



ASTRO

ASF-3000

VACUUM SHUTTLE FEEDER



Operator Manual

SAFETY PRECAUTIONS

THIS EQUIPMENT PRESENTS NO PROBLEM WHEN USED PROPERLY. OBSERVE SAFETY RULES WHEN OPERATING SHUTTLE FEEDER.

BEFORE USING FEEDER, READ THIS MANUAL CAREFULLY AND FOLLOW 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 machine is in use. Before clearing a jam, be sure machine mechanisms come to a stop.
- ✓ Always turn machine off before making adjustments, cleaning machine, or performing any maintenance covered in this manual.
- ✓ Use power cord supplied with machine. Plug it into a properly grounded, easily accessible wall outlet located near machine. Failure to properly ground machine can result in severe personal injury and/or fire.
- ✓ Power cord and wall plug is primary means of disconnecting machine from power supply.
- ✓ **DO NOT** use an adapter plug on line cord or wall outlet.
- ✓ **DO NOT** remove ground pin from line cord.
- ✓ **DO NOT** route power cord over sharp edges or trap it between furniture.
- ✓ Avoid using wall outlets that are controlled by wall switches, or shared with other equipment.
- ✓ Make sure there is no strain on power cord caused by jamming it between equipment, walls or furniture.
- ✓ **DO NOT** remove covers. Covers enclose hazardous parts that should only be accessed by a qualified service representative. Report any cover damage to your service representative.
- ✓ This machine requires periodic maintenance. Contact your authorized service representative for required service schedules.
- ✓ To prevent overheating, do not cover 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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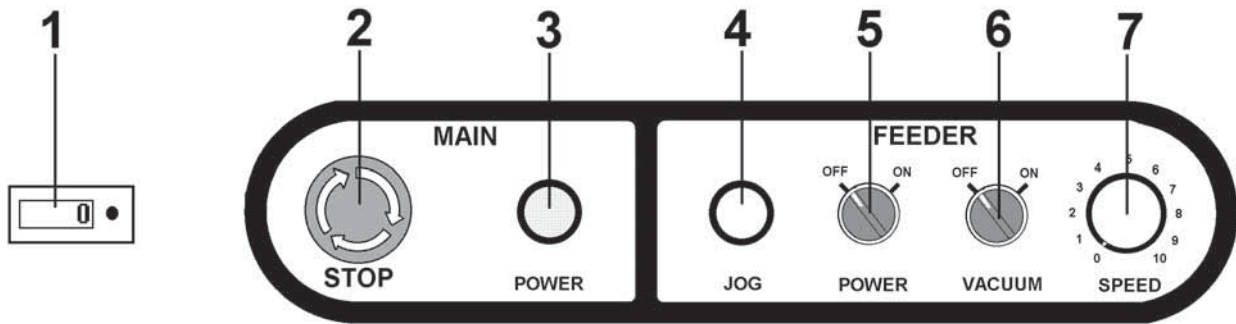
SECTION 1 – *Getting Acquainted*

ASF-3000 Shuttle Feeder



| | |
|-----------|---|
| 1 | RESETTABLE COUNTER – Keeps track of number of pieces fed. |
| 2 | FEEDER CONTROL PANEL – See description of Controls on next page. |
| 3 | ROLLER PRESSURE LEVER – Lifts Forwarding Rollers and Sheet Separator. |
| 4 | OPERATOR SIDE-GUIDE – Helps to position media. |
| 5 | SHEET SEPARATOR ADJUSTMENT – Sets height of Sheet Separator. (See next page.) |
| 6 | FEED ROLLER HEIGHT ADJUSTMENT – Adjusts Feed Roller for proper feeding. (See next page.) |
| 7 | NON-OPERATOR SIDE-GUIDE – Helps to position media. |
| 8 | SHUTTLE HEAD – Vacuum shuttle head feeds the media. |
| 9 | REAR GUIDE – Keeps media in proper position for feeding. |
| 10 | MEDIA LENGTH ADJUSTMENT – Select for media up to 13" long or for media longer than 13". (See next page.) |

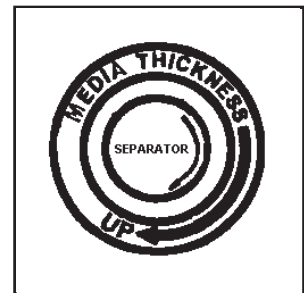
Main Control Panel



| | |
|---|--|
| 1 | RESETTABLE COUNTER – Keeps track of number of pieces run. |
| 2 | STOP BUTTON – Stops Feeder and locks out controls. |
| 3 | MAIN POWER BUTTON – When STOP switch is unlocked, button turns Feeder power ON. |
| 4 | JOG BUTTON – When Main power is ON and Feeder Power switch is OFF, Jog button is used to feed material. |
| 5 | POWER SWITCH – When in OFF position, permits operator to Jog the machine. ON position causes machine to run continuously. |
| 6 | VACUUM SWITCH – Turns Vacuum Pump ON. |
| 7 | SPEED CONTROL – Controls Feeder speed. |

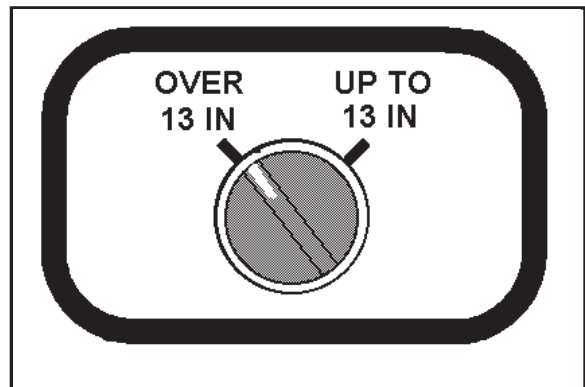
Media Thickness and Separator Knobs

Separator Knob adjusts Sheet Separator height. Media Thickness Knob is used to adjust Forwarding Roller to media.



Media Length Switch

Used to select length of Media.
(Located on side of Control Panel.)



SECTION 2 – *Installation*

Image System II

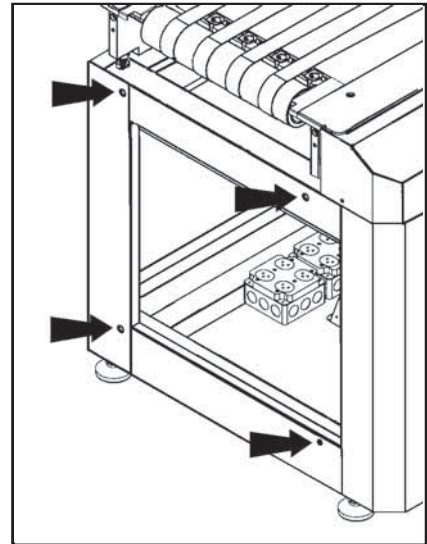
Attaching Feeder

Make sure System is disconnected from power source.

Remove Covers from Feeder and Main Base Cabinets.

There are four (4) threaded holes on Imaging System Base. To attach Shuttle Feeder to system, align four (4) holes in Feeder Cabinet with four threaded holes in Base and attach with Cap Head Screw and Washer supplied.

NOTE: When attaching Shuttle Feeder, first mount a mounting bracket to base of Shuttle Feeder so there will be four mounting holes for attaching Feeder to Base Unit. This bracket is supplied in Shuttle Feeder Kit and is mounted as shown with two screws supplied.



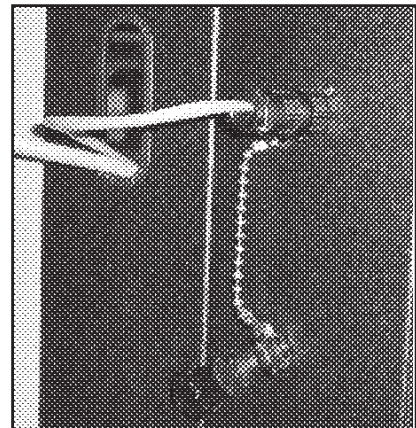
Connecting Shuttle Feeder to Image System II Base

1. Route power cord from Feeder through oval hole in base unit. Power cord should be plugged into receptacle marked “Switchable”.

WARNING!

FEEDER POWER CORD SHOULD BE PLUGGED INTO THE RECEPTACLE BOX MARKED "SWITCHABLE" SO WHEN STOP BUTTON ON BASE UNIT IS ACTIVATED, FEEDER WILL ALSO STOP.

2. Remove Jumper Plug (*at rear of Feeder*) and install cable from Printer’s Feeder Connector in its place.



INSTALLATION

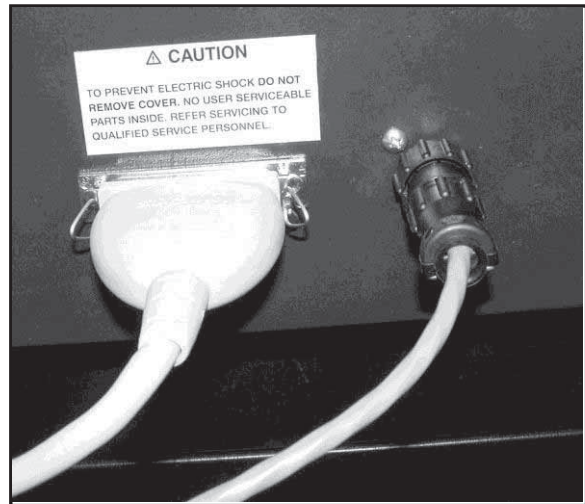
Installing on Other Printers

ASF-3000 may be used with other printers such as the AJ3600 and AJ3800.

Installing Shuttle Feeder to an AJ3600 or AJ3800 requires that Printer be placed on a suitable stand and Feeder rolled up to it.

Four-wire cable supplied with Feeder is then connected to Printer's four-wire connector next to parallel port connection.

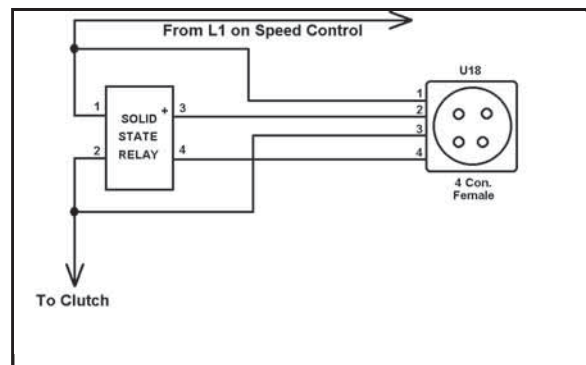
Feeder then starts to feed when Select Button is pressed on Printer and stops feeding when Select Button is pressed again. Stopping Printer from Software Control Panel also stops Feeder.



Connecting Shuttle Feeder to Other Systems

There are two ways to operate feed function of ASF-3000 when it is connected to machines other than AstroJet units.

1. Connected to four-pin connector at rear of Feeder is a solid-state relay. This relay has an operating range of 3 VDC to 32 VDC and offers a contact closure when activated that causes the Feeder clutch to operate and feed media. This function is accessed through pins 2 and 4 on four-pin connector. As long as contacts are closed (*relay is powered*) Feeder will feed.



2. An optional method of activating feed from an external source is if host machine has a built-in relay that has a spare contact. The contact, if it activates when host machine is running, can be used to start Feeder. Shuttle Feeder in this case can be accessed through pins 1 and 3 on the four-pin connector. External relay closing would cause clutch to engage and feed media. As long as contacts are closed, Feeder will feed.

Stand-alone Operation

Jumper Plug must be installed to run Feeder if it is not connected to the other machine.

SECTION 3 – *Setup and Operation*

Setting up Feeder

STEP 1 – Verify that Vacuum Shuttle is in “Home” Position

Lower Forwarding Rollers drop and raise with movement of Shuttle.

Check that Vacuum Shuttle is in “**Home**” position, before proceeding to “**Step 2**”.

1. Turn Separator Adjustment Knob [A] clockwise until Separator is in fully raised position.
2. Raise Roller Pressure Lever [B] to lift Forwarding Rollers and Sheet Separator.
3. Disconnect Jumper Plug or cable from interface port (*located on back of Feeder.*)
4. Switch Feeder ON. Press Jog button momentarily. Shuttle should cycle one revolution and stop in “**Home**” position (*furthest away from exit end of Feeder.*)
5. Press Emergency Stop button to turn Feeder OFF.
6. Reconnect Interface Jumper or cable to back of Feeder.



SETUP AND OPERATION

STEP 2 – Choose and Install Proper Vacuum Plate

Shuttle Feeder Kit contains four [4] Vacuum Plates and mounting screws. Each one works best with a specific type of media. Refer to chart below and select plate for media you will be feeding:

| MEDIA | VACUUM PLATE |
|------------------------|--------------|
| Single Sheets of Paper | 1 |
| Thin Postcard Stock | 2 |
| Thick Media up to 1/2" | 3* |
| Folded Media | 4 |

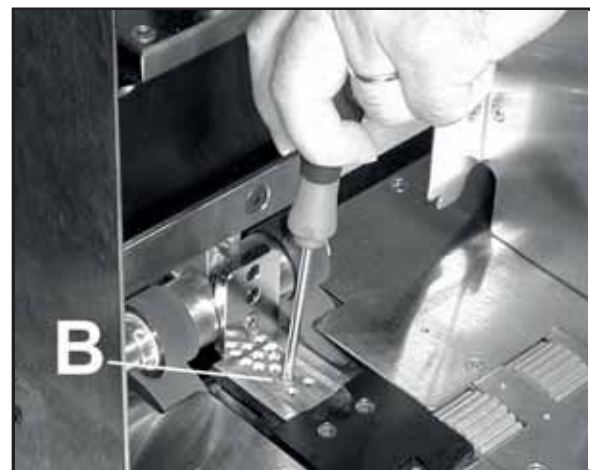
NOTE: *Use Reversible Rear Pusher to improve feeding.

1. **NOTE:** If you are simply changing a Vacuum Plate (*rather than doing a full Feeder setup*), first check that Separator is in fully raised position [A] (*See Step 1, “Verify that Vacuum Shuttle is in “Home” Position”*).
2. Remove Phillips screw holding Vacuum Plate to Vacuum Arm [B].
3. Remove Plate.
4. Install new Plate and replace countersunk Phillips head screw.



CAUTION

WHEN CHANGING VACUUM PLATE, CHECK THAT THERE IS NO CONTACT BETWEEN BOTTOM OF SHEET SEPARATOR AND VACUUM PLATE.



Installing Reversible Rear Media Sleds (Pusher)

Reversible Rear Thick Media Sled-Blue.

For media over 1/8" thick (such as magazines and booklets). (0.170"/4.3mm lip on one end; 0.250"/6.3mm lip on other end).

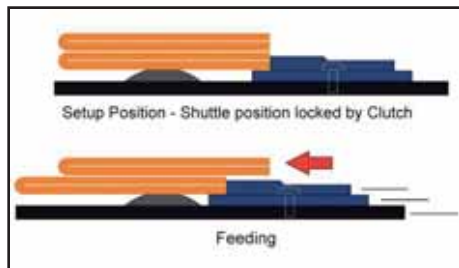


Reversible Rear Thin Media Sled-Red.

For media up to 1/8" thick (such as single sheets and pamphlets). (0.05"/1.25mm lip on one end; 0.1"/2.5mm lip on other end).

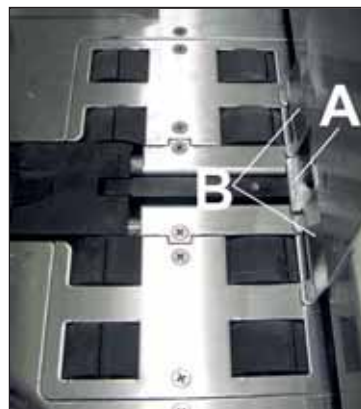


1. Set Shuttle in zero or "home" position.
2. Select end of Reversible Rear Media Sled to be used with media for intended job. Position media flush against the Separator. Position Sled flush against media. (Lip fits under media).



3. Install mounting screw and washer into nearest hole on shuttle to hold Sled in place. Adjust Sled as needed by sliding it along the mounting slot.

4. Position Rear Guide flush against media.
NOTE: Reversible Rear Media Sled [A] and Rear Guide [B] should be aligned.

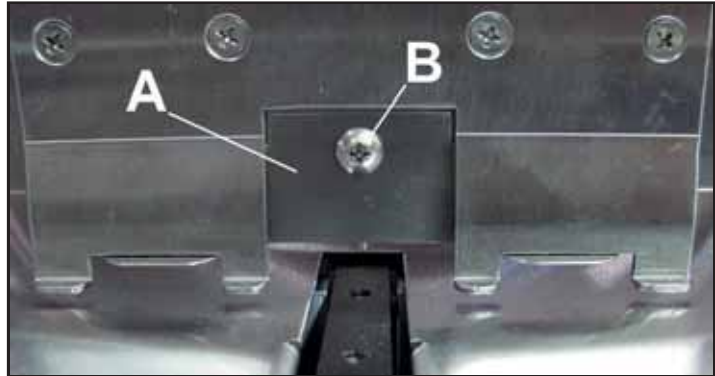


Installing Rear Media Support Accessory

When using sheet paper (*such as letter size or A4*), Support Accessory keeps rear edge of media raised so it feeds properly over Feed Rollers.

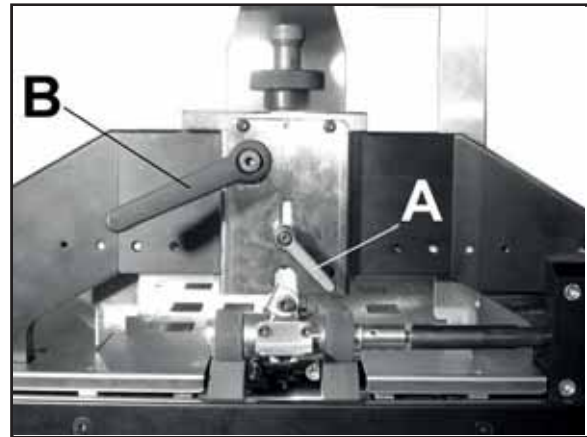


1. Slide Support Accessory up behind Rear Media Support and position as shown [A]. Notice how edges of Support Accessory provides raised edges for media to rest on.
2. Attach Filler Plate to Media Support Assembly with Phillips truss head screw [B].

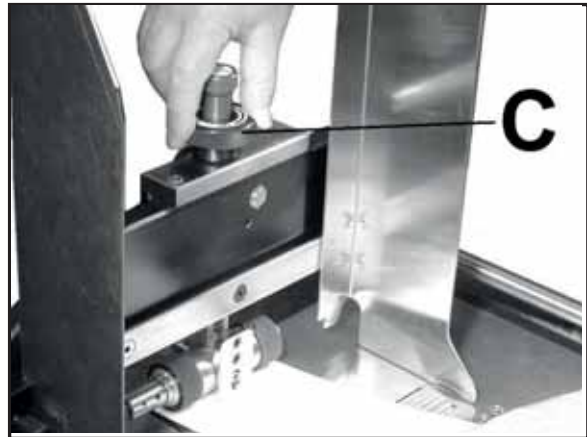


STEP 3 – Adjust Forwarding Rollers to the Media

1. Release Media Thickness/Separator Locking Lever [A].
2. Raise Roller Pressure Lever [B] to release pressure between Forwarding Rollers.



3. Place one piece of media under Forwarding Rollers, then lower Roller Pressure Lever [B].
4. Adjust Media Thickness Knob [C] counterclockwise all the way down, then back it off until media is just able to be removed. Turn Knob another 1/2 turn counterclockwise. When adjusted correctly, media should **NOT** be easy to remove from between rollers. This should prevent spring-loaded lower Roller assembly from pushing down too far and misaligning with cam on elliptical shaft.



STEP 4 – Adjust Sheet Separator

1. Raise Sheet Separator using Separator Adjustment Knob [D]. Place a second piece of media under Sheet Separator.
2. Adjust Sheet Separator Knob [D] so second sheet of paper is held firmly by Separator, but when it is removed, sheet under it slides smoothly.
3. Use Thickness/Separator Locking Lever [A] to lock in settings.

NOTE: Contact between Separator and Vacuum Plate can damage both.



STEP 5 – Operating Shuttle Feeder

1. Center media and adjust two Side Guides [1] to within 1/16" of media.
2. Lock Side Guide in place with Locking Levers [2].
3. Adjust Rear Guide [3] to within 1/16" of rear of media. Tighten two Locking Knobs [4].
4. **Set Sheet Length Switch [11]** to proper position for media length:
UP TO 13 IN for media less than 13" in length.
OVER 13 IN for media over 13" in length.



NOTE: When set to “**Over 13 in,**” Vacuum Shuttle makes one revolution and stops until media clears Media Sensor (*located at exit end of Feeder.*)

5. Turn **EMERGENCY STOP** Button [5] clockwise to release switch. Then press **POWER** Button [6] to start machine.
6. Turn **VACUUM** switch [9] **ON** and set **SPEED** to 1 or 2 [10].
7. Press and hold **JOG** button [7] until one piece of media is fed.
(*This is to check your setup and feeding of media.*)
8. Reset **COUNTER** to Zero (0) by pressing **RED** button next to display.
9. Turn **POWER** Switch [8] **ON** to start continuous feeding.

NOTE: If Shuttle Feeder is connected to an Image System II base unit, base unit should be turned **ON** and operating. When **SELECT** Button is pressed, Feeder will start to feed, if Power Switch is **ON**. If Shuttle Feeder is not connected to an Image System II base unit, Jumper Connector (*at back of machine*) must be connected or machine will not feed.

10. Turn **POWER** switch [8] **OFF** to stop feeding. (**EMERGENCY STOP** button will quickly stop and shut down Feeder.)

Adjusting Forwarding Roller

IMPORTANT

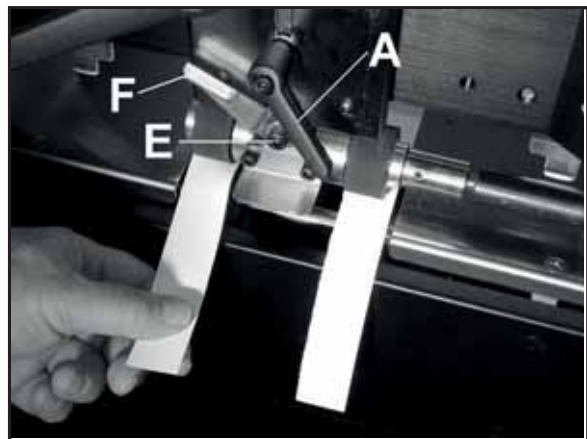
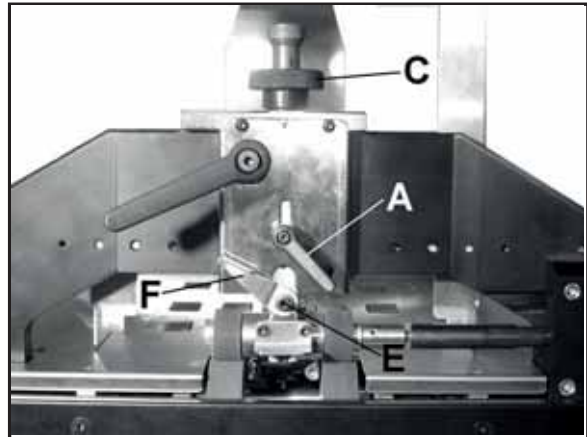
PERFORM THIS PROCEDURE ONLY IF NECESSARY!

Forwarding Roller Parallel Adjustment

Lever [F] is used to adjust alignment of Forwarding Rollers in cases where media skews as it exits Feeder. Lower Forwarding Rollers are spring-loaded so this adjustment does not have to be performed for every set up. It should only be done when Rollers are replaced.

To perform this adjustment:

1. Release Thickness/Separator Locking Lever [A]. Then loosen Hex Screw [E].
2. Place 2 strips of 20 lb. paper under Forwarding Rollers and adjust Media Thickness Knob [C] until one strip has a slight drag in it.
3. Lock Lever [A]. Adjust Lever [F] until drag on both sides is even, then tighten Hex Screw [E].



CAUTION

FORWARDING ROLLERS AND "FLEX SHAFT" DRIVING THESE ROLLERS GET HOT DURING CONTINUED USE. AVOID CONTACT WITH THIS AREA. KEEP HANDS, HAIR, JEWELRY AND CLOTHING CLEAR OF ROLLERS AND OTHER MOVING PARTS.

NOTES

SECTION 4 – *Maintenance*

Cleaning

WARNING!

ASF-3000 IS A PRECISION MACHINE THAT SHOULD BE CLEANED REGULARLY TO INSURE MANY YEARS OF SERVICE.

BEFORE PERFORMING ANY MAINTENANCE DISCONNECT MACHINE FROM ITS POWER SOURCE!

Feeder must be cleaned regularly of accumulated paper dust and ink. Depending on types of media that are run, paper dust may accumulate within Printer and on Transport. Unplug Feeder from power receptacle and remove covers.

- **Internal Areas:** Best cleaned using a vacuum with a soft brush attachment to help loosen dust particles. Take care not to damage PC Boards or electrical wiring.
- **Exterior:** May be cleaned with any standard non-abrasive household cleaner that does not contain plastic-harming solvents.

CAUTION

NEVER SPRAY OR POUR CLEANERS DIRECTLY ON OR INTO ASF-3000. EXCESS LIQUID COULD HARM ELECTRONIC PARTS. ALWAYS DAMPEN A RAG WITH THE CLEANER AND APPLY IT TO PARTS TO BE CLEANED.

Cleaning Media Sensor

Periodically check Media Sensor (*located just below two large Forwarding Rollers*). Sensor should be clean and free of accumulated paper dust. Use a vacuum with a soft brush attachment or dry compressed air to remove dust.



Cleaning Feed Rollers

Feed Rollers can become glazed with paper lint and ink from media. They should be regularly cleaned with a mild abrasive household cleaner on a damp cloth.

Avoid using solvents on Rubber Rollers.

Cleaning Jar Filter

Location: Mounted on vacuum pump located in base of Shuttle Feeder.



WARNING!

JAR IS GLASS. TAKE PROPER PRECAUTIONS TO GUARD AGAINST FRAGMENTING OR BREAKING THE GLASS.

CAUTION

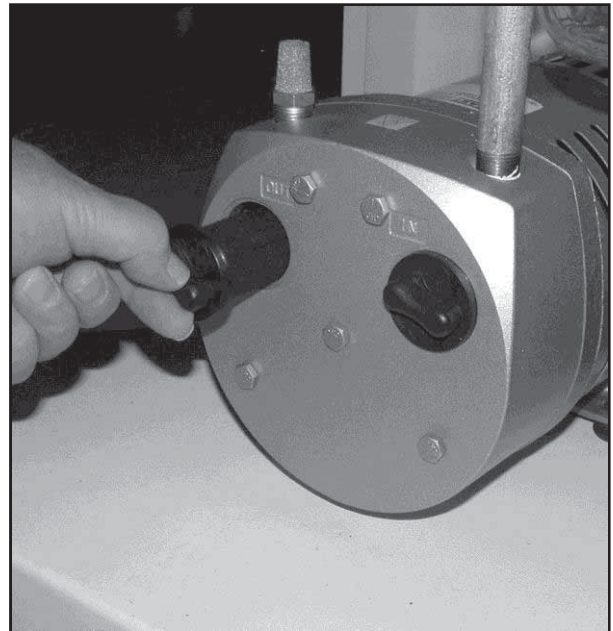
GLASS JAR CAN EXPLODE IF SUBJECTED TO MORE THAN 5 PSI (35 BAR).

Cleaning: Jar and felt filter should be cleaned at least once a month (*after every 100 hours of operation*). Unscrew and remove any debris from within the Jar. Use a compressed air hose to clean felt Filter. Then reinstall Jar.

Cleaning Vacuum Pump Filters

Vacuum Shuttle Feeder is equipped with an Oilless Vacuum Pump. It does not require lubrication, however it does require cleaning.

Remove two Filter Assemblies (*located in front of Pump*) and brush Filters with a stiff brush regularly.



WARNING!

CHECK VACUUM PUMP AT LEAST ONCE A MONTH. FAILURE TO DO SO CAN AFFECT PERFORMANCE OR EVEN CAUSE PUMP OVERHEATING AND FAILURE.

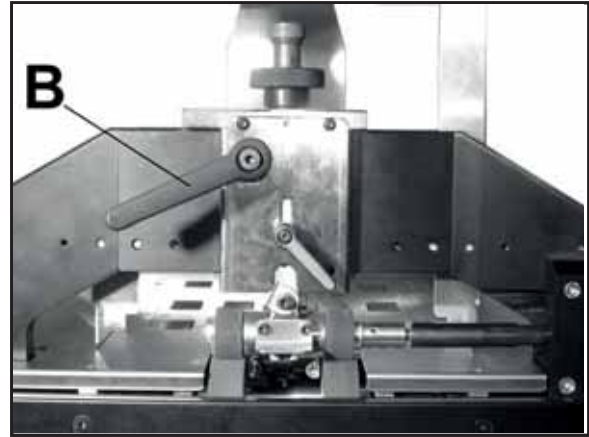
CAUTION

VACUUM PUMP IN SHUTTLE FEEDER IS AN OILLESS PUMP. DO NOT ATTEMPT TO PUT OIL OF ANY KIND IN THE PUMP!

Removing Jams in Feeder

If a jam occurs, **STOP Feeder**.

1. Turn Feeder OFF.
2. Release Forwarding Rollers by rotating Release Lever **[B]** clockwise.
3. Remove any media in hopper.
4. Remove jammed pieces from hopper area.
5. Rotate Forwarding Roller Release Lever **[B]** counterclockwise.
WARNING! To avoid damage; check to be sure Sheet Separator is not in contact with Vacuum Plate.
6. Replace media and restart job.



Troubleshooting

Possible causes for jamming are:

1. Feeding more than one piece of media.
2. Damaged media, such as dog-eared (*turned down corners*).
3. Media that is not stiff enough may not be usable.
4. Envelopes caught under flap of another envelope or stuck to one another.

APPENDIX

Specifications

| | |
|-----------------------------|--|
| MEDIA: | Max Size: 14" W* x 17" L (35.6 x 43.2 cm) Min Size: 3" W x 5" L (7.6 x 12.7 cm) *European version: 14.5" W / 36.8 cm Max Thickness: 5/8" (1.59 cm) Min Thickness: 20 lb. Bond Paper (0.004"/0.01016 cm) |
| SPEED: | Up to 30,000/HR |
| PHYSICAL DIMENSIONS: | 29" W x 28" D x 48" H (73.7 cm x 71 cm x 121.9 cm) |
| WEIGHT: | 270 lbs. (122.5 kg) |
| ELECTRICAL: | 120 VAC 50/60 Hz 20 AMP (220 VAC optional) |

Specifications are subject to change without notice.

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Part Number: 200-ASF-3000 Rev F
