



**ASTRO
FF14
FRICTION FEEDER
SERVICE
MANUAL**

Astro Machine Corp.
630 Lively Blvd.
Elk Grove Village, IL 60007
Phone: (847) 364-6363
Fax: (847) 364-9898
www.astromachine.com

SAFETY PRECAUTIONS

THIS EQUIPMENT PRESENTS NO PROBLEM WHEN USED PROPERLY. HOWEVER, CERTAIN SAFETY RULES SHOULD BE OBSERVED WHEN OPERATING THE ASTROJET FF14 FEEDER.

BEFORE USING THE PRINTER, YOU SHOULD READ THIS MANUAL CAREFULLY AND FOLLOW THE RECOMMENDED PROCEDURES, SAFETY WARNINGS, AND INSTRUCTIONS:

- ✓ Keep hands, hair, and clothing clear of rollers and other moving parts.
- ✓ Avoid touching moving parts or materials while the machine is in use. Before clearing a jam, be sure machine mechanisms come to a stop.
- ✓ Always turn off the machine before making adjustments, cleaning the machine, or performing any maintenance covered in this manual.
- ✓ Use the power cord supplied with the machine and plug it into a properly grounded wall outlet located near the machine and easily accessible. Failure to properly ground the machine can result in severe personal injury and/or fire.
- ✓ The power cord and wall plug is the primary means of disconnecting the machine from the power supply.
- ✓ DO NOT use an adapter plug on the line cord or wall outlet.
- ✓ DO NOT remove the ground pin from the line cord.
- ✓ DO NOT route the power cord over sharp edges or trapped between furniture.
- ✓ Avoid using wall outlets that are controlled by wall switches, or shared with other equipment.
- ✓ Make sure there is no strain on the power cord caused by jamming between the equipment, walls or furniture.
- ✓ DO NOT remove covers. Covers enclose hazardous parts that should only be accessed by a qualified service representative. Report any damage of covers to your service representative.
- ✓ This machine requires periodic maintenance. Contact your authorized service representative for required service schedules.
- ✓ To prevent overheating, do not cover the vent openings.
- ✓ Use this equipment only for its intended purpose.

In addition, follow any specific occupational safety and health standards for your workplace or area.

This manual is intended solely for the use and information of Astro Machine Corp., its designated agents, customers, and their employees. The information in this guide was obtained from several different sources that are deemed reliable by all industry standards. To the best of our knowledge, that information is accurate in all respects. However, neither Astro Machine Corp. nor any of its agents or employees shall be responsible for any inaccuracies contained herein.

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SECTION 1 – INSTALLATION AND OPERATION

The FF14 feeder is designed to feed material from single sheets up to 3/8” in thickness. The size of the material can vary from 2” Long by 3” Wide up to 15” Long by 14” Wide. It is ideal for feeding into conveyor transport systems, folding and stitching machines, packaging and inkjet applications. Speed of up to 40,000 pieces per hour (depending on the size and material) is possible.

Assembly and Installation

After unpacking the feeder install the two side guides as shown using the four screws supplied (two on each side)

Place the feeder on a flat level surface. The feeder can be permanently mounted by removing the four rubber feet.

Plug the feeder into a properly grounded receptacle.

NOTE: There are two versions of the FF14 feeder. The FF14 operates on 115 VAC and the FF14E operates on 220 VAC.



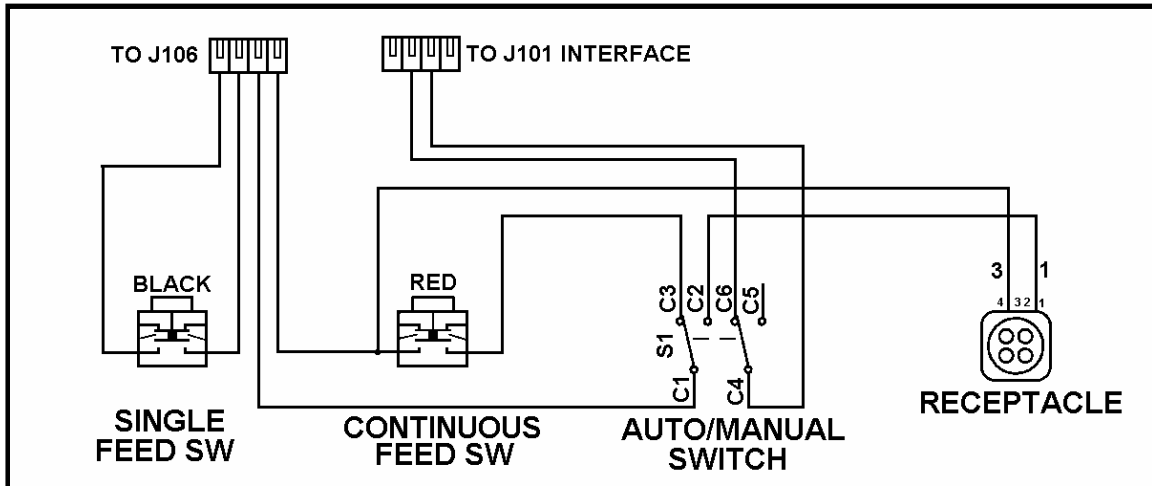
Controlling the Feeder Remotely

The FF14 feeder can be controlled remotely. To have the feeder start feeding from a remote signal, the signal must be wired through the **INTERFACE** connector on the feeder. The **AUTO/MANUAL** switch must be set to the **AUTO** position. Below is a wiring diagram of the interface connector and the switching circuitry that accomplishes this. The signal can come from a closed contact of a relay on the host machine.

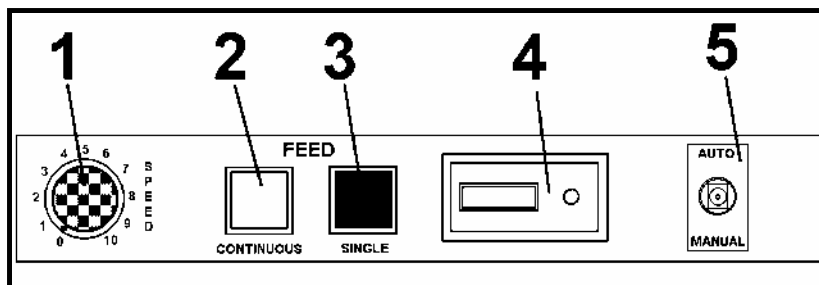
WARNING

WIRING THE FF14 FEEDER FOR AUTOMATIC OPERATION SHOULD ONLY BE DONE BY A TECHNICIAN COMPETENT IN ELECTRONIC INSTALLATIONS.

INSTALLATION AND OPERATION

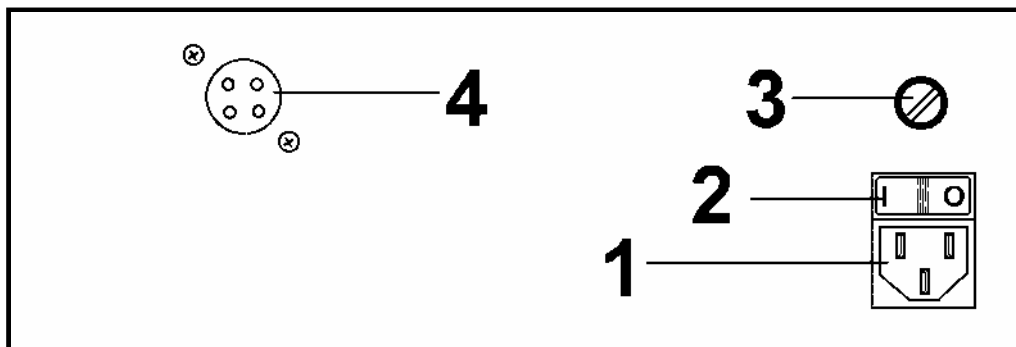


Feeder Control Panel



1	SPEED – The speed control knob is used to vary the speed of the feeder in either the MANUAL or AUTO mode to provide separation between the pieces.
2	CONTINUOUS – When this switch is pressed, and the feed select switch is in the MANUAL position the feeder will feed continuously.
3	SINGLE – Pressing this switch when the feed select switch is in MANUAL will permit the feeder to feed a single piece of media.
4	BATCH COUNTER – The batch counter can be reset to keep track of the pieces run on each job.
5	AUTO/MANUAL – When the feed select switch is in MANUAL , the operator can feed one or continuous pieces of media by pressing the FEED switches. When in AUTO , the interface controls the feeder through an external device.

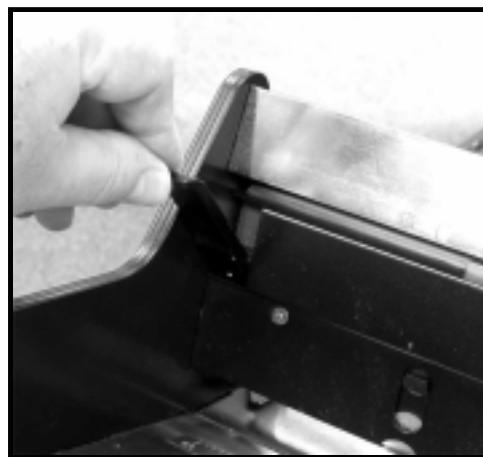
Front Panel



1	POWER RECEPTACLE – Plug the power cord here. Make sure that power cord is only plugged into a properly grounded receptacle.
2	ON/OFF SWITCH – Power to the feeder is controlled by this switch.
3	FUSE HOLDER – The fuse protects the electronics and motor in the feeder.
4	INTERFACE CONNECTOR – This connector can be used to control the FF14 feeding. (See Interfacing for more information.)

Feeder Setup and Operation

1. Release the separator locking lever and raise the separators to their up position as shown.



2. Place the media under the separators and release them so that they rest on the media. Then lock the separators in position using the separator-locking lever.

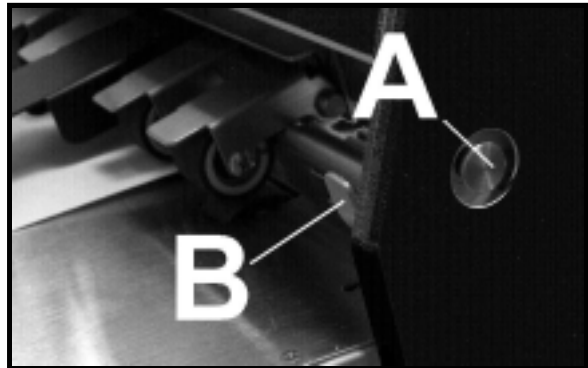


INSTALLATION AND OPERATION

- Adjust the side guides to within 1/32" of the media. Then adjust the rear guide so that the media is raised approximately 1/2". (For heavy thick media this may not be required.)



- Adjust the exit roller pressure by pushing in on the pressure control lock button [A] and raising or lowering the adjusting lever [B]. For plain paper or envelopes the lever should be in the down position, for thicker material the lever should be adjusted so that the media is fed without any bounce in the exit roller assembly.



- Turn on the feeder and feed one piece with the speed control set to low speed (1 or 2). Stop the feeder with the piece half way through the exit. Then adjust the feed sensor so that it is pointed directly at the piece as it exits the feeder. The sensor prevents double feeding in case of a jam or stoppage.



- Turn the feeder power switch **ON**. Set the **AUTO/MANUAL** switch to **MANUAL** and press the **SINGLE** feed button for single sheet feeding or the **CONTINUOUS** feed button for continuous feeding.

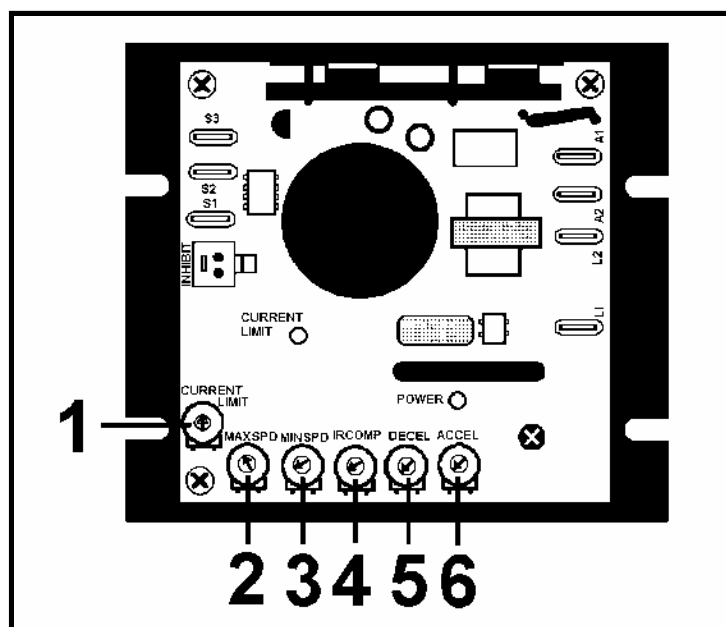
SECTION 2 - ADJUSTMENTS

Speed Control Adjustment

REQUIREMENT: To adjust the maximum speed of the feeder.

ADJUSTMENT:

<ol style="list-style-type: none"> 1. Turn off the feeder, remove the side and rear cover. 2. Adjust the following potentiometers on the Speed Control PC Board as follows: <ol style="list-style-type: none"> A. CURRENT LIMIT [1] center of adjustment. B. IR COMP [4] Slightly clockwise from fully off. C. DECEL [5] and ACCEL [6] adjust to minimum setting counterclockwise. 3. Connect a DC volt meter between terminals A1 and A2. 4. Plug the feeder into the power outlet and turn it on. 	<ol style="list-style-type: none"> 5. Adjust the Speed Control knob on the feeder control panel to the lowest speed setting (all the way counterclockwise). Then adjust the MIN SPD [3] to get 1 V DC. 6. Adjust the Speed Control knob on the feeder control panel to the highest speed setting (fully clockwise). Then Adjust the MAX SPD pot [2] to get 100 V DC. 7. Unplug the machine, disconnect the meter and replace the covers.
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Sensor Adjustment

The sensors on the FF14 Friction Feeder do not require adjustment.

SECTION 3 – MAINTENANCE & DISASSEMBLY

Maintenance

WARNING

THE ASTROJET FF14 FEEDER IS A PRECISION MACHINE THAT SHOULD BE CLEANED REGULARLY TO INSURE MANY YEARS OF SERVICE. BEFORE PERFORMING ANY MAINTENANCE, DISCONNECT THE MACHINE FROM ITS POWER SOURCE!

The AstroJet FF-14 must be cleaned regularly of accumulated paper dust and ink. Depending on the types of media that are run, paper dust may accumulate within the printer and on the transport. Always unplug it from the power receptacle and remove the covers.

The internal areas are best cleaned with a vacuum that has a soft brush attachment to help loosen the dust particles. Take care not to damage the PC Boards or electrical wiring.

The exterior of the machine may be cleaned with any standard household cleaner, which is non-abrasive.

CAUTION

NEVER SPRAY OR POUR CLEANERS DIRECTLY ON OR INTO THE ASTROJET FF14 FEEDER. EXCESS LIQUID COULD HARM ELECTRONIC PARTS. ALWAYS DAMPEN A RAG WITH THE CLEANER AND APPLY IT TO THE PARTS TO BE CLEANED.

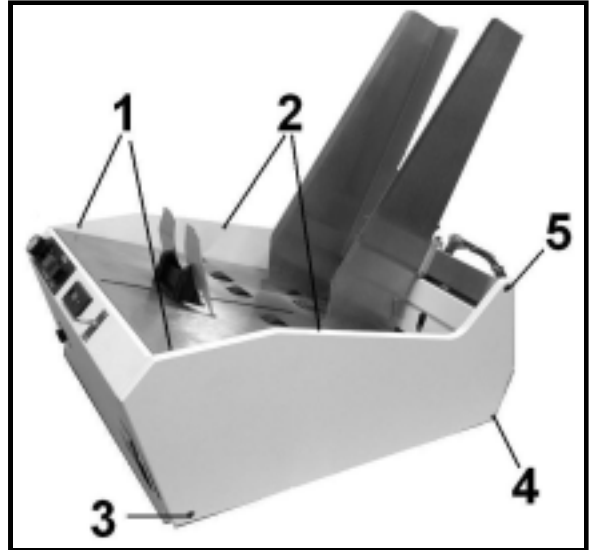
Cleaning the Media Sensor

Periodically check the media sensor located in the print carriage area of the printer section. The sensor should be clean and free of accumulated paper dust. Use a vacuum with a soft brush attachment or dry compressed air to remove the dust.

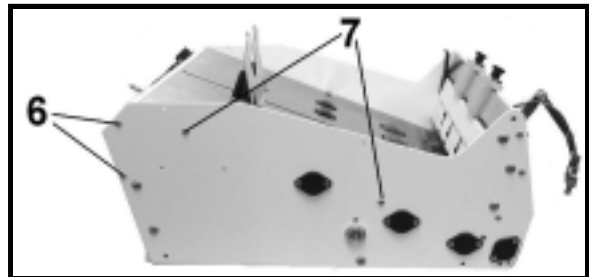
Replacing the Feed Rollers

To replace the feed rollers on the FF14 Feeder follow the steps below:

1. Unplug the feeder from its power source.
2. Remove the Side Paper Guides (2 screw each). Then remove the five screws [1 – 5] that attach the Left and Right Hand Side Covers to the machine and remove the side covers.



3. Remove the two screws [6] on each side that attach the Rear Cover to the frame, and then remove the two screws [7] on each side that attach the Center Plate to the machine frames. Then lift the Center Plate from the machine.



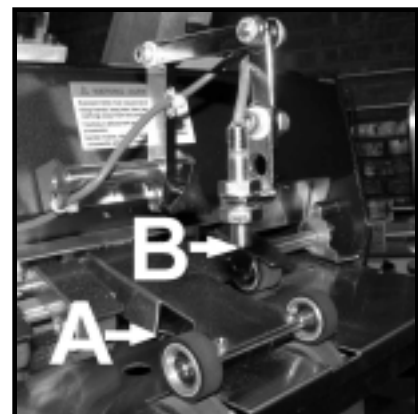
4. Remove the two screws from Shaft Bearings on each side of the Roller Assembly.
5. Remove the Bearings and then slide the Shaft to one side and lift it from the machine.
6. Replace the parts in reverse order.

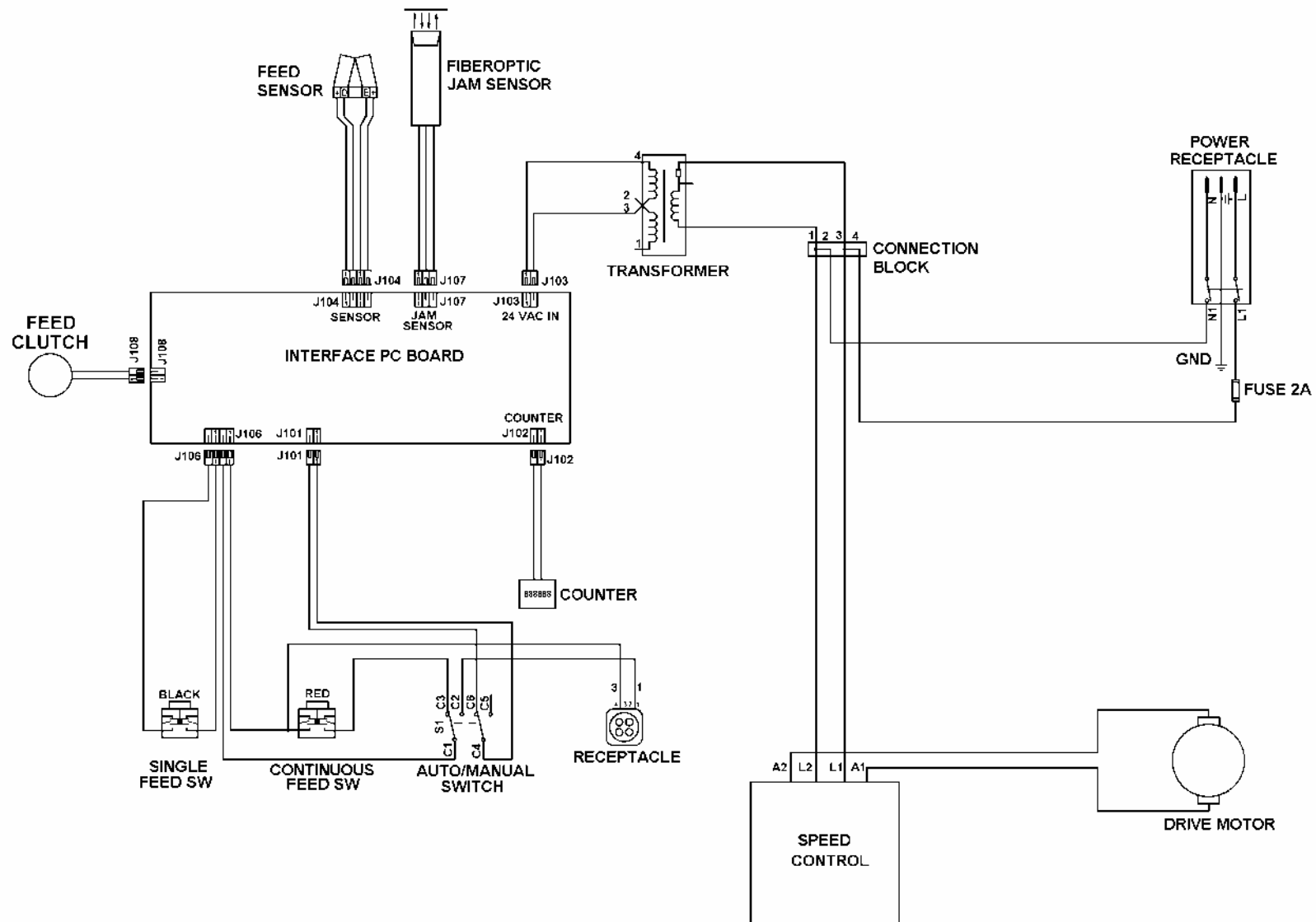
Cleaning the Sensors

The two sensors on the FF14 should be kept clean. The Media Sensor [A] is located under the exit guide rollers as shown. The Jam Sensor [B] is located on the jam sensor support. Use a Q-tip to clean the sensor.

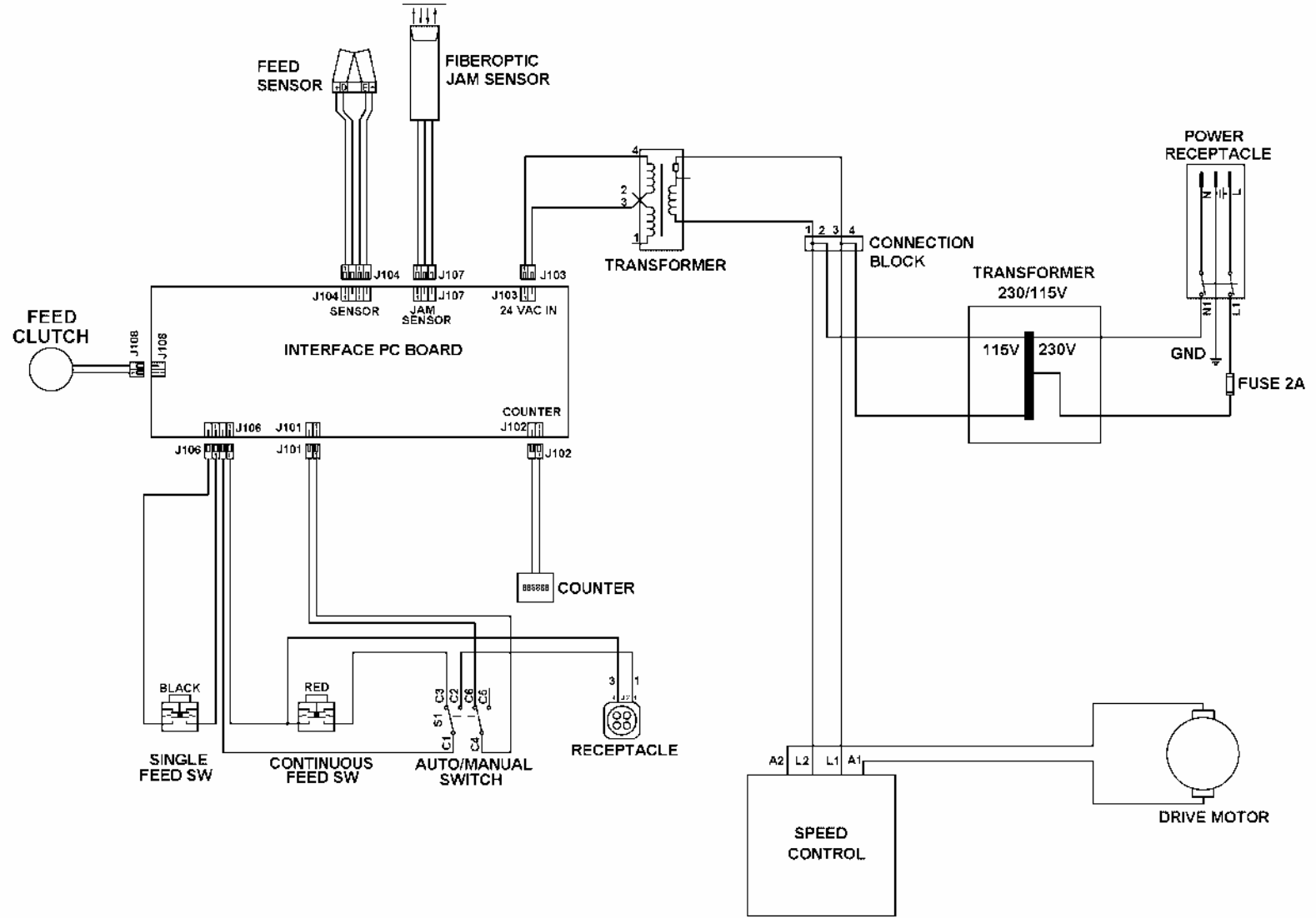
CAUTION

**DO NOT USE SOLVENTS OR
ABRASIVES TO CLEAN THE SENSORS.**





FF-14N 110V Schematic



FF-14N 220V Schematic

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