover on page 233.
2. Loosen the tensioner.



3. Adjust the belt tension such that there is a deflection of 3~5mm.





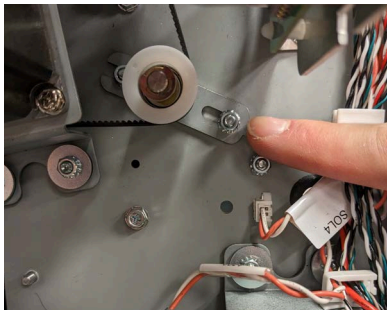
4. Tighten the tensioner.
5. Install the Rear Cover on page 233.
6. Connect the power cord.

196T Timing Belt (M7)

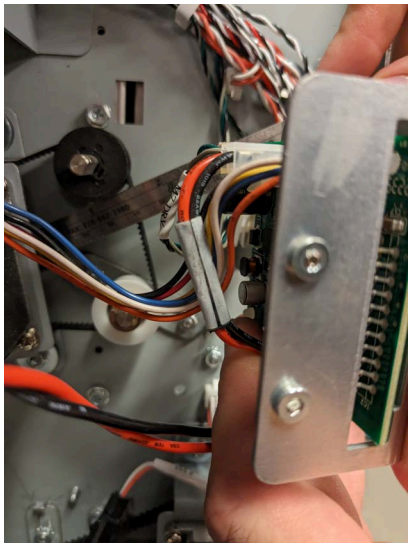
Use this procedure to adjust the tension of 132T timing belt.

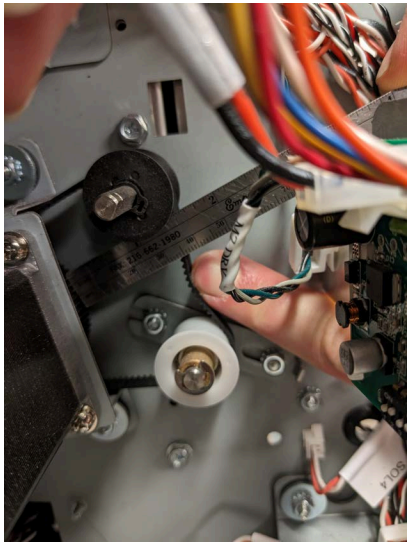
DANGER: HIGH VOLTAGE

1. Remove the Rear Cover on page 233.
2. Loosen the tensioner.



3. Adjust the belt tension such that there is a deflection of 4~6mm.





4. Tighten the tensioner.
5. Install the Rear Cover on page 233.
6. Connect the power cord.

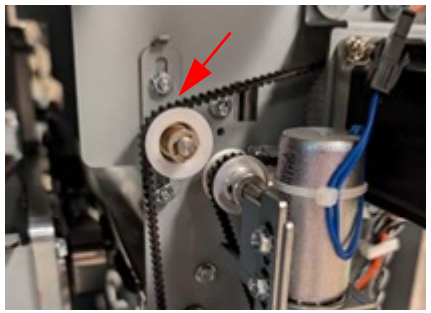
197T Timing Belt (M9)

Use this procedure to adjust the tension of 197T timing belt.

NOTE: If this belt is too loose, it can result in the belt skipping when running thicker paper. If the belt is too tight, it can result in the motor stalling.

DANGER: HIGH VOLTAGE

1. Remove the Rear Cover on page 233.
2. Loosen the tensioner.



3. Adjust the belt tension such that there is a deflection of 3~5mm.



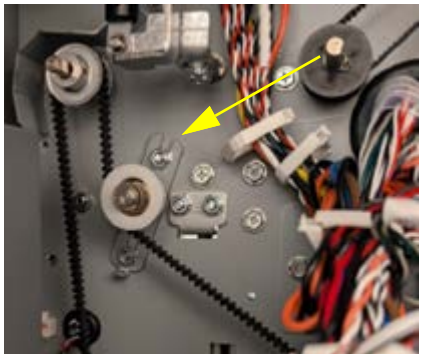
4. Tighten the tensioner.
5. Install the Rear Cover on page 233.
6. Connect the power cord.

323T Timing Belt (M1)

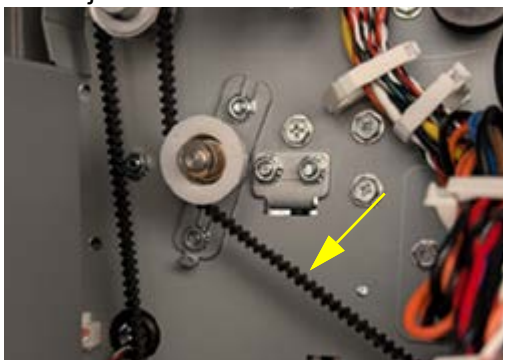
Use this procedure to adjust the tension of 162T timing belt.

DANGER: HIGH VOLTAGE

1. Remove the Rear Cover on page 233.
2. Loosen the tensioner.



3. Adjust the belt tension such that there is a deflection of 4~6mm.



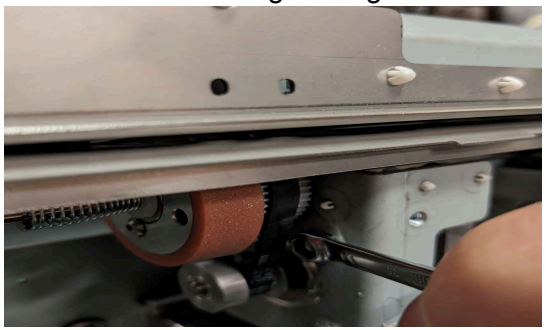
4. Tighten the tensioner.
5. Install the Rear Cover on page 233.
6. Connect the power cord.

Steering Motor Belt

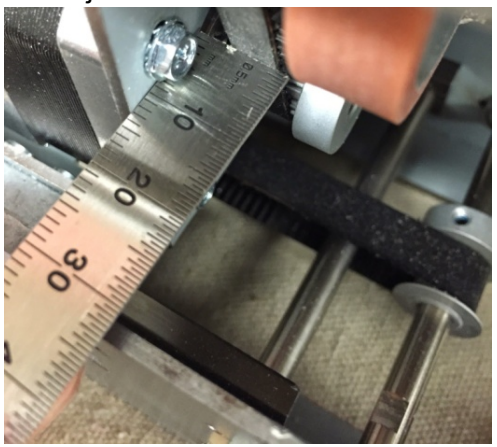
Use this procedure to adjust the tension of the steering motor belt.

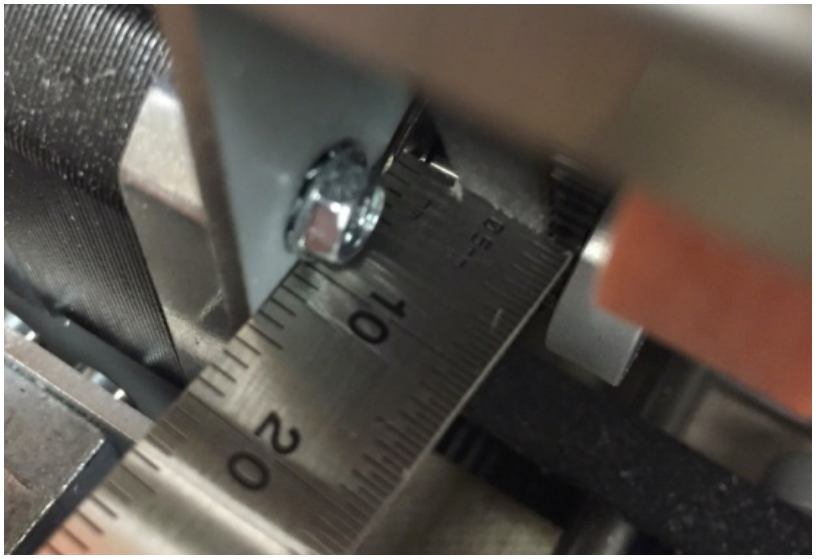
DANGER: HIGH VOLTAGE

1. Open the laminator door.
2. Pull out the drawer.
3. Loosen the (4) Phillips screws from the steering stepper motor.
   Move the steering carriage to access all screws



4. Adjust the belt tension such that there is a deflection of 1~2mm.





5. Tighten the (4) Phillips screws.
6. Push in the drawer.
7. Close the laminator door.
8. Connect the power cord.

Idler Panel Magnetic Latches

This procedure applies to:

- Entrance Idler Panel
- Exit Idler Panel
- Upper Bypass Panel

Two round spacer studs should contact the drive panels completely. If there is movement when the idler assembly is latched, adjust the assembly.



This procedure applies to:

- Lower Exit Panel Assembly
- Acceleration Panel

Loosen the (2) screws that hold the magnet.

With the panel fully closed (the panel will hit limiting tabs and you will hear a sound), tighten the two screws.



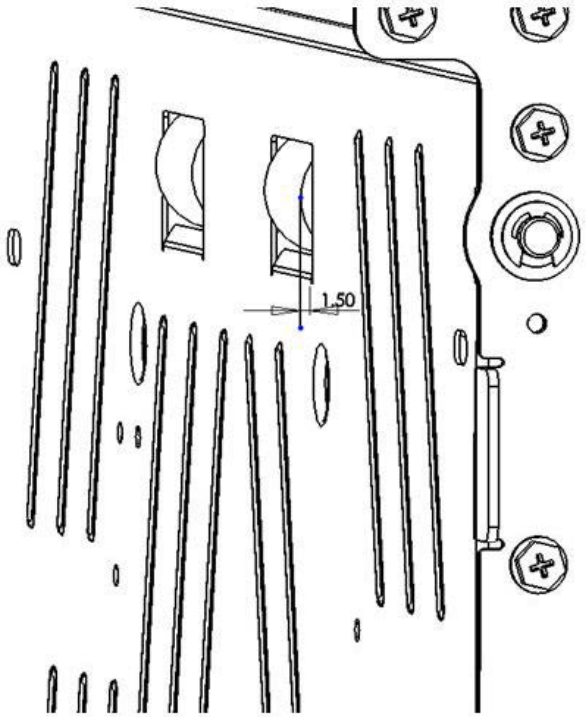


Drive Panel

Use this procedure to adjust the drive panel positions.

The drive panels control how far the drive rollers protrude into the paper path, which in turn control the roller nip forces. All drive rollers should be protruding 1.5±0.5mm through the paper path.

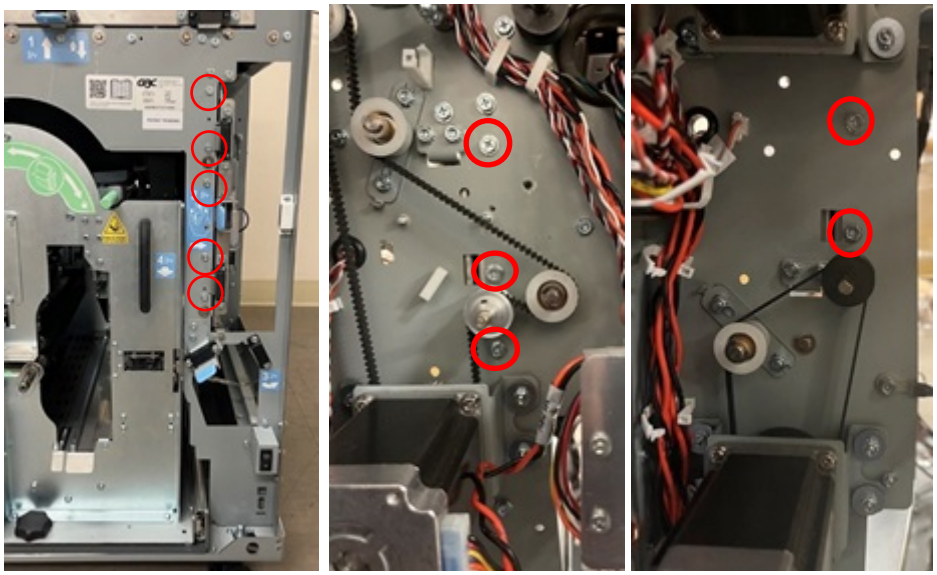
This drive panel controls the nip forces of N2, N3, N4 and N5.



To adjust the position of the drive panel, loosen (5) screws from the front frame and (5) screws from the rear frame.

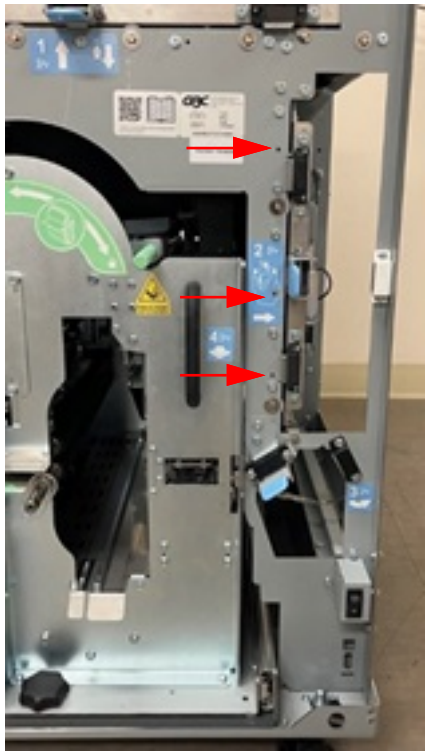
- Entrance Drive Panel
- Exit Drive Panel
- Lower Bypass Panel

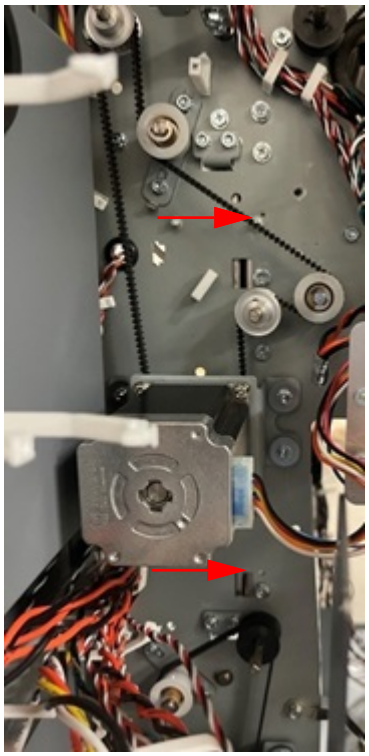
Entrance Drive Panel





Using the (5) reference holes, each, in the front and rear frames and the sheet metal panel, position the drive panel to ensure the drive rollers protrude 1.5±0.5mm through the drive panel.

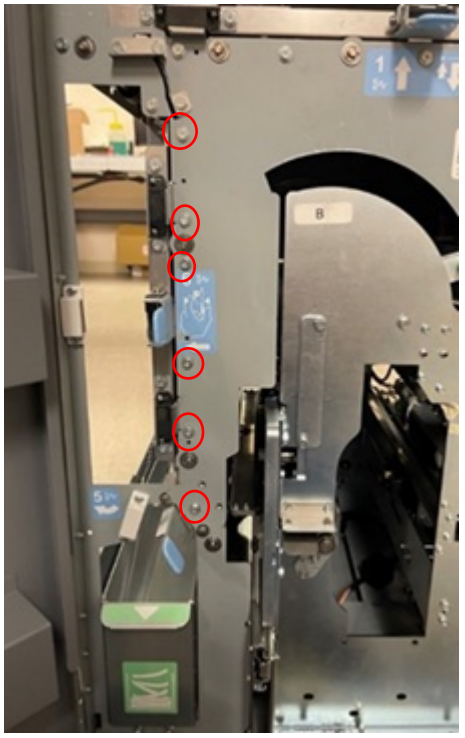




Exit Drive Panel

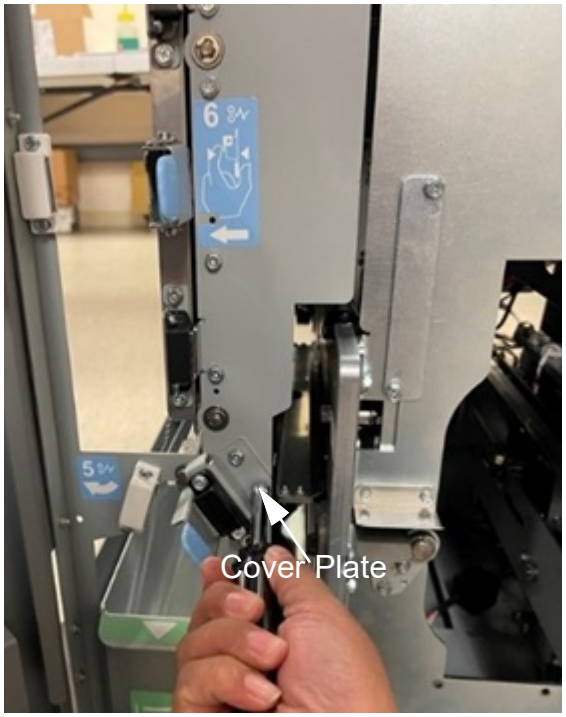
This drive panel controls the nip forces of N8, N9 and N10.

1. To adjust the position of the drive panel, loosen (6) screws from the front frame and (6) screws from the rear frame.

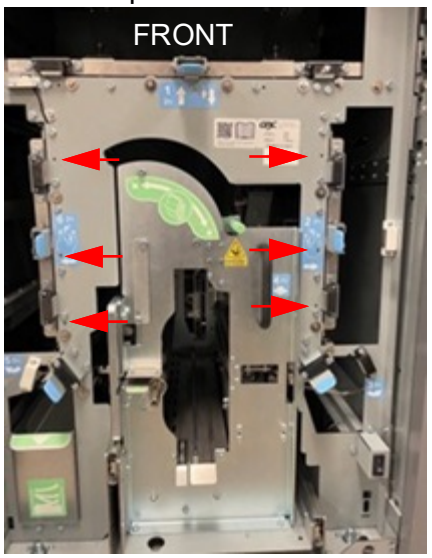




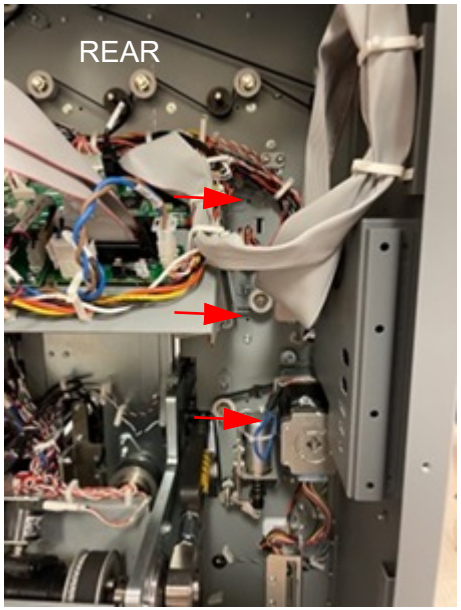
2. Remove the cover plate from Jam area 5.



3. Use the (6) reference holes in the front and (5) in the rear frames and the sheet metal panel, position the drive panel to ensure the drive rollers protrude 1.5±0.5mm through the drive panel.



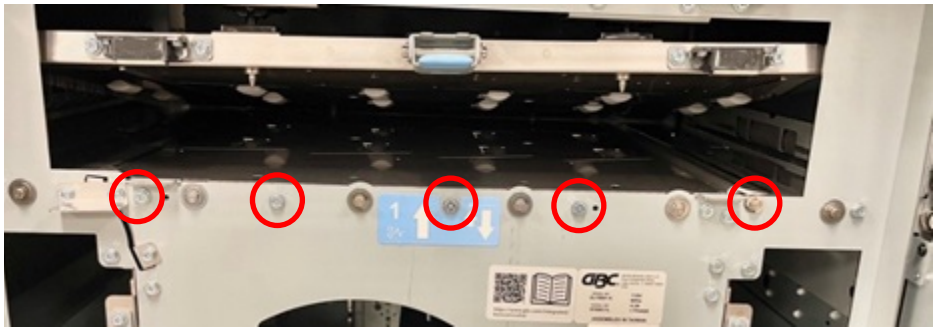


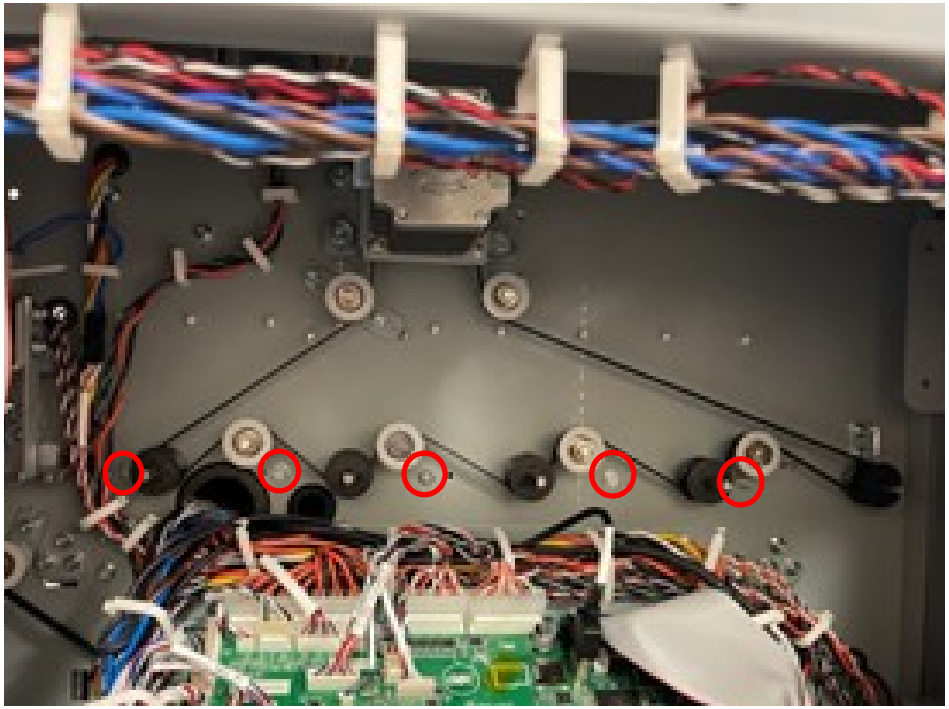


Lower Bypass Panel

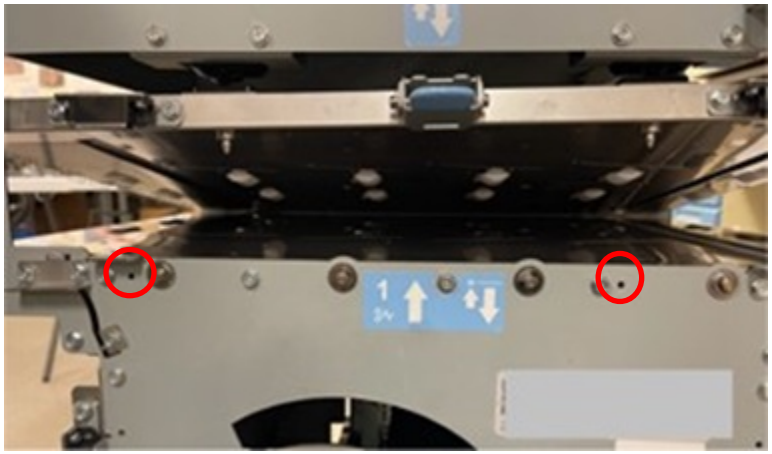
This drive panel controls the nip forces of N12, N13 and N14.

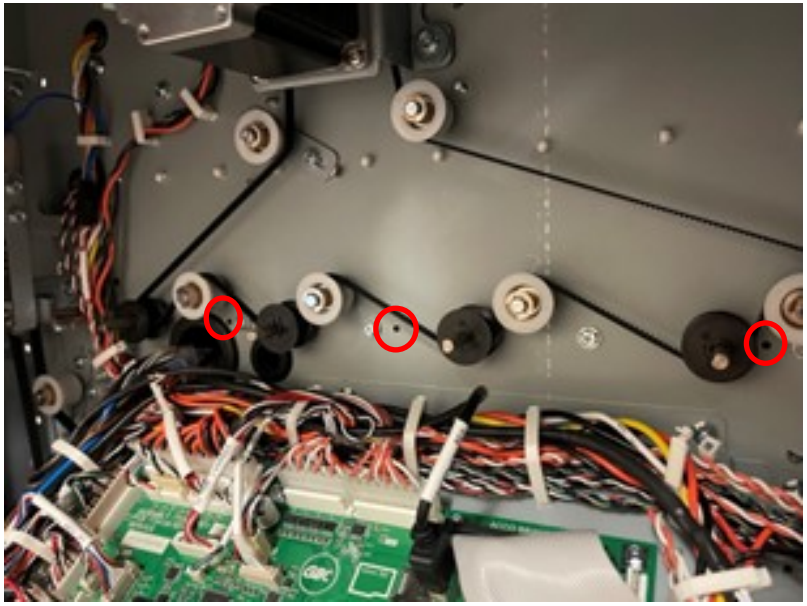
To adjust the position of the lower bypass panel, loosen (5) screws from the Front frame and (5) screws from the rear frame.





Use the reference holes in the front (2) and rear (3) frames and the sheet metal panel, position the drive panel to ensure the drive rollers protrude 1.5±0.5mm through the drive panel



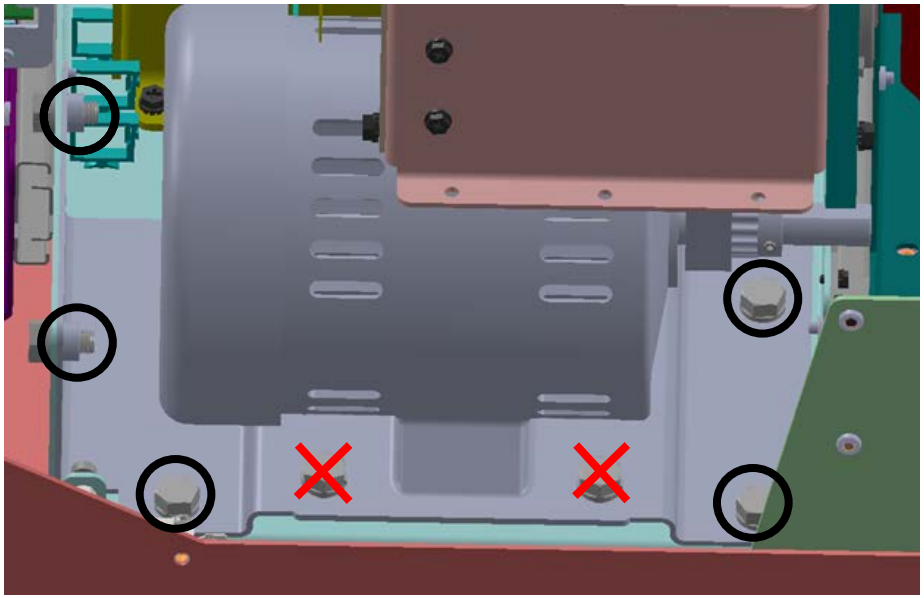


Cutter Module

Motor Belt Tension

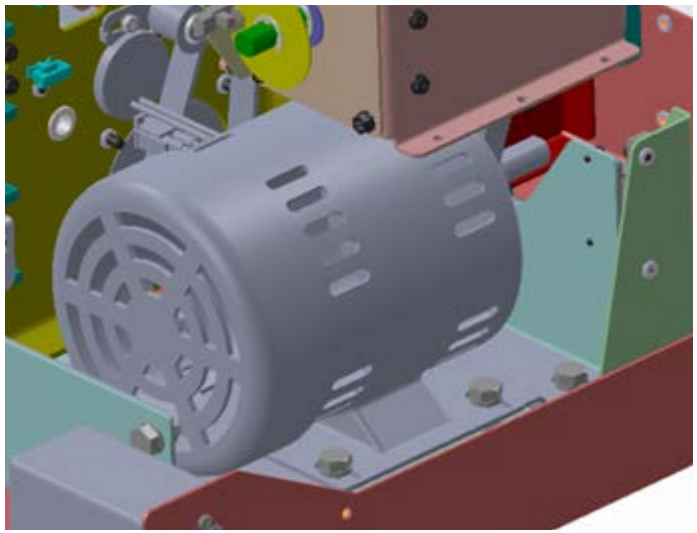
1. Remove the Rear Cover on page 233.
2. Loosen the (5) bolts using a 13mm wrench.

IMPORTANT: Do not remove the bolts and do not loosen the bolts marked with red in the drawing below.



3. Slide the motor and mounting plate to achieve approximately 5mm of deflection at the center of the belt.

NOTE: Belt tension can be difficult to measure accurately. Loose belts can result in cutter jams. If those occur, the belt can be tightened beyond what seems to be 5mm of deflection.



4. Tighten the bolts, starting with the two on the vertical surface.
5. Install the Rear Cover on page 233.
6. Connect the power cord.
7. Use the service commands (see Motors on page 12) to cycle the cutter to ensure that the motor spins freely without jamming.

Clutch Indexing

Use this procedure is to correct the crank home position. The cutter home position must be set correctly to prevent the motor from stalling and sheets getting stuck in the cutter area.

1. Verify that the cutter clutch needs to be indexed.

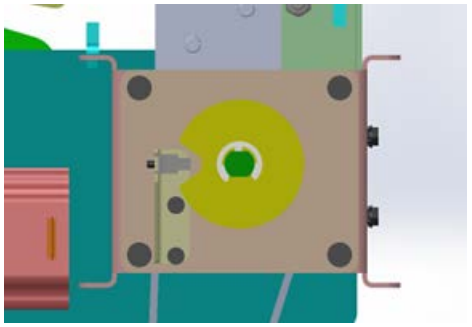
IMPORTANT: Cutter shaft rotates clockwise direction when viewed from encoder side of the clutch.

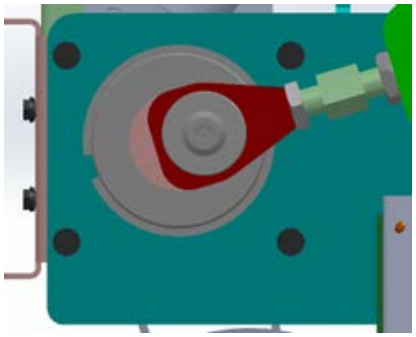
a. Cycle the interlock to the cutter homes and confirm there is no error on the screen.

b. Disconnect the power cord.

c. Remove the Rear Cover on page 233.

d. Look to see if the flats on the shaft are horizontal and the crank is at approximately the 2 o'clock position.

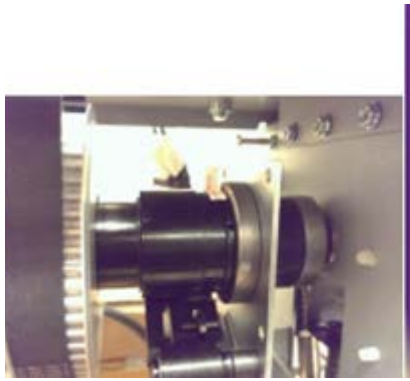


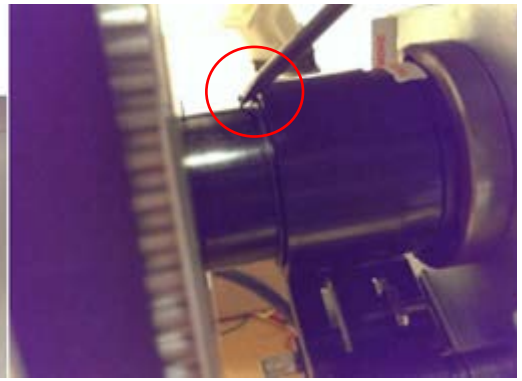


e. If the clutch shaft is horizontal and the crank is not in the correct position, check that the set screws on the clutch are secure.

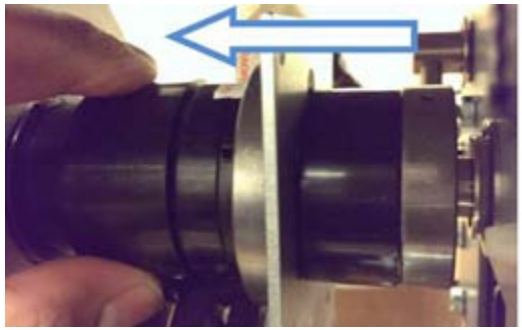
f. If the flats are not horizontal, the clutch must be indexed (±5° from horizontal).

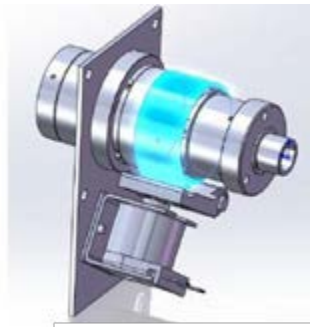
2. To index the shaft to the correct position, remove the spring clip from its groove in the clutch.





3. Move the spring clip towards the pulley to expose the toothed hub.



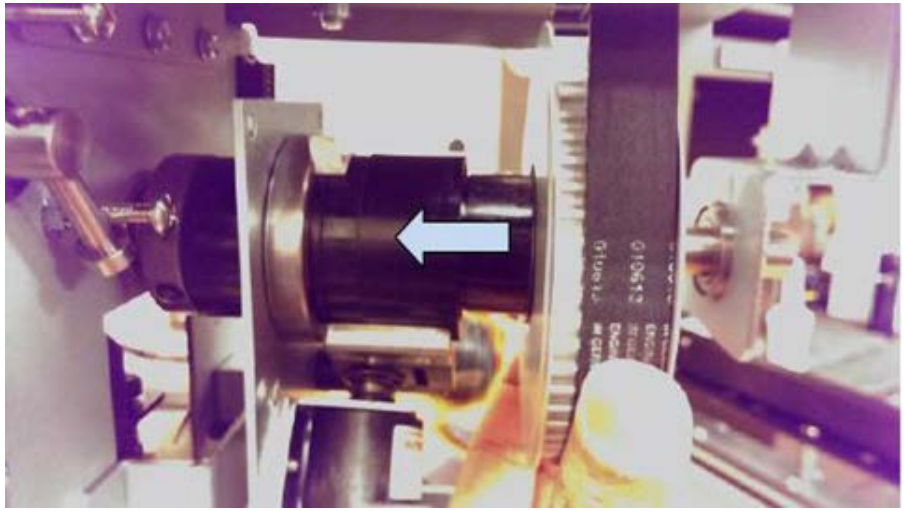


4. Rotate the stop collar.

   If the clutch needs to stop earlier, rotate the stop collar clockwise (as viewed from the crank side of the cutter).

   If the clutch needs to stop later, rotate the stop collar counter-clockwise.

5. Slide the stop collar back to its position and release the pawl.



6. Manually rotate the pulley in counter-clockwise by holding the pulley to complete a cut cycle.

   You may need to use a 10mm wrench on the flats of the shaft to complete a rotation.

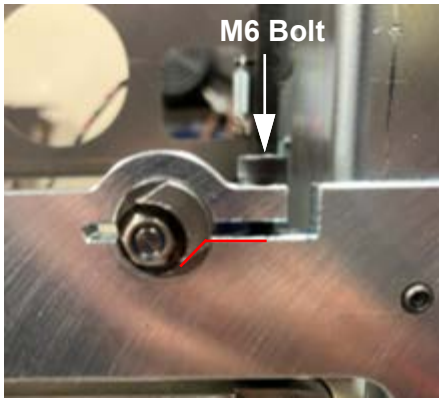
7. Repeat steps 4-6 until the shaft flat is horizontal and the crank is in the 2 o'clock position.

   If the crank is in the 8 o'clock position with a horizontal shaft flat, the clutch is off by 180°.

8. Put the spring clip in its groove.
9. Connect the power cord.
10. Run the User Functions on page 11 to cycle the cutter 10 times.
11. After the cut cycles, confirm that the shaft flat returned.
12. Install the Rear Cover on page 233.
13. Connect the power cord.

Pivot

1. Pull out the lamination drawer.
2. Use a 5mm Allen wrench to loosen the M6 bolt on top of the cutter.
3. Use a 14mm wrench to adjust the pivot to be angled, as shown by the red lines in the figure below.
4. Line up the bottom edge of the pivot bolt so that it intersects the bottom edge of the horizontal gap.



5. Ensure the pivot bolt is still flush with the rear surface of the cutter frame. Do not allow the pivot bolt to shift forwards or backwards in the slot. Re-adjust it if necessary before moving to the next step.
6. Fully tighten the M6 bolt.
7. Ensure the machine is loaded with a film cartridge and ready to feed and cut film.
8. Connect the power cord and power on the machine.
9. Insert an interlock cheater into the door interlock.

WARNING: Moving Parts, keep hands clear of nips and belts when the interlock cheater is inserted.

10. Run a test cut by selecting “User Functions” on the LCD and then select “Feed, Cut, Purge” from the user function menu.
11. Run a “Jog Film” command from the Service Menu on page 11.
12. Remove the interlock cheater, then inspect the quality of the cut.
13. Inspect the piece of film sticking out of the baffle and proceed accordingly:
    - The cut resulted in a fully cut piece of laminate - no pivot adjustment needed.
    - The cut did not fully break through the film; the cut missed on the rear side (back of the drawer) - repeat steps 3-5, except adjust the pivot angle by turning slightly clockwise.
    - The cut did not fully break through the film; the cut missed on the near side (front of the drawer) - repeat steps 3-5, except adjust the pivot angle by turning slightly counter-clockwise.
14. Run and inspect another test cut until the result is a fully cut piece.

    When the film is cut all the way through, the pivot has been successfully adjusted.

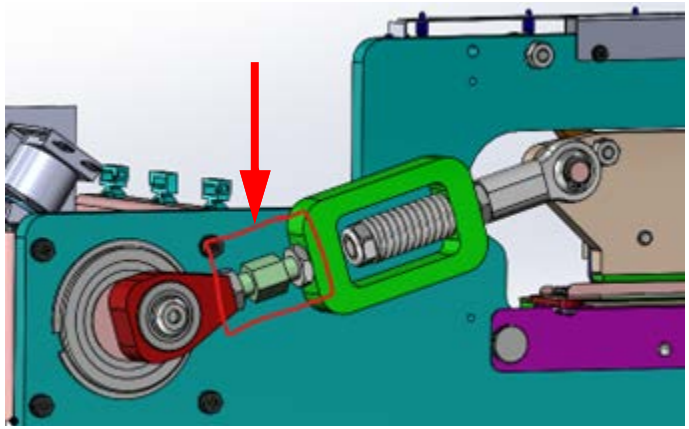
NOTE: If the film is cutting successfully on both edges, but is missing in the middle, then a pivot adjustment is no longer required. Instead, the connecting rod length or spring length must be adjusted. See Connecting Rod Spring on page 259.

Connecting Rod Length

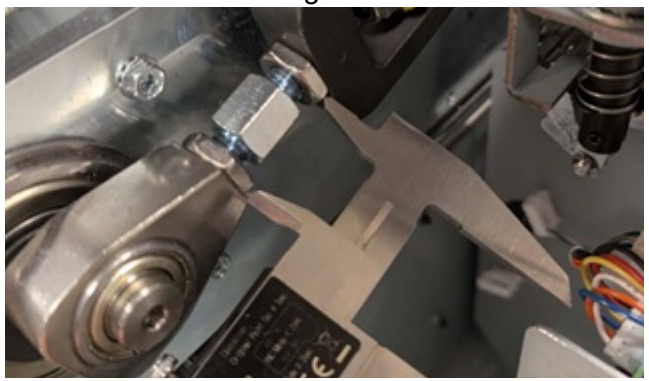
IMPORTANT: **Only perform this procedure if directed by escalated support.**

This procedure outlines how to adjust the connecting rod length on the cutter and can **drastically change the cutting motion of the machine**.

1. Remove the Rear Cover on page 233.
2. Remove the cover on the left side.
3. Locate the connecting rod in the exposed rear of the machine.

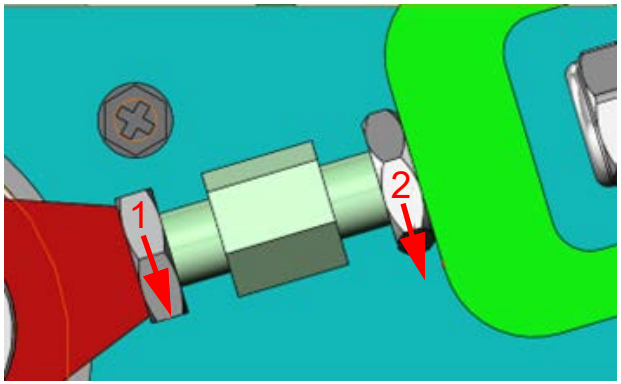


4. Measure and record the distance (D), in millimeters, between the two surfaces shown below. The length should be 32.7mm.



5. Use a 17mm combination wrench to loosen the two nuts by turning each nut towards yourself for 3-4 full revolutions.

NOTE: Turning the right nut (#2 on the drawing) may cause the rod to also turn. Wedge a 15mm wrench underneath the green rod frame piece to help it resist the nut's motion.

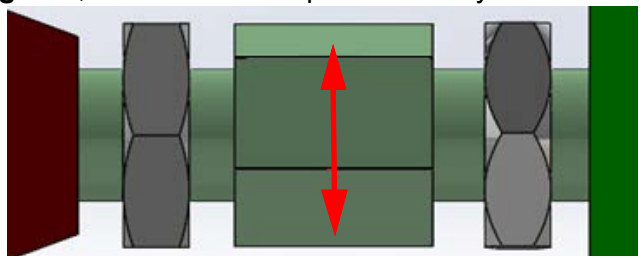


6. Compare the length of the rod, which was measured in step 4, to the nominal length of 32.7mm and determine if you will shorten or lengthen the rod.
7. Use a 15mm combination wrench on the hex adapter to change the length of the rod.

IMPORTANT: Do not adjust the threaded rod shorter than the nominal. Doing so may result in cutter jams and reduced component life.

To **shorten**, turn the hex adapter towards the cutter frame.

To **lengthen**, turn the hex adapter towards yourself.



8. Measure the distance and continue to adjust until it is at the correct value.
9. Tighten nuts #1 and #2 by turning towards the cutter frame, keeping in mind that the rod will need to be wedged with a 15mm wrench.
10. Confirm the nuts are tight and that rod does not turn when pushed.
11. Measure the distance again to confirm nothing changed when the nuts were tightened.
12. Replace the side cover and install the Rear Cover on page 233.
13. Connect the power cord and power on the machine.
14. Run a test cut by selecting “User Functions” on the LCD and then select “Feed, Cut, Purge” from the user function menu.
15. Ensure the cutter successfully cut a piece of film and emptied it into the trim tray.
16. If the cutter does not work, proceed to the Connecting Rod Spring on page 259 adjustment.

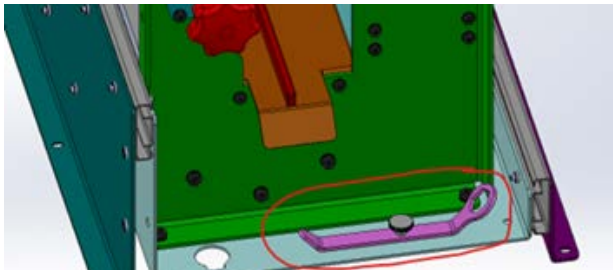
NOTE: If the cutter does not cut after performing both connecting rod adjustments, contact the next level of support.

Connecting Rod Spring

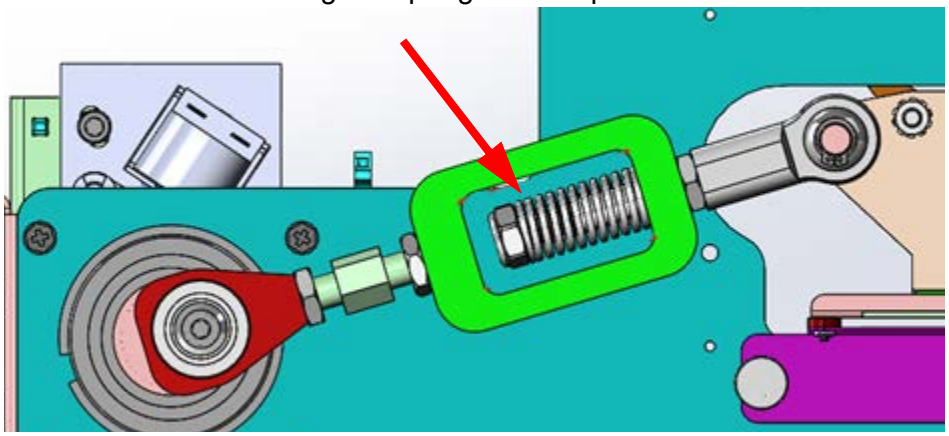
IMPORTANT: **Only perform this procedure if directed by escalated support.**

This procedure outlines how to adjust the connecting rod length on the cutter by adjusting the spring and can drastically change the cutting motion of the machine.

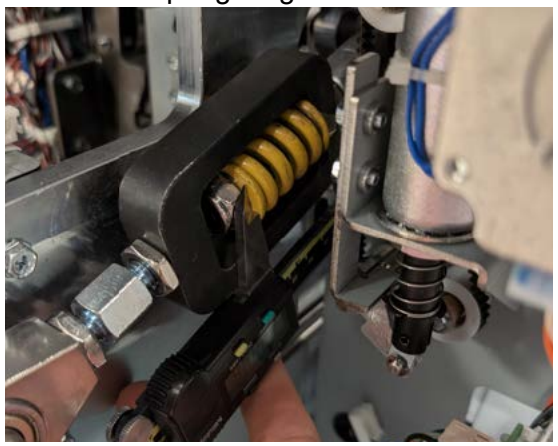
1. Remove the Rear Cover on page 233.
2. Remove the cover on the left side.
3. Remove the bent wrench found in front of the lamination drawer.



4. Locate the connecting rod spring in the exposed rear of the machine.



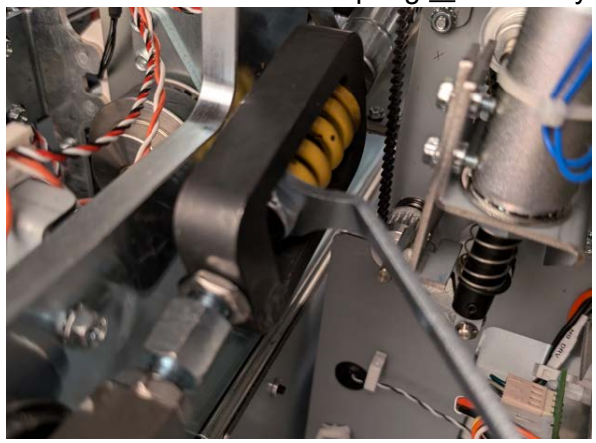
5. Measure the length of the red spring using a pair of calipers, making sure the edges of the calipers are touching the outer ends of the spring. The nominal spring length measure is 36.5mm.



6. If the spring length is incorrect, adjust it back to the nominal position.

IMPORTANT: Do not adjust the spring rod shorter than the nominal. Doing so may result in cutter jams and reduced component life.

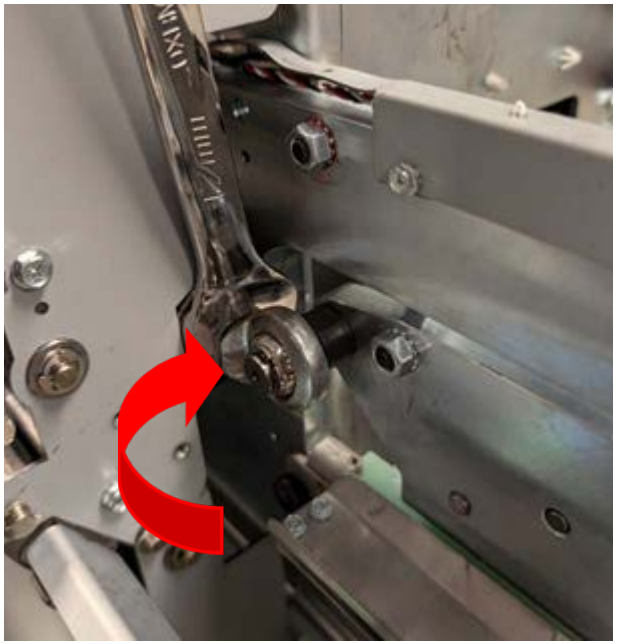
7. To adjust, insert the bent wrench over the locknut and either turn the nut towards the frame to loosen the spring or towards you to tighten.



NOTE: Due to the position of the solenoids and driver boards, the wrench can only be turned 90 degrees before taking it off the nut and repositioning it. Each 90-degree rotation should adjust the spring about 0.2mm of length.

8. Use the calipers to check the spring length after every adjustment until it is the correct length.
9. At the front of the machine, pull the laminator drawer all the way out.
10. Confirm that the eye bolt is parallel to the frame and if it is not, use a 17mm combination wrench to straighten.

NOTE: It is usually best to turn the eye bolt slightly more biased towards the frame, because it tends to rotate downwards during operation if it is set completely parallel to the frame.



11. Replace the side cover and install the Rear Cover on page 233.
12. Push the laminator drawer in and close the laminator door.
13. Connect the power cord and power on the machine.
14. Run a test cut by selecting “User Functions” on the LCD and then select “Feed, Cut, Purge” from the user function menu.
15. Ensure the cutter successfully cut a piece of film and emptied it into the trim tray.
16. If the cutter does not work, perform the adjustment for Connecting Rod Length on page 257.

NOTE: If the cutter does not cut after performing both connecting rod adjustments, contact the next level of support.

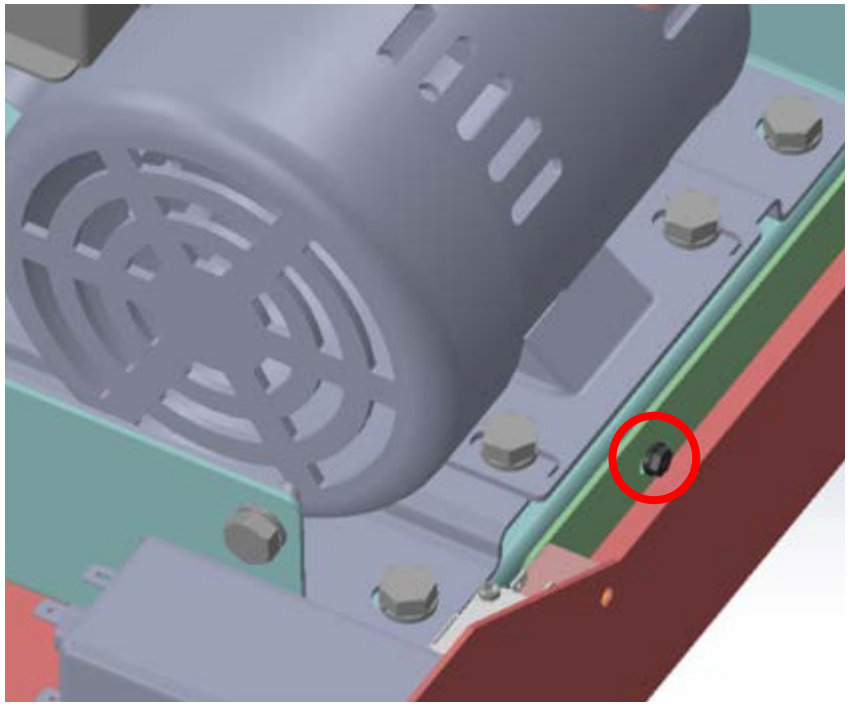
Lamination Drawer

Alignment Pin

Perform this procedure if the lamination drawer alignment is not centered in the pocket. When the alignment is off, the trim diverter may hit the cutter, or the alignment carriage my hit the acceleration panel.

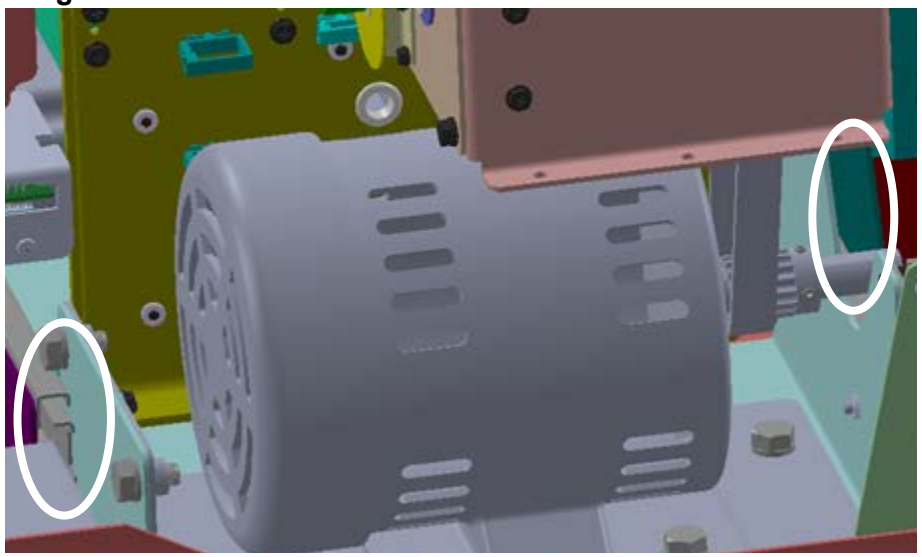
1. Remove the Rear Cover on page 233.
2. Loosen the alignment pin screw with a 7mm wrench.

IMPORTANT: Do NOT remove the screw.



3. Push the drawer in the direction required to center it in the paper path.

   You may need to use a tool, such as a flathead screwdriver, as a level to adjust the position. Slide the tool between the drawer and the drawer rail brackets. **Pushing it from other locations could damage the machine.**

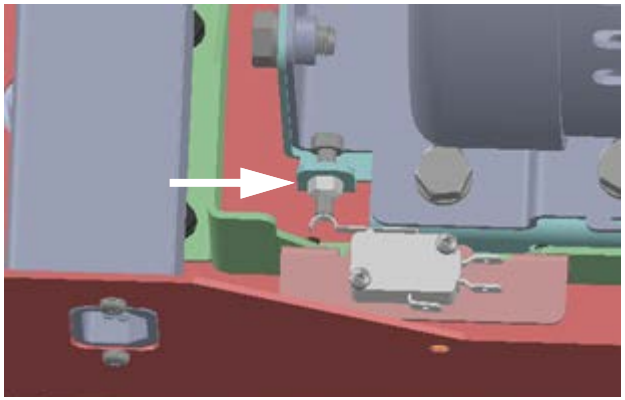


4. While holding it in position, tighten the screw securing the pin.
5. Check the alignment and, if necessary, repeat steps 2-4 until correct.
6. Install the Rear Cover on page 233.
7. Connect the power cord.

Drawer Switch

If the machine displays an error that the lamination drawer is out when it is not, the switch needs to be adjusted.

1. Remove the Rear Cover on page 233.
2. Open the front cover and pull out the drawer so that the switch is not engaged.
3. Loosen the jam nut using a 7mm wrench.

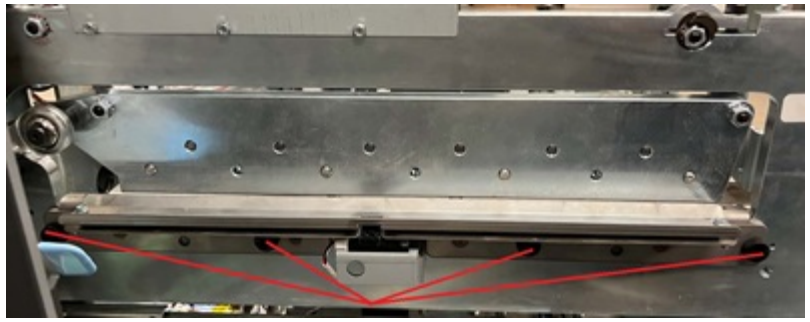


4. Push the lamination drawer in.
5. Use a 5mm hex wrench to adjust the screw so it only activates the switch when the drawer is secured by the latch.

   The switch will click when pressed.
6. Tighten the jam nut.
7. Install the Rear Cover on page 233.
8. Connect the power cord and power on the machine.
9. Confirm that there is no error message displayed.

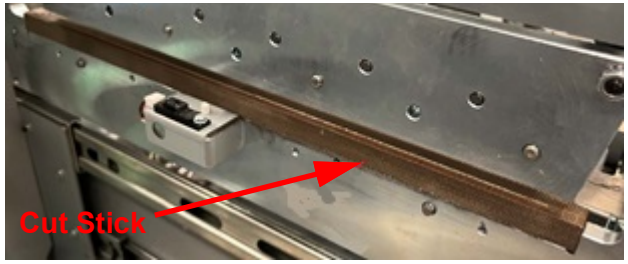
Cut Stick

1. Open the laminator door and pull out the lamination drawer.
2. Remove the (4) thumbscrews from this baffle and set aside



3. Remove the cutter out-feed baffle and set aside.

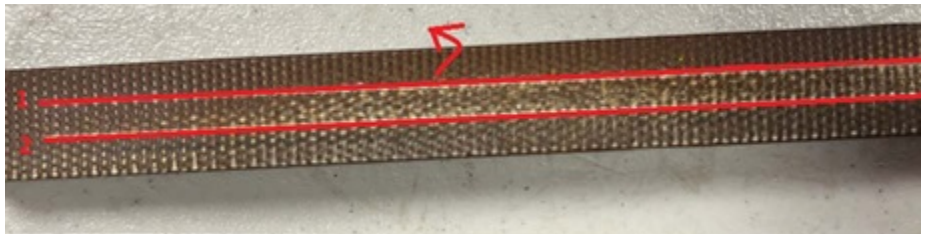
   In the exposed cutter slot you will find the garolite cut stick.
4. Remove the cut stick, **keeping it in the same orientation that it was in the machine**.



5. Inspect the cut stick for thin grooves.

   Each cut stick can be used four times total. Twice on each side before flipping upside down and using twice again. When you remove the stick, there must be a groove in position 1.
6. Check if there is a groove in position 2 and if not, rotate the stick so that position 2 is facing the cutter.

If positions 1 and 2 already have grooves, check to see if 3 or 4 on the bottom side of the side are free.

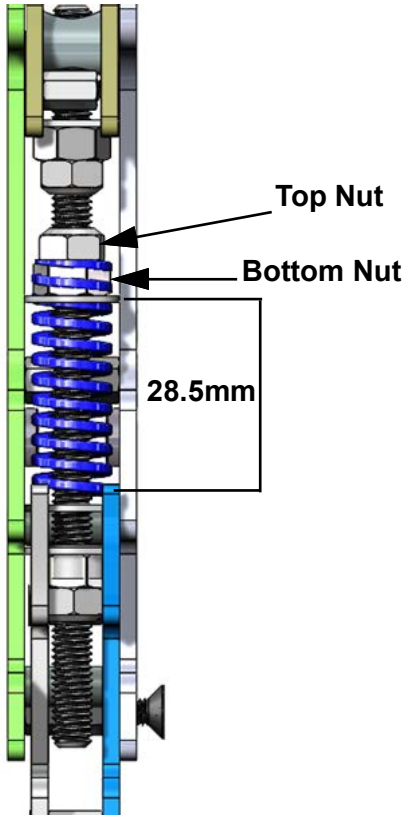


7. If all four positions have grooves, obtain a new cut stick.
8. Slide the cut stick on top of the backer stick.
9. Install the cutter out-feed baffle.
10. Install and tighten the (4) thumbscrews.
11. Push in the drawer and close the door.
12. Connect the power cord and power on the machine.
13. On the UI, go to Settings > Cut Stick and select reset stick cycles.

    The stick cycles should now read 0.
14. Run a test cut by selecting “User Functions” on the LCD and then select “Trim Film and Eject” from the user function menu.
15. Continue to run test cuts until the blade cuts fully through the film.

Locking Mechanism Springs

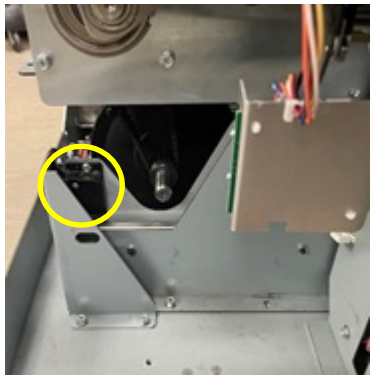
1. Open the laminator door and pull out the lamination drawer, and open the locking mechanism using the green handle.
2. Loosen the top jam nut using a 10mm wrench.
3. Adjust the bottom jam nut to compress/decompress the spring using a 10 mm wrench.



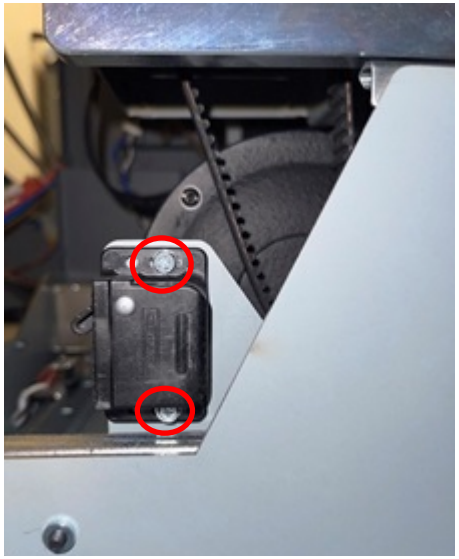
4. The compressed spring length should be set to 28.5. This needs to be measured inside of the washers (see image) using a pair of calipers with the locking mechanism engaged (in the downward position). If the spring length is incorrect, open the mechanism and repeat step (3).
5. Tighten the top jam nut without changing the spring compression.
6. Repeat on the other locking mechanism.
7. Push in the drawer and close the door.
8. Connect the power cord.

Drawer Latch

1. Remove the Rear Cover on page 233.
2. Locate the drawer latch.



3. Push the laminator drawer out, slightly, until the latch catch is exposed.
4. Loosen, but do not remove, the (2) screws on the catch.

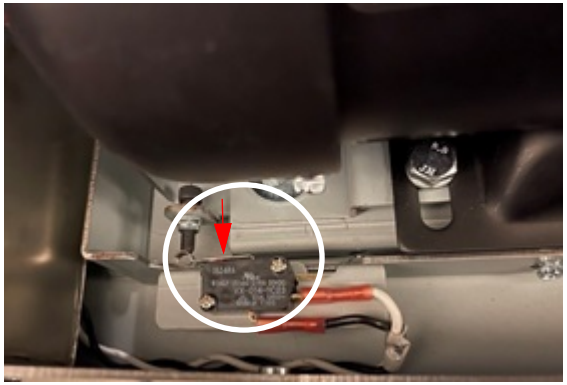


5. Push the laminator in, ensuring the latch and hook are fully mated.
6. Once the latch is fully engaged, use the through hole to tighten the bottom screw of the catch.





7. Pull out and push in the laminator drawer to ensure the drawer is secured by the latch.
8. Confirm the drawer screw comes in contact with the switch.



9. If no contact is being made between the switch and screw, adjust the Drawer Switch on page 262.
10. Connect the power cord.

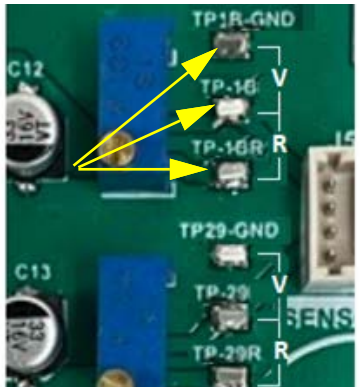
Sensors

S1B - Cutter

IMPORTANT: Perform this adjustment only after confirming S1B is working. See User Functions on page 11.

Perform this adjustment if the cutter is not activating between sheets or if film, without paper, is causing the machine to read blocked.

1. With the power on, check the voltage across TP-1B and TP1BGND on the break out board using a multimeter. It should be set to a voltage reading of approximately 1.3V.



2. If the voltage is incorrect, turn the power off and move on to checking the resistance.

   This can be measured between TP-1B and TB-1BR using a multimeter. An ohm reading from 350-500 ohms should be measured. If the resistance reading is not within this range, then that is the cause of the incorrect voltage from step 3.

3. Adjust the screw on the potentiometer next to the test points until the correct resistance range is achieved.

4. With the power on and door closed, re-check the voltage acrossTP1B-GND and TP-1B is close to 1.3V.

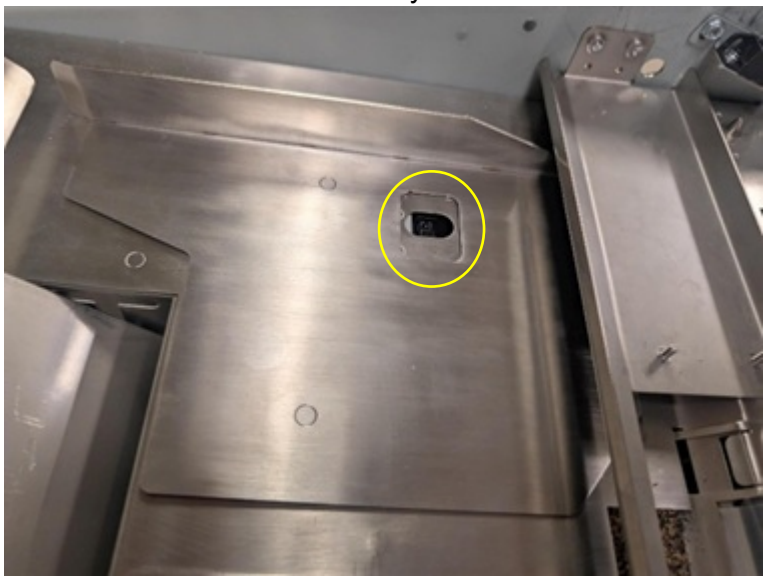
5. Check that the S1B reads unblocked in the service sensor menu when nothing is blocking it.

6. Block the sensor with a piece of **film**. It should still read unblocked. If the film marked read as blocked, lower the resistance in increments of 2-3 Ohms until the film is not detected by the sensor. The machine must be powered off before reading the resistance or you will get an incorrect reading.

7. Block the sensor with a piece of **paper**. It should read blocked. If the paper marked read as unblocked, raise the resistance in increments of 2-3 Ohms until the paper is detected by the sensor. The machine must be powered off before reading the resistance or you will get an incorrect reading.

Sensor 16

Sensor S16 is located in the feeder tray.



Feeder

Feeder Idler Roller

Due to the feeder idler roller pressure being uneven, too light or too heavy, adjustment is required if issues are occurring after the pick roller has brought the sheet into the paper path.

If the sheets are skewing when they enter the first drive rollers of the feeder, and you were directed here by the FeederSkewed SheetsSheets could become skewed when they are picked by the single pick roller before they reach the drive rollers further along in the panel. Skewed sheets can result in FAULT: SIZE MISMATCH (S20), FAULT: DOUBLE PICK, and poor lamination output. on page 120 you must adjust the pressure to be even.

The sheet skew direction shows which side of the panel requires adjustment.

1. If the sheets are feeding faster in the rear of the machine, adjust the front magnet higher or the rear lower.
2. If sheets are feeding faster in the front of the machine.

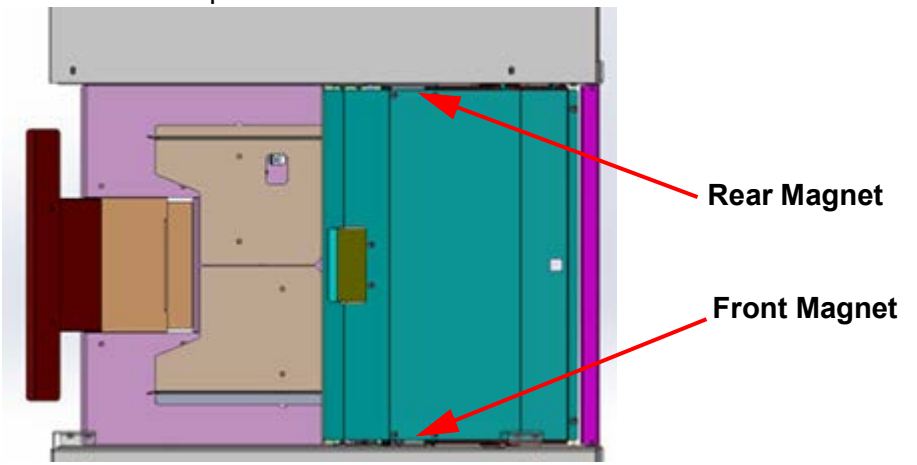
NOTE: Do not adjust both magnets at the same time.

3. If the sheets are stopped in the first set of rollers and the top cover is still secured with the magnets, adjust both magnets down.
4. If the sheets are stopped in the feeder paper path and the magnets that secure the top cover are disengaged, adjust both magnets up.
5. If the M10 motor is stalling when the sheets are in the feeder paper path, raise the magnets. Do not perform this step unless directed here by M6B Motor Stalling on page 121.
6. After identifying which adjustments are required, follow the steps for Feeder Magnet on page 266.

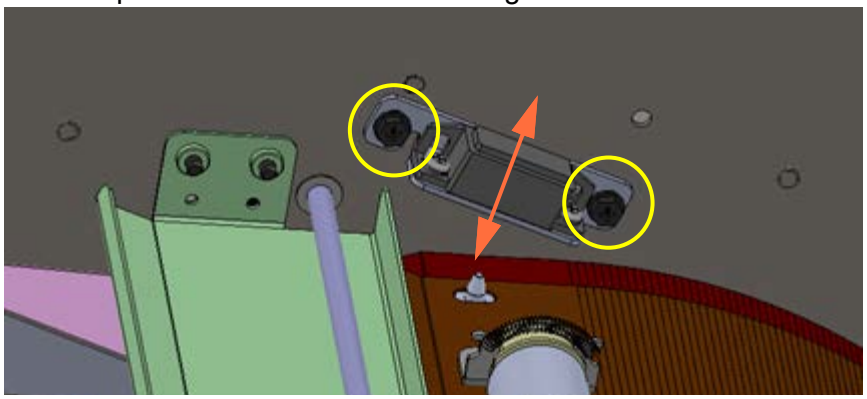
Feeder Magnet

Identify which direction the magnets must be adjusted by reading Feeder Idler Roller on page 266.

The feeder top cover is secured by two magnets that hold it shut and control the idler pressure.



1. To adjust the magnets, open the top cover and use a 7mm wrench to loosen both screws on the magnet.
2. Move the magnet ~0.5mm per adjustment in the required direction.
3. Ensure proper magnet alignment by confirming that the screws have the same position in the slots on the magnet bracket.



Feeder Top Cover

If the feeder top cover is set too high, it may open slightly during operation. This opening will not cause a door open error but will release the idler roller pressure resulting in feeder timeouts with the sheet just inside the first pair of rollers.

See Feeder Idler Roller on page 266.

Side Guides

If the side guides on the feeder do not move freely, or are too loose and move during operation, perform this adjustment.

The side guides should be easy enough to move by hand, but tight enough that the feeding operation does not cause them to move. Loose side guides will result in skewed sheets.

1. Access the bottom of the feeder tray from the left side of the bridge.

   The 7mm nuts control the friction of the side guides. Each side guide has its own.

2. Tighten the nut to increase side guide resistance and loosen it to allow for more movement.

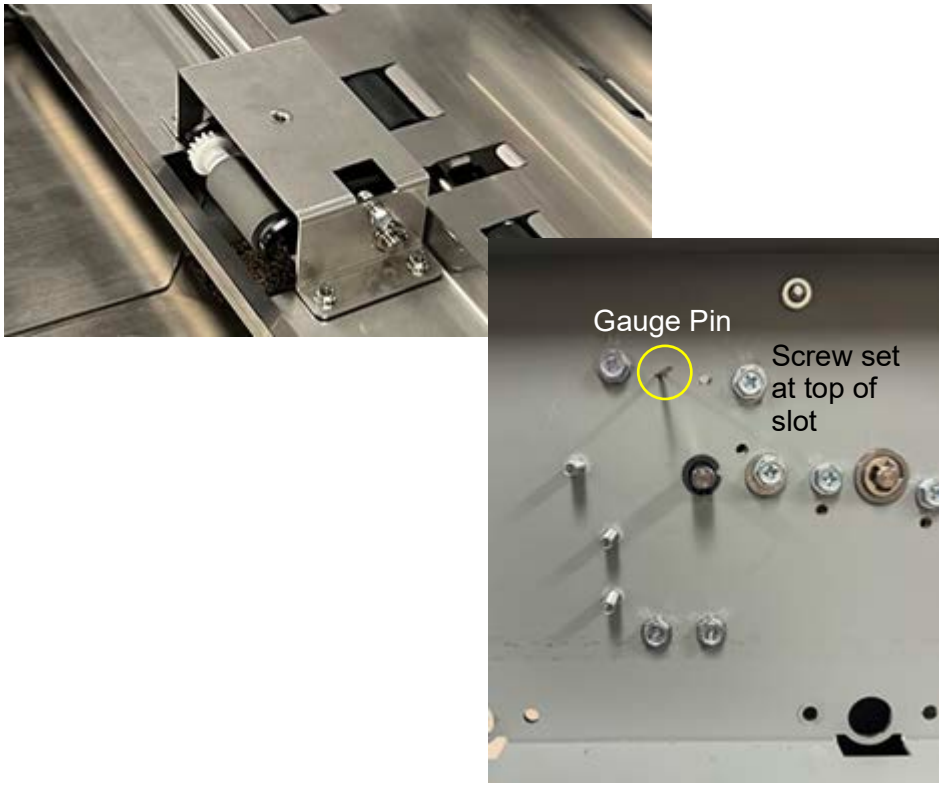
Upper Pick Roller

If there are issues with double-picks or fail-to-pick, the upper pick roller bracket position may need to be reset to the proper angle to ensure smooth feeding.

The bracket is mounted with (2) screws in the front and (2) in the back in slots for easy adjusting.

The screws closest to the feeder exit, one in the front and one in the back, need to be in the uppermost position.

The (2) screws closer to the feeder entrance, one in the front and one in the back, need to be set to the proper position using a gauge pin. Insert a 3mm gauge pin into the pin hole. When the pin can pass through, tighten the screws.



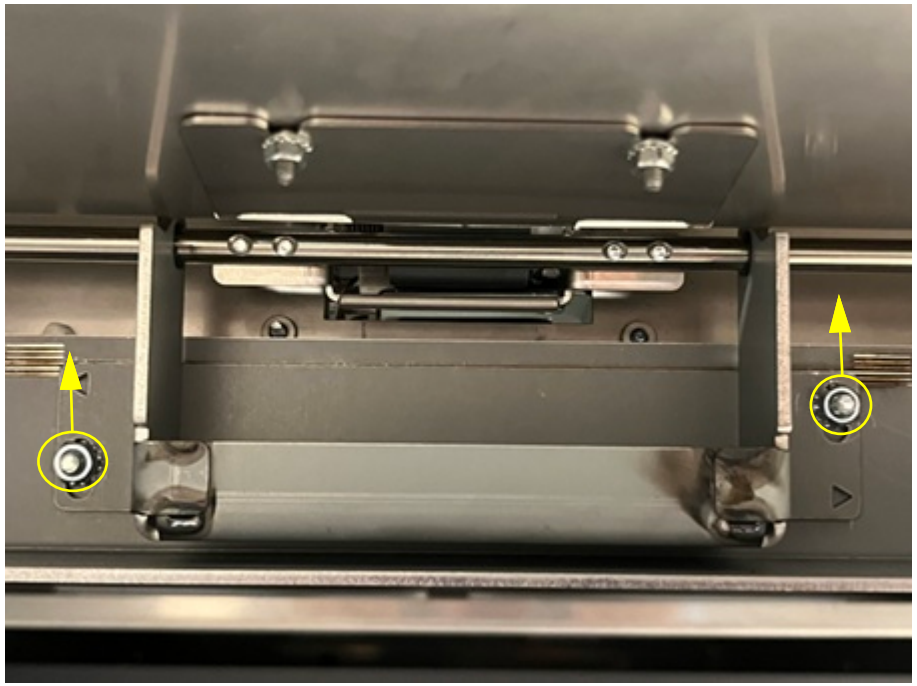
Lower Pick Roller

When the lower pick roller bracket is not at the highest position there can be issues with double-picks or fail-to-picks.

To access the bracket, remove the cover on the bottom of the feeder (LamPrix 100) or remove the GBC product from the printer (Advanced-Lam Pro).

Look under the feeder tray from the entry side of the machine and locate the lower pick roller bracket. It will have two arrows etched onto it and will be supporting a horizontal shaft.

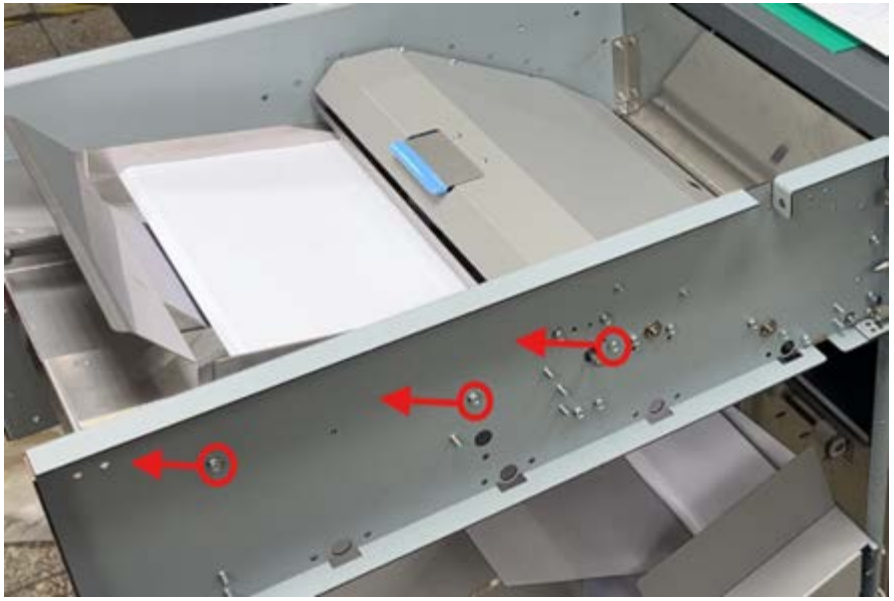
If the bracket is not in the highest position, loosen the (2) nuts and push the bracket upwards and tighten the screws.



Feeder Tray

If the feeder tray is not at the rearmost position it can interfere with the lower pick roller and cause double-picks or fail-to-picks.

Six (6) screws secure the feeder tray to the frame (three in front and three in the rear). Loosen all of the screws and pull the tray so the slots have shifted all the way to their rearmost position; tighten screws.



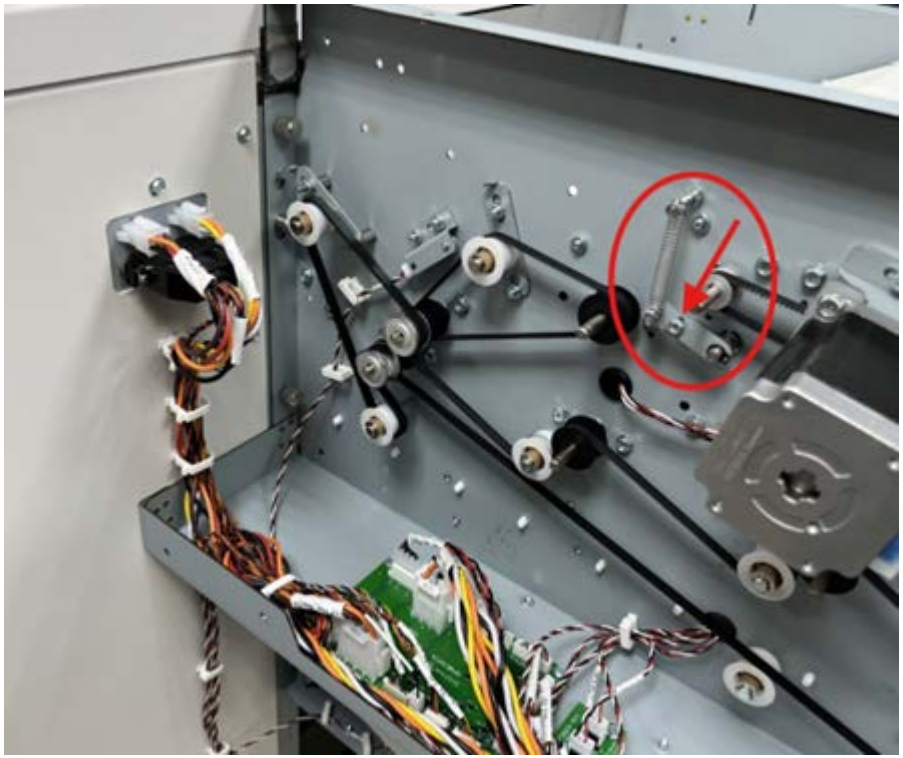
Feeder Spring Index

If you are experiencing sheets that fail-to-pick during feeding, the spring index may need to be adjusted.

Remove the rear cover of the feeder and inspect the exposed spring. If it has been overextended or is visibly warped visibly replace the spring.

Additionally, the sheet metal index to which the spring is mounted should be tight to the shaft and rotate with the shaft. Ensure the two pieces of the index are spread apart as far as possible and that the screw is secure.

If needed, loosen the spring and spread the two pieces farther apart. The longer piece should be as low as possible. Tighten the screw to lock the index in place.

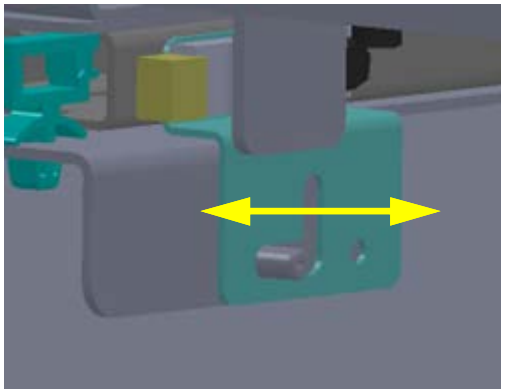


Stacker

Sensor 21

Adjust this sensor so that the stacker tray is only detected when it is fully back in the rail. This sensor is located on the back of the stacker.

1. Loosen, but do not remove, the 7mm nut holding the sensor in place.
2. Slide the sensor on the slot to find the correct position.

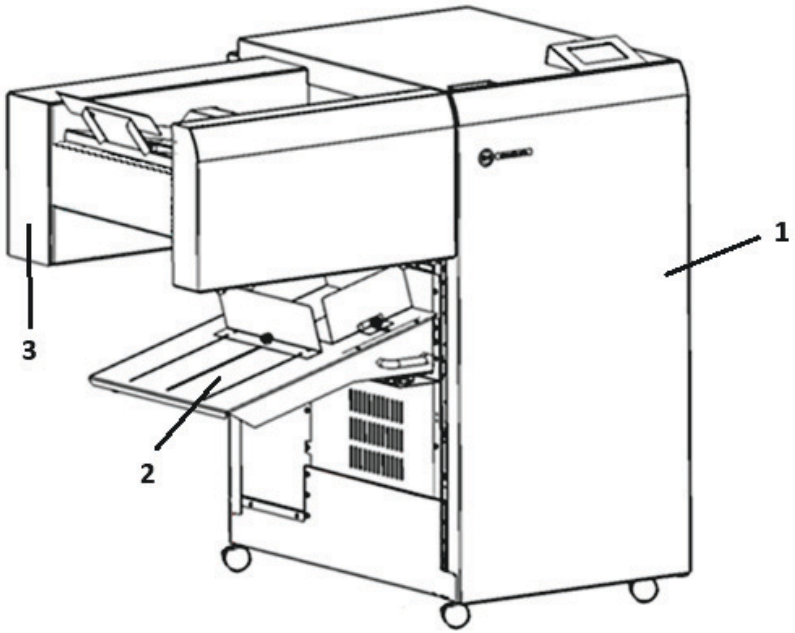


3. Tighten the nut.

Parts List

. 1.1 Final Assembly

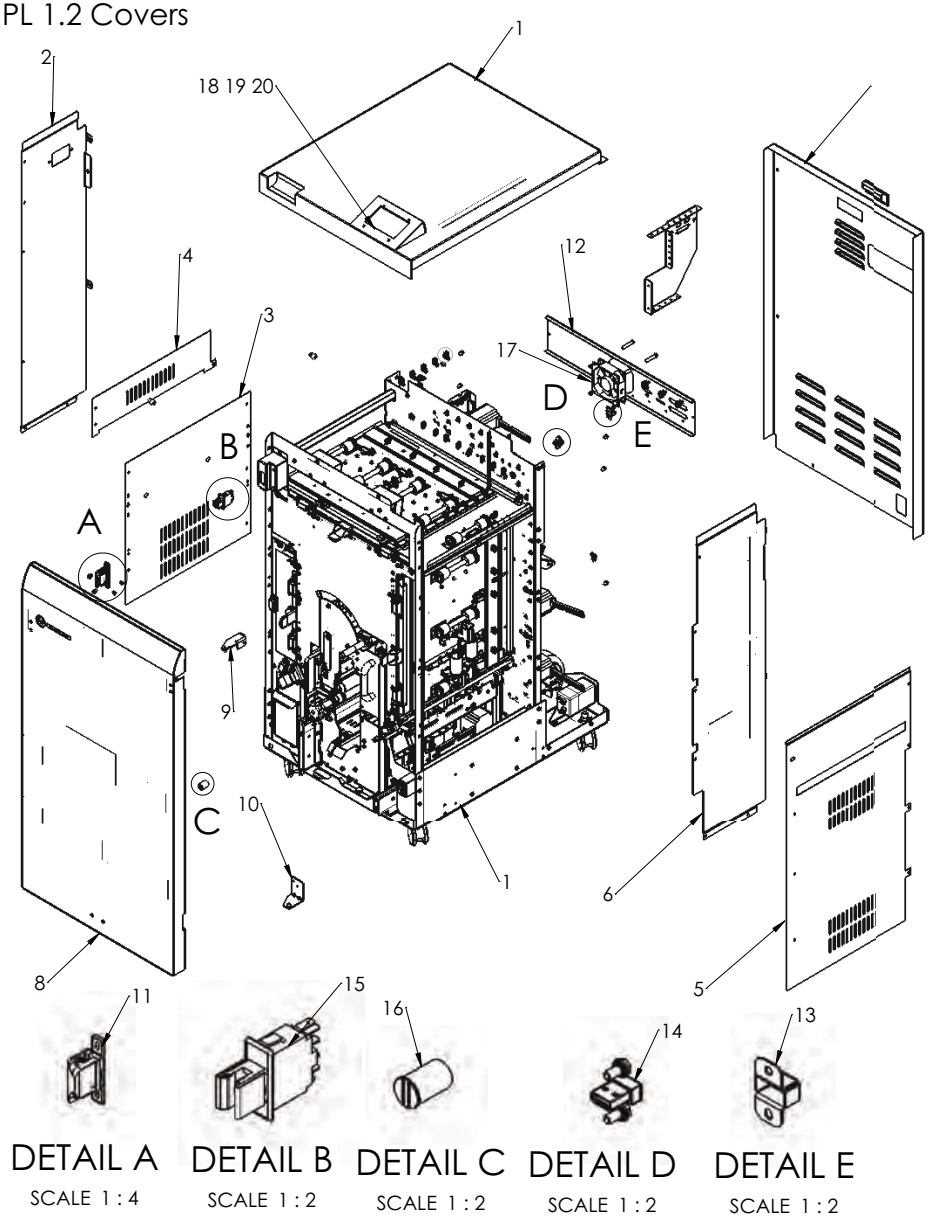
ITEM	Part #	DESCRIPTION	QTY'
1	7726501	FINAL ASSEMBLY, OLY, NEARLINE, 115V	1
	7726601	FINAL ASSEMBLY, X OLY, NEARLINE 230V	1
2	7726701	FINAL ASSEMBLY, STACKER, OLY, NEARLINE	1
3	7726401	FINAL ASSEMBLY, FEEDER, OLY, NEARLINE	1



NOTES:

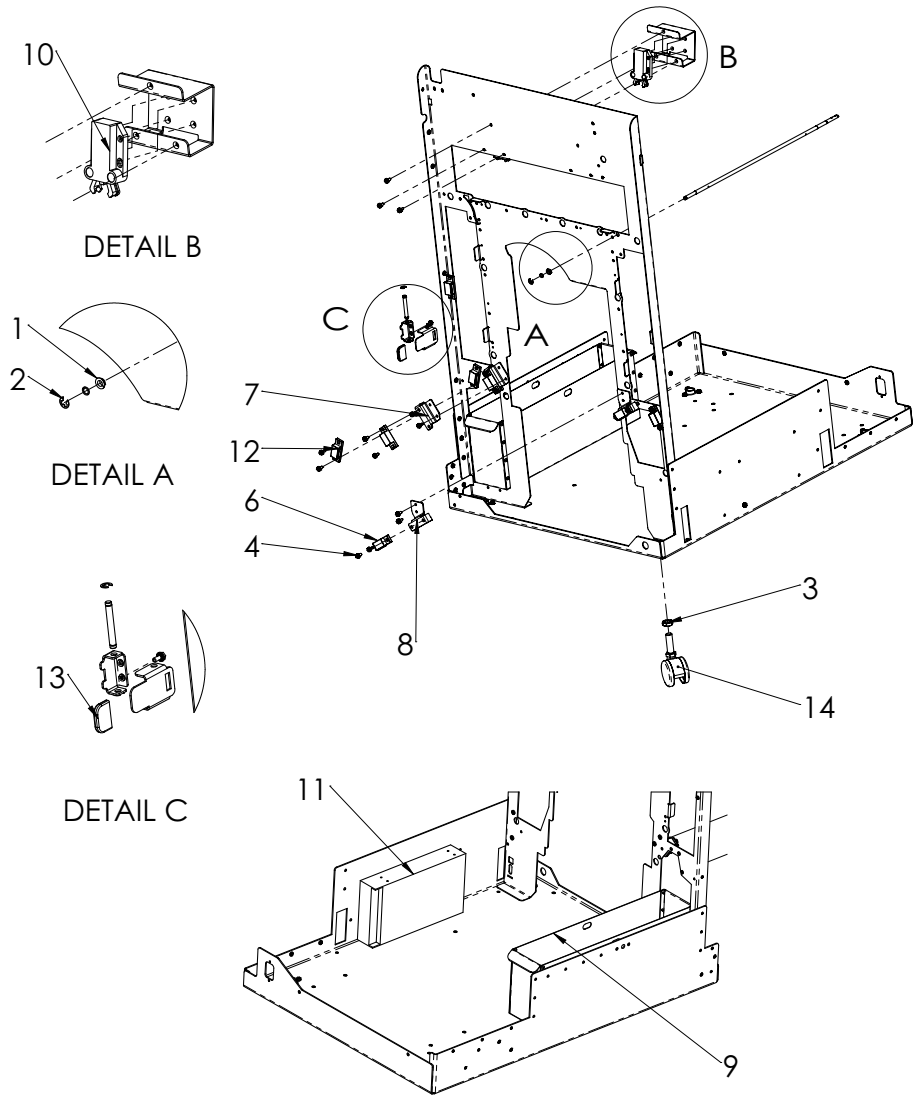
1. "PART NUMBERS FOR REFERENCE ONY"
2. ITEMS 1 THRU 4 ARE NOT SERVICE ASSEMBLIES

PL 1.2 Covers



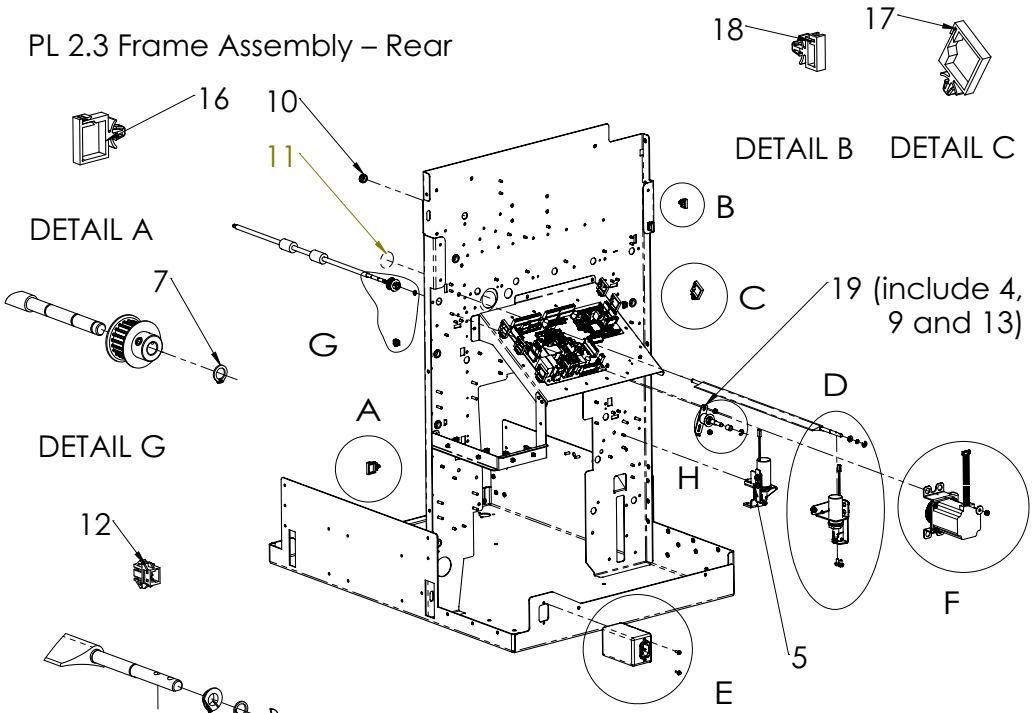
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Z7726511	COVER, TOP,WELDMENT, OLY, NEARLINE	1
2	Z7726543	COVER, SIDE, UPSTREAM, REAR, OLY, NEARLINE	1
3	Z7726515	COVER, SIDE FRAME, UPSTREAM, BOTTOM, OLY, NEARLINE	1
4	Z7726514	COVER, SIDE, UPSTREAM, UPPER, OLY, NEARLINE	1
5	Z7726520	COVER, SIDE FRAME, DOWNSTREAM, OLY, NEARLINE	1
6	Z7726518	COVER, SIDE, DOWNSTREAM, REAR, OLY, NEARLINE	1
7	7726516	COVER, REAR, ASSEMBLY, OLY, NEARLINE	1
8	7726523	FRONT DOOR ASSEMBLY, OLY, NEARLINE	1
9	Z7726152	BRACKET, FRONT DOOR HINGE, TOP, OLY, XEROX	1
10	7715570	BRACKET, FRONT DOOR, HINGE, BOTTOM	1
11	7706486	LATCH, PUSH TO CLOSE, SOUTHCO	2
12	Z7726172	EXHAUST FAN, BRACKET, ASSY, OLY, XEROX	1
13	7715828	COVER, USB DRIVE	2
14	7715684	DRIVE, USB STICK, FLASH DRIVE	1
15	7610501	INTERLOCK SWITCH	1
16	7706447	MAGNET, FRONT DOOR	1
17	7715267	FAN, EXHAUST	1
18	7723665	LCD, TOUCHSCREEN, 4.3."	1
19	7723646	ADAPTER PCB, LCD TOUCHSCREEN	1
20	7724422	RIBBON CABLE, LCD	1
21	Z7729801	KIT, SCREWS, OLY	-

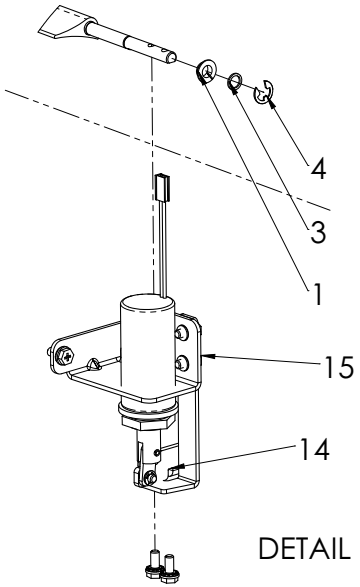
PL 2.2 Frame Assembly - Front

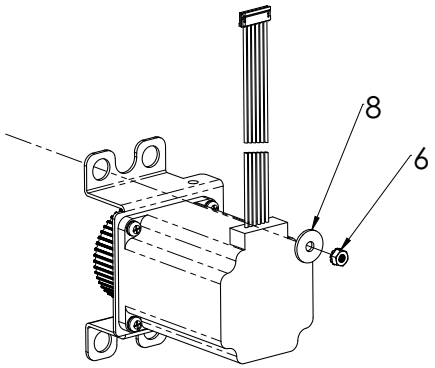


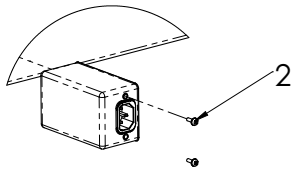
ITEM	Part #	DESCRIPTION	QTY
1	Z7729802 1821209	SNAP-IN BEARING, 6MM ID	2
2	Z7729802 1822202	E-RING, JE-5	4
3	Z7729801 1823711	JAM NUT, M16X2.0	4
4	1823903	SCREW, PHILLIPS HX HD W/SEMS M4 X 8	4
5	1821606	SCREW, PHILLIPS PAN HD, M3X10	12
6	7715195	MAGNET, PANEL, OPEN, STRONG	2
7	7725318	BRACKET, MAGNET STANDOFF, ASSY	1
8	7725532	BRACKET, MAGNET	1
9	7725388	TRIM TRAY, WELDMENT, OLYMPIA	1
10	7715650	LATCH, BYPASS (TOP&BOTTOM)	2
11	7715637	POWER SUPPLY, 24V, MW SP 480	1
12	7715789	MAGNET, PANEL, OPEN, WEAK	4
13	7725181	CAP, RUBBER .032x1.00, BLUE	5
14	7723799	CASTER, ADJUSTABLE, ASSY, KM	4

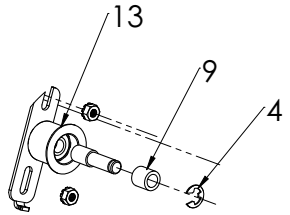
PL 2.3 Frame Assembly – Rear







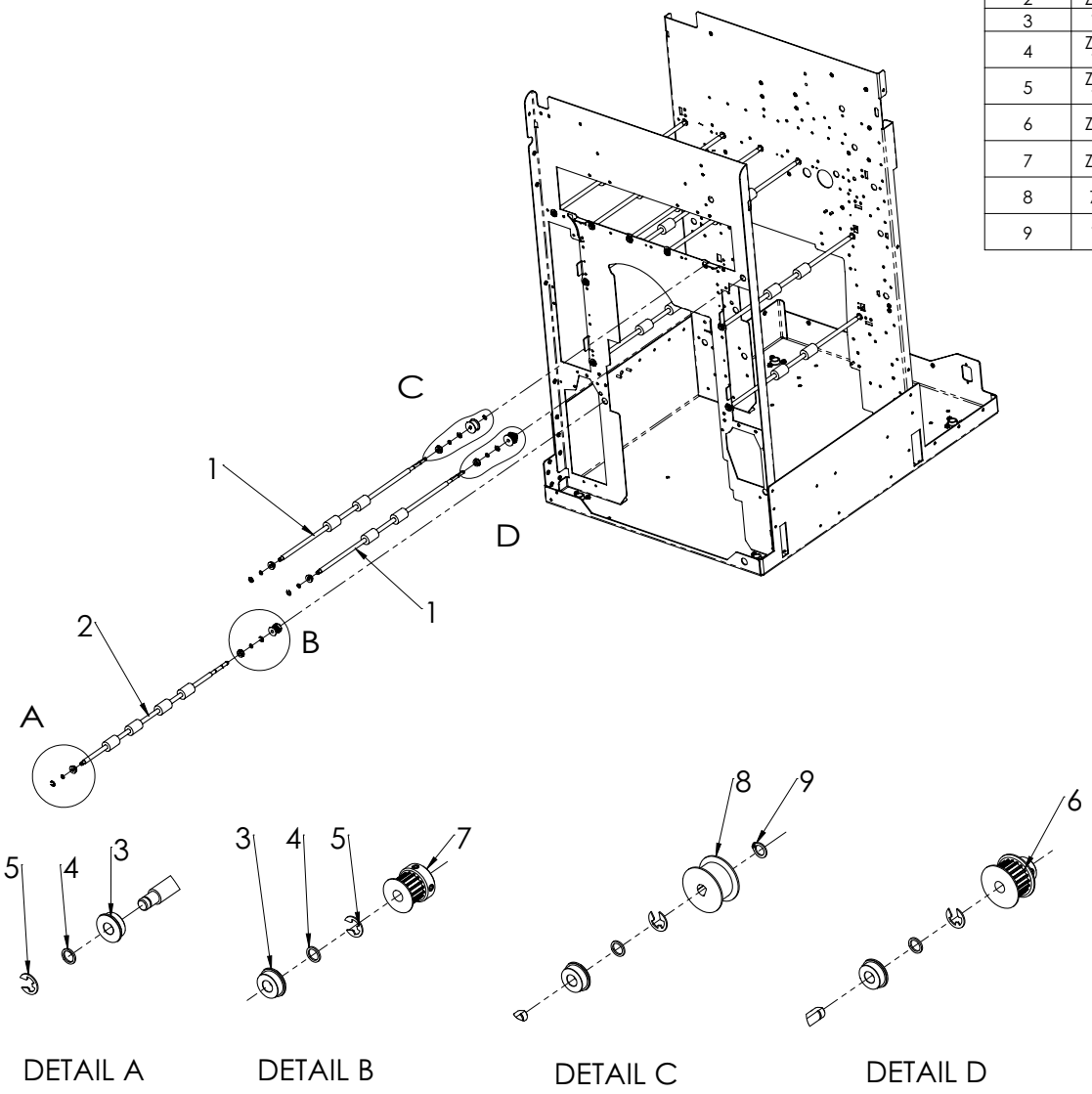




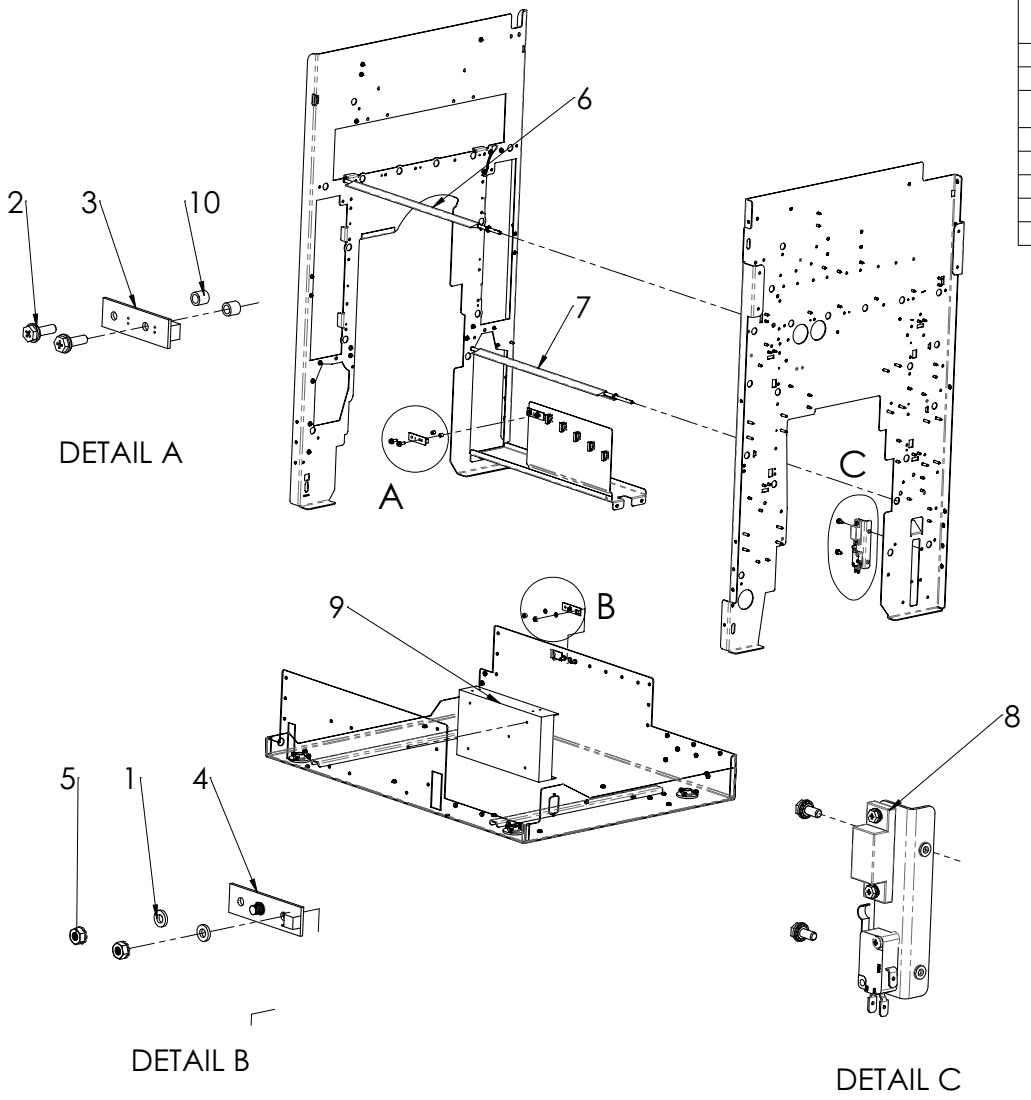
ITEM	Part #	DESCRIPTION	QTY
1	Z7729801 1821209	SNAP-IN BEARING, 6MM ID	4
2	Z7729801 1821611	SCREW, PHILLIPS HD W/SEMS, M3X10	2
3	Z7729801 1822005	WASHER, FLAT, 6.025 X 8 X 0.75	4
4	7729802 1822202	E-RING, JE-5	7
5	7725524	SOLENOID, BRACKET, TRIM SUB ASSEMBLY, OLY	1
6	Z7729801 1824001	NUT, KEPS M4	24
7	Z7729802 1825501	RETAINING RING, 6MM SHAFT	7
8	Z7729801 1925044	WSHR, .192 ID X .625 OD X .060 T	24
9	1952208	SPACER, TIMING BELT IDLERS, BRONZE	5
10	1954011	GROMMET, 3/8 I.D X 1/2 O.D	9
11	1954032	GROMMET, 1 1/4 I.D. X 1 1/2 O.D.	2
12	Z7729803 7712703	WIRE HEADER CONNECTOR, 2 POS	4
13	7715383	ROLLER, IDLER, DRIVE ASSY	7
14	Z7729803 7715390	WIRE CLAMP, EDGE	
15	7715813	SOLENOID, BRACKET, DIVERTER, SUB ASSEMBLY	1
16	Z7729803 7715818	WIRE SADDLE, MEDIUM, LOCKING TOP, V-0	-
17	Z7729803 7715819	WIRE SADDLE, LARGE, LOCKING TOP, V-0	-
18	Z7729803 7715817	WIRE SADDLE, SMALL, LOCKING TOP, V-0	-
19	7715245	TENSIONER ASSEMBLY	1

PL 2.4 Frame Assembly - Drive rollers

ITEM	Part #	DESCRIPTION	QTY
1	7715093	ROLLER ASSY, DRIVE	10
2	Z7725499	ROLLER ASSY, TRIM	1
3	1821116	BEARING, BALL, FLANGE 6X13X5, SUJ2	20
4	Z7729801 1822005	WASHER, FLAT, 6.025 X 8 X 0.75	24
5	Z7729802 1822202	E-RING, JE-5	24
6	Z7725455	PULLEY, TIMING, 3MM GT2, 20 GROOVES	2
7	Z7725456	PULLEY, TIMING, 3MM GT2, 16 GROOVES	1
8	7715204	PULLEY, TIMING, 2MM 2GT, 30T	9
9	1825501	RETAINING RING, 6MM SHAFT	24

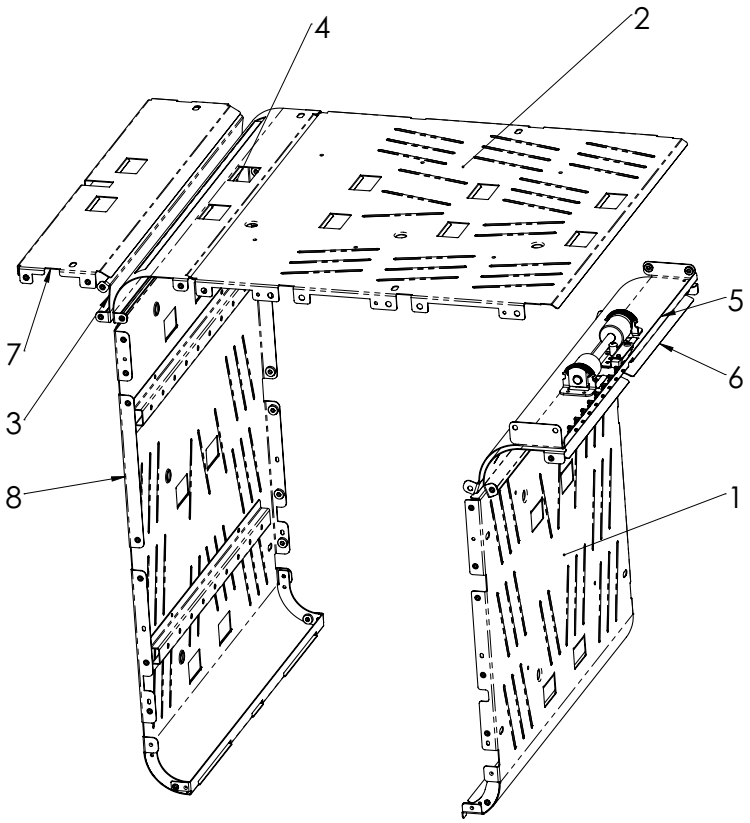


PL 2.5 Frame Assembly – Internal Parts



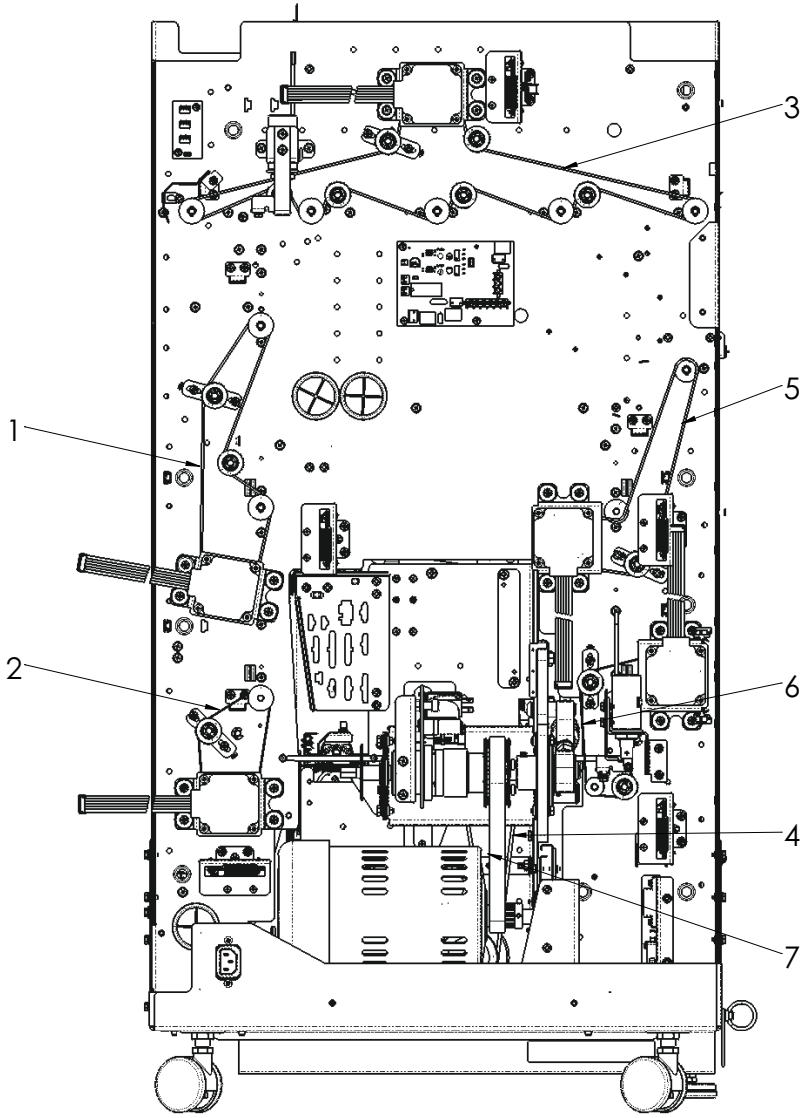
ITEM	Part #	DESCRIPTION	QTY
1	Z7729801 1822108	WASHER, FLAT, 4.1X8X1.5	4
2	Z7729801 1823915	SCREW, PHILLIPS HX HD W/SEMS M4 X 12	2
3	7711970	EMITTER	1
4	7711973	RECEIVER	1
5	Z7729801 1824001	NUT, KEPS M4	2
6	7715131	BYPASS DIVERTER	1
7	Z7725529	TRIM DIVERTER ASSY	1
8	7715186	CHIP TRAY SENSOR MOUNT ASSY	1
9	7715637	POWER SUPPLY, 24V, MW SP 480,	1
10	Z7725392	SPACER, 4X6X9	2

PL 2.6 Paper Path- Drive Panels



ITEM	Part #	DESCRIPTION	QTY
1	Z7725470	PANEL WELDMENT, DRIVE, EXIT, OLY	1
2	Z7725465	PANEL, BYPASS, LOWER, OLY	1
3	Z7725485	PANEL, ENTRANCE, INNER, OLY	1
4	Z7726464	PANEL, ENTRANCE, LOWER, OLY, REV	1
5	Z7726476	PANEL, EXIT, INNER, UHMW	1
6	Z7726120	PANEL, EXIT, LOWER, XEROX, OLYMPIA	1
7	Z7726467	PANEL WELDMENT, BYPASS EXIT, LOWER, OLY	1
8	Z7726436	PANEL WELDMENT, DRIVE, ENTRANCE, OLY	1

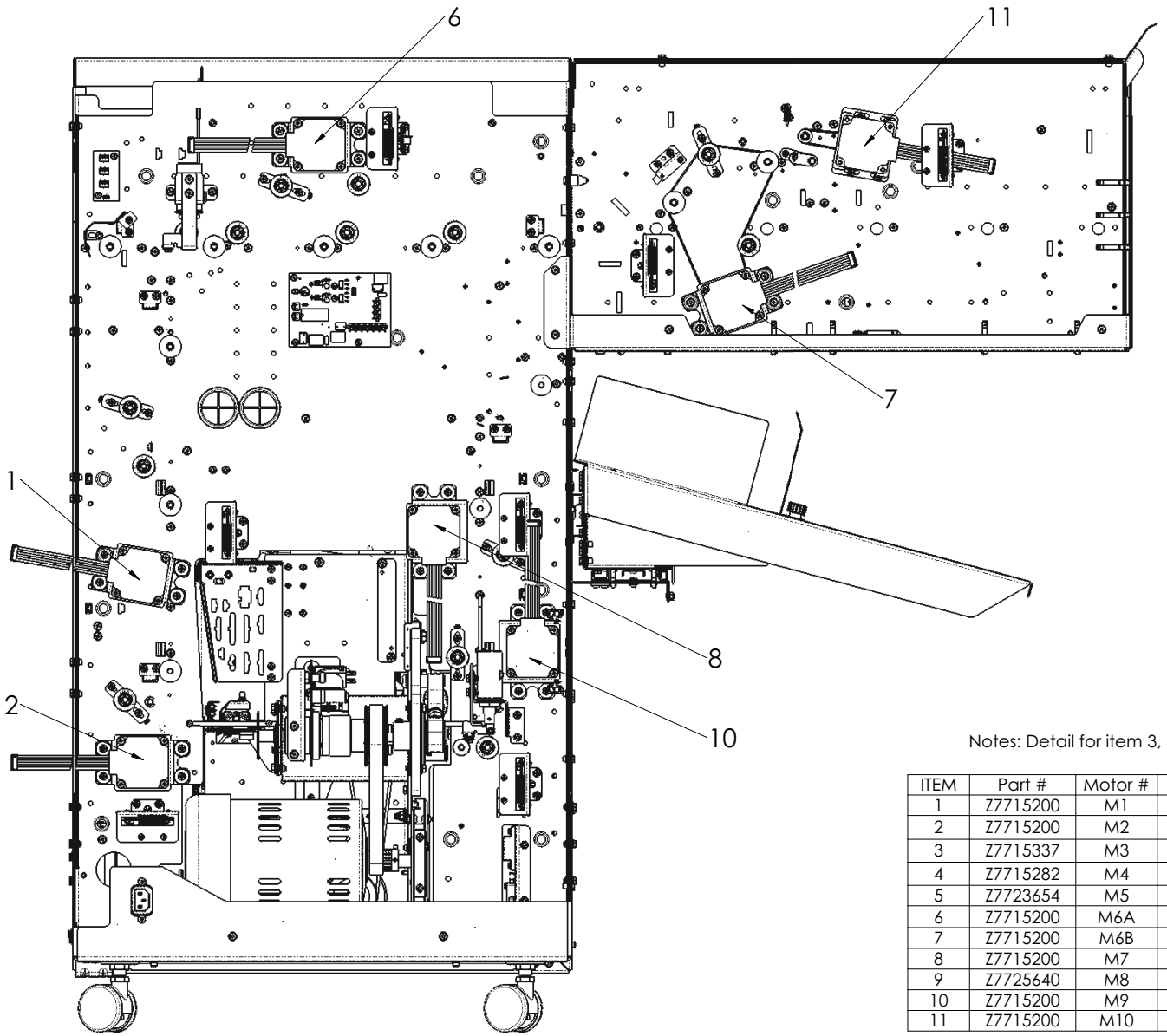
PL 2.7 Frame Assembly- Belts



ITEM	Part #	DESCRIPTION	QTY
1	Z7726113	BELT, GT2, 2MM, 323T, 6MM WIDE M1	1
2	Z7725535	BELT, GT2, 2MM, 166T, 6MM WIDE M2	1
3	Z7726112	BELT, GT2, 2MM, 617T, 6MM WIDE M6A	1
4	Z7725376	BELT, HDT, 5MM, 100T, 15MM WIDE M8	1
5	Z7726114	BELT, GT3, 3MM, 196T, 6MM WIDE M7	1
6	Z7725537	BELT, GT3, 2MM, 162T, 6MM WIDE M9	1
7	Z7715232	BELT, TIMING, 82 GROOVES, 5MM HTD	1
8	Z7715047	BELT, GT2, 2MM, 65T, 6MM WIDE M3/M4	2
9	Z7725122	BELT, GT2, 2MM, 98T, 6MM WIDE M5	1

Notes: Detail for item 8 and 9, please see the PL 5.1

PL 2.8 Frame Assembly- Motors

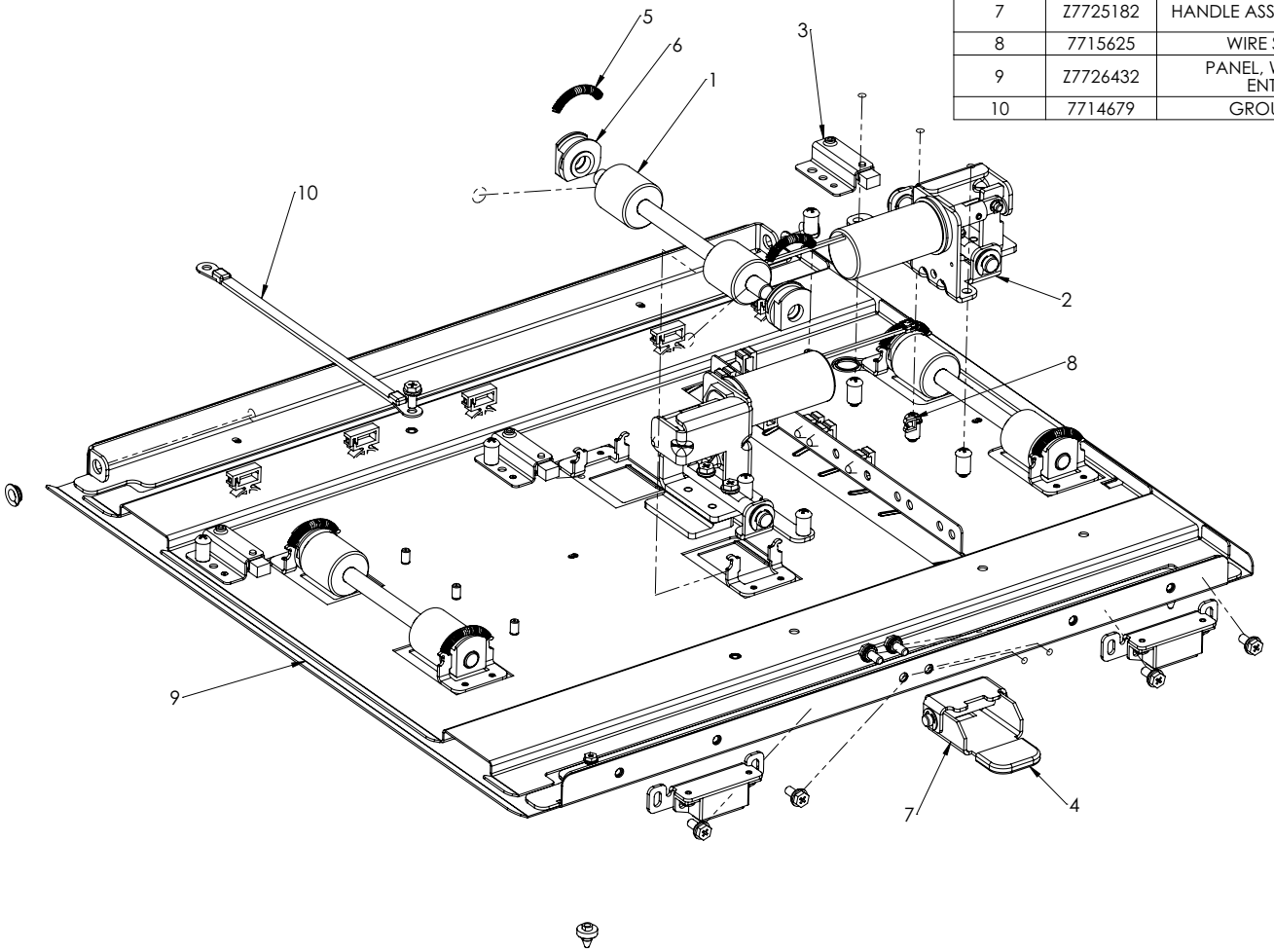


Notes: Detail for item 3, 4, 5 and 9, please see the PL5.1

ITEM	Part #	Motor #	DESCRIPTION	QTY
1	Z7715200	M1	PRE-ALIGN PAPER PATH MOTOR	1
2	Z7715200	M2	ACCELERATION MOTOR	1
3	Z7715337	M3	ALIGNER MOTOR #1	2
4	Z7715282	M4	ALIGNER MOTOR #2	1
5	Z7723654	M5	ALIGNER CARRIAGE MOTOR	1
6	Z7715200	M6A	BYPASS PAPER PATH MOTOR	1
7	Z7715200	M6B	BRIDGE MOTOR	1
8	Z7715200	M7	EXIT ROLLER MOTOR	1
9	Z7725640	M8	PRESSURE ROLLER MOTOR	1
10	Z7715200	M9	PURGE PAPER PATH MOTOR	1
11	Z7715200	M10	FEED MOTOR	1

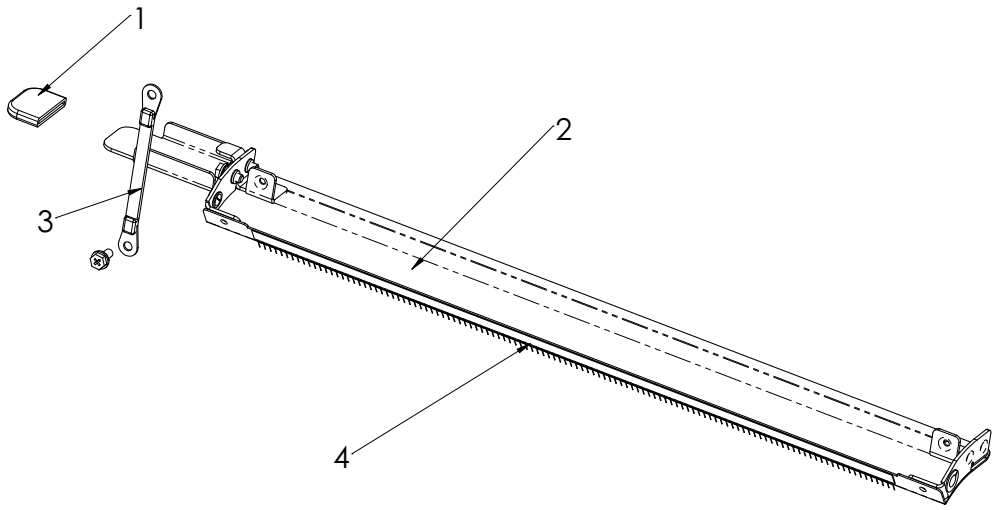
PL 3.2 Paper Path- Entrance Idler Panel

ITEM	Part #	DESCRIPTION	QTY
1	7715103	ROLLER ASSY, IDLER	3
2	7724133	MODULE,SOLENOID,DISENGAGING ROLLER	2
3	7715291	SENSOR AND BRACKET ASSY	3
4	Z7725181	CAP, RUBBER .032x1.00, BLUE	2
5	7717410	SPRING,TRANSPORT IDLR ROLLER	6
6	7715382	BEARING HOUSING	6
7	Z7725182	HANDLE ASSY, IDLER PANELS, BLUE	1
8	7715625	WIRE SADDLE, SHORT	1
9	Z7726432	PANEL, WELDMENT, IDLER, ENTRANCE, OLY	2
10	7714679	GROUND STRAP, M4	1



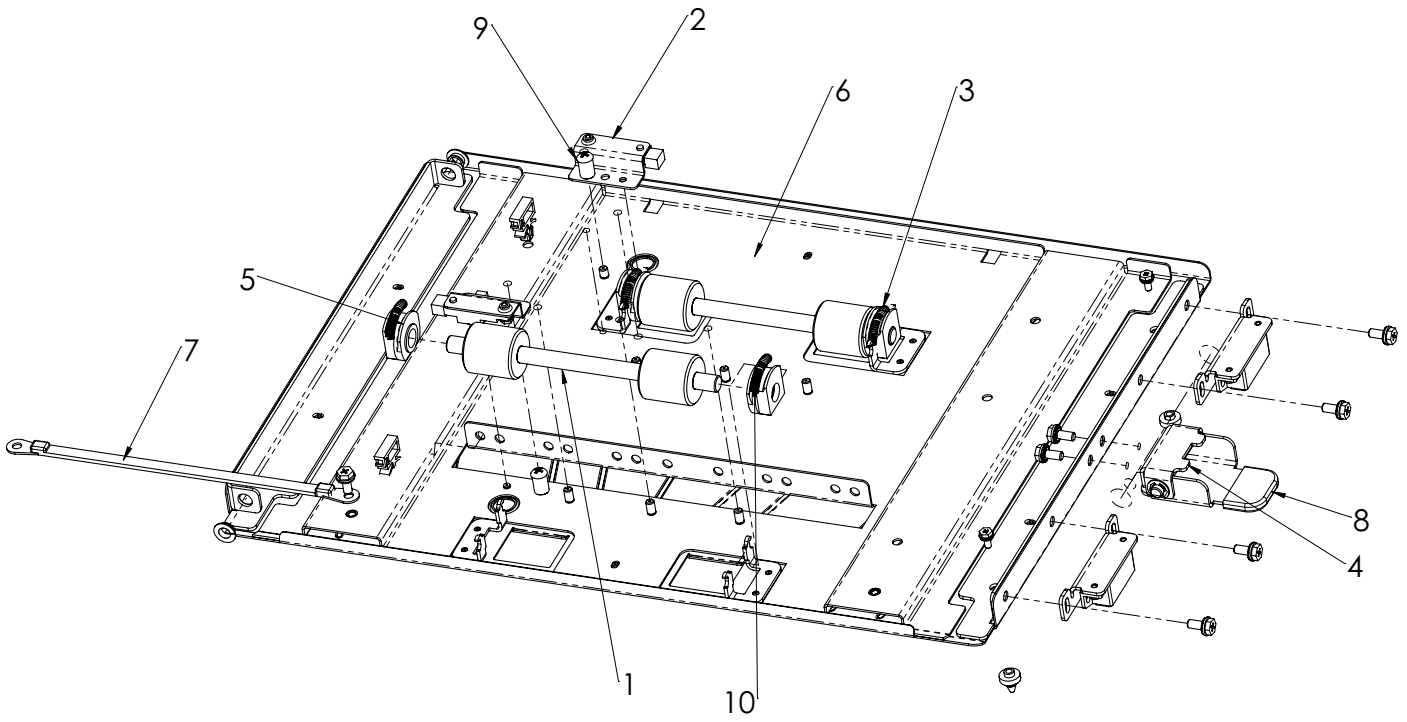
PL 3.3 Paper Path- Exit Corner Panel

ITEM	Part #	DESCRIPTION	QTY
1	Z7725181	CAP, RUBBER .032x1.00, BLUE	1
2	Z7725479	PANEL ASSEMBLY, LOWER, EXIT, OLY	1
3	7718630	GROUND STRAP, M4	1
4	7715893	BRUSH, ANTI STATIC, SUS, LONG	1



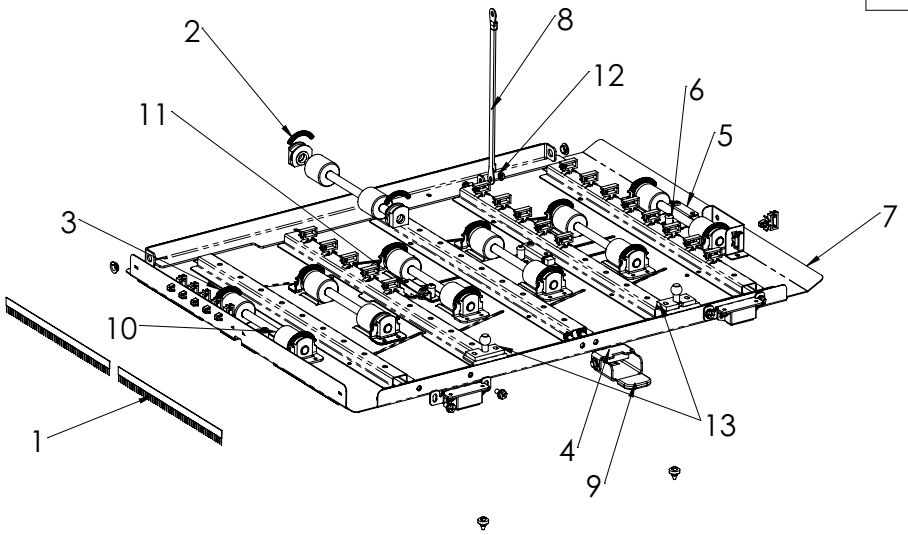
PL 3.4 Paper Path- Exit Idler Panel

ITEM	Part #	DESCRIPTION	QTY
1	7715103	ROLLER ASSY, IDLER	2
2	7715291	SENSOR AND BRACKET ASSY	2
3	Z7717410	SPRING,TRANSPORT IDLER ROLLERS	2
4	Z7725182	HANDLE ASSY, IDLER PANELS, BLUE	1
5	7715382	BEARING HOUSING ASSY	4
6	Z7725476	PANEL WELDMENT, IDLER, EXIT, OLY	1
7	7714679	GROUND STRAP, M4	1
8	7725181	CAP, RUBBER .032x1.00, BLUE	1
9	Z7729801 7715629	SCREW, BARREL, M4, 7MM DEEP	2
10	1935330	EXTENSION SPRING	2



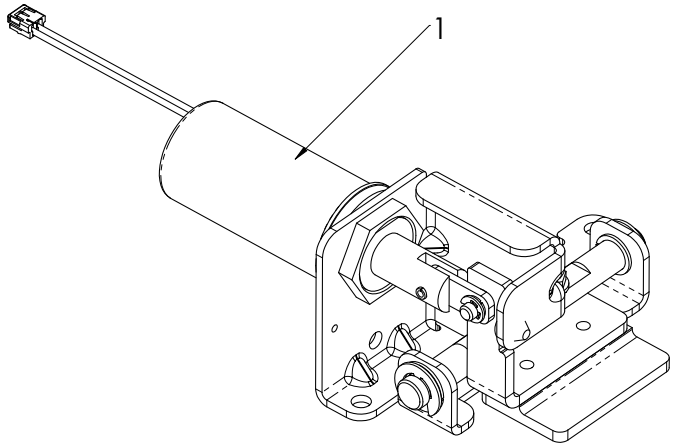
PL 3.5 Paper Path- Upper Bypass Panel

ITEM	Part #	DESCRIPTION	QTY
1	7718594	BRUSH, ANTI-STATIC	1
2	7717410	SPRING, TRANSPORT IDLER ROLLER	12
3	7715382	BEARING HOUSING ASSY	12
4	Z7725182	HANDLE ASSY, IDLER PANELS, BLUE	1
5	7715627	SENSOR AND BRACKET ASSY,S1	1
6	Z7729801 7715629	SCREW, BARREL, M4, 7MM DEEP	4
7	Z7725459	PANEL WELDMENT, BYPASS, UPPER, OLY	1
8	7714679	GROUND STRAP, M4	1
9	Z7725181	CAP, RUBBER .032x1.00, BLUE	1
10	7715103	ROLLER ASSY, IDLER	6
11	7715291	SENSOR AND BRACKET ASSY,	3
12	1824002	1824002 NUT, KEPS, M3	1
13	7715650	LATCH, BYPASS (TOP&BOTTOM)	2



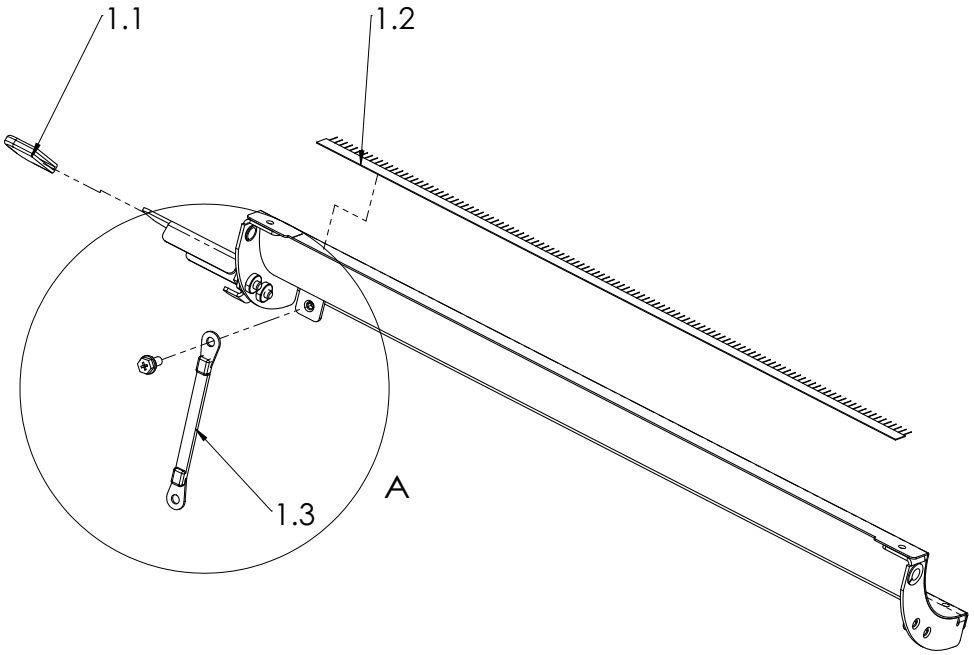
PL 3.6 Paper Path- Disengaging Roller Solenoid

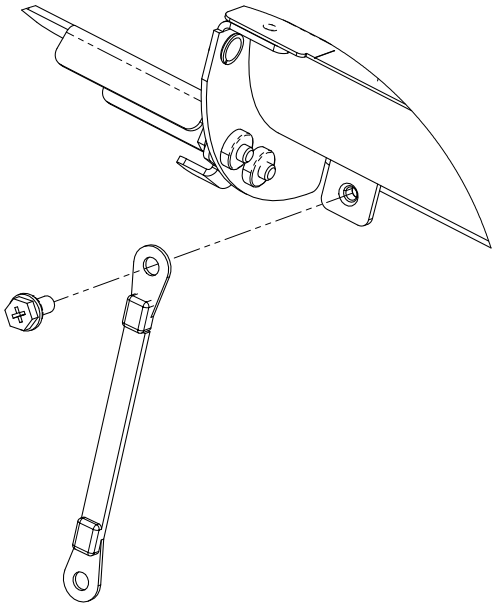
ITEM	Part #	DESCRIPTION	QTY
1	7724134	SOLENOID, LINK, SUB ASSEMBLY	1



PL 3.7 Paper Path- Entrance Corner Panel

ITEM	Part #	DESCRIPTION	QTY
1	Z7725486	PANEL ASSEMBLY LOEWR ENTRY.OLY	1
1.1	Z7725181	CAP, RUBBER .032x1.00, BLUE	1
1.2	7718593	BRUSH, ANTI STATIC, SUS, LONG	1
1.3	7718630	GROUND STRAP, SHORT, M4	1

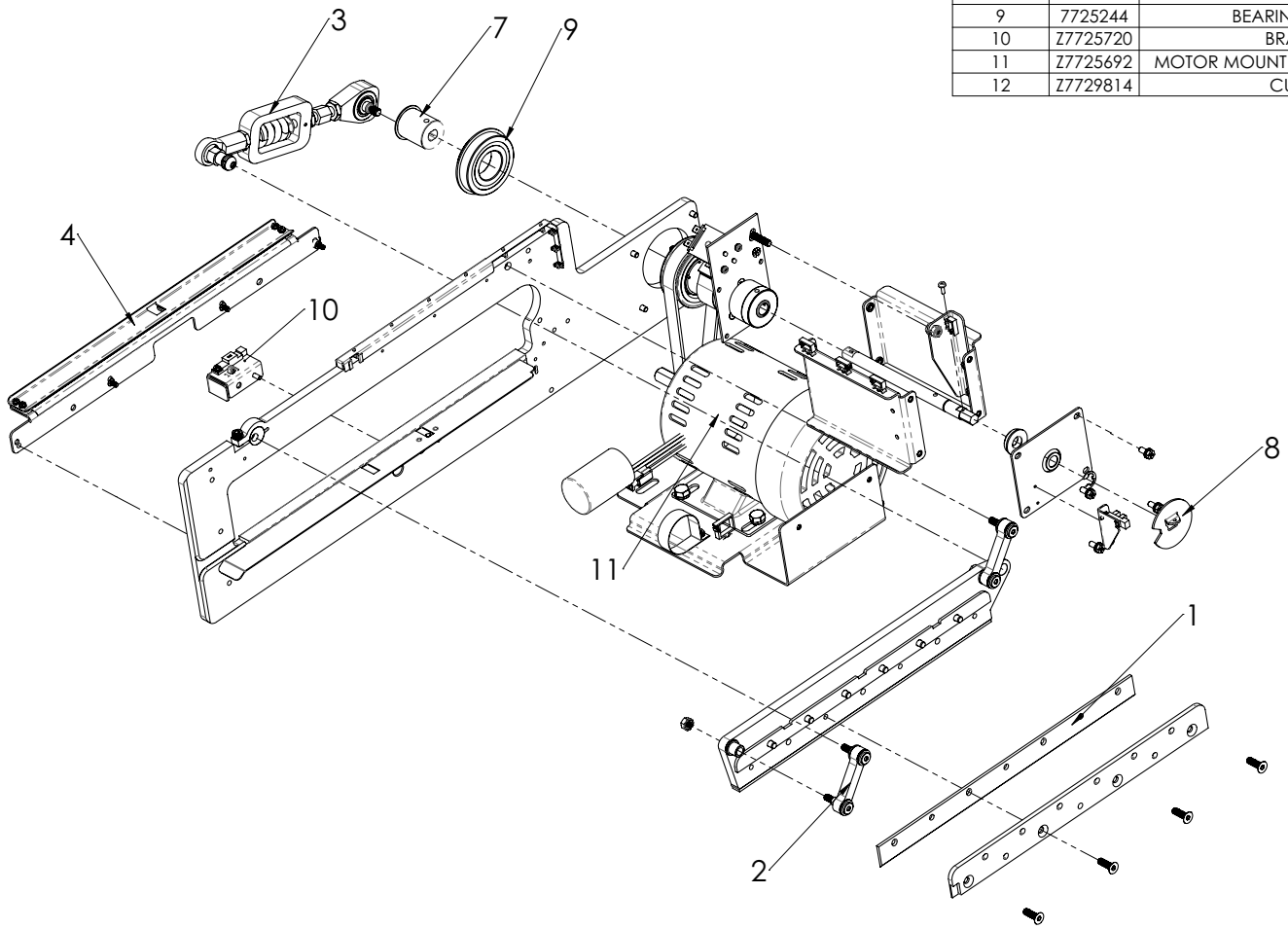




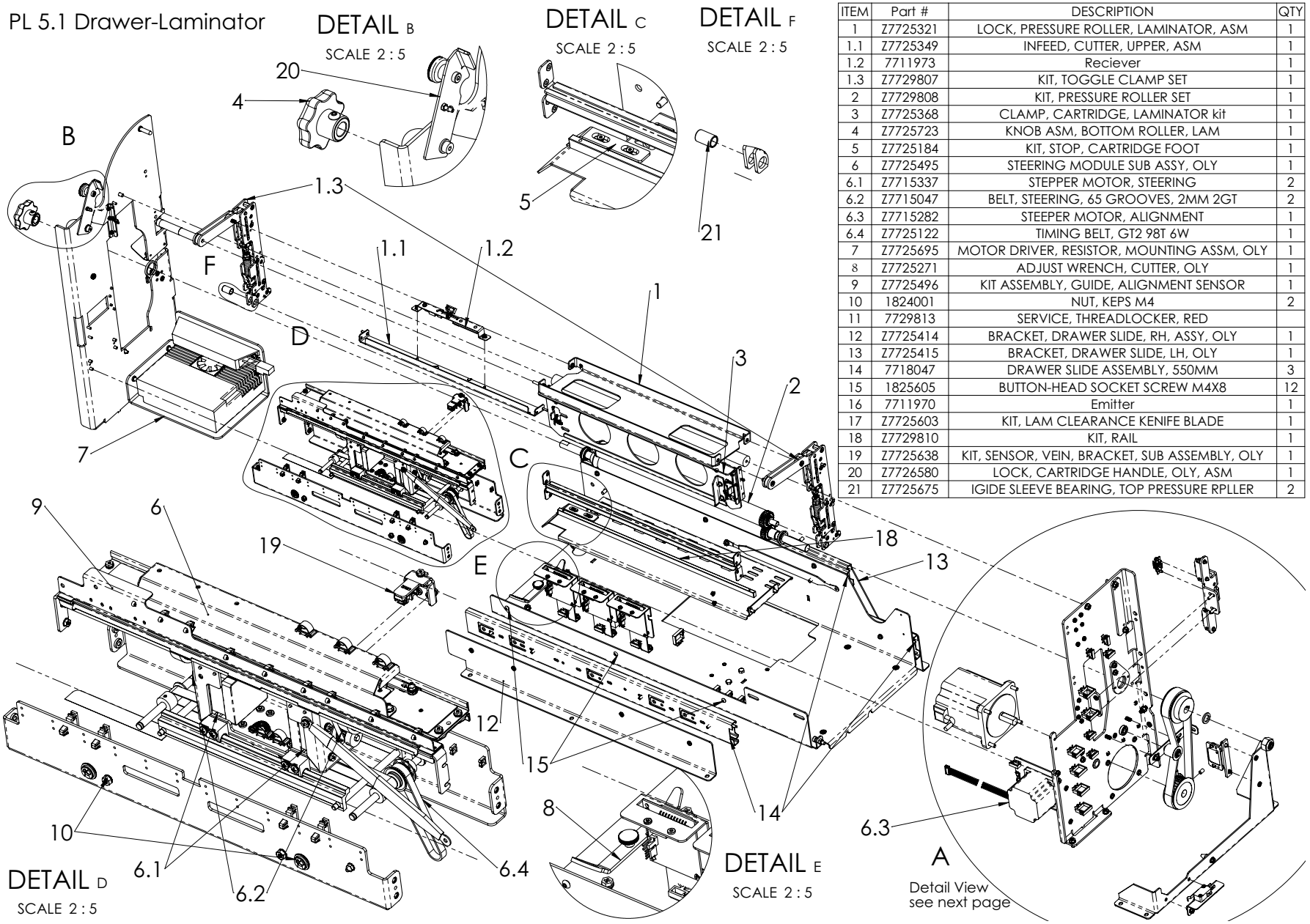
DETAIL A
SCALE 1 : 1

PL 4.1 Drawer - Cutter

ITEM	Part #	DESCRIPTION	QTY
1	Z7725215	BLADE, CUTTER, OLY	1
2	Z7725231	LINK, ARM, CUTTER, ASM	2
3	Z7725542	CONNECTING ROD ASSY, SPRING, OLY	1
4	Z7725250	OUTFEED WELDMENT, CUTTER	1
5	Z7729804	KIT, CLUTCH, OLYMPIA	1
6	Z7729805	KIT, PULLEY, OLYMPIA	1
7	Z7725243	CRANK, OLYMPIA	1
8	Z7725266	DISC SENSOR KIT	1
9	7725244	BEARING, FLANGED, 30X62X16	1
10	Z7725720	BRACKET, SENSOR, S22	1
11	Z7725692	MOTOR MOUNT ASSEMBLY, CUTTER, OLY, 115V kit	1
12	Z7729814	CUT STICK PACK OF 5	1

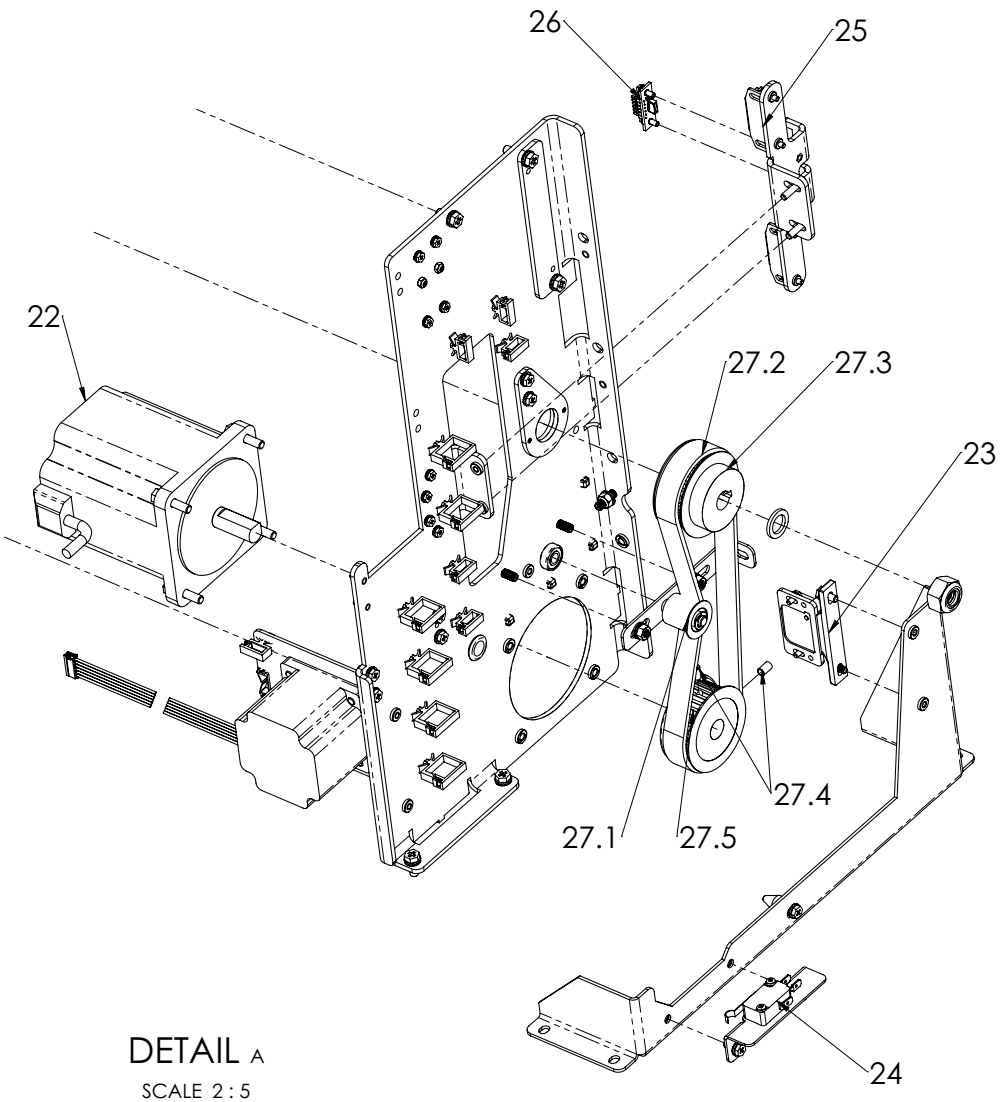


PL 5.1 Drawer-Laminator



ITEM	Part #	DESCRIPTION	QTY
1	Z7725321	LOCK, PRESSURE ROLLER, LAMINATOR, ASM	1
1.1	Z7725349	INFEED, CUTTER, UPPER, ASM	1
1.2	7711973	Reciever	1
1.3	Z7729807	KIT, TOGGLE CLAMP SET	1
2	Z7729808	KIT, PRESSURE ROLLER SET	1
3	Z7725368	CLAMP, CARTRIDGE, LAMINATOR kit	1
4	Z7725723	KNOB ASM, BOTTOM ROLLER, LAM	1
5	Z7725184	KIT, STOP, CARTRIDGE FOOT	1
6	Z7725495	STEERING MODULE SUB ASSY, OLY	1
6.1	Z7715337	STEPPER MOTOR, STEERING	2
6.2	Z7715047	BELT, STEERING, 65 GROOVES, 2MM 2GT	2
6.3	Z7715282	STEEPER MOTOR, ALIGNMENT	1
6.4	Z7725122	TIMING BELT, GT2 98T 6W	1
7	Z7725695	MOTOR DRIVER, RESISTOR, MOUNTING ASSM, OLY	1
8	Z7725271	ADJUST WRENCH, CUTTER, OLY	1
9	Z7725496	KIT ASSEMBLY, GUIDE, ALIGNMENT SENSOR	1
10	1824001	NUT, KEPS M4	2
11	7729813	SERVICE, THREADLOCKER, RED	
12	Z7725414	BRACKET, DRAWER SLIDE, RH, ASSY, OLY	1
13	Z7725415	BRACKET, DRAWER SLIDE, LH, OLY	1
14	7718047	DRAWER SLIDE ASSEMBLY, 550MM	3
15	1825605	BUTTON-HEAD SOCKET SCREW M4X8	12
16	7711970	Emitter	1
17	Z7725603	KIT, LAM CLEARANCE KENIFE BLADE	1
18	Z7729810	KIT, RAIL	1
19	Z7725638	KIT, SENSOR, VEIN, BRACKET, SUB ASSEMBLY, OLY	1
20	Z7726580	LOCK, CARTRIDGE HANDLE, OLY, ASM	1
21	Z7725675	IGIDE SLEEVE BEARING, TOP PRESSURE RPLLER	2

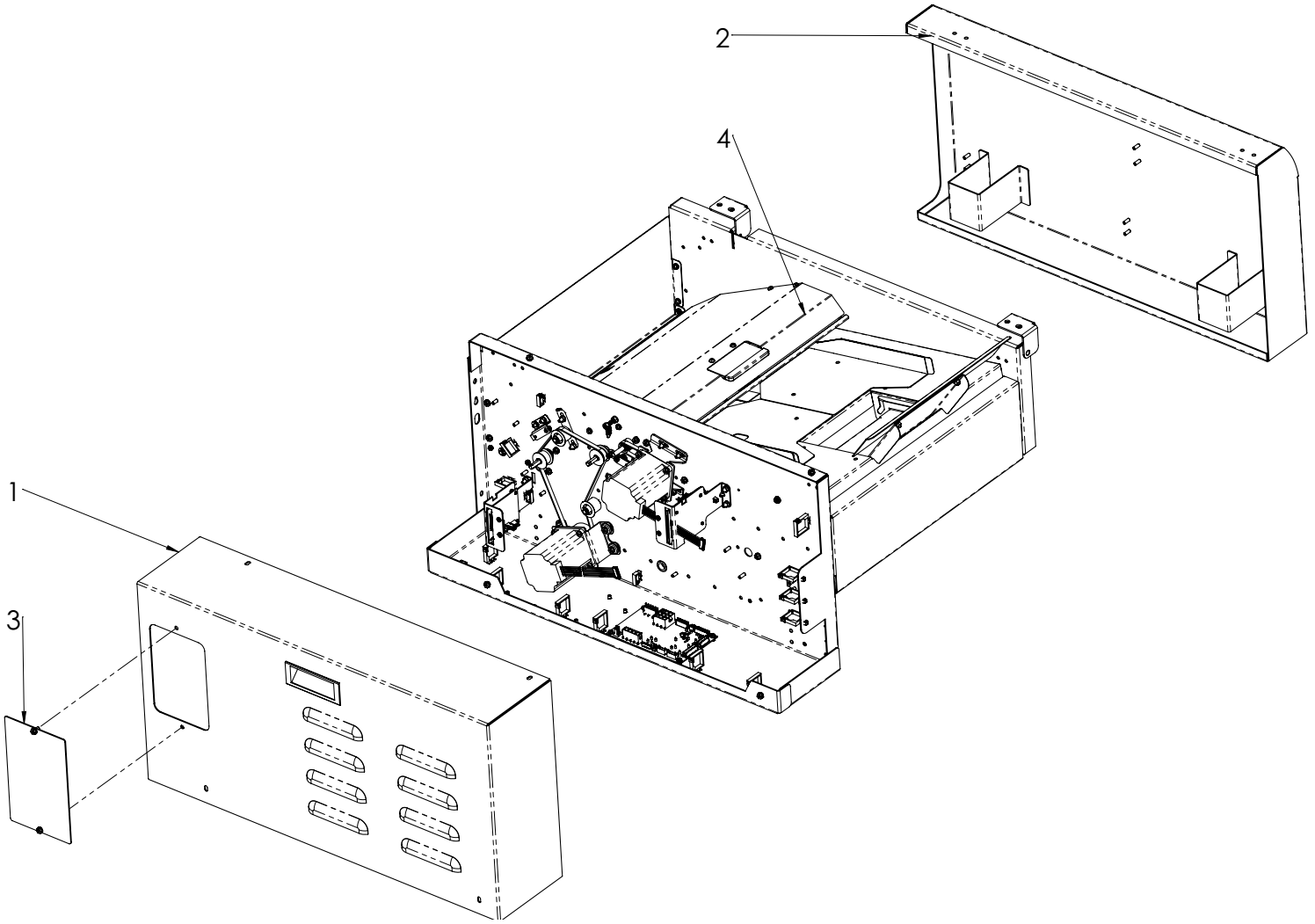
PL 5.1 Drawer-Laminator



ITEM	Part #	DESCRIPTION	QTY
22	Z7725640	STEPPER MOTOR, LAM, ASSY	1
23	Z7725417	LATCH, SOUTHCO, VIB RSISTANT, 10LBS	1
24	Z7725412	BRACKET, DRAWER SWITCH, OLYMPIA	1
25	Z7725700	CHIP READER, MAGNET MT, ASSY	1
26	Z7725384	CHIP READER	1
27	Z7729809	PULLEY KIT	1
27.1	Z7725703	KIT, TENSIONER ASM, OLYMPIA	1
27.2	Z7725376	BELT, HTD5MM, 100T X 15W	1
27.3	Z7725375	PULLEY, TIMING, HTD5MM, 32T X 12MM BORE	1
27.4	1823603	SET SCREW, NYLON PATCH, M5X6	4
27.5	Z7725374	PULLEY, TIMING, HTD5MM, 32T X 1/2IN BORE	1

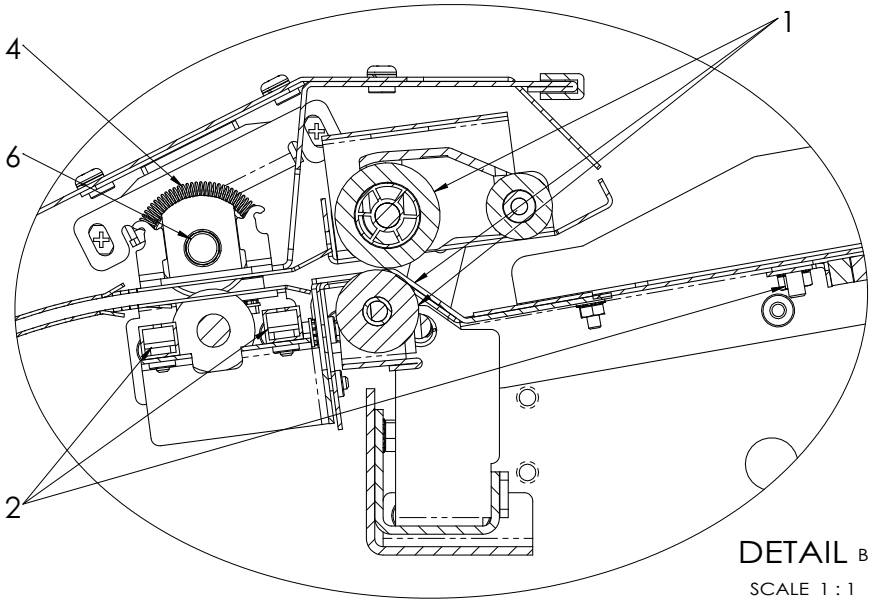
PL 7.1 Cover Assembly

ITEM	Part #	DESCRIPTION	QTY
1	Z7726491	COVER, FEEDER, REAR, NEARLINE	1
2	Z7726403	ASSY, FRONT DOOR, FEEDER, OLY, NEARLINE	1
3	Z7726528	COVER, UI ACCESS, OLY, NEARLINE	1
4	Z7726287	COVER, BAFFLE CURVED	1



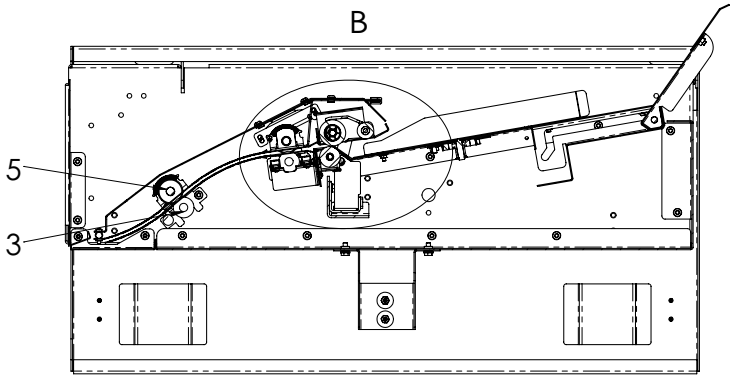
PL 7.2 Feeder

ITEM	Part #	DESCRIPTION	QTY
1	Z7726455	KIT, PICK ROLLER ASSEMBLY	1
2	7715193	SENSOR, PAPER PATH	3
3	7715093	ROLLER ASSY, DRIVE	1
4	7715380	SPRING, TRANSPORT IDLER ROLLERS (7717410)	6
5	7715103	ROLLER ASSEMBLY IDLER	1
6	Z7726420	ROLLER ASSEMBLY, IDLER, NARROW	2



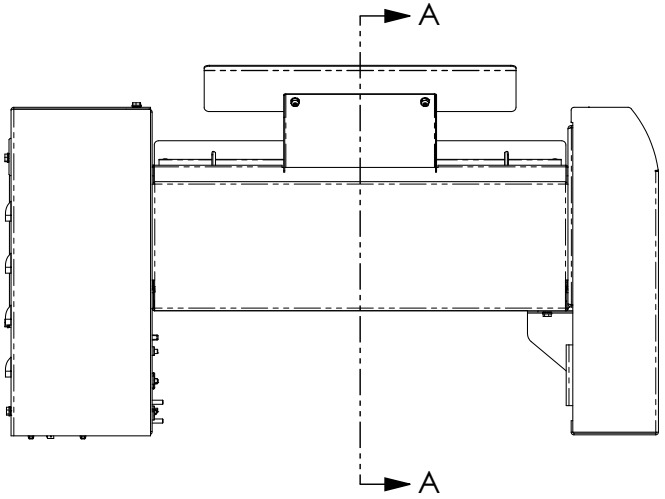
DETAIL B

SCALE 1 : 1



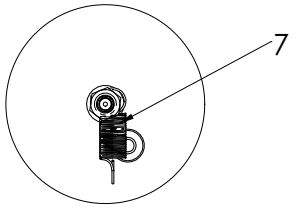
SECTION A-A

SCALE 1 : 4



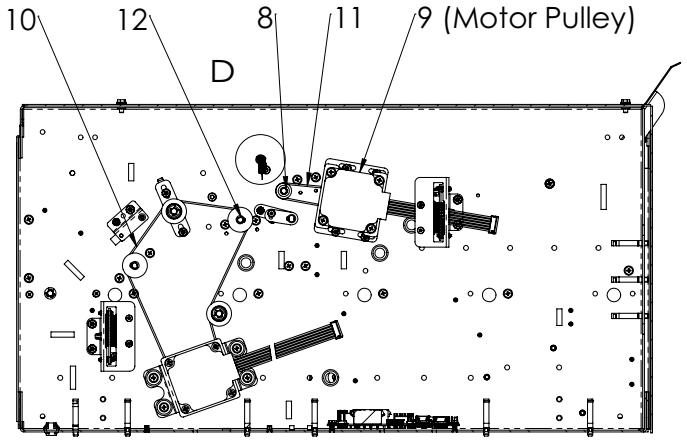
PL 7.2 Feeder Continued

ITEM	Part #	DESCRIPTION	QTY
7	Z7726286	SPRING, LEVER, FEEDER, OLY	1
8	Z7726496	PULLEY, TIMING, 2MM 2GT, 30 GROOVES, ALUMINUM	1
9	7716552	PULLEY, 20G, 2MM-GT2, 6W	1
10	Z7726447	BELT, GT2, 2MM, 258T, 6MM WIDE, 516MM LG	1
11	Z7726459	BELT, GT2, 2MM, 90T, 6MM WIDE, 180MM LG	1
12	Z7725499	ROOLER ASSY, TRIM	1



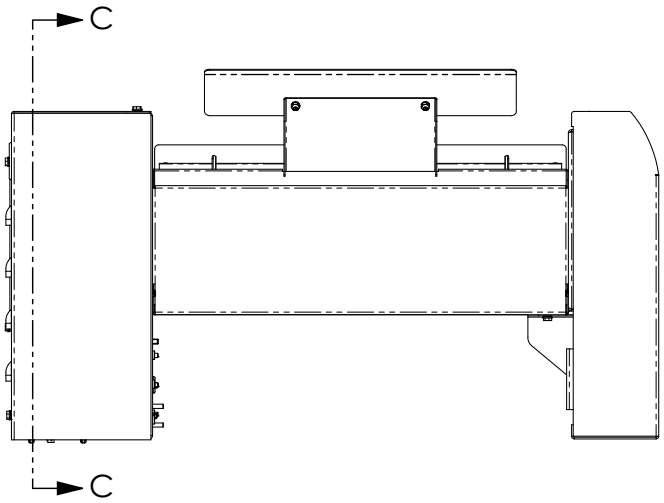
DETAIL D

SCALE 1 : 1

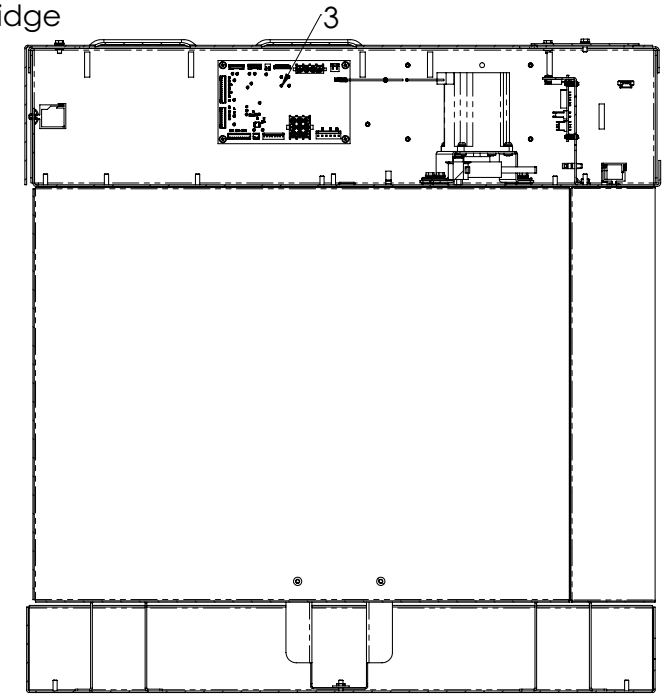


SECTION C-C

SCALE 1 : 4



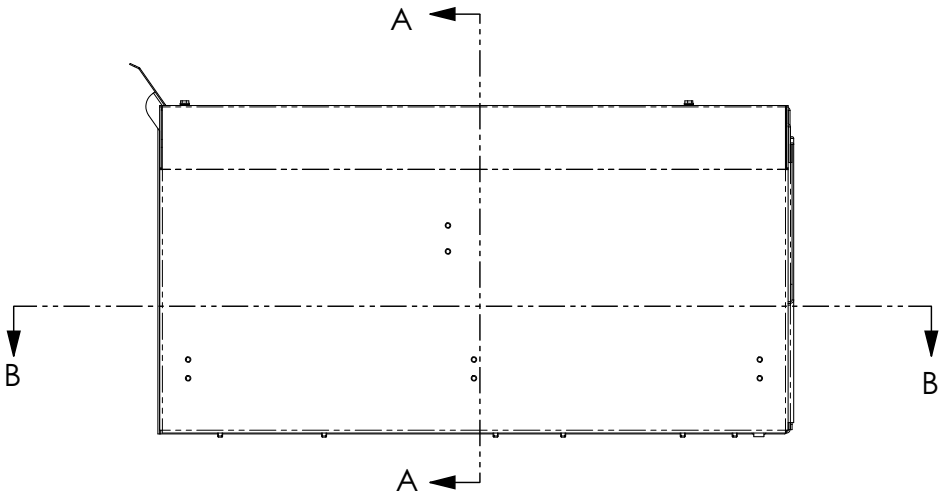
PL 7.3 Bridge

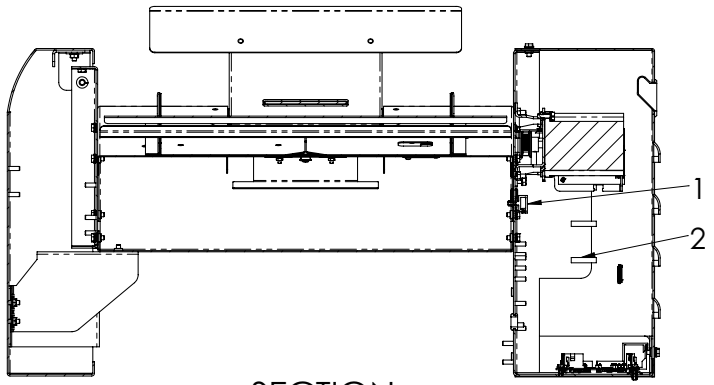


ITEM	Part #	DESCRIPTION	QTY'
1	7715817	WIRE SADDLE, SAMLL, LOCKING TOP, V-O	-
2	7715819	WIRE SADDLE, LARGE, LOCKING TOP, V-O	-
3	Z7725522	BOARD ASSY, AC, BREAKOUT BOARD	1

SECTION B-B

SCALE 1 : 4



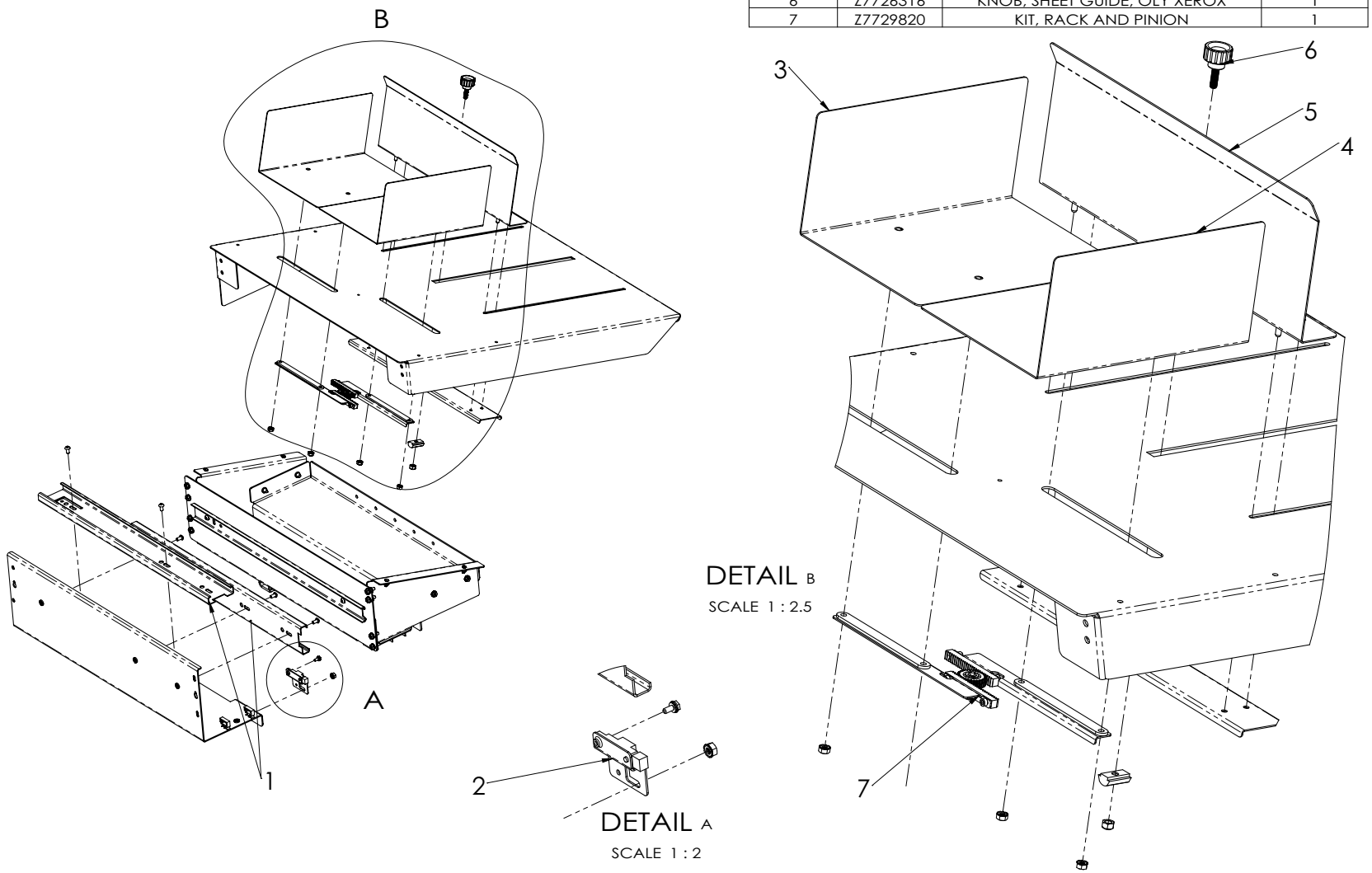


SECTION A-A

SCALE 1 : 4

PL 8.1 STACKER

ITEM	Part #	DESCRIPTION	QTY
1	Z7726175	KIT, RAIL, 400MM	2
2	Z7729819	KIT, STACKER HOME SENSOR	1
3	Z7726710	SHEET GUIDE, LEFT, ASM, OLY, NEARLINE	1
4	Z7726708	SHEET GUIDE, RIGHT, ASM, OLY, NEARLINE	1
5	Z7726714	SHEET STOP, BOTTOM, ASM, OLY, NEARLINE	1
6	Z7726316	KNOB, SHEET GUIDE, OLY XEROX	1
7	Z7729820	KIT, RACK AND PINION	1



PL 9.1 Electronics

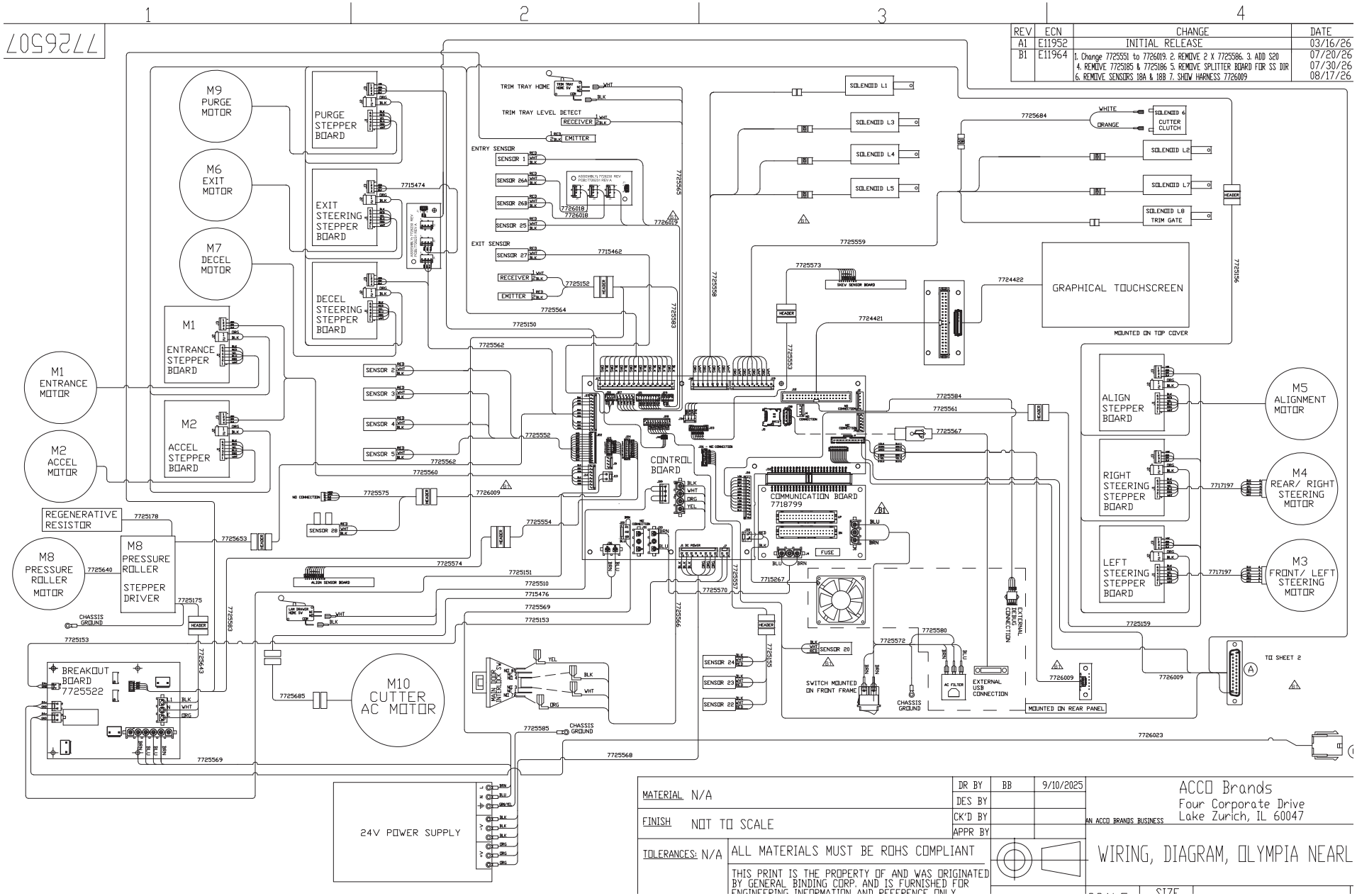
ITEM	Part #	DESCRIPTION
1	Z7725178	REGNERATIVE RESISTOR ASSY
2	Z7725636	RFI, POWER LINE FILTER, 10VSK7
3	Z7725522	BOARD ASSY, AC, OLYMPIA
4	Z7726150	BOARD, BREAKOUT, NFX, OLYMPIA, ASSEMBLY
5	Z7729824	BOARD, CONTROL, OLY, SERVICE, NEARLINE
6	Z7726230	BOARD, SIGNAL SPLITTER, 4 PIN, ASSEMBLY

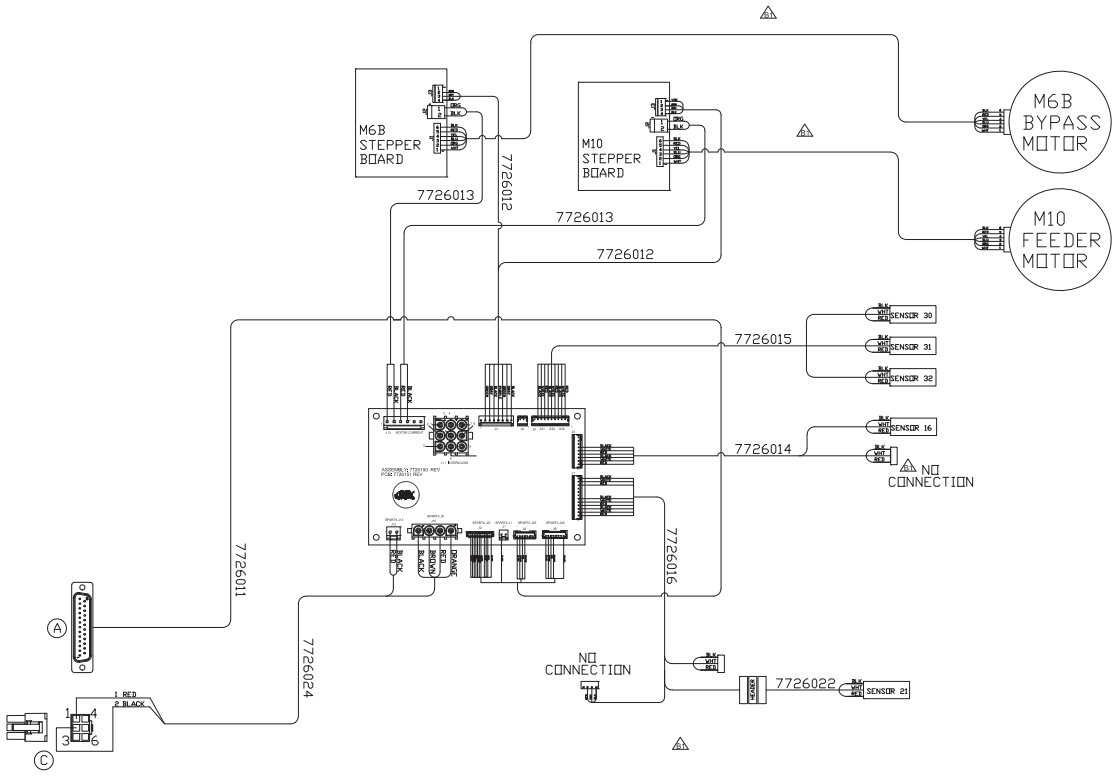
Cable Part Number Index

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	7717197	CABLE, STEPPER DRIVER TO MOTOR	2
2	7725150	CABLE, M9 MOTOR OLY	1
3	7725151	CABLE, BREAKOUT BOARD RELAY OLY	1
4	7725152	CABLE, S1B RECEIVER/EMITTER OLY	1
5	7725153	CABLE, 24V DC-to-DC CONVERTER OLY	1
6	7725155	CABLE, S22, S23 and S24 OLY	1
7	7725156	CABLE, M3/M4/M5 POWER OLY	1
8	7725159	CABLE, M3, M4 AND M5 DRV OLY	1
9	7726019	CABLE, SENSORS S1, S25, S26 SPLIT, OLY	1
10	7725552	CABLE, SENSORS S2,S3,S4,S5 OLY	1
11	7725553	CABLE, SENSORS, SKEW, BRD TO HDR OLY	1
12	7725554	CABLE, SENSORS, ALIGN, BRD TO HDR OLY	1
13	7725685	CABLE, AC MOTOR TO HDR	1
14	7725557	CABLE, SENSORS, S22, S23, S24 OLY	1
15	7725558	CABLE, SOLENOIDS, ENTRY, BRD TO HDR OLY	1
16	7725559	CABLE, SOLENOIDS, EXIT, BRD TO HDR OLY	1
17	7725560	CABLE, STEPPER MOTOR DRIVERS, M1, M2 OLY	1
18	7725561	CABLE, STEPPER MOTOR DRIVER, M3, M4, M5 OLY	1
19	7725562	CABLE, STEPPER MOTOR DRIVER, M6, M7, M8 OLY	1
20	7725564	CABLE, POWER, STEPPER, DRIVERS OLY	1
21	7725565	CABLE, CHIP TRAY, Waste Bin Level Sensor OLY	1
22	7725567	CABLE, USB OLY	1
23	7725568	CABLE, DC POWER ONLY	1
24	7725569	CABLE, AC TO PSU ONLY	1
25	7725570	CABLE, AC TO COMMUNICATION BOARD OLY	1
26	7725572	CABLE, INLET FILTER TO AC SWITCH OLY	1
27	7725573	CABLE, SKEW, HDR TO SENSOR OLY	1
28	7725574	CABLE, ALIGN, HDR TO SENSOR OLY	1
29	7725575	CABLE, BG, HDR TO SENSOR OLY	1
30	7725580	CABLE, AC FILTER, GROUND OLY	1
31	7725583	CABLE, THRU BEAM, S1B SENSOR OLY	1
32	7725584	CABLE, DEBUG TO PANEL OLY	1
33	7725585	CABLE, GROUND, PSU TO CHASSIS OLY	1
34	7718585	2501CH-10	1
35	7724421	CABLE, RIBBON TOUCHSCREEN, SPARTA 2.0	1
36	7725510	CABLE, SWITCH JUMPER, OLYMPIA	1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
37	7725643	CABLE, M8 POWER, BOARD TO ARM	1
38	7725175	AC DRIVER ASSEMBLY POWER CABLE	1
39	7725653	CABLE, AC STEPPER DRIVER, HDR, TERMINAL	1
40	7715462	CABLE SENSOR 27	1
41	7715476	CABLE, PUNCH MOTOR	1
42	7725684	CABLE, SOLENOID 6 TO HDR OLY	1
43	7726009	CABLE, MAIN HARNESS TO BRIDGE CONNECT #28/30	1
44	7726011	CABLE, BRIDGE CONNECT TO NFX, #28/30	1
45	7726012	CABLE, CABLE, NFX, STEPPER MOTOR DRIVERS	1
46	7726013	CABLE, CABLE, NFX, STEEPER MOTOR POWER	1
47	7726014	CABLE, CABLE, NFX SENSORS, TP SEN 16, TP SEN 17	1
48	7726015	CABLE, NFX SENSORS, S31, S32, S30	1
49	7726016	CABLE, CABLE SENSORS, TPSEN18, TPSEN19, TPSEN21	1
50	7726018	CABLE, SPLITTER TO SENSOR	2
51	7715474	CABLE, JUMPER, STEPPER	1
52	7726022	CABLE, SENSOR, STACKER, OLYMPIA	1
53	7726023	CABLE, MAIN HARNESS TO BRIDGE CONNECT, #18/22, NLO	1
54	7726024	CABLE, BRIDGE CONNECT TO NFX, #18/22, NLO	1
55	7725566	CABLE, DOOR INTERLOCK	1

Wiring


7726507
1
2
3
4
REV | ECN | CHANGE | DATE
A1 | E11952 | INITIAL RELEASE | 03/16/26
B1 | E11964 | 1. Change 7725551 to 7726019. 2. REMOVE 2 X 7725586. 3. ADD S20 4. REMOVE 7725185 & 7725186 5. REMOVE SPLITTER BOARD FOR SS DIR 6. REMOVE SENSORS 19A & 19B 7. SHOW HARNESS 7726009 | 07/20/26 07/30/26 08/17/26
M9 PURGE MOTOR
M6 EXIT MOTOR
M7 DECEL MOTOR
M1 ENTRANCE MOTOR
M2 ACCEL MOTOR
M8 PRESSURE ROLLER MOTOR
M10 CUTTER AC MOTOR
PURGE STEPPER BOARD
EXIT STEERING STEPPER BOARD
DECEL STEERING STEPPER BOARD
M1 ENTRANCE STEPPER BOARD
M2 ACCEL STEPPER BOARD
M8 PRESSURE ROLLER STEPPER DRIVER
REGENERATIVE RESISTOR
BREAKOUT BOARD 7725522
24V POWER SUPPLY
CONTROL BOARD
COMMUNICATION BOARD 7718799
GRAPHICAL TOUCHSCREEN
MOUNTED ON TOP COVER
MOUNTED ON REAR PANEL
ALIGN STEPPER BOARD
RIGHT STEERING STEPPER BOARD
LEFT STEERING STEPPER BOARD
M5 ALIGNMENT MOTOR
M4 REAR/ RIGHT STEERING MOTOR
M3 FRONT/ LEFT STEERING MOTOR
SOLENOID L1
SOLENOID L3
SOLENOID L4
SOLENOID L5
SOLENOID 6 CUTTER CLUTCH
SOLENOID L2
SOLENOID L7
SOLENOID L8 TRIM GATE
TRIM TRAY HOME
TRIM TRAY LEVEL DETECT
ENTRY SENSOR
EXIT SENSOR
SENSOR 1
SENSOR 26A
SENSOR 26B
SENSOR 25
SENSOR 27
SENSOR 2
SENSOR 3
SENSOR 4
SENSOR 5
SENSOR 28
SENSOR 20
SENSOR 24
SENSOR 23
SENSOR 22
RECEIVER
EMITTER
FUSE
AC FILTER
SWITCH MOUNTED ON FRONT FRAME
EXTERNAL USB CONNECTION
CHASSIS GROUND
TO SHEET 2
MATERIAL N/A
FINISH NOT TO SCALE
TOLERANCES: N/A
ALL MATERIALS MUST BE ROHS COMPLIANT
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Lake Zurich, IL 60047
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WIRING, DIAGRAM, OLYMPIA NEARL
SIZE



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1 | 2 | 3 | 4