Rhin-O-Tuff Onyx APES-14 Automatic Paper Ejector and Stacker

Instruction Manual

Instruction Book for APES System

RHIN-O-TUFF

APES System Operators Training Manual

The APES System is an attachment for the HD7700, HD7000 or HD6500 punches. This manual discusses all of the necessary steps to transform the punch into an **A**utomatic **P**aper **E**jecting and **S**tacking punch machine. The paper specifications for punching, ejecting, and stacking are between 14" x 14" (maximum) down to 8-1/2" x 5-1/2" A5 (minimum). It will also punch mixed stock including tabs and acetate cover material.

Please see the HD7700, HD7000 or HD6500 Manual for die setup and machine use.
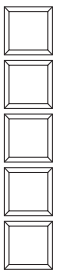
APES System Contents

Reception Assembly (1)
Ejector Assembly (1)
Paper Reception Guide (1)
Tall Paper Deflector (1)
Tall Paper Deflector w/ Paper Stop (1)
Shipping Kit (1)
Instruction Book (1)
HD7000/HD6500/HD7650 Adaptor Kit (1)
    a) Adaptor Bar (1)
    b) Bolt 8-32 x 3/4 (2)
    c) Hex Wrench 9/64 (1)
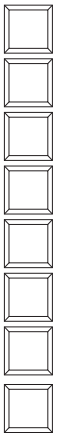
APES System Shipping Kit Contents

Power Cord (1)
Mate Blocks (2)
Reception Paper Guide Stop w/ Knob (1)
Palm Switch Mount (1)
Knob Kit (1)
    a)Three arm 1/4-20 Knob (4)
    b) Quick Release Pin (2)
    c) 1/4-20 Socket Head Bolt (4)
    d) Star Wrench T-30 (1)
    e) Hex Wrench 3/16 (1)

Serial Number:_____ Inspected by:_____

Table of Contents

NOTICE: This manual covers both the APES System for the HD7000 and HD6500 Punches and also the APES System for the HD7700 Punch. The following symbols will head sections related to those machines.

| 6500/7000 | = APES System and the HD7000 or HD6500 Punch.

| 7700 | = APES System and the HD7700 Punch.

You may skip ahead to the next section if your machine is not designated within the heading of the section. In most cases both designators will appear.

Safety Alert Symbols

◆ Make sure you read this section very carefully! Learn to recognize these **Safety Alert Symbols.** The APES System has been designed to provide a high level of protection to an operator. Follow the guidelines below while installing, operating and maintaining your machine.

⚠CAUTION CAUTION: Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used without the safety alert symbol as an alternative to "Notice".

⚠WARNING WARNING: Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠DANGER DANGER: Indicates a hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.

⚠ Trip Hazard   ⚠ Electric Shock   ⚠ Cutting Hazard

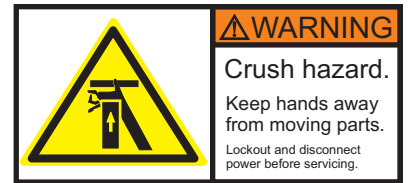⚠ Two Person Lift   ⚠ Crushing Hazard   Hint Hint or Suggestion

Safe Operating Guidelines

◆ Always keep this instruction manual with the machine for reference to safe operating guidelines and correct operation of the machine.

◆ The APES System needs to be plugged into a wall outlet that provides a 15-amp, 120 volt service (16-amp, 220 volt for European installations) and is protected by a fuse or circuit breaker at the main electrical panel.

◆ Always replace any fuse with the same type and amperage as indicated on the machine.

⚠WARNING
Hazardous voltage inside. Disconnect power before servicing.

◆ If machine cycles on its own, turn off power switch, unplug machine from the wall outlet and call your dealer immediately for service.

◆ Turn power switch off before maintaining machine or changing die assembly.

⚠WARNING
Crush hazard.
Keep hands away from moving parts.
Lockout and disconnect power before servicing.

◆ Use of appropriate hand protection should be utilized to avoid injury from handling of materials.

⚠CAUTION
Cutting Hazard
Injury to fingers and hands.
Use hand protection

◆ Follow all recommended workplace procedures for repetitive activities.

Placing your machine in the proper location:

◆ Before lifting machine, turn power off and remove the power cord from the wall outlet. The machine is very heavy! Never attempt to lift the machine by yourself. Two people will be needed to lift the machine.

⚠CAUTION
Lifting Hazard Single person lift could result in injury.
Two person lift required.

◆ Place the machine on a hard level surface, place the foot pedal on the floor in front of the machine. Ensure the placement of machine allows for ergonomic work flow (separate locations for un-punched books and a punched books).

Providing power to the machine:

◆ **Power cord shall be certified for the country where the machine will be installed.** Plug one end of the power cord into the power cord receptacle on the back of the machine. The other end goes into the wall outlet.

⚠️**DANGER**
Hazardous voltage.
Use only approved power cord assemblies.

Placing the APES System in the proper location:

6500/7000	7700

Locate a clear work area 48" wide X 30" deep with a duplex outlet within 5 feet that provides a 15-amp service (16-amp European). The work area must be a solid and firm cabinet or a heavy duty table with a flat level surface. **Never attempt to move the HD punch with one person! Always move your HD punch with two people, one on each side.** Locate your punch on the right side of a 48" wide work area with the chip tray near the front edge of the work area.

Preparing your HD-7000 or HD-6500 for the APES System:

6500/7000

Unplug HD-7000 or HD-6500 from outlet! Hazardous voltage inside! Crush hazard! Keep hands away from moving parts!

Unplug foot pedal and store (The APES System has a foot pedal attached). See Figure B.

Using a Philips screwdriver rotate the *Safety Screw* counter clockwise. See Figure A. Only ¼ turn is needed. Newer ONYX punches have two hex screws that need to be removed, one is located in the same location as the safety screw shown in Figure A, the other is located on the left side of the top cover.

Figure A

Raise the lid on your HD punch and remove the Paper Stop Assembly by first, removing the nylock nut (use 7/16" wrench, not included) and then the paper stop nut located under the cover. The paper stop and knob can now be removed from the front of the cover. See Figure B.

Close the lid and REPLACE the SAFETY SCREW to its locked position.

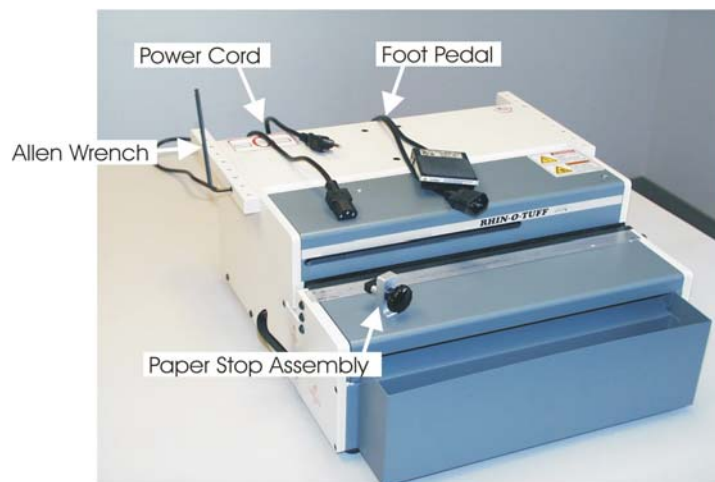Re-assemble the Paper Stop into one piece and Store.

Figure B

Your APES System came with two required Interface Blocks (Figure C page 8) that are 9" long by ¾" square, and four ¼-20 X 1-1/4" socket head cap screws and an allen wrench and torx wrench. On each side of the punch, locate the two top most allen screws (or torx screws) and remove (use the short side of the wrench for leverage) by turning counter clockwise.

Orient the Interface Block with the ***oval hole forward*** (as shown in figure C) toward the *front of the punch* and the round hole toward the rear of machine. Make sure the **counter bores** in the blocks face outward. (See counter bore example in Figure D).
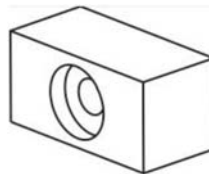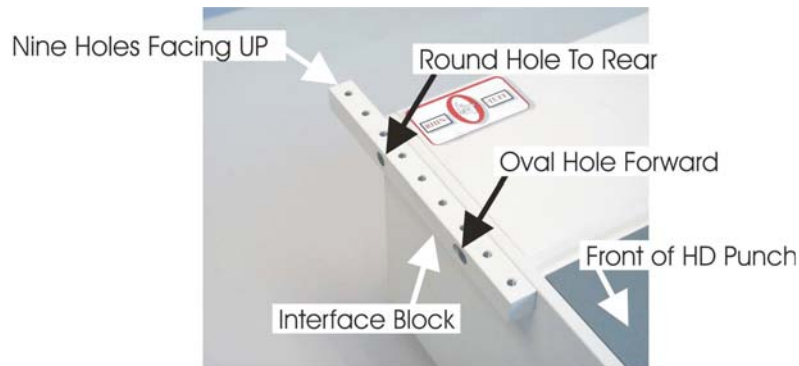

Figure C

Nine Holes Facing UP
Round Hole To Rear
Oval Hole Forward
Front of HD Punch
Interface Block

Figure D

Attach the rear Allen screws first; use the provided longer screws to attach the block securely and repeat for the other side of machine.

Mounting the APES System to a punch.

6500/7000

Check your HD-7000 or HD-6500 for front cover warping. Warping must be corrected before proceeding. See Figures E & F.

Figure E

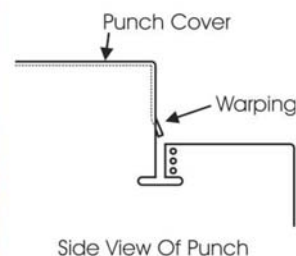Check Warping

Punch Cover
Warping
Side View Of Punch

Figure F

If your machine has any warping, open the machine top cover as described earlier. Take a pair of pliers and gently bend down the warped areas back flush to the machine front. Replace the cover and safety screw.

Attention users mounting the APES System to a HD7000, HD6500, HD7650, HD7100

Please locate the adaptor packaged with the APES System and install the adaptor as shown in the diagrams below.
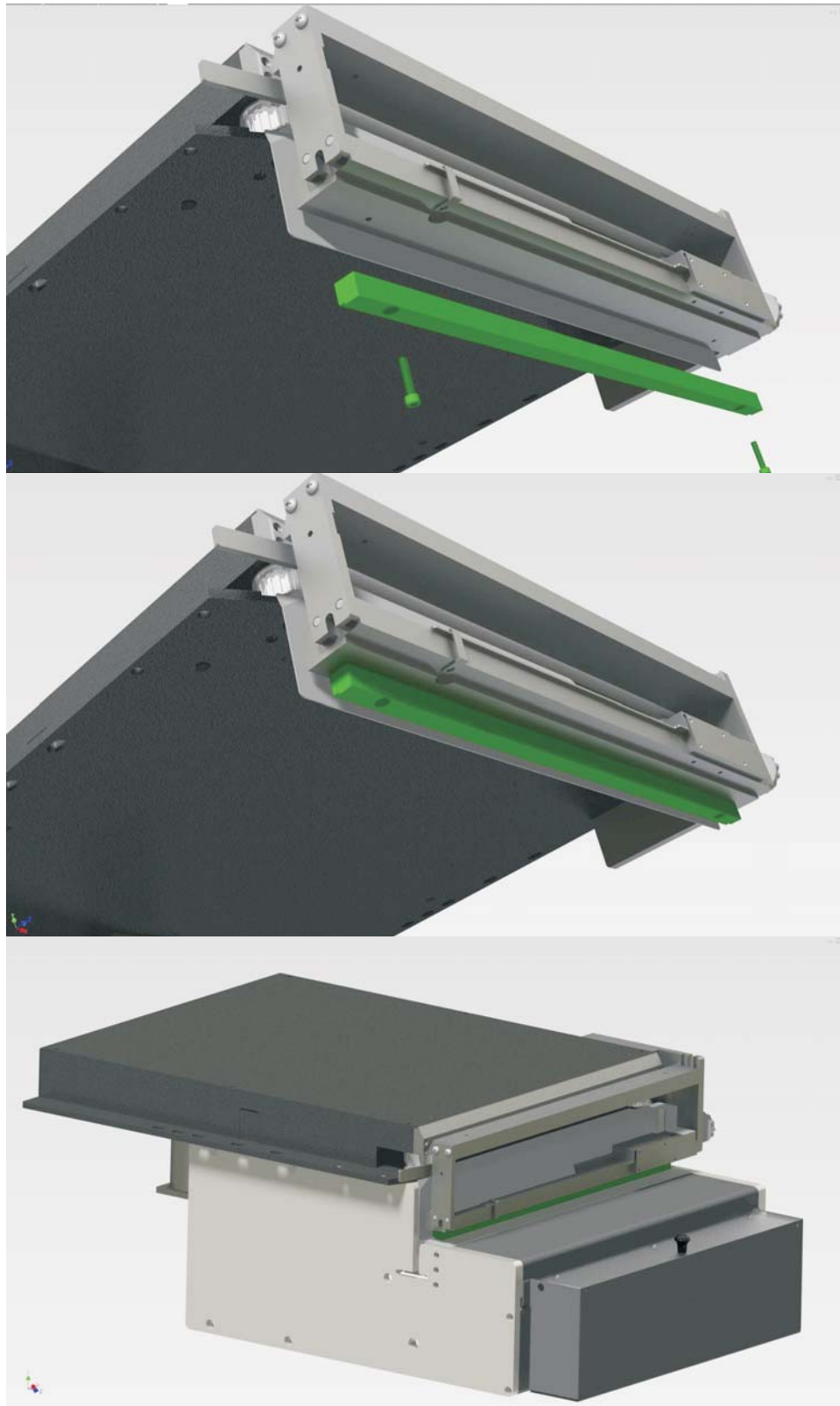
Place the APES System Ejector Base Plate Assembly on top of the punch. Avoid colliding the APES System *Front Paper Guides* and the *Drive Motor* Assembly with the punch while setting it down. Keep control cable clear. See Figure G.

Figure G
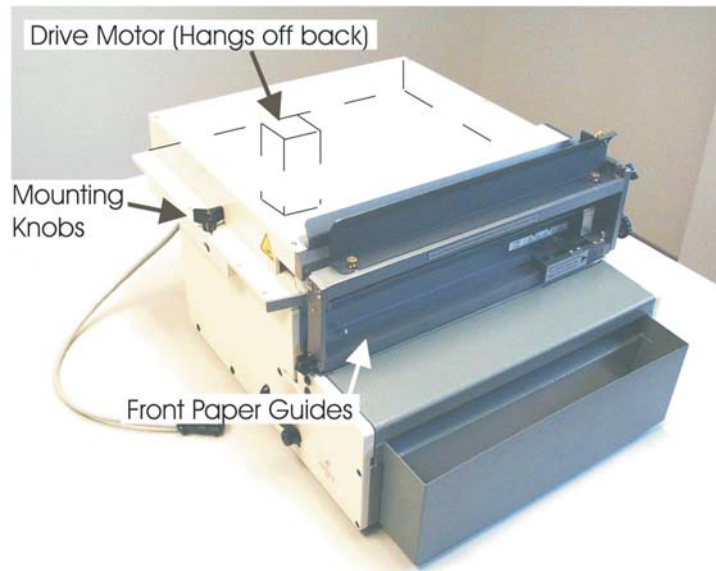
Adjust the APES System Ejector Base Plate Assembly back against the front of the punch and install and tighten the two 3-winged *mounting knobs* provided. See Figure G.

7700

Preparing your HD7700 for the APES System:

Unplug HD7700 from outlet! DO NOT OPEN COVER!! Hazardous voltage inside! Crush hazard! Keep hands away from moving parts!

Unplug foot pedal and store (the APES System has a foot pedal attached). See Figure H. If the palm switch is being used; unplug palm switch and remove palm switch from machine.

See Figure H Remove Knob (1) by rotating counter-clockwise; remove Paper Pointer Guide (2). Store these Items, they will not be needed while the APES System is installed.

Figure H

1 - Knob
2 - Paper Pointer Guide ➡
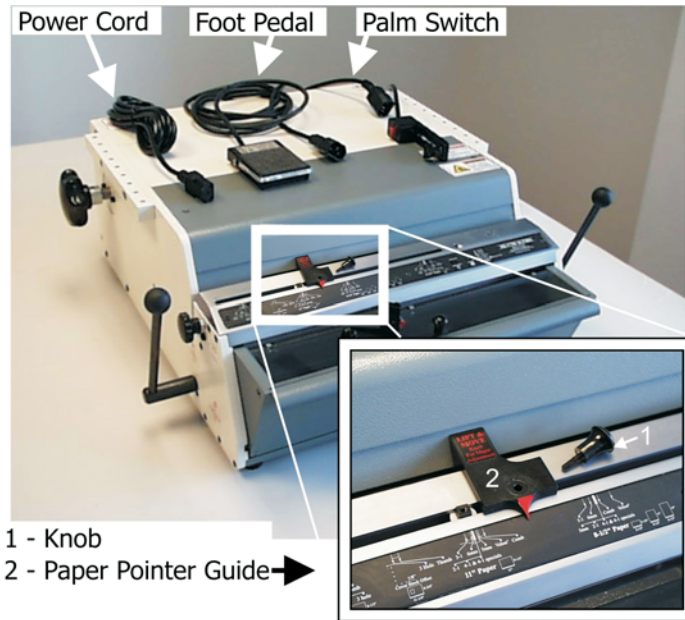
Your APES System came with two required Interface Blocks (Figure I page 9) that are 9" long by ¾" Square, and four ¼-20 X 1-1/4" socket head cap screws, and an allen wrench.

On each side of the punch locate the top most and two forward most Allen screws and remove them (use the short side of the allen wrench for leverage and turn counter clockwise). See Figure I for location.

Orient the Interface Block with the oval hole forward (shown in figure I), and round hole to the rear of machine. Make sure the counter bores in the blocks face outward. See the counter bore example in Figure J.

Attach the rear Allen screws first; use the provided longer screws to attach the block securely and repeat for the other side of machine.
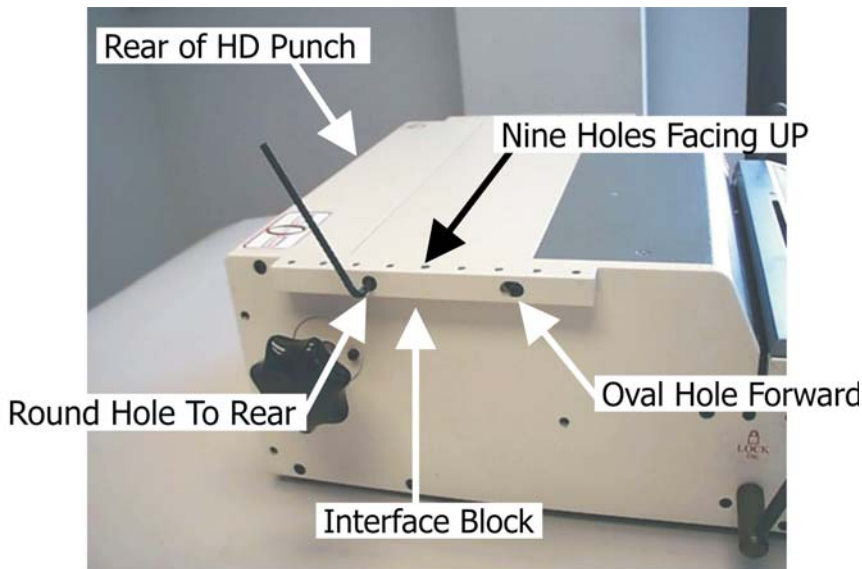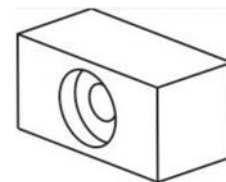

Figure I

Figure J

Mounting the APES System to a HD7700 punch.

7700

Place the APES System Ejector Top Plate Assembly on top of the punch. Avoid colliding the APES System Front Paper Guides and the Drive Motor Assembly into the punch while setting the APES System down. Keep control cable clear. See Figure K.
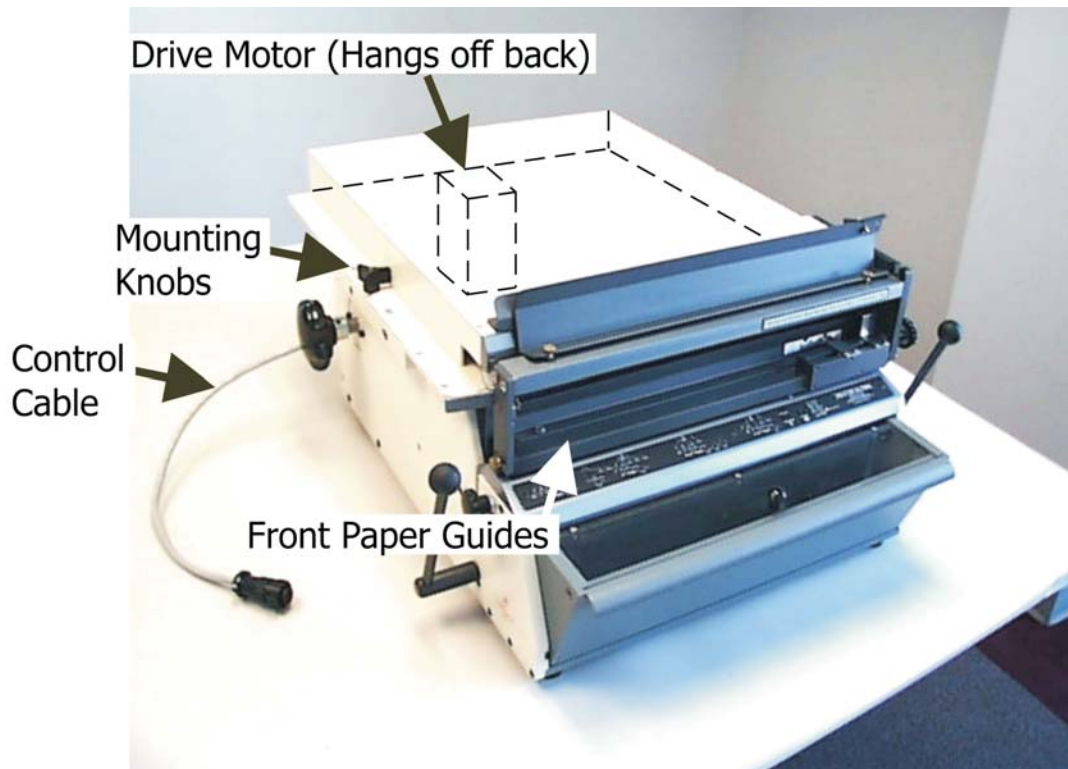

Figure K

Adjust the APES System Ejector Base Plate Assembly back against the front of the punch.

Notice the Rear Paper Guide on each side of the machine in Figure L & M;

Figure L

Figure M

The Rear Paper Guide should be centered between both HD-7700 side plates and rest against the front of the HD-7700 top front cover. Locate the APES System into this position without bending the Rear Paper Guide forward.

Install and tighten the two 3-winged mounting knobs provided into the last (rear) mounting slots. See Figure N.

Mounting Continued.....

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Move the APES System Reception Assembly next to the punch. See Figure N. Note that the Reception Pivot Block will align centered about the Ejector Base Plate Reception Mounting Bar as shown. See Figure O.
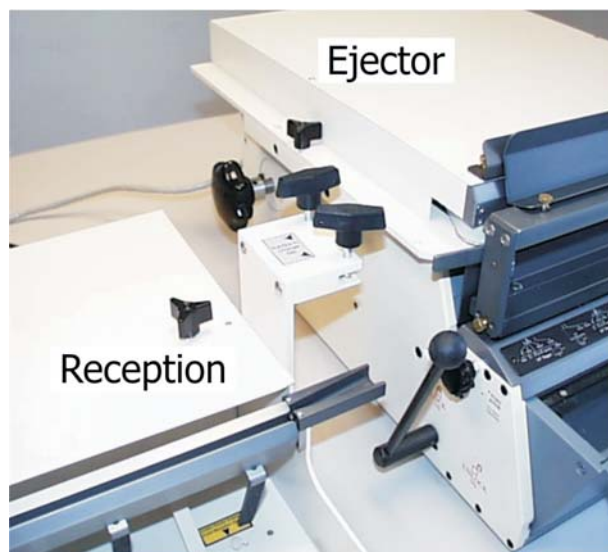
Figure N
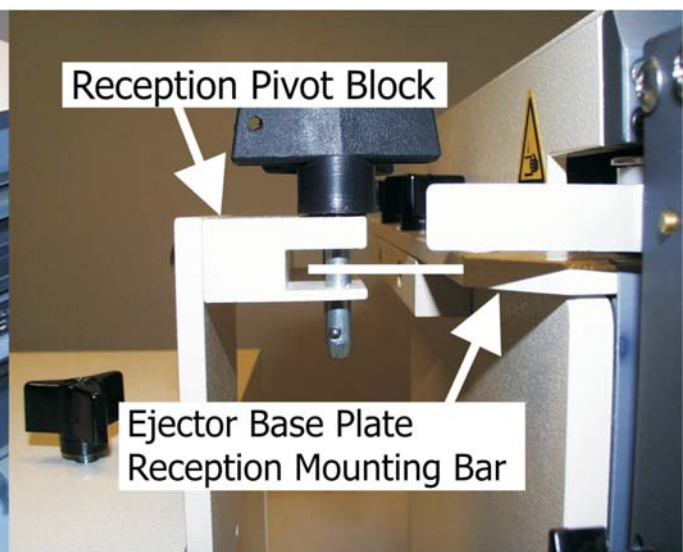
Figure O

If the reception fails to align with the Ejector Top Plate (on older HD punches with shorter feet) you will need to adjust the Reception Pivot Block with two adjustment screws at the base of the Pivot Block Mount just under the lid on the inside of the Reception. See figure P.

Figure P

Mount the APES System reception to the APES System Ejector Base Plate with the two supplied large 2-winged mounting push pins thru assembly holes in both the reception and Ejector Plate.

Mount the Reception Paper Stop to the Reception Paper Guide. See Figure Q.
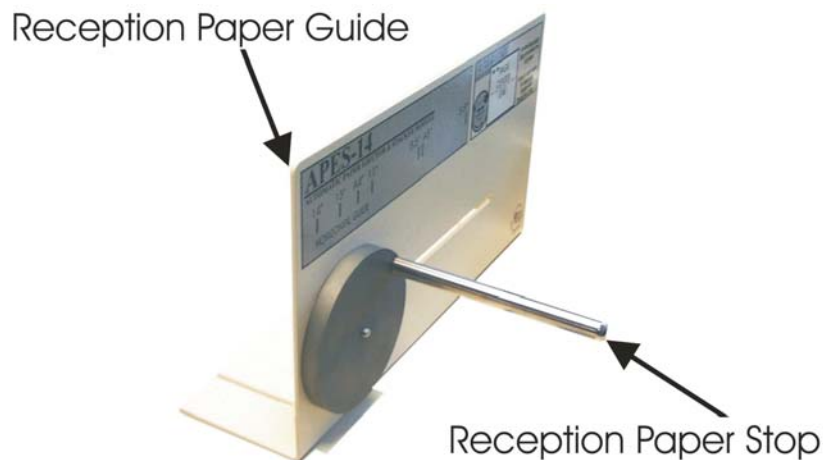
Figure Q

Mount the Reception Paper Guide to the APES System Reception top with the 2 supplied 3-winged knobs. Push the assembly to its back-most setting. This is the standard location for the Paper Guide. The Paper Stop adjustment is covered later in this manual. See Figure R.
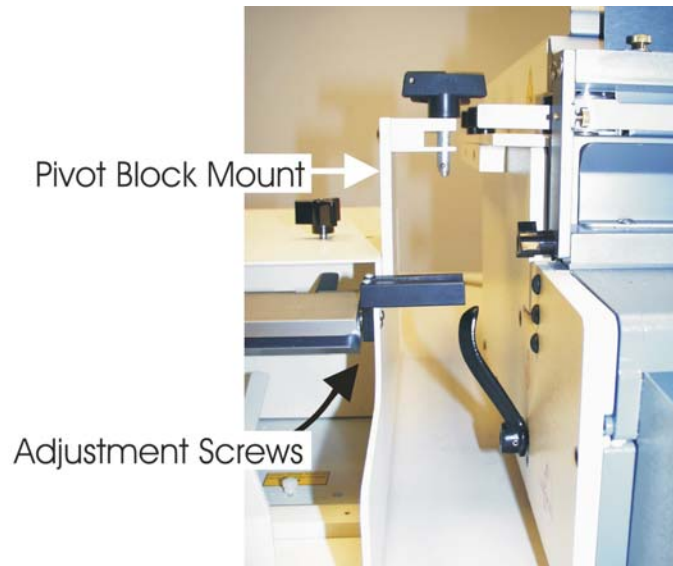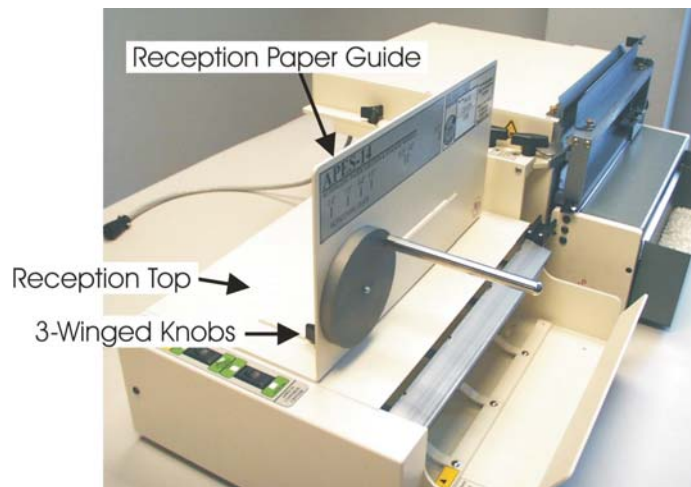

Figure R

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Plugging in the APES System for the first time:
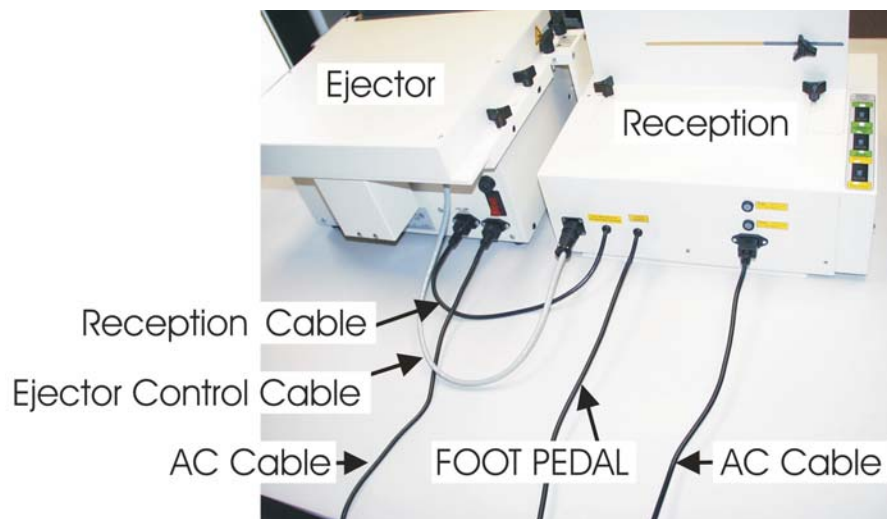
Figure S

See Figure S. Attach the Reception cable to the back of the punch. Attach the APES System Ejector Control Cable from the Ejector Top Plate Assembly to the back of the Reception Assembly by inserting the keyed connector and tightening the collar. Attach the power cord for the punch and the APES System to the power cord receptacles on the back side of each device and plug each cord into a protected AC outlet as outlined earlier in the Safe Operating Guidelines section.

Operating the APES System.

Control Center and Power Overview;

APES-14 Paper Exit INACTIVE – Switching to this position puts the APES-14 in idle status. Your punch will still operate normally but the APES-14 will not eject and stack.

APES-14 Paper Exit ACTIVE – Puts the APES-14 in the active status. Your punch and APES-14 will work together punching, ejecting, and stacking.

Normal setting for this switch is down.

Paper Stop ACTIVE – When selected, the optional Paper Stop will override the foot pedal. When correctly installed the paper will activate the switch, cycling the machine in the same manner as the foot pedal. (See assembly instructions within the Paper Stop package)

Foot Pedal ACTIVE – When selected, it allows for normal activation with the attached foot pedal. The optional Paper Stop Switch can be installed without removing the foot pedal. Only one is active at a time.

Normal setting for this switch is down.

Portrait – Changes APES-14 machine timing to better accommodate stacking portrait paper.

Landscape – Changes APES-14 machine timing to better accommodate stacking landscape paper.

Normal setting for this switch is down.
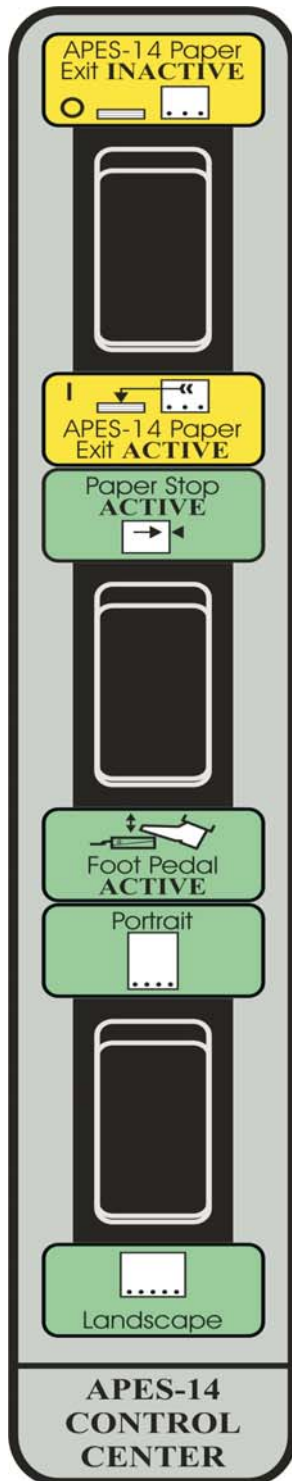
APES-14 POWER ON I/0 – Turns the APES-14 off. It is recommended you turn the APES-14 off when you're done for the day. The punch has its own independent power switch that should be powered off also.

Reception setup:

Figure T   Figure U

Loosen Paper Stop (shown in Figure T) then turn and move so that the Paper Stop Arm is aligned with or above the center of page and width of page matches or exceeds the mark on the horizontal guide, tighten Paper Stop. Loosen Drawer Screws (see Figure U) and pull out reception drawer until sheet's top edge aligns with LINE "A" yellow label and bar edge (see graphics inside drawer). Lightly tighten screws.

Accessing the Die in the Punch.
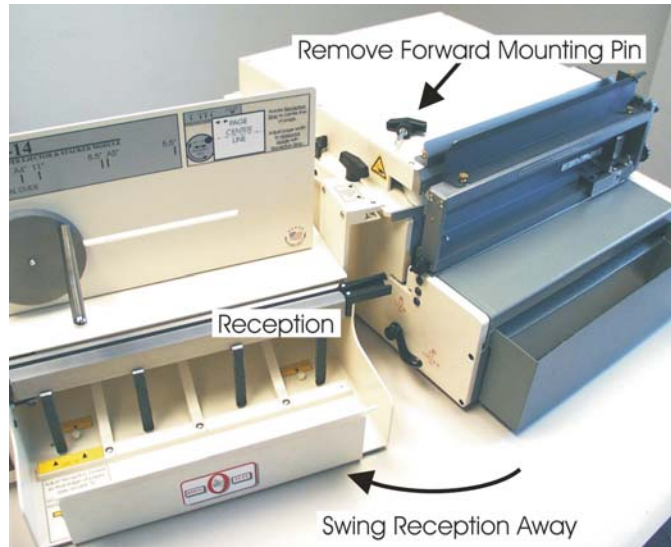
Figure V

Turn both power switches off before removing a die or performing maintenance. See Figure V. To change the die on a punch, pull the forward APES System Reception mounting pin and pivot the Reception away from the punch. This will allow access to the left die locking handle. Unlock both handles, replace die, lock both handles, then swing the APES System Reception back in place and replace forward mounting pin. The HD-6500 uses forward mounted die locking screws and will not require this action.

Ejector Setup 6" and larger paper.

Adjustable Edge Guide

Top Rear Paper Deflector

Adjustable Paper Stop Knob

Top Front Paper Deflector

Paper Pusher

Figure W

Front Paper Deflectors
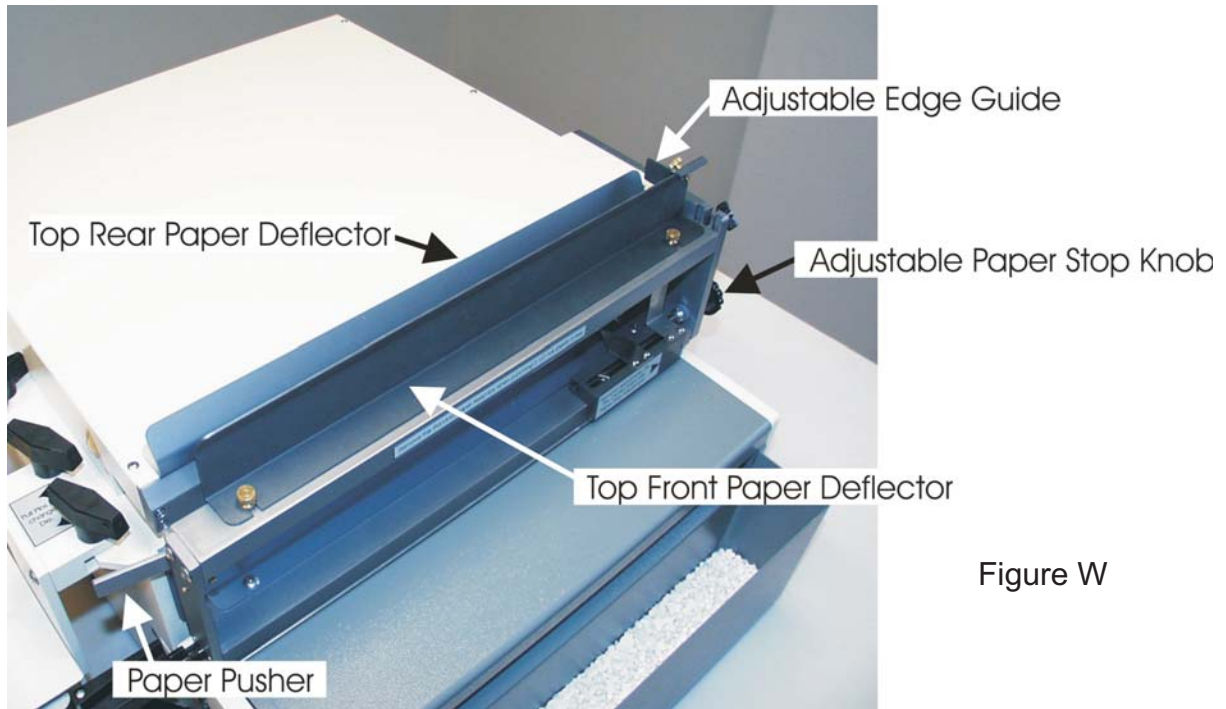
Adjustable Edge Guide

Figure X

Your APES System came without the Paper Deflectors installed. The machine came with a large Top Front Paper Deflector with an Adjustable Edge Guide attached to it and a large Top Front Paper Deflector without an Edge Guide, see Figure X. These guides are used in the locations shown in Figure W.

Adjustable Paper Stop Knob: This adjustment knob is used to center the holes within your sheet. Move the Adjustable Edge Guide to the most right position so it will not conflict with the Paper Stop adjusting process. Rotating the knob clockwise will in essence move the holes to the left on your paper and rotating the knob counter-clockwise will move the holes to the right.

Adjustable Edge Guide: After setting up the Paper Stop, place a sheet in the APES System Ejector against the Paper Stop, then move the Adjustable Edge Guide against the page and tighten the screw. This guide is primarily used to better stabilize the top of the sheet against the Paper Stop.

Top Rear (and Front) Paper Deflectors: These guides make paper insertion into the APES System and punch easier and quicker. Some operators may prefer reversing guide positions or simply removing the Top Rear Deflector for better ease. These next three images illustrate the suggested deflector setups;
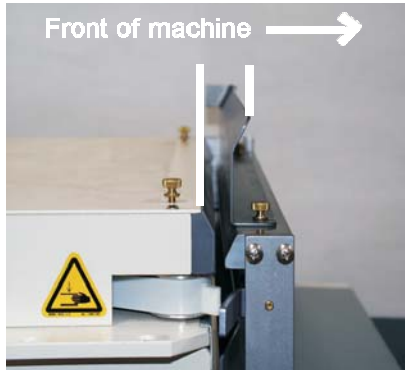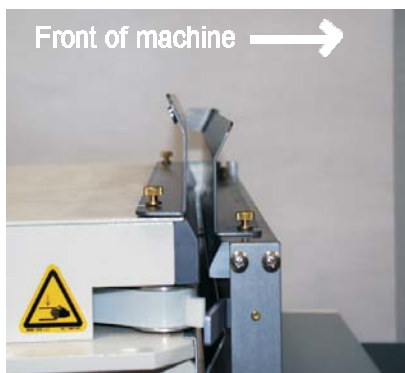

This image shows the Large Top Front Paper Deflector with the Adjustable Edge Guide in the forward configuration. This configuration, with no rear deflector, eliminates the need for lifting of the sheets over a rear deflector. However this also offers a smaller opening to insert the paper into. Paper that has a lot of wave or curl may be more challenging to insert.

This image shows the second Large Top Front Paper Deflector. This configuration can be used with larger paper sizes or portrait punching, as it offers more support to the pages after they have been inserted.

Paper Pusher:
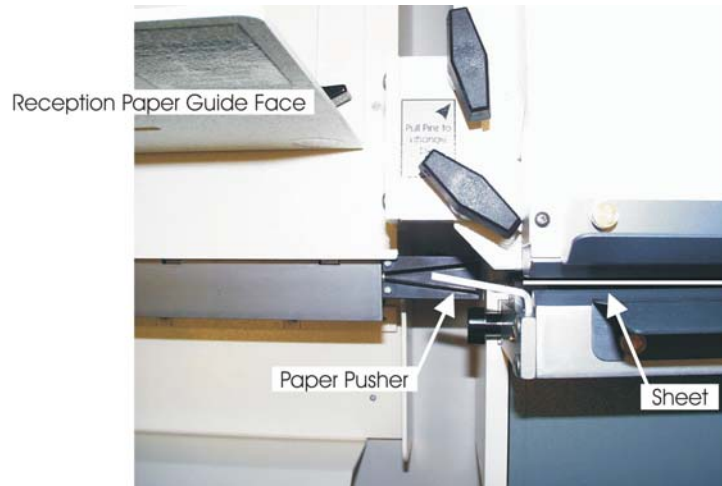
Figure Y

See FigureY. When the paper passes by the Paper Pusher the paper is slightly pushed toward the Reception Paper Guide face. This action helps to position the paper upright in the Reception Paper Pivot.

NOTE: The Paper Pusher can be positioned such that the paper is constricted on its way to the reception area. This can slow the paper to the point that it will not exit completely or cause the exit belt paddle to "dent" the paper.

Ejector Setup 5-1/2" and Smaller Paper.

Sheets that stand 6" tall may use either Ejector setups. Sheets shorter than 6" must remove the Bracket Assembly to access the sheets within the APES System;

Figure Z

Remove the Bracket Assembly by loosening the two knobs located on each end of the assembly as shown and shift assembly left so that the assembly falls clear of the ejector. See Figure Z.

Optional Mounting of Palm Switch Bracket:

Attach palm switch bracket by loosening the bolt shown in figure Z1 and slipping the bracket between the plate and the washer, tighten the bolt. Attach palm switch (figure Z2) from HD7700 or purchased separately. Plug palm switch into accessory outlet (figure Z3) on right side of APES ejector. Select Paper Stop Active on the control panel (See page 16).

| Figure Z1 | Figure Z2 | Figure Z3 |

Ready to Operate the APES System.

Now that you have setup both the APES System Reception and Ejector you're ready to begin a job.

Figure AA

Place your job on top of the Ejector just behind the punching location. Locate the edge to be punched toward the front of the machine and face up. Position your Foot Pedal in a comfortable location.

Begin loading the APES System Ejector by picking 20-25 sheets and setting them in the APES System Ejector, and jogging the pages down and right against the Paper Stop(s). As you actuate the foot pedal begin reaching for another 20-25 sheets to feed into the Ejector. Repeat.

You will find the APES System has increased your productivity by doing the take-away and stacking of your job for you.

Setup and Use of the AccuSet Index Paper Guide.

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Your APES machine came with the AccuSet Index ready to be adjusted to your punch. To zero-in the AccuSet index, choose one of your punching dies that are listed within the label that has a fine line indicator. For instance, as seen below in figure BB, the 8 1/2" 3-1 has a fine line indicator and the 8 1/2" 4-1 does not and shouldn't be used for initial setup. Once a fine line indicator die has been chosen regardless of paper size, punch that size sheet within the APES and punch. Using the Adjustable Paper Stop Knob on the APES as described in section 12 page 20, fine tune the paper stop until the sheet punch pattern is centered on the page. To determine if the pattern is centered, fold the sheet over onto itself as shown in figure DD and align the page ends. If the first and last holes align perfectly you are ready for the next step, otherwise readjust the Adjustable Paper Stop Knob and repeat hole alignment. Now that the APES paper stop is aligned, you must manually align the Index Pointer (Figure CC). With a small Philips screwdriver, loosen the Index Pointer from its mount and move it until its corresponding paper mark aligns with the fine line indicator you chose (Figure EE). Retighten the screws. Now your APES System is setup for use for any die and page setup.
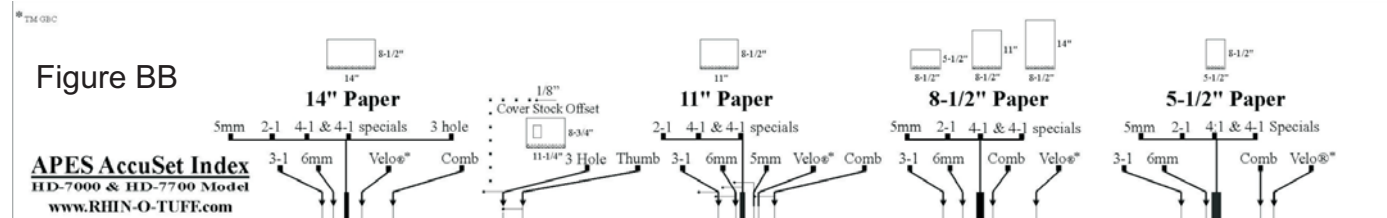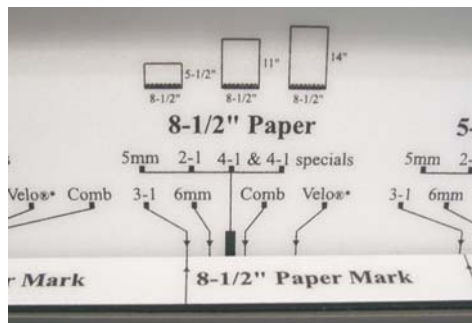
Figure BB

Figure CC

Figure DD

Figure EE

Troubleshooting Guide;

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Only qualified personnel should attempt to work on this equipment.
The APES System is a well-built, heavy duty Auto Paper Ejector Stacker system and will give years of reliable service. Below is a troubleshooting guide to help you through some of the problems that may be encountered.
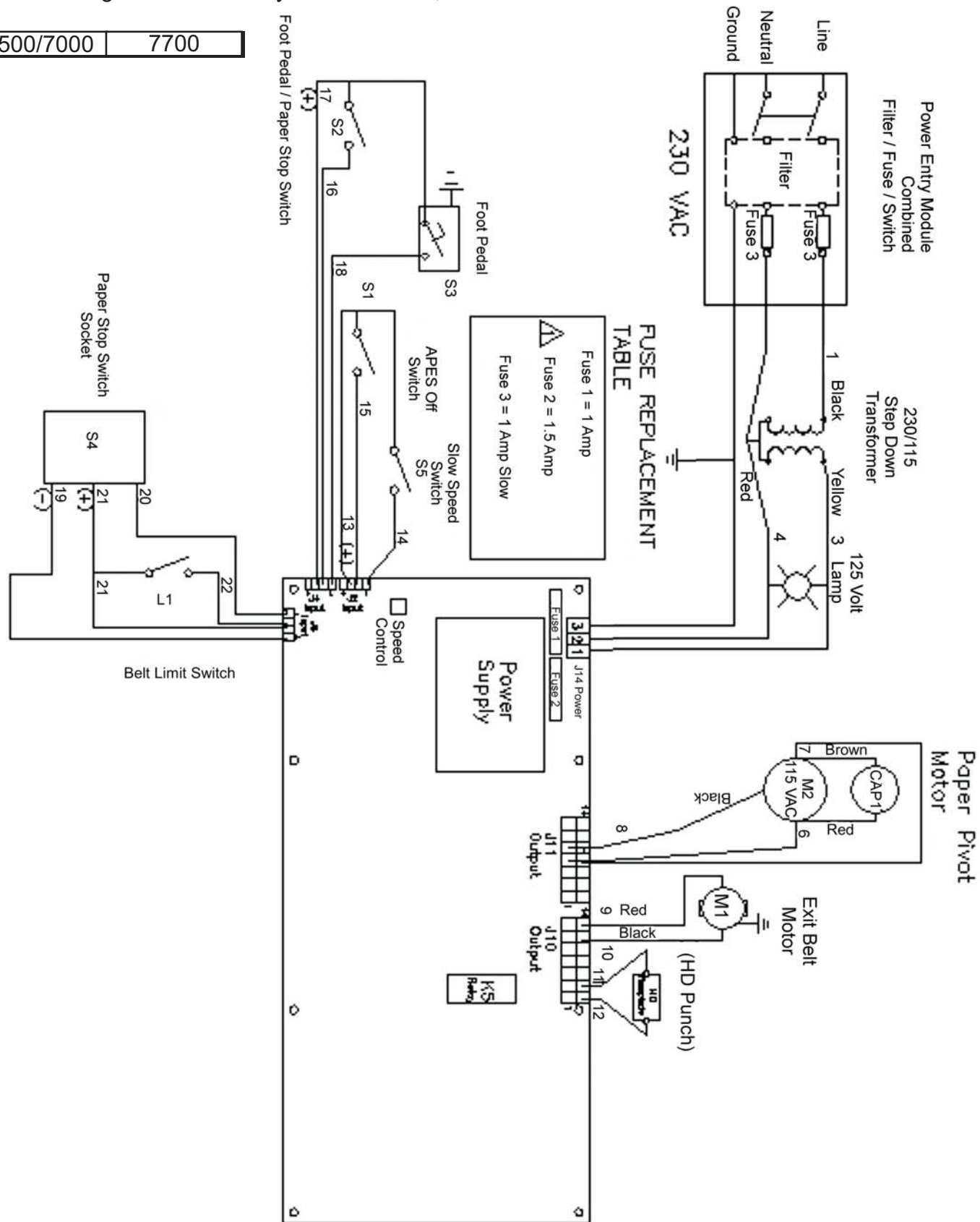
Symptom	Possible Cause	Action
APES machine does not cycle. Paper pivot and ejection belt do not move. (Punch does not cycle)	1) APES section not turned on. 2) APES not plugged into wall socket. 3) Foot pedal or paper stop switch not plugged into machine. 4) APES in paper stop switch mode without option attached. 5) Blown fuse.	1) Check power switch. 2) Check both ends of power cord. 3) Make sure foot pedal or paper stop switch cable is attached to machine. 4) Make sure APES is set to foot pedal mode when no paper stop switch is attached. 5) Check fuse.
APES machine cycles. Paper pivot and ejection belt move but punch does not operate.	1) Punch not turned on. 2) Punch not plugged into wall socket. 3) APES not plugged in punch. 4) Die not locked in position. 5) Punch not operating.	1) Check power switch. 2) Plug both ends of power cord. 3) Plug APES into foot pedal receptacle on back of punch. 4) Make sure both die handles are up an locked on punch. 5) Plug original foot pedal back into punch. Go through troubleshooting procedure using punch manual.
Paper pivot moves and punch operates. (ejection belt does not move on APES section)	Grey cable is unpluggedf rom back of reception.	Make sure grey cable is plugged into back of reception.
APES ejection belt moves but paper pivot does not.	1) O-ring belt needs adjustment. 2) Belt needs replacement.	1) Motor can be adjusted to tighten belt. 2) Replace belt by sliding off of both pulleys.
Ejection belt runs continuously.	Check micro switch under top cover.	Adjust or replace.
Ejection belt stop at random positions.	Check micro switch under top cover.	Adjust or replace.

Electrical Diagram for APES System 115VAC.;

6500/7000	7700

Power Entry Module

115 Vac

Line
Neutral
Ground

Fuse 3
2A Slow Blow
1
2
3

115 Volt
Illuminated
Main Line
Switch
4
5

FUSE REPLACEMENT
TABLE

Fuse 1 = 1 Amp
Fuse 2 = 1.5 Amp
Fuse 3 = 2 Amp Slow

Foot Pedal / Paper Stop Switch

S2
17
16
(+)

Foot Pedal
S3

S1
18
15

APES Off
Switch

Slow Speed
Switch
S5
13 (+)
14

Paper Stop Switch
Socket

S4
19 (−) 21 (+) 20

21 L1 22

Belt Limit Switch

Speed
Control

Power
Supply

Fuse 1
Fuse 2

J14 Power
3 2 1

Paper Pivot
Motor

Brown
M2
115 VAC
7
Black
CAP1
6
Red

J11
Output
8

Exit Belt
Motor

M1
9 Red
Black
J10
Output
10 11 12

(HD Punch)
HD
Switch

K5
Relay

24

Electrical Diagram for APES System 230VAC.;

6500/7000	7700

Power Entry Module
Combined
Filter / Fuse / Switch

230 VAC

Ground
Neutral
Line

Filter

Fuse 3
Fuse 3

Foot Pedal / Paper Stop Switch

S2
17 (+)
16
18

Foot Pedal
S3

APES Off
Switch
S1
15

Slow Speed
Switch
S5
13 (+)
14

FUSE REPLACEMENT TABLE

⚠ Fuse 1 = 1 Amp

⚠ Fuse 2 = 1.5 Amp

Fuse 3 = 1 Amp Slow

230/115
Step Down
Transformer
1 Black
Red
Yellow
3
4

125 Volt
Lamp

Paper Stop Switch
Socket

S4
19 (−)
21 (+)
20
21 L1 22

Belt Limit Switch

Speed
Control

Power
Supply

Fuse 1
Fuse 2

3 2 1
J14 Power

J11
Output
14
8

Paper Pivot
Motor

Brown
7 M2
115 VAC
Black
CAP1
6 Red

Paper Motor

J10
Output
9 Red
Black
10 11 12

M1
Exit Belt
Motor

HD
(HD Punch)

K5
Relay

25