

HUESTISMEDICAL

Styro•Former

**Instructions
Model #SF-319**

Serial No._____

**ISO9001
REGISTERED**



HUESTISMEDICAL

Styro•Former

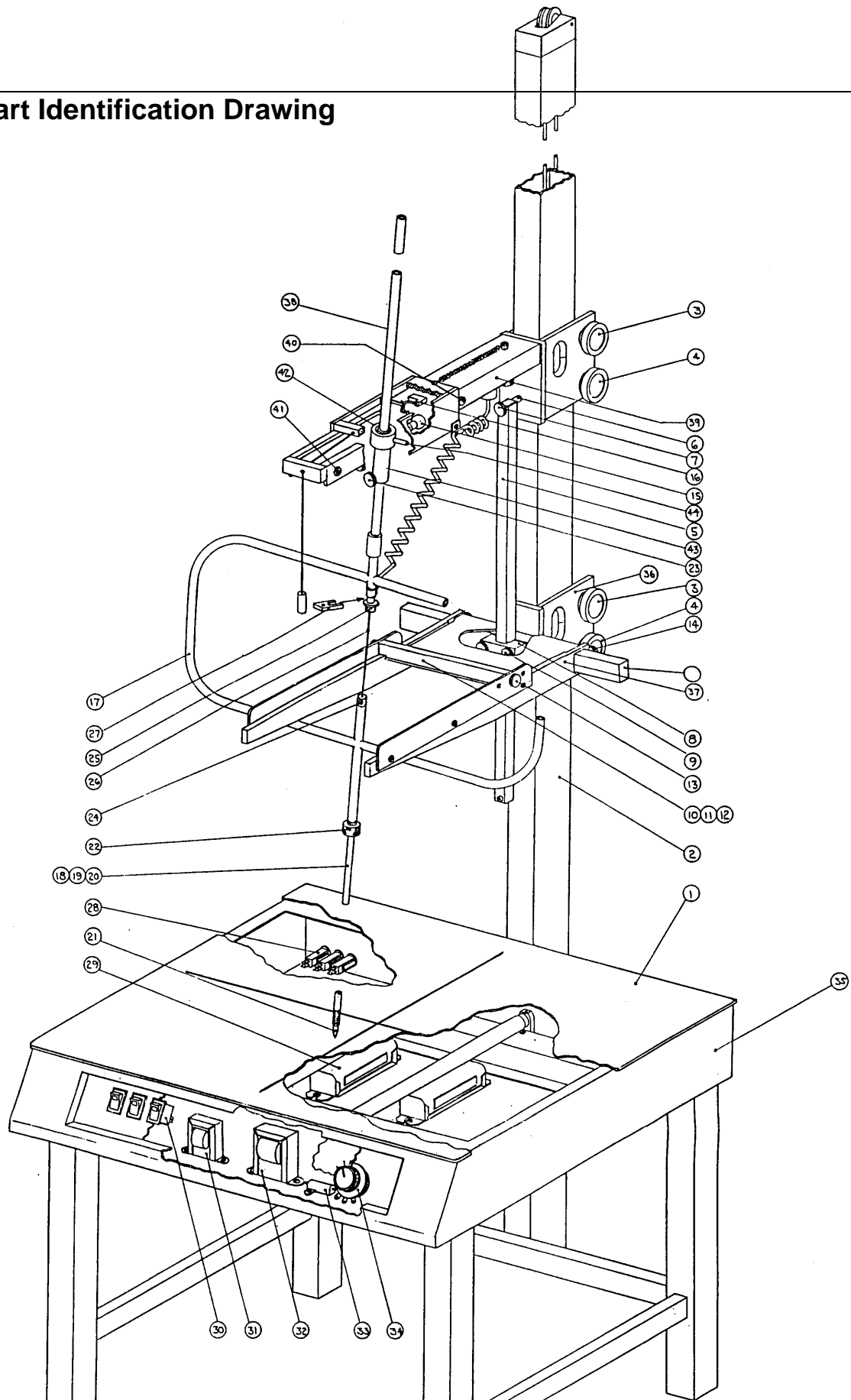
Table of Contents

Table of Contents	2
Part Identification Drawing	3
Part Identification List	4
Introduction	5
Features	5
Environmental Range	5
Physical Dimensions	5
Control Panel Layout	6
Unpacking	6
Assembly	7
Check the Ceiling Height	7
Mounting the Column (Item #2)	8
Mounting the Block Holder Clamp Assembly (Item #36)	8
Mounting the Swivel Support Arm Assembly (Item #39)	8
Mounting the Arms (Item #37) and the Block Guide (Item #10, #11, #12)	8
Mounting the Tie Rod (Item #5)	8
Assembly of the Upper Rod to the Box Frame	9
Mounting the Upper Rod and Box Frame to the Swivel Assembly	9
Mounting the Tracing Tip (Item #18, #19, #20)	9
Electrical Connections	9
Quality Assurance	10
Alignment Verification	10
Box Frame Alignment	10
Checking the Verification Light Alignment	11
Operation	12
Maintenance	14
Electrical	14
Mechanical	14
Replacing the Hot Wire	14
Tips for Inserting the Nichrome Wire	14
Tabletop	15
Column Roller Adjustment	15
Replacing the Top Bushing Assembly (Item #21)	16
Replacing the Bottom Bushing Assembly (Item #19)	17
Spare Parts	18
Enclosures	18
Accessories	18
SF410 – Styro•Former Electrical Schematic	20
SF555 – Styro•Former w/Auto-Boost Electrical Schematic	21
SF653 – 230 V Conversion Electrical Schematic	22
SF578 Auto-Boost Electrical Box Assembly	23
SF767 – Auto-Boost Top Bushing Assembly	24
Warranty	25

Revision History

Revision	ECO	Date	Name
A	1178	10/8/02	Thomas Aguiar

Part Identification Drawing



Part Identification List

Symbol #	Part Number	Description
1	SF178	Table Top
2	SF188	Column
3	SF678	Clamp Drive Roll & Knob
4	SF675	Clamp Stud & Knob
5	SF202	Tie Rod
6	SF401	Tie Rod Mounting Spacer
7	SF677-2	Upper Tie Rod Knob Assembly
8	SF201	Tie Rod Clamp
9	SF677-3	Lower Tie Rod Knob Assembly
10	SF514/515-1	8"X8" Block Guide Back
11	SF514/515-2	10"X10" Block Guide Back
12	SF514/515-3	12"X12" Block Guide Back
13	SF677-5	Block Guide Knob Assembly
14	SF677-4	Arm Clamp Knob Assembly
15	SF312	Verification Lamp
16	SF311	Verification Lamp Micro Switch
17	SF148	Box Frame (Complete and Wired)
18	SF111-1	Tracing Tip – 20 cm.
19	SF111-2	Tracing Tip – 40 cm.
20	SF111-3	Tracing Tip – 60 cm.
21	SF599	Tracing Tip Replacement Assembly
22	SF115	Tracing Tip Clamp Nut
23	SF677-1	Upper Rod Knob Assembly
24	SF335	Lower Insulated Bushing Assembly
25	SF334	Upper Insulated Bushing Assembly
26	SF116-2	Nichrome Hot Wire (10 Ft.)
27	SF120	Hot Wire Installation Tool
28	SF428	Circuit Breaker (3 Alike)
29	SF391	Fluorescent Lamp Ballast (4 Alike)
30	SF301	Toggle Switch (Viewer, Cutter, Verification Lamp)
31	SF539*	Verification Lamp Transformer
32	SF540*	Hot Wire Transformer
33	SF541*	Hot Wire Resistor
34	SF408*	Hot Wire Temperature Rheostat
35	SF191	Table Frame Assembly
36	SF402 (Ref.)	Block Holder Clamp Assembly
37	SF400	Block Holder Arms
38	SF122 (Ref.)	Upper Knob
39	SF207	Swivel Support Assembly
40	SF164	Rear Eccentric Stop
41	SF164	Front Eccentric Stop
42	SF101	Swivel Ring
43	SF102	Swivel Clamp
44	SF103-1/103-2	Swivel Stud
45	SF399	Block Holder Cross Mount

* = Verify Part Number with Factory

Introduction

Here is how the Huestis Styro•Former works: Once adjustment of the source point and block tray (joined together by a calibrated tie rod or by a Styro•Former Power Lift) has been made to your particular treatment parameters, the technologist sets the machine for the desired treatment height and tapes the X-ray on the light table. He or she positions the film's ISO-center on the light table cross lines, switches on the light and the nichrome cutting wire, and then with the stylus in hand traces the area to be shielded. The heated wire will follow the pattern traced, producing a smooth, clean cut through the foam block. The block, with this area cut out, then becomes the pouring form used for casting a shielding block. The swivel mounting and spring loaded Teflon tracing tip give the operator complete maneuverability. The light box is always at a comfortable height for the operator and the freestanding table, with its rugged 8'-9" calibrated column, can be placed in almost any small area without the necessity of attaching to a wall. The Styro•Former can be used with any treatment machine, giving it universal application.

Features

- Calibrated vertical column allows treatment heights of 180 cm. source-to-film distance.
- Verification light to ensure accurate cuts.
- Spring loaded tracing tip compensates for varying length as the tip moves to the outer extremities of the x-ray. The tracing tip moves freely at any angle and is available in standard 20 cm., 40 cm., and 80 cm. lengths. Special length tracing tips are available. Call Huestis for further details.
- Rigid Box Frame.

Environmental Range

Ambient temperature: + 50°F (10°C) to + 80°F (27°C) (operating)

Relative Humidity: 0 to 85% (operating)

Altitude 0 to 10,000 feet (operating)

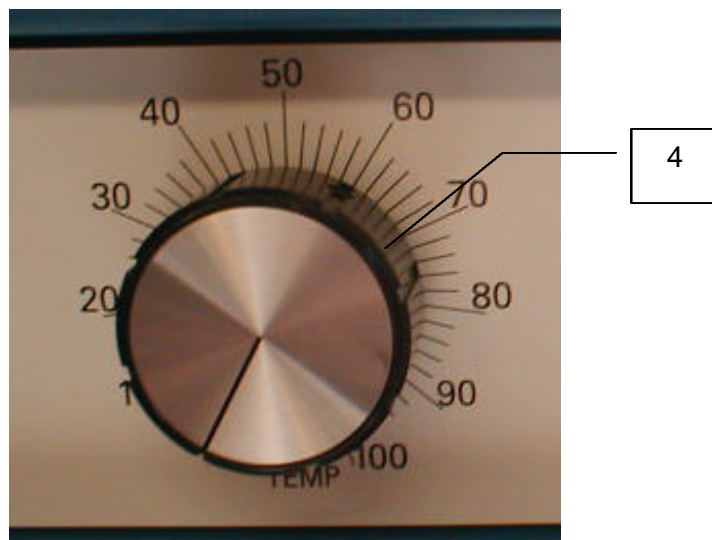
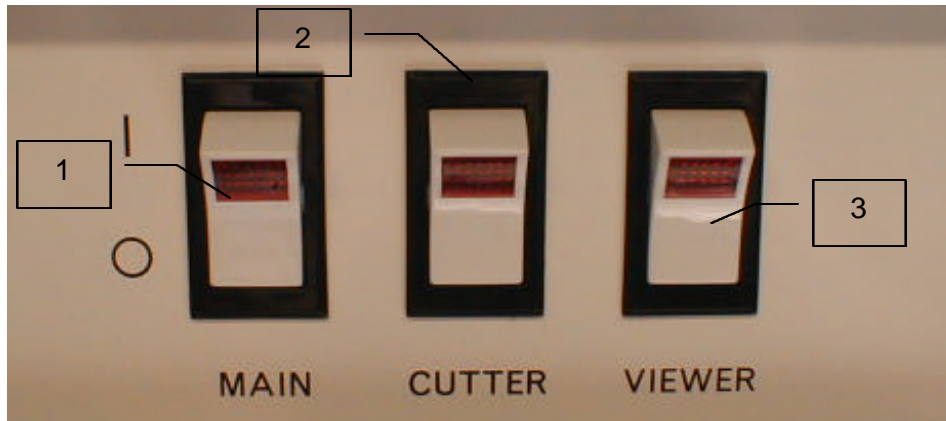
Physical Dimensions

Table Dimensions: 33.50 in. (85.1 cm.) Wide X 24 in. (61.0 cm.) Deep X 29.50 in. (74.9 cm.) High.

Overall Dimensions: 33.50 in. (85.1 cm.) Wide X 24 in. (61.0 cm.) Deep X 8 ft.-9 in. High.

Control Panel Layout

1. Main Switch – Energizes power to the machine.
2. Cutter Switch – Energizes the cutting wire circuit.
3. Viewer Switch – Illuminates the Tabletop.
4. Wire Temperature Knob – Controls the temperature of the cutting wire.



Unpacking

The Huestis Styro•Former basic machine is shipped in two separate cartons. Refer to the Part Identification Drawing for identification of the parts listed.

The two cartons are:

- (1) 4 in. Diameter X 8-ft. long tube containing the column (Item #2).
- (1) 2-1/2 ft. X 4 ft. X 2-1/2 ft. Box containing the following:
 - Table Frame Assembly with Light Box and Controls (Item #35).
 - Box Frame (Item #17).

- Swivel Support Assembly (Item #39) – This assembly is attached to the column cap and weight.
- Block Holder Clamp Assembly (Item #36).
- (1) Pair Block Holder Arms with Guide (Item #37).
- (3) Block Guide Backs: (1) 8 X 8, (1) 10X 10, (1) 12 X12 (Item #10, #11, #12).
- (3) Tracing Tips: (1) 20 cm, (1) 40 cm, (1) 60 cm, (Item #18, #19, #20).
- Tie Rod (Item #5).
- Upper Rod (Item #38).
- (1) Envelope containing the following:
 - Instructions.
 - 10 ft. Coil of #26 AWG Nichrome Wire (Item #26).
CAUTION: Use #26 AWG Nichrome Wire (2.61 Ohms per foot) only.
 - Wire Installation Tool (Item #27).
 - (3) Hex Wrenches: (1) 7/64, (1) 1/8, (1) 5/32.
 - Tie Rod Clamp (Item #8).
 - Tie Rod Clamping Knob Screw (Item #9).
 - Block Guide Mounting Knob Screw (Item #13).
- If you purchased our Starter Kit, you should also have:
 - Hot Plate with adjustable thermostat.
 - Stainless Steel Pitcher.
 - 50 lbs. Alloy #158.
 - (12) 8" X 8" X 3" Foam Blocks.
 - Aluminum Cooling Tray with (1) pair Hold-Down Clamps.
 - Lexan Tray – 10" X 11-3/4" X 1/4"
 - Can of "PAM" Spray (mold release).
 - Thermometer.
 - Masking Tape.

Assembly

CAUTION: Avoid sitting on the tabletop or putting heavy weight on any area of the table.

NOTE: To avoid inhaling fumes from melting foam and molten metal when pouring blocks, the Huestis Styro•Former must be set up in a well ventilated room. Although codes vary from state-to-state, a good rule of thumb is to set up in a room with a circulation of 3 air changes per hour. The Styro•Former must have access to a 120 VAC/60 HZ power supply.

Assembly is as follows:

Check the Ceiling Height

- The Huestis Styro•Former requires a ceiling height of 8 ft.-9 in. If you do not have 8 ft.-9 in. of ceiling height, there are two alternatives. Note: Long source to film distances require additional clearance for the upper rod.
 - If you have a drop ceiling you can probably remove a ceiling tile and let the column go up into the space above.
 - You may cut excess length off the top (be sure to cut the top, not bottom) of the column using a hack saw. The Styro•Former, as shipped, will allow a source to

film distance of 180 cm. Note: Any length cut off the column will decrease this distance accordingly.

Mounting the Column (Item #2).

- Turn the MAIN switch off and leave the main power cord disconnected at this time. Lay the table on the floor with the front down. To prevent scratching make sure that the floor is carpeted or padded. Use the cardboard from the shipping carton if necessary.
- Locate the screw on the back bottom brace of the table frame. Using the “T” handled hex wrench (supplied), remove this screw, nut, flat washer, and lock washer.
- Locate the screw in the top back of the table, and loosen this screw a few turns. Locate the keyhole shaped slot in the front of the column, and set the slot over the screw in the top back of the table. Slide the Column down (about 1/2”) onto the screw.

CAUTION: In this position, the assembly is not well balanced and the top of the Column should be supported.

- Insert the bottom screw through the bottom of the column and fasten the column to the frame using the flat washer, lock washer, hex nut and tighten. Tighten the screw in the keyhole slot.

Mounting the Block Holder Clamp Assembly (Item #36).

- With the table still laying on its front, place the block holder clamp assembly over the column so that the knobs are on the right, and the rubber roll is against the back of the column. Slide the down the column to the table top and tighten the lower knob on the right side of the assembly

Mounting the Swivel Support Arm Assembly (Item #39).

- Place the swivel support assembly over the column so that the knobs and rubber roll have the same orientation as the block holder.
- Slide Counter Weight into the Column and insert the Column Cap onto the column so that the pulley faces towards the rear.
- Slide the swivel support assembly down the column so that the slack is taken out of the cable holding the weight. Lock the swivel support assembly in position by tightening the lower knob on the right side of the column.
- **Slowly** raise the Styro•Former to the upright position; the counter weight is going to take up the slack in the cable, so keep fingers away from the cable while slowly raising the table.

Mounting the Arms (Item #37) and the Block Guide (Item #10, #11, #12)

- Mount the Block Holder Arms as shown in the assembly diagram. Select the Block Guide Back either 8 X 8, 10 X 10, or 12 X 12, (whichever size block is to be cut).
- Mount the Block Guide Back, and screw in place using the (2) Block Guide Mounting Knob Screws (Item #13).
- Tighten the Arm Clamping Knob Screws (Item #14) at the back of the Block Holder Arms.

Mounting the Tie Rod (Item #5)

- Locate the knob (Item #7) at the base of the swivel support assembly, and remove the screw and spacer (Item #6). Align the tie rod so that the numbers are on the right and the end with the hole in it is up.

- Insert the screw through the tie rod then through the spacer and screw it into the swivel support assembly. Raise the block holder assembly so that it is above the bottom of the tie rod.
- Mount the tie rod clamp (Item #8) to the block holder assembly using the two tie rod mounting knob screws (Item #9).

Assembly of the Upper Rod to the Box Frame

- Locate the set screw at the top of the box frame. Locate the end of the upper rod with the indent, and slide that end into the box frame so that the indent in the upper rod aligns with the set screw. Using one of the Allen wrenches provided, tighten the set screw securely into the spot on the upper rod.

Mounting the Upper Rod and Box Frame to the Swivel Assembly

- Locate the swivel support assembly and upper rod knob screw. Align the box frame so that the coiled cord is at the top, loosen the upper rod knob screw (Item #23). Insert the upper rod, and tighten the screw.

Important: For proper Box Frame alignment make certain the set screw is engaged in the dimple.

- This box frame and upper rod assembly are adjusted up or down by loosening the upper rod knob screw (Item #23) and raising or lowering the assembly. The box frame should be adjusted so that the block holder arms (Item #37) are inside of and do not interfere with the box frame.

Mounting the Tracing Tip (Item #18, #19, #20)

- Select a Tracing Tip (20 cm., 40 cm. or 60 cm.) and insert the stainless steel end of the Tracing Tip into the bottom of the Box Frame. Hold the Tracing Tip in position by tightening the Knurled Nut (Item #22).

Important:

The proper length tracing tip should be used for the distances set. The tracing tip should be inserted at least 2 inches into the box frame or the box frame may wobble during the cutting operation.

Electrical Connections

- Locate the black coiled cord at the top of the Box Frame and plug the end into the receptacle on the underside of the Swivel Support Assembly.
- Locate the plastic hook in front of the receptacle, and place one loop (the fourth) of the black coiled cord into this hook.



- Locate the gray cord directly behind the receptacle in the swivel assembly. Plug the end of the gray cord into the receptacle in the bottom rear of the table. Note: The plug is polarized and can be inserted only when aligned properly.
- Locate the main power cord at the rear left corner of the Styro•Former and plug the cord into a 120V. – 60HZ. outlet.

Quality Assurance

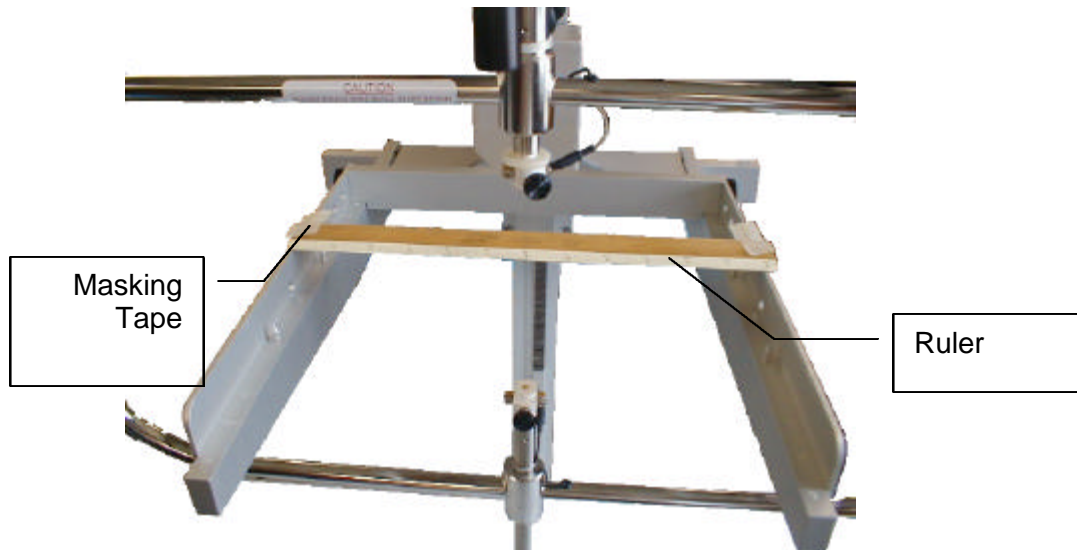
Alignment Verification

NOTE: The Huestis Styro•Former is designed so that the ISO-center of the machine is 12" from the face of the Column. The center of the scribe marks on the TableTop is 12" from the face of the Column. The centerline mark on the Block Holder Arms is also 12" from the face of the Column. The center of the Swivel Support Assembly, in its rear position, must also be 12" from the face of the Column. This distance may be measured on the side of the Swivel Support Assembly by measuring from the face of the Column to the center of the swivel screw on the side of the Swivel Support. If this measurement is not 12", the distance may be adjusted by rotating the rear Eccentric Stop (Item #40) on the right side of the Swivel Support Assembly.

- Adjust the height of the Swivel Support Assembly so that the indicator line on the right side of the assembly is at the 120-cm. mark on the right side of the Column. Tighten the lower knob on the assembly to lock it in place.
- Adjust the height of the Block Holder Assembly so that the indicator line on the right side of the assembly is at the 60-cm. mark on the right side of the Column. Tighten the lower knob on the right side of the assembly to lock it in place.
- Insert the 40-cm Tracing Tip into the bottom of the Box Frame and lock it into place so that the plastic pointer of the Tracing Tip extends approximately 1/2" out of the stainless steel tube when the pointer is at the center of the tabletop.

Box Frame Alignment

- Make sure the MAIN and CUTTER switches are "OFF".
- Move the tracing tip to the cross hairs on the tabletop.
- Lay a ruler across the block holder arms perpendicular with the cutter wire just touching the ruler. Use masking tape to fix the ruler in place. Note the dimension where the wire touches the ruler for left to right reference.
- Loosen the upper rod lock screw and lower the box frame below the block holder arms and rotate the box frame half of a turn (180°). Raise the box frame back to the position and lock it into place using the upper rod lock screw so that the plastic pointer of the tracing tip extends approximately 1/2" out of the stainless steel tube when the pointer is at the center of the tabletop.
 - Make sure the MAIN and CUTTER switches are "OFF".
 - **SLOWLY** move the tracing tip to the cross hairs on the tabletop.
 - If the wire pushes the ruler back, re-tape the ruler in place with the cutter frame in this position and repeat procedure, if not continue.



- If the Nichrome wire is not within two millimeters of the left to right reference mark on the ruler, or is more than two millimeters away from the edge of the ruler, consult the factory. If the Nichrome wire is within two millimeters of the reference mark, and the edge of the ruler, the box frame is properly aligned.
Note: This step should periodically be repeated to ensure continued accuracy. Consult with factory, if any variation is noted.
- Rotate the box frame back into its original position, and remove ruler and tape.

Checking the Verification Light Alignment

(Complete the Alignment Verification before checking the Verification Light)

- Draw a rectangular shape approximately 1" X 2", on a piece of paper. Tape the paper to the tabletop with the rectangle approximately in the center.
- Place a foam block on the Block Holder Arms so that the foam block is pushed securely onto the pins and the bottom of the foam block contacts the Block Holder Arms.
- With the TEMP knob set at approximately 50, turn the CUTTER switch on and very carefully trace the outline of the rectangle. Retract the Nichrome wire from the foam block and turn the CUTTER off.



- Turn on the VERIFICATION LIGHT switch. Locate the rope cord at the front of the Swivel Support Arm, and pull the cord down until the carriage is all the way forward against the Front Stop (Item #41). The Verification Light will come on, and it will cast a shadow over the shape that was traced.
- The rectangle drawn on the paper should be centered in the shadow. If the drawn rectangle is not centered in the shadow, the Verification Light must be adjusted.
 - Front-to-back adjustments can be made by adjusting the front Eccentric Stop (Item #41) located on the right side of the Swivel Support Assembly.

- Side-to-side adjustments can be made by adjusting the bracket that holds the bulb socket laterally. Small adjustments can be made by pushing lightly on the Verification Light Bulb.

Important: Always perform the “Checking the Verification Light Alignment” after replacing the light bulb.

Operation

NOTE: To avoid inhaling fumes from melting foam and molten metal while pouring blocks, the Huestis Styro•Former must be set up in a well-ventilated room. Although codes vary from state-to-state a good rule of thumb is to set up in a room with a circulation of 3 air changes per hour. It must have access to a 120 VAC/60 Hz. power supply.

- Check the Box Frame and Verification Light alignment.
 - Periodically verify that the Box Frame and the Verification Light are properly aligned. To do this, follow the Alignment Verification and Checking the Verification Light Alignment procedures.

Important: Always perform the “Checking the Verification Light Alignment” after replacing the light bulb.

- Set the Swivel Support Assembly and Block Holder Assembly to their proper operating heights.
 - The right side of the column is calibrated in centimeters to the distance above the tabletop. Adjust the Swivel Support Assembly and Block Holder Assembly to their proper heights, as dictated by the treatment procedure. Lock these assemblies in place by tightening the lower knob on the right side of both assemblies.
 - Note: If it is desired to maintain the distance between the verification light and the block holder assembly, proceed as follows:
 - Lock the block holder assembly to the tie rod by tightening the tie rod clamping knob screws (Item #9).
 - Loosen the lower knob on the right side of the block holder assembly. Then when the swivel support assembly is moved up or down, the block holder assembly will follow, maintaining a constant source to block distance.
- Adjusting the Box Frame height.
 - Adjust the height of the Box Frame so that the wire will come in contact only with the foam block as the Box Frame is swiveled. The Box Frame is adjusted by loosening the Knob (Item #23), raising or lowering the box frame and, re-tightening the knob.
- Select the proper tracing tip
 - Select the proper Tracing Tip using the chart below.

Tracing Tip Size	Source to Film	Block to Film
20 cm.	70-145 cm.	35-55 cm.
40 cm.	90-165 cm.	50-80 cm.
60 cm.	110-185 cm.	70-100 cm.

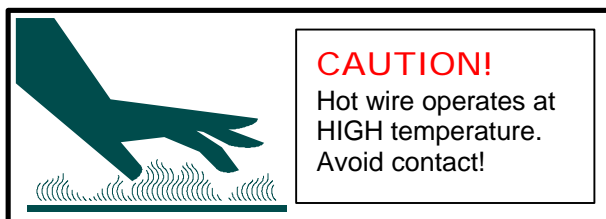
- Insert the proper tracing tip into the bottom of the Box Frame, and lock it in place. The plastic spring loaded pointer on the tracing tip should extend approximately 1/2” out of the steel tube when the point is set at the center of the Tabletop.
- Select Foam Block Size
 - Select the proper foam block size as dictated by the treatment. Select the corresponding Block Guide Back. (Items #10 thru. #12) and install it per.

“Mounting the Arms (Item #37) and the Block Guide (Item #10, #11, #12)” instructions.

- Mount the proper size foam block. Be certain that the foam block is pressed securely onto the pins, and that the bottom of the block rests on the Block Holder Arms.
- Establish the Proper Wire Temperature
 - Set the TEMP knob to approx. 50 and turn the CUTTER on.



- Move the tracing tip forward so the hot wire enters the block. The TEMP knob should now be adjusted up or down to the desired operation level.
Note: A hotter wire will allow more rapid cutting, however a hotter wire will also cut a wider, less accurate path in the foam block. A little experimenting with the TEMP knob will soon establish the proper setting.
Note: It is not recommended to turn the temperature control to maximum as this may cause the wire to break or stretch excessively.
- Remove the wire from block then turn off the CUTTER.
Note: If the wire appears to bow while cutting, re-tighten the wire (See Replacing the Hot Wire).
- If the Styro•Former is equipped with an Auto-Boost System (Part #SF-562), set the boost temperature slightly greater than the wire temperature (this differential setting will require minor testing). When the cutting speed is applied, the pre-set boost temperature and audible alarm will engage. When excessive cutting speed is applied, the buzzer and the over-feed light will come on. Reduce the cutting pressure to maintain cutting accuracy. An audible overfeed alarm switch allows you to disable the over-feed buzzer.
- **Operation**
 - Tape the radiograph to the Tabletop with the field center aligned to the Tabletop center. Turn on VIEWER switch to illuminate the Table. Turn on the CUTTER switch and move the Tracing Tip forward so that the hot wire enters the foam block.



- Trace the outline according to treatment procedure, and retract the hot wire from the block along the same line that the hot wire entered. Turn off the CUTTER switch and the VIEWER switch.
- Verify the accuracy of the cut.
 - Turn on the Verification Light by pulling the cord at the front of the Swivel Support Arm until the carriage is moved all the way to the front. The verification light will come on and cast a shadow on the X-ray.

- Verify that the shadow is centered about the proper portion of the X-ray, and that the shape of the cutout is accurate. Retract the carriage to turn off the Verification Light.

Maintenance

Electrical

- The Huestis Styro•Former must be connected to a 120 Volt/60 Hz./5 Amp (min.) grounded power source. Drawing #SF410 – Styro•Former Electrical Schematic is provided for reference to the electrical components of the Styro•Former. The Part Identification Drawing is provided to indicate those electrical parts that may periodically need replacement. (i.e. bulbs, etc.) Note that the Styro•Former is provided with three circuit breakers on the rear of the table. One each is for the Main (5 amp.), Verification Light (3 amp.), and for the Hot Wire (3 amp.) circuits. Should any problems be observed with any of these areas, check the circuit breakers and reset them if necessary.

Mechanical

An assembly drawing for the Styro•Former is provided to indicate those items, which may need to be replaced. Also, there are alignment procedures that need to be performed periodically.

- Check Box Frame and Verification Light alignment. Periodically verify that the Box Frame and the Verification Light are properly aligned. To do this, perform the “Alignment Verification” and “Checking the Verification Light Alignment” procedures.

Replacing the Hot Wire

CAUTION: USE #26 AWG NICHROME WIRE ONLY. Periodically the hot wire will have to be adjusted or replaced.

- Turn the machine off. Locate the Upper Insulated Bushing Assembly (Item #25). Pull the Upper Insulated Bushing Assembly down, and insert the wire Installation Tool (Item #27) in the space created.
- Loosen the thumb knob located on both the Upper and Lower Insulated Bushing Assemblies and remove the wire.
- Cut a new piece of Nichrome wire using the hot wire cut gauge on the table. (approximately 8” long). Insert the top of the wire into the Upper Bushing Assembly and tighten the thumb knob.
- Pull the wire to the lower bushing and trim the length, if necessary.
- Insert the bottom of the wire into the Lower Bushing Assembly and tighten the thumb knob. Note: The thumb knob should be hand tightened, do not use any tools to tighten the knob.
- Remove the wire installation tool from the Upper Bushing, and the spring in the Box Frame Assembly will pull the Nichrome wire to the proper tension.

Note: When the hot wire is not under tension, the two flat plates in each bushing fit loosely.

Tips for Inserting the Nichrome Wire

- Be certain that there are no broken pieces of wire in the bushing assembly. If so, remove one of the socket screws and remove the two brass plates to clean out the opening.

- Use a sharp wire cutter to give a nice clean end to the wire. Do not flatten the end of the wire.
- Insert the wire into the upper bushing first.
- Always use a straightened piece of wire, do not curl or kink the wire.

Note: Nichrome Wire will stretch. Check and re-tighten newly installed wire after each block cutting for the first 4-6 blocks.

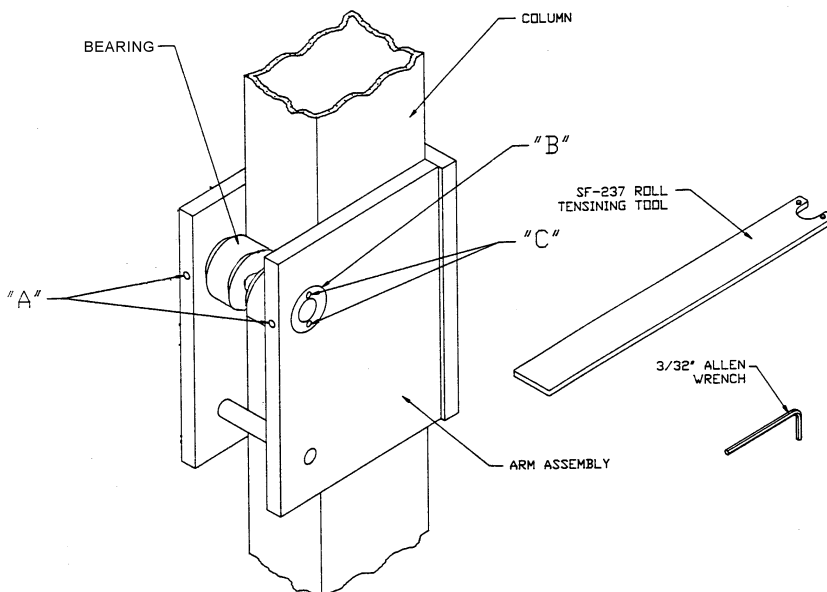
Note: Huestis will keep you supplied with Nichrome Wire for the life of your machine. Call the factory toll free at: 1-800-972-9222.

Tabletop

- The screws holding the TableTop are factory tightened. Do not tighten the screws. Cracking or warping of the TableTop may result.
- Avoid sitting on the TableTop or putting heavy weight on any area of the table.
- Upon removing the TableTop for bulb replacement, make SURE the neoprene washers are in good condition before reusing them. Do not over tighten the screws. New neoprene washers (SF-419) are available from the factory.

Column Roller Adjustment

- Instructions for loosening or tightening the Rollers on the HUESTIS Styro•Former Column.

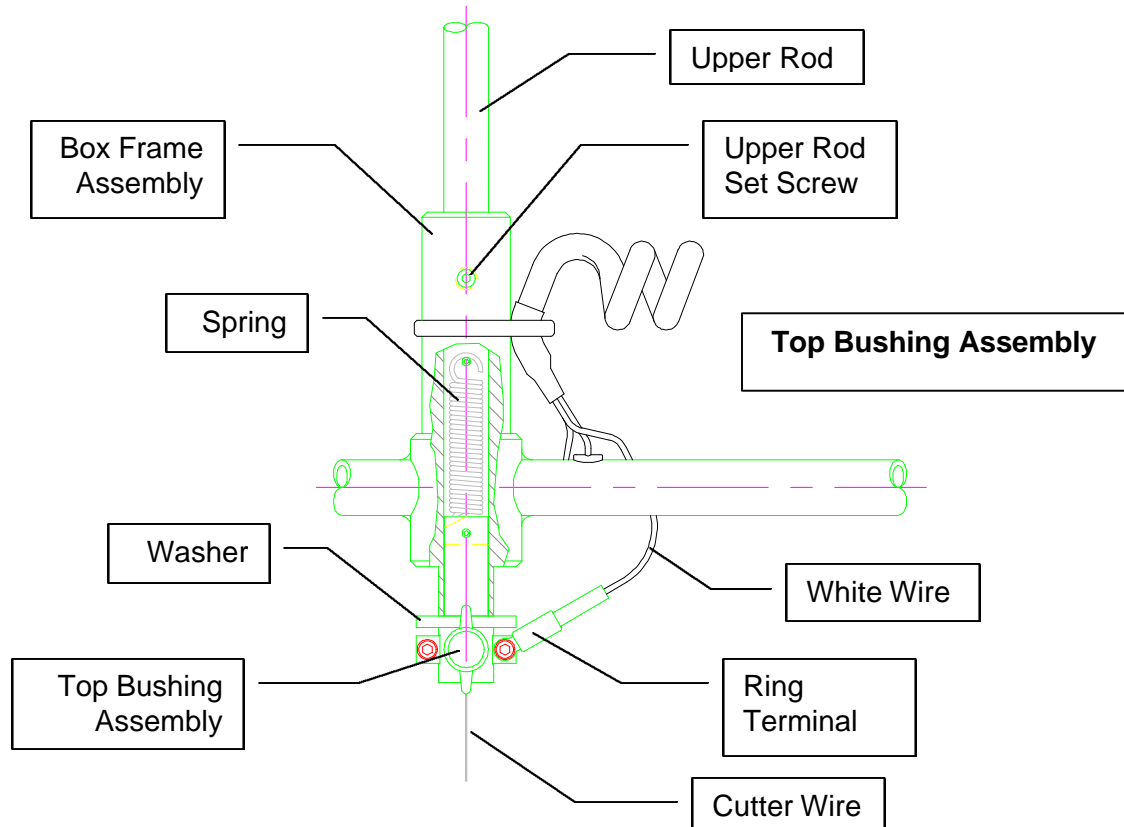


- Locate set screws "A", Cams "B" and holes "C".
- Loosen set screws "A" using the Allen wrench provided.
- Adjust Cams "B" (Note: there are two Cams, one on each side) to obtain the proper tightness in the bearings. To do this, use the special tool available from Huestis. Insert the pins on the tool into holes "C" and using the tool as a wrench, turn Cams "B". Turning Cams "B" in one direction will loosen the bearings, and turning Cams "B" in the other direction will tighten the bearings.

- When Cams “B” are in their proper location, you should be able to rotate the metal rollers on the rear of the arm, yet firm enough to take play out of the assembly. After properly setting the Cams, tighten the set screws “A”.

Replacing the Top Bushing Assembly (Item #21)

- Instructions for removing and replacing the Top Bushing Assembly on the HUESTIS Styro•Former Box Frame.



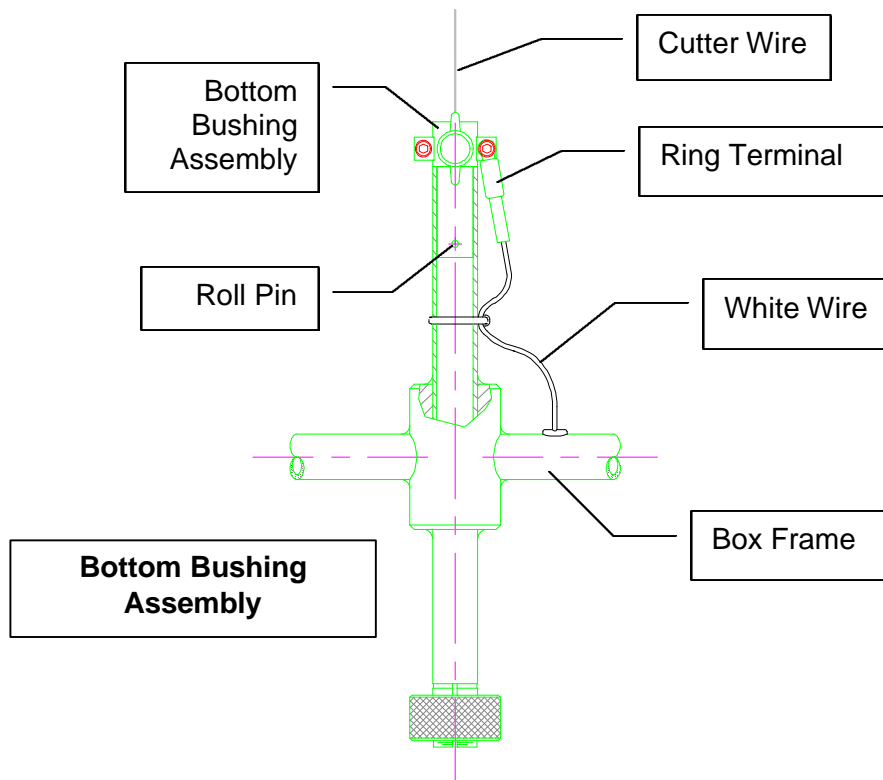
- Make sure the Styro•Former is turned off and unplugged from the wall socket.
- Make sure the hot wire has cooled sufficiently if the machine was on.
- Remove the Box Frame from the Styro•Former: Unplug the Twist Lock Plug from the Verification Light Arm. Support the Box Frame with one hand and loosen Upper Rod Knob Screw. Remove the Box Frame Assembly by sliding it out of the swivel assembly.
- Locate and loosen the set screw for the “Upper Rod” and remove Upper Rod.
- Unscrew one (1) #6-32 socket head cap screw and remove ring terminal from the Bushing.
- Use a Spring Removal Tool to unhook the Top Bushing spring: Insert the hook end of the tool into the top of the Box Frame and hook the loop end of the spring. Pull the spring and turn the loop approx. 90 degrees in order to clear the roll pin. After the loop end is off the roll pin, unhook the spring tool and remove the Top Bushing.
- Installation Instructions for the Top Insulated Bushing
 - Insert the Spring Removal Tool into the top of the Box Frame so that the hook end of the tool protrudes from the other end. Remove the Nylon Washer from the

old bushing and install it on the replacement bushing. Attach the loop end of the replacement bushing's spring to the tool's hook.

- Insert the Top Insulated Bushing Assembly into the Box Frame making sure the tool hook is still on the spring. Note: Make sure the Nylon Washer is in place.
- Pull and turn spring so that the loop of the spring clears the roll pin and hook the spring on the roll pin. Unhook the tool and remove it from the Box Frame.
- Make sure the Bushing Assembly is properly attached by pulling down on the Washer. The assembly should move freely.
- Replace the wiring as shown.

Replacing the Bottom Bushing Assembly (Item #19)

- Removal instructions for the Bottom Insulated Bushing.



- Make sure the Styro•Former is turned off and unplugged from the wall socket.
- Make sure the hot wire has cooled sufficiently if the machine was on.
- Remove the Box Frame from the Styro•Former: Unplug the Twist Lock Plug from the Verification Light Arm. Support the Box Frame with one hand and loosen Upper Rod Knob Screw. Remove the Box Frame Assembly by sliding it out of the swivel assembly.
- Locate and loosen the set screw for the "Upper Rod" and remove Upper Rod.
- Unscrew one (1) #6-32 socket head cap screw and remove ring terminal from the Bushing.
- Support frame in area of 3/32" X 5/8" Roll Pin and drive out pin with a punch remove the Bottom Bushing Assembly.
- Installation Instructions for the Bottom Insulated Bushing
 - Clamp or hold the Box Frame Assembly in a vise mounted on a drill press or similar table. Align a 3/32" drill bit with existing 3/32" roll pin hole in Box Frame.

- Insert the Replacement Assembly into the Box Frame and bottom out the shoulder to the face of the tube. Drill through the bushing and drive the 3/32" X 5/8" Roll Pin through the hole and Bottom Insulated Bushing.
- Reassemble Box Frame in reverse order.

Spare Parts

Huestis Part No.	Description
SF312	Verification Light Bulb
SF297	Light Box Bulb (4) Required
SF419	Table-Top Grommets
SF679-2	Lexan Tabletop
SF295	Verification Light Return Spring
SF599	Tip and Spring Assembly (No Rod)
SF592-3	Hot Wire Clamps (Pair with Screws)
SF337	Cutter Wire Allen Wrench

Note: Huestis will keep you supplied with Nichrome Wire for the life of your machine. Call the factory toll free at: 1-800-972-9222.

Enclosures

1. SF410 – Styro•Former Electrical Schematic
 2. SF555 – Styro•Former w/Auto-Boost Electrical Schematic
 3. SF653 – 230 V Conversion Electrical Schematic
 4. SF578 – Auto-Boost Electrical Enclosure
 5. SF767 – Auto-Boost Top Bushing Assembly
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Accessories

- Tissue Compensator Attachment – Attachment includes integral vacuum cleaner.
- SF672 – Electron Beam Attachment – Attachment allows the operator to manually cut Island Blocks to be used in an Electron Beam Apparatus.
- Lexan Trays – Lexan Trays are supplied with holes and handles. Standard size Trays are: .25 in. Tk. X 10 in. Wide X 11.75 in. Other sizes and configurations are available on request. Please call Huestis for further details.
- Styrofoam Blocks – Medium density, fine grain structure for smooth finish and easy release. Standard sizes are as follows:
 - 8 in. X 8 in. X 3 in. – (20.3 cm. X 20.3 cm. X 7.6 cm.)
 - 10 in. X 10 in. X 3 in. – (3.9 cm. X 3.9 cm. X 7.6 cm.)
 - 12 in. X 12 in. X 3 in. – (30.5 cm. X 30.5 cm. X 7.6 cm.)
 - 24 in. X 24 in. X 3 in. – (61.0 cm. X 61.0 cm. X 7.6 cm.)
- Tray Adapters – Huestis carries tray adapters for Theratron-80, Theratron-780 and Clinac-4 machines.
- Starter Kit – Starter Kit includes the following items:
 - Tray Adapters
 - Stainless Steel Pitcher
 - Hop Plate
 - Thermometer
 - Alloy or Gypsum
 - Lexan Trays

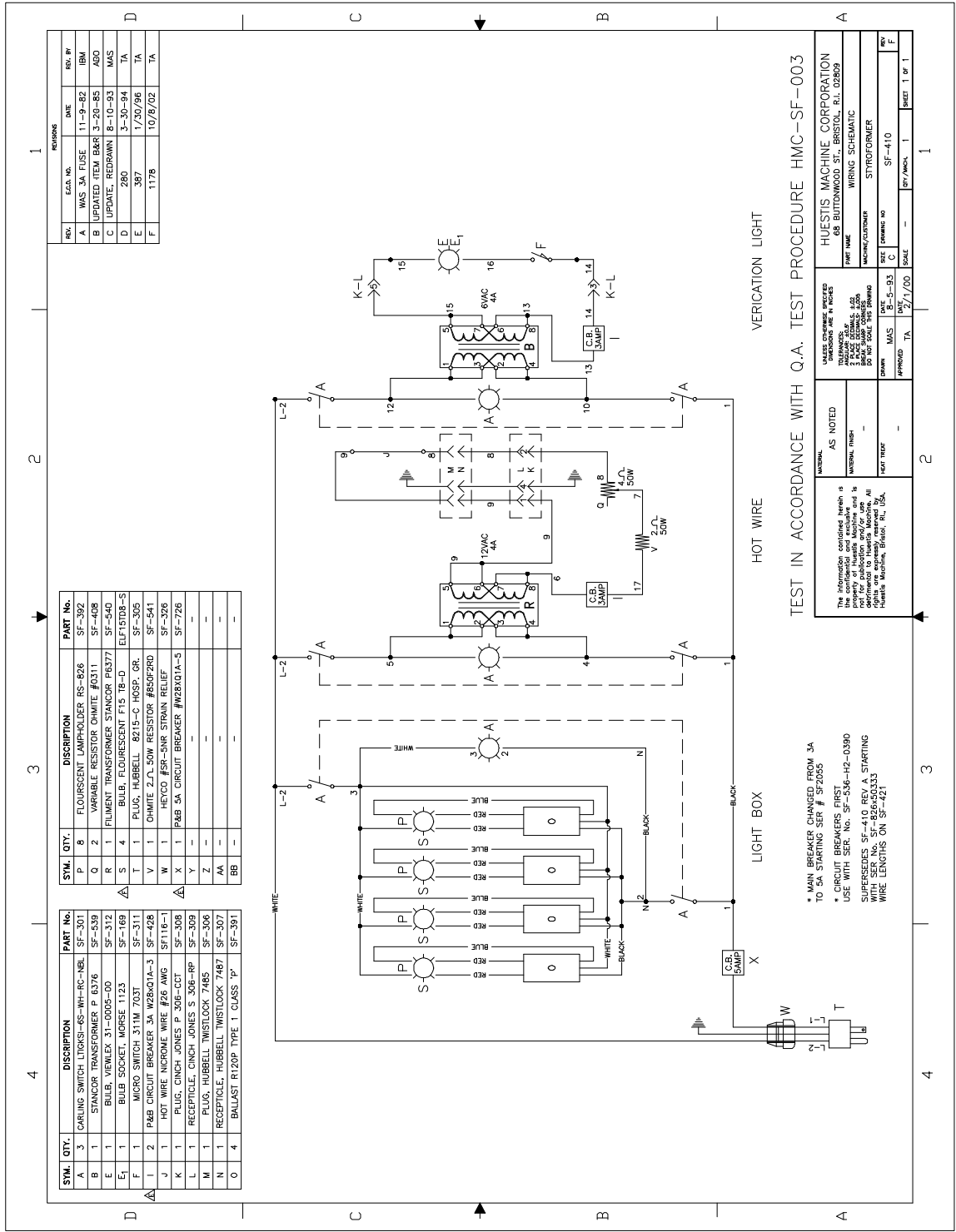
- Styrofoam Blocks
- Releasing Agent
- Masking Tape
- Cooling Tray with Hold-Down Clamps

Note: Above items can be purchased individually

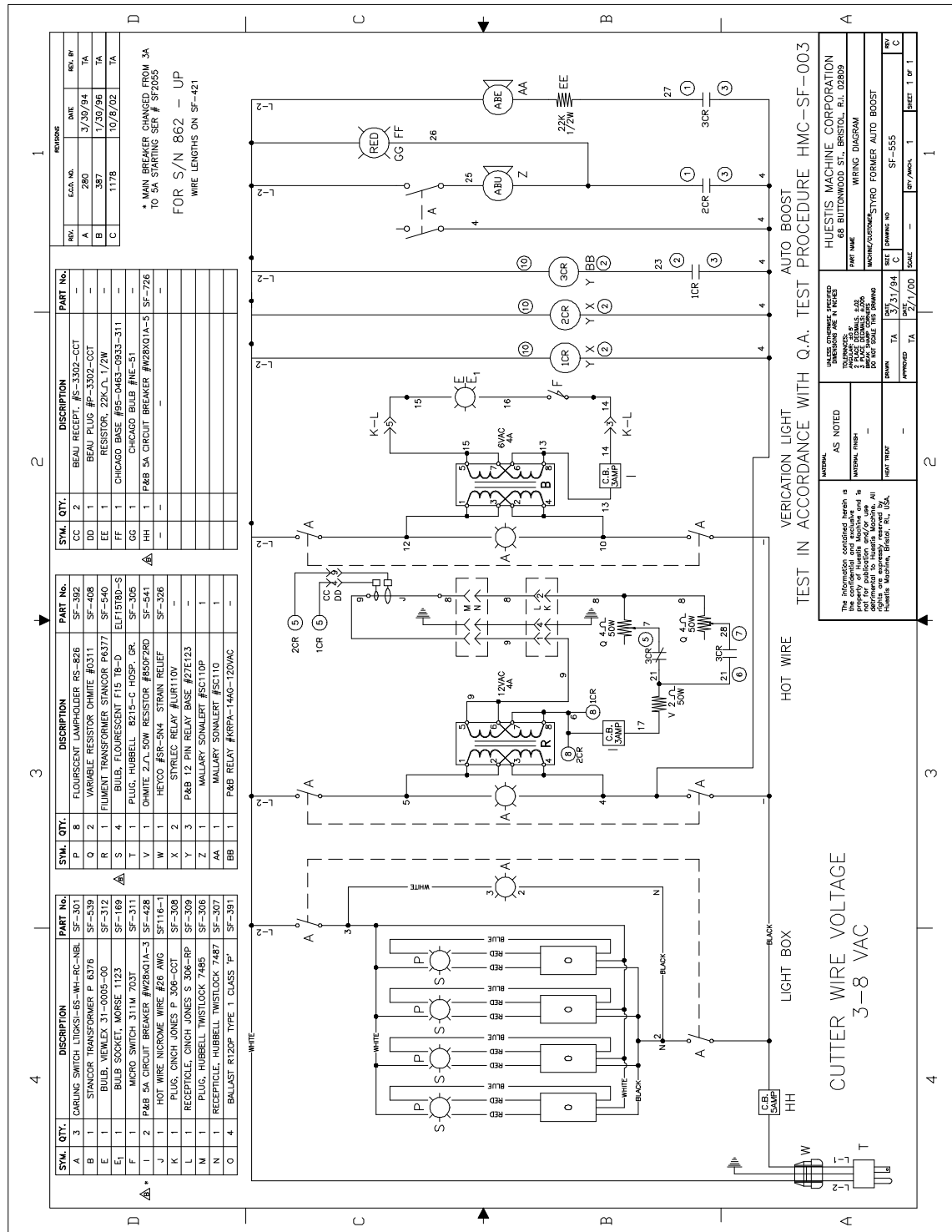
- Gypsum
- Alloy #158 or #203

SF410 – Styro•Former Electrical Schematic

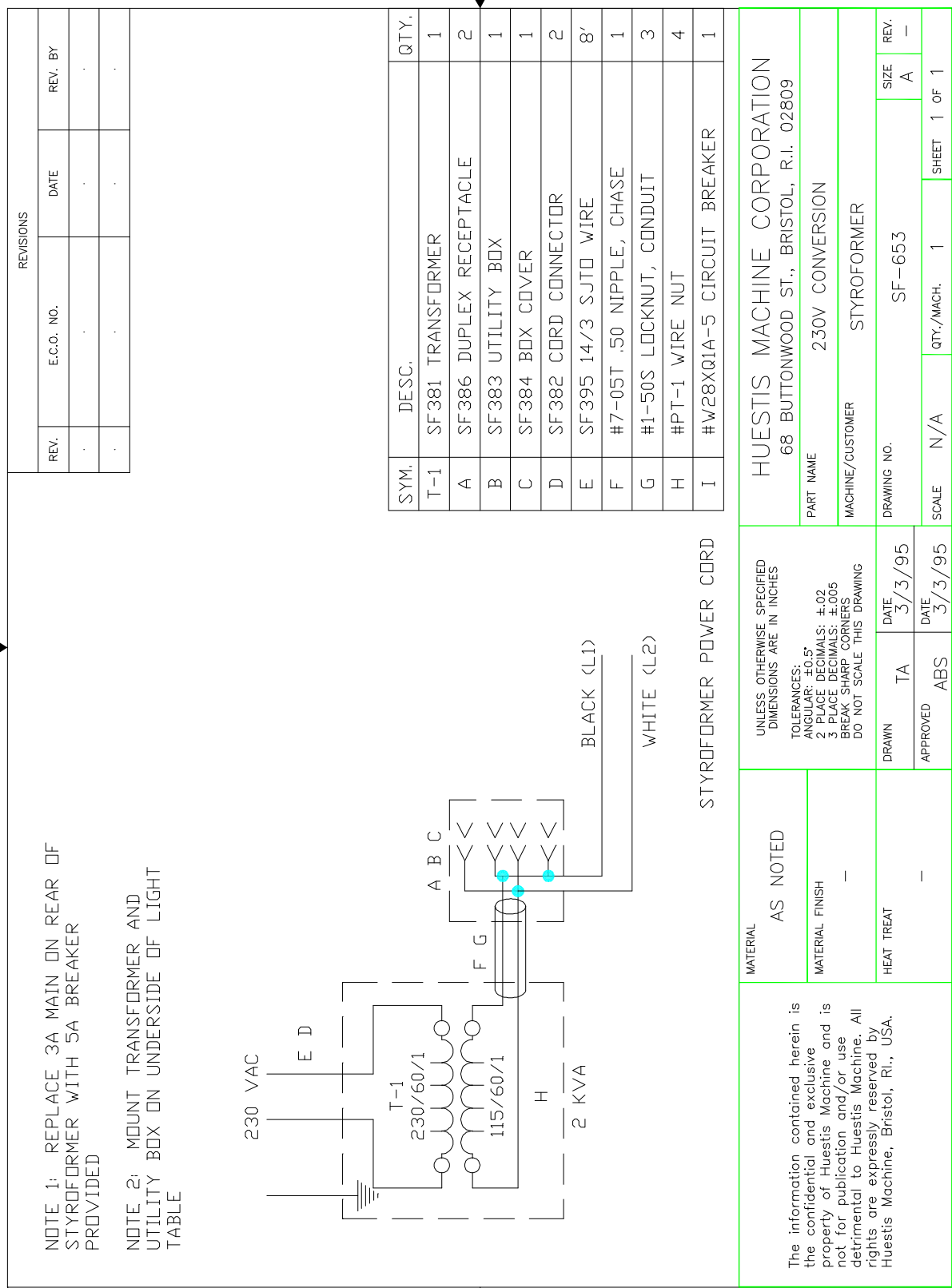
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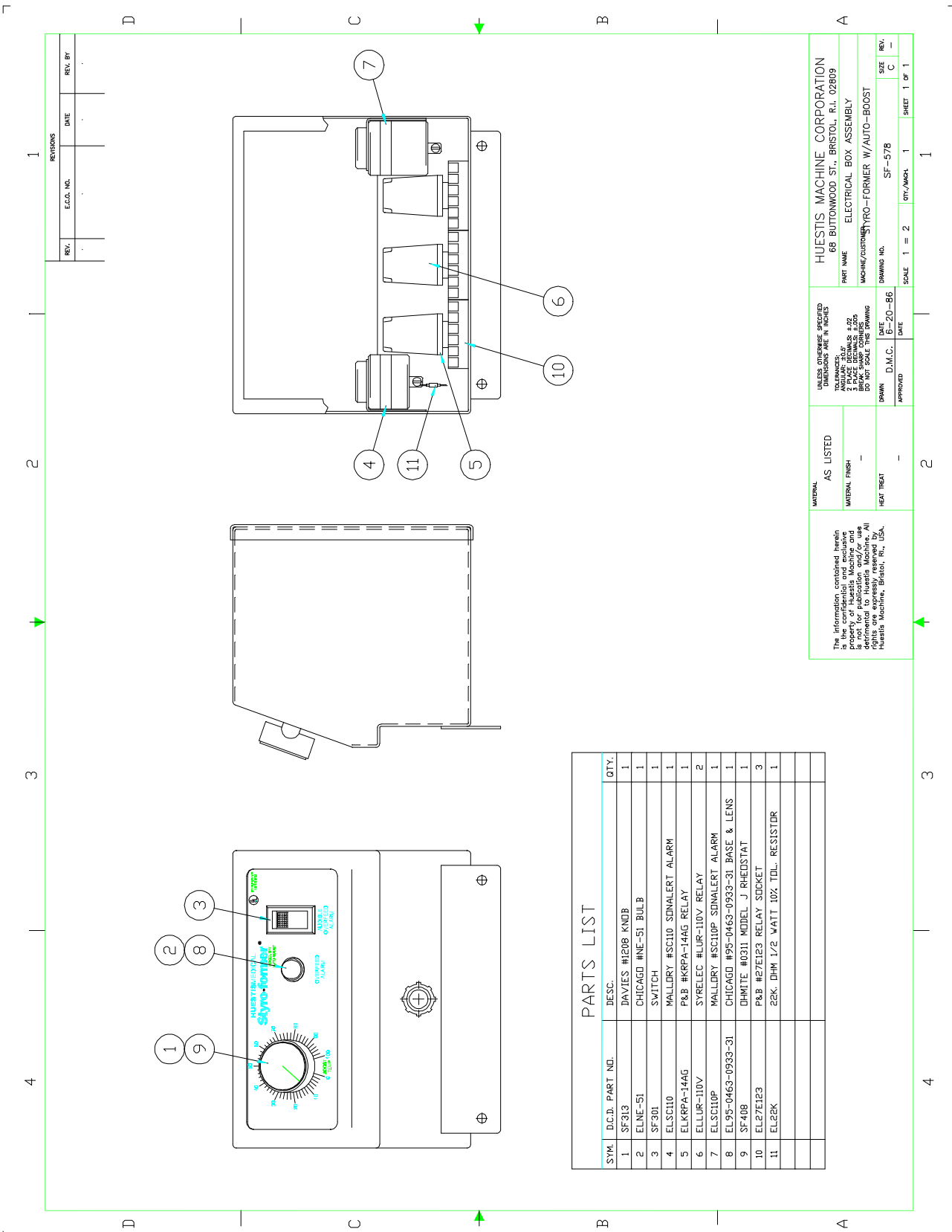
ELECTRICAL SCHEMATIC, AUTO BOOST SF-555



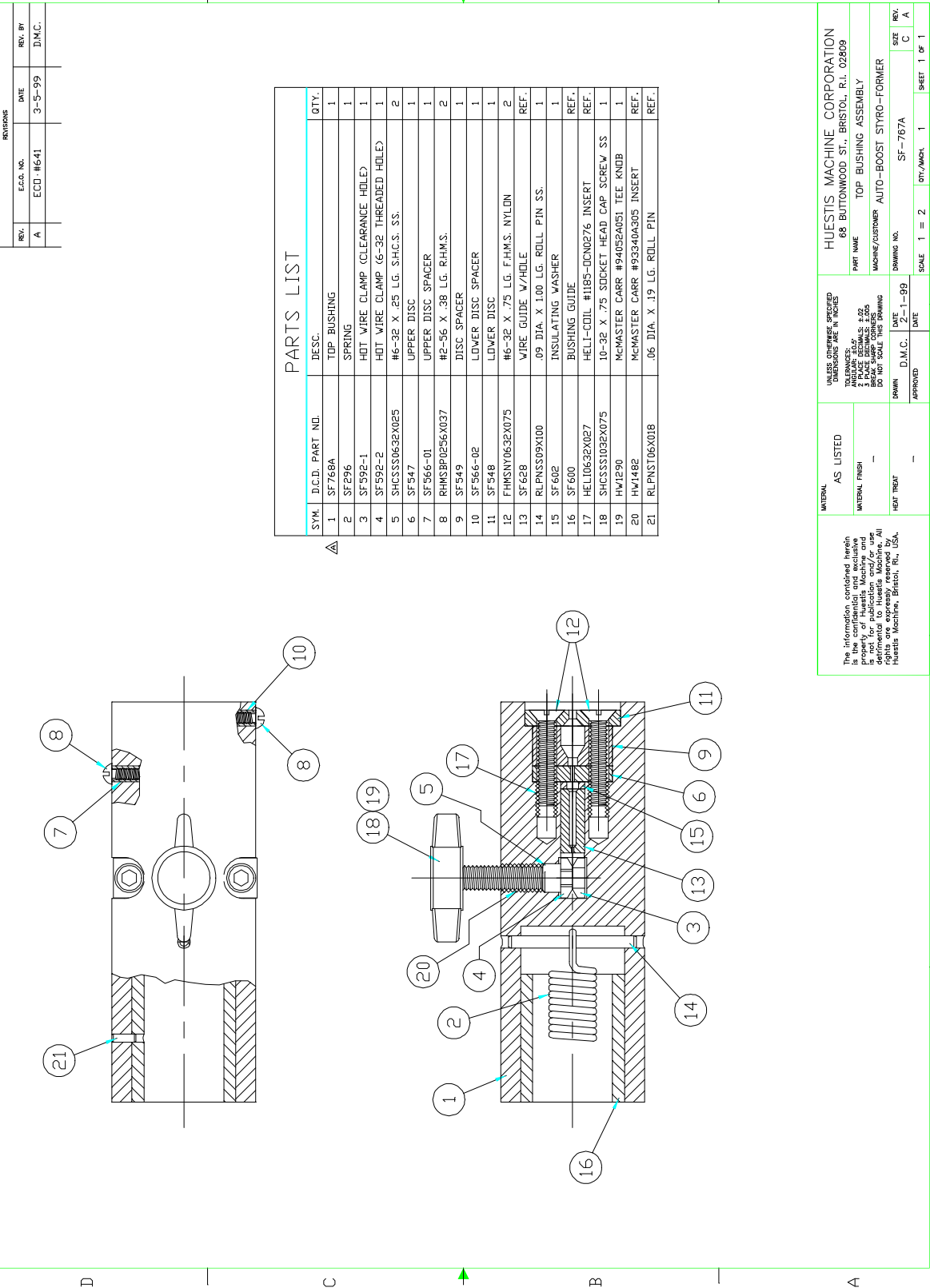
SF653 – 230 V Conversion Electrical Schematic



SF578 Auto-Boost Electrical Box Assembly



SF767 – Auto-Boost Top Bushing Assembly



Warranty

Unless provided to the contrary in this document, Seller warrants to the original Buyer only that the articles delivered under this document shall be fit for the ordinary purposes for which such articles are used and be free from defects in material and workmanship for a period of twenty-four (24) months from the date of shipment (or, in the event any shipment is delayed or postponed by or at the request of Buyer, for a period of twenty-four (24) months from the later of the scheduled shipment date or the date at which Seller is prepared to make shipment).

This warranty is limited to the purchase price of the article or articles and shall not apply to any article which (1) has been altered outside Seller's factory in any way so as, in Seller's judgment, to affect such article's reliability; (2) has been subject to misuse, negligence or accident; (3) has been used other than in accordance with any printed instructions prepared by Seller and provided by Seller with the article. With respect to standard components or parts of other manufacturers in the articles, Seller shall extend such manufacturers' warranties to the Buyer and any claim by Buyer that such components are defective or do not conform to any such manufacturers' warranties shall be addressed to and made against the appropriate manufacturer(s) and not the Seller.

24 MONTH WARRANTY MODIFICATION FOR SIMULATORS: Warranty period noted in this section of Terms and Conditions shall be for up to twenty-four (24) months from date of clinical acceptance of product but in no event more than twenty-seven (27) months from date of shipment by Seller; provided, however, with respect to glassware components (i.e.; image intensifier and X-ray tube) Seller's warranty obligation during the second twelve (12) months of the warranty period shall be reduced by one-twelfth (1/12) for each month or portion thereof which shall have expired.

THE WARRANTY GIVEN IN THIS SECTION IS EXCLUSIVE. EXCEPT AS SET FORTH HEREOF, SELLER DOES NOT WARRANT MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR MAKE ANY OTHER WARRANTY OR AGREEMENT EXPRESS OR IMPLIED WITH RESPECT TO ANY ARTICLES DELIVERED UNDER THIS DOCUMENT. NO IMPLIED WARRANTY ARISING BY USAGE OR TRADE, COURSE OF DEALING OR COURSE OF PERFORMANCE IS GIVEN BY SELLER OR SHALL ARISE BY OR IN CONNECTION WITH THIS DOCUMENT AND/OR BUYER'S CONDUCT IN RELATION THERETO OR TO EACH OTHER.

) Seller's Exclusive Obligations Seller's obligations with respect to any articles delivered to Buyer under this document are limited exclusively to Seller's choice of repair, replacement or refund of purchase price of any articles or parts thereof which shall be returned to Seller in the manner set forth in this clause, which Seller's examination shall disclose to its satisfaction not to have conformed to the contract or to have been defective as specified in the Warranty clause. Failure by Buyer to notify Seller of such articles within thirty (30) days after Buyer's discovery of such alleged defect or nonconformity and, subject to Seller's prior authorization, to promptly return such articles to Seller, shall constitute a waiver by Buyer of any and all claims of any kind with respect thereto.

Subject to Seller's prior authorization, all such articles shall be returned to Seller's place of shipment, freight prepaid, accompanied or preceded by a particularized statement of the claimed defect or nonconformity. The risk of loss and freight charges to and from Seller shall be borne by Buyer, but Seller shall bear the cost of repair or replacement and the risk of loss while the articles are in Seller's possession at its plant. If articles are returned without having been preceded or accompanied by a statement of the claimed defect, Seller shall hold the articles pending receipt of Buyer's instructions or statement of defect, provided that prior to such receipt, risk of loss of the articles shall remain with Buyer.

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