



110 Fairgrounds Drive • P.O. Box 188 • Manlius, NY 13104-0188 USA • 315.682.9176 • FAX: 315.682.9160

OPERATOR'S MANUAL



Model 93 Compu-Strip[®]

PRODUCTION WIRE PROCESSING EQUIPMENT

CARPENTER MODEL 93 COMPU-STRIP

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CARPENTER MODEL 93 COMPU-STRIP

INTRODUCTION

Thank you for choosing Carpenter Mfg. Co. Inc. Wire Processing Equipment.
For over 50 years Carpenter has been a leader in
Wire Processing Technology and Service.
Our desire has always been to bring you reliable products.
We look forward to a long healthy relationship with you and our company.

The Model 93 can process a wide range of cables as referenced on the following page.
These stripping specifications are based upon the
most commonly manufactured cables.
Special applications may arise with cables that are
within the specification limits of the machine but are very difficult
or unsuccessful to strip.
Likewise, cables that exceed the specified limits
of the machine can sometimes be processed.
Because there are many variables involved in Wire Processing
we strongly recommend a free Wire Evaluation at our factory
followed by a demonstration from a Carpenter representative
to insure the ultimate success of your Wire Processing Application.

This operating manual explains how to operate
the Model 93 as well as some troubleshooting tips.
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, fax number 315.682.9160.

Carefully unpack the Carpenter Model 93.
We recommend that you keep the original box and packaging
as it will protect the machine for future transportation if necessary.

CARPENTER MODEL 93 COMPU-STRIP

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.

Also, 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.

CAUTION

This equipment comes equipped with a LEXAN safety guard, containing a safety interlock switch. The machine will not operate unless the guard is in the closed position.

****IMPORTANT****

Do not attempt to defeat the function or purpose of the safety interlock switch. Serious injury to the operators' eyes, fingers or other body parts may result from attempts to operate this equipment with the safety guard in the raised position.

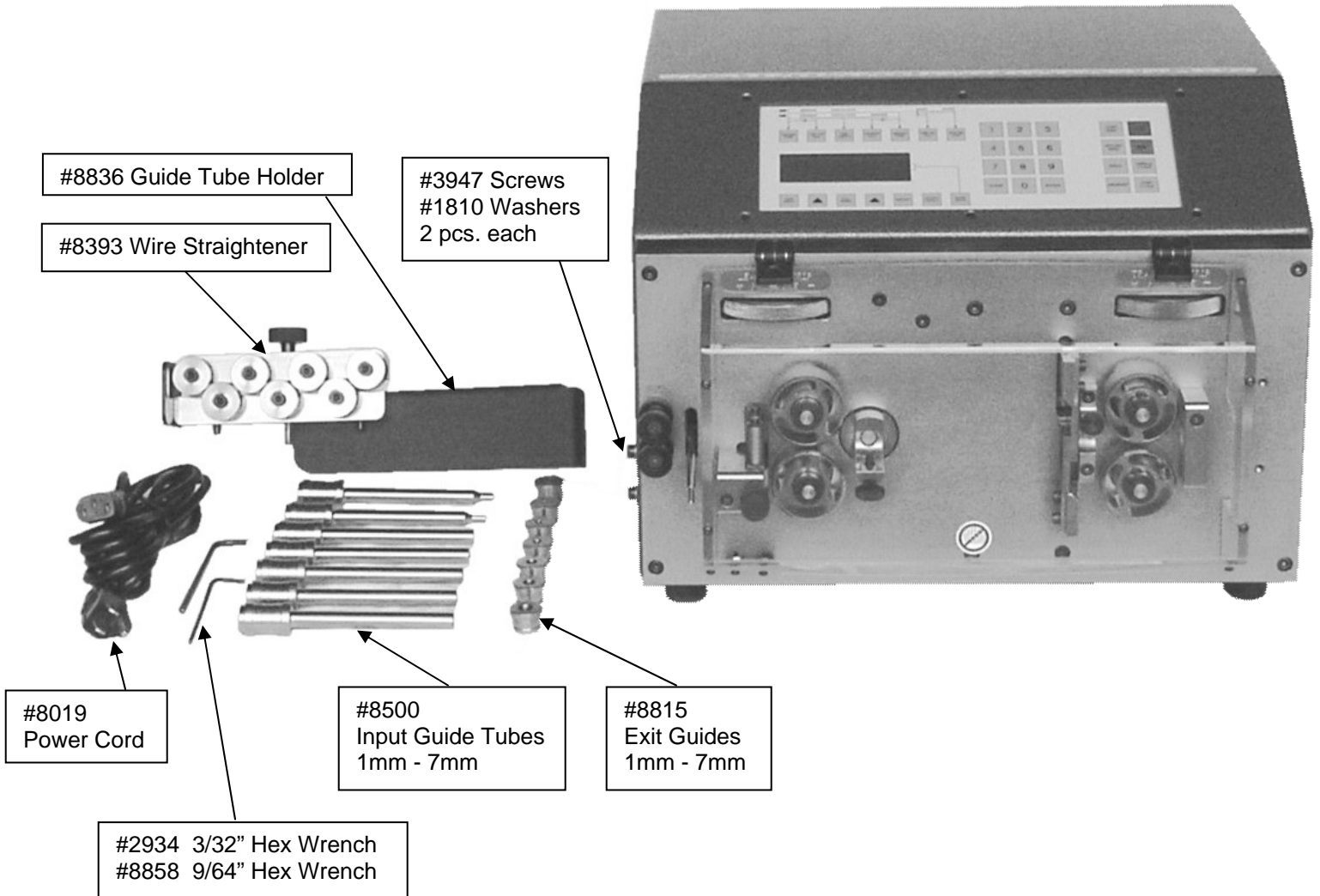
CARPENTER MODEL 93 COMPU-STRIP

MACHINE CONTENTS

Machine comes complete with the following:

- 1pc. **#8019** Power Cord
- 1pc. **#8393** Single Plane Wire Straightener
- 1pc. **#8836** Guide Tube Holder
- 7pcs. **#8500** 1-7 Input Guide Tubes
- 7pcs. **#8815** 1-7 Exit Guides
- 1pc. **#8858** 9/64" Hex Wrench
- 1pc. **#2934** 3/32" Hex Wrench
- 1pc. Operators Manual

PLEASE REFER TO PAGE 6 FOR INSTALLATION INSTRUCTIONS.



CARPENTER MODEL 93 COMPU-STRIP

INSTALLATION INSTRUCTIONS

SAFETY GUARDING

The Model 93 comes equipped with a LEXAN guard containing a safety interlock switch. The machine will not run unless the guard is in the closed position ****IMPORTANT** DO NOT ATTEMPT TO DEFEAT THE FUNCTION OR PURPOSE OF THE SAFETY INTERLOCK SWITCH. SERIOUS INJURY TO THE OPERATORS EYES, FINGERS OR OTHER BODY PARTS MAY RESULT FROM ATTEMPTS TO OPERATE THE MODEL 93 WITH THE SAFETY GUARD IN THE RAISED POSITION.**

WIRE GUIDE HOLDER / WIRE STRAIGHTENER

The Model 93 comes equipped with #8836 Guide Tube Holder with #8393 Wire Straightener attached. Install holder to the left side of the cabinet with (2) #3947 Screws and (2) #1810 Washers. After installation place the Input Guide Tubes and Exit Guides into the holes. The Wire Straightener is used to remove or reduce the memory (curvature) in the wire. Adjust the rollers to allow for straightening without restricting movement.

CARPENTER MODEL 93 COMPU-STRIP

****IMPORTANT****

PLEASE READ ENTIRE INSTRUCTIONS BEFORE OPERATING MACHINE

APPLICATIONS

The Model 93 Compu-Strip is designed to cut and strip solid or stranded wire, multi conductor cable and flat cable with any of the following applications.

- Cut wire or tubing to length only.
- Cut and full strip single or both ends.
- Cut and partial strip single or both ends.
- Cut and full strip single or both ends with window strip on right.
- Cut and partial strip single or both ends with window strip on right.

NOTE: A motorized Prefeed, Carpenter Model 56A or 58B, may be necessary to assist the Model 93.

SPECIFICATIONS

ELECTRICAL CONNECTION	88-264 VAC, 47-63 Hz Self Adjusting
AIR BLAST CONNECTION	30-50 P.S.I. **CLEAN & DRY AIR ONLY**
MAIN FUSES	2 - 5 x 20mm 6AMP Fast Action
MAXIMUM CABLE DIAMETER	.275 inches or 7mm
STRANDED COPPER WIRE	32AWG through 12AWG
SOLID COPPER WIRE	32AWG through 12AWG
FLAT CABLE	Up to .520" width
LENGTH	0.01 through 9,999.99inches or 0.2 through 99,999.9mm(longer lengths obtainable in inches)
BLADE DEPTH	.001 through .350 inches or 0.01 through 8.9mm
QUANTITY	1 - 999,999 pcs.
LEADING END STRIP LENGTH	0.01 through 2.00 inches or 0.2 through 152.4mm
TRAILING END STRIP LENGTH	0.01 through 2.00 inches or 0.2 through 76.2mm
UNIT OF MEASURE	Inches or mm User selectable
TRANSPORT SPEEDS	4 Programmable
PULL SPEEDS	5 Programmable
BLADE SPEEDS	4 Automatic Default or User selectable
MEMORY	500 Programs
PROGRAM STACKING	5 Programs
PASSWORD PROTECTION	User Programmable
NOISE LEVEL	70 dB
DIMENSIONS	LxDxH 14.75 x 13.37 x 11.0 inches or 374.6 x 339.6 x 275.0 mm
WEIGHT	55 lb. or 25 kg.

PRODUCTION RATES

**20 AWG Stranded Copper Wire
with #8961C HSS Coated "V" Blades**

<u>LENGTH</u>	<u>STRIPPED BOTH ENDS</u>
2.5"	4200 Pcs./Hr.
4.0"	3840 Pcs./Hr.
10.0"	3120 Pcs./Hr.

CARPENTER MODEL 93 COMPU-STRIP

SETUP

MACHINE SETUP

Plug female end of Power Cord into the Power Entry Module, located on the left side of machine. Plug the male end into a proper electrical outlet. Turn on power switch.

INPUT GUIDE TUBE SELECTION

The Model 93 comes equipped with seven different Input Guide Tubes 1-7 (sizes are stamped on each guide). An Input Guide Tube must be used in all cases. Select the guide tube with the smallest inside diameter that slips freely over the outside diameter of the wire to be stripped. To change an Input Guide Tube simply loosen **#8087** Thumb Screw. After replacement make sure the Thumb Screw is securely tightened.

EXIT GUIDE SELECTION

The Model 93 comes equipped with seven different Exit Guides 1-7 (sizes are stamped on each guide). Select the Exit Guide that is numbered the same as the Input Guide Tube selected above. Example: A #2 Input Guide Tube will use a #2 Exit Guide. NOTE: The Exit Guide must be removed when processing wire in the Short Wire Mode (see Page 16). To change an Exit Guide simply loosen **#5459** Thumb Screw. After replacement make sure the Thumb Screw is securely tightened.

CARPENTER MODEL 93 COMPU-STRIP

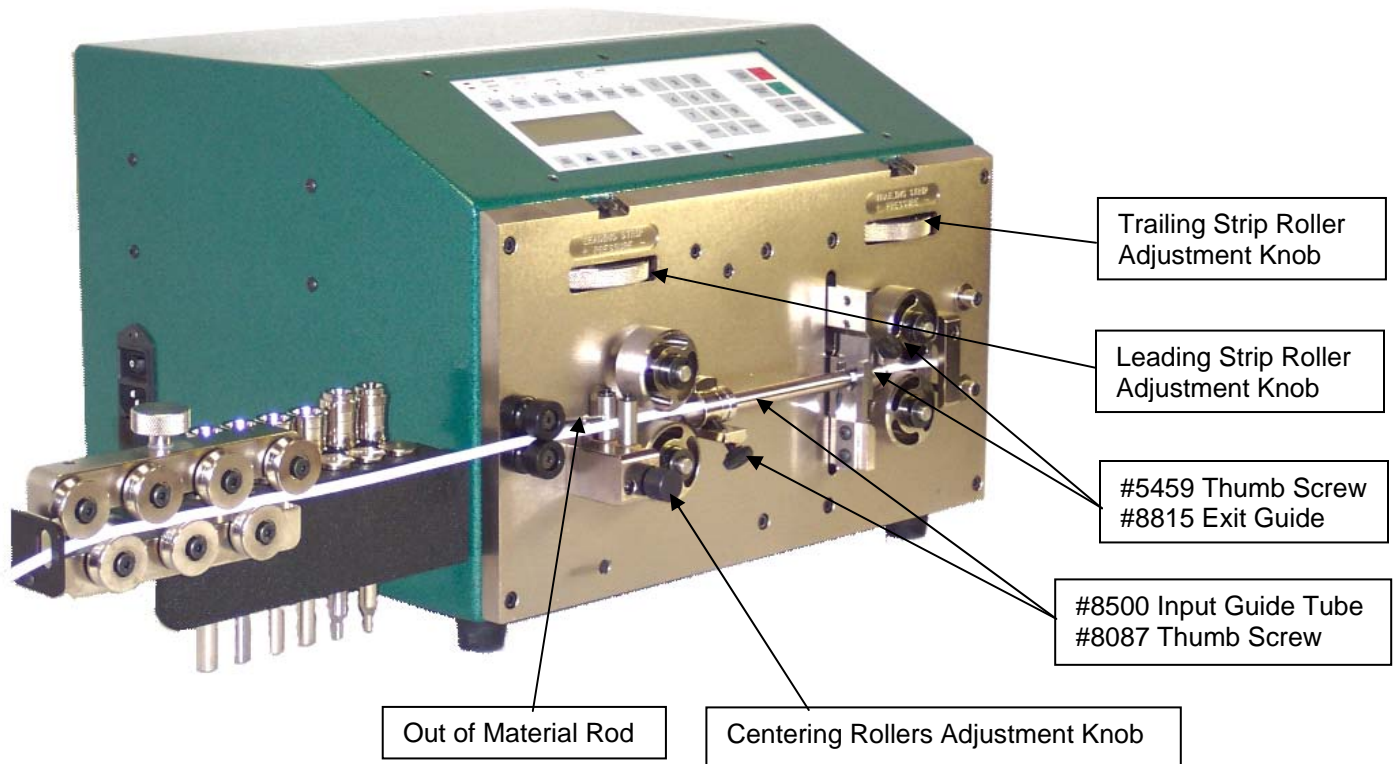
SETUP

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LOADING WIRE

LOAD
WIRE

Open the Leading Strip and Trailing Strip Rollers far enough to allow the wire to pass through freely. Feed the wire through the Wire Straightener, underneath the Out of Material Rod, through the Centering Rollers, through the Leading Strip Rollers and just into the entrance of the Input Guide Tube. Adjust the Centering Rollers up to the wire but not touching the wire. Adjust the Leading Strip Rollers until they make contact with the wire. Select **LOAD WIRE** key and keep it pressed down until the wire is completely fed through the machine. Once the wire has exited, release the switch. The LCD screen will display **CHECK TRAILING STRIP ROLLER PRESSURE, THEN CLOSE GUARD AND PRESS ENTER**. Adjust the Trailing Strip Rollers until they make contact with the wire, close the Safety Guard and then Press **ENTER**. This will cut the wire and feed the slug from the machine. The Model 93 is now ready to program and process your wire.

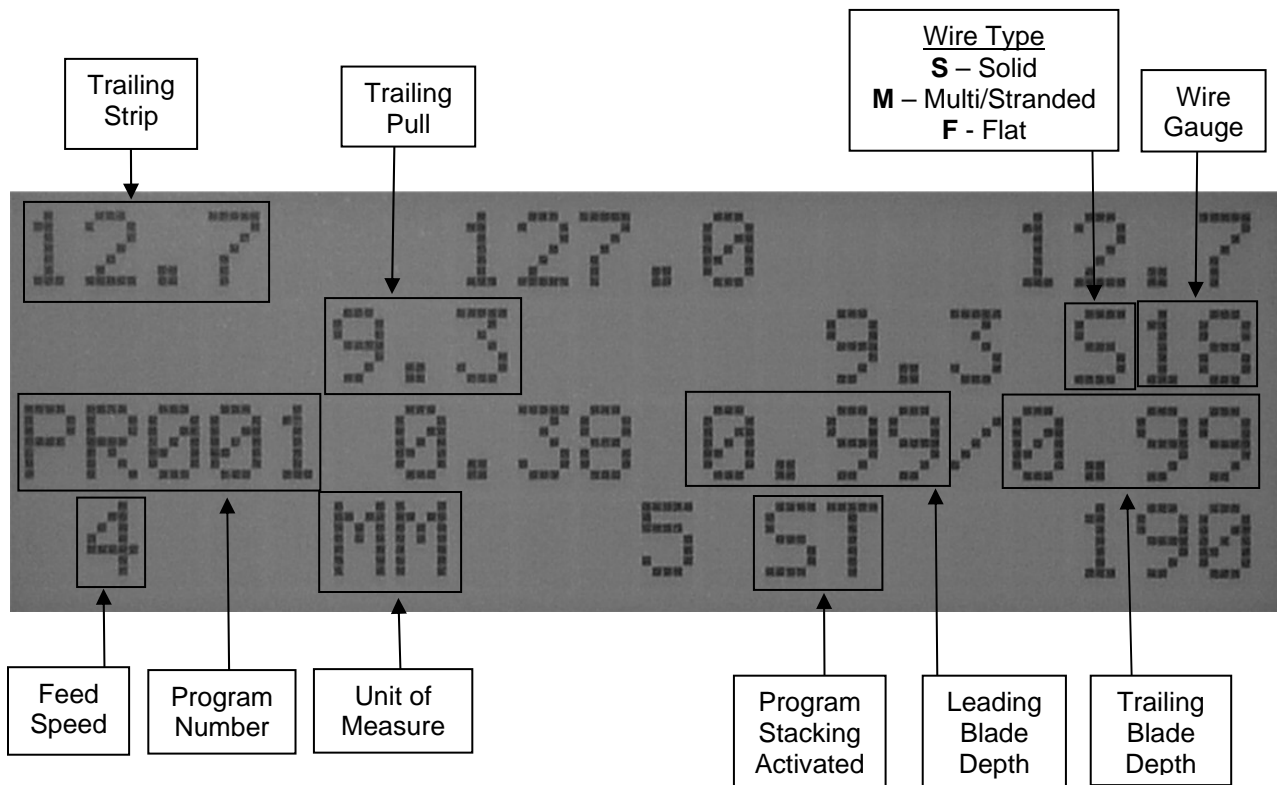
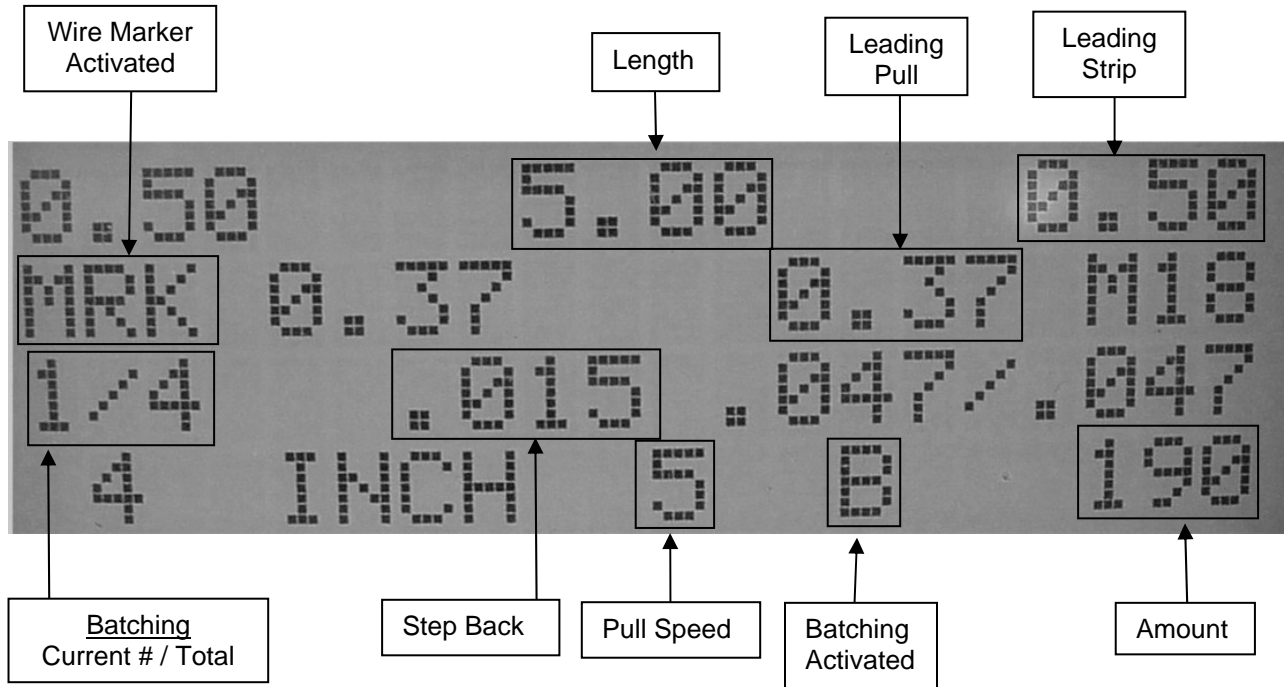


PLEASE NOTE THE MODEL 93 IS PICTURED WITHOUT THE SAFETY GUARD FOR DEMONSTRATION PURPOSES ONLY.

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

LCD DISPLAY SAMPLES



CARPENTER MODEL 93 COMPU-STRIP



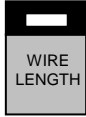
PROGRAMMING

NORMAL MODE

****IMPORTANT****

DO NOT USE SHARP OBJECTS ON KEYBOARD SWITCHES. FINGER TIP PRESSURE IS SUFFICIENT.

Turn on power switch located at the left side of machine. Red LED next to NORMAL MODE wire sample will light.



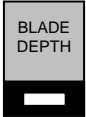
LCD DISPLAY PROMPT	ACTION REQUIRED
CARPENTER MFG. MODEL 93 COMPU STRIP VERSION PLEASE PRESS ENTER	Press ENTER .
	Press TRAILING STRIP key. This value is the length of insulation to be stripped from the left end (trailing end) of wire.
0.00 PLEASE ENTER TRAIL STRIP LENGTH	Enter dimension. Press ENTER .
PLEASE ENTER NUMBER OF PULL STEPS STEPS = 1	Enter number of strip steps. Press ENTER . NOTE: The Step Stripping feature enables the user to program the Model 93 to remove the desired insulation in a series of steps from 1 to 9. Step Stripping can be of benefit when doing long strips or when processing wire with hard to slide insulation. If more than 1 step is desired the Model 93 will automatically calculate the amount of insulation to be removed at each step to achieve the overall programmed strip length. IMPORTANT: Caution should be used when using the Step Strip feature as the more steps used to remove the insulation, the more the wire is shuttled back and forth increasing the chance of wire slippage, resulting in inconsistent wire lengths.
	Press TRAILING PULL key. This value is the distance the slug of insulation is pulled on the trailing end of the wire
0.00 PLEASE ENTER TRAIL PULL LENGTH	Enter dimension. For a full strip enter a value greater than the overall trailing strip length. For a partial strip enter a value less than the overall trailing strip length. Press ENTER .
	Press WIRE LENGTH key. This value is the overall length of pieces being processed.
0.00 PLEASE ENTER OVERALL WIRE LENGTH	Enter dimension. Press ENTER .

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

NORMAL MODE

cont.

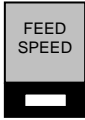
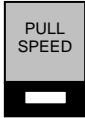
LCD DISPLAY PROMPT	ACTION REQUIRED
	Press LEADING STRIP key. This value is the length of insulation to be stripped from the right end (leading end) of the wire.
0.00 PLEASE ENTER LEAD STRIP LENGTH	Enter dimension. Press ENTER .
PLEASE ENTER NUMBER OF PULL STEPS STEPS = 1	Enter number of strip steps. Press ENTER . NOTE: The same notes and warning under PLEASE ENTER NUMBER OF PULL STEPS on the previous page, apply to this set up also. Please reread them.
	Press LEADING PULL key. This value is the distance the slug of insulation is pulled on the leading end of the wire.
0.00 PLEASE ENTER LEAD PULL LENGTH	Enter dimension. For a full strip enter a value greater than the overall leading strip length. For a partial strip enter a value less than the overall leading strip length. Press ENTER .
	Press BLADE DEPTH key. This key allows access to answer questions about the wire being processed. Ex. Wire Type, Wire Gauge, Strip Depth, Stepback, Blade Speed, Guide Tube Size.
SELECT WIRE TYPE 1 – SOLID (S) 2 – STRANDED (M) 3 – FLAT (F)	Use the number keys to select wire type. Arrow will indicate current setting. Press ENTER . When Flat Cable is selected proceed to Page 30 for specific programming instructions.
PLEASE ENTER WIRE GAUGE HERE OR STRIP DEPTH ON NEXT MENU. WIRE GAUGE=	Enter wire gauge of cable, 32 to 12 gauge. Press ENTER . NOTE: If processing multi conductor or flat cable proceed to next screen.
PLEASE ENTER LEAD BLADE STRIP DEPTH OR PRESS ENTER STRIP DEPTH =	The Model 93 will default to a preset nominal blade depth based upon wire gauge previously entered. You may accept this or change according to cable being processed. To open blades enter a higher value and to close blades enter a lower value. To process multi conductor cable enter strip depth dimension based upon overall dimension of inner conductors. Press ENTER .

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

NORMAL MODE

cont.

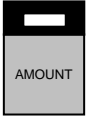
LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER TRAIL BLADE STRIP DEPTH OR PRESS ENTER STRIP DEPTH =	The trailing strip depth will always default to the same as the leading strip depth. This value may be changed if necessary.
PLEASE ENTER BLADE DWELL TIME 0.00 SECONDS	This controls the length of time the blades will pause at both the Leading and Trailing Strip depths. When stripping thick or hard to cut insulation a longer dwell time may be necessary to allow the blades to cut through the insulation and provide a clean strip. Enter a value between 0.01 – 2.50 seconds. Press ENTER .
PLEASE ENTER STEP BACK DISTANCE STEP BACK =	The step back controls the amount which the blades retract after cutting the wire insulation and before pulling the insulation off the wire. Example: After running a test wire through the Model 93 you see that the inner conductor has been scraped. You would now enter a value (.001”-.050”) to retract the blades. This value is automatically added to the entered Blade Depth so that a clean strip can be obtained. IMPORTANT: There is a big difference between “nicking” and “scrapping” the inner conductors of the wire. Nicking is when the blades cut too deep into the insulation, and is observed right at the shoulder of the stripped wire. Scrapping is observed not at the shoulder of the strip, but along the length of the inner conductor as the insulation slug is stripped from the wire. Nicking is corrected using the Blade Strip Depth feature and scrapping is corrected using the Step Back feature. Press ENTER .
PLEASE ENTER BLADE SPEED(1 THRU 4) DEFAULT IS 1 SPEED =	The Model 93 will default to a blade speed appropriate to the type of wire/cable being processed. You may accept or change this value. Press ENTER
PLEASE ENTER GUIDE TUBE SIZE GUIDE TUBE =	Enter the Guide Tube Size previously determined and installed on machine. Press ENTER . NOTE: It is important to enter the correct Guide Tube number because this entry controls the blade opening.
	Press FEED SPEED key. This setting determines the speed of the wire passing through the machine.
PLEASE ENTER FEED SPEED (1 THRU 4) SPEED =	Select 1-slow, 2-slow/medium, 3-medium ,4 -fast. Press ENTER . NOTE: When selecting speed 1 or 2 the maximum Pull Speed that can be selected is 4.
	Press PULL SPEED key. This setting determines the pull force of insulation being removed.

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

NORMAL MODE

cont.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER PULL SPEED (1 THRU 5) SPEED =	Select pull speed 1(maximum pulling force),2 & 3(medium pulling force), 4 & 5(minimum pulling force). Press ENTER .
	Press AMOUNT key. This value is the number of wires to be processed. Also allows access to Multiple Batch Processing mode.
CHANGE CURRENT AMOUNT OR PRESS ENTER	NOTE: If using the multiple batch feature; during <u>initial</u> programming this entry can be ignored and proceed to next screen. During the actual processing this screen may be used to change the <u>current</u> batch total without affecting any subsequent batches.
PLEASE ENTER NUMBER OF BATCHES TO RUN	The batch feature allows you to process required pieces in a single or multiple batch(es). To process required pieces in one batch enter "1". Press ENTER . To process total amount in multiple batches, enter number of batches to process. Press ENTER .
PLEASE ENTER AMOUNT TO PROCESS PER BATCH	Enter amount of pieces to process per batch. Press ENTER .
PLEASE SELECT AMOUNT TO DISPLAY DISPLAY = BATCH BATCH TOTAL	Use the arrow keys to select BATCH or TOTAL display mode. Press ENTER . BATCH mode will count DOWN the number of pieces per batch. TOTAL mode will count UP the number of pieces per batch. Both modes will display on the screen the descending or ascending piece count of the current batch being processed. The display will also show the current batch number being processed/total batches to be processed.
PRESS CLEAR TO RESET TOTAL COUNTER OR PRESS ENTER TOTAL=	This screen will display the running total number of pieces that have been processed from the current batch sequence. This amount maybe reset to zero or left alone. Press ENTER .

ROLLER PRESSURE

Roller pressure is adjusted by turning the knobs on the front of the machine labeled LEADING STRIP PRESSURE and TRAILING STRIP PRESSURE. The goal is to achieve enough pressure to hold the wire and remove any insulation. Too little pressure allows the wire to slip between the Feed Rollers. Slippage may cause incorrect "slug pull" dimension. Too much pressure may result in wire not tracking straight through the machine. You may have to adjust the pressure a couple of times to achieve the desired grip.

The Model 93 is now programmed to process your wire. You are now ready to run a sample wire and check for initial strip quality. The following will assist you in processing your sample.

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

NORMAL MODE

cont.

SINGLE CYCLE



Select **SINGLE CYCLE** key to produce one complete sample wire to check for accuracy. If corrections are necessary for anything but overall length, then select the corresponding key on the Control Panel and make your adjustments. If length corrections are necessary then proceed to **LENGTH CORRECTION**.

LENGTH CORRECTION

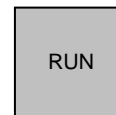


The Model 93 has a Length Correct feature that allows the operator to make adjustments from the preprogrammed length versus the actual sample length. Small variations are normal due to differences in material, tension, friction, wire diameter etc. If the sample wire was not the correct length select the **LENGTH CORRECT** key for adjustments.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER MEASURED WIRE LENGTH 0.00	Measure the length of the sample wire produced; enter this value for length. Press ENTER . The Model 93 will automatically calculate the correction necessary. The next sample should be the exact length you programmed.

The possible range of correction is +/- 10% of the overall wire length. If a value outside of this range is entered an error message will appear and display the acceptable range of values. The length correct value may be changed multiple times but typically a single entry is all that is required if the sample wire was measured accurately and the data entered correctly.

RUN PROGRAM



After you have produced a satisfactory sample wire and all settings are correct press **RUN**. This will process your current program.

STOP PROGRAM



If at any time you need to stop your processing press **STOP**. This action will stop the processing and wire feed.

UNLOADING WIRE



Unload wire by pressing the **UNLOAD WIRE** key. Wire will automatically feed backwards through machine as long as the key is depressed.

CARPENTER MODEL 93 COMPU-STRIP

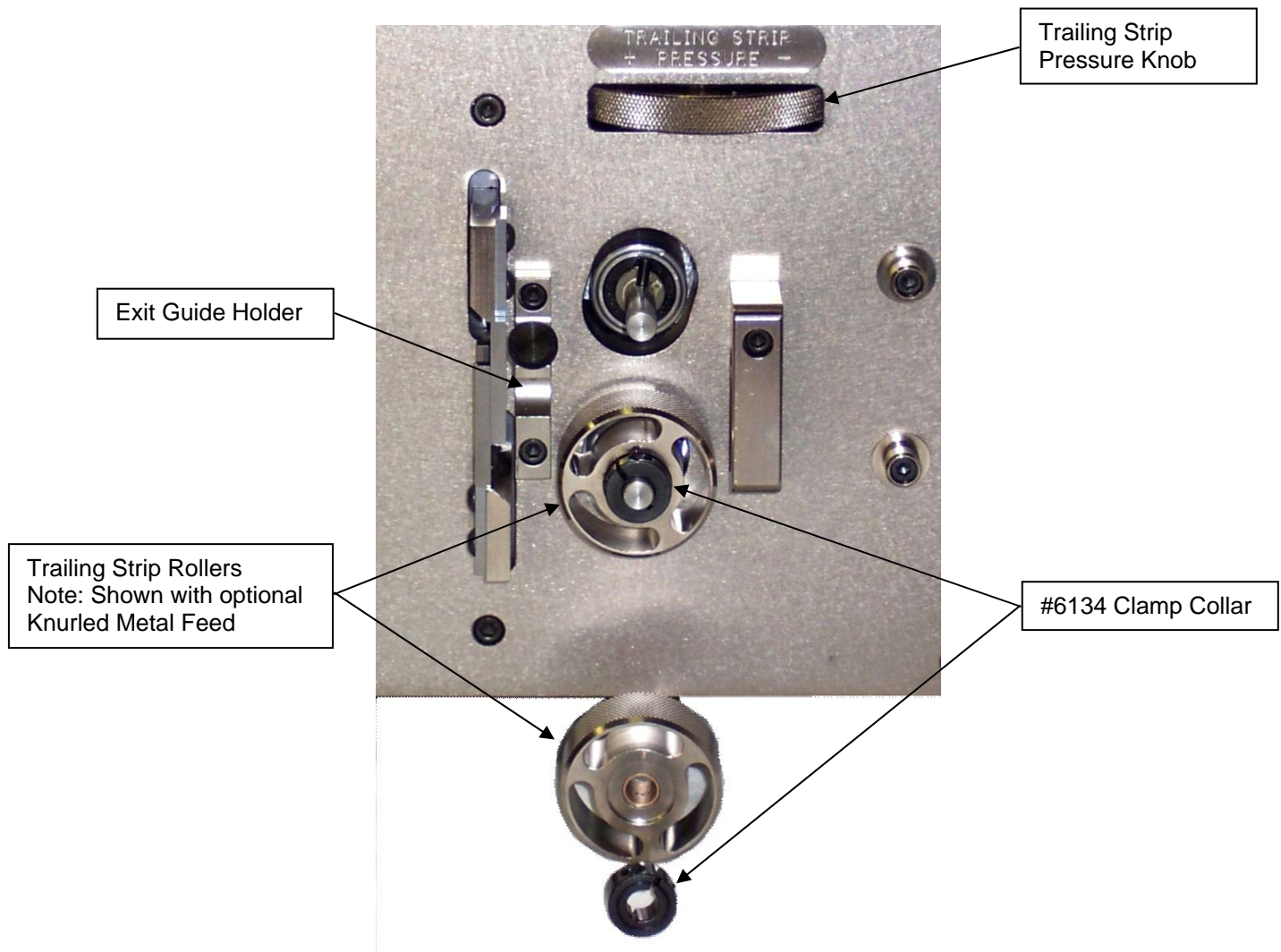
SHORT MODE

MACHINE SETUP

The Model 93 has the capability of processing wire with stripping specifications of two inches or less of insulation left between the stripped ends. To process wire in SHORT MODE you must first prepare the Model 93. Please refer to the following instructions and photograph for this procedure.

1. Turn machine off and unplug.
2. Remove the Exit Guide.
3. Separate the Trailing Strip Rollers via the Trailing Strip Pressure Knob.
4. Remove #6134 Clamp Collar on both Rollers.
5. Remove both Trailing Strip Rollers.

Proceed to the next page and follow the programming instructions for SHORT MODE.


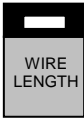



CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

SHORT MODE

The Model 93 has the capability of processing wire with stripping specifications of two inches or less of insulation left between the stripped ends. The LCD display will read **SHORT** when the short wire mode is activated based upon the stripping parameters you have entered.

LCD DISPLAY PROMPT	ACTION REQUIRED
CARPENTER MFG. MODEL 93 COMPU STRIP VERSION PLEASE PRESS ENTER	Press ENTER .
	Press TRAILING STRIP key. This value is the length of insulation to be stripped from the left end (trailing end) of wire.
0.00 PLEASE ENTER TRAIL STRIP LENGTH	Enter dimension. Press ENTER .
PLEASE ENTER NUMBER OF PULL STEPS STEPS = 1	Machine will default to "1". Press ENTER . When operating machine in SHORT MODE only one pull step is allowed due to the short processing lengths.
	Press WIRE LENGTH key. This value is the overall length of pieces being processed.
0.00 PLEASE ENTER OVERALL WIRE LENGTH	Enter dimension. Press ENTER .
	Press LEADING STRIP key. This value is the length of insulation to be stripped from the right end (leading end) of the wire.
0.00 PLEASE ENTER LEAD STRIP LENGTH	Enter dimension. Press ENTER .
PLEASE ENTER NUMBER OF PULL STEPS STEPS = 1	Machine will default to "1". Press ENTER . When operating machine in SHORT MODE only one pull step is allowed due to the short processing lengths.

CARPENTER MODEL 93 COMPU-STRIP

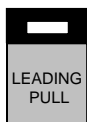
PROGRAMMING

SHORT MODE

cont.

LCD DISPLAY PROMPT

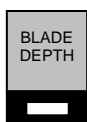
ACTION REQUIRED



Press **LEADING PULL** key. This value is the distance the slug of insulation is pulled on the leading end of the wire.

0.00
PLEASE ENTER
LEAD PULL LENGTH

Enter dimension. For a full strip enter a value greater than the overall leading strip length. For a partial strip enter a value less than the overall leading strip length. Press **ENTER**.



Press **BLADE DEPTH** key. This key allows access to answer questions about the wire being processed. Ex. Wire Type, Wire Gauge, Strip Depth, Stepback, Blade Speed, Guide Tube Size.

SELECT WIRE TYPE
1 – SOLID (S)
2 – STRANDED (M)
3 – FLAT (F)

Use the number keys to select wire type. Arrow will indicate current setting. Press **ENTER**. When Flat Cable is selected proceed to Page 29 for specific programming instructions.

PLEASE ENTER WIRE
GAUGE HERE OR STRIP
DEPTH ON NEXT MENU.
WIRE GAUGE=

Enter wire gauge of cable, 32 to 12 gauge. Press **ENTER**.
NOTE: If processing multi conductor or flat cable proceed to next screen.

PLEASE ENTER LEAD
BLADE STRIP DEPTH
OR PRESS ENTER
STRIP DEPTH =

The Model 93 will default to a preset nominal blade depth based upon wire gauge previously entered. You may accept this or change according to cable being processed. To open blades enter a higher value and to close blades enter a lower value. To process multi conductor cable enter strip depth dimension based upon overall dimension of inner conductors. Press **ENTER**.

PLEASE ENTER
BLADE DWELL TIME
0.00 SECONDS

This controls the length of time the blades will pause at both the Leading and Trailing strip depths. When stripping thick or hard to cut insulation a longer dwell time may be necessary to allow the blades to cut through the insulation and provide a clean strip. Enter a value between 0.01 – 2.50 seconds. Press **ENTER**.

PLEASE ENTER
STEP BACK DISTANCE
STEP BACK =

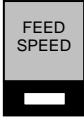
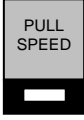

The step back controls the amount which the blades retract after cutting the wire insulation and before pulling the insulation off the wire. Example: After running a test wire through the Model 93 you see that the inner conductor has been scraped. You would now enter a value (.001”-.050”) to retract the blades. This value is automatically added to the entered Blade Depth so that a clean strip can be obtained. **IMPORTANT:** There is a big difference between “nicking” and “scrapping” the inner conductors of the wire. Nicking is when the blades cut too deep into the insulation, and is observed right at the shoulder of the stripped wire. Scrapping is observed not at the shoulder of the strip, but along the length of the inner conductor as the insulation slug is stripped from the wire. Nicking is corrected using the **Blade Strip Depth** feature and scrapping is corrected using the **Step Back** feature. Press **ENTER**.

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

SHORT MODE

cont.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER BLADE SPEED(1 THRU 4) DEFAULT IS 1 SPEED =	The Model 93 will default to a blade speed appropriate to the type of wire/cable being processed. You may accept or change this value. Press ENTER
PLEASE ENTER GUIDE TUBE SIZE GUIDE TUBE =	Enter the Guide Tube Size previously determined and installed on machine. Press ENTER . NOTE: It is important to enter the correct Guide Tube number because this entry controls the blade opening.
	Press FEED SPEED key. This setting determines the speed of the wire passing through the machine.
PLEASE ENTER FEED SPEED (1 THRU 4) SPEED =	Select 1-slow, 2-slow/medium, 3-medium, 4 -fast. Press ENTER . NOTE: When selecting speed 1 or 2 the maximum Pull Speed that can be selected is 4.
	Press PULL SPEED key. This setting determines the pull force of insulation being removed.
PLEASE ENTER PULL SPEED (1 THRU 5) SPEED =	Select pull speed 1(maximum pulling force),2 & 3(medium pulling force), 4 & 5(minimum pulling force). Press ENTER .
	Press AMOUNT key. This value is the number of wires to be processed. Also allows access to Multiple Batch Processing mode.
CHANGE CURRENT AMOUNT OR PRESS ENTER	NOTE: If using the multiple batch feature; during <u>initial</u> programming this entry can be ignored and proceed to next screen. During the actual processing this screen may be used to change the <u>current</u> batch total without affecting any subsequent batches.
PLEASE ENTER NUMBER OF BATCHES TO RUN	The batch feature allows you to process required pieces in a single or multiple batch(es). To process required pieces in one batch enter "1". Press ENTER . To process total amount in multiple batches, enter number of batches to process. Press ENTER .
PLEASE ENTER AMOUNT TO PROCESS PER BATCH	Enter amount of pieces to process per batch. Press ENTER .

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

SHORT MODE

cont.


LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE SELECT AMOUNT TO DISPLAY DISPLAY = BATCH BATCH TOTAL	Use the arrow keys to select BATCH or TOTAL display mode. Press ENTER . BATCH mode will count DOWN the number of pieces per batch. TOTAL mode will count UP the number of pieces per batch. Both modes will display on the screen the descending or ascending piece count of the current batch being processed. The display will also show the current batch number being processed/total batches to be processed.
PRESS CLEAR TO RESET TOTAL COUNTER OR PRESS ENTER TOTAL=	This screen will display the running total number of pieces that have been processed from the current batch sequence. This amount maybe reset to zero or left alone. Press ENTER .

ROLLER PRESSURE

Roller pressure is adjusted by turning the knobs on the front of the machine labeled LEADING STRIP PRESSURE and TRAILING STRIP PRESSURE. The goal is to achieve enough pressure to hold the wire and remove any insulation. Too little pressure allows the wire to slip between the rollers. Slippage may cause incorrect "slug pull" dimension. Too much pressure may result in wire not tracking straight through the machine. You may have to adjust the pressure a couple of times to achieve the desired grip.

The Model 93 is now programmed to process your wire. You are now ready to run a sample wire and check for initial strip quality. The following will assist you in processing your sample.

SINGLE CYCLE

LCD DISPLAY PROMPT	ACTION REQUIRED
	Press SINGLE CYCLE key. This will produce one complete sample wire to check for accuracy.
PREPARE UNIT FOR SHORT WIRE MODE LENGTH CORRECTION THEN PRESS RUN	This warning statement will appear to remind you to remove the Exit Guide and Trailing Strip Feed Rollers. Press RUN . If corrections are necessary for anything but overall length, then select the corresponding key on the Control Panel and make your adjustments. If length corrections are necessary then proceed to LENGTH CORRECTION .

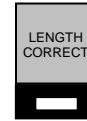
CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

SHORT MODE

cont.

LENGTH CORRECTION

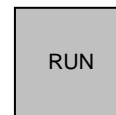


The Model 93 has a Length Correct feature that allows the operator to make adjustments from the preprogrammed length versus the actual sample length. This feature allows for correction for both overall cut length and strip length. Small variations from the programmed value to the actual value are normal due to differences in material, tension, friction, wire diameter etc. If the sample wire did not have the correct length and/or strip length select the **LENGTH CORRECT** key for adjustments.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER MEASURED WIRE LENGTH	This screen is used to make corrections to the overall length. Measure the length of your sample piece. If overall length correction is necessary enter the actual measured value and then Press ENTER . The Model 93 will automatically calculate the correction necessary. Run several test pieces to check correction. NOTE: If the overall length requires no correction do not enter a value.
PLEASE ENTER SHORT MODE CORRECTION VALUE CORRECT= 0.00	This screen is used to make corrections to the strip length. If strip length corrections are necessary proceed as follows: First, run several test pieces to insure overall length is correct. Then, measure the Leading End of your sample pieces. The CORRECTION VALUE will be the <u>difference</u> between the programmed dimension and the actual measured dimension. Enter this value and then Press ENTER . Run several test pieces to check correction. NOTE: If the strip length requires no correction do not enter a value.

The possible range of correction is +/- 10% of the overall wire length. If a value outside of this range is entered an error message will appear and display the acceptable range of values.
The length correct value may be changed multiple times but typically a single entry is all that is required if the sample wire was measured accurately and the data entered correctly.

RUN PROGRAM



After you have produced a satisfactory sample wire and all settings are correct press **RUN**. This will process your current program. The same warning will appear as noted above in SINGLE CYCLE. Make sure that the Exit Guide and Trailing Strip Rollers are removed.

STOP PROGRAM



If at any time you need to stop your processing press **STOP**. This action will stop the processing and wire feed.

UNLOADING WIRE





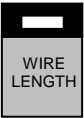

Unload wire by pressing the **UNLOAD WIRE** key. Wire will automatically feed backwards through machine as long as the key is depressed.

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

WINDOW STRIP MODE

The Model 93 is equipped with a Window Strip Mode feature. It is very **IMPORTANT** that all dimension values be entered in the sequence shown or an error message will display. When the Window Strip Mode is activated the Red LED next to the WINDOW MODE sample, on the Front Panel, will light.

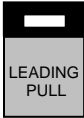

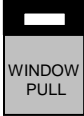
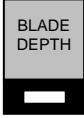
LCD DISPLAY PROMPT	ACTION REQUIRED
CARPENTER MFG. MODEL 93 COMPU STRIP VERSION PLEASE PRESS ENTER	Press ENTER .
	Press TRAILING STRIP key. This value is the length of insulation to be stripped from the left end (trailing end) of wire.
0.00 PLEASE ENTER TRAIL STRIP LENGTH	Enter dimension. Press ENTER .
PLEASE ENTER NUMBER OF PULL STEPS STEPS = 1	Enter number of strip steps. Press ENTER . NOTE: The same notes and warning under PLEASE ENTER NUMBER OF PULL STEPS on Page 11 apply to this set up also. Please reread them.
	Press TRAILING PULL key. This value is the distance the slug of insulation is pulled on the trailing end of the wire
0.00 PLEASE ENTER TRAIL PULL LENGTH	Enter dimension. For a full strip enter a value greater than the overall trailing strip length. For a partial strip enter a value less than the overall trailing strip length. Press ENTER .
	Press WIRE LENGTH key. This value is the overall length of pieces being processed.
0.00 PLEASE ENTER OVERALL WIRE LENGTH	Enter dimension. Press ENTER .
	Press LEADING STRIP key. This value is the length of insulation to be stripped from the right end (leading end) of the wire.
0.00 PLEASE ENTER LEAD STRIP LENGTH	Enter dimension. Press ENTER .

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

WINDOW STRIP MODE

cont.

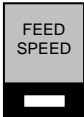
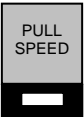
LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER NUMBER OF PULL STEPS STEPS = 1	Enter number of strip steps. Press ENTER . NOTE: The same notes and warning under PLEASE ENTER NUMBER OF PULL STEPS on Page 11 apply to this set up also. Please reread them.
	Press LEADING PULL key. This value is the distance the slug of insulation is pulled on the leading end of the wire.
0.00 PLEASE ENTER LEAD PULL LENGTH	Enter dimension. For a full strip enter a value greater than the overall leading strip length. For a partial strip enter a value less than the overall leading strip length. Press ENTER .
	Press WINDOW STRIP key.
PLEASE ENTER WINDOW STRIP LENGTH 0.00	Enter window strip dimension. This value is the length or distance from the beginning of the window strip to the right end of the wire. Press ENTER .
	Press WINDOW PULL key.
PLEASE ENTER WINDOW PULL LENGTH 0.00	Enter window pull dimension. This value is the actual length of the window strip or the distance between the beginning of the window strip and left end of the slug. Press ENTER .
	Press BLADE DEPTH key. This key allows access to answer questions about wire being processed. Ex. Wire Type, Wire Gauge, Strip Depth, Stepback, Blade Speed, Guide Tube Size.
SELECT WIRE TYPE 1 – SOLID (S) 2 – STRANDED (M) 3 – FLAT (F)	Use the number keys to select wire type. Arrow will indicate current setting. Press ENTER . When Flat Cable is selected proceed to Page 30 for specific programming instructions.
PLEASE ENTER WIRE GAUGE HERE OR STRIP DEPTH ON NEXT MENU. WIRE GAUGE=	Enter wire gauge of cable, 32 to 12 gauge. Press ENTER . NOTE: If processing multi conductor or flat cable proceed to next screen.

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

WINDOW STRIP MODE

cont.

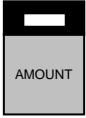
LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER LEAD BLADE STRIP DEPTH OR PRESS ENTER STRIP DEPTH =	The Model 93 will default to a preset nominal blade depth based upon wire gauge previously entered. You may accept this or change according to cable being processed. To open blades enter a higher value and to close blades enter a lower value. To process multi conductor cable enter strip depth dimension based upon overall dimension of inner conductors. Press ENTER .
PLEASE ENTER BLADE DWELL TIME 0.00 SECONDS	This controls the length of time the blades will pause at both the Leading and Trailing Strip depths. When stripping thick or hard to cut insulation a longer dwell time may be necessary to allow the blades to cut through the insulation and provide a clean strip. Enter a value between 0.01 – 2.50 seconds. Press ENTER .
PLEASE ENTER STEP BACK DISTANCE STEP BACK =	The Step Back controls the amount which the blades retract after cutting the wire insulation and before pulling the insulation off the wire. Example: After running a test wire through the Model 93 you see that the inner conductor has been scraped. You would now enter a value (.001”-.050”) to retract the blades. This value is automatically added to the entered Blade Depth so that a clean strip can be obtained. IMPORTANT: There is a big difference between “nicking” and “scraping” the inner conductors of the wire. Nicking is when the blades cut too deep into the insulation, and is observed right at the shoulder of the stripped wire. Scraping is observed not at the shoulder of the strip, but along the length of the inner conductor as the insulation slug is stripped from the wire. Nicking is corrected using the Blade Strip Depth feature and scraping is corrected using the Step Back feature. Press ENTER .
PLEASE ENTER BLADE SPEED(1 THRU 4) DEFAULT IS 1 SPEED =	The Model 93 will default to a blade speed appropriate to the type of wire/cable being processed. You may accept or change this value. Press ENTER
PLEASE ENTER GUIDE TUBE SIZE GUIDE TUBE =	Enter the Guide Tube Size previously determined and installed on machine. Press ENTER . NOTE: It is important to enter the correct Guide Tube number because this entry controls the blade opening.
	Press FEED SPEED key. This setting determines the speed of the wire passing through the machine.
PLEASE ENTER FEED SPEED (1 THRU 4) SPEED =	Select 1-slow, 2-slow/medium, 3-medium ,4 -fast. Press ENTER . NOTE: When selecting speed 1 or 2 the maximum Pull Speed that can be selected is 4.
	Press PULL SPEED key. This setting determines the pull force of insulation being removed.

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

WINDOW STRIP MODE

cont.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER PULL SPEED (1 THRU 5) SPEED =	Select pull speed 1(maximum pulling force),2 & 3(medium pulling force), 4 & 5(minimum pulling force). Press ENTER .
	Press AMOUNT key. This value is the number of wires to be processed. Also allows access to Multiple Batch Processing mode.
CHANGE CURRENT AMOUNT OR PRESS ENTER	NOTE: If using the multiple batch feature; during <u>initial</u> programming this entry can be ignored and proceed to next screen. During the actual processing this screen may be used to change the <u>current</u> batch total without affecting any subsequent batches.
PLEASE ENTER NUMBER OF BATCHES TO RUN	The batch feature allows you to process required pieces in a single or multiple batch(es). To process required pieces in one batch enter "1". Press ENTER . To process total amount in multiple batches, enter number of batches to process. Press ENTER .
PLEASE ENTER AMOUNT TO PROCESS PER BATCH	Enter amount of pieces to process per batch. Press ENTER .
PLEASE SELECT AMOUNT TO DISPLAY DISPLAY = BATCH BATCH TOTAL	Use the arrow keys to select BATCH or TOTAL display mode. Press ENTER . BATCH mode will count DOWN the number of pieces per batch. TOTAL mode will count UP the number of pieces per batch. Both modes will display on the screen the descending or ascending piece count of the current batch being processed. The display will also show the current batch number being processed/total batches to be processed.
PRESS CLEAR TO RESET TOTAL COUNTER OR PRESS ENTER TOTAL=	This screen will display the running total number of pieces that have been processed from the current batch sequence. This amount maybe reset to zero or left alone. Press ENTER .

ROLLER PRESSURE

Roller pressure is adjusted by turning the knobs on the front of the machine labeled LEADING STRIP PRESSURE and TRAILING STRIP PRESSURE. The goal is to achieve enough pressure to hold the wire and remove any insulation. Too little pressure allows the wire to slip between the Feed Rollers. Slippage may cause incorrect "slug pull" dimension. Too much pressure may result in wire not tracking straight through the machine. You may have to adjust the pressure a couple of times to achieve the desired grip.

The Model 93 is now programmed to process your wire. You are now ready to run a sample wire and check for initial strip quality. The following will assist you in processing your sample.

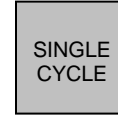
CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

WINDOW STRIP MODE

cont.

SINGLE CYCLE



Select **SINGLE CYCLE** key to produce one complete sample wire to check for accuracy. If corrections are necessary for anything but overall length, then select the corresponding key on the Control Panel and make your adjustments. If length corrections are necessary then proceed to **LENGTH CORRECTION**.

LENGTH CORRECTION



The Model 93 has a Length Correct feature that allows the operator to make adjustments from the preprogrammed length versus the actual sample length. Small variations are normal due to differences in material, tension, friction, wire diameter etc. If the sample wire was not the correct length select the **LENGTH CORRECT** key for adjustments.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER MEASURED WIRE LENGTH 0.00	Measure the length of the sample wire produced; enter this value for length. Press ENTER . The Model 93 will automatically calculate the correction necessary. The next sample should be the exact length you programmed.

The possible range of correction is +/- 10% of the overall wire length. If a value outside of this range is entered an error message will appear and display the acceptable range of values. The length correct value may be changed multiple times but typically a single entry is all that is required if the sample wire was measured accurately and the data entered correctly.

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

WINDOW STRIP MODE

cont.

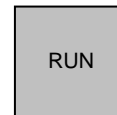
LENGTH CORRECTION ON WINDOW PULL ONLY

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER MEASURED WINDOW PULL 00	Measure the window pull on the sample wire. Enter the value of this measurement. The Model 93 will automatically calculate the correction necessary. Press ENTER .

NOTES:

- A correction value may be entered only once. After the value has been entered, the software will only display the previously entered value, it will not allow it to be changed. The correction feature is very accurate and assuming the "window" was measured correctly and the correct measured value was entered, the software will correct it with only one entry. If it becomes necessary to re-enter the correction data, you must first re-enter the "Window Pull" dimension. Run a few sample pieces, measure window and then if necessary re-enter measured length.
- If, after running a few pieces, it becomes necessary to use both the Window Pull correct and Length Correct features, the Window Pull correction must be done first and the RUN or SINGLE CYCLE key pressed to run a few sample pieces with the new values. After this has been done, the Length Correct value can be entered. It is imperative that the information be entered in this sequence. If the Length Correct value is entered before the Window Pull correct value, the Length Correct value will be reset to the Wire Length value when the Window Pull correct information is entered.
- If either the Window Strip or Window Pull dimensions are changed after a Length Correct value has been entered, it will be necessary to re-check the actual wire length and re-enter the Length Correct information, as this data is reset when modifying either Window Strip or Window Pull.
- The Window Pull correct feature will be disabled if the unit is programmed to control a Wire Marker and Window Strip at the same time. If it is necessary to adjust the Window Pull dimension in this case, it will need to be done by increasing or decreasing the actual Window Pull value by the appropriate amount.

RUN PROGRAM



After you have produced a satisfactory sample wire and all settings are correct press **RUN**. This will process your current program.

STOP PROGRAM



If at any time you need to stop your processing press **STOP**. This action will stop the processing and wire feed.

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

WINDOW STRIP MODE

cont.

UNLOADING WIRE



Unload wire by pressing the **UNLOAD WIRE** key. Wire will automatically feed backwards through machine as long as the key is depressed.

CLEAR WINDOW STRIP MODE

To clear Model 93 from the WINDOW STRIP mode you must do the following:

1. Press **WINDOW STRIP** key.
2. Press **CLEAR** key.
3. Press **ENTER** key.

After this procedure the WINDOW MODE red LED turns off and the NORMAL MODE red LED lights.

CARPENTER MODEL 93 COMPU-STRIP

FLAT CABLE MODE

MACHINE SETUP

The Model 93 can be converted to process Flat Cable by purchasing and installing the **#8880** Flat Cable Stripping Kit.

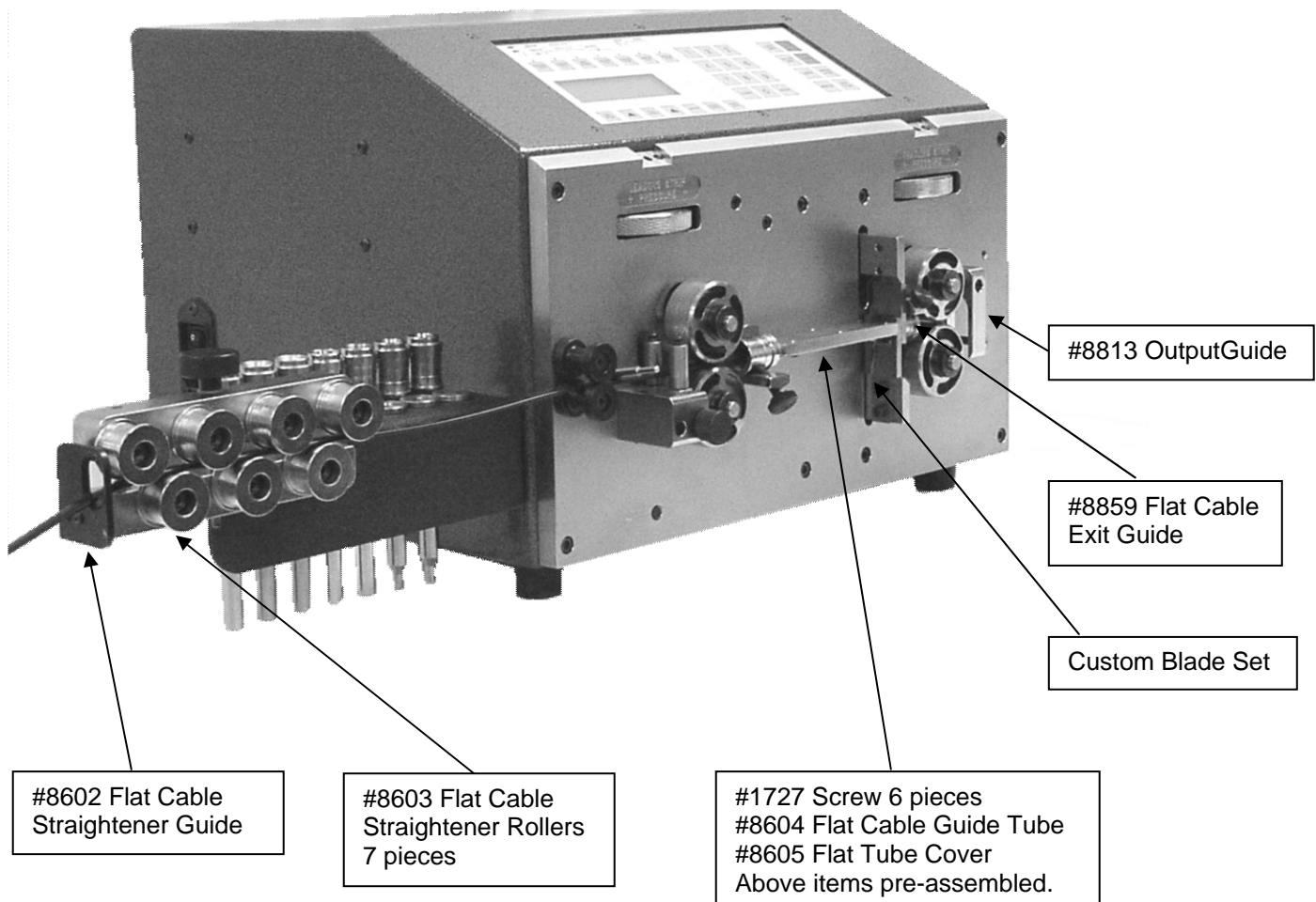
CONTENTS

Kit comes complete with the following:

- 6 pcs. **#1727** Screws
- 1 pc. **#8602** Flat Cable Straightener Guide
- 7 pcs. **#8603** Flat Cable Straightener Rollers
- 1 pc. **#8604** Flat Cable Guide Tube
- 1 pc. **#8605** Flat Tube Cover
- 1 pc. **#8859** Flat Cable Exit Guide
- 1 pc. **#8813** Output Guide

****Custom Blade Set must be purchased separately.****

To set up the Model 93 for Flat Cable you will need to install all of the above items. Please remove the corresponding items from your current set up and replace with the Flat Cable accessories.





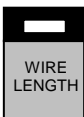

PLEASE NOTE THE MODEL 93 IS PICTURED WITHOUT THE SAFETY GUARD FOR DEMONSTRATION PURPOSES ONLY.

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

FLAT CABLE MODE

Please use the following programming instructions for operation in the Flat Cable Mode.

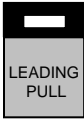
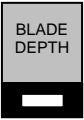
LCD DISPLAY PROMPT	ACTION REQUIRED
CARPENTER MFG. MODEL 93 COMPU STRIP VERSION PLEASE PRESS ENTER	Press ENTER .
	Press TRAILING STRIP key. This value is the length of insulation to be stripped from the left end (trailing end) of wire.
0.00 PLEASE ENTER TRAIL STRIP LENGTH	Enter dimension. Press ENTER .
PLEASE ENTER NUMBER OF PULL STEPS STEPS = 1	Enter number of strip steps. Press ENTER . NOTE: The Step Stripping feature enables the user to program the Model 93 to remove the desired insulation in a series of steps from 1 to 9. Step Stripping can be of benefit when doing long strips or when processing wire with hard to slide insulation. If more than 1 step is desired the Model 93 will automatically calculate the amount of insulation to be removed at each step to achieve the overall programmed strip length. IMPORTANT: Caution should be used when using the Step Strip feature as the more steps used to remove the insulation, the more the wire is shuttled back and forth increasing the chance of wire slippage, resulting in inconsistent wire lengths.
	Press TRAILING PULL key. This value is the distance the slug of insulation is pulled on the trailing end of the wire
0.00 PLEASE ENTER TRAIL PULL LENGTH	Enter dimension. For a full strip enter a value greater than the overall trailing strip length. For a partial strip enter a value less than the overall trailing strip length. Press ENTER .
	Press WIRE LENGTH key. This value is the overall length of pieces being processed.
0.00 PLEASE ENTER OVERALL WIRE LENGTH	Enter dimension. Press ENTER .
	Press LEADING STRIP key. This value is the length of insulation to be stripped from the right end (leading end) of the wire.

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

FLAT CABLE MODE

cont.

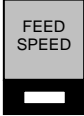
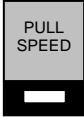
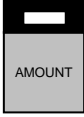
LCD DISPLAY PROMPT	ACTION REQUIRED
0.00 PLEASE ENTER LEAD STRIP LENGTH	Enter dimension. Press ENTER .
PLEASE ENTER NUMBER OF PULL STEPS STEPS = 1	Enter number of strip steps. Press ENTER . NOTE: The same notes and warning under PLEASE ENTER NUMBER OF PULL STEPS on the previous page, apply to this set up also. Please reread them.
	Press LEADING PULL key. This value is the distance the slug of insulation is pulled on the leading end of the wire.
0.00 PLEASE ENTER LEAD PULL LENGTH	Enter dimension. For a full strip enter a value greater than the overall leading strip length. For a partial strip enter a value less than the overall leading strip length. Press ENTER .
	Press BLADE DEPTH key. This key allows access to answer questions about wire being processed. Ex. Wire Type, Wire Gauge, Strip Depth, Stepback, Blade Speed, Guide Tube Size.
SELECT WIRE TYPE 1 - SOLID (S) 2 - STRANDED (M) 3 - FLAT (F)	Use number keys to select wire type. Arrow will indicate current setting. Select 3 , Press ENTER .
PLEASE ENTER LEAD BLADE STRIP DEPTH OR PRESS ENTER STRIP DEPTH =	You will need to measure the diameter of the conductors of the cable you are stripping. Enter this value using the number keys. Press ENTER .
PLEASE ENTER TRAIL BLADE STRIP DEPTH OR PRESS ENTER STRIP DEPTH =	The trailing strip depth will always default to the same as the leading strip depth. This value may be changed if necessary.
PLEASE ENTER STEP BACK DISTANCE STEP BACK =	The Step Back controls the amount which the blades retract after cutting the wire insulation and before pulling the insulation off the wire. Example: After running a test wire through the Model 93 you see that the inner conductor has been scraped. You would now enter a value (.001"-.050") to retract the blades so that a clean strip can be obtained. IMPORTANT: There is a big difference between "nicking" and "scraping" the inner conductors of the wire. Nicking is when the blades cut too deep into the insulation, and is observed right at the shoulder of the stripped wire. Scraping is observed not at the shoulder of the strip, but along the length of the inner conductor as the insulation slug is stripped from the wire. Nicking is corrected using the Blade Strip Depth feature and scraping is corrected using the Step Back feature. Press ENTER .

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

FLAT CABLE MODE

cont.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER BLADE SPEED(1 THRU 4) DEFAULT IS 1 SPEED =	The Model 93 will default to Blade Speed 1 when in the Flat Cable Mode. You may accept or change this value. Press ENTER
	Press FEED SPEED key. This setting determines the speed of the wire passing through the machine.
PLEASE ENTER FEED SPEED (1 THRU 4) SPEED =	Select 1-slow, 2-slow/medium, 3-medium, 4 -fast. Press ENTER . NOTE: When selecting speed 1 or 2 the maximum Pull Speed that can be selected is 4.
	Press PULL SPEED key. This setting determines the pull force of insulation being removed.
PLEASE ENTER PULL SPEED (1 THRU 5) SPEED =	Select pull speed 1(maximum pulling force),2 & 3(medium pulling force), 4 & 5(minimum pulling force). Press ENTER .
	Press AMOUNT key. This value is the number of wires to be processed. Also allows access to Multiple Batch Processing mode.
CHANGE CURRENT AMOUNT OR PRESS ENTER	NOTE: If using the multiple batch feature; during <u>initial</u> programming this entry can be ignored and proceed to next screen. During the actual processing this screen may be used to change the <u>current</u> batch total without affecting any subsequent batches.
PLEASE ENTER NUMBER OF BATCHES TO RUN	The batch feature allows you to process required pieces in a single or multiple batch(es). To process required pieces in one batch enter "1". Press ENTER . To process total amount in multiple batches, enter number of batches to process. Press ENTER .
PLEASE ENTER AMOUNT TO PROCESS PER BATCH	Enter amount of pieces to process per batch. Press ENTER .

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

FLAT CABLE MODE

cont.

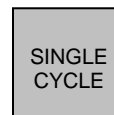
LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE SELECT AMOUNT TO DISPLAY DISPLAY = BATCH BATCH TOTAL	Use the arrow keys to select BATCH or TOTAL display mode. Press ENTER . BATCH mode will count DOWN the number of pieces per batch. TOTAL mode will count UP the number of pieces per batch. Both modes will display on the screen the descending or ascending piece count of the current batch being processed. The display will also show the current batch number being processed/total batches to be processed.
PRESS CLEAR TO RESET TOTAL COUNTER OR PRESS ENTER TOTAL=	This screen will display the running total number of pieces that have been processed from the current batch sequence. This amount maybe reset to zero or left alone. Press ENTER .

ROLLER PRESSURE

Roller pressure is adjusted by turning the knobs on the front of the machine labeled LEADING STRIP PRESSURE and TRAILING STRIP PRESSURE. The goal is to achieve enough pressure to hold the wire and remove any insulation. Too little pressure allows the wire to slip between the Feed Rollers. Slippage may cause incorrect "slug pull" dimension. Too much pressure may result in wire not tracking straight through the machine. You may have to adjust the pressure a couple of times to achieve the desired grip.

The Model 93 is now programmed to process your wire. You are now ready to run a sample wire and check for initial strip quality. The following will assist you in processing your sample.

SINGLE CYCLE



Select **SINGLE CYCLE** key to produce one complete sample wire to check for accuracy. If corrections are necessary for anything but overall length, then select the corresponding key on the Control Panel and make your adjustments. If length corrections are necessary then proceed to **LENGTH CORRECTION**.

CARPENTER MODEL 93 COMPU-STRIP

PROGRAMMING

FLAT CABLE MODE

cont.

LENGTH CORRECTION

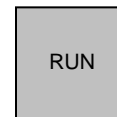


The Model 93 has a Length Correct feature that allows the operator to make adjustments from the preprogrammed length versus the actual sample length. Small variations are normal due to differences in material, tension, friction, wire diameter etc. If the sample wire was not the correct length select the **LENGTH CORRECT** key for adjustments.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER MEASURED WIRE LENGTH 0.00	Measure the length of the sample wire produced; enter this value for length. Press ENTER . The Model 93 will automatically calculate the correction necessary. The next sample should be the exact length you programmed.

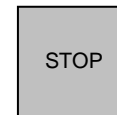
The possible range of correction is +/- 10% of the overall wire length. If a value outside of this range is entered an error message will appear and display the acceptable range of values. The length correct value may be changed multiple times but typically a single entry is all that is required if the sample wire was measured accurately and the data entered correctly.

RUN PROGRAM



After you have produced a satisfactory sample wire and all settings are correct press **RUN**. This will process your current program.

STOP PROGRAM



If at any time you need to stop your processing press **STOP**. This action will stop the processing and wire feed.

UNLOADING WIRE

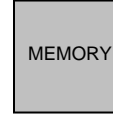


Unload wire by pressing the **UNLOAD WIRE** key. Wire will automatically feed backwards through machine as long as the key is depressed.

CARPENTER MODEL 93 COMPU-STRIP

ADDITIONAL FEATURES

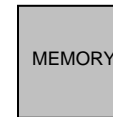
STORING PROGRAMS



The Model 93 will store up to 500 programs. You may access this function by pressing the **MEMORY** key.
NOTE: Program number will appear as **PR_ _ _** on display screen.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE SELECT FUNCTION STORE - RECALL	Press ARROW key to select STORE
STORE PLEASE ENTER PROGRAM NUMBER PROGRAM #_ _ _	Enter up to any 3 digit program number you choose. Press ENTER If you enter a # already stored the Model 93 will ask you to overwrite YES or NO. YES will overwrite the previously stored program NO will allow you to choose a new number.

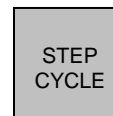
RECALLING PROGRAMS



You may access this function by pressing the **MEMORY** key.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE SELECT FUNCTION STORE - RECALL	Press ARROW key to select RECALL
RECALL PLEASE ENTER PROGRAM # PROGRAM #_ _ _	Enter stored program number. Press ENTER

STEP CYCLE



The Model 93 has a Step Cycle feature which when selected will cycle the machine once completely at slow speed. This allows the operator to view the complete program cycle at a very slow speed. This feature is useful when troubleshooting a setup problem.

CARPENTER MODEL 93 COMPU-STRIP

SPECIAL FEATURES

MENU

To access these features press the **MENU** key. Continue to press **MENU** to scroll through the options. To select a feature Press **ENTER** and follow the appropriate instructions.

WIRE MARKING INTERFACE

Factory installed option. See page 39 for set up and programming instructions after installation.

PROGRAM STACKING

The Model 93 offers a program stacking feature allowing you to stack up to 5 different programs for the same cable. The differences between programs being the strip length, overall length, feed and pull speed specifications. If there is any change from one program to another in the blade depth the display will advise you that you have different parameters and will not allow you to proceed. You may access the stacking function by pressing the **MENU** key.

LCD DISPLAY PROMPT	ACTION REQUIRED
STACKING IS OFF	Press ARROW key to select ON. Press ENTER .
PLEASE ENTER FIRST PROGRAM NUMBER PROGRAM # _ _ _	Enter first program number to stack. You may enter/stack up to 5 programs. Press ENTER .
PLEASE ENTER AMOUNT TO PROCESS	Enter amount. Press ENTER .

The Model 93 will repeat the above sequence for all 5 program screens. You will have to go through all 5 screens even if you are not stacking 5 programs. On the screens you do not use enter zero values for the prompts.

PROGRAM STACKING CHANGOVER – MANUAL

This option will stop the machine and require the operator to press the **RUN** key at the completion of each program.

LCD DISPLAY PROMPT	ACTION REQUIRED
CHANGEOVER IS MANUAL MANUAL AUTO	Press ARROW key to select MANUAL. Press ENTER . Press RUN . Stacking appears on display as _ ST.
BATCH COMPLETE PLEASE PRESS ENTER TO RUN NEXT BATCH OR CLEAR TO QUIT	Press ENTER to continue. Press RUN . or Press CLEAR to quit. When you are ready to resume this stacking sequence the Model 93 will start up where it left off. At that time Press RUN .

The machine will stop at the end of the stacking sequence. You may also stop it at anytime by pressing **STOP**.

CARPENTER MODEL 93 COMPU-STRIP

SPECIAL FEATURES

cont.

PROGRAM STACKING CHANGOVER – AUTOMATIC

This option will automatically process all stacked programs without operator assistance.

LCD DISPLAY PROMPT	ACTION REQUIRED
CHANGEOVER IS MANUAL MANUAL AUTO	Press ARROW key to select AUTO. Press ENTER .
PLEASE ENTER CHANGEOVER PAUSE TIME 000 SECONDS	Enter a time value between 1-240 seconds. Press ENTER . Pause time is the same for all programs. Press RUN .

The machine will stop at the end of the stacking sequence. You may also stop it at anytime by pressing **STOP**.

AIR BLAST

Optional Feature. See page 42 for set up and programming instructions after installation.

WIRE STACKER INTERFACE

Factory installed option. See page 41 for set up and programming instructions after installation.

UNIT OF MEASURE

The Model 93 can be programmed in either Millimeter or Inches.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE SELECT UNITS MM INCH	Select ARROW key for the unit of measure desired. Press ENTER .

CARPENTER MODEL 93 COMPU-STRIP

SPECIAL FEATURES

cont.

PASSWORD ON/OFF

The Model 93 comes equipped with a Password feature. When the password is activated the ability to change program data is prohibited.

LCD DISPLAY PROMPT	ACTION REQUIRED
PASSWORD IS OFF OFF ON	Press ARROW key to select ON. Press ENTER .
PASSWORD IS ON ENTER PASSWORD	Enter factory set password "123". Press ENTER .

STORE NEW PASSWORD

This option will allow you to change the password at your discretion.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER OLD PASSWORD	Enter old password. Press ENTER .
PLEASE ENTER NEW PASSWORD	Enter a new password up to 5 digits. Press ENTER .

WIRE SENSOR

The Model 93 comes with a Wire Sensor/Out of Material switch. If the sensor is activated the Model 93 will automatically shut off when it runs out of material. If the sensor is not activated the machine will continue to run and finish the current program until programmed amount reaches zero. You may choose to turn this option on or off.

LCD DISPLAY PROMPT	ACTION REQUIRED
WIRE SENSOR IS OFF OFF ON	Press ARROW key to select ON or OFF. Press ENTER .

REPRESENTATIVES

Factory use only.

RESERVED

Factory use only.

CARPENTER MODEL 93 COMPU-STRIP

OPTIONAL FEATURES

WIRE MARKER

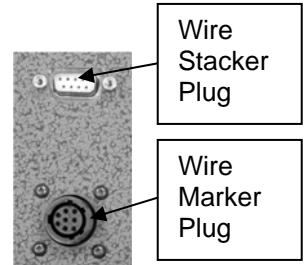
The Model 93 is capable of interfacing with various manufacturers of Hot Stamp Wire Marking units. The electrical interface necessary to add this equipment must be purchased separately and installed at the factory.


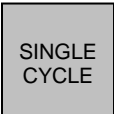
****IMPORTANT****

Please read their operators manual before proceeding.

MACHINE SETUP

- To activate interface between the Model 93 and Wire Marker, install exterior cable between both units. Plug receptacle on Model 93 is located on the back of the cabinet.
- To access Wire Marking program setup press the **MENU** key.
- After Wire Marking mode is activated **MRK** will appear on the left side of the LCD display.
- All dimensions entered during setup will correspond with the unit of measure that is programmed into the machine.



LCD DISPLAY PROMPT	ACTION REQUIRED
WIRE MARKING	Press ENTER .
WIRE MARKER IS OFF ON	Press arrow key under ON . Press ENTER .
PLEASE ENTER MARK DWELL TIME _._ SECONDS	**Refer to Wire Marker manufacturers operators manual for suggested settings. Enter dwell time using numeric keys. Press ENTER .
PLEASE ENTER MARKER CENTER TO BLADE DISTANCE _._	With a tape measure, measure the distance from the center of the marking disc to the center of the blades on the Model 93. Once measurement is made enter that amount using the numeric keys. Press ENTER .
PLEASE ENTER LEADING END MARK DISTANCE. _._	This measurement is the distance from the leading end(right end) of the wire to the center of the mark on the wire. Enter distance amount using numeric keys. Maximum distance is (Wire Length/2). Press ENTER .
PLEASE ENTER TRAILING END MARK DISTANCE. _._	This measurement is the distance from the trailing end(left end) of the wire to the center of the mark on the wire. Enter distance amount using numeric keys. Maximum distance is ((Wire Length/2) - .20). Press ENTER .
PLEASE ENTER CONTINUOUS MARKING DISTANCE _._	The Model 93/Wire Marker system allows you to program continuous marking along the wire in addition to the end marking. To choose that option enter the distance between each marking along the wire. Minimum distance is 0.50" or 0.00"(off). Enter "0" to bypass this option. Press ENTER .
 	Press either key to activate Marker Setup Cycle. At this point the Model 93 and the attached marker will go into a setup cycle. The two units are now automatically synchronized to apply the marks in the locations along the wire as previously programmed.

Process a few sample pieces. Measure the location of the center of the leading end mark from the leading end of wire. If the measured dimension is not equal to the programmed Leading End Mark dimension, proceed with the following:

CARPENTER MODEL 93 COMPU-STRIP

OPTIONAL FEATURES



cont.

WIRE MARKER

cont.

LEADING END MARK DISTANCE CORRECTION

- Press **MENU** key until you reach WIRE MARKER. Press **ENTER**.
- Scroll through WIRE MARKER by pressing **ENTER** key until the statement below is displayed.
- The following prompt will only display after a sample piece has been run using the **SINGLE CYCLE** or **RUN** key.

LCD DISPLAY PROMPT	ACTION REQUIRED
PLEASE ENTER MEASURED LEADING END MARK DISTANCE _ _ _	Enter the measured Leading End Mark distance of sample wire. Press ENTER .
 	Press either key to activate Marker Setup Cycle. The Model 93 and the attached marker will again go into a setup cycle and at this point the marks will have been shifted to their correct locations and normal processing can begin.

NOTES:

- A marker correction value can only be entered once. After the value has been entered, the software will only display the previously entered value, it will not allow it to be changed. The correction feature is very accurate. Assuming the mark position was measured correctly and the correct measured value was entered, the software will correct it adequately with only one entry.
- If it becomes necessary to re-enter the correction data, you will first have to re-enter the Leading End Mark Distance. This will cancel out the original correction value and allow entry of a new value after the marker has cycled through the setup cycle.
- If, after setting up the marker and running a few pieces, it becomes necessary to use both the Leading End Mark correction and Length Correct features, the Leading End Mark correction must be done first and the **RUN** or **SINGLE CYCLE** key pressed to setup the system with the new values. After this has been done, the Length Correct value can be entered. It is imperative that the information be entered in this sequence. If the Length Correct value is entered before the Leading End Mark correction, the Length Correct value will be reset to the Wire Length value when the Leading End Mark correction information is entered.
- If the unit is set up to both mark and window strip, the Window Pull Correct feature will be disabled. If it becomes necessary to adjust the Window Pull Dimension, it will need to be done by increasing or decreasing the Window Pull value by the appropriate amount.
- If the unit is set up for marking and the **LOAD WIRE** or **UNLOAD WIRE** keys are pressed at any time after the marker setup, all correction values will be lost and must be re-entered before processing can continue.
- To turn marker option off, press **MENU** and **WIRE MARKER** will appear on screen. Press arrow key under **OFF** and Press **ENTER**. Marker option is now turned off.

CARPENTER MODEL 93 COMPU-STRIP

OPTIONAL FEATURES

cont.

WIRE STACKER

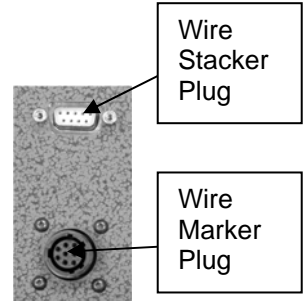
The Model 93 offers the capability to add on a Wire Stacker to collect longer wire lengths. The electrical interface necessary to add this equipment must be purchased separately and installed at the factory.

****IMPORTANT****

Please read their operators manual before proceeding.

MACHINE SETUP

- To activate interface between the Model 93 and Wire Stacker, install exterior cable between both units. Plug receptacle on Model 93 is located on the back of the cabinet.
- To access Wire Stacking program setup press the **MENU** key.
- After Wire Stacking mode is activated a small square will appear on the lower left side of the LCD display.
- All dimensions entered during setup will correspond with the unit of measure that is programmed into the machine.



LCD DISPLAY PROMPT	ACTION REQUIRED
WIRE STACKER ON/OFF	Press ENTER to select this option.
WIRE STACKER IS ON/OFF OFF ON	Press the arrow key under ON . Press ENTER .
PLEASE ENTER STACKER DWELL TIME ___ SECONDS	Enter the stacker dwell time. This time is determined by the time it takes the stacker to complete it's cycle for the current wire being processed. The dwell time range is from 0 to 2.50 seconds. Enter selected time and press ENTER .

CARPENTER MODEL 93 COMPU-STRIP

OPTIONAL FEATURES

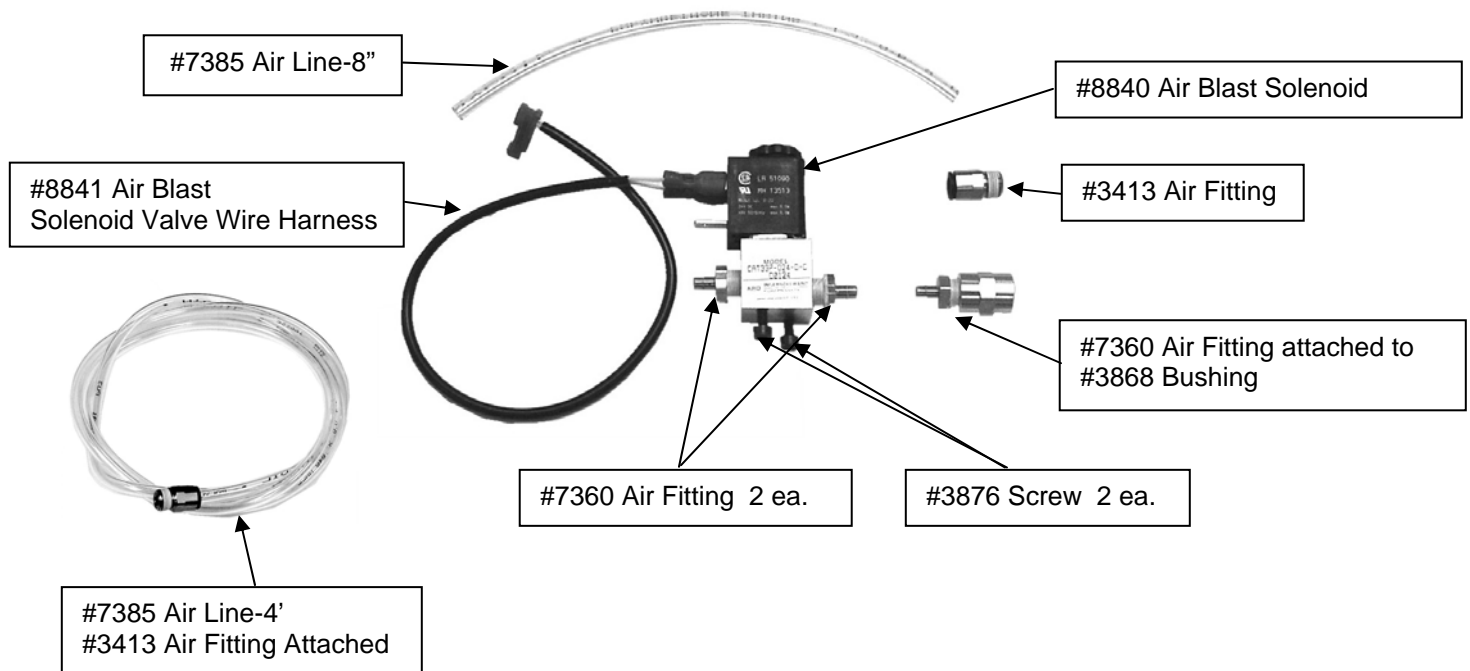
cont.

AIR BLAST

The Model 93 offers the capability to add a **#93AB** Air Blast feature. The components necessary to add this feature must be purchased separately and can be installed by the user.

This feature is used to clear away insulation slugs when performing a full strip on the leading end of the wire. This feature may not always be necessary to use.

INSTALLATION



1. Turn machine off and unplug.
2. Remove the 6 screws that secure the back cover on the cabinet.
3. Inside the machine, locate the clear air line that is secured to the corner of the right hand fan. Cut the wire tie securing the air line to the fan. Connect this line to Port #2 on **#8840** Air Blast Solenoid Valve.
4. Connect the 8" piece of **#7385** Air Line to Port #1 on **#8840** Air Blast Solenoid Valve.
5. Locate 2 mounting holes on the bottom of the cabinet in front of the Printed Circuit Board. Secure the **#8840** Air Blast Solenoid Valve to these holes with 2 pieces **#3876** Screw.
6. Connect **#8841** Air Blast Solenoid Valve Wire Harness to the lower right hand 2 prong socket on the Printed Circuit Board. NOTE: The connector on the end of this wire harness is keyed to plug in only one way.
7. Remove the small black plastic plug from the rear cover of the cabinet. Install **#3413** Air Fitting on the outside of the cover and thread it into **#3868** Bushing on the inside of the cover.
8. Connect the air line attached to Port 1 of the Solenoid Valve to **#7360** Air Fitting attached to the rear cover.
9. Reinstall the rear cover to the cabinet.
10. Install the 4' Air Line into **#3413** Air Fitting located on the rear cover. Connect the opposite end to a **CLEAN DRY AIR SOURCE**.
11. Plug machine back into A/C power source. Turn on and follow the programming instructions on the following page.

CARPENTER MODEL 93 COMPU-STRIP

OPTIONAL FEATURES

cont.

AIR BLAST

cont.

PROGRAMMING

To access the Air Blast feature press the **MENU** key. Continue to press **MENU** to scroll through the options. When you reach the Air Blast feature press **ENTER** to select and follow the prompts below.

LCD DISPLAY PROMPT	ACTION REQUIRED
AIR BLAST ON/OFF	Press ENTER to select this option.
AIR BLAST IS ON/OFF OFF ON	Press the arrow key under ON . Press ENTER .
AIR BLAST MODE AIR MODE IS ON BURST STEADY	This feature offers two modes. STEADY will maintain a steady blast of air whenever the machine is in the run mode. BURST will only give an air blast at the specific time the strip is performed. Select a mode and press the arrow under your selection. Press ENTER .

CARPENTER MODEL 93 COMPU-STRIP

MAINTENANCE PROCEDURES

SLUG REMOVAL

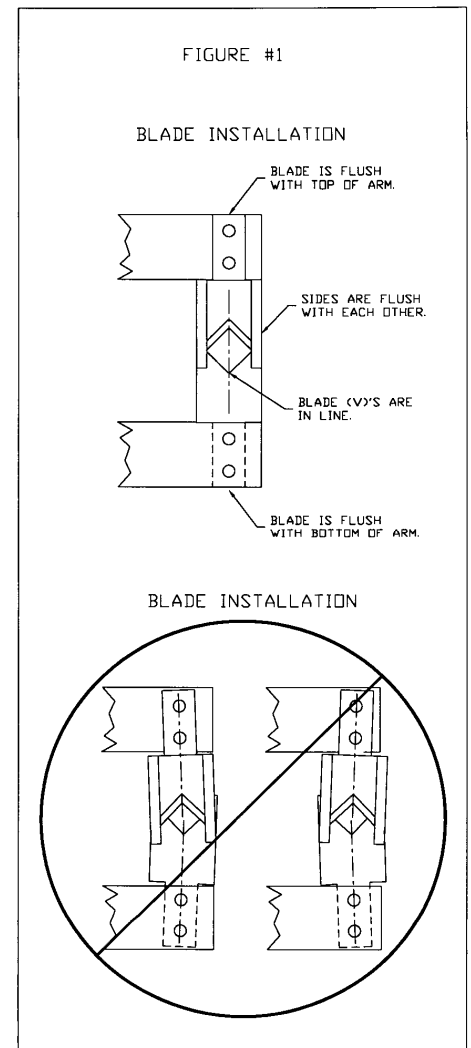
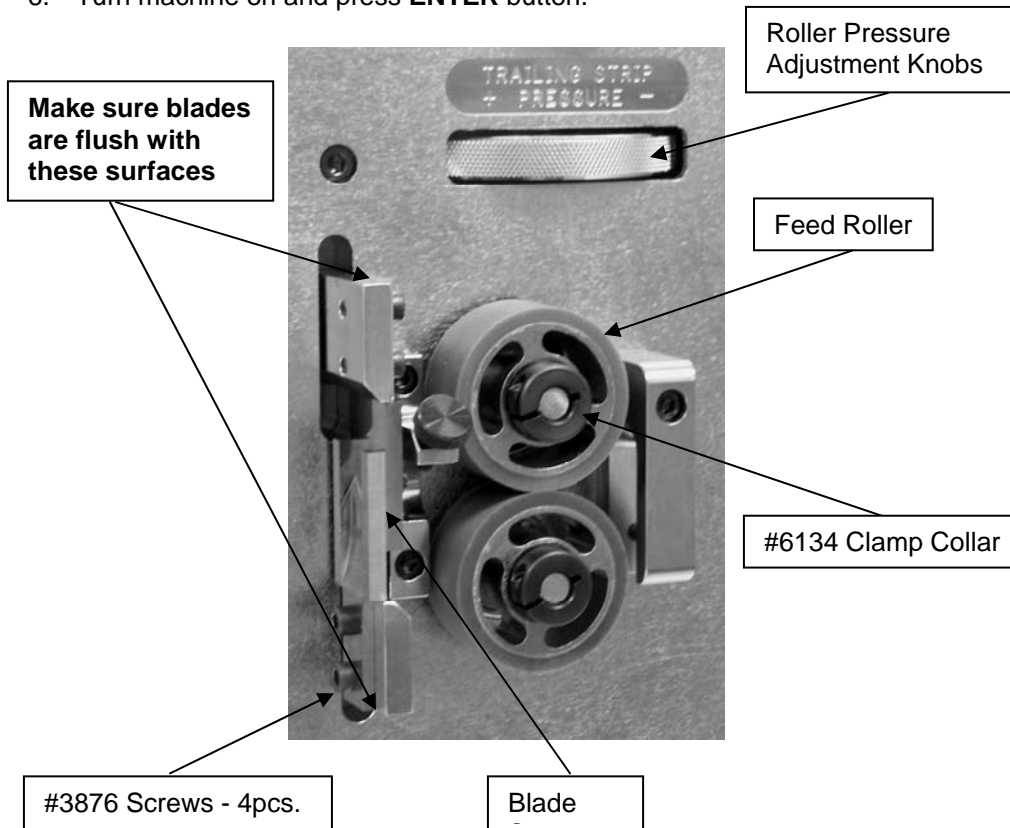
When doing a full strip, the insulation (slug) that is pulled off may cling to blade area due to static electricity. If this occurs you may need to purchase the Air Blast Feature, detailed on Page 43 of the operating instructions. To remove slugs from the blades and surrounding areas it is suggested to use a small bristle brush.

ROLLER CHANGE OR REMOVAL

1. Turn machine off and unplug.
 2. Separate the Feed Rollers via the Roller Pressure Adjustment Knob.
 3. Remove #6134 Clamp Collar and then remove Feed Rollers.
- Reverse procedure to reinstall

BLADE CHANGE

1. Turn machine off and unplug.
2. Use #8858 Wrench to remove 4 pieces of #3876 screws.
3. Remove blades. Brush all components clean.
4. Install new blades. ****IMPORTANT**** : Referring to **Figure #1** make sure the blades are vertically square to each other and flush with the top and bottom of the Blade Holders.
5. Replace and tighten 4 pieces of #3876 Screws.
6. Turn machine on and press **ENTER** button.



CARPENTER MODEL 93 COMPU-STRIP

TROUBLE SHOOTING

KEY ELEMENTS FOR TROUBLE FREE OPERATION

Make certain:

- Unit is plugged into a proper electrical outlet.
- Unit is turned on.
- Wire Straightener is adjusted properly.
- Roller Pressure is adjusted properly.
- Correct Input Guide Tube and Exit Guide are being used.
- Data entered is correct and accurate.
- Prefeed is being used if required.

COMMON PROBLEMS

SOLUTIONS

Display reads:

ERROR-CHECK GUIDE TUBE

1. Check for proper Wire Guide.
2. Check adjustment on Wire Straightener.
3. Check Feed Speed.
4. Check Roller Pressure.

Display reads:

**INCREASE TRAILING
FEED ROLLER PRESSURE**

1. Increase Trailing Feed Roller Pressure.
2. Check for proper Wire Guide.
3. Check adjustment on Wire Straightener.
4. Check Feed Speed.

Display reads:

***** BLADE ERROR ***
PLEASE PRESS ENTER**

1. Check Blade Speed and select slower speed.
2. Check gauge of material being processed.

Length Inaccuracies

1. Check Feed Speed.
2. Check Roller Pressure.
3. Verify Length setting.
4. Check adjustment on Wire Straightener. Wire must have proper/consistent pressure through straightener.
5. Check adjustment on Centering Roller Guides.
6. Motorized Prefeed may be required.

Wire Jams

1. Check for proper Input Guide Tube.
2. Check for proper Exit Guide.
3. Check for slugs in Exit Guide.
4. Air Blast option may be necessary. Check for proper PSI.
5. Check Roller Pressure. Setting may be too high.
6. Check Feed Speed.
7. Check for possible wire splice
8. Check for foreign material / debris.
9. Large gauge wire: may need to remove Exit Guide or semi-strip leading end of wire.
10. Check Blade Depth setting. Make sure the correct Guide Tube number has been entered. The next size larger Guide Tube number may need to be entered.

Nick, Scrapes or Cut Conductors

1. Check condition of Blades.
 2. For nicks, check Blade Depth setting.
 3. For scraping, check blade Step Back setting.
-

CARPENTER MODEL 93 COMPU-STRIP

TROUBLE SHOOTING

cont.

COMMON PROBLEMS

SOLUTIONS

Stripped Insulation Not Pulling Off

1. Check Blade Depth setting.
2. Check Step Back setting.
3. Check Pull Speed.
4. Check Roller Pressure.
5. Check strip pull setting.
6. Blade Dwell timing may need adjustment.

Short Mode

1. Incorrect data value entered into Lead Pull.

CARPENTER MODEL 93 COMPU-STRIP

RECOMMENDED SPARE PARTS

1set **#8961C** HSS Coated V-Blade Set
4pcs. **#6147** Urethane Feed Roller

OPTIONAL EQUIPMENT

#6149 Knurled Metal Feed Roller
#93AB Air Blast Kit
#8520 Wire Marker/Wire Stacker Electronic Interface - Factory Installed
#8880 Flat Cable Stripping Kit w/o Blades
#8439 Wire Collection Assembly

CARPENTER MODEL 93 COMPU-STRIP

WARRANTY

Carpenter Mfg. Co., Inc. manufactures its products to be free from defects in materials and workmanship. Should any defect occur within 1 year after shipment, Carpenter Mfg. Co., Inc. will at its option, exchange or repair the defective device.

Repairs or adjustments to equipment under warranty can be performed at our factory or at the customer location, at the option of Carpenter Mfg. Co., Inc. In most cases a 1-2 day turn around time will be necessary to repair equipment at our facility. When equipment is returned to our factory for repair or replacement, freight charges will be borne by the customer. Repaired or replaced equipment will be returned at Carpenter's expense via U.P.S. ground service. If alternate shipping is requested by the customer, the difference in shipping charges will be billed to the customer.

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.

NOT COVERED BY THIS WARRANTY ARE:

- 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.
- Abuse.
- Damage caused by shipping.
- Damage caused by environmental and/or atmospheric conditions.
- Damage caused by the use of contaminated compressed air.