

FORMAX[®]

FD 280-20
High Volume Tab Delivery Module

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1. INTRODUCTION

1.1 Organization Of This Operating Manual

This manual includes a description of your FD 280-20, set up, operation, maintenance and troubleshooting. There are many helpful tips along the way, and it is strongly suggested that you become familiar with this entire manual prior to operating the FD 280-20.

1.2 FD 280-20 Description

The Formax FD 280-20 may be used as an accessory label feeder for many labeling machines or printers. In this manual the FD 280-20 is described as a part of a system featuring the Formax FD 280 tabbing machine.

The FD 280-20 is equipped with a dolly using locking casters. Place it in position and lock the casters. Rolls of tabs are placed between spool end plates (included) and mounted on the FD 280-20. The web of tabs is then threaded through the FD 280-20 and up to the FD 280. One strip of tabs may be spliced to another.

As the tabber uses tabs, the FD 280-20 automatically unrolls more tabs as needed. At the end of the spool, the FD 280-20 goes into an error state and shuts down the FD 280's feeder.

The FD 280-20 has a unique feature that facilitates its use as a part of a tabbing or labeling system. The Accessory Power Outlet is switched and controlled by the operation of the FD 280-20. Typically, the FD 280-20 receives its power from the FD 280. It then supplies all upstream equipment based on the FD 280's transport. When the FD 280 is capable of running material through it, the FD 280-20 and the feeder will run in turn. Stop the FD 280's transport with the E-Stop switch and all upstream modules stop as well.

1.3 Items Included

The following items are shipped together in one box. Take note of each as you unpack the box.

- Formax FD 280-20 Tab Delivery Module
- Power cord
- Operating Manual
- Tab Roll End Plates
- Dolly

WARNING
THE FD 280-20 IS A HEAVY MACHINE.
USE PROPER LIFTING TECHNIQUES TO
SET IT ON A WORK SURFACE.

1.4 Operating Manual Safety Terms

The following highlighted blocks are used throughout this manual to emphasize important information. **Pay careful attention to this information.**

WARNING
ALERTS YOU TO ACTIONS OR CONDITIONS
THAT MAY PRESENT HAZARDS OR CAUSE
INJURY TO PERSONNEL.

CAUTION
ALERTS YOU TO ACTIONS THAT MAY CAUSE
LOSS OF MATERIALS (MAIL PIECES AND TABS)
OR DAMAGE TO EQUIPMENT.

NOTE
Draws your attention to an important
statement or action.

TIP
A suggestion to enhance the FD 280-20's productivity.

1.5 Safety Precautions

Observe the following safety precautions and warnings when operating, cleaning or repairing the FD 280-20. Failure to do so may result in physical injury or damage to the FD 280-20. The manufacturer assumes no liability for your failure to comply with these requirements.

WARNING
NEVER CLEAN, CLEAR OR DISASSEMBLE THE FD 280-20 WITHOUT FIRST UNPLUGGING THE POWER CORD.

WARNING
KEEP LOOSE CLOTHING, TIES, SCARVES AND HAIR AWAY FROM ALL MOVING PARTS.

WARNING
DO NOT PLACE FINGERS OR TOOLS BETWEEN OR NEAR MOVING PARTS.

1.6 Warranty

NOTE
Your FORMAX FD 280-20 is covered under warranty by the dealership from which you purchased it.
If you have any questions about the FD 280-20, contact your authorized FORMAX dealer.

Formax warrants your FD 280-20 against defects in materials and workmanship for a period of six months from the original ship date when used in accordance with the operating instructions in this manual. This

warranty covers the cost of parts when the machine is presented by its original purchaser to an authorized Formax Dealer. Should warranty repairs become necessary, the service provider, at his/her option, will repair or replace such parts required to restore the FD 280-20 to serviceable condition.

This warranty does not cover consumable parts such as belts, rollers and sweeps used to contact and transport labels and/or tabs. This warranty does not extend to incidental or consequential damages arising out of a warranty claim, or to costs associated with maintenance of the equipment. This warranty does not cover damages resulting from shipping, accident, misuse, abuse, neglect, mishandling, alteration or modification. Your rights under this warranty may vary from state to state.

1.7 Additional Equipment

To order or find out about additional Formax equipment, parts or supplies, contact an authorized Formax dealer. To locate an authorized dealer in your area, call Formax 800-232-5535.

2. SPECIFICATIONS & REQUIREMENTS

2.1 Specifications

Size & Weight

12.5" l x 17.5" h x 16" weight -- 45 lb.

Power

USA household voltage 120V, 60 Hz

2.2 Operating Requirements

Tab Specs

Tab width: between 1¹/₂" and 1"

Tab length: 1" – 1.5"

Backing paper width: 1"-2"

Maximum roll diameter: 12" (50,000 1.5" tabs/roll)

Core Diameter: 3"

Production

60,000 inches/hr.

WARNING
BEFORE PLUGGING THE FD 280-20 INTO AN
OUTLET, CAREFULLY READ THE FOLLOWING
INFORMATION ABOUT VOLTAGES, FUSES AND
THE POWER CORD.

3. POWER CONNECTION

3.1 Safety

The FD 280-20 connects to a grounded 120 VAC power distribution system. The FD 280-20 uses protective fusing in both the neutral and hot supply lines of power.

WARNING
**A BLOWN FUSE IN THE NEUTRAL LEG COULD
MEAN INTERIOR PARTS OF THE FD 280-20
REMAIN AT A HAZARDOUS VOLTAGE. ALWAYS
UNPLUG THE POWER CORD BEFORE REMOVING
COVERS FROM THE FD 280-20.**

3.2 Line Voltage

The FD 280-20 is rated for continuous operation using a 120VAC/60 Hz grounded supply

3.3 Line Fuses

The FUSE DRAWER located on the Power Entry Module contains two LINE FUSES. (Refer to **Figure 3.1.**) The neutral and hot lines of power are fused. Both LINE FUSES must be intact for the FD 280-20 to operate properly.

Always replace blown fuses with like type and rating fuses.

3.4 Accessory Fuses

Two FUSEHOLDERS are located on the Power Entry panel between the APPLIANCE INLET and the ACCESSORY POWER OUTLET. (Refer to **Figure 3.1.**) The FUSEHOLDERS hold two ACCESSORY FUSES which protect the ACCESSORY POWER OUTLET. As with the LINE FUSES mentioned previously, both the neutral and hot lines are fused. Both ACCESSORY FUSES must be intact for the FD 280-20 to properly supply power to in-line equipment.

WARNING
UNPLUG THE POWER CORD BEFORE STARTING THIS PROCEDURE.

Use the following instructions to verify that the ACCESSORY FUSES installed have the proper fuse value or to replace a blown fuse:

1. Unplug the POWER CORD.
2. Use a small screwdriver or similar tool to press in and rotate the FUSEHOLDER CAP **counterclockwise** to release this cap.
3. Pull the FUSEHOLDER CAP (with the ACCESSORY FUSE inside) out of the FUSEHOLDER.
4. Verify the fuse value. Inspect fuses, replace if blown.

<u>Selected Voltage</u>	<u>Line Fuse Value</u>
120V.....	6.3A (250V time delay)

5. Install the ACCESSORY FUSE and the FUSEHOLDER CAP in the FUSEHOLDER. Both ACCESSORY FUSES must be intact for the FD 280-20 to properly supply power to in-line equipment.
6. Using the screwdriver, press in and turn the FUSEHOLDER CAP **clockwise** to lock it.

3.5 Accessory Power Outlet

The ACCESSORY POWER OUTLET is located next to the FUSEHOLDER and Power Inlet. This outlet supplies power to equipment running upstream from the FD 280-20. The Accessory Power Outlet is switched by the FD 280-20. Should a fault occur on the FD 280-20 all machines attached to it through the Accessory Outlet will stop as well.

The ACCESSORY POWER OUTLET is limited to a 6.3A maximum at 120 volts. The total amperage of all machines upstream of the FD 280-20's Accessory Power outlet must not exceed the maximum rated amperage.

3.6 Power Cord

The FD 280-20 comes with a three-wire POWER CORD. The POWER CORD grounds the FD 280-20 when connected to an approved three-contact electrical outlet.

1. Plug the POWER CORD into the APPLIANCE INLET.. (Refer to **Figure 3.1.**)
2. Plug the POWER CORD into a grounded outlet.

WARNING
TO PREVENT ELECTRICAL SHOCK, ONLY PLUG THE POWER CORD INTO A GROUNDED OUTLET.

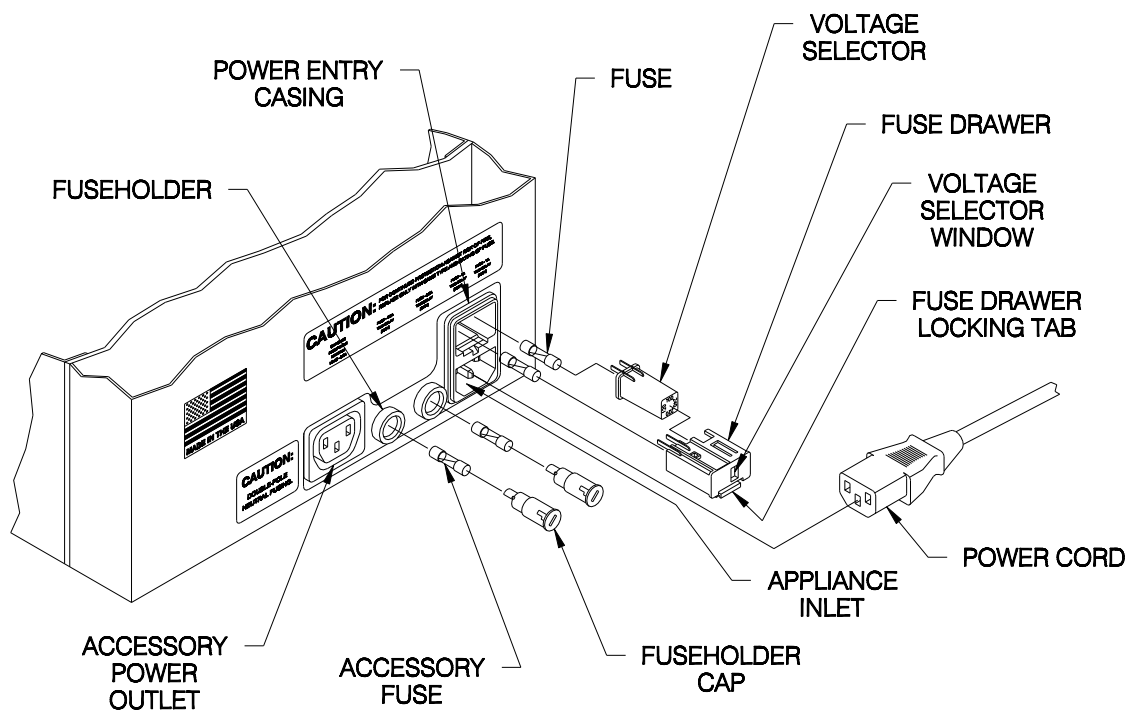


Figure 3.1 Power Entry Panel

4. CONTROLS AND INDICATORS

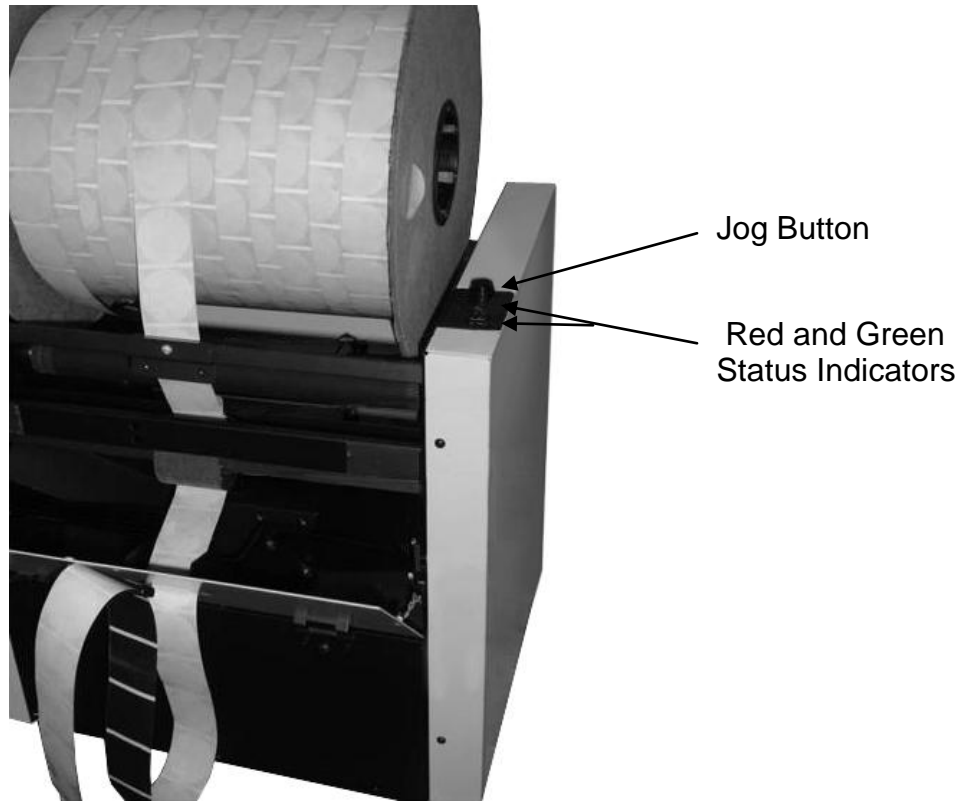


Figure 4.1 - FD 280-20 Controls

4.1 Power Switch

The POWER SWITCH is located on the upper front of the FD 280-20. It is on a bracket accompanied by the orange power indicator

4.2 Momentary Advance (Jog) Switch

The Jog Switch is located on the opposite side of the machine from the Power Switch. It is accompanied by a red and a green LED on its mounting bracket.

4.3 Indicators

1. Orange – Power ON. Lights when the FD 280-20 is powered on.
2. Green – Ready. Lights when all systems are operating correctly.
3. Red – Fault. Lights when something goes wrong, and the FD 280-20 stops. Accompanied by an audible alarm. All machines plugged into the FD 280-20 Auxiliary Outlet stop on a fault as well.

4.4 Emergency Stop

The front door is equipped with an interlock that acts as an Emergency Stop. Open the door and the FD 280-20 stops as do all machines attached to it.



Figure 4.2 Threaded FD 280-20

5. OPERATION

5.1 Placing The FD 280-20 In-Line

To operate the FD 280-20 in-line with your tabbing device, place the FD 280-20 near the label head that is to be fed by an FD 280-20. Keep the label web from twisting as much as possible while allowing the tabber to pull tabs from the FD 280-20.

NOTE

Turn on the FD 280-20 before turning on any feeding device.

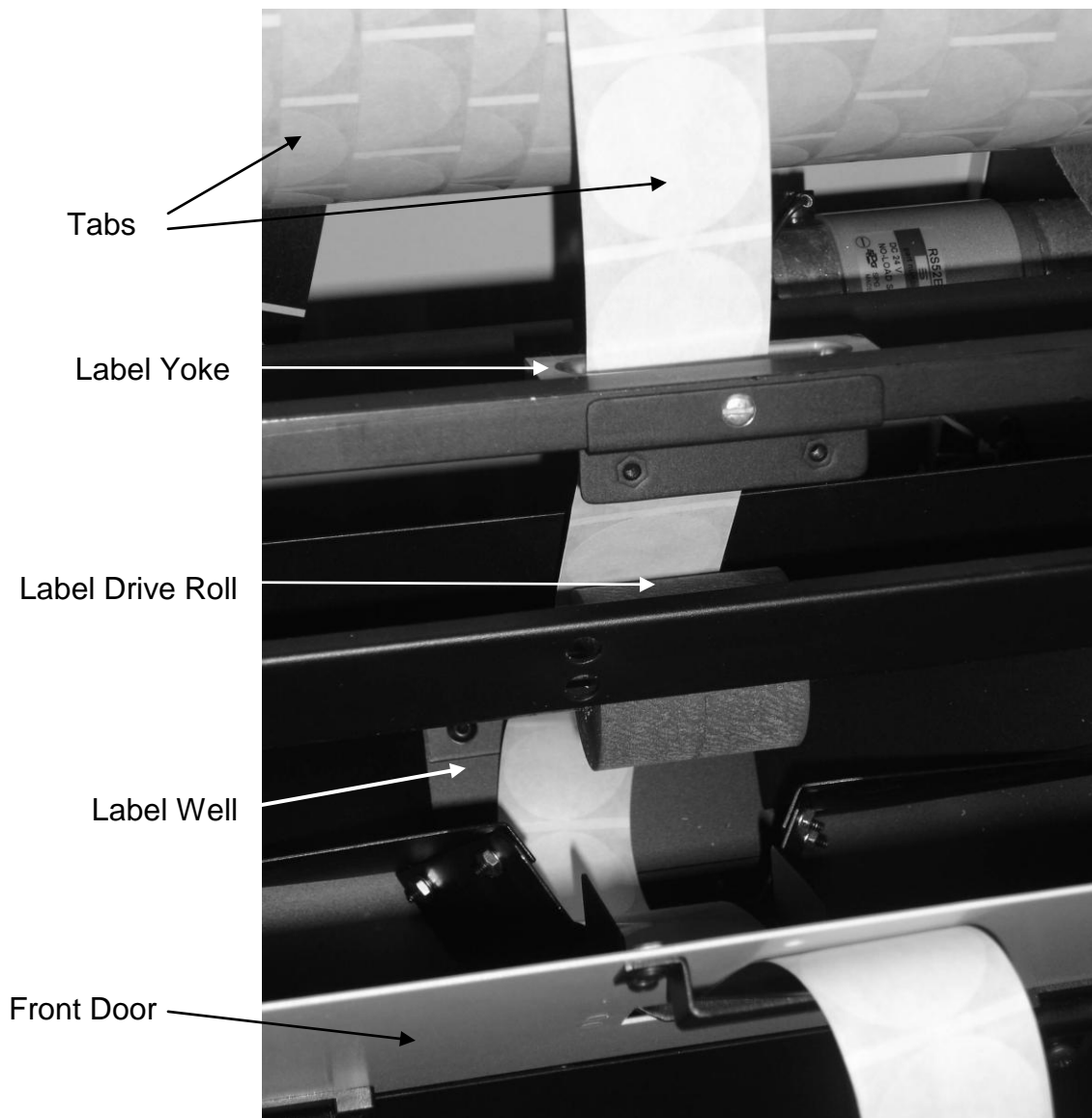
Typically the system's feeder is plugged into the FD 280-20's Auxilliary Power Outlet.

5.2 Threading Tabs

To thread tabs:

1. Place the tab roll atop the FD 280-20 with about a foot of tabs coming over the top of the roll toward the operator
2. Turn Power ON and open the front door.
3. Place the lead edge of the tabs between the brush and the red tab feed roll.
4. Advance the tabs by pressing the momentary jog switch.
5. The tab web will be fed into the FD 280-20 and a loop will form coming back to the operator. Stop pressing the jog button.
6. Insert the lead edge of the tab web into the slot in the door and while closing the door, catch the tab web under the door handle to direct the web up and away from the FD 280-20.

The FD 280-20 will now unwind tabs on demand. To gain slack, merely pull tabs from the FD 280-20. When you stop pulling, the FD 280-20 will stop advancing tabs.



5.3 Replacing Empty Spools

When the spool is nearly empty, watch to be sure that the last strip of tabs does not catch on the spool. Stop tabbing, remove the empty spool and splice on a new strip of tabs from the new spool. Be sure to secure the spool ends on the new spool. Splice by placing the lead edge of the new strip under the existing strip and securing the bottom of the tab strips. (**See fig. 5.3**)

5.4 Using Flat Rolls

The maximum diameter of the roll to be fed is 12”.

1. Arrange the flat roll (s) on a common shaft.
2. Lock the rolls in place using the collars provided.
3. Slip the end plates on the shaft.
4. Place the assembly on the FD 280-20.

Using this method, it is possible to have a variety of tabs stored in flat rolls on the FD 280-20 until needed.



Figure 5.2 Flat Roll Set Up

5.5 Splicing Tabs

In order to maintain continuous operation, tabs should be spliced using the following technique.

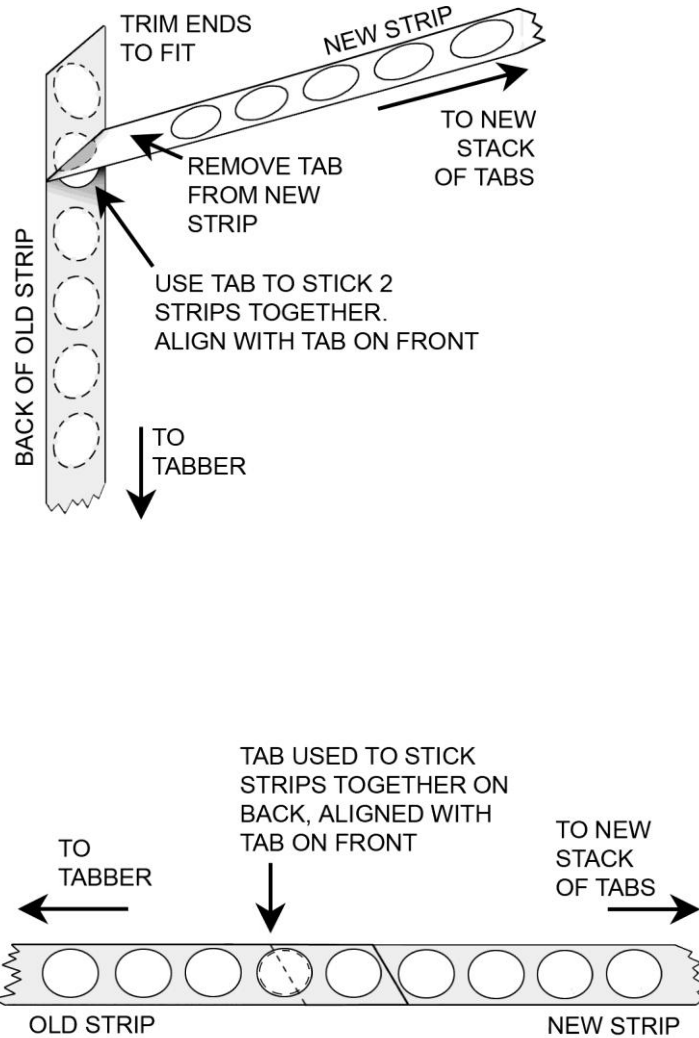


Figure 5.3 Splicing Details

6. MAINTENANCE

6.1 General Cleaning

Your FD 280-20 will need regular cleaning. How often depends on the amount of use. Wipe surface dust or debris from the FD 280-20 with a damp cloth as necessary.

Watch for wear on the spool ends. If they become worn and flattened, replace them.

WARNING
DO NOT PLACE FINGERS OR TOOLS BETWEEN OR NEAR MOVING PARTS.

6.2 Replacing a Fuse

6.2.1 Line Fuse

When one or both LINE FUSES are blown, the FD 280-20 will appear to have no power and the LINE FUSE must be replaced.

WARNING
UNPLUG THE POWER CORD BEFORE OPENING THE FUSE DRAWER.

To replace a LINE FUSE:

1. Use a small screwdriver or similar tool to push up on the FUSE DRAWER LOCKING TAB to release this locking tab. (Refer to **Figure 7.1.**)

2. Pull the FUSE DRAWER out of the POWER ENTRY CASING. (Refer to **Figure 7.1.**)

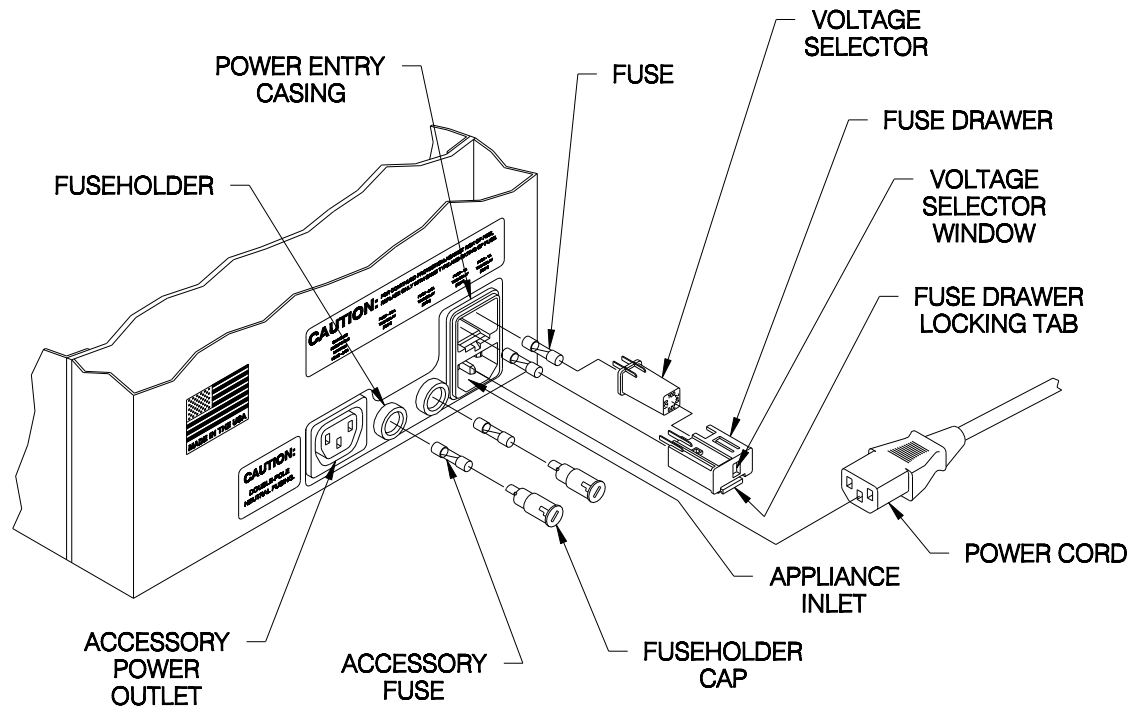


Figure 7.1 – Replacing a Line Fuse

3. Inspect the FUSES; look for blackened glass, melted wire or a disconnected wire between the ends of the tube. If you find any of these problems in either FUSE, that FUSE is blown and must be replaced.
4. Pull the blown FUSE from its slot.

WARNING
REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE. (REFER TO CHART BELOW.)

<u>Selected Voltage</u>	<u>Line Fuse Value</u>
120V.....	1.0A (250V time delay)

5. Place the new FUSE into the same slot.
6. Install the FUSE DRAWER. (Refer to **Figure 7.1.**)

6.2.2 Accessory Fuse

When one or both ACCESSORY FUSES are blown, the ACCESSORY POWER OUTLET and the machine plugged into this outlet lose power.

WARNING
UNPLUG THE POWER CORD BEFORE OPENING
THE FUSE DRAWER.

To replace an ACCESSORY FUSE:

1. Use a small screwdriver or similar tool to press in and slightly rotate the FUSEHOLDER CAP counterclockwise. (Refer to **Figure 7.1.**)
2. Inspect the FUSE; look for blackened glass, melted wire or a disconnected wire between the ends of the tube. If you find any of these problems in the FUSE, it is blown and must be replaced. If the first FUSE is fine, repeat steps 1 and 2 for the second FUSE.
3. Pull the blown FUSE from its slot.

WARNING
REPLACE ONLY WITH SAME TYPE AND RATING
OF FUSE. (REFER TO CHART BELOW.)

<u>Selected Voltage</u>	<u>Line Fuse Value</u>
120V.....	6.3A (250V time delay)

4. Place the new FUSE into the same slot.
5. Install the FUSEHOLDER CAP into the FUSEHOLDER. (Refer to **Figure 7.1.**)

7. TROUBLESHOOTING AND SERVICE

WARNING
UNPLUG THE POWER CORD BEFORE
REMOVING, ADJUSTING OR REPAIRING ANY
PARTS IN THE FD 280-20.

7.1 Troubleshooting Chart

Trouble	Possible Cause	Solution
1. Nothing works.	<ul style="list-style-type: none">• Power switch is not on.	<ul style="list-style-type: none">• Turn power switch on.
	<ul style="list-style-type: none">• Power cord is damaged or not plugged into proper outlet.	<ul style="list-style-type: none">• Replace power cord if damaged or plug into proper outlet if necessary.
	<ul style="list-style-type: none">• Outlet does not have power present.• Front door is open.	<ul style="list-style-type: none">• Check circuit source for a blown fuse or circuit breaker.• Make sure door is closed.
2. Tabs do not advance.	<ul style="list-style-type: none">• Sensor is blocked.	<ul style="list-style-type: none">• Remove all tabs and debris from sensor well. Clean sensors.
3. Tabs continue to advance causing an error.	<ul style="list-style-type: none">• Sensor beam is not broken.	<ul style="list-style-type: none">• Tabs are not peeling into the sensor well. Re-thread.• Sensor failure.

7.2 Service

If any problems occur with this equipment or if you need assistance installing or operating your FD 280-20 contact your FORMAX dealer.

7.3 Repacking Instructions

If it is necessary to ship your FD 280-20 to your FORMAX dealer for service, pack it in the original shipping container and packaging material. If the original container is not available, the FD 280-20 should be carefully packed so that it will not be damaged in transit.

When calling for service, have your FD 280-20's serial number handy.

NOTE

If the FD 280-20 is packed correctly, your Shipping Carrier is liable for any damages that occur during shipping.

Use the following instructions to pack the FD 280-20 with commercially available materials.

1. Double wrap the machine in heavy plastic.
2. Use a heavy duty, double-walled container of 350-pound test material.
3. Surround the FD 280-20 on **ALL** sides with at least 4 to 5 inches of shock absorbing packaging material. This will provide firm cushioning and prevent movement inside the container.
4. Seal the top and bottom of the shipping container with strong tape or banding material.
5. Clearly and legibly mark the shipping container **FRAGILE**.
6. Contact your FORMAX dealer.

