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Operator's Manual

Model 84
Material Coiling Unit

Production Wire Processing Equipment

Website: www.carpentermfg.com • **Email**: wire@carpentermfg.com

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Introduction

Thank you for choosing Carpenter Mfg. Co., Inc. for your wire processing equipment needs. For over 60 years Carpenter has been a leader in wire processing technology and service. As an independently-owned, third generation company our philosophy has always been to provide the customer with both quality products and outstanding service. We look forward to a long, healthy relationship with you and our company.

The Model 84 Material Coiling Unit is designed to neatly coil long lengths of wire and cable. When interfaced with applicable Carpenter Mfg. Co., Inc. Measure & Cut or Measure, Cut & Strip equipment the Model 84 will automatically start and stop. This machine utilizes an easy-to-use electronic control that manages bowl speed, discharge spin time, and restart dwell. It features built-in circuitry to protect the motor from jam and overload conditions.

Because there are many variables involved in wire processing, we strongly recommend a free material evaluation, to be completed at our factory (http://carpentermfg.com/wire-evaluation/). A demonstration from a Carpenter representative is also recommended to ensure the ultimate success of your material processing application.

This operating manual explains how to operate the Model 84. To ensure the best performance of your machine, read this manual carefully until you familiarize yourself thoroughly with its operation and features. After you have read through the manual, keep it available for reference.

Use this manual as a quick and handy reference tool for clarifying any questions that may arise. If you have any questions about this machine or service please let us know. Our phone number is (315) 682-9176; we may also be reached by fax at (315) 682-9160. Visit our website (www.carpentermfg.com), or contact us via email (wire@carpentermfg.com).

Carefully unpack the Carpenter Model 84. We recommend that you keep the original box and packaging as it will protect the machine for future transportation, if necessary.

Important Notice

The products in this shipment left our facility in good working condition. Their safe delivery is the responsibility of the carrier that delivered this shipment to you. Our stated shipping terms are F.O.B. our facility at 110 Fairgrounds Drive, Manlius, NY 13104. According to applicable laws, the responsibility for this shipment was transferred to you as soon as the carrier accepted the goods at our warehouse. If concealed damage is discovered after unpacking this shipment, you must submit a damaged freight claim with the carrier. Carpenter Mfg. Co., Inc. cannot submit your claim for you. In order for you to collect for concealed damage, the carrier must be notified with 5 days of the date you receive this shipment. You must leave the damaged items and packing material as is (i.e. return all merchandise and all packing material to the shipping container) until the claim has been inspected by the carrier. It is also important to note that the carrier will not accept a claim if the goods have been moved from the point of the carriers' delivery to another street address. If you have any questions or problems, please give us a call at (315) 682-9176, or email us at wire@carpentermfg.com.

Applications and Machine Specifications

Applications

With a sleek design, the Model 84 is designed to coil long lengths of wire and cable when interfaced with applicable Carpenter Mfg. Co., Inc. Measure & Cut or Measure, Cut & Strip equipment. This unit is a great solution for controlling material output in neat, efficient fashion.

Machine Specifications

Maximum Material Diameter	0.375” (9.525mm)
Minimum Material Length	72.0” (1,803.4mm) [dependent on coil diameter]
Standard Coil Diameter	6.75” (171.45mm)
Optional Coil Diameters	4.50” (114.3mm) & 8.50” (215.9mm)
Maximum Coil Diameter	12.0” (304.8mm)
Maximum Coiling Speed	175 RPM
Input Height	35.25” (895.35 mm) to 44.25” (1,123.95mm), Adjustable
Electrical Connection (Standard)	115 VAC, 60 Hz, 2 AMP
Electrical Connection (Optional)	230 VAC, 50 Hz, 1 AMP
Dimensions	16.5” (W) X 35.25-44.25” (H) X 16.0” (D) (419.1mm [W] X 895.35mm-1,123.95mm [H] X 406.4mm [D])
Weight	50 Pounds (22.68 Kilograms)

Section 1 – Assembling the Model 84

The Model 84 is shipped partially disassembled to allow for safe travel. Assembly of the unit is very straightforward.

Follow the steps below to assemble the Model 84.

1. Locate and remove the parts bag from the shipping container. This bag will include (1) PN 8019 power input cord, (7) PN 1810 washers, (7) PN 3947 screws, and (1) PN 4312 5/32" hex wrench. The latter three items will be used to assemble the Model 84.

2. Remove the stand assembly from the shipping container and place on a flat surface.

3. Remove the machine cabinet/bowl assembly from the shipping container and place on top of the stand assembly. Line up (4) mounting holes, located on the bottom of the machine cabinet/bowl assembly, with the corresponding mounting holes on the stand assembly.

4. Using the provided 5/32" hex wrench, attach the machine cabinet/bowl assembly to the stand assembly with (4) PN 1810 washers and (4) PN 3947 screws.

5. Remove the material exit tube assembly from the shipping container. Line up (3) mounting holes, located on the back side of the material exit tube assembly, with the corresponding mounting holes on the machine cabinet/bowl assembly.

6. Using the provided 5/32" hex wrench, attach the material exit tube assembly to the machine cabinet/bowl assembly with (3) PN 1810 washers and (3) PN 3947 screws.

7. Loosen the height adjustment locking nut and position the Model 84 to the correct height for operation. Once the Model 84 is at its correct operating height, lock the height adjustment nut.

Refer to Figure 1 below for a sketch of the assembly process.

Carpenter Model 84 Material Coiling Unit

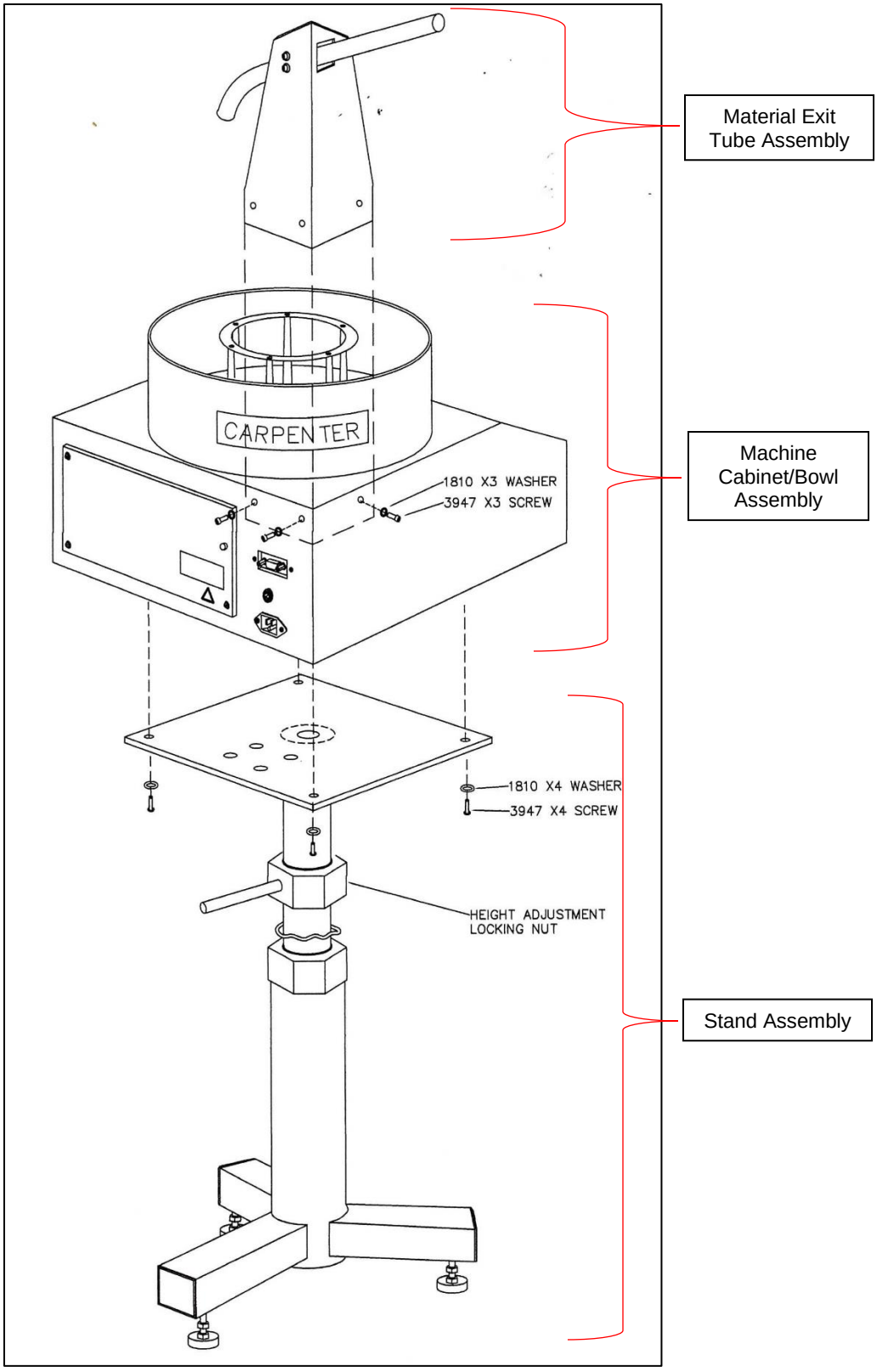

Figure 1: **Machine Assembly**

Section 2 – Installing Processor Accessory (Interface) Board

Note: If an accessory board is already installed in the wire processing machine, navigate to "Section 3 – Installing Interface Cable."

PN 9686 Accessory Board Kit (For Model 930 or Model 970)

When interfacing the Model 84 with a Carpenter Model 930 or Model 970, a PN 9686 accessory board kit must be installed in the wire processing machine. If the accessory board kit is not installed at the factory, follow the steps below to correctly install the accessory board kit.

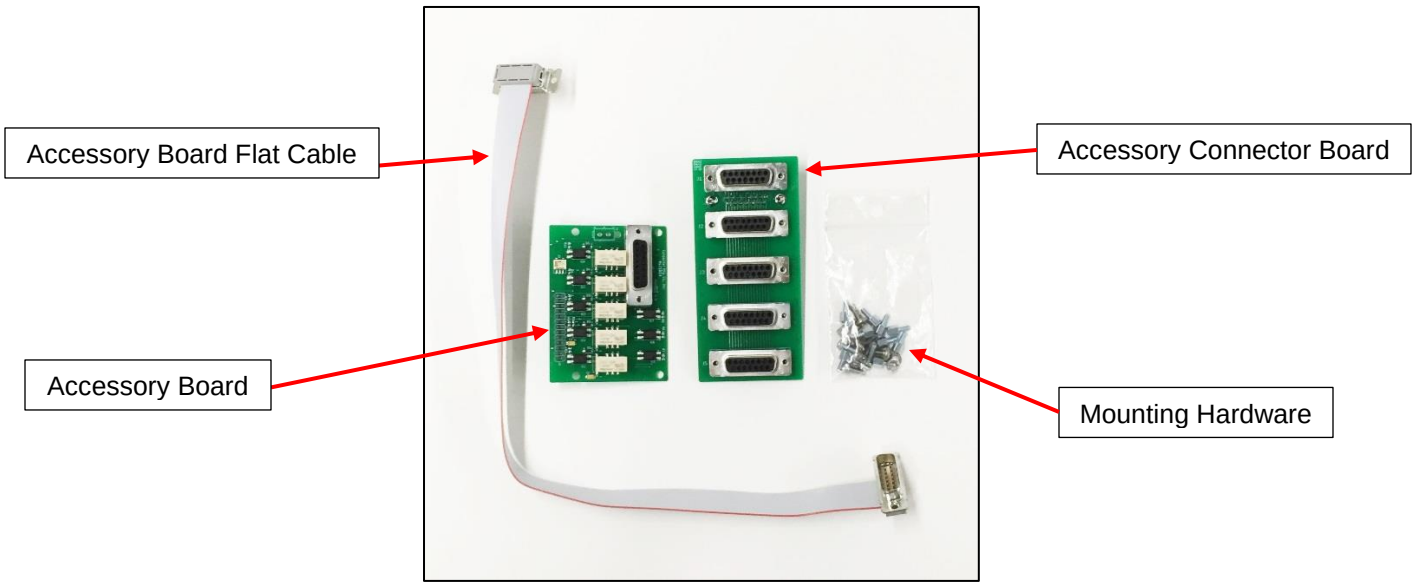

Figure 2: Accessory Board Kit Contents

1. Remove the (6) PN 3948 cap screws (and washers) from the wire processing machine back cover and remove the cover. Refer to Figure 3 below.

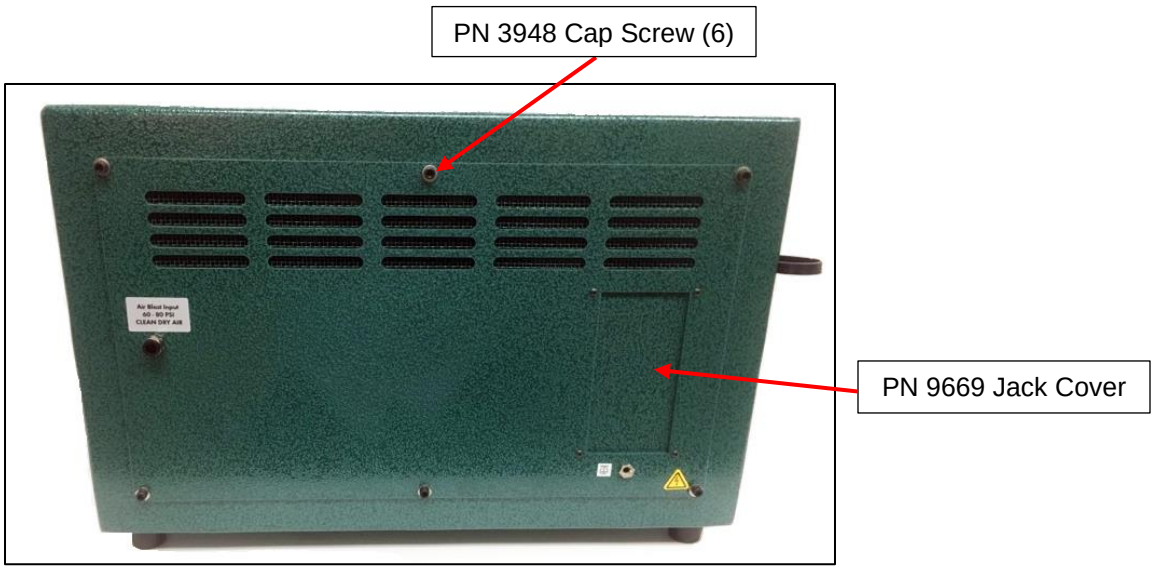

Figure 3: Models 930/970 Back Cover (Pre-Accessory Board Kit)

2. Carefully unplug all wire leads from the control board on the back side of the front panel.

3. Remove the (8) PN 8550 flat head screws from the top of the cabinet and carefully remove the front panel assembly from the machine. Refer to Figure 4 below.

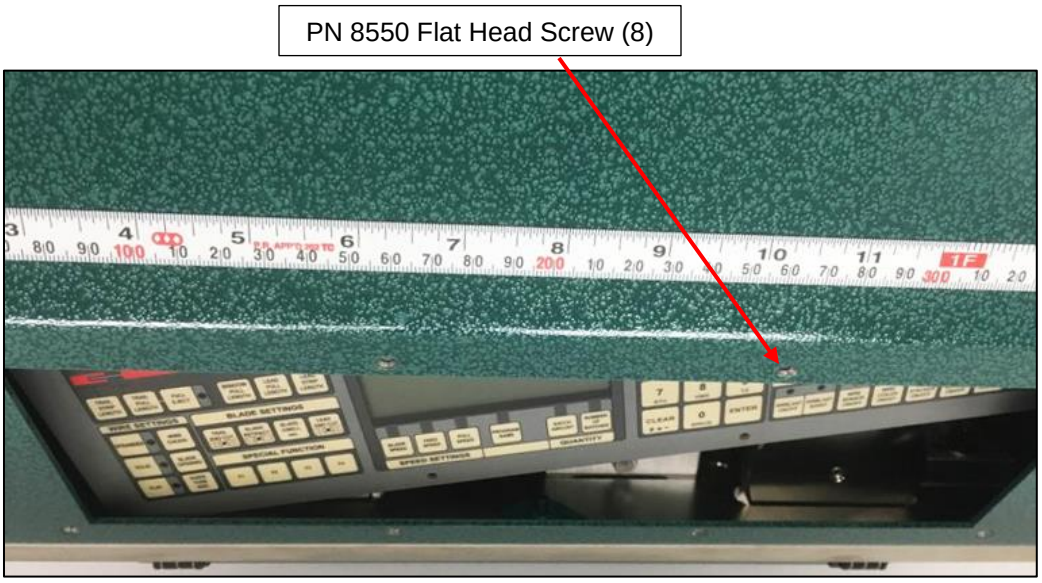

Figure 4: Removing the Models 930/970 Front Panel

4. Locate the accessory board mounting position on the machine front panel. Mount and secure the accessory board, highlighted in Figure 2 above, to the machine front panel with the supplied mounting hardware. Refer to Figure 5 and Figure 6 below.

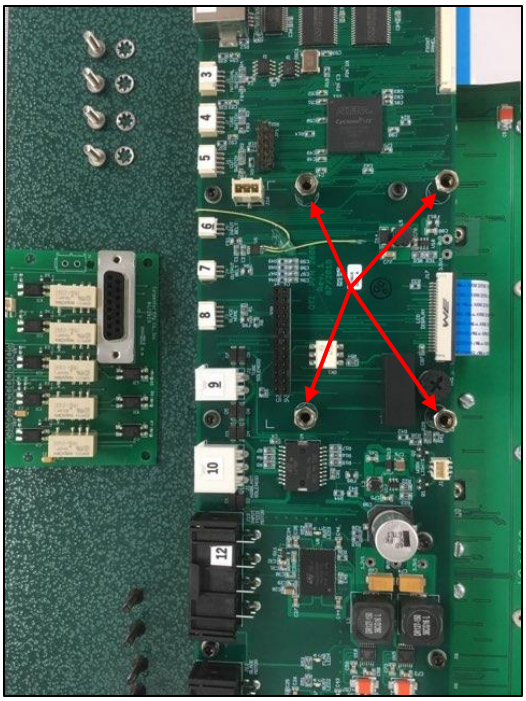

Figure 5: Accessory Board Mounting Position

Figure 6: Accessory Board Mounted to the Front Panel

5. Secure the accessory board flat cable to the accessory board with the supplied mounting hardware. Refer to Figure 7 below.

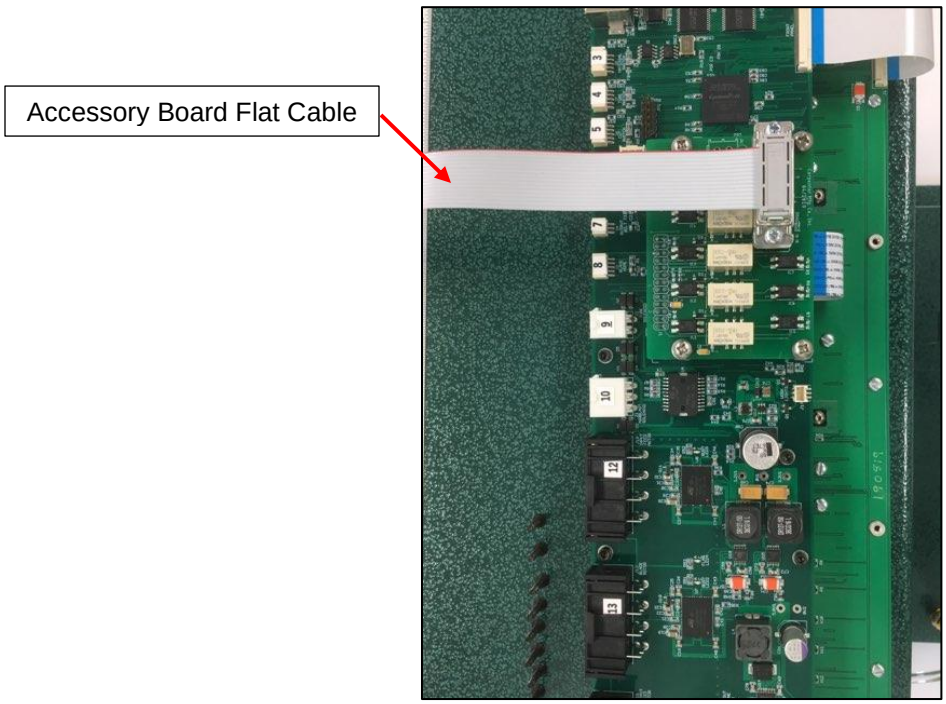

Figure 7: Flat Cable Mounted to the Accessory Board

6. Reinstall the machine front panel and carefully reconnect all numbered sensor/motor heads to the machine front panel. Refer to Figure 8 below.

Figure 8: Reinstalling the Front Panel

7. Remove the PN 9669 jack cover from the machine back cover. Mount the accessory connector board to the PN 9669 jack cover with the supplied mounting hardware. Refer to Figure 9 below.

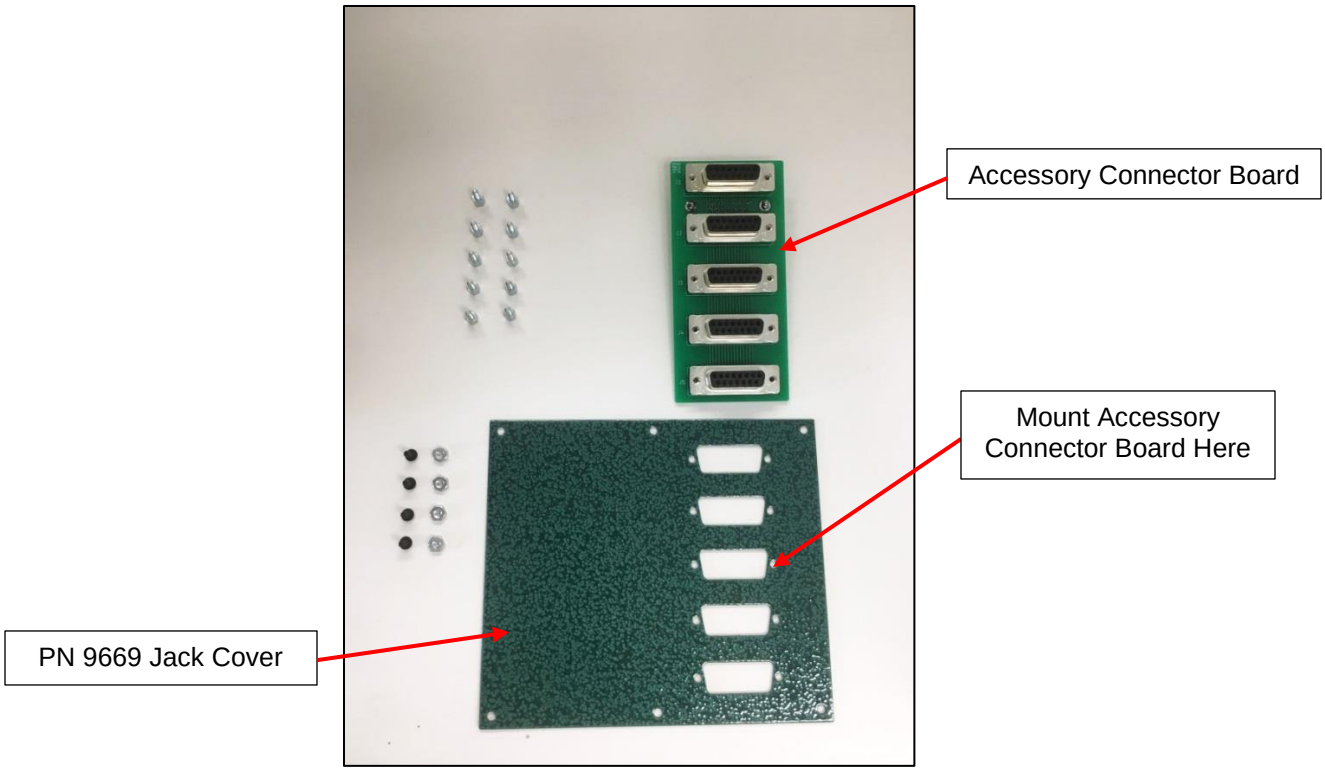

Figure 9: Accessory Connector Board and PN 9669 Jack Cover

8. Refasten the PN 9669 jack cover to the machine back cover. Once complete, fasten the accessory board flat cable to the accessory connector board with the supplied mounting hardware. Refer to Figure 10 below.

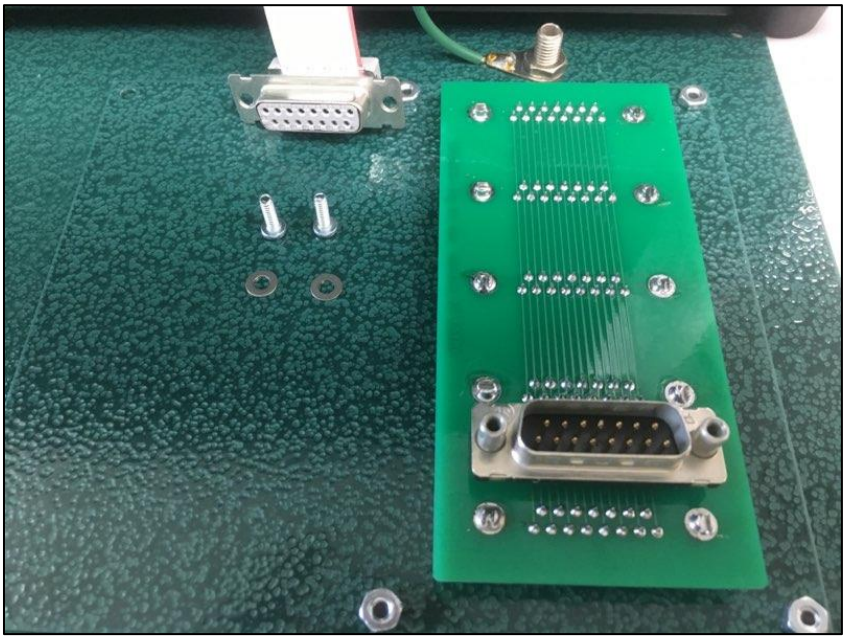

Figure 10: Plugging the Accessory Board Flat Cable into the Accessory Connector Board

9. Reinstall the machine back cover with the (6) PN 3948 cap screws (and washers) removed in Step 1 above. Refer to Figure 11 below to view the accessory board kit completely assembled into the Models 930/970.

Figure 11: PN 9686 Accessory Board Kit Assembled

PN 9583 Coiler Accessory Board Kit (For Models 36A/B, Model 93, or Model 97A)

Note: The wire processing machine must have appropriate software to interface with the Model 84. Contact Carpenter Mfg. Co., Inc. for more details.

When interfacing the Model 84 with the Carpenter Models 36A/B, a Model 93, or a Model 97A, a PN 9583 coiler accessory board kit must be installed in the wire processing machine. If the coiler accessory board kit is not installed at the factory, follow the steps below to correctly install the coiler accessory board kit.

1. Remove the PN 3948 cap screws (and washers) from the wire processing machine back cover and remove the cover. (There are [6] PN 3948 cap screws on the Model 93 and Model 97A back covers, and [8] PN 3948 cap screws on the Models 36A/B back covers).

2. Remove the (4) PN 2849 button head screws and (4) PN 3812 hex nuts that hold the PN 8953 jack cover onto the machine back cover. Refer to Figure 12 below.

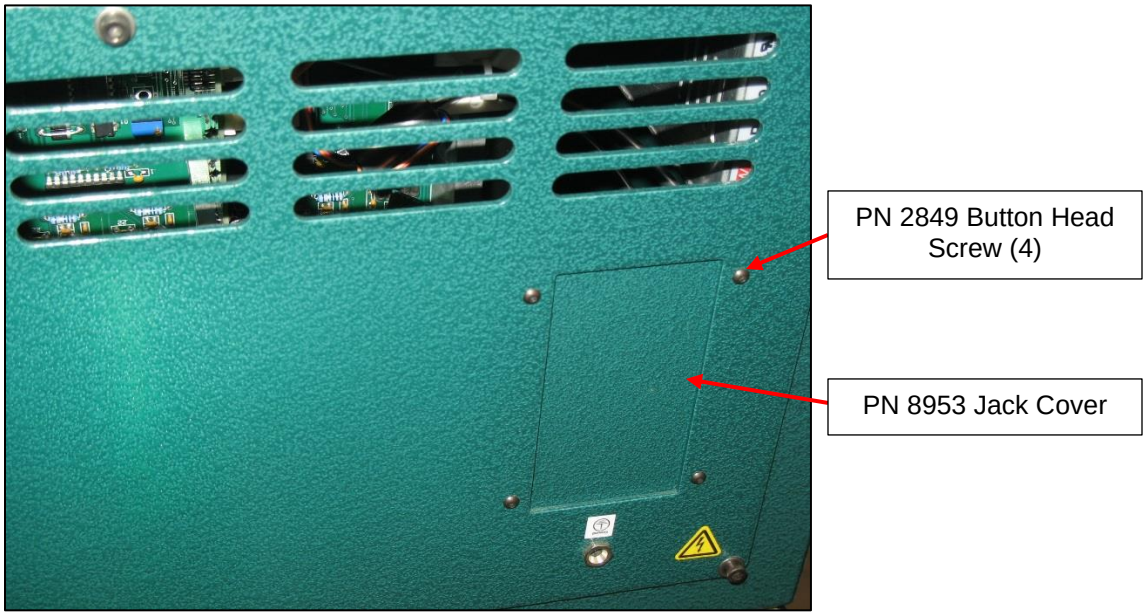

Figure 12: PN 8953 Jack Cover Before Rotating

3. After removing the button head screws and hex nuts, rotate the PN 8953 jack cover so that the pre-cut holes are positioned in the opening of machine back cover. Using the button head screws and hex nuts, reinstall the PN 8953 jack cover to the machine back cover. Refer to Figure 13 below.

Figure 13: PN 8953 Jack Cover After Rotating

4. Locate and remove the contents of the PN 9583 coiler accessory board kit.

5. Install the PN 8928 internal marker/foot switch cable to the PN 8953 jack cover using the included (4) PN 2849 button head screws and (4) PN 3812 hex nuts.

6. Install the PN 9584 internal 9-pin “D” input cable to the PN 8953 jack cover using the hardware included with this cable. Refer to Figure 14 below.

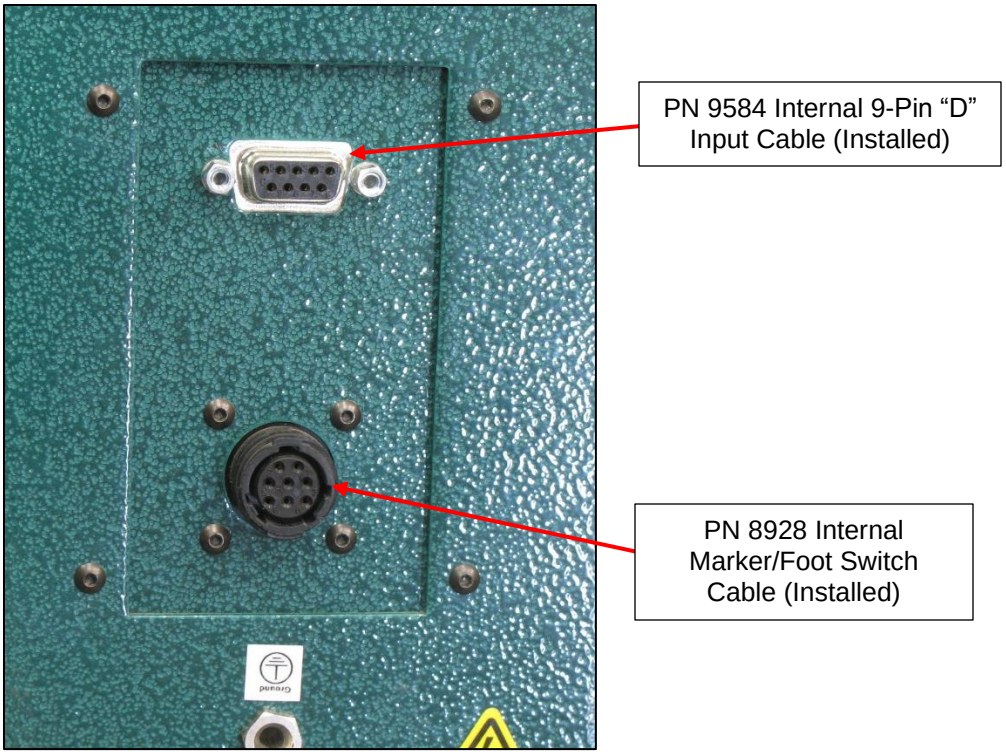

Figure 14: PN 8928 and PN 9584 Cables Installed to PN 8953 Jack Cover

7. Remove the (4) PN 2412 cap screws securing the main printed circuit (PC) board to the bottom of the wire processing machine cabinet.

8. Unplug the (4) connectors located at the bottom of the PC board. Refer to Figure 15 below.

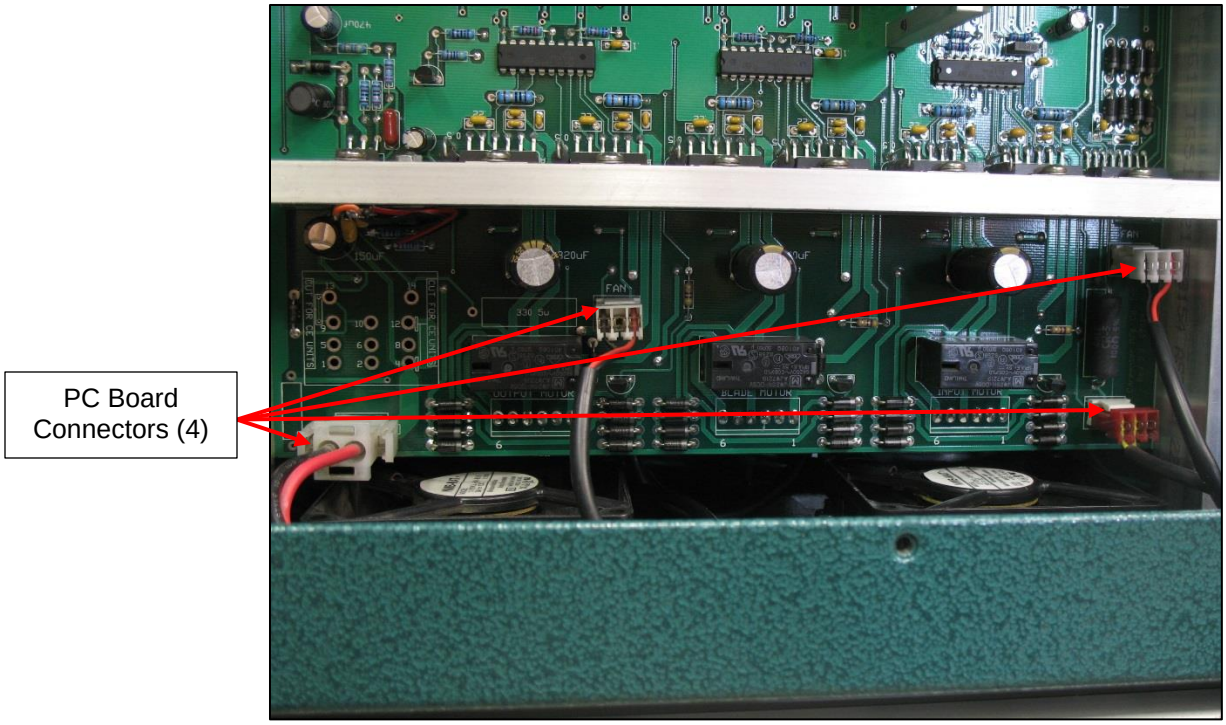

Figure 15: PC Board Connectors

9. Locate the marker/expansion connector on the PC board. Refer to Figure 16 below.

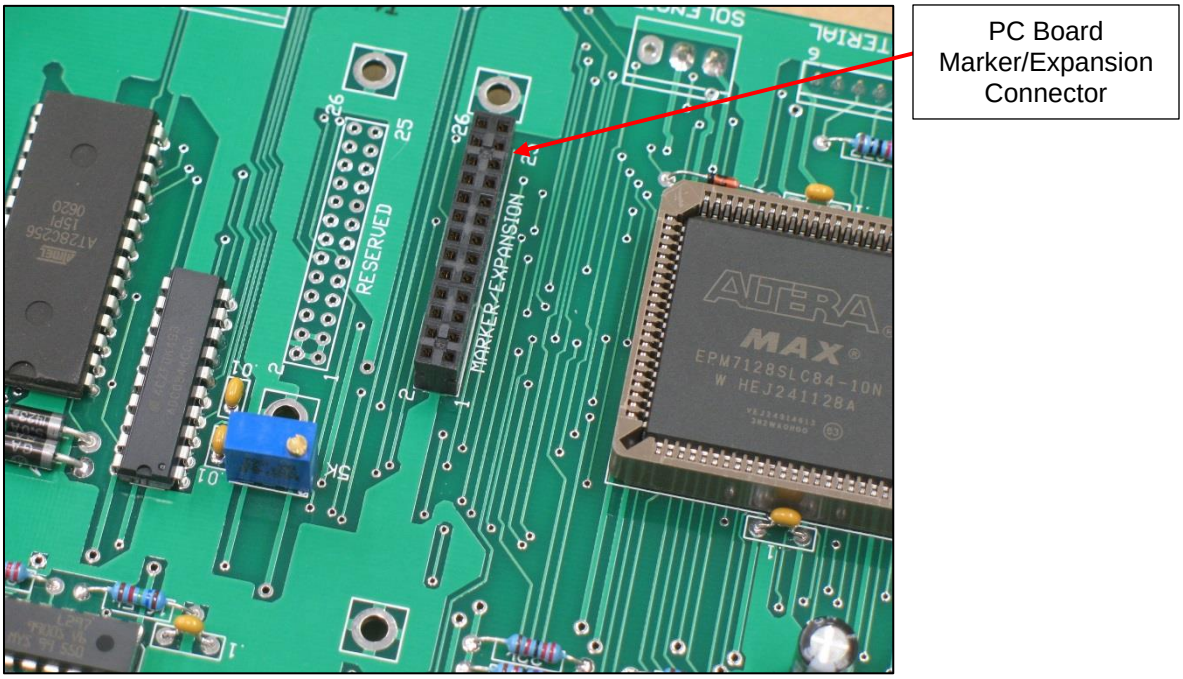

Figure 16: PC Board Marker/Expansion Connector

10. Carefully line up the pins located on the PN 8958 dual marker/coiler board to the marker/expansion connector located on the PC board. Plug the PN 8958 dual marker/coiler board pins into the marker/expansion connector until the mounting rails of the PN 8958 dual marker/coiler board are seated onto the PC board. Refer to Figure 17 below.

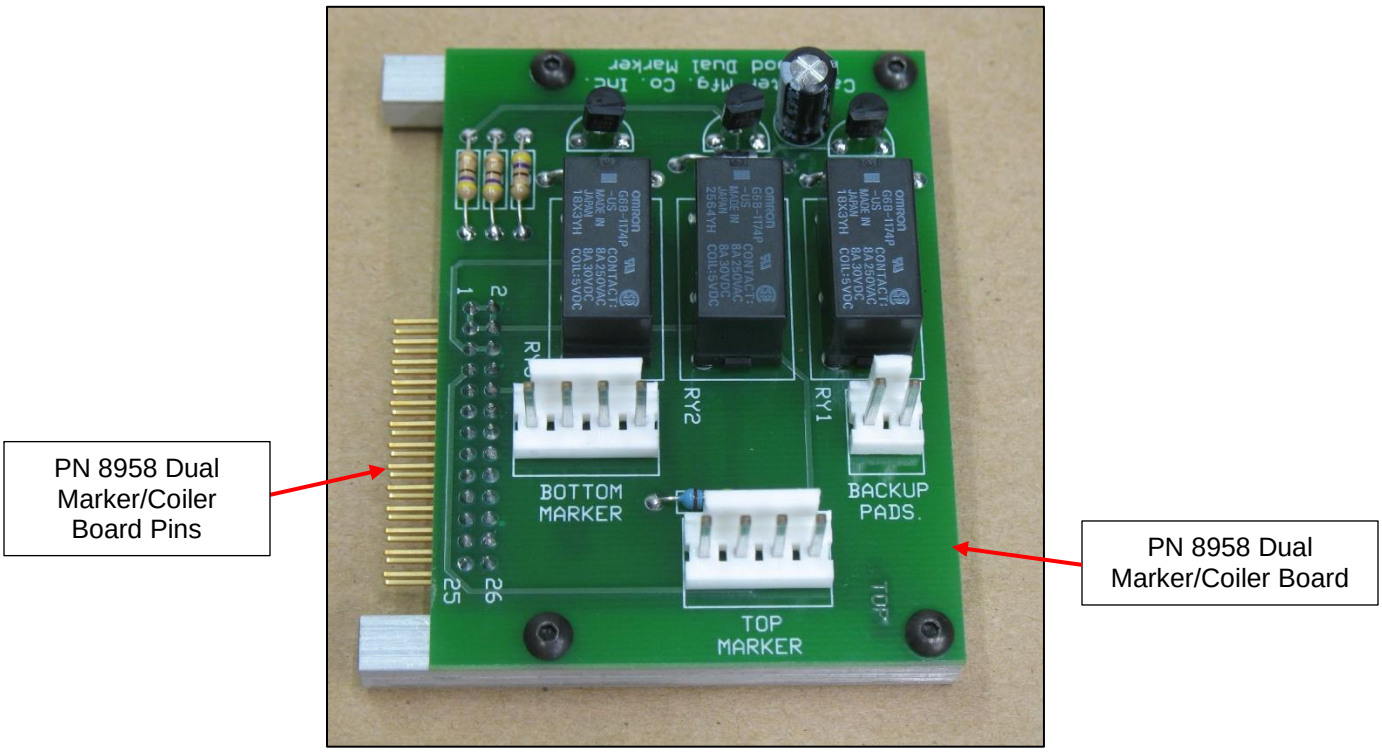

Figure 17: PN 8958 Dual Marker/Coiler Board

Note: The connector corner pin numbers (1, 2, 25, and 26) are marked on both boards. Line up Pin 1 and Pin 2 of the PN 8958 dual marker/coiler board with Pin 1 and Pin 2 of the marker/expansion connector on the PC board.

11. Carefully lift the PC board and rotate the bottom of the board so that the back of the marker/expansion connector may be accessed.

12. Install (2) PN 3811 cap screws into each mounting rail of the PN 8958 dual marker/coiler board and secure. Refer to Figure 18 below.

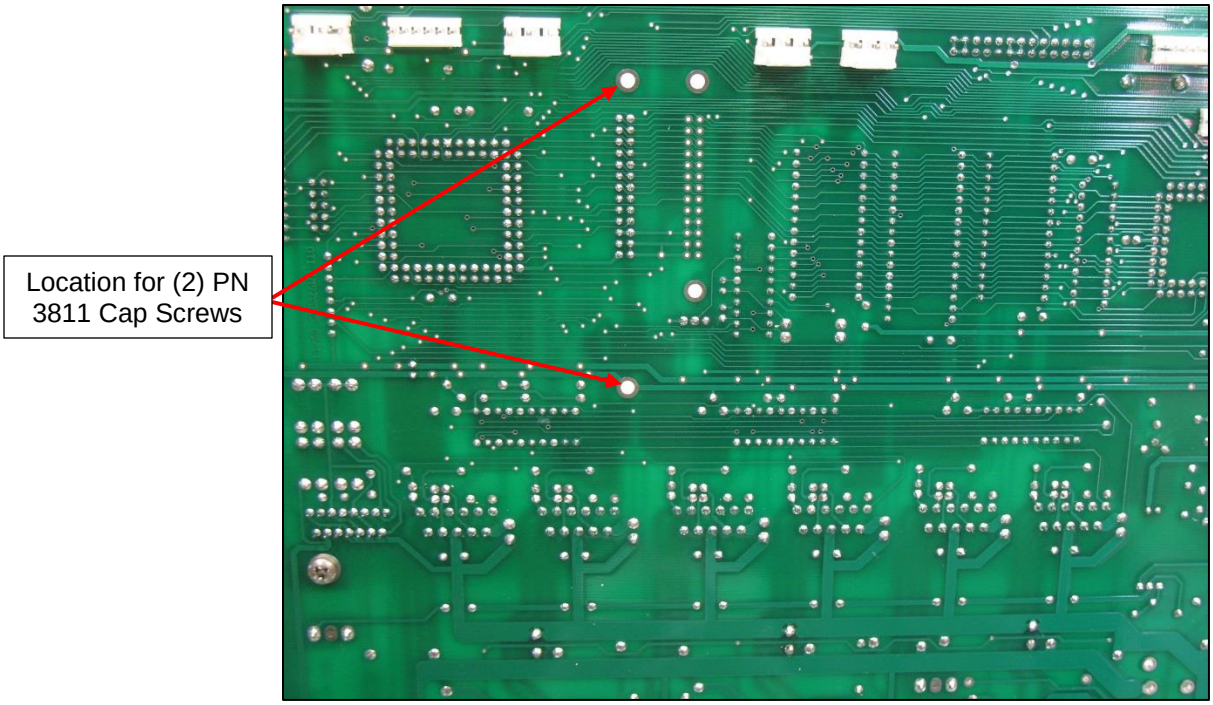

Figure 18: Installing (2) PN 3811 Cap Screws into PN 8958 Dual Marker/Coiler Board Mounting Rails

13. Carefully rotate the bottom of the PC board back into the machine cabinet and secure using the (4) PN 2412 cap screws removed in Step 7 above.

14. Reinstall the (4) connectors removed in Step 8 above.

15. Plug in the 4-pin connector from the PN 8928 internal marker/foot switch cable on the back of the PN 8953 jack cover to the connector on the PN 8958 dual marker/coiler board labeled “bottom marker.”

16. Plug in the 4-pin connector from the PN 9584 internal 9-pin “D” input cable on the back of the PN 8953 jack cover to the connector on the PN 8958 dual marker/coiler board labeled “top marker.” Plug in the remaining 2-pin connector to the connector on the PN 8958 dual marker/coiler board labeled “backup pads.” Refer to Figure 19 below.

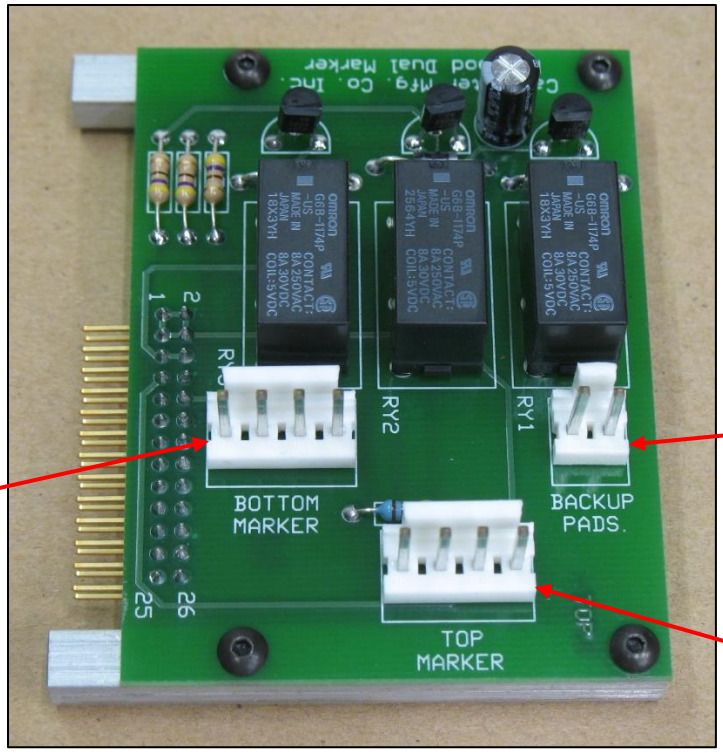

Figure 19: Cable Connector Locations

17. Reinstall the machine back cover using the PN 3948 cap screws (and washers) removed in Step 1 above.

Section 3 – Installing Interface Cable

Note: If the interface cable is already installed between the wire processing machine and the Model 84, navigate to "Section 4 – Final Processor Setup and Model 84 Positioning."

PN 9614 Coiler Interface Cable (For Model 930 or Model 970)

When interfacing the Model 84 with a Carpenter Model 930 or Model 970, a PN 9614 coiler interface cable must be installed between the two machines.

1. Insert the 9-pin "D" end of the PN 9614 coiler interface cable into the receptacle on the back of the Model 84. Refer to Figure 20 below.

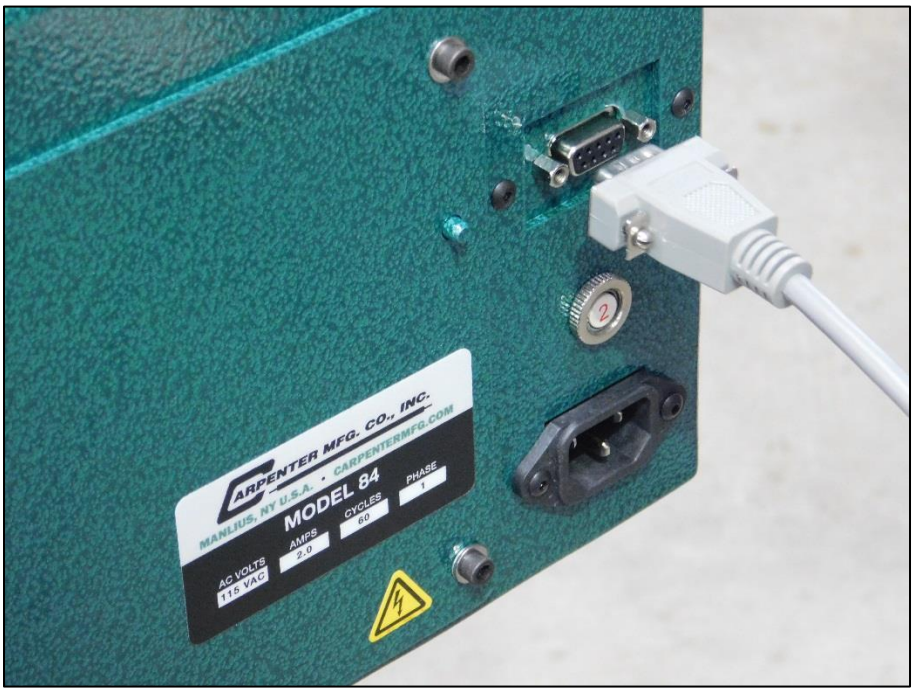

Figure 20: Inserting the 9-Pin "D" End of the PN 9614 Coiler Interface Cable (or PN 9580 External 9-Pin "D" Cable) into the Model 84 Receptacle

2. Insert the 15-pin "D" end of the PN 9614 coiler interface cable into the PN 9686 accessory board kit previously installed on the back of the Models 930/970. Refer to Figure 21 below.

Figure 21: Inserting the 15-Pin "D" End of the PN 9614 Coiler Interface Cable into the PN 9686 Accessory Board Kit

PN 9580 External 9-Pin "D" Cable (For Models 36A/B, Model 93, or Model 97A)

When interfacing the Model 84 with the Carpenter Models 36A/B, a Model 93, or a Model 97A, a PN 9580 external 9-pin "D" cable must be installed between the two machines.

1. Insert one 9-pin "D" end of the PN 9580 external 9-pin "D" cable into the receptacle on the back of the Model 84. Refer to Figure 20 above.

2. Insert the other 9-pin "D" end of the PN 9580 external 9-pin "D" cable into the PN 9583 coiler accessory board kit previously installed on the back of the Models 36A/B, Model 93, or Model 97A. Refer to Figure 22 below.

Figure 22: Inserting a 9-Pin “D” End of the PN 9580 External 9-Pin “D” Cable into the PN 9583 Coiler Accessory Board Kit

Section 4 – Final Processor Setup and Model 84 Positioning

Instructions for Model 93, Model 97A, or Models 930/970

Before processing and coiling material, the operator must remove the PN 8813 output guide on the Model 93, Model 97A, or Models 930/970. Using a 9/64" hex wrench, remove the PN 7214 cap screw that holds the PN 8813 output guide onto the machine face plate. Do not misplace these parts. Refer to Figure 23 below.

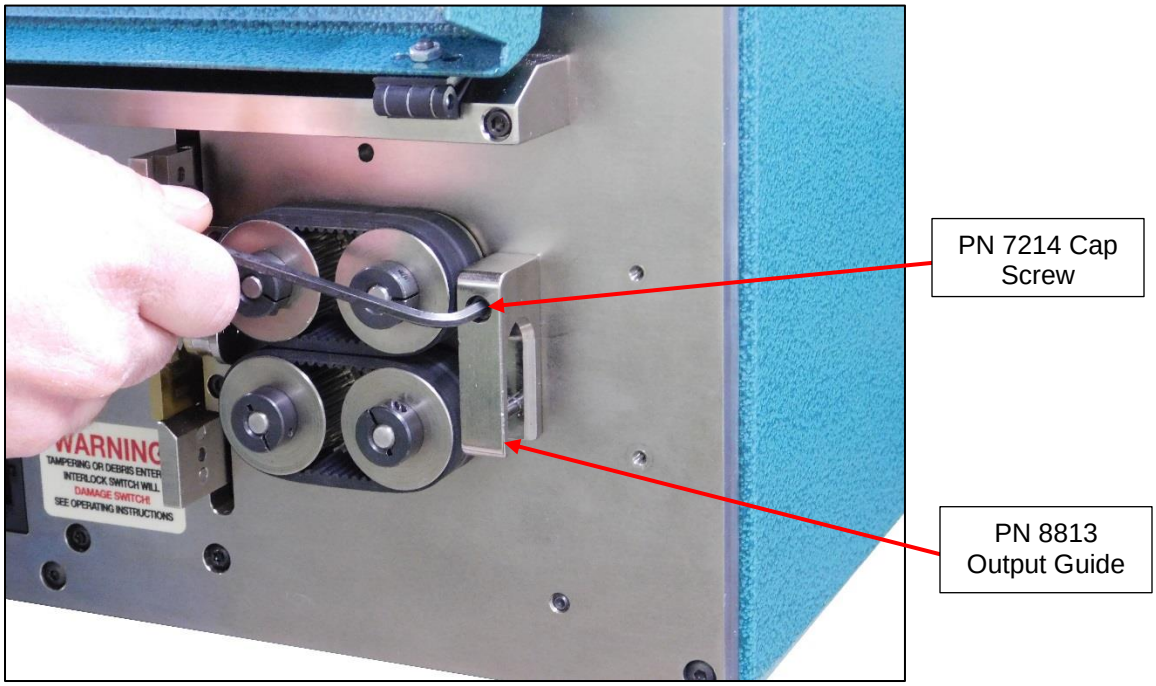

Figure 23: Removing the PN 8813 Output Guide

After removing the PN 8813 output guide, position the Model 84 so that the PN 8645 material exit tube is up to the output feed belts or output feed rollers. Refer to Figure 24 below.

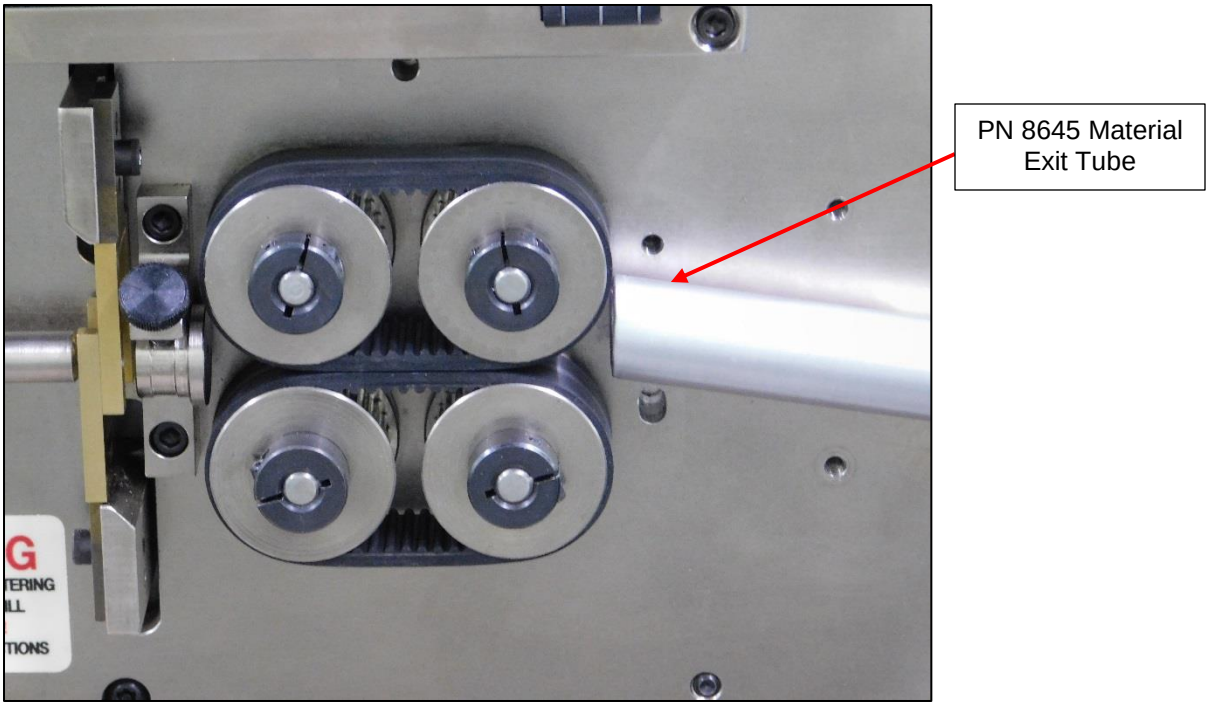

Figure 24: PN 8645 Material Exit Tube Positioned to the Output Feed Belts or Output Feed Rollers

Note: If height adjustments are necessary for the Model 84, loosen the height adjustment locking nut, shown in Figure 1 in "Section 1 – Assembling the Model 84," and spin the unit to the desired height. Retighten the height adjustment locking nut to lock the height in place.

Instructions for Models 36A/B

The Models 36A/B feature a different output setup than the Model 93, Model 97A, or Models 930/970. Simply position the Model 84 so that the PN 8645 material exit tube is up to the Models 36A/B output guide. Refer to Figure 25 below.

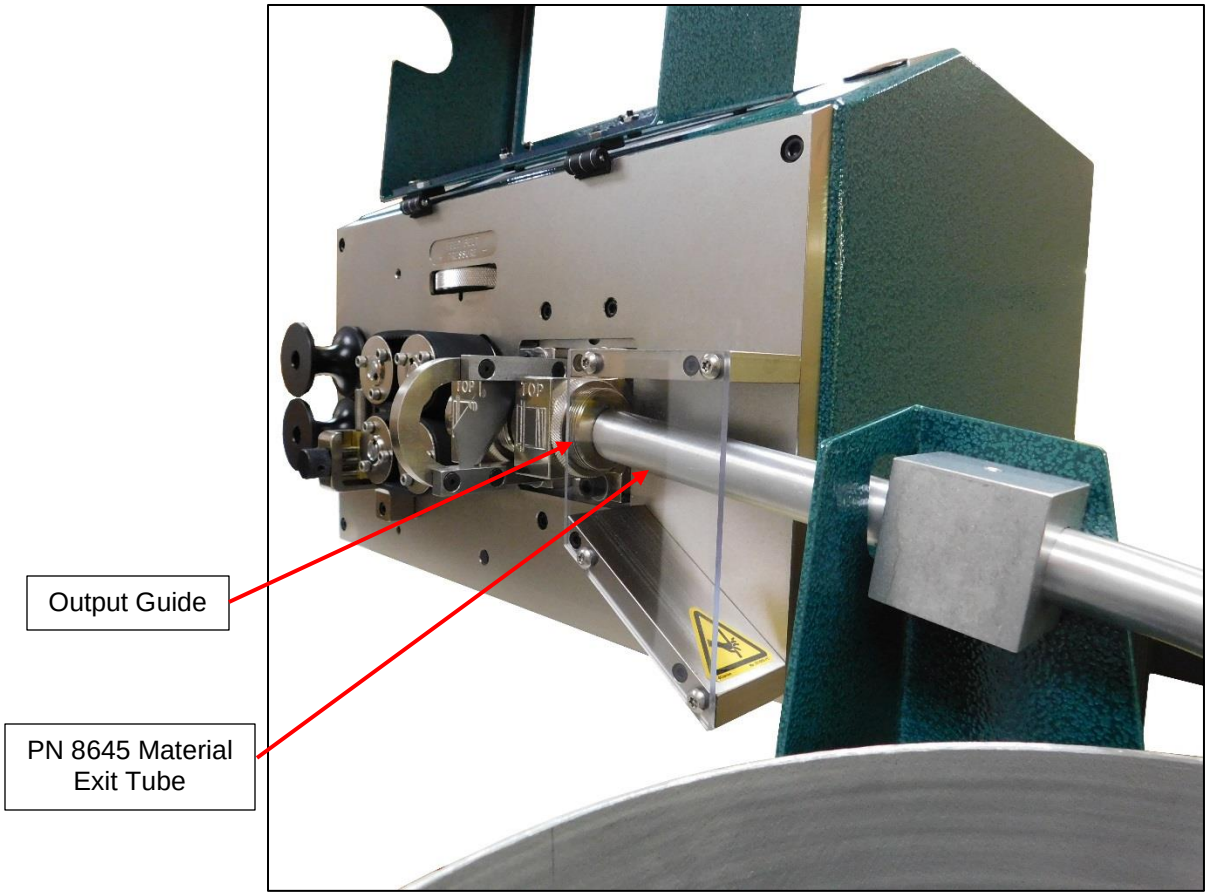

Figure 25: PN 8645 Material Exit Tube Positioned to the Output Guide (Models 36A/B)

Note: If height adjustments are necessary for the Model 84, loosen the height adjustment locking nut, shown in Figure 1 in "Section 1 – Assembling the Model 84," and spin the unit to the desired height. Retighten the height adjustment locking nut to lock the height in place.

Section 5 – Recommended Initial Settings

Before processing and coiling material, refer to the below recommended initial settings for the Model 84.

1. Plug the female end of the power cord into the power entry module, located on the back of the machine. Plug the male end of the power cord into a proper electrical outlet.

2. Turn on the power switch.

3. The Model 84 automatically defaults to "AUTO" mode. An illuminated LED above the **AUTO**/**OFF** button confirms the machine is in "AUTO" mode.

4. Press the **A** button under "BOWL SELECT."

   Note: The Model 84 will not function if the **B** button is selected.

5. The speed "RANGE SELECT" and speed "RANGE ADJUST" settings will be application-dependent based on wire processing machine settings. When initially setting up the Model 84, set speed "RANGE SELECT" to speed 2 by pressing the **SPD2** button. Rotate the speed "RANGE ADJUST" control to approximately midpoint.

   Note: The speed "RANGE SELECT" buttons (**SPD1**, **SPD2**, **SPD3**, and **SPD4**) cannot be adjusted while the Model 84 bowl is spinning.

6. The "DISCHARGE SPIN TIME" controls the amount of time the Model 84 bowl continues to spin after the material is completed by the wire processing machine. This is done to ensure the material is completely removed from the material exit tube before the Model 84 bowl stops spinning. When initially setting up the Model 84, set "DISCHARGE SPIN TIME" to approximately 1.25 seconds.

7. The "RESTART DWELL" controls the amount of time the operator has to remove the processed piece of material before the next piece of material begins processing. When initially setting up the Model 84, set "RESTART DWELL" to the 10 second position. Once the operator is comfortable with the timing of the entire process, this setting may be adjusted to meet their comfort level.

Refer to Figure 26 below for recommended initial settings.

Figure 26: Recommended Initial Model 84 Settings

Section 6 – Operation (For Model 930 or Model 970)

When the Model 84 is powered on and correctly interfaced with the Models 930/970 (as detailed in the preceding pages), press the **WIRE COILER ON/OFF** button on the Models 930/970 to enable use of the Model 84 in conjunction with the wire processing machine.

Automatic Operation

1. Perform a test cycle "dry-run" to ensure that the Model 84 bowl turns on and off under control of the wire processing machine. Without material loaded, input data into the wire processing machine and press **ENTER**. To run the test cycle, press the **TEST CYCLE** button on the wire processing machine.

2. When successful operation of the Model 84 is verified, load material into the wire processing machine. For information on how to load material, please see the operator's manual for the respective wire processing machine.

3. To determine the ideal speed at which the Model 84 bowl spins, run a single finished piece by pressing the **TEST CYCLE** button. Observe the material as it coils around the posts in the bowl. The speed "RANGE ADJUST" control should be adjusted so that the material coil forms loosely around the posts in the bowl. It may be necessary to change the speed range by switching to a faster or slower range by pressing the appropriate speed "RANGE SELECT" switch (**SPD1** through **SPD4**) and adjusting the speed "RANGE ADJUST" control to the desired speed within that range.

    a. If the Model 84 bowl speed is set too fast, the material will coil too tightly onto the posts in the bowl, making it difficult or impossible to remove. It is also possible for the speed of the bowl to exceed the speed that the material is exiting the wire processing machine; this will cause the Model 84 bowl to jam and fault out. Refer to Figure 27 below.

        i. If a fault occurs, the bowl will stop spinning and the warning LED will flash. The wire processing machine will stop and indicate a fault has occurred. To clear a fault, power off the Model 84 and follow the instructions on the front panel of the wire processing machine. Remove any jammed material from both units. Once the material is cleared, power on the Model 84. Ensure that the material is loaded into the wire processing machine and is ready to run.

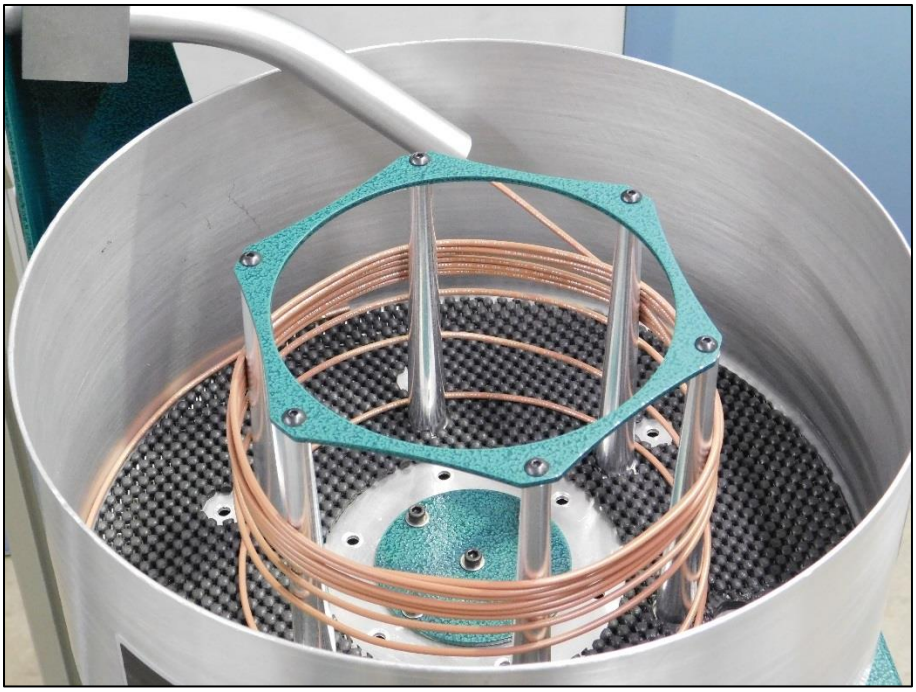

Figure 27: Model 84 Bowl Speed Set Too Fast

b. If the Model 84 bowl speed is set too slow, the finished material coil diameter will be much larger than the diameter of the posts in the bowl. Refer to Figure 28 below.

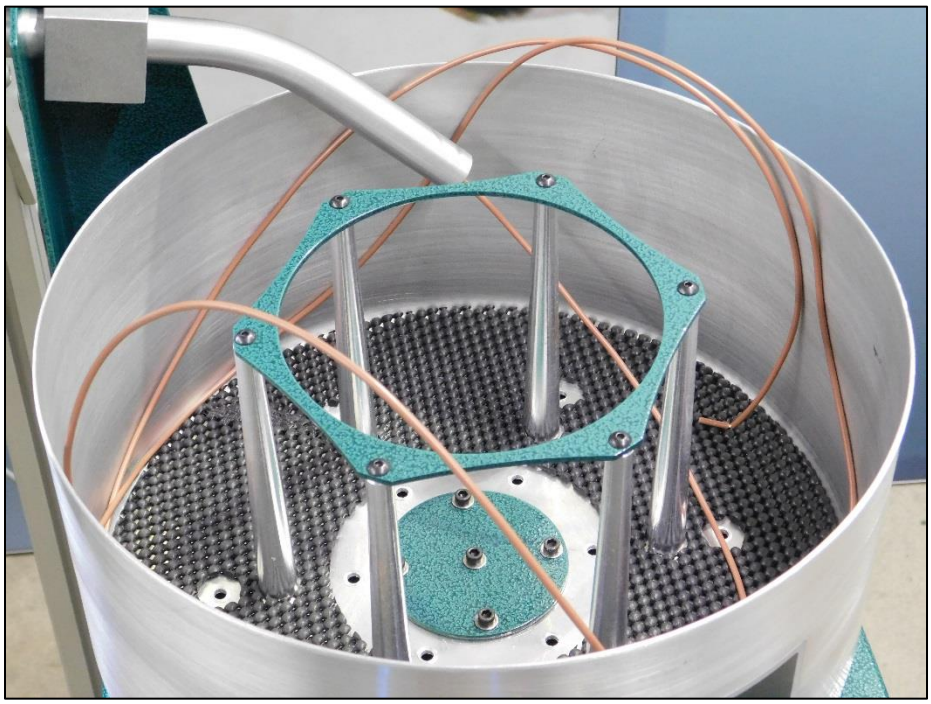

Figure 28: Model 84 Bowl Speed Set Too Slow

c. Refer to Figure 29 below, which illustrates a correctly-formed material coil.

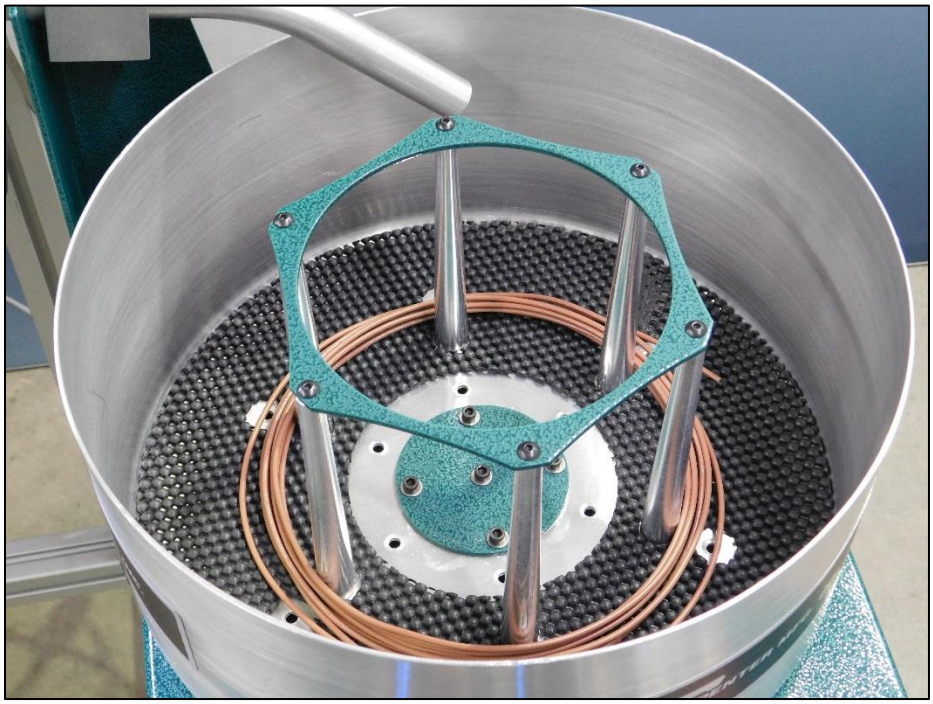

Figure 29: Correctly-Formed Material Coil

4. To remove the coiled material from the Model 84 bowl, grasp the material coil and lift it up over the posts in the bowl and out of the unit. Refer to Figure 30 below.

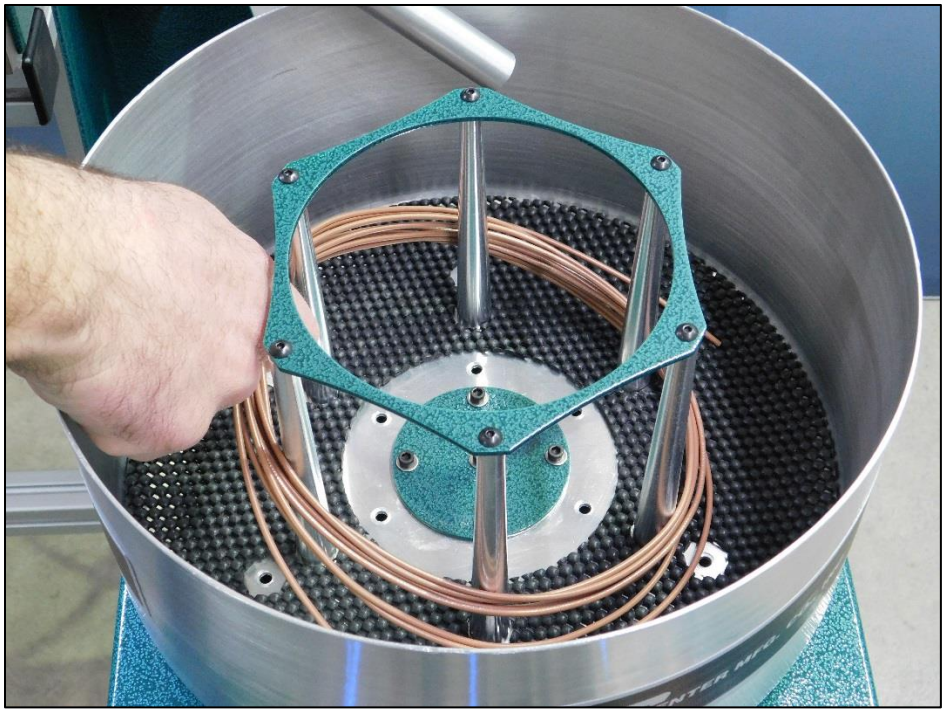

Figure 30: Removing the Material Coil from the Model 84 Bowl

5. When the correct speed setting is determined and material coils are consistently formed correctly, the operator may adjust the “DISCHARGE SPIN TIME” so that the Model 84 bowl spins just long enough for the wire to clear the PN 8645 material exit tube.

6. The operator may then adjust the “RESTART DWELL” to a setting that provides ample time to remove the formed material coil from the Model 84 bowl without excessive additional wait time before the start of the next cycle.

Manual Operation

It may occasionally be desirable to manually run the Model 84 bowl to test its operation separate from the control of the wire processing machine. To activate the Model 84 bowl manually, press the **MANUAL/ON** button under “MODE.” The green manual LED will illuminate.

The speed of the Model 84 bowl may be controlled by adjusting the speed “RANGE ADJUST” control while the Model 84 bowl is spinning. If a different speed range is desired, press the **AUTO/OFF** button to stop the Model 84 bowl rotation, and then press the desired speed “RANGE SELECT” button. The bowl may then be turned on manually by pressing the **MANUAL/ON** button again under “MODE.”

PN 9599 Foot Switch Assembly Operation

The interface between the Models 930/970 and the Model 84 may be controlled by a PN 9599 foot switch assembly. To install the foot switch assembly, insert the 15-pin "D" connector at the end of the foot switch assembly cable into the PN 9686 accessory board kit previously installed on the back of the Models 930/970. Refer to Figure 31 below.

Figure 31: Inserting the 15-Pin "D" Foot Switch Assembly Connector into the PN 9686 Accessory Board Kit

After installing the foot switch assembly, press the **FOOT SWITCH** button on the Models 930/970 to activate this option.

1. When processing material with a foot switch assembly, the Model 84 "RESTART DWELL" should be set to 0.

2. Press the **RUN** button on the Models 930/970. The display will read the following: "Press and release the foot switch to run the next piece. Or press **STOP** to quit." Press and release the foot switch assembly to begin processing material.

3. The Models 930/970 will display the same message above after completion of each piece of material. Simply press and release the foot switch assembly to continue, or press the **STOP** button to quit.

Section 7 – Operation (For Models 36A/B)

When the Model 84 is powered on and correctly interfaced with the Models 36A/B (as detailed in the preceding pages), press the **MENU** button to toggle through the processor options and press **ENTER** when "WIRE COILER" is shown. Press **CLEAR** to toggle between "WIRE COILER ON" and "WIRE COILER OFF" and press **ENTER**.

(See below for specific foot switch assembly operation instructions).

Automatic Operation

1. Perform a single cycle "dry-run" to ensure that the Model 84 bowl turns on and off under control of the wire processing machine. Without material loaded, input data into the wire processing machine and press **ENTER**. To run the single cycle, press the **SINGLE CYCLE** button on the wire processing machine.

2. Refer to Step 2 through Step 6, beginning on Page 29, for detailed automatic operation instructions.

When processing more than one piece at a time, the wire processing machine will display "WAITING FOR COILER…" at the end of each individual piece. Based on the settings input into the Model 84, the wire processing machine will automatically begin processing the next piece of material. At the end of the processing cycle, the wire processing machine will display "PROCESSING COMPLETE, PLEASE PRESS **ENTER**."

Manual Operation

Refer to Page 32 for detailed manual operation instructions.

PN 9585 Foot Switch Assembly Operation

The interface between the Models 36A/B and the Model 84 may be controlled by a PN 9585 foot switch assembly. To install the foot switch assembly, insert the foot switch assembly connector at the end of the foot switch cable into the PN 9583 coiler accessory board kit previously installed on the back of the Models 36A/B. Refer to Figure 32 below.

Figure 32: Inserting the Foot Switch Assembly Connector into the PN 9583 Coiler Accessory Board Kit

After installing the foot switch assembly, press the **MENU** button to toggle through the processor options and press **ENTER** when "WIRE COILER" is shown. Confirm "WIRE COILER ON" and press **ENTER**. Then press **CLEAR** to toggle between "FOOT SWITCH ON" and "FOOT SWITCH OFF" and press **ENTER**.

1. When processing material with a foot switch assembly, the Model 84 "RESTART DWELL" should be set to 0.

2. Press the **RUN** button on the Models 36A/B to begin processing.

3. After completion of the first piece of material, the display will read the following: "Press foot switch or press **STOP**." Press and release the foot switch assembly to continue processing material, or press the **STOP** button to quit.

    a. If the **STOP** button is pressed, the display will read the following: "**STOP** activated, press **ENTER** to reset."

4. When the programmed number of pieces is complete, the display will read the following: "Processing complete, please press **ENTER**."

Section 8 – Operation (For Model 93 or Model 97A)

When the Model 84 is powered on and correctly interfaced with the Model 93 or Model 97A (as detailed in the preceding pages), press the **MENU** button to toggle through the processor options and press **ENTER** when "WIRE COILER ON/OFF" is shown. On the left side of the wire processing machine front panel, press the corresponding "ON" or "OFF" arrow to toggle the wire coiler function off or on and press **ENTER**.

(See below for specific foot switch assembly operation instructions).

Automatic Operation

1. Perform a single cycle "dry-run" to ensure that the Model 84 bowl turns on and off under control of the wire processing machine. Without material loaded, input data into the wire processing machine and press **ENTER**. To run the single cycle, press the **SINGLE CYCLE** button on the wire processing machine.

2. Refer to Step 2 through Step 6, beginning on Page 29, for detailed automatic operation instructions.

When processing more than one piece at a time, the wire processing machine will display "WAITING FOR COILER…" at the end of each individual piece. Based on the settings input into the Model 84, the wire processing machine will automatically begin processing the next piece of material. At the end of the processing cycle, the wire processing machine will display "PROCESSING COMPLETE, PLEASE PRESS **ENTER**."

Manual Operation

Refer to Page 32 for detailed manual operation instructions.

PN 9585 Foot Switch Assembly Operation

The interface between the Model 93 or Model 97A and the Model 84 may be controlled by a PN 9585 foot switch assembly. To install the foot switch assembly, insert the foot switch assembly connector at the end of the foot switch cable into the PN 9583 coiler accessory board kit previously installed on the back of the Model 93 or Model 97A. Refer to Figure 32 above.

After installing the foot switch assembly, press the **MENU** button to toggle through the processor options and press **ENTER** when "WIRE COILER ON/OFF" is shown. Confirm "WIRE COILER IS ON" and press **ENTER**. Then press the corresponding "ON" or "OFF" arrow to toggle between "FOOT SWITCH IS ON" and "FOOT SWITCH IS OFF" and press **ENTER**.

1. When processing material with a foot switch assembly, the Model 84 “RESTART DWELL” should be set to 0.

2. Press the **RUN** button on the Model 93 or Model 97A to begin processing.

3. After completion of the first piece of material, the display will read the following: “Press foot switch or press **STOP**.” Press and release the foot switch assembly to continue processing material, or press the **STOP** button to quit.

    a. If the **STOP** button is pressed, the display will read the following: “**STOP** activated, press **ENTER** to reset.”

4. When the programmed number of pieces is complete, the display will read the following: “Processing complete, please press **ENTER**.”

Section 9 – Model 84 Bowl Safety Feature

If contact is made with the Model 84 bowl while it is coiling material, the unit will immediately stop processing and will fault out. This is designed to ensure operator safety.

When interfacing the Model 84 with a Carpenter Model 930 or Model 970, the display will read “Error: Fault detected from coiler. Check coiler unit. Then press **ENTER** to reset.” Power off the Model 84 and wait ten seconds. Power on the Model 84 and press **ENTER** on the Models 930/970 to clear the fault and begin processing material.

When interfacing the Model 84 with the Carpenter Models 36A/B, a Model 93, or a Model 97A, the display will read “Check coiler fault then press **ENTER**.” Power off the Model 84 and wait ten seconds. Power on the Model 84 and press **ENTER** on the Models 36A/B, Model 93, or Model 97A to clear the fault and begin processing material.

Section 10 – Optional Accessories

The below items are optional accessories for the Model 84.

Carpenter Part Number	Description
9511	4.5” Bowl Ring
9520	8.5” Bowl Ring

The Model 84 is sold standard with a 6.75” diameter bowl ring. The bowl ring may be changed from the standard 6.75” diameter to either 4.5” or 8.5”. Follow the steps below to change the bowl ring diameter.

1. Remove the (5) PN 3948 cap screws (and washers) from the PN 9562 bowl mounting plate. Lift the bowl from the machine cabinet. Refer to Figure 33 below.

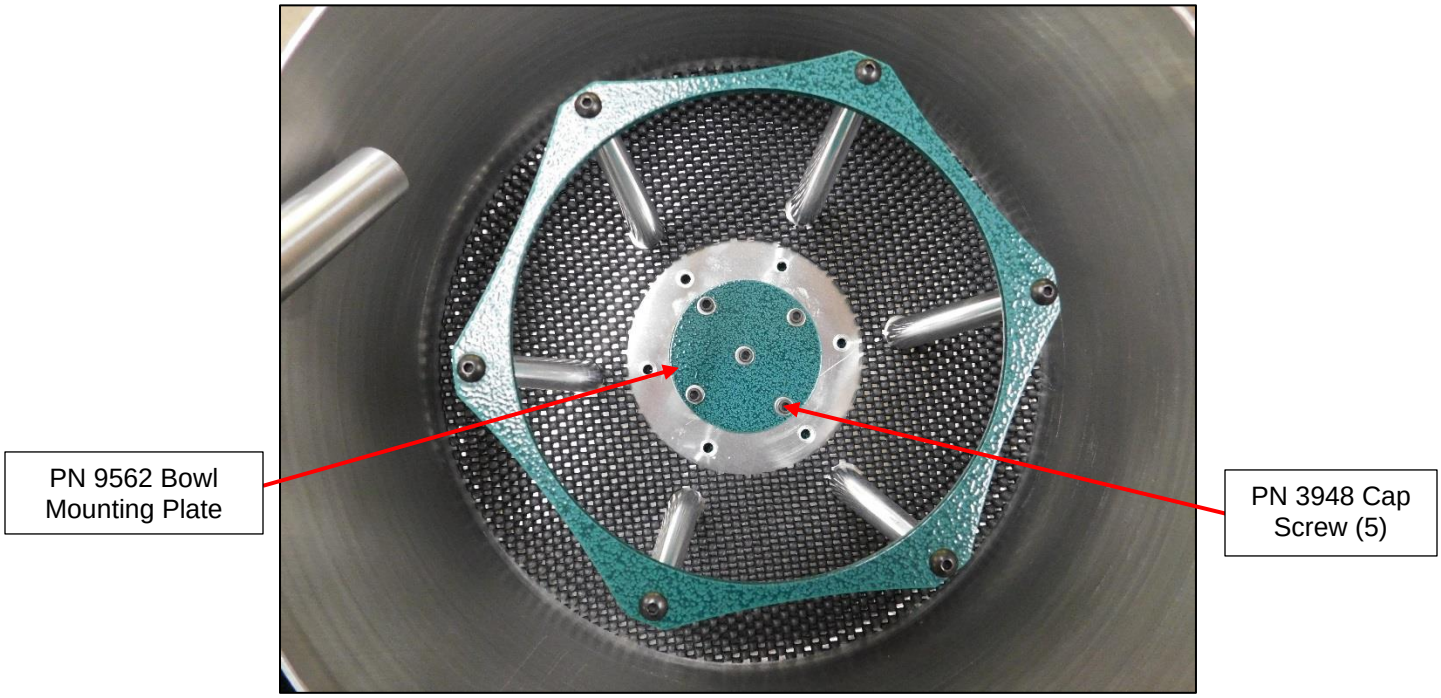

Figure 33: Removing the Bowl from the Machine Cabinet

2. Using a 3/32” hex wrench, remove the (6) PN 2965 button head screws securing the bowl ring to the top of the (6) PN 9517 ring stand-offs. Refer to Figure 34 below.

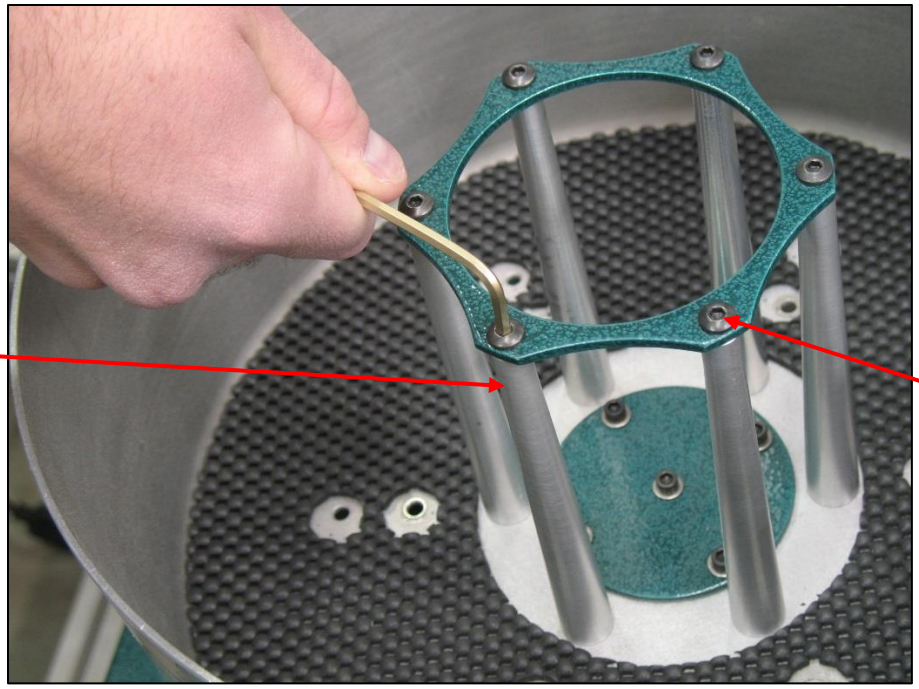

Figure 34: Removing the Bowl Ring from the (6) PN 9517 Ring Stand-Offs

3. Using a 1/8” hex wrench, remove the (6) PN 5410 button head screws securing the (6) PN 9517 ring stand-offs to the bottom of the bowl.

4. Reposition the (6) PN 9517 ring stand-offs into the correct locations based on the desired bowl ring size and reinstall the (6) PN 5410 button head screws to the bottom of the (6) PN 9517 ring stand-offs. Refer to Figure 35 below.

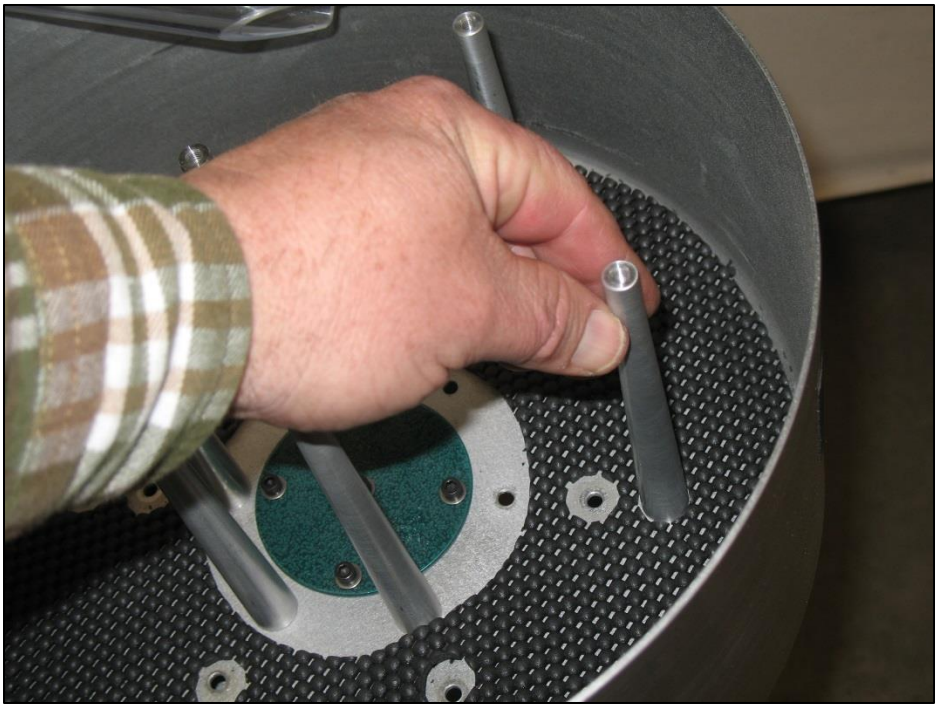

Figure 35: Repositioning the (6) PN 9517 Ring Stand-Offs

5. After the (6) PN 9517 ring stand-offs are installed into the correct locations, install the desired bowl ring onto the (6) PN 9517 ring stand-offs by using the (6) PN 2965 button head screws removed in Step 2 above.

6. After the desired bowl ring is installed, reinstall the PN 9562 bowl mounting plate to the machine cabinet using the (5) PN 3948 cap screws (and washers) removed in Step 1 above.

Section 11 – Warranty

Carpenter Mfg. Co., Inc. manufactures its products to be free from defects in materials and workmanship. Should any defect occur within the warranty period, Carpenter Mfg. Co. Inc. will, at its option, exchange or repair the defective device.

At the discretion of Carpenter Mfg. Co., Inc., repairs or adjustments to equipment under warranty can be performed at our factory or at the customer location. In most cases a 1- or 2-day turnaround time will be necessary to repair equipment at our facility. When equipment is returned to our factory for repair or replacement, the customer is responsible for all freight charges.

This is a limited warranty and is in lieu of all other representations and expressed and implied warranties (including the implied warranties of merchantability and fitness for use). Under no circumstances shall Carpenter Mfg. Co., Inc. be liable for any incidental or consequential property damages or losses subsequent to misuse or improper maintenance of this equipment.

The following are not covered by the latter warranty:

- Consumable parts (blades, belts, guides, springs, inserts, stripping wheels, etc.)
- Cosmetic problems (nicks, scratches, etc.)
- Damages caused by any repairs or modifications by unauthorized personnel
- Damages caused by abuse
- Damages caused by shipping
- Damages caused by environmental and/or atmospheric conditions
- Damages caused by the use of contaminated compressed air