

FORMAX[®]

FD 282
Double-Head Edge Tapping System

3/2016

Maintenance Manual
First Edition

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SECTION 1 – Getting Acquainted

Safety Precautions

OBSERVE THE FOLLOWING SAFETY RULES WHEN OPERATING THE FD 282 TABBER AND STAMP AFFIXER.

BEFORE USING THE FD 282, 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 for 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 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 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.

Packaging/Shipping

The Tabber is shipped in appropriate packaging so that, under normal shipping conditions, it reaches its destination without damage.

NOTICE: Report damage to the carrier. The carrier is liable for any damage during transport. Transport and storage should take place under normal conditions, i.e. at temperatures between +5°C and +70°C and relative air humidity of up to 80%. Exposure to conditions that are not permissible may lead to damage which is not externally visible.

IMPORTANT Please save the packaging materials for future use! It will be required if you ever need to ship the Tabber.

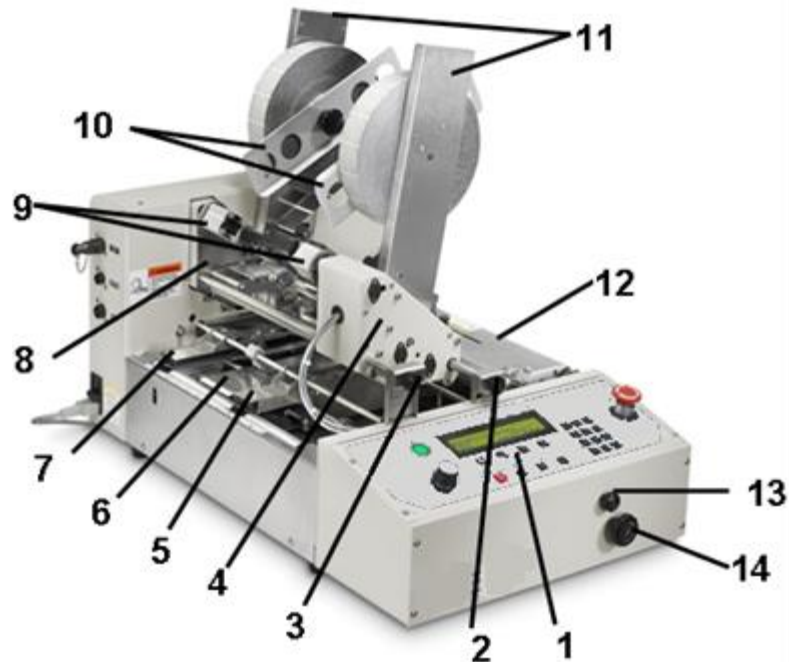
Contents

The following items are included with your tabber:

- 1 Operations Manual
- 1 Reel Assembly (H1)
- 1 Reel Assembly (H2)
- 2 Tab Reel Side Guides
- 1 Power Cord
- 1 Feeder Interface Cable (Part #: 35E-500-191)
Use to connect the optional FD 282-10 feeder to the FD 282 tabber.

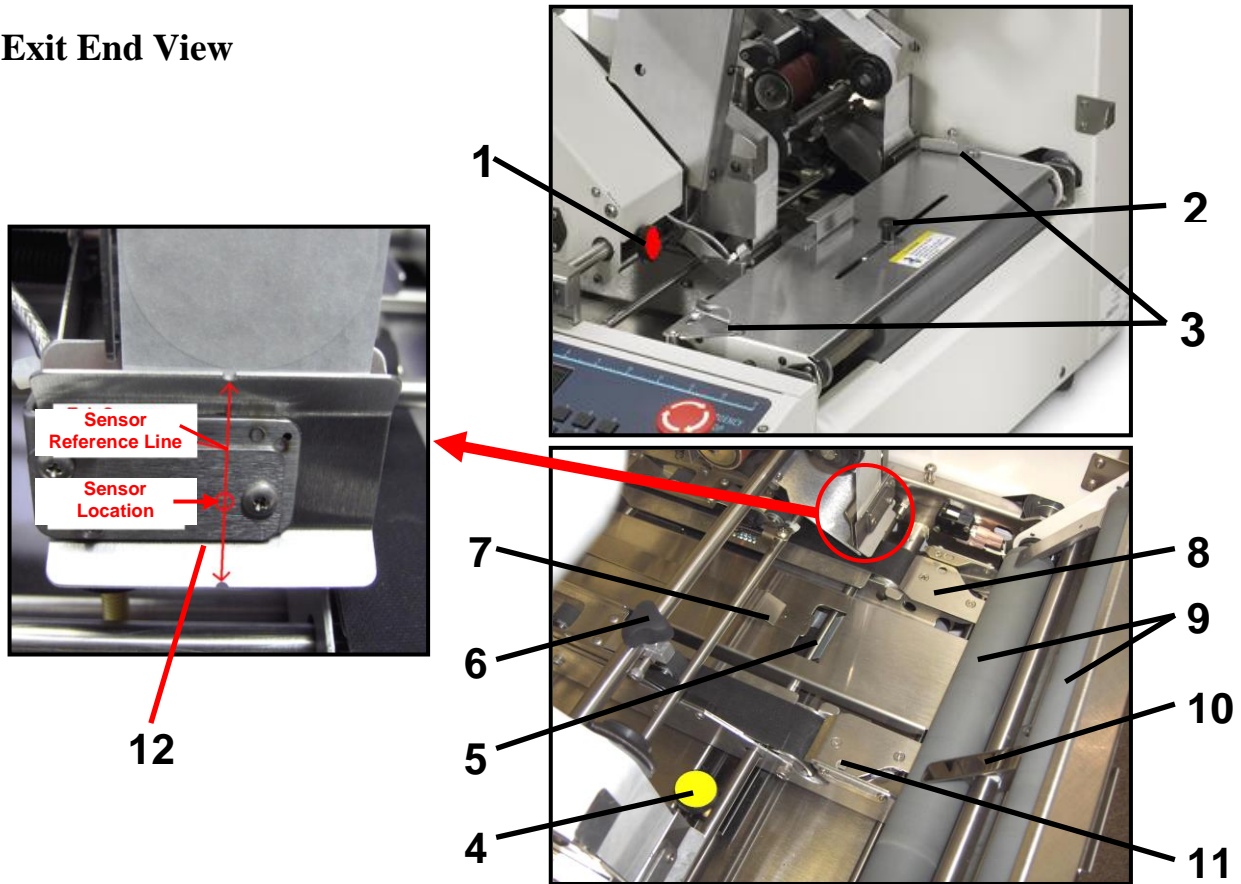
Note: Tabs can be purchased through your local Formax dealer.

Front and Entrance End View



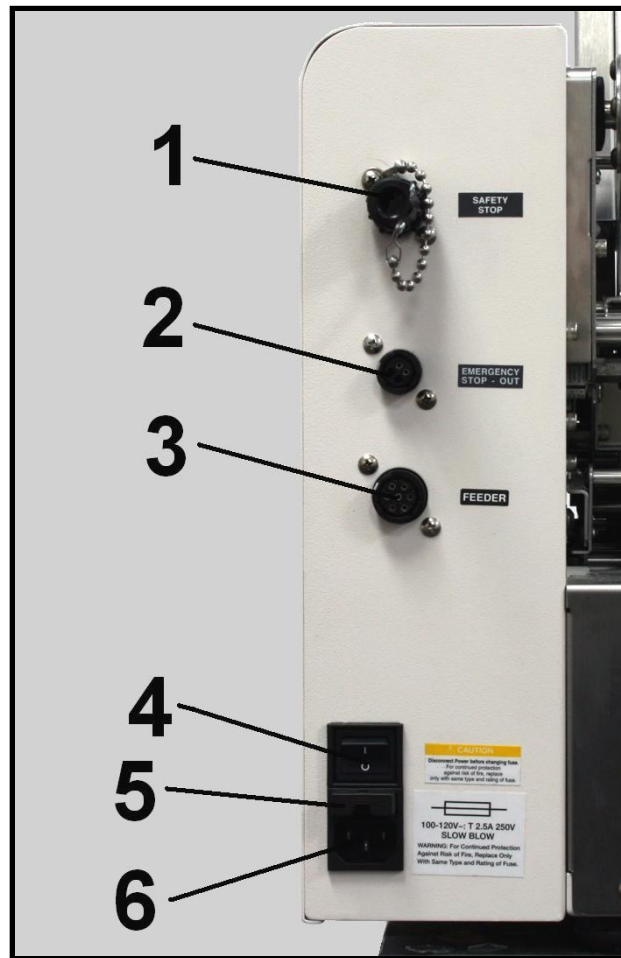
1	Control Panel – The machine is controlled and programmed from this panel. See “ Tabber Control Panel ” view for more details.
2	Head 1 Fine Adjustment Knob – This knob is used to make fine adjustments to the position of the tab/stamp, being applied by Head 1.
3	Head 2 Fine Adjustment Knob – This knob is used to make fine adjustments to the position of the tab/stamp, being applied by Head 2.
4	Head 1 – This head can be used to apply tabs to the side or leading edge of the media or it can be used to apply stamps.
5	Right Media Guide Assembly – This device must be adjusted to accommodate the width of the media. Delivers the media to the tabbing area.
6	Center Support Plate – Used to support media 6.5” wide or larger. This plate also contains the slot used in the process of end tabbing (tabbing at leading edge).
7	Left Media Guide Assembly - Delivers the media to the tabbing area. Its position is not adjustable.
8	Head 2 – This head is used to apply tabs to the side of the media.
9	Take-up Reels – After the tab is applied, the tab backing (web) is wound up here. The backing waste must be cleared from these reels after applying about 5,000 tabs.
10	Tab Reel Side Guides - Secures the Tabs/Stamps onto the Tab Reel Assembly.
11	Tab Reel Assembly (H1 & H2) – Supports and controls the tab/stamp roll for Head.
12	Exit Roller Assembly –This assembly presses the tab/stamp to the media and provides sufficient transport pressure so the media properly exits the tabber.
13	Media Guide Width Fine Adjustment – This knob is used to fine-tune the position of the Right Media Guide Assembly to accommodate the width of the media.
14	Media Thickness Adjustment Knob – This knob is used to raise or lower the Heads and Exit Roller Assembly when adjusting the tabber to the thickness of the media.

Exit End View



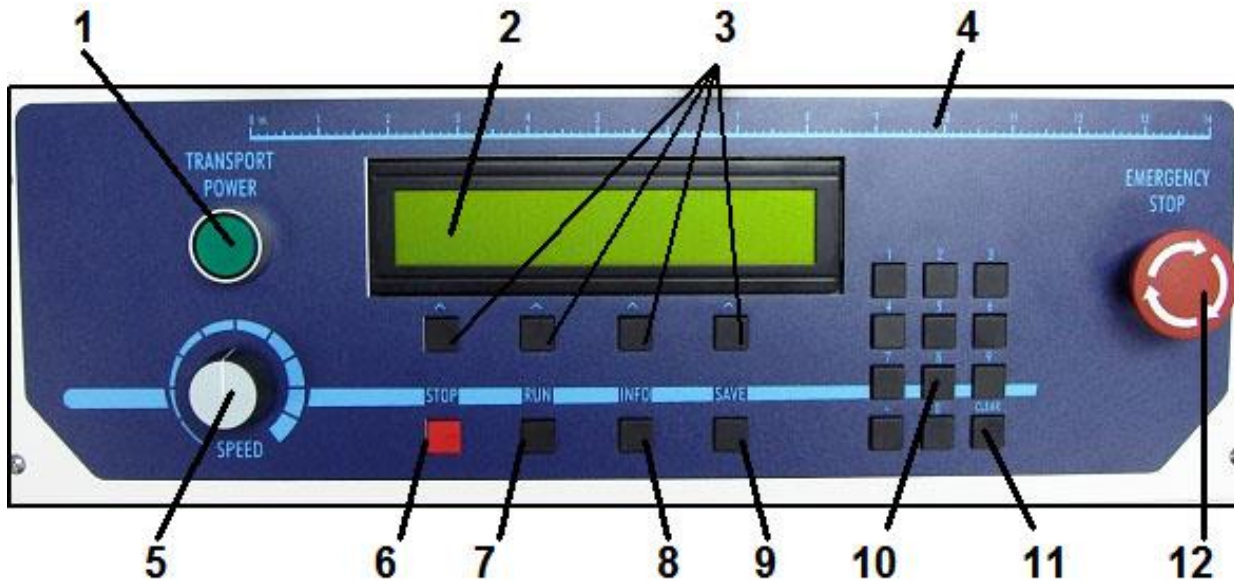
1	Head 1 Securing Knob – This knob is used to secure the position of Head 1.
2	Exit Foot Knob – This knob is used to adjust and secure the position of the exit foot.
3	Exit Roller Assembly Securing Latches – These latches are used to lock down the exit roller assembly.
4	Right Media Guide Securing Knob – This knob is used to secure the position of the right media guide assembly.
5	End Tabbing Slot – This opening, located in the center support plate, is used when applying tabs to the leading edge of the media (end tabbing).
6	Head Position Minder – Used to memorize the position of Head 1.
7	Media Hold-down Guide – Used to keep the media from lifting as it feeds through the tabber. This guide is adjusted from the entrance end of the tabber.
8	Tab Wrap Guide – Left – When side-tabbing, this guide wraps the tab around the media.
9	Exit Pressure Rollers – These rollers provide transport pressure to the media and seal the tabs to the media.
10	Exit Foot – This device holds the media down as it travels under the exit rollers.
11	Tab Wrap Guide - Right – When side-tabbing, this guide wraps the tab around the media.
12	Tab Applicator Assembly – This assembly contains the tab sensor. The notches, located at the top and bottom edges of this assembly, provide a reference for the position of the sensor. Each head (Head 1 and Head 2) includes a Tab Applicator Assy.

Power and Control Connections View



1	Safety Stop Input and Jumper – (SAFETY STOP) The safety circuit from other external devices can be connected here. When this input is opened the tabber will stop. <i>Important!</i> If an external safety circuit is not being connected to this input, then the Jumper Plug (supplied) must be connected, or the Tabber’s transport power will not turn on.
2	Emergency Stop Output – This connection permits the tabber to control the emergency stop function of an external device.
3	Feeder Control Connection – (FEEDER) This connection allows the tabber to start/stop the feeder. An appropriate cable and feeder must be used.
4	Main Power Switch – This switch is used to turn the tabber On and Off.
5	Fuse – The main fuse (2.5A / 250V) for the tabber is located here. <i>Caution!</i> Disconnect power before replacing fuse.
6	Power Inlet Connection – The power cord is connected here. 115V AC 50/60 Hz

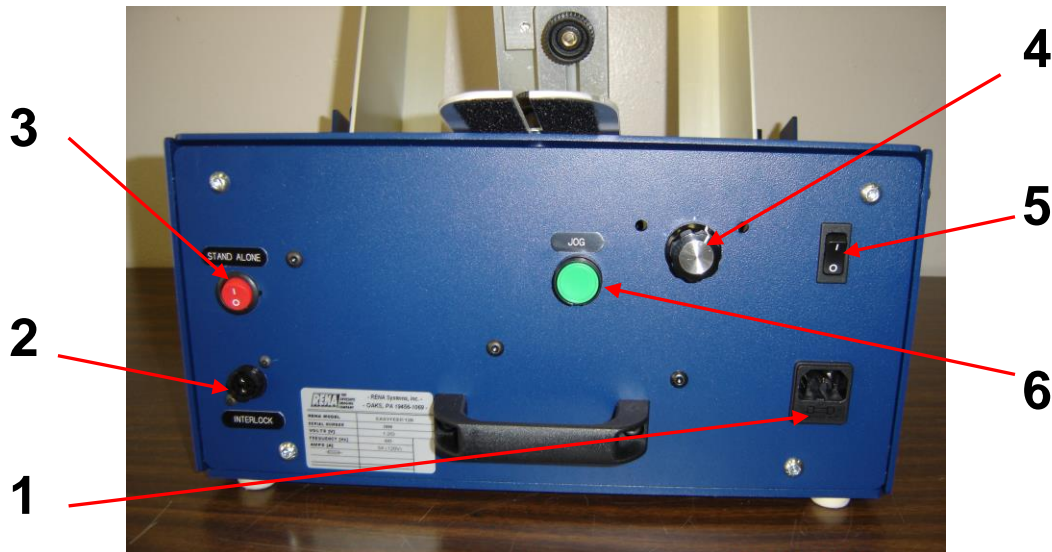
Tabber Control Panel



1.	Transport Power Switch * – Turns the tabber transport power ON.
2.	LCD Screen – Displays the status of the tabber.
3.	Soft Keys – The soft keys are used to step through the various menu options.
4.	Measuring Scale – Use the scale to measure media length, tab position and tab pitch.
5.	<p>Speed Control Dial – Adjusts the speed of the tabber transport.</p> <p>NOTE: The maximum speed of the FD 282 is determined by number of tabs being applied. Up to 20,000 pieces per hour when applying a single tab to one side of the media. Up to 12,000 pieces per hour when applying two tabs to one side of the media. Up to 8,000 pieces per hour when applying three tabs to one side of the media. Exceeding these speeds will cause the tabber to stop.</p>
6.	Stop Key – Pressing this key will cause the tabber to stop, after it has finished tabbing and clearing all media from the tabber. “Wait” is displayed during this process.
7.	Run Key – Press this key to start the tabber and run the job.
8.	Info Key – Provides additional information about the menu item you are viewing.
9.	Save Key – This key is used to save entries into memory.
10.	Key Pad – Used to set the adjustments and program the tabber.
11.	Clear Key – This key will clear any incorrect entry before it is saved into memory.
12.	Emergency Stop – Pressing this button will immediately stop the tabber (turns off transport power) and will stop any devices connected to the Emergency Stop (Safety Stop) circuit. Turn button clockwise to release (reset) it.

*Transport power will not activate unless all safety and emergency stop circuits are closed.

FD 282-10 (Optional Heavy Duty Feeder) Connections/Controls



- 1 AC Power Receptacle** – Connect the AC power cord here.
Important! Please verify that voltage is correct, for your feeder, before connecting.
- 2 Interlock Connector** – Feeder Interface Cable from tabber connects here.
- 3 Stand Alone Switch** – Allows machine to run when not signaled by host machine.
- 4 Speed Control Dial** – Used to set the speed of the feeder.
Important! The feeder's transport speed must be set slower than the Tabber's transport speed, in order to generate at least a 2" gap between pieces.
- 5 Power Switch** – Used to power the feeder on/off.
- 6 Jog Button** – Runs feeder at preset speed for setup (over-rides interlock controls)

Interlock Control Switch

This switch, located on bottom of feeder, must be set to N.C.

N.C.: Closed Input = Run

N.O.: Closed Input = Stop

NOTE: The power must be cycled (off and on) to recognize a change in this switch position.



Please refer to the FD 282-10 Operator Manual for additional information.

SECTION 2 – Assembly and Installation

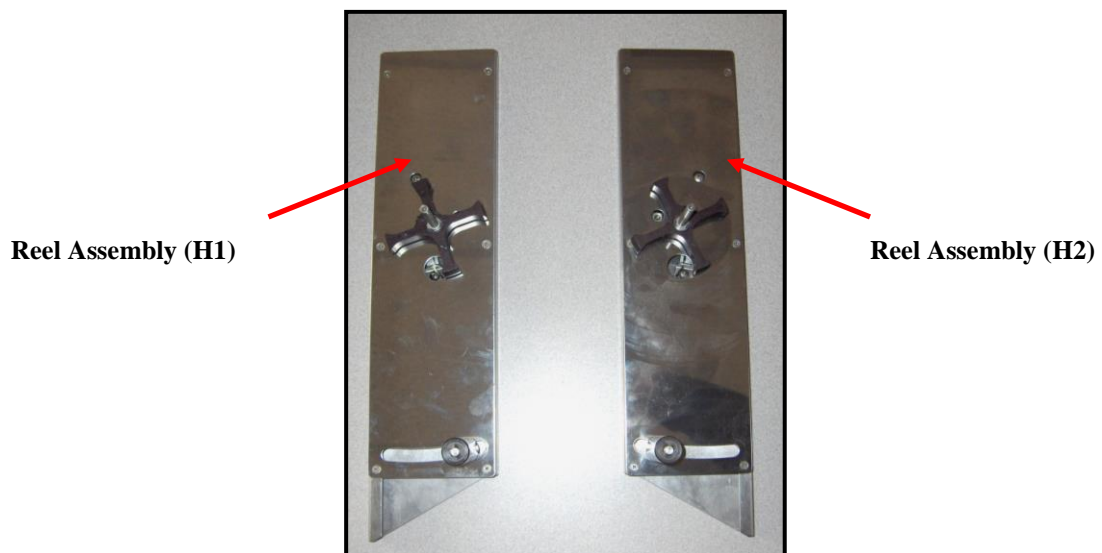
Choose a Location

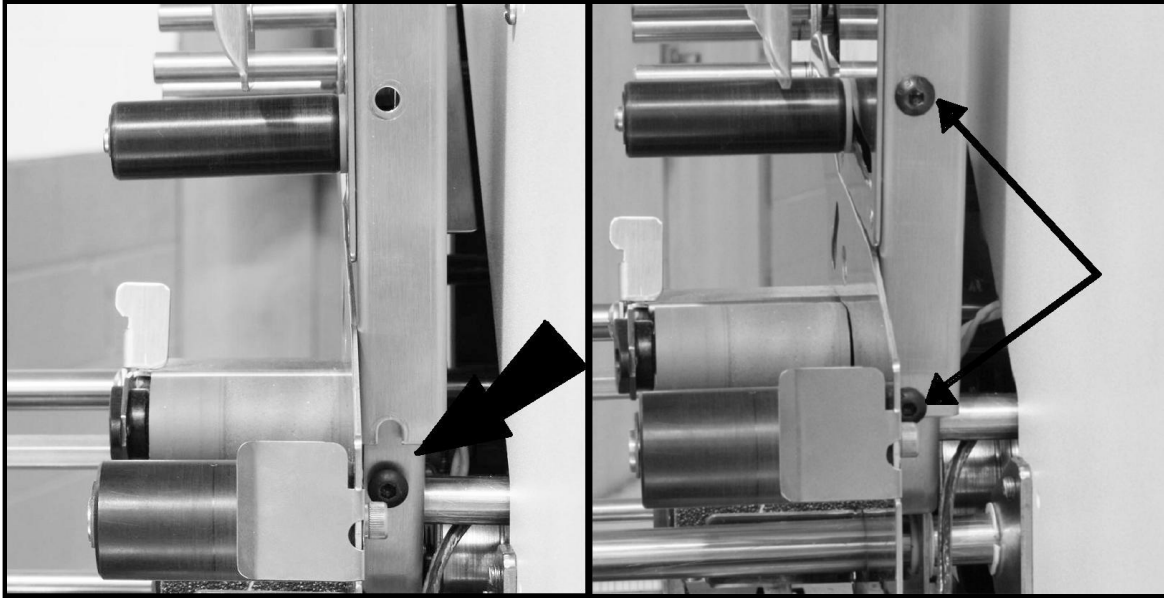
Place the FD 282 with its feeder on a sturdy worktable or cabinet at least 12 inches from any walls. Allow enough room to place the Feeder on the same work surface. Protect the FD 282 from excessive heat, dust, and moisture – avoid placing it in direct sunlight.

CAUTION

**THE UNIT IS HEAVY.
IT IS STRONGLY RECOMMENDED THAT TWO TECHNICIANS REMOVE THE
TABBER FROM THE CARTON AND PLACE IT ON THE WORKING SURFACE.**

Installing the Reel Assemblies

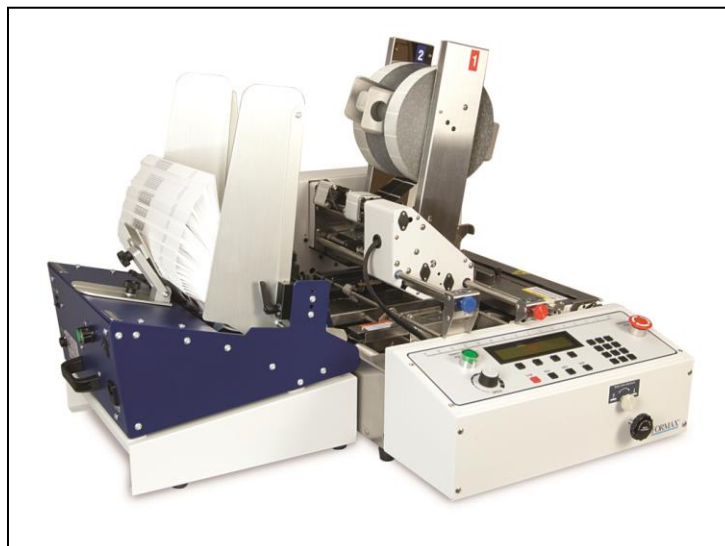




1. Remove the upper mounting screw and loosen the lower mounting screw from the Reel Assembly Mounting Plates on Head 1 and Head 2.
2. Slide the appropriate Reel Assembly over the Mounting Plate, of Head 1 and Head 2, until they bottom out on the lower mounting screw, as shown above.
3. Install the upper mounting screws and tighten.
4. Tighten the lower mounting screws.

Positioning the optional FD 282-10 Feeder

The optional FD 282-10 feeder should be placed onto the appropriate riser stand (FD 282-15), and positioned at the entrance end of the tabber, as shown below.



Plugging in the Feeder and Tabber

Make sure the emergency stop button on the FD 282 is pressed down and the main power switch above the power cord receptacle is in the OFF position. Make sure the power switch on the feeder is also in the OFF position.

1. Connect one end of the Tabber power cord [1] to the rear of the FD 282 in the corresponding receptacle.
2. Connect one end of the Feeder power cord [2] to the rear of the Feeder in the corresponding receptacle.
3. Plug the other end of each cord into a 115 Volt AC, 50/60 Hz. Grounded outlet.

CAUTION

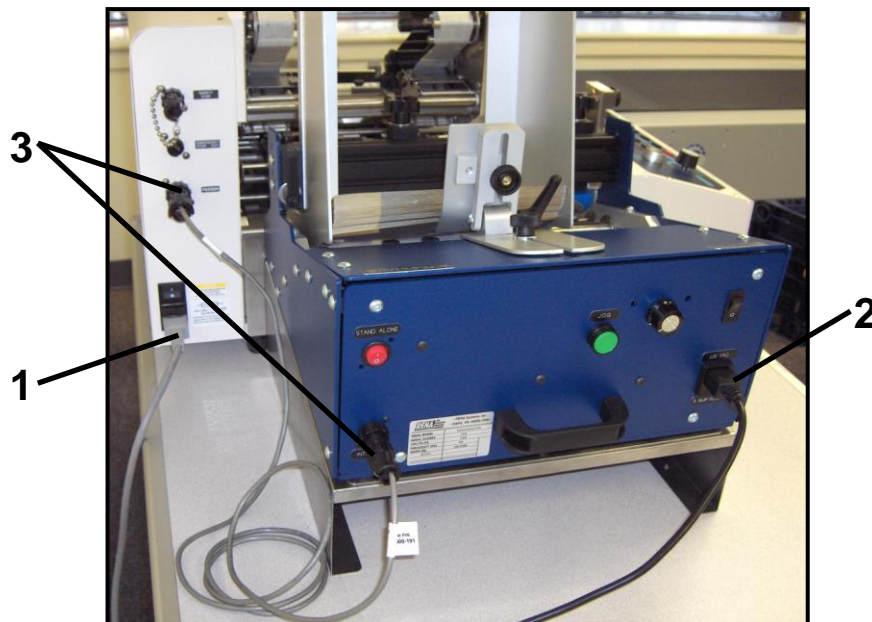
DO NOT USE ADAPTER PLUGS OR EXTENSION CORDS TO CONNECT THE TABBER OR THE FEEDER TO THE WALL RECEPTACLE.

DO NOT USE OUTLETS CONTROLLED BY WALL SWITCHES.

DO NOT USE AN OUTLET THAT SHARES THE SAME CIRCUIT WITH LARGE ELECTRICAL MACHINES OR APPLIANCES.

4. Connect the appropriate Feeder Interface Cable [3] to the Feeder and to the lower connector on the Tabber.

CAUTION! Be sure you are using the appropriate cable with the appropriate feeder/tabber or damage may result.



SECTION 3 – Operating Tips

Please see the “FD 282 Operator Manual” for detailed setup and operating instructions.

Operation Check-List

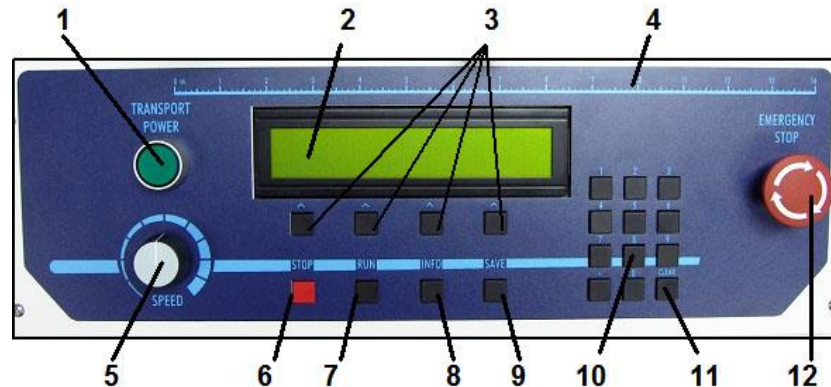
The following check-list should be referenced before you start operating the tabber or if you are having a problem with tabber operation.

- Tabber and Feeder are mechanically setup to properly transport your media.
 - Right Media Guide Assembly is adjusted to accommodate width of media
 - Tabber’s Media Thickness setting is adjusted to accommodate media.
 - Exit Foot repositioned against Right Media Guide Assy.
 - Media feeds without hesitation or skew, using Pass-Thru mode.
 - Speed of tabber and feeder is adjusted so a 2” gap or more is generated between each piece.
- Peel Plate properly positioned for your application (side tab/stamp or end tab).
- Tabs/Stamps properly loaded/threaded, on both heads.
 - Tab web threaded behind Reel Brake Roller arm.
 - Pressure Rollers Release Latch is lowered (pressure engaged) on both heads.
- Job properly programmed.
 - Desired Job number has been selected.
 - V-Tab (tab sensor adjustments) values set for current tab/stamp stock.
 - Tab Pitch set for current tab/stamp stock.
 - Product (media) length has been set accurately (when using Automatic Setup).
 - Desired positions (offset values) set for Tabs/Stamps.
 - Unused Head was turned off (disabled) in menu.
- Exit Roller Assembly closed and locked (latched)
- Power Cord is plugged into wall outlet and tabber.
- Main Power Switch ON.
- Feeder ON.
- Emergency Stop Button released.
- Safety Stop Input Jumper Plug installed.

Sequence of Operation

The proper sequence for starting the FD 282 is as follows:

1. Turn on the tabber using the Main Power Switch, located on the rear left side of the FD 282.
2. Check that the **Emergency Stop Button** (12) is in the released or operate position.



3. Press the **Green Transport Power Switch** (1) on the FD 282 Control Panel.
- 4.

IMPORTANT

IF YOU ARE USING THE OPTIONAL FEEDER MAKE SURE THAT THE INTERFACE CABLE IS CONNECTED

5. Press the **RUN** key (7) located below the soft keys on the Control Panel to start the tabber. Adjust the **Speed Control** (5) to set the speed of the Tabber.
6. Turn on the feeder and set the media delivery speed so it is slower than tabber transport.

IMPORTANT

THE MAXIMUM SPEED OF THE FD 282 TABBER IS CONTROLLED BY THE TABBER'S SOFTWARE. THE SPEED OF THE TABBER FOR APPLYING SINGLE TABS TO ONE SIDE OF A PIECE IS 20,000 PIECES PER HOUR, DOUBLE TABS TO ONE SIDE OF A PIECE IS 12,000 PIECES PER HOUR, AND TRIPLE TABS TO ONE SIDE OF A PIECE IS 8,000 PIECES PER HOUR. EXCEEDING THESE SPEEDS WILL CAUSE THE TABBER TO STOP.

7. Press the **STOP** key (6) located below the soft keys to stop the tabber. Pressing the large **Emergency Stop** button (12) will shut down the entire tabber and lock out the other keys. To restart from an Emergency Stop you must release the button by turning it clockwise. Then press the **RUN** key (7) to restart the tabber.

IMPORTANT

THE FD 282 IS EQUIPPED WITH A TIME OUT FEATURE. IF THE FD 282 IS LEFT RUNNING WITHOUT FEEDING PIECES FOR MORE THAN 30 SECONDS IT WILL SHUT DOWN. TO RESTART, PRESS THE RUN KEY.

Selecting a Pre-Programmed Job to Run

Up to four jobs may be programmed into the FD 282 memory.

To run a pre-programmed job:

1. Press the **Job #** soft key.
2. Select the Job you wish to run. In our example, we are selecting Job # 2 using the soft key 2.

Select saved Job# (1-4) or Press RUN to tab using Job 1			
Status:			Pieces: 0
1	2	3	4
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Tip: Press and hold the **INFO** key to check the job setup. A screen will appear that contains the settings and adjustments for the job number that is currently selected. See “[Info Key and Info Screen](#)” for more details.

3. The Select Setup Option screen will appear.
Press the **RUN** key on the control panel to start the tabber. Adjust the **Speed Control** to set the speed of the Tabber.

Select Setup Option: Press Run to tab using Job # 2			
Status: Job # 2 setup			
Manual	Automatic	V-Tab	BACK
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

When the Tabber is running the screen at right will appear. It contains the following information:

Current Job# 2	# of Tabs 2
Rate: 00000 Pieces/Hour	Pieces: 000000
Status: Ready to tab. Press Stop to EXIT.	
<input type="checkbox"/>	<input type="checkbox"/>

- a. The number of the programmed job that is running.
 - b. The number of tabs being applied to the piece from both heads.
 - c. The rate or speed in pieces per hour.
 - d. The number of Pieces that have been run. This can be reset by pressing the **CLEAR** Key on the Control Panel before starting the job.
4. To stop the Tabber, press the **STOP** key. After the tabber has finished processing and clearing all pieces from the system, it will stop. “Wait” is displayed during this process. If you need to stop the tabber immediately (paper jam), press the large **Emergency Stop** button to shut down the entire tabber. The tabber will display “Emergency Stop is pressed”.
To restart from an **Emergency Stop**, after clearing any jammed media/tabs from the system: Release the button by turning it clockwise. Press the green Transport Power Button to turn the transport power back on. Press the **RUN** key to restart the tabber.

Tab Positioning Adjustments (Fine Adjustments)

To obtain the desired amount of tab on the top side and bottom side of the media, use the appropriate adjustment procedure below.

End Tab:

Tab being applied to leading edge.

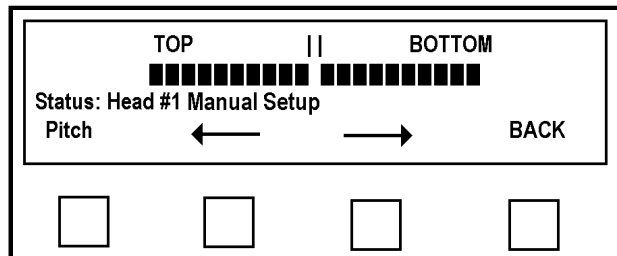
Tab Fold Position:

When End Tabbing (tabbing on the lead edge of the media), the Tabber's programming mode is used to adjust the amount of tab on the top and bottom.

Use the menu feature shown to adjust the fold position of the tab.

To access this feature:

1. Select **Job #**
2. Select your desired Job number.
3. Select **Manual**
4. Select **Head #1**
5. Select **Front Tab**.



Each of the squares represents approximately 1/20 of the set tab length (Pitch). Press the appropriate arrow key to move the tab. If you require more of the tab on the bottom press the right arrow key. If you require more of the tab on the top press the left arrow key.

Positioning Tab on Leading Edge of Media:

Move Head 1 and the Center Support Plate to the desired tab location.

Make sure the Peel Plate is set in the "End Tabbing Application position".

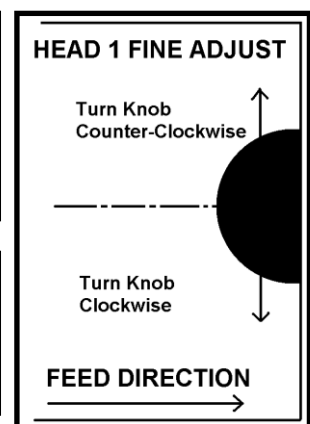
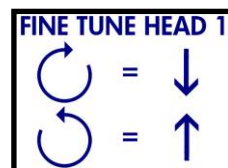
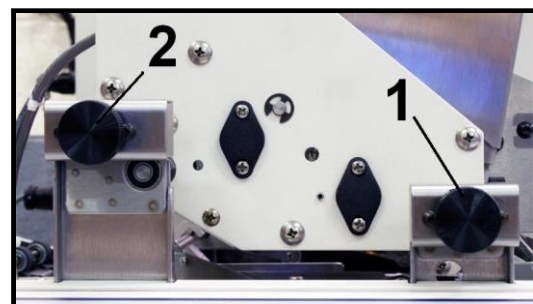
Use the Head 1 Fine Adjustment Knob (1) to make small changes to tab placement.

Fine Tune Head 1: (End Tab)

By turning this knob (1) counter-clockwise Head 1 moves away from the operator side, which will move the end tab position away from the operator side.

By turning this knob (1) clockwise Head 1 moves towards the operator side, which will move the end tab position closer to the operator side.

Important: Make sure the Center Support Plate is installed and it has been positioned so the tab enters the slot in the Center Support Plate.



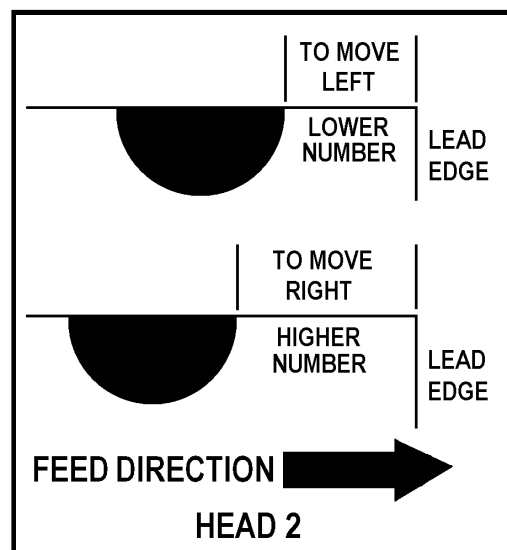
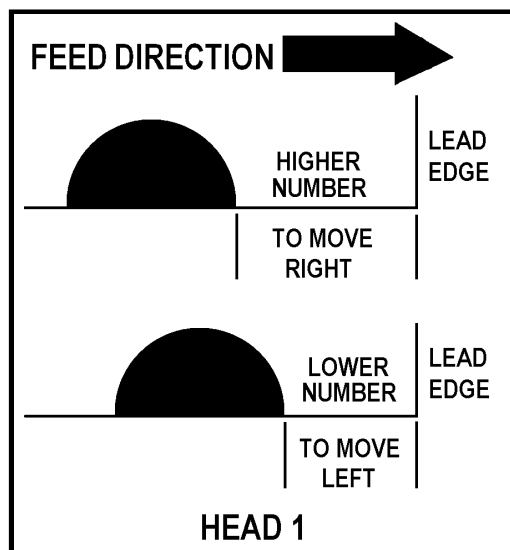
Side Tab:**Position Tab on Side of Media:**

Whether you are using Head 1 or Head 2 adjustments to the tab position, from the lead edge of the piece, is done in the Tabbers Menu (Job Programming).

Regardless of whether you are placing one or three tabs, increasing the number will move the tab to the right and decreasing the number will move it to the left of the original setting.

To adjust the Tab Position:

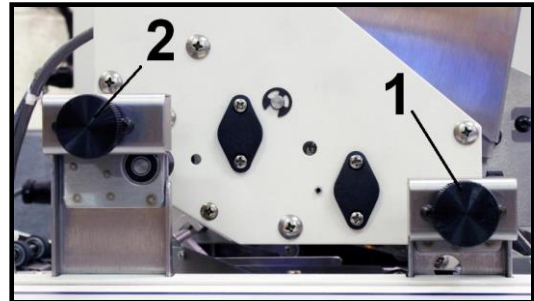
1. Select **Job #**
2. Select your desired Job number.
3. Select **Manual**
4. Select **Head #1** or **Head #2**
5. Select **Tab/Stamp** or **Side Tab**
6. Select **Position**
7. Select the **Tab number** (Tab 1, Tab 2, Tab 3) you wish to adjust. The **Current Value** (Tab Position) will be displayed.
8. Use the Numeric Keypad to enter a different value, then press **Save**.
A larger number will move the tab position to the right (towards leading edge).
A lower number will move the tab position to the left (towards trailing edge).
9. When you are finished, press the **BACK** key four times to return to the "Select Taber Head" screen.
10. Press **RUN**, to feed and tab at least two pieces.
11. Check the new tab position on the second piece. If you require adjustment repeat from Step 4 above.



NOTE: The maximum amount of tab that can be wrapped onto the bottom side of the media is $\frac{3}{4}$ ". If you exceed this maximum, the tab will be damaged/torn or wrinkled.

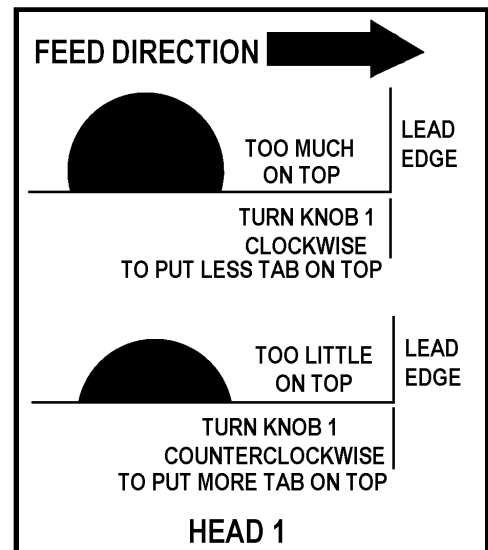
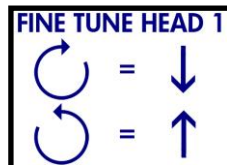
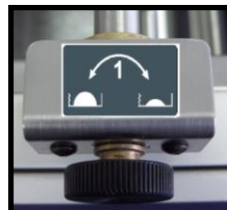
Tab Fold Position:

When side tabbing, the Fine Adjustment Knobs (1) and (2) can be used to make small corrections to the fold position (amount of tab on top/bottom of media).



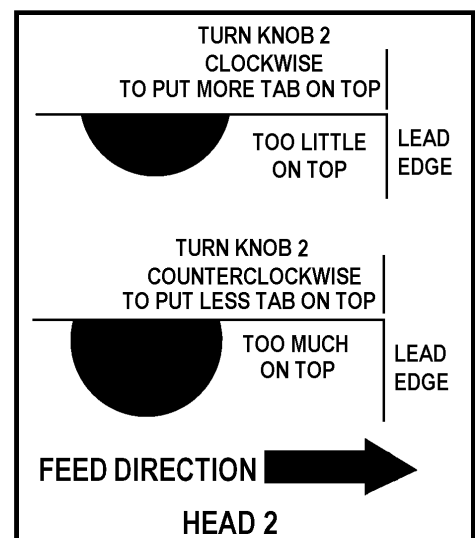
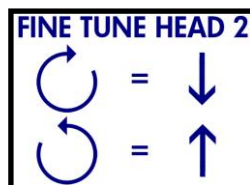
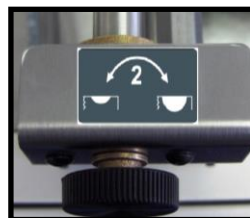
Fine Tune Head 1:

- By turning this knob (1) clockwise, Head 1 moves towards the operator side, which will cause less of the tab to be placed on the top side of the media.
- By turning this knob (1) counter-clockwise, Head 1 moves away from the operator side, which will cause more of the tab to be placed on the top side of the media.



Fine Tune Head 2:

- By turning this knob (2) clockwise, Head 2 moves towards the operator side, which will cause more of the tab to be placed on the top side of the media.
- By turning this knob (2) counter-clockwise, Head 2 moves away from the operator side, which will cause less of the tab to be placed on the top side of the media.



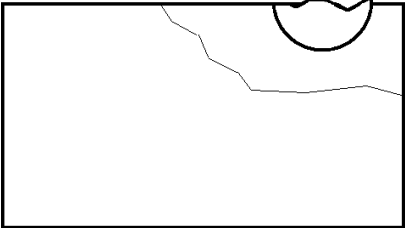
NOTE: The maximum amount of tab that can be wrapped onto the bottom side of the media is 3/4". If you exceed this maximum, the tab will be damaged/torn or wrinkled.

SECTION 4 – Troubleshooting

The following trouble-shooting guide is provided to assist you in solving any problems that might occur with the FD 282 Tabber. We have tried to make it as complete as possible.

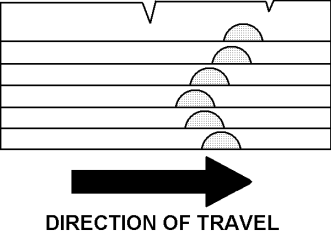
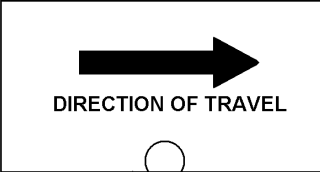
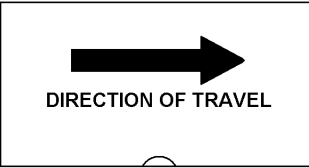
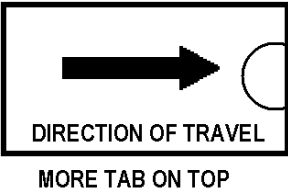
If you are experiencing a problem with the operation or function of the tabber, please refer to the [“Operation Check-List”](#) section as well as this “Troubleshooting” section.

Jams

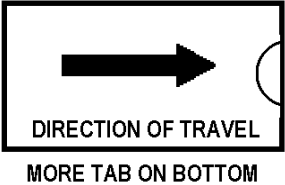
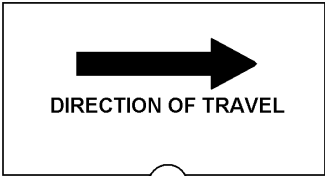

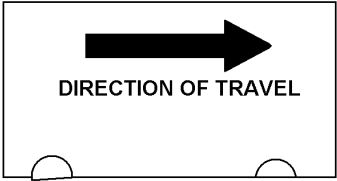
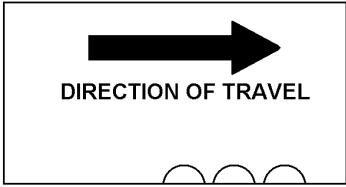
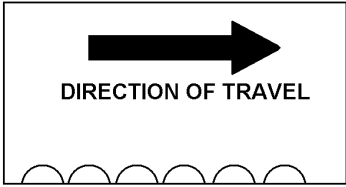
CONDITION	SOLUTION
<p>Media jams in transport section of Tabber.</p>	<ol style="list-style-type: none"> 1. Check alignment of Feeder to Tabber. Media should feed between the Media Guides. 2. Check that the Media Hold-down guide is not pressing down too firmly on the media. This will cause media to hesitate or skew. 3. Check that the Media Guides are not set too tight (too close together) or the media may stall or hesitate as if feeds. 4. Check that the Media Thickness adjustment is not too tight or too loose. 5. Look for obstructions in the feed path (paper, tabs, etc...).
<p>Tabs jam in tab wrap guides.</p>	<p>Clean the Tab Wrap Guides. See Operator Maintenance Section.</p>
<p>Side Tab Tears and does not seal to the bottom of the piece. Media or tab may jam in tabber. Tab or media may be wrinkled.</p> 	<ol style="list-style-type: none"> 1. Media Guides are set too tight against the media, not allowing additional width of tab on media to pass through system. Move the Right Media Guide out (toward the operator side) a little. 2. Placing too much tab on bottom side of the media. Maximum tab wrap on bottom side of media is $\frac{3}{4}$". Reduce the amount of tab being applied to the bottom side of the media.

Tab Placement Problems

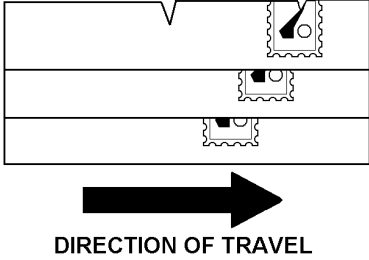
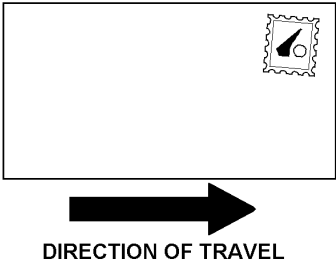
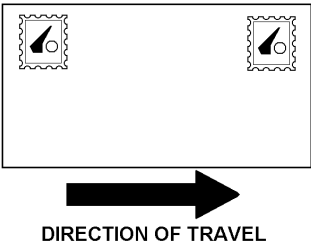
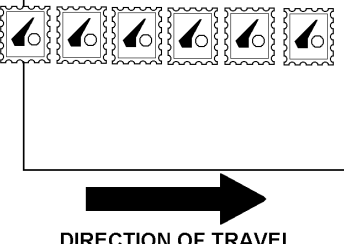
If you are experiencing a problem with the operation or function of the tabber. Please refer to the “[Operation Check-List](#)” section as well as this “Troubleshooting” section.

CONDITION	SOLUTION
<p>Tabs placement is inconsistent on the media.</p> 	<p>Tabs should be placed within +/- 1/8”</p> <ol style="list-style-type: none"> 1. Check the pitch setting for the tab. Pitch = Distance from the top of one tab to the top of the next tab (including space between tabs), plus 0.01”. 2. Check to be sure Pressure Roller Release Latch, for tab drive, is engaged (lowered). 3. Check the media thickness adjustment. Too little can cause the media to slip, when it is being fed. 4. Check that the tabs are threaded properly. See tab threading diagram. Are they behind the “Reel Brake Roller” arm?
<p>More of the tab is on the top of the media than on the bottom.</p> 	<p>Adjust the Fine Adjustment Knob for Head 1 or Head 2, depending on the head that requires adjustment. See “Tab Positioning Adjustments (Fine Adjustments)” Section.</p>
<p>Less of the tab is on the top of the media than on the bottom.</p> 	<p>Adjust the Fine Adjustment Knob for Head 1 or Head 2, depending on the head that requires adjustment. See “Tab Positioning Adjustments (Fine Adjustments)” Section.</p>
<p>Lead edge tab is more on the top than the bottom.</p> 	<p>This adjustment is performed in the tabber programming menu. See “Tab Positioning Adjustments (Fine Adjustments)” Section.</p>

Tab Placement Problems (continued)

CONDITION	SOLUTION
<p>Lead edge tab is more on the bottom than the top</p> 	<p>This adjustment is performed in the tabber programming menu. See “Tab Positioning Adjustments (Fine Adjustments)” Section.</p>
<p>Tab is not flush with the edge of the media.</p> 	<p>Reduce distance between Left and Right Media Guide Assemblies using the Media Guide Width Fine Adjustment knob (turn it counter-clockwise).</p> 
<p>When double tabbing one tab is not placed properly on the edge of the media.</p> 	<ol style="list-style-type: none"> 1. Reduce distance between Left and Right Media Guide Assemblies using the Media Guide Width Fine Adjustment knob (turn it counter-clockwise). Check the Media Thickness adjustment. Too much pressure will cause the media to flex as it is transported. Too little pressure can cause the media to skew as the tab is being applied.
<p>Tabs are applied together, instead of being separated by a distance.</p> 	<p>Programming issue. When programming for multiple tabs, Together was selected instead of Separate. Reprogram the job. Choose Separate and set the Tab1, Tab2, Tab3 offset values as desired.</p>
<p>More than three tabs applied on each piece.</p> 	<p>Improper tab sensor (V-Tab) adjustment. Check tab voltage and gap voltage adjustments using the V-Tab function for the appropriate head. (See Tab Sensor V-Tab Adjustments)</p>
<p>Tab is applied but it is wrinkled.</p>	<p>Media is slipping or hesitating as tab is being applied. Check transport adjustment and Media Guide adjustment.</p>

Stamp Placement Problems

CONDITION	SOLUTION
<p>Stamps placement is inconsistent on the media.</p> 	<p>Stamp placement should be within +/- 1/8"</p> <ol style="list-style-type: none"> 1. Check the pitch setting for the tab. Pitch = Distance from the top of one tab to the top of the next tab (including space between tabs), plus 0.01". 2. Check to be sure Pressure Roller Release Latch, for tab drive, is engaged (lowered). 3. Check the media thickness adjustment. Too little can cause the media to slip, when it is being fed. 4. Check that the tabs are threaded properly. See tab threading diagram. Are they behind the "Reel Brake Roller" arm?
<p>When applied the Stamp is not aligned on the media.</p> 	<ol style="list-style-type: none"> 1. Reduce distance between Left and Right Media Guide Assemblies using the Media Guide Width Fine Adjustment knob (turn it counter-clockwise). 2. Check the Media Thickness adjustment. Too much pressure will cause the media to flex as it is transported. Too little pressure can cause the media to skew as the stamp is being applied.
<p>Stamps are separated by a distance, instead of being applied together.</p> 	<p>When programming for multiple stamps, Separate was selected instead of Together. Reprogram the job and choose together.</p>
<p>More than three stamps applied one after another on the media when 1, 2 or 3 stamps are selected.</p> 	<p>Improper tab sensor (V-Tab) adjustment. Check tab voltage and gap voltage adjustments using the V-Tab function for the appropriate head. (See Tab Sensor V-Tab Adjustments)</p>

Tabber Operation Problems

If you are experiencing a problem with the operation or function of the tabber, please refer to the [“Operation Check-List”](#) section as well as this “Troubleshooting” section.

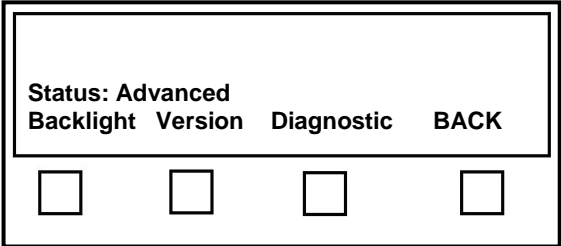
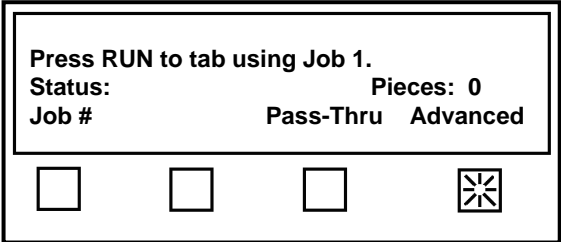
CONDITION	SOLUTION
Tabber flashes “Exceeding Tabbing Rate” warning, while tabbing.	<ol style="list-style-type: none"> 1. Speed of tabbing exceeds maximum speed for the number of tabs being applied. Slow down tabber transport speed. 2. Feeder speed is too fast, leaving too little gap between pieces. Slow down feeder. <p>NOTE: If this condition continues for more than 10 seconds, the tabber will stop and display the condition below.</p>
Tabber Stops while tabbing and displays Status: Maximum Tabbing Rate Exceeded	<ol style="list-style-type: none"> 1. Speed of tabbing exceeds maximum speed for the number of tabs being applied. Slow down tabber transport speed. 2. Feeder speed is too fast, leaving too little gap between pieces. Slow down feeder.
Tabber Stops while idling with no media going through it.	The FD 282 is equipped with a transport timeout. If no media is received by the tabber, the tabber transport will stop after 30 seconds. Press Run key to restart.
Tabber transport button will not turn on, but display and all other key controls appear to be working.	<p>Emergency Stop/Safety Stop circuit is open:</p> <ol style="list-style-type: none"> 1. Check to be sure Safety Stop Jumper is connected to tabber. 2. Check to be sure Exit Roller Assembly is closed and locked. 3. Check/Test safety cover switches. 4. Check relays.

Advanced Features

The **Advanced** features are available from the Start-Up Screen (Run Screen). If you are in another menu, you can use the BACK key (may need to press more than once), to get back to the Start-Up Screen.

When the **Advanced** soft key is pressed. The display will prompt you with the following choices:

- **Backlight** - This soft key is used to set the backlight intensity for the LCD display.
- **Version** - This soft key is used to display the BIOS version and life counts for pieces and tabs.
- **Diagnostic** – Can be used by a technician to test the components within the tabber.
- **BACK** – Brings you back to the Start-Up Screen.

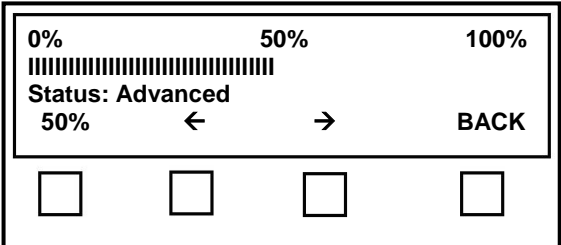
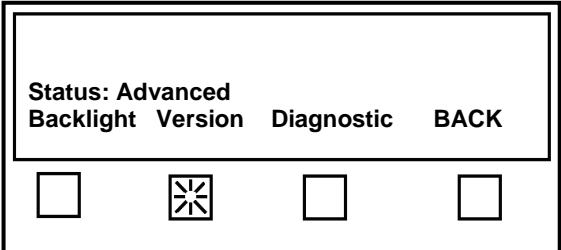


Backlight

If the **Backlight** soft key is pressed.

The display will show the current backlight intensity setting.

- **50%** - This soft key is used to set the backlight intensity to 50%.
- **←** - This soft key is used decrease the backlight intensity.
- **→** - This soft key is used increase the backlight intensity.
- **BACK** – Brings you back to the Advanced features screen.

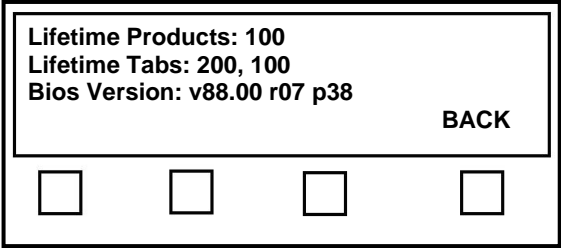
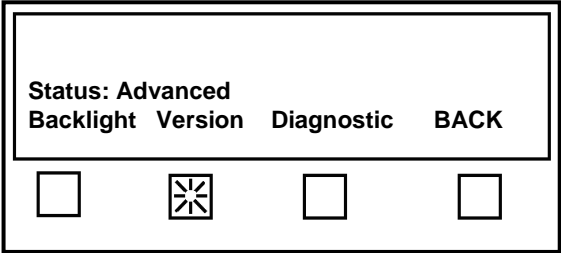


Version

If the **Version** soft key is pressed.

The tabber will display the following:

- **Lifetime Products:** Total number of pieces transported through the system.
- **Lifetime Tabs:** Total number of tabs/stamps applied by each Head. (Head 1, Head 2)
- **Bios Version:** Software version that is currently loaded into the tabber.
- **BACK** – Brings you back to the Advanced features screen.



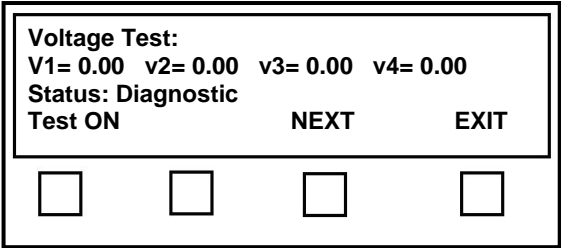
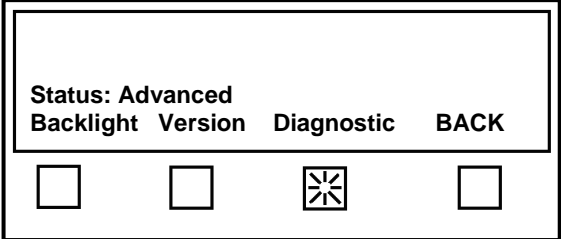
Diagnostic

If the **Diagnostic** soft key is pressed.

The following choices will be displayed:

Important: This mode should only be used by a qualified technician to test the components within the tabber.

- **Test ON** – Used to activate the currently displayed diagnostic test.
- **NEXT...** - Displays the next test.
Note: When next is pressed an additional soft key choice is displayed (PREVIOUS).
- **EXIT** – Brings you back to the Advanced features screen.



Please see the next page for detailed descriptions of Diagnostic Features.

Diagnostic Features

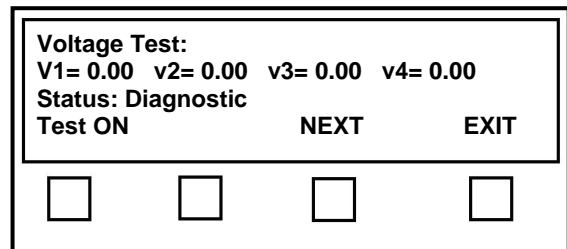
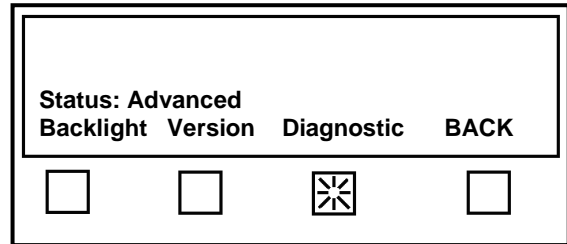
The Diagnostic features must be accessed from the Advanced features screen. For instructions on accessing the Advanced features, please see the “Advanced Features” section.

While in the Advanced features screen, Press the Diagnostic soft key to enter the diagnostic mode.

The following choices will be displayed:

Important: This mode should only be used by a qualified technician to test the components within the tabber.

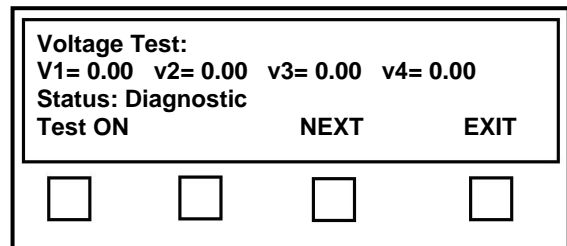
- **Test ON** – Used to activate the currently displayed diagnostic test.
- **NEXT...** - Displays the next test.
Note: When next is pressed an additional soft key choice is displayed (PREVIOUS).
- **EXIT** – Brings you back to the Advanced features screen.



The tests, in order, are:

Voltage Test

Displays the power supply and board logic voltages.



When you press **Test ON** the following values should be displayed.

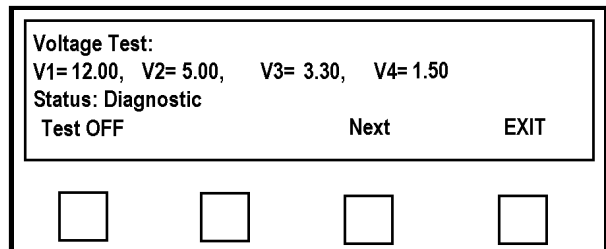
Main Power Supply Voltage: **V1= 12.00 (+ - 0.15)**

Board Logic Voltages: **V2= 5.00, V3= 3.30, V4= 1.50 (+ - 0.05)**

Press **Test OFF** to turn off the voltage test.

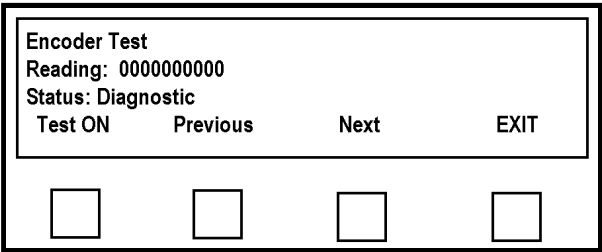
Press **Next** to go to the next test.

Press **EXIT** to return to the Advanced screen.



Encoder Test

Used to test the function of the encoder. The encoder is responsible for the timing of the system. The encoder signal provides for transport speed detection, tab placement, and paper length measurement. Without an encoder signal, none of these functions will work.



When you press **Test ON** a number will be displayed next to “Reading:”.

Rotate the exit roller of the tabber. If the number increases then the encoder is working.

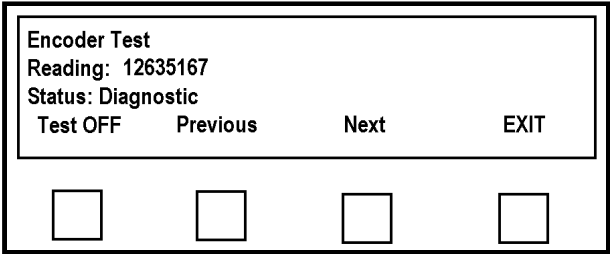
Tip: If you are not getting an encoder signal (numbers don’t increase) check to be sure the encoder is connected to the I/O board, the encoder belt is present (not broken), and the sprockets on the encoder shaft and drive shaft are tight.

Press **Test OFF** to turn off the encoder test.

Press **Previous** to go to the previous test.

Press **Next** to go to the next test.

Press **EXIT** to return to the Advanced screen.



IMPORTANT

REMOVE THE TABS FROM BOTH HEADS FOR THE REMAINING TESTS. .

Clutch/Brake Test

Use to test the function of the clutch and brake, for both of the heads at the same time.

If a clutch is not working, you will not get any tab drive. If the clutch is slipping, tab placement may become erratic.

If a brake is not working then the tab stock may over-advance causing erratic tab placement.

In addition, if the brake is not working, this may allow the tab spool to be dispense tabs when the transport is running, but no media is feeding.

Remove the tabs from the machine before performing this test.

When you press ***Test ON*** the transport will start running, the Brake is released (turned OFF) and the Clutch is engaged (turned ON).

Press ***Test OFF*** to stop the test.

The transport will stop, The Clutch will turn OFF and the Brake will turn ON.

Press ***Previous*** to go to the previous test.

Press ***Next*** to go to the next test.

Press ***EXIT*** to return to the Advanced screen.

Clutch/Brake Test			
State: Clutch: OFF Brake: ON Motor: OFF			
Status: Disgnostic			
Test ON	Previous	Next	EXIT
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Clutch/Brake Test			
State: Clutch: ON Brake: OFF Motor: ON			
Status: Disgnostic			
Test OFF	Previous	Next	EXIT
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Notice: The above Clutch/Brake Test feature was not working correctly in FD 282 units with BIOS versions lower than V88.00 r07 p47. In earlier BIOS versions, the “Test ON” mode worked as described above. However, when in the “Test OFF” mode, the brake was never applied. See “BIOS Loading Process” for details on updating the FD 282 BIOS.

Head #1 Tab Sensor

Use to tests the tab sensor in Head # 1.

Remove the tabs from the machine before performing this test.

When you enter this diagnostic test the current condition of the Tab Sensor on Head #1 will be displayed.

A piece of paper inserted into the sensor should cause the display to change from UNCOVERED to COVERED.

Tip: A dirty or damaged sensor will read covered, even if nothing is placed into the sensor. In addition, if the V-Tab values have been set the same or too high for both Tab and Gap values, then you may not see a change in condition (uncovered, covered) during this test.

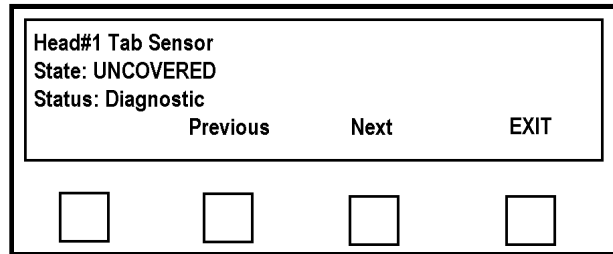
Press **Test OFF** to stop the test.

Press **Previous** to go to the previous test.

Press **Next** to go to the next test.

Press **EXIT** to return to the Advanced screen.

If the tab sensors are not working correctly, please see the “Tab Sensor Adjustment” and “Maintenance” sections.



Head #2 Tab Sensor

Use to tests the tab sensor in Head # 2.

Remove the tabs from the machine before performing this test.

When you enter this diagnostic test the current condition of the Tab Sensor on Head #2 will be displayed.

A piece of paper inserted into the sensor should cause the display to change from UNCOVERED to COVERED.

Tip: A dirty or damaged sensor will read covered, even if nothing is placed into the sensor. In addition, if the V-Tab values have been set the same or too high for both Tab and Gap values, then you may not see a change in condition (uncovered, covered) during this test.

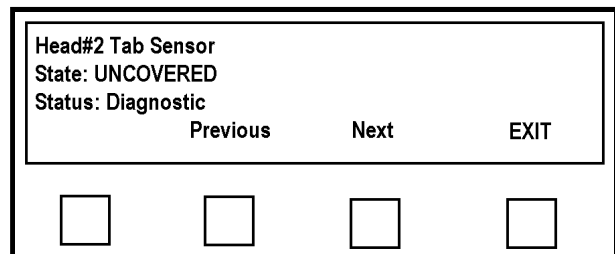
Press **Test OFF** to stop the test.

Press **Previous** to go to the previous test.

Press **Next** to go to the next test.

Press **EXIT** to return to the Advanced screen.

If the tab sensors are not working correctly, please see the “Tab Sensor Adjustment” and “Maintenance” sections.



Media Sensor

Use to test the Media Sensor.

Place a piece of paper between the sensor and the reflective lens. The screen should go from UNCOVERED to COVERED. Press Next to proceed to the Keyboard Test.

When you enter this diagnostic test the current condition of the Media Sensor will be displayed.

A piece of paper inserted into the sensor should cause the display to change from UNCOVERED to COVERED.

Tip: A dirty or damaged sensor will read covered, even if nothing is placed into the sensor.

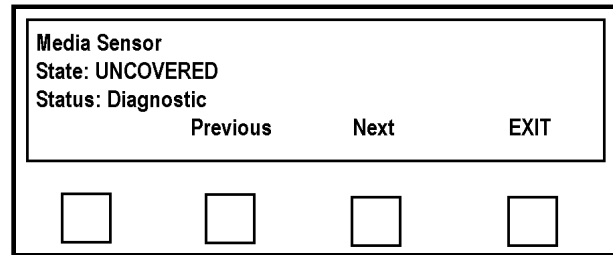
Press **Test OFF** to stop the test.

Press **Previous** to go to the previous test.

Press **Next** to go to the next test.

Press **EXIT** to return to the Advanced screen.

If the media sensor is not working correctly, please see the “Media Sensor Adjustment” and “Maintenance” sections.



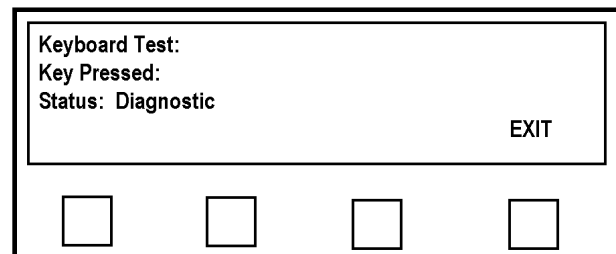
Keyboard

Use this test to check the keyboard function.

While in this diagnostic test, the key you press will be displayed to the right of “Key Pressed:”.

Example: Pressing the SAVE key will show “Save” in the display.

Press **EXIT** to return to the Advanced screen.



This concludes the diagnostic testing. Any returns that do not match the above indicate a problem with the component tested.

SECTION 5 – Adjustments

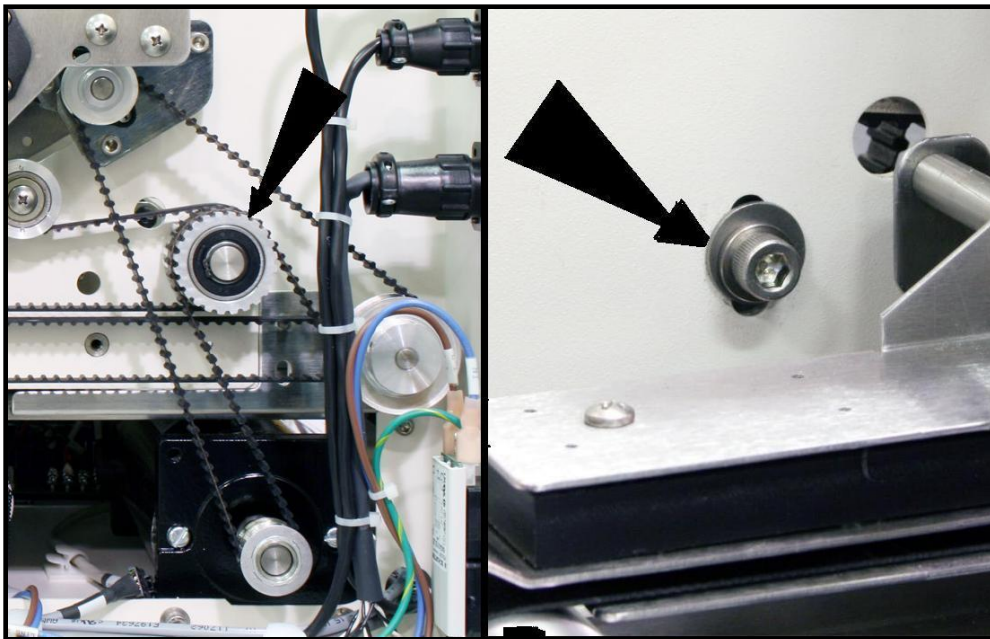
Motor Drive Belt

Requirement:

The drive belts must have the proper tension.

Adjustment:

1. Unplug the machine from its power source.
2. Remove the four screws and remove the rear cover.



3. Loosen the nut on the idler pulley and adjust the tension 1/8" play in the motor drive belt.
4. Tighten the nut and then recheck the adjustment.
5. Replace the covers.

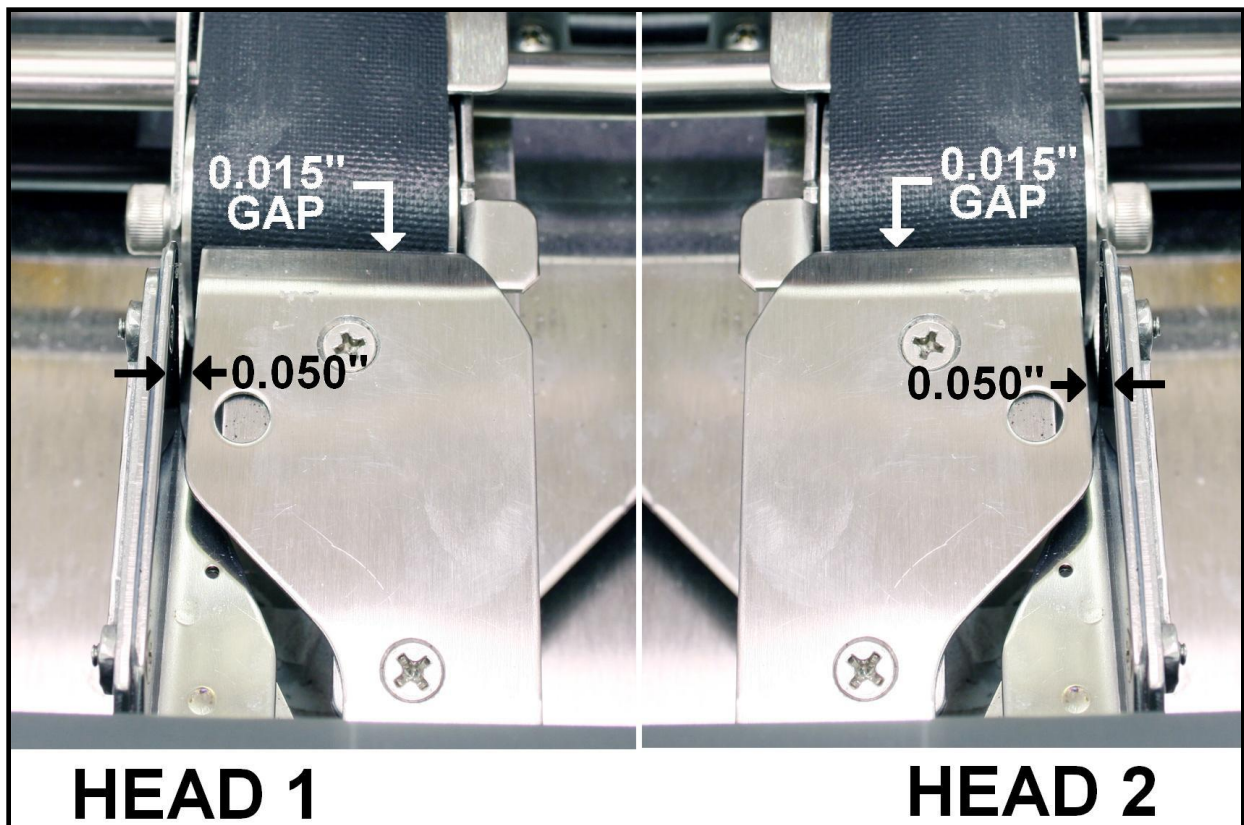
Tab Wrap Guide Plate Removal and Alignment

Requirement:

The Tab Wrap Guides must be returned to the proper position whenever they are removed for cleaning and re-installed.

Adjustment:

1. The Tab Wrap Guide Plate for H1 and H2 are held in place by two screws, from above, and a nut plate, from below.
NOTE: Access holes are provided, in the sides of the Guide Assemblies, to allow access to the nut plate.
2. When re-installing the Tab Wrap Guide Plates make sure you achieve the approximate gaps, as shown below, before tightening the screws.
NOTE: Make sure the plates do not make contact with the Transport Belts.



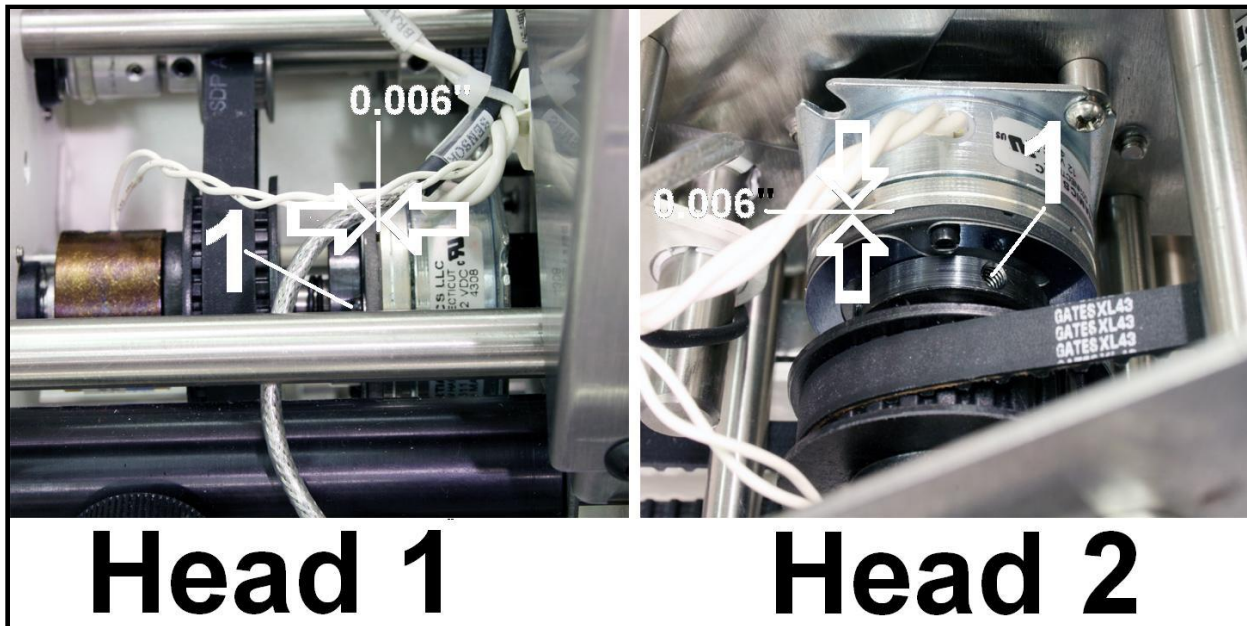
Tab Brake Adjustment (Head 1 and Head 2)

Requirement:

The Tab Brake must be set properly to advance the tabs.

Adjustment:

1. Remove the Rear Cover of the Tabber to access the Brake on Head 2 or remove the Top cover from the Head 1 to access its Brake.
2. Loosen the two Allen screws [1] that hold the brake plate to the shaft.
3. Insert a 0.006" feeler gauge between the brake and the brake plate.
4. Tighten the two Allen screws [1].
5. Replace the covers.



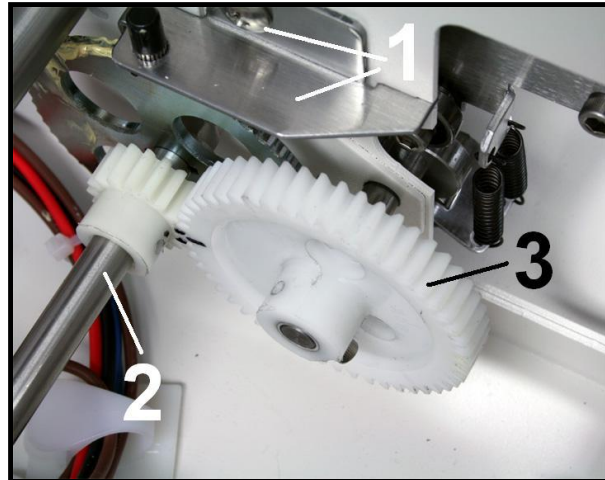
Head Assembly Alignment

Requirement:

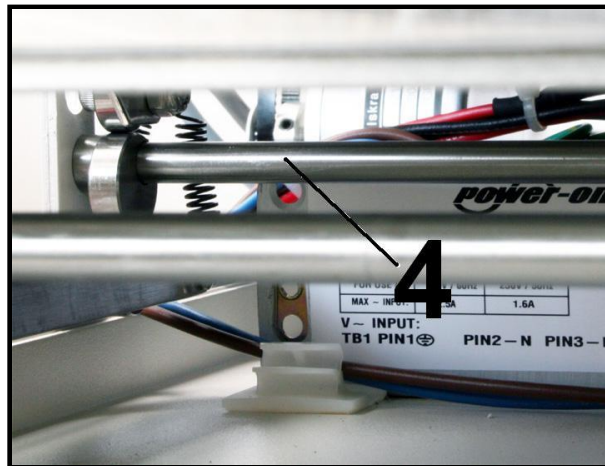
The Pressure rollers must be parallel and provide pressure to seal the tab for both heads.

Adjustment:

1. Unplug the Tabber from the power source. Open the front Control Panel and remove the rear and right hand covers.
2. Remove the screw (1) holding the Cam pin in place on the side frame. Loosen the collar on the inside of the front cover that holds the positioning drive gear in place and pull the Raise and lower knob toward you to release the Drive Gear (2) from the Raise and Lower Gear (3).



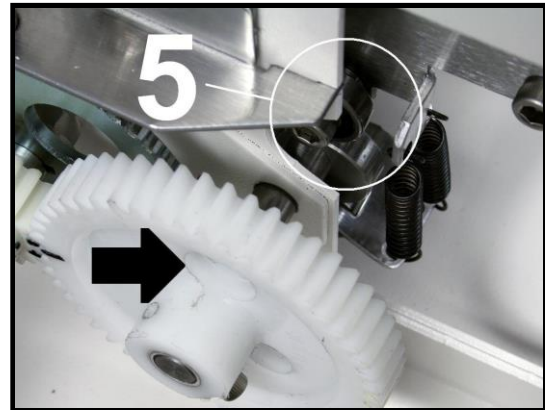
3. Turn the raise and lower gear until the head assembly is at its lowest point on the cams assembly on the left hand side of the tabber. The front or right-hand cam shaft that is part of the raise and lower gear should allow the head to be in its lowest point where the right hand side of the exit rollers touch. If the cams do not allow the head assembly to bottom out, grasp the rear shaft (4) with a pair of pliers and turn the Raise and Lower gear (3) to slip the belt on the pulleys until the head sits evenly front to back.



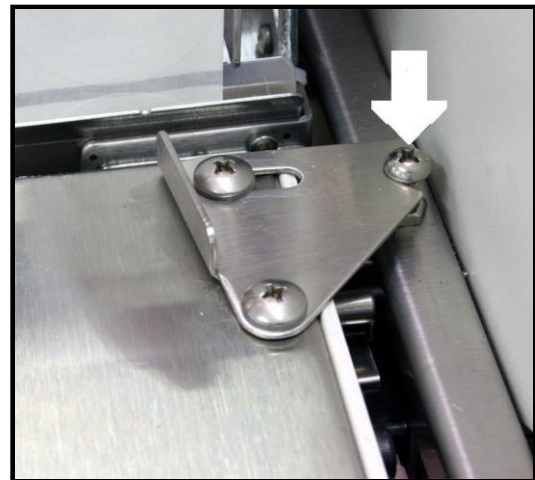
4. Reassemble the Raise and Lower Drive Gear (2) making sure that the timing mark matches the timing mark on the Raise and Lower Gear (3). Reinstall the Cam Pin assembly (1).
5. Place two strips of 90 # card stock between the two sides of the Applicator Head exit rollers and check for an even pull.



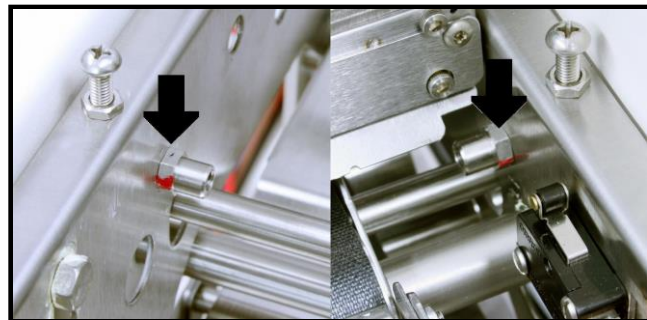
6. If it is not even adjust the cam roller eccentric (5) on the operator's side by the Raise and Lower Gear (3). The Cam roller eccentric is accessible through the hole in the Raise and Lower Gear (3)



7. Place two strips of 90 # paper between the forwarding rollers on the Applicator Head assembly and the Transport Belts and close the Applicator Head assembly. Apply pressure to hold the Applicator Head assembly against the belts and adjust the latch screws and lock nuts to hold the Applicator Head in place. Check for an even pull on both sides. The pull should be tight enough that the rollers move slightly when the paper is pulled.



8. If the pull is not even open the Applicator Head and adjust the eccentric head stop on the appropriate side of the tabber. Close the Applicator Head and readjust the Latches as in Step 7 and check the adjustment. When properly adjusted the latches should have a slight drag when moved to open.



9. Replace the cover and check the operation of the Tabber.

Power Supply Adjustment

Requirement:

Provide proper output from power supply to machine.

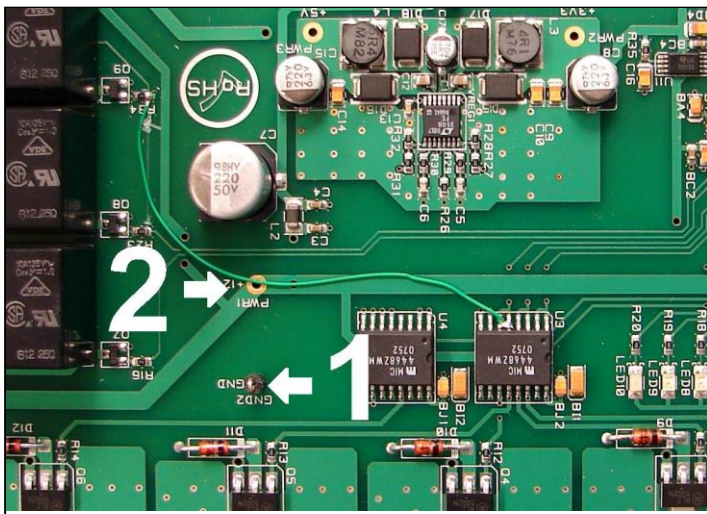
Adjustment

1. Remove rear cover and the left-hand side cover and connect voltmeter probe to GND [1] and +12V [2] on Interface PC Board. Turn the tabber **ON**.
2. Adjust V1 ADJ potentiometer [3] on the Power Supply module to obtain 12.0 VDC \pm 0.1 V.

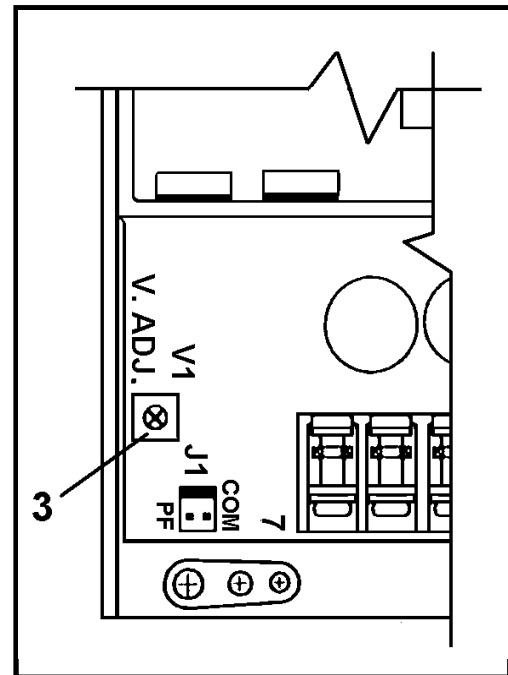
CAUTION

THE ADJUSTMENT IS NEAR THE CONNECTION POINTS FOR THE INPUT AND OUTPUT OF THE POWER SUPPLY. USE A NON-CONDUCTING TOOL FOR MAKING THE ADJUSTMENT AND PUT THE TOOL IN PLACE BEFORE TURNING ON THE TABBER POWER.

3. Turn the tabber **OFF**, apply lacquer such as nail polish to the potentiometer, and replace the cover.



INTERFACE PC BOARD



POWER SUPPLY

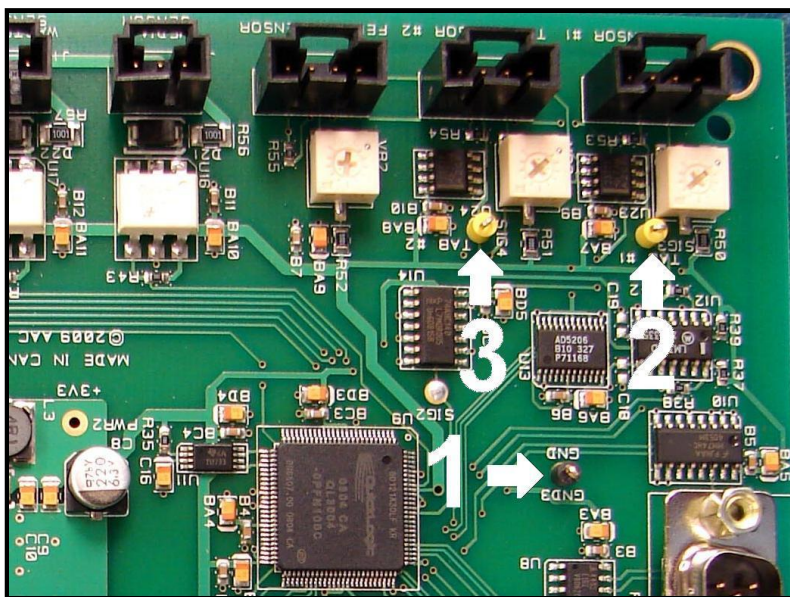
Tab Sensor Adjustment Head 1 and Head 2

Requirement:

Adjust the Tab Sensors so they can detect the tab stock and so the intensity of both tab sensors are set approximately the same for Head 1 and Head 2.

Adjustment:

1. Remove the rear cover from the tabber, to gain access to the I/O board.
2. Remove the Tabs from both of the heads and make sure the tab sensors are clean.
3. Turn the tabber ON.
4. Attach negative lead of volt meter to GND point (1) and positive lead to one of the Tab Sensor Output connections. Head 1 = Tab #1 (2), Head 2 = TAB #2 (3)
5. With nothing in the sensors, the voltage reading at measuring points TAB #1 (2) or TAB #2 (3) should be 0.20 V DC or less (0.00 to 0.20). If not, the sensor may be dirty or damaged. This problem must be corrected before you continue to the next step.
6. Place a Business Card (100 # card stock minimum) into each sensor.
7. With your meter attached to measuring point for TAB #1 (2) or TAB #2 (3), adjust the potentiometer (R50 for TAB #1 or R51 for TAB #2), to obtain about 3.0 V DC. Repeat for both tab sensors.
8. Remove the Business Cards from the tab sensors and check to be sure the voltages at measuring points TAB #1 (2) and TAB #2 (3) drop to 0.20 V DC or less (0.00 to 0.20).
9. Install tabs and use the “V-Tab” features to set the Tab and Gap voltages for each head.
10. Replace the rear cover on the tabber and test the tabber for proper operation.



Tip: If you don't have a volt meter, you can use the V-Tab features to obtain the current voltage readings from the tab sensors on Head 1 and Head 2.

I/O PC BOARD

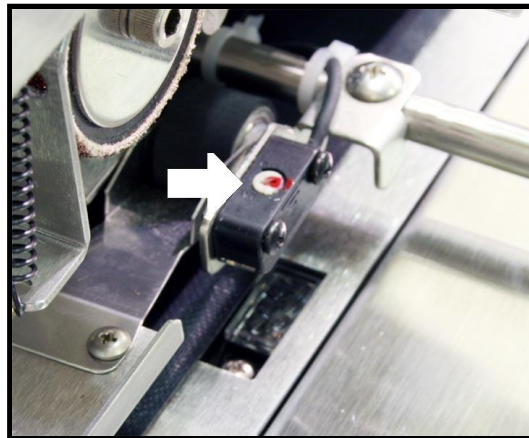
Media Sensor Adjustment

Requirement:

Adjust the Media Sensor so it detects the media.

Adjustment:

1. Make sure the sensor and reflector are clean.
2. Turn the tabber ON with the main power switch.
3. Place a piece of white paper or card stock on the belts so that it blocks the reflective lens mounted on the base of the tabber.
4. Turn the sensitivity adjustment on the top of the sensor fully counterclockwise to the minimum sensitivity position.
5. The turn it clockwise past the point at which the ORANGE light turns GREEN
6. Remove the piece of media - the light should be ORANGE. Re-insert the piece of paper and check that the light turns GREEN.
7. Place a small amount of lacquer or nail polish on the adjustment.
8. Test the tabber for proper operation.



MEDIA SENSOR

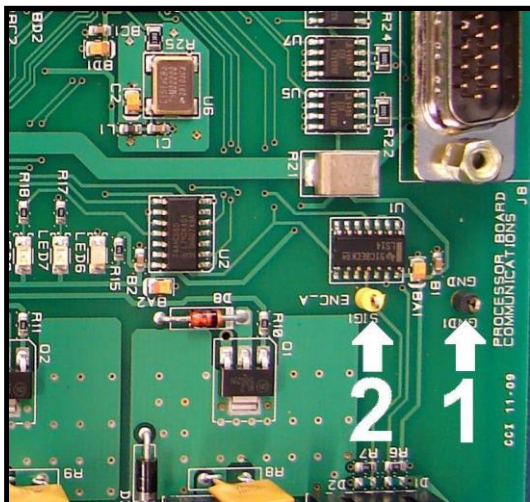
Tabber Speed Control Adjustment

Requirement:

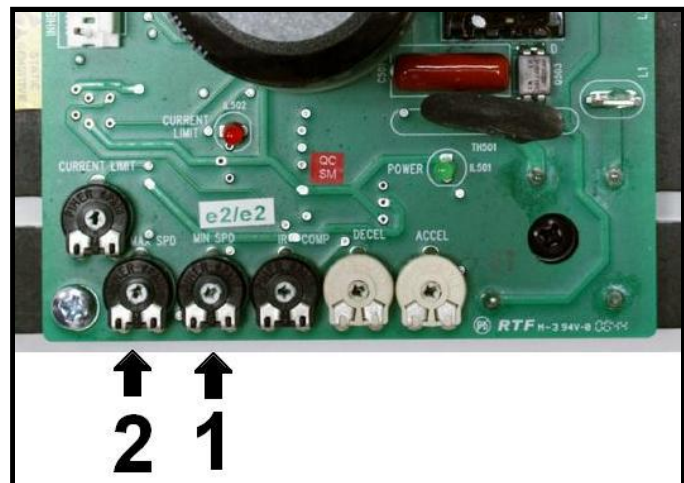
The maximum speed must be no more than 100 ips.

Adjustment:

1. Open the Control Panel. The speed control is located on the left-hand side.
2. Pre set the IR Comp pot to the 10 o'clock position and the Current Limit pot to the 11 o'clock position.
3. Turn ON the Tabber and turn ON the Transport Power. Press the RUN button to start the tabber.
4. Adjust the Motor Speed Control knob on the control panel to "0". The belts should not be moving at this point. If they are, adjust the Min Speed potentiometer [1] on the Motor Control PC Board so that the belts do not turn.
5. Turn the Motor Speed Control knob to position "1". The belts should be moving slowly.
6. Turn the Motor Speed Control knob to position "10". The belts should be moving at a speed of 280 feet per second as measured with a tachometer. This is equivalent to a 24.0 KHz signal on the I/O PC Board at GND1 and SIG 1(ENC A). Adjust the Max Speed potentiometer [2] on the Speed Control PCB.
7. Turn OFF the Tabber and replace the covers.
8. Test the tabber for proper operation.



I/O PC BOARD



**TABBER MOTOR
SPEED CONTROL PCB**

SECTION 6 – Disassembly and Assembly

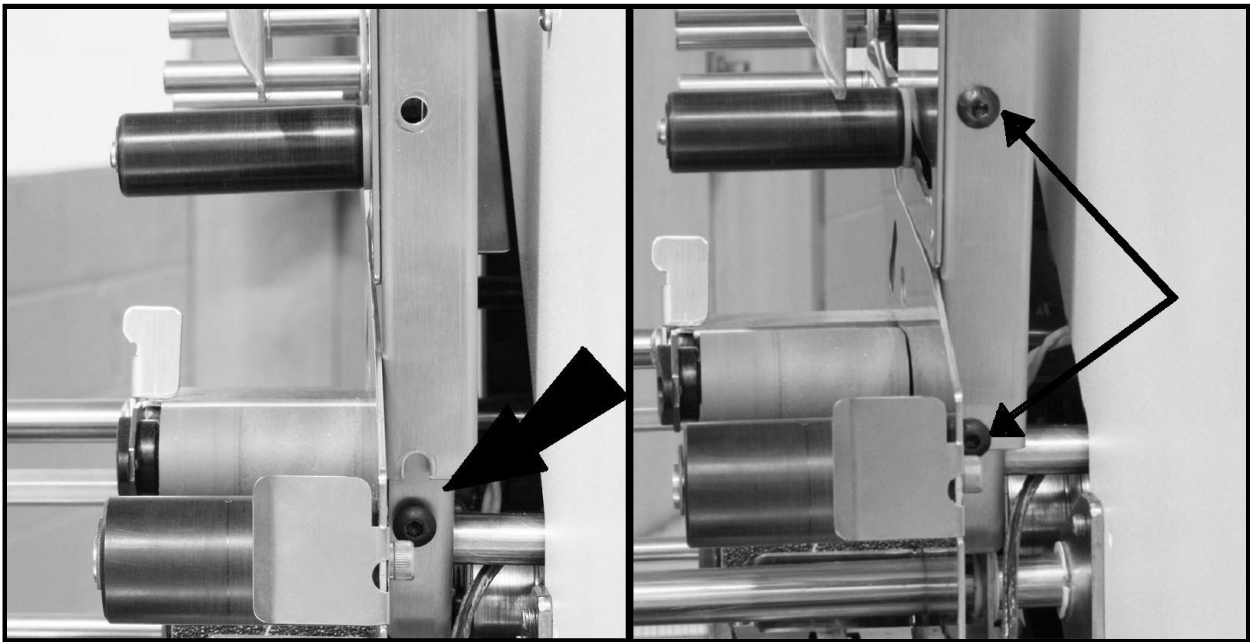
The following will assist you in disassembling the FD 282 for servicing:

CAUTION

DISCONNECT THE FD 282 FROM THE POWER SOURCE BEFORE ATTEMPTING ANY DISASSEMBLY

Removing the Reel Assembly

1. Remove the upper screw that holds the Reel Assembly to the Tabber and loosen the lower screw. Lift the Reel Assembly from the machine.



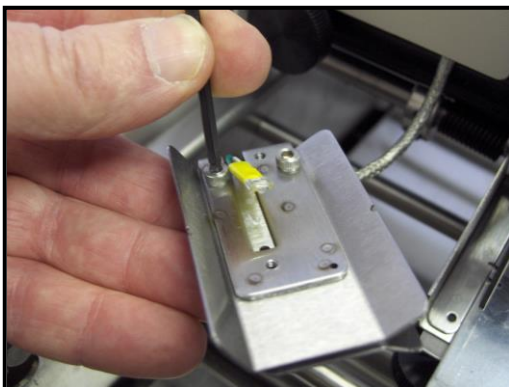
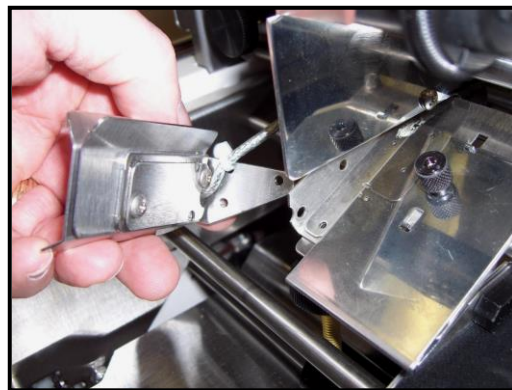
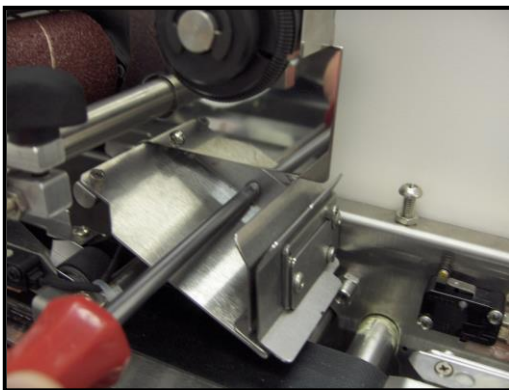
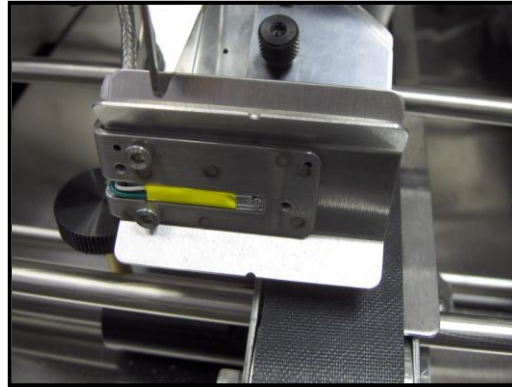
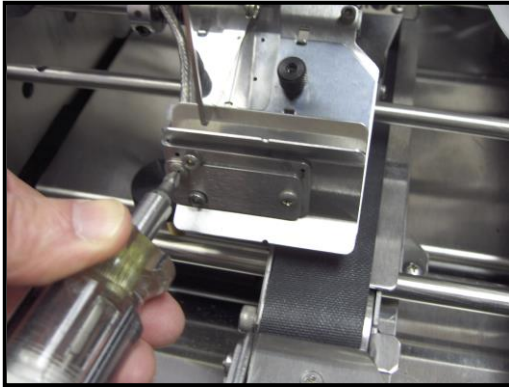
2. Reassemble in reverse order.

Tab Applicator Removal and Disassembly

Dry, compressed air should be used to clear dust from the inside of the Tab Applicator Assemblies and Tab Sensors. Never use liquids to clean sensors.

To clear tabs/stamps and adhesive from inside the Tab Applicator Assemblies and Tab Sensors, the Tab Applicator Assemblies can be removed from the heads and disassembled for cleaning.

CAUTION: Be careful of wire connections when performing this task.



IMPORTANT:
During re-assembly, be sure sensors are properly seated into plate openings.

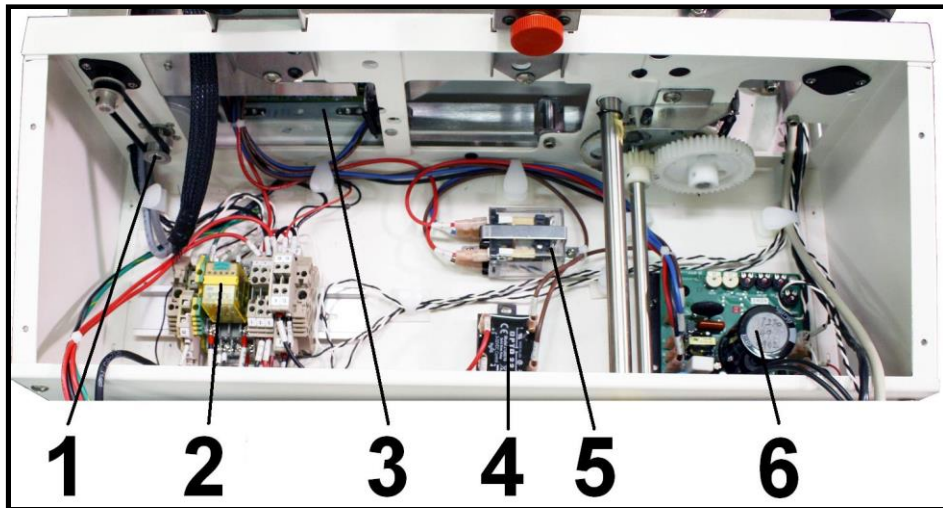


Removing Front Cover

1. Remove the four screws from the Front Cover, hinge the cover forward to gain access.

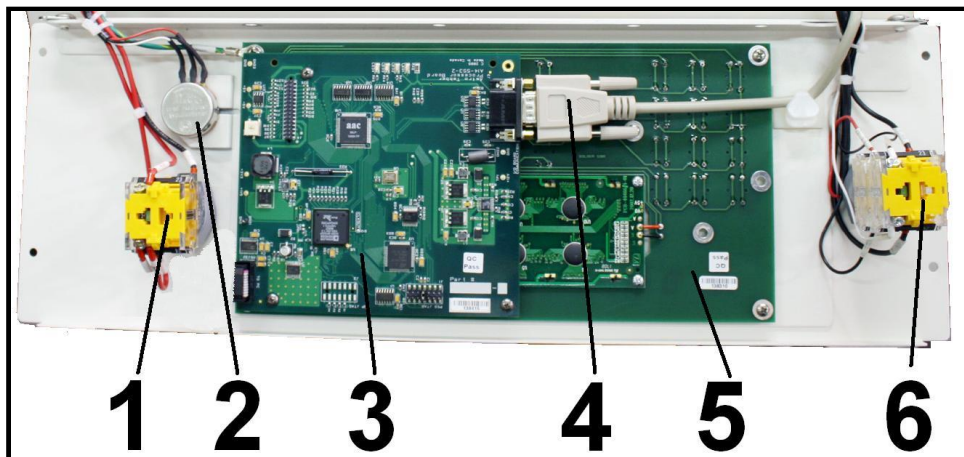


2. Components under Front Cover:



- | | |
|-----------------|--------------------------|
| 1. Encoder | 4. Transport Motor Relay |
| 2. I/O Relay | 5. Speed Control Relay |
| 3. Power Supply | 6. Motor Speed Control |

3. Components inside front cover.



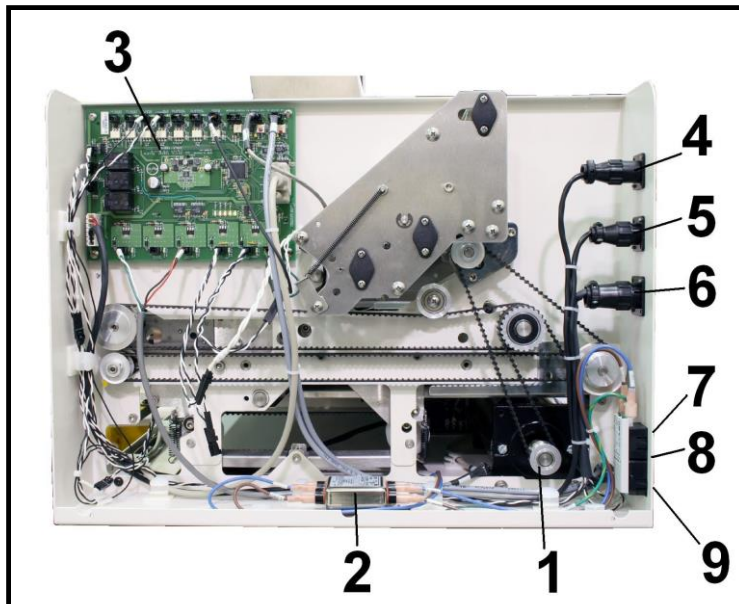
- | | |
|----------------------------|---------------------------------|
| 1. Transport Power Switch | 4. Interface Cable |
| 2. Transport Speed Control | 5. Control PC Board and Display |
| 3. Main Processor PC Board | 6. Emergency Stop Switch |

Removing Rear Cover

1. Remove the four screws holding the cover in place and remove the cover.



2. Components under rear cover:



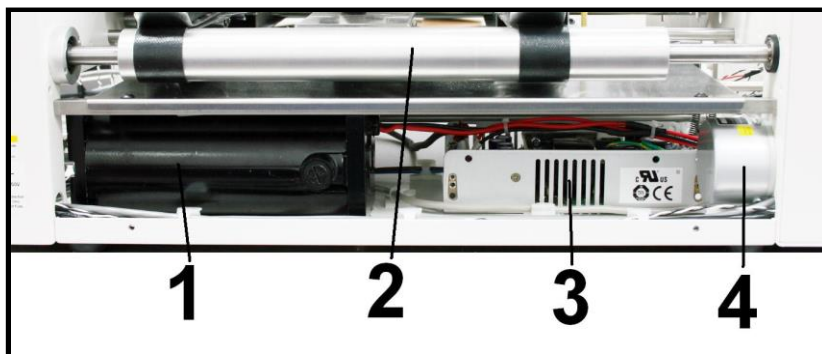
- | | |
|--------------------------|-------------------------------|
| 1. Main Drive Motor. | 6. Tabber/Feeder Connection |
| 2. Line Filter | 7. Main Power Switch - Tabber |
| 3. I/O PC Board | 8. Fuse |
| 4. Emergency Stop Input | 9. Power Inlet - Tabber |
| 5. Emergency Stop Output | |

Removing the Left Side Cover

1. Remove the two screws from the cover and remove the cover.



2. Components under Left Side Cover are:



1. Main Drive Motor

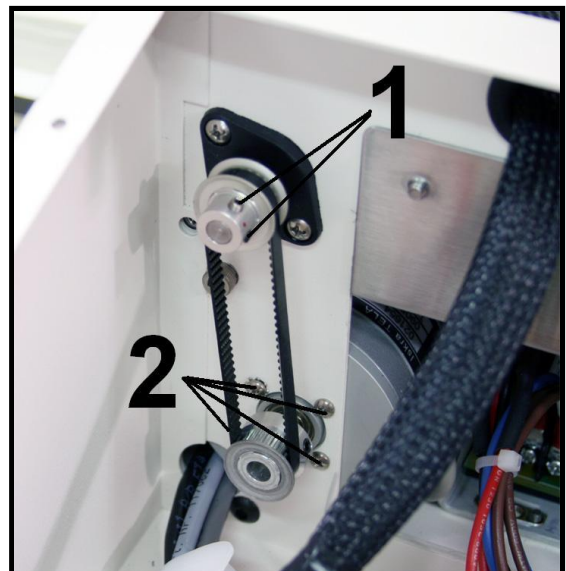
2. Main Drive Roller

3. 12 Volt DC Power Supply

4. Encoder

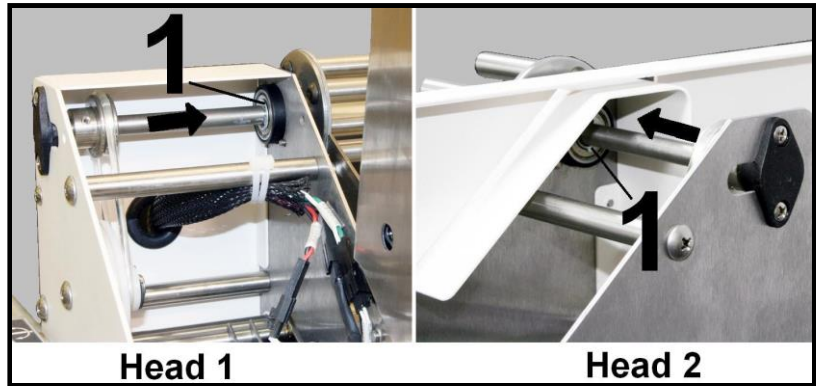
Encoder and Encoder Drive Belt

1. The Encoder and Encoder Drive Belt are located under the front cover panel on the left-hand side of the tabber body.
2. To remove the Encoder or replace the Encoder Drive belt loosen the two screws on the drive roller (1), remove the pulley and belt.
3. To remove the Encoder, remove the four screws (2) that mount the encoder to the frame.
4. Reassemble in reverse order.



Replace the Take-up Reel Drive Belts

1. To replace the Take-up Reel Drive belt on Head 1 remove the cover over the Take-up Reel drive assembly. To replace the Take-up Reel Drive belt on Head 2 remove the rear cover from the tabber.
2. Remove the TruArc retaining ring (1) from the Take-up Reel shaft.
3. Slide the Take-up Reel assembly away from the support bearing.
4. Remove the old belt and install a new one.
5. Slide the Take-up Reel assembly back into the bearing and reinstall the TruArc retaining ring.
6. Replace the cover.



Replacing the Drive Motor

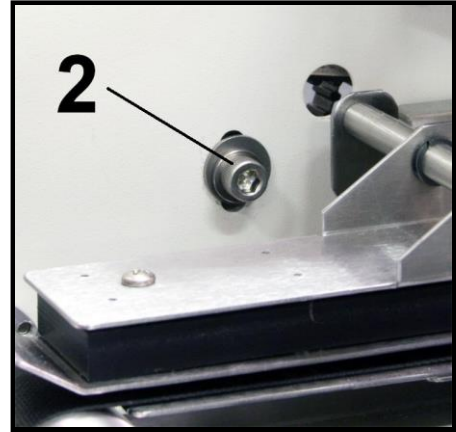
1. Unplug the feeder from its power source.
2. Turn the FD 282 over on its back (rear cover).
3. Remove the two motor mounting screws (1), then set the FD 282 back on its feet.



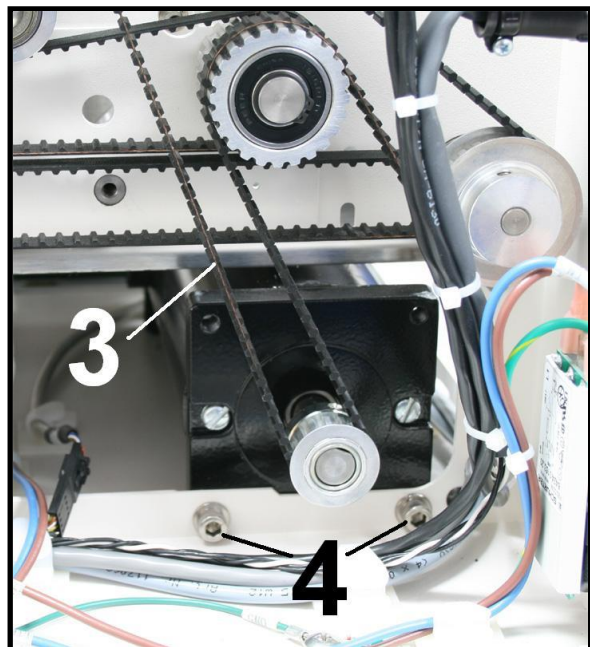
4. Remove the Left Side Cover, the Non-operator Side Cover and the Control Panel Cover.
5. Unplug the motor from the Motor Speed control PC Board.

NOTE: THE CABLE IS HELD TO OTHER WIRES BY TIE-WRAPPS. THESE WILL HAVE TO BE CUT AND REPLACED WHEN REASSEMBLING.

6. Loosen the adjustment Allen screw (2) on the Double Pulley.



7. Remove the Drive Belt (3) and the two Allen screws (4), then remove the Motor.



8. Reassemble in reverse order, making the belt tension adjustment after the two mounting screws on the bottom of the Tabber are installed.

IMPORTANT

WHEN ROUTING THE WIRE TO THE SPEED CONTROL MAKE SURE THAT YOU REPLACE ANY TIE-WRAPS THAT WERE REMOVED.

9. Replace the covers and test the operation of the Tabber.

Replacing Sandpaper on Tab Drive Roller

1. Turn the Tabber ON and set the speed control to "0". Press the start button to cause the brake to activate. This will lock the drive roller so that the Allen screw can be removed.



2. Remove the Allen screw that attaches the tab driver roller to the drive shaft and remove the Sandpaper roller.

IMPORTANT

THE ALLEN SCREWS THAT APPLY PRESSURE TO THE ROLLER ARE REMOVED AS FOLLOWS:

**HEAD 1 TURN THE SCREW COUNTERCLOCKWISE TO REMOVE
HEAD 2 CLOCKWISE TO REMOVE.**

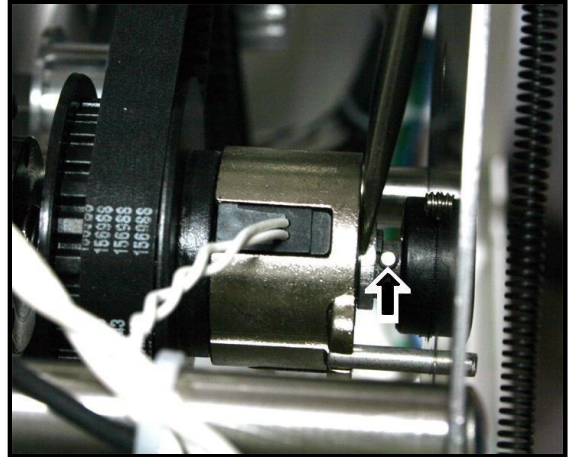


3. Repeat the steps in reverse after replacing the sand paper roller. Tighten the Allen screw to compress the rubber roller and hold the sandpaper roller in place.

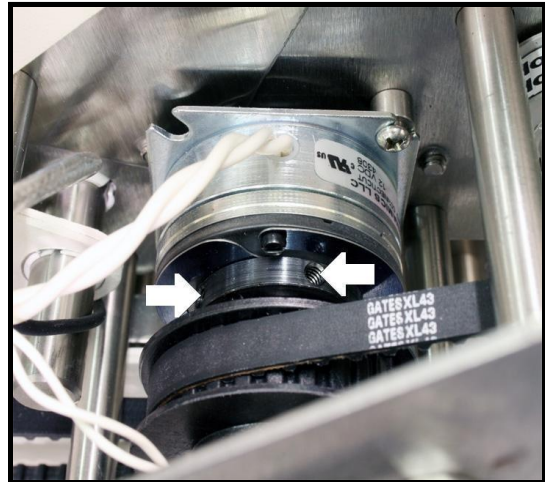
Replacing Clutch and Brake

NOTE: Both Head 1 and Head 2 clutch and brake are removed in the same manner.

1. For Head 1 remove the cover over the head assembly. For Head 2 remove the rear cover from the Tabber. In either case cut the Tie-Wrap that is holding the wires in place.
2. Use a screwdriver to push the clutch toward the brake. Remove the pin from the rear of the clutch by pushing it out with a small piece of wire. Set the pin aside.



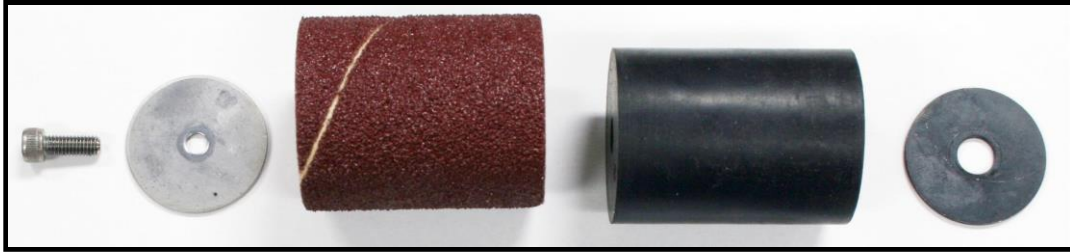
3. Loosen the two screws that hold the brake plate to the shaft.



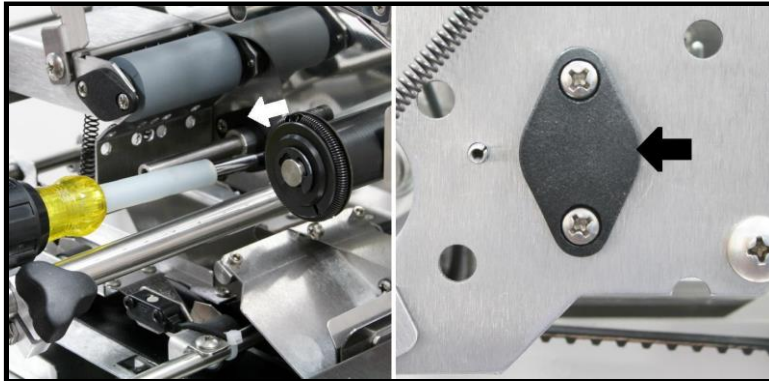
4. Continue by removing the screw that holds the Sandpaper Roller and rubber roller assembly.



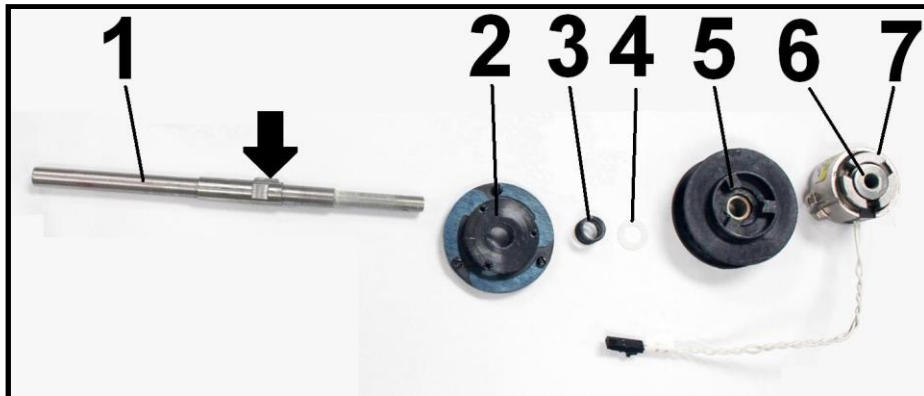
- Remove the Allen screw, washer, sandpaper roller, rubber drive roller and the washer behind the drive roller and set aside.



- Remove the Bearing from the roller side and from the clutch side of the Head.



- Pull the Shaft out of the assembly by pulling it from the Sandpaper roller side of the assembly. The belt will be freed when the shaft is removed.

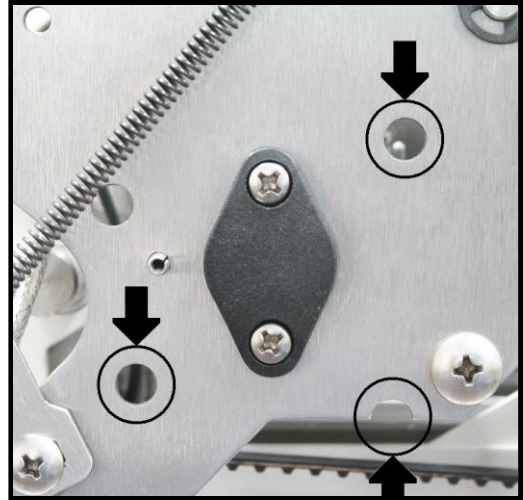


NOTE: The arrow points to a key in the shaft that holds the brake face in place.

Key	Part #	Description	Key	Part #	Description
1.	41-121-03	Shaft	5.	29-103-06	Pulley
2.	41-500-79	Brake (Head 1)	6.	27-102-10	Washer
2.	41-500-78	Brake (Head 2)	7.	41-500-18	Clutch (Head 1)
3.	29-103-08	Spring	7.	41-500-19	Clutch (Head 2)
4.	123-0312	Washer			

NOTE: The Clutch and Brake for each head have different part numbers.

8. Remove the Brake by removing the three screws that attach it to the side frame. There are three access holes in the outer frame to permit access.

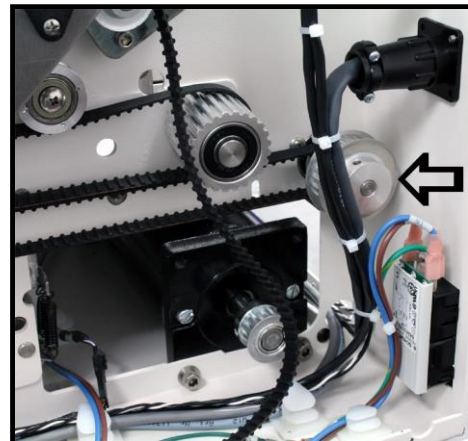


NOTE: A little dab of grease on the end of the Phillips Screw Driver will make it easier to reassemble the Clutch and Brake.

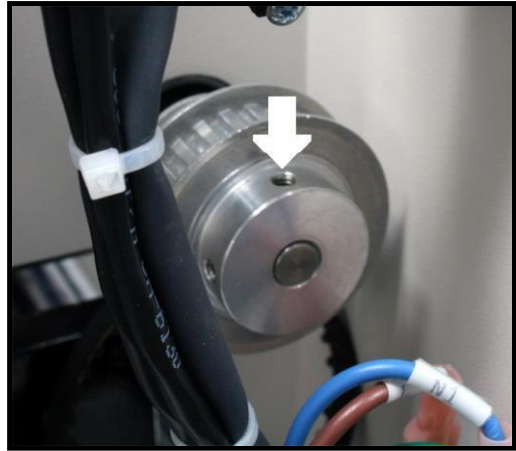
9. Reassemble in reverse order. Make sure the two washers are properly installed. Refer to Step 7 for their location.
10. When you have finished the assembly adjust the Brake Plate.
11. Test run the machine and check the tab placement before replacing the covers. If the tab placement is not accurate to the offset values you set, please refer to the “General Offset Adjustment” procedure.

Replacing Transport Belts

1. Unplug the Tabber.
2. Remove the Control Panel, Rear Cover and Left Side Cover.
3. Loosen the drive belt adjustment and remove the drive belt from the Rear Drive Roller pulley.



4. Remove the Drive Pulley from the Drive roller shaft..



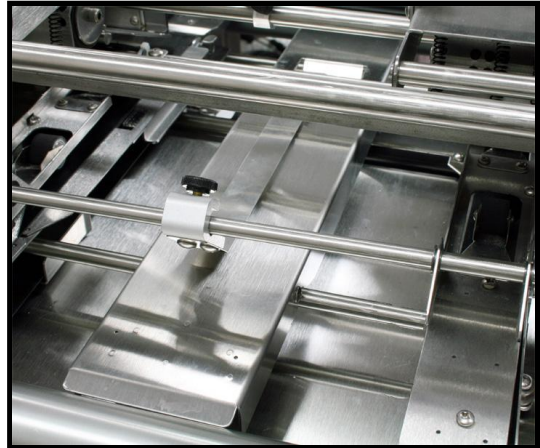
5. Loosen the Exit Roller drive pulley and the Drive Roller pulley. Remove them and the Roller Drive Belt from the Tabber.



6. Remove the two pulleys and the belt from the Drive Roller and the Encoder.



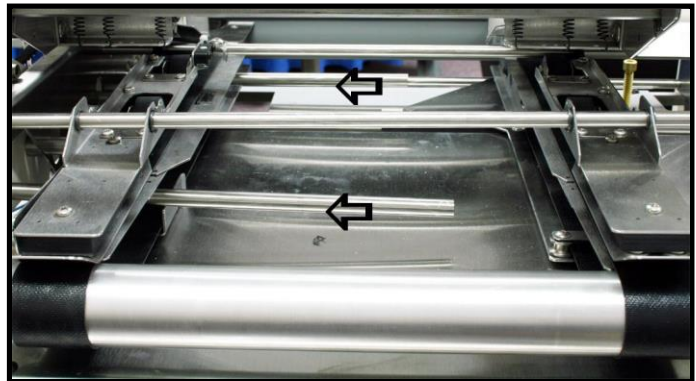
7. Remove the Center Support Plate and the Guide from the Tabber.



8. Remove the Two Support Rods screws.



9. Slide the Rods toward the Rear of the Tabber.



10. Remove the two screws and the Drive Roller Bearing from the Operator's side of the Tabber.

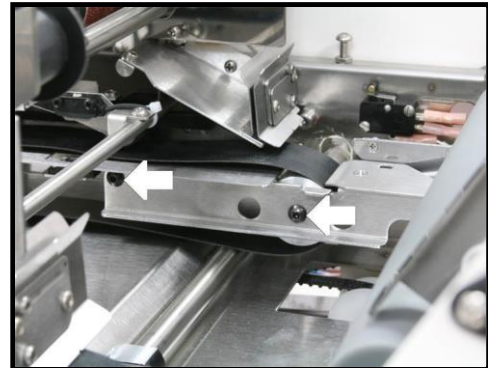


11. Remove the two screws in the Drive Roller bearing at the rear of the Tabber and slide the roller toward the front of the machine. This will provide clearance for removing the belts.

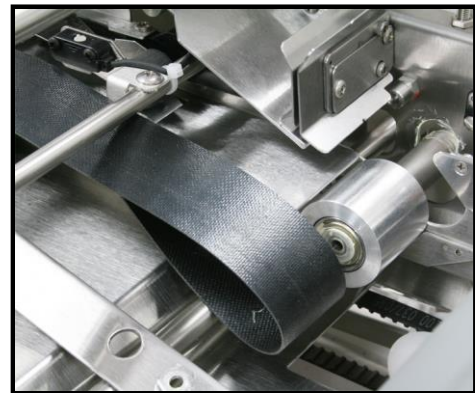


Removing Transport Belt on Head 2

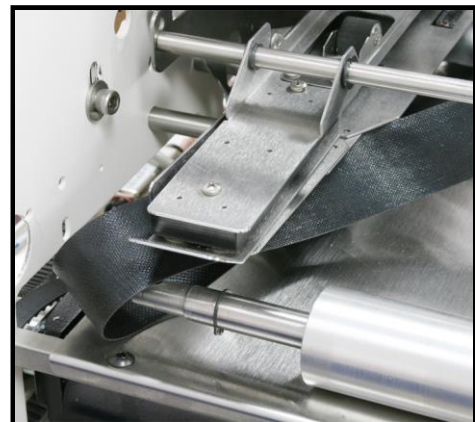
12. Remove the Tab Wrap Guide from the transport assembly (two Allen screws).



13. Slip the belt off the front guide roller, then slide it off the Drive Roller.

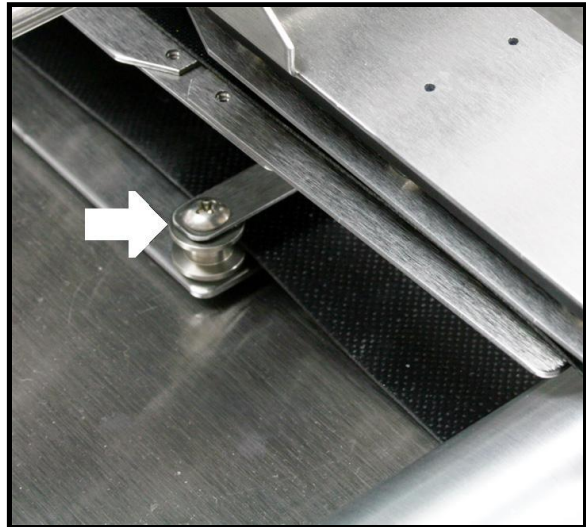


14. Then remove it from the Drive Roller at the rear.



Removing Transport Belt on Head 1

15. The Transport belt on Head 1 is removed in the same manner as on Head 2 with the exception that the Belt Guide must be removed before the belt can be removed. The belt guide is held in place by two screws.



16. Reassemble in reverse order and then check the Tab Guide adjustment and the Motor Drive belt tension adjustment.

SECTION 7 – Maintenance

Cleaning

WARNING

THE TABBER IS A PRECISION MACHINE THAT SHOULD BE CLEANED REGULARLY TO ENSURE MANY YEARS OF SERVICE. BEFORE PERFORMING ANY MAINTENANCE, DISCONNECT IT FROM ITS POWER SOURCE!

The Tabber 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 machine and on the transport. Before cleaning unplug the power cord from the unit.

The internal areas are best cleaned with a vacuum that has a soft brush attachment to help loosen the dust particles.

The exterior of the machine may be cleaned with any standard household cleaner, which is non-abrasive and does not contain plastic harming solvents.

CAUTION

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

Rollers and Transport belts

The belts and rollers can become glazed with paper lint and ink from the media. They should be regularly cleaned with a mild abrasive household cleaner on a damp cloth. Avoid using solvents on the rubber rollers.

Shafts with Movable Parts

Exposed shafts, with movable parts, should be cleaned with a soft dry cloth.

CAUTION

THE BEARINGS ON THE MOVING PARTS SUCH AS TAB HEAD 1 AND THE TRANSPORT BELT ASSEMBLIES ARE OIL-FREE NYLON. DO NOT PUT ANY SOLVENTS OR OIL ON THEIR SURFACES.

MAINTENANCE

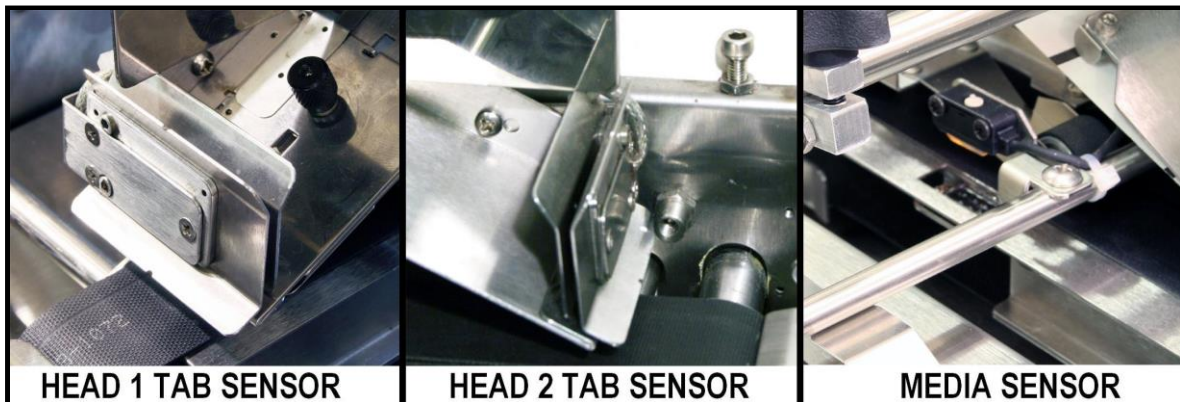
Sensors

There are three sensors in the tabber. Two tab sensors, one on each of the applicator heads, and one media sensor, located on the Left Media Guide Assembly. These sensors should be clean and free of accumulated paper dust. Use a vacuum with a soft brush attachment or a small soft-bristled paint brush and dry compressed air to remove the dust.

WARNING

THE TABBER IS A PRECISION MACHINE THAT SHOULD BE CLEANED REGULARLY TO ENSURE MANY YEARS OF SERVICE. BEFORE PERFORMING ANY MAINTENANCE, DISCONNECT IT FROM ITS POWER SOURCE! DO NOT USE LIQUIDS TO CLEAN THE SENSORS. DO NOT USE ABRASIVES TO CLEAN THE SENSOR LENS.

The sensor locations are as follows:



HEAD 1 TAB SENSOR

HEAD 2 TAB SENSOR

MEDIA SENSOR

Media Sensor Test:

There are two LEDs located on the entrance side of the Media Sensor.

Green LED ON = Power Present

Orange LED ON = No Paper (not interrupted)

Orange LED OFF = Paper Present (interrupted)

If the orange LED is not on when there is no paper present, then the reflector may need to be cleaned.

If the orange LED comes “on” even when paper is present, then the sensor intensity may need to be lowered. This is rare, but possible when high gloss media is being used. A qualified service technician should make this adjustment.

Tab Sensor Test:

Use the V-Tab adjustment screen to check the live tab sensor voltage (V=) value.

- **Not Interrupted** (Nothing in sensor. Tab stock removed.) = **0.12V or less**

If you remove all the tab material from the Tab Applicator and clean the tab sensor, but it still reads higher than 0.12V, this would indicate a dirty or damaged sensor.

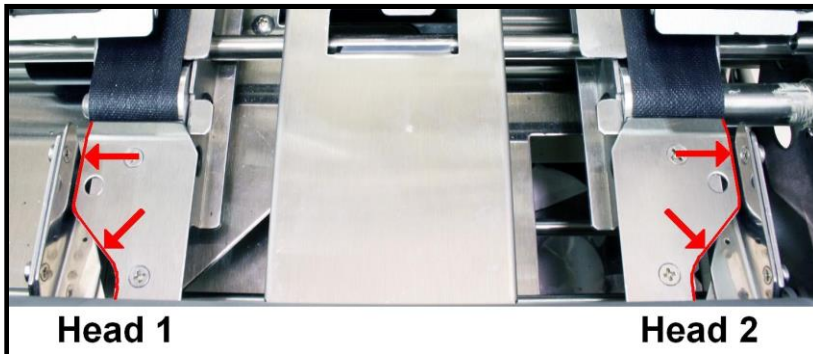
If the tab sensor reads 3.30V or higher, even when the sensor is not interrupted, this would indicate a totally blocked, damaged, or disconnected sensor.

If the tab sensor does not respond correctly after being cleaned, a qualified service technician should be contacted to disassemble, clean and possibly replace the tab sensor.

Tab Wrap Guides

Each of the Media Side Guide Assemblies has a Tab Wrap Guide at the end of it. This guide is used to wrap the tab under the back side of the media, before it is sealed by the pressure rollers.

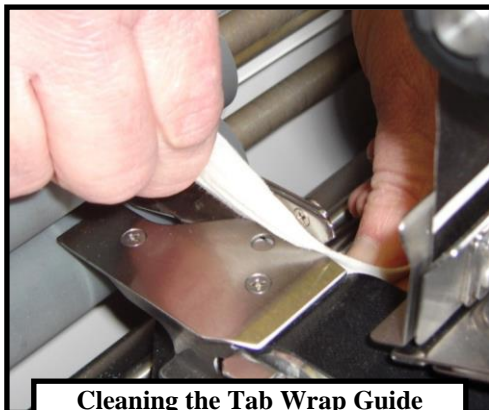
In the process of wrapping tabs, adhesive will build up along this guide. After a while this adhesive accumulation can restrict the tab from smoothly transitioning through this guide.



Both of the guides and the slots should be periodically cleaned with a thin rag, dampened with WD-40, to remove the adhesive residue, as shown below. After cleaning, wipe any excess WD-40 from the surfaces using a clean dry cloth.

WARNING

THE TABBER IS A PRECISION MACHINE THAT SHOULD BE CLEANED REGULARLY TO ENSURE MANY YEARS OF SERVICE. BEFORE PERFORMING ANY MAINTENANCE, DISCONNECT IT FROM ITS POWER SOURCE!



Cleaning the Tab Wrap Guide
Located at the exit end of the Right Media Guide Assembly.



Cleaning the Tab Wrap Guide
Located at the exit end of the Left Media Guide Assembly.

NOTE: If you are not able to remove all the adhesive and tabs using the above method, the Tab Wrap Guide Plates can be removed for cleaning. See “Tab Wrap Guide Plate Removal and Alignment” section.

MAINTENANCE

Tab Applicator Assemblies:

Dry, compressed air should be used to clear dust from the inside of the Tab Applicator Assemblies and Tab Sensors. Never use liquids to clean sensors.

To clear tabs/stamps and adhesive from inside the Tab Applicator Assemblies and Tab Sensors, the Tab Applicator Assemblies can be removed from the heads and disassembled. See “Tab Applicator Removal and Disassembly” section.

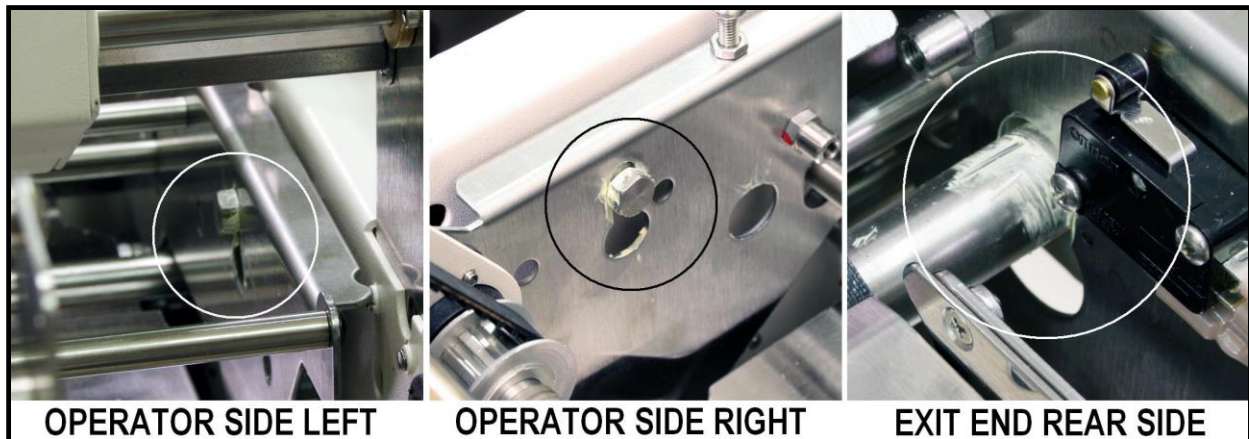
Lubrication

WARNING

THE TABBER IS A PRECISION MACHINE THAT SHOULD BE LUBRICATED REGULARLY TO ENSURE MANY YEARS OF SERVICE. BEFORE PERFORMING ANY MAINTENANCE, DISCONNECT IT FROM ITS POWER SOURCE!

Several locations on the FD 282 Tabber require regular lubrication. They are as follows:

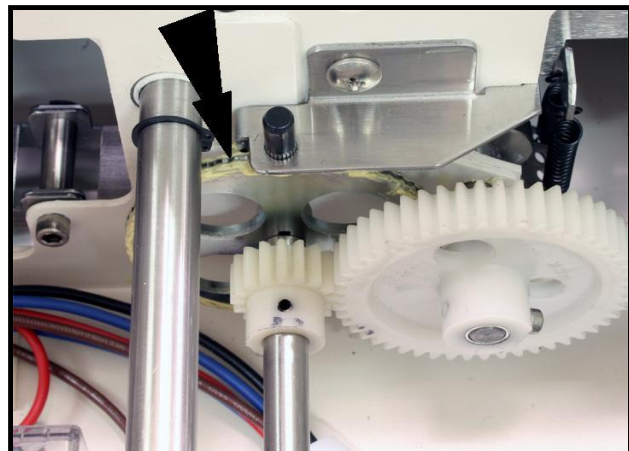
Place a small amount of White Lithium Grease on the surfaces where the Head Assembly raises and lowers.



Lubricate the Stepper Cam:

The surface of the stepper cam, for the Media Thickness Adjustment mechanism, should be periodically lubricated with white lithium grease.

Since covers must be removed to access this area, this process should be performed by a qualified service technician.



Appendix A – Specifications FD 282

ONE PASS TAB:	1-3 per side or 1-3 on 1side and 1 front
STANDARD TAB:	Minimum: 3/4" Maximum 1-1/2"
STAMPS:	1 to 3
MEDIA SIZE (L X W):	Minimum: 3.5" x 5" (6.5" W when end tabbing) Maximum: 11" x 15" See "Appendix D: Narrow Media Guide Assembly" section for variations to these specs.
MAX MEDIA THICKNESS:	1/4"
TAB PLACEMENT SETTING:	Manual or Automatic
TAB SENSOR CALIBRATION:	Manual or Automatic
MEDIA HEIGHT ADJUSTMENT:	Heads
TAKE-UP SPOOLS:	Standard
PRODUCTION RATE:	Two sides tabbed simultaneously (1 tab – 25,000/h) Two sides tabbed simultaneously (2 tabs – 15,000/h) Two sides tabbed simultaneously (3 tabs – 10,000/h)
PRODUCTION RATE CALCULATED WITH:	Tri-fold 8-1/2" x 11'
REEL CAPACITY:	Two reels, 10" diameter each
DIMENSIONS:	19" L x 30" W x 26" H (with reels)
FOOTPRINT (with optional feeder):	36" L (with feeder) x 30" W x 26" H (with reels)
WEIGHT:	108 lbs

Specifications are subject to change without notice.

Appendix B – Identifying the Tab Type

The following images will help you identify which Tab Type (Opaque or Clear) to select when using the Automatic V-Tab feature.

Tab Type = Opaque

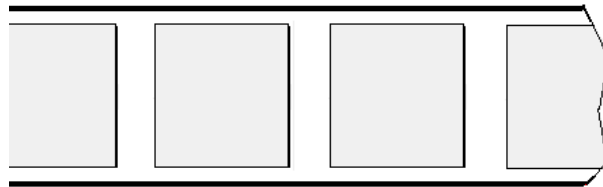
Stock that has white space/line (white gap) between each tab/stamp.



Tab Material: Clear or Translucent
Backing: Black box below tab area.
Gap: White



Tab Material: White Paper Circle
Backing: All White
Gap: White



Tab Material: White Paper Square
Backing: All White
Gap: White

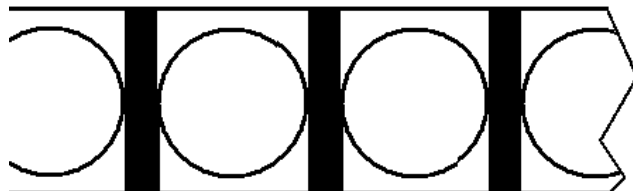
Tab Material: Stamp
Backing: All White
Gap: White

Tab Type = Clear

Stock that has black space/line (black gap) between each tab.



Tab Material: Translucent Circle
Backing: Black line between each tab.
Gap: Black



Tab Material: Clear Circle
Backing: Black line between each tab.
Gap: Black

Appendix C - Narrow Media Guide Assembly

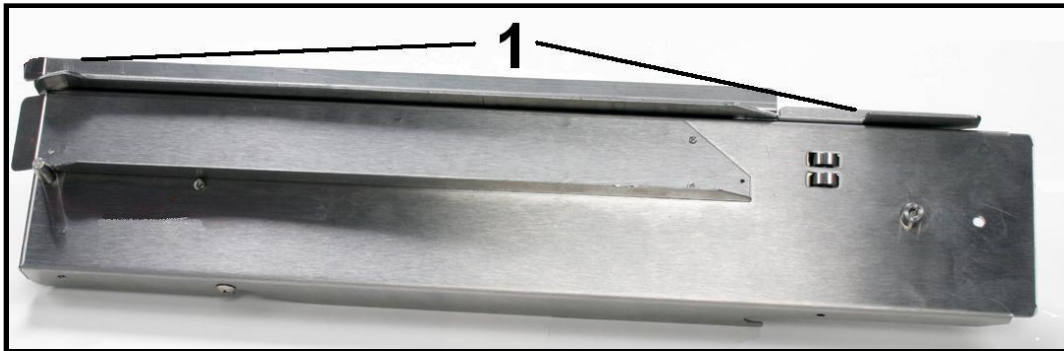
Supplement to the FD 282 Operations Manual

The Narrow Media Guide Assembly is designed to help you feed media that is smaller in width than the “standard” FD 282 Media Guide Assemblies can accommodate.

With this guide in place the following revised specifications apply to the FD 282:

- **Side Tabbing (H2 Only):** Minimum media width is reduced to 3.25”.
- **Applying Stamps:** Minimum media width is reduced to 4”.
- **Tabbing Perpendicular Sides:** Minimum media width is reduced to 5.25”

Note: The minimum media width is still 6.5”, when applying a 1.5” tab at center of lead edge. In this case the Narrow Media Guide Assembly is not used.



The Narrow Media Guide Assembly includes a removable Side Rail (1), which is held in place by two screws.

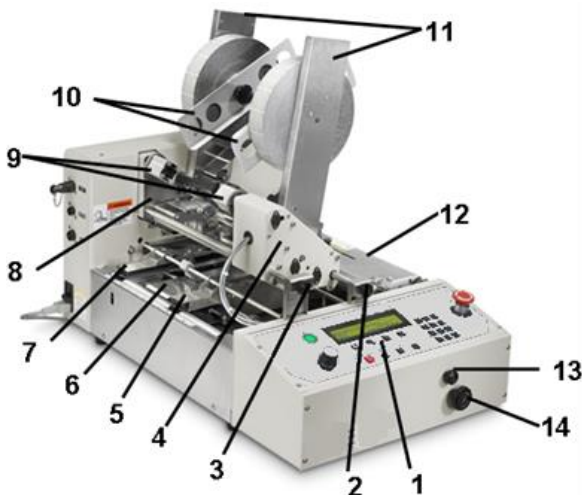
- Install the Side Rail (1) on the Narrow Media Guide Assembly when front tabbing media that is between 5.25” and 6.5” wide.

Tip: When front tabbing media that is 6.5” or wider, the Narrow Media Guide Assembly is not needed and should be removed.

- Remove this Side Rail (1) from the Narrow Media Guide Assembly when side tabbing media that is 3.25” to 5” wide, or applying stamps to media that is 4” to 5” wide.

Tip: When side tabbing or applying stamps to media that is 5” or wider, the Narrow Media Guide Assembly is not needed and should be removed.

FD 282 Reference Image:



5	Right Media Guide Assembly – The position of this guide is adjustable. Make sure tabber transport is moving at a medium speed before attempting to adjust the position of this guide.
6	Center Support Plate – This plate contains the slot used in the process of end tabbing (tabbing at leading edge).
7	Left Media Guide Assembly - Delivers the media to the tabbing area. Its position is not adjustable.
14	Media Thickness Adjustment Knob – This knob is used to raise or lower the Heads and Exit Roller Assembly when adjusting the tabber to the thickness of the media.

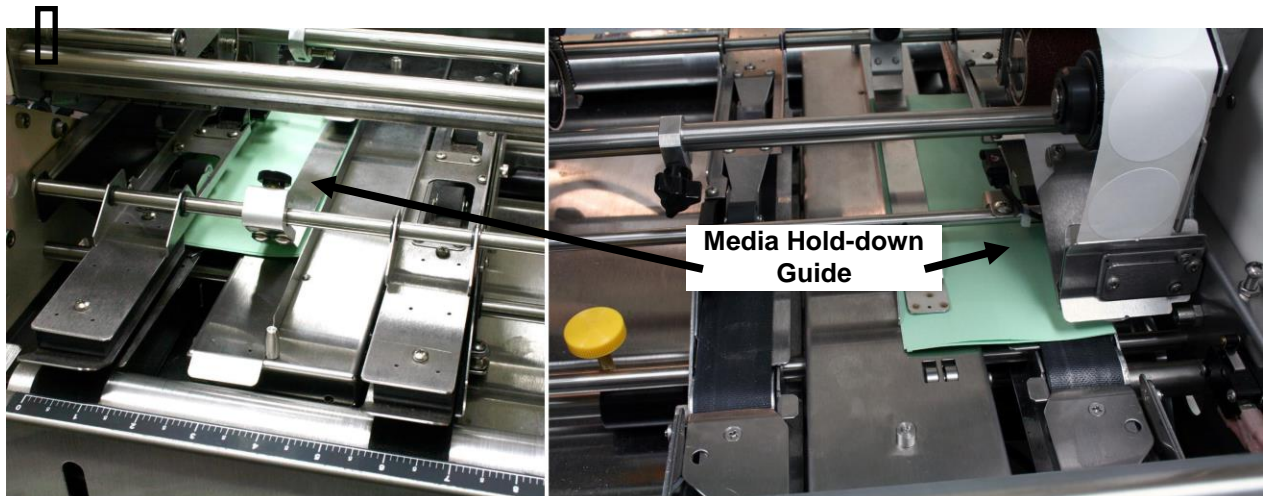
Side Tabbing Narrow Media

Example: Applying one, two, or three tabs to the side of an 8.5" x 11 Tri-folded piece (8.5" L x 3.66" W).

The addition of the Narrow Media Guide allows side tabbing of media widths from 3.25" to 5".

Note: Without this guide installed the minimum media width for side tabbing is 5".

1. Remove the Side Rail (1) from the Narrow Media Guide Assembly.
 2. Raise the FD 282's Media Thickness Adjustment (14) to the highest setting.
 3. Remove the Center Support Plate (6) from the FD 282.
 4. Install the Narrow Media Guide Assembly in place of the Center Support Plate, as shown below.
 5. Position (slide) the Narrow Media Guide Assembly, closer to or farther away from the Left Media Guide Assembly (7), in order to accommodate the width of your media.
 6. Move the Right Media Guide Assembly (5) against the Narrow Media Guide Assembly, to hold it in place.
- Important:** When moving the Right Media Guide Assembly (5) the transport must be turning at a medium speed. Move guide slowly to avoid damage.
7. Reposition the Media Hold-down Guide as shown below.
 8. Set up the Tabber to side tab from Head 2. See FD 282 Operations Manual for details.
 9. Readjust the Media Thickness Adjustment (14) to accommodate your media.
 10. Run the Job.



REAR VIEW

FRONT VIEW

Applying Stamps to Narrow Media

Example: Applying stamp to #10 envelopes.

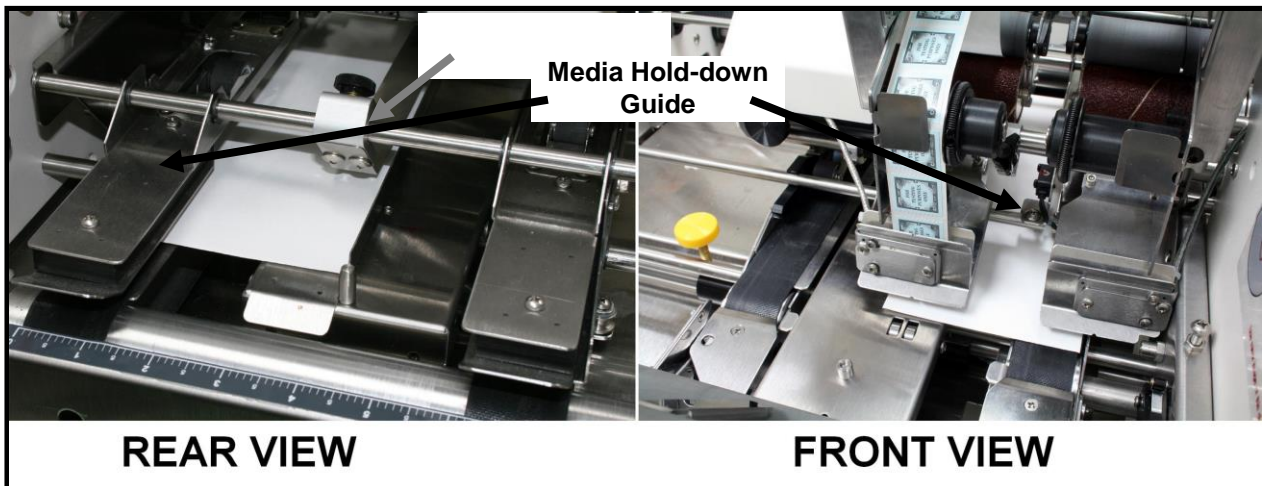
The addition of the narrow media guide allows stamping of media widths from 4" to 5".

Note: Without this guide installed the minimum media width for applying stamps is 5".

1. Remove the Side Rail (1) from the Narrow Media Guide Assembly.
2. Raise the FD 282's Media Thickness Adjustment (14) to the highest setting.
3. Remove the Center Support Plate (6) from the FD 282.
4. Install the Narrow Media Guide Assembly in place of the Center Support Plate, as shown below.
5. Position (slide) the Narrow Media Guide Assembly, closer to or farther away from the Left Media Guide Assembly (7), in order to accommodate the width of your media.
6. Move the Right Media Guide Assembly (5) against the Narrow Media Guide Assembly, to hold it in place.

Important: When moving the Right Media Guide Assembly (5) the transport must be turning at a medium speed. Move guide slowly to avoid damage.

7. Reposition the Media Hold-down Guide as shown below.
8. Setup Head 1 to apply stamps. See FD 282 Operations Manual for details.
9. Readjust the Media Thickness Adjustment (14) to accommodate your media.
10. Run the Job.



Applying Tabs to Perpendicular Sides of Narrow Media

Example: Applying two tabs to the side and one tab to the front edge of the media.
The addition of the narrow media guide allows tabbing to perpendicular sides of media widths from 5.25" to 6.5".

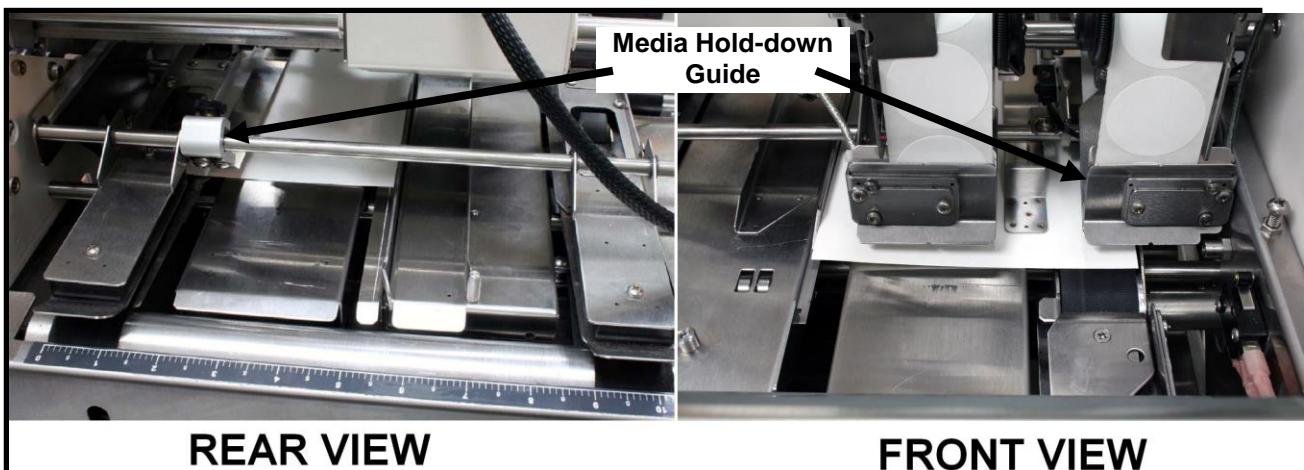
Note: The minimum media width is 6.5", when applying 1.5" tab at center of lead edge. In this case the narrow media guide assembly is not used.

1. If the Side Rail (1) is not installed on the Narrow Media Guide Assembly, install it now.
2. Raise the FD 282's Media Thickness Adjustment (14) to the highest setting.
3. Make sure the Center Support Plate (6) is installed.
4. Install the Narrow Media Guide Assembly to the right of the Center Support Plate, as shown below.

Tip: If there isn't enough room to install the Narrow Media Guide Assembly between the Center Support Plate and Right Media Guide Assembly (5), to install the Narrow Media Guide, move the Right Media Guide Assembly (5) closer to the operator side of the tabber.

Important: When moving the Right Media Guide Assembly (5) the transport must be turning at a medium speed. Move guide slowly to avoid damage.

5. Position (slide) the Narrow Media Guide Assembly, closer to or farther away from the Left Media Guide Assembly (7), in order to accommodate the width of your media.
6. Move the Right Media Guide Assembly (5) against the Narrow Media Guide Assembly, to hold it in place. Important: When moving the H1 Paper Guide the transport must be turning at a medium speed. Move guide slowly to avoid damage.
7. Reposition the Media Hold-down Guide as shown below.
8. Set up the Tabber to apply two tabs to the side of the media with Head 2 and one tab to the front of the media with Head 1. See FD 282 Operations Manual for details.
9. Readjust the Media Thickness Adjustment (14) to accommodate your media.
10. Run the Job.



Appendix D - BIOS Loading Process

Before loading a new BIOS version it is always a good idea to make a note of the current version, in case you need to revert back. To check the BIOS version currently loaded in the FD 282, see “Advanced Features”.

BIOS files can be obtained by contacting Formax. Please have your tabber model and serial number available, along with the current version of BIOS that is loaded in this unit and the reason you are updating BIOS.

In order to load a BIOS file into the FD 282 you will need the following:

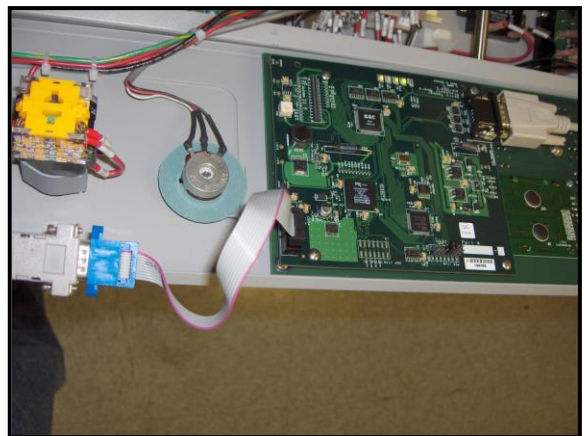
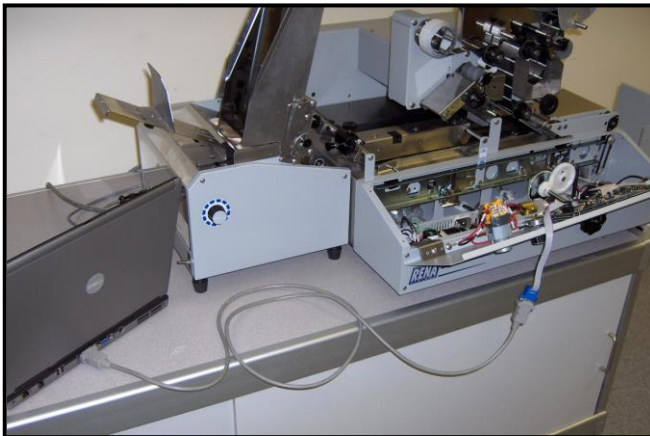
- Tabber BIOS Interface Cable (part # 33-500-195).
- DB-9 female to DB-9 male, straight through (1 to 1, 2 to 2, 3 to 3, etc.), serial cable. Not supplied.
- Computer with DB-9 male serial port.
- BIOS files (*.fbios, current and new) and “tabber.ht” (Hyper Terminal) file.

WARNING

DO NOT TURN OFF THE TABBER OR STOP THE COMPUTER DURING THE DOWNLOAD PROCESS. DAMAGE TO THE MAIN PC BOARD WILL OCCUR.

1. Power the tabber OFF.
2. Remove the 4 screws that secure the front cover. Open the front cover to access the processor board.
3. Connect Cable.
Connect the female DB-9 end of the BIOS Interface Cable to the male end of the DB-9 serial cable. Connect the other end of the BIOS Interface Cable to the tabber’s processor board, as shown. Connect the female end of the DB-9 serial cable to your computer’s male DB-9 serial port.

Note: Single-head tabber shown below. FD 282 processor board connection is identical.



4. Power the tabber ON.

5. Copy the “tabber.ht” Hyper Terminal file to your computer.
Double click the file to open Hyper Terminal.
The box to right will appear. Click **No**.

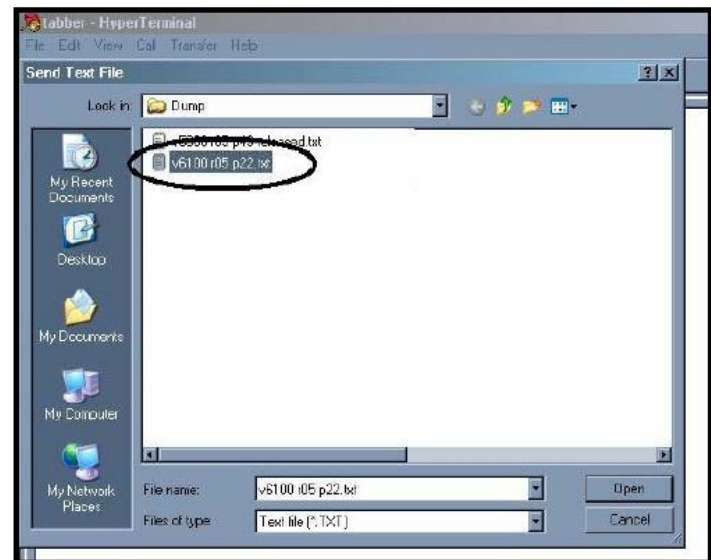


6. When the “tabber - Hyper Terminal” window on the right appears, click on Transfer and then select Send Text File.



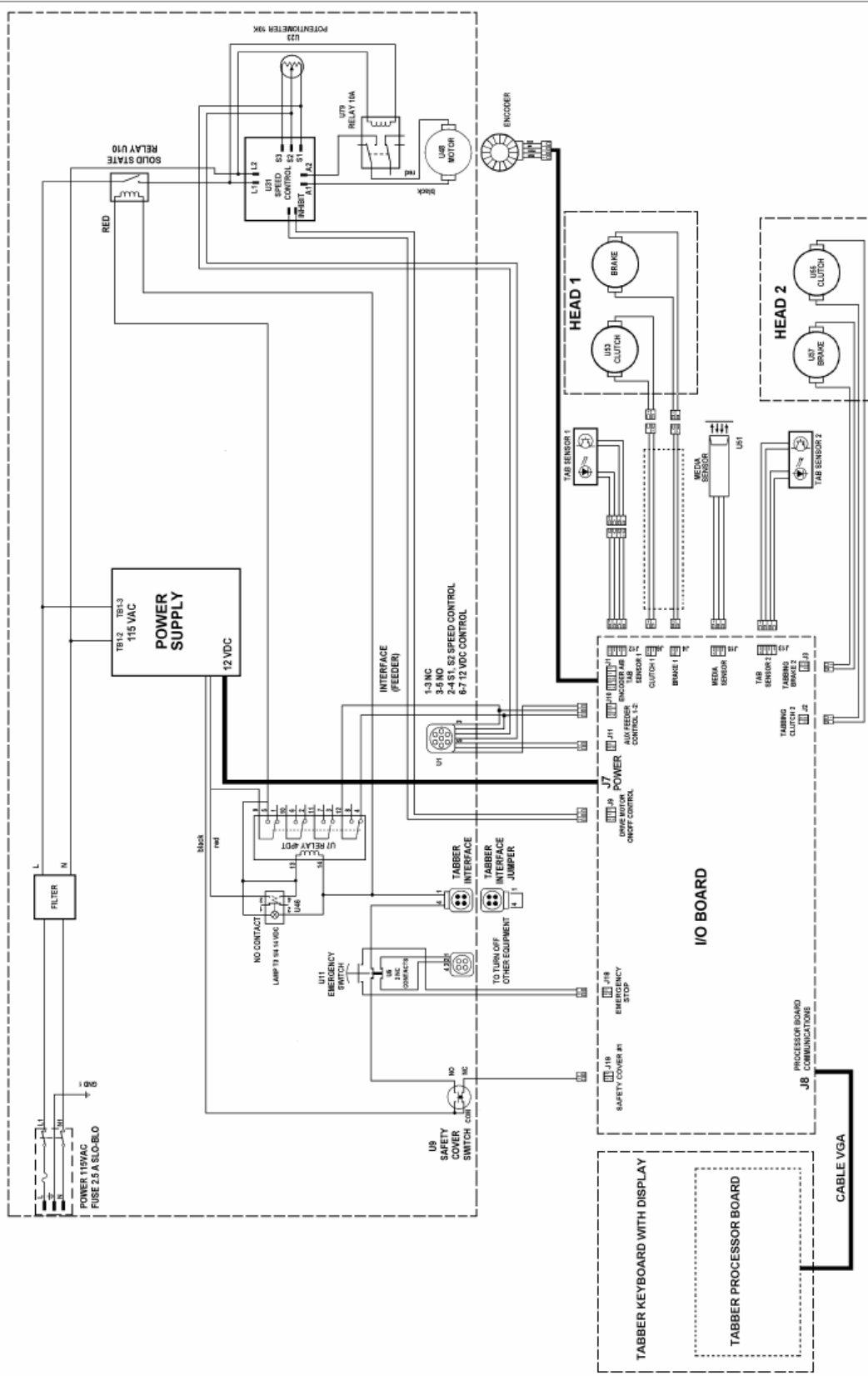
7. The “Send Text File” window will open.
Locate and Select the BIOS file you wish to send. Example: v8800r07p47.txt
8. Click on Open.
The Hyper Terminal will then send the selected BIOS file to the tabber.
The tabber screen should display BIOS loading information.

Tip: If you have trouble with communication, check to be sure the Hyper Terminal Modem Settings are set to:
Hardware Control, 57600, 8, N, 1.



9. After the download has completed, the tabber will display “... successful: Power OFF/ON”.
Turn the tabber off and on to finish the process.
Then check the BIOS version, through “Advanced Features”, to be sure it was loaded.
10. Power tabber OFF and disconnect BIOS Interface Cable from processor board.
11. Secure the front cover using the 4 screws.
12. Power tabber ON and Test the tabber for proper operation.

Appendix E - Wiring Diagram



Notes
