



ControlNet Coax Media Planning and Installation Manual

Using the Flare Tool

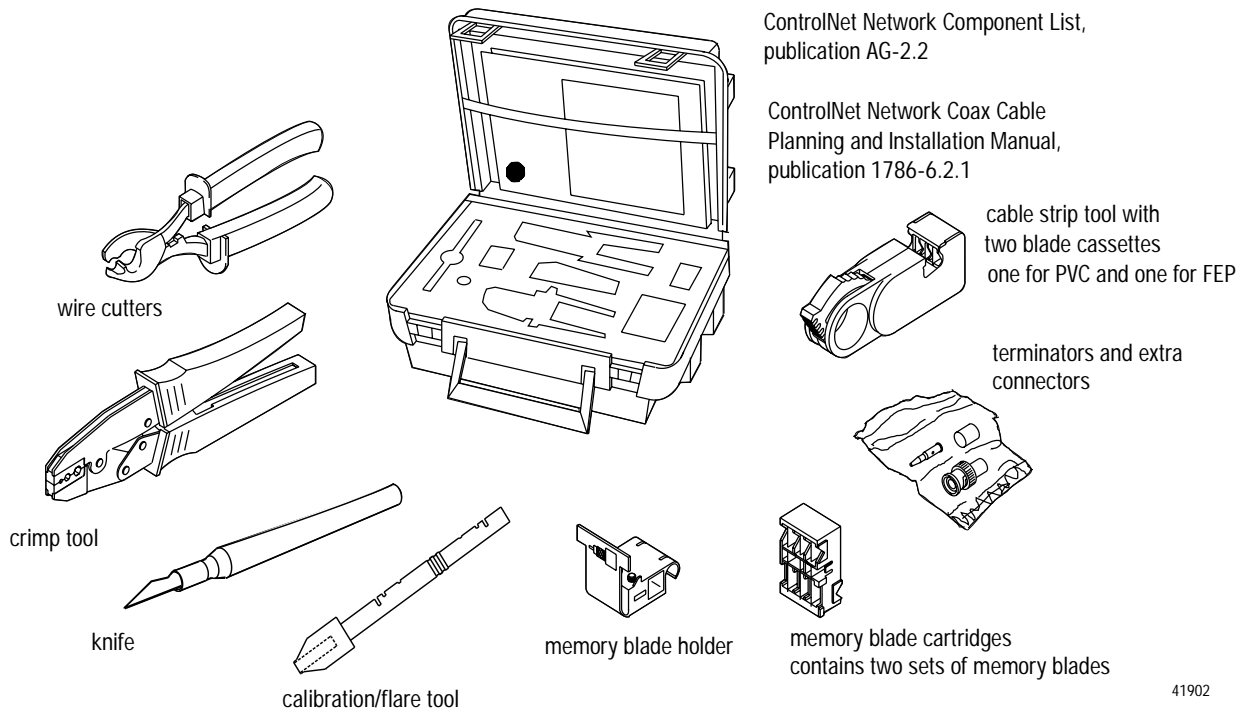
Use this release note with the ControlNet Coax Media Planning and Installation Manual, publication 1786-6.2.1.

The flare tool replaces the calibration tool in the ControlNet Coax Toolkit, catalog number 1786-CTK. The flare tool is a combination calibration tool and cable shield expander.

Collect Your Tools

To install the cable connectors, we recommend that you use the tools in the ControlNet Coax Toolkit, catalog number 1786-CTK.

Important: This page replaces page 3-9 in the ControlNet Coax Media Planning and Installation Manual, 1786-6.2.1.



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ATTENTION: Be certain to perform the calibration procedure the first time you use the tool and every time you change the blade for both memory cartridges. Refer to Appendix B of the ControlNet Coax Media Planning and Installation Manual, publication 1786-6.2.1, for the proper calibration procedure. Due to slight differences between COAX cables, calibration should be performed when changing:

- part numbers
- from one cable manufacturer to another

Strip the Cable

Important: Pages 3 through 7 replace pages 3-10 through 3-13 in the ControlNet Coax Media Planning and Installation Manual, publication 1786-6.2.1.

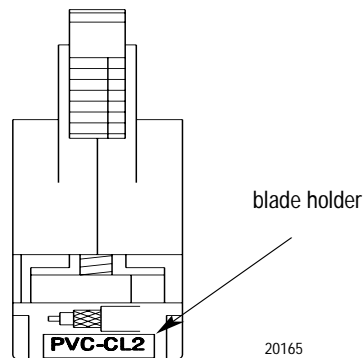
When cutting cable sections, make them long enough to route from one tap to the next with sufficient length so that the bend radius is not less than:

- 76.2mm (3") for wiring external to enclosures
- 38.1mm (1.5") for wiring inside enclosures

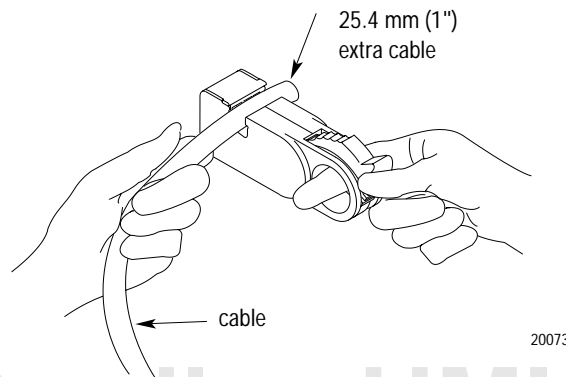


ATTENTION: Be certain to perform the calibration procedure the first time you use the tool and every time you change the blade or both memory cartridges. Refer to Appendix B of the ControlNet Coax Media Planning and Installation Manual, publication 1786-6.2.1, for the proper calibration procedure.

1. Verify that you have the proper memory blade holder installed for the type of cable you are using (PVC-CL2 or FEP-CL2P). If you need to change the memory blade holder, see Appendix B of the ControlNet Coax Media Planning and Installation Manual, publication 1786-6.2.1.

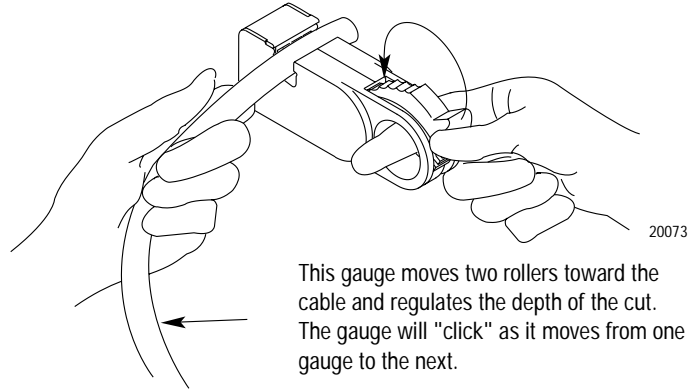


2. Straighten out the end of the cable.
3. Insert the cable into the cable strip tool's cutting chamber so that extra cable, approximately 25.4mm (1"), extends beyond the edge of the tool.

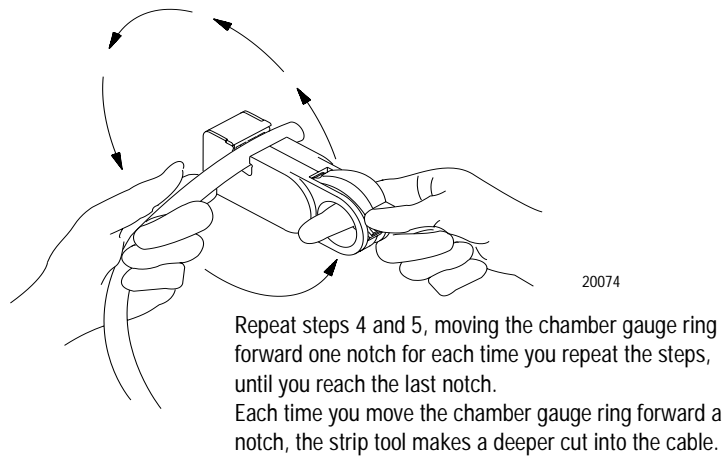


Allen-Bradley HMIs

4. Lock the cable into place by moving the chamber-gauge ring forward until it meets the cable with slight resistance.

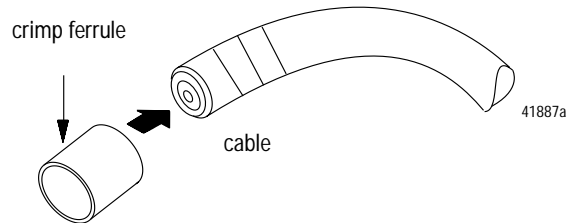


5. Holding the cable in one hand, place the index finger of your other hand inside the chamber-gauge ring and turn the strip tool 360° around the cable. Turn four or five full rotations until the strip tool glides easily around the cable.



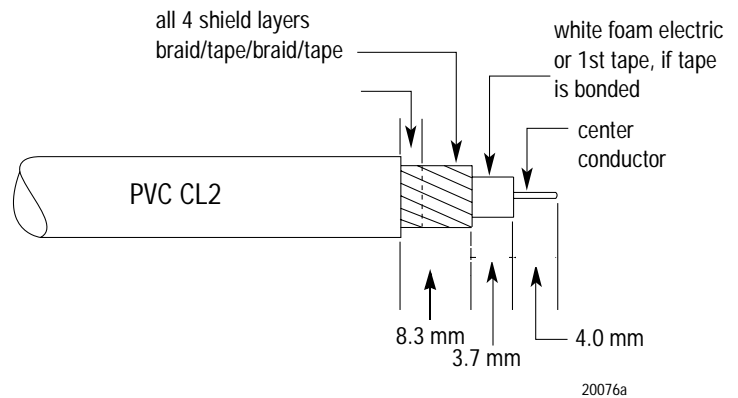
Important: On your last repetition of steps 4 and 5, apply sufficient pressure on the chamber gauge ring to make sure the ring has reached the last stage. The chamber gauge read 'stop' for the last repetition.

6. After you have moved the chamber gauge ring to the last position and turned the strip tool the final time:
 - a. Move the chamber-gauge ring backward to release the strip tool and remove it from the cable.
 - b. Slip the crimp ferrule onto the cable. Push it back to the sheath area of the cable to keep it out of the way for the moment.



- c. Strip away the appropriate portion of the cable without using the strip tool.
- d. Clean the remaining cable parts from the strip chamber after each use.

This procedure should appropriately strip the cable, exposing these layers of the cable:



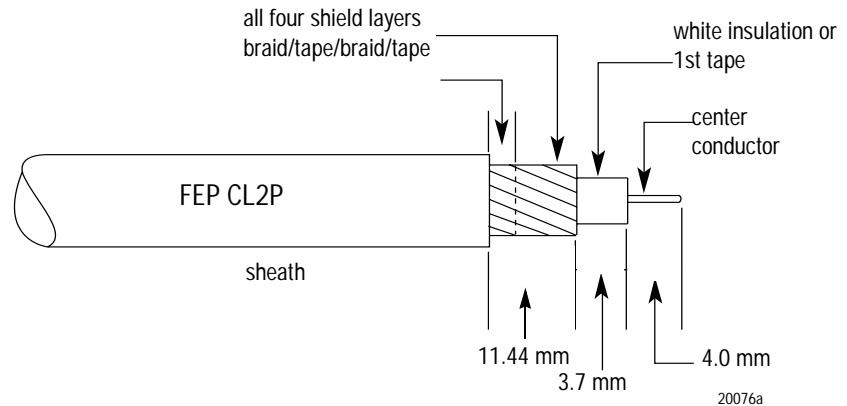
Important: If you do not see the three distinct layers of cable or if the outer braid has been scored or cut, snip off the exposed end with the wire cutters and repeat the entire cable-stripping process. It is very important that the outer braid be intact before crimping connector.

If stripping problems persist, the strip tool may need adjustment. See Appendix B of the ControlNet Coax Media Planning and Installation Manual, publication 1786-6.2.1, for instructions on how to adjust the strip tool.

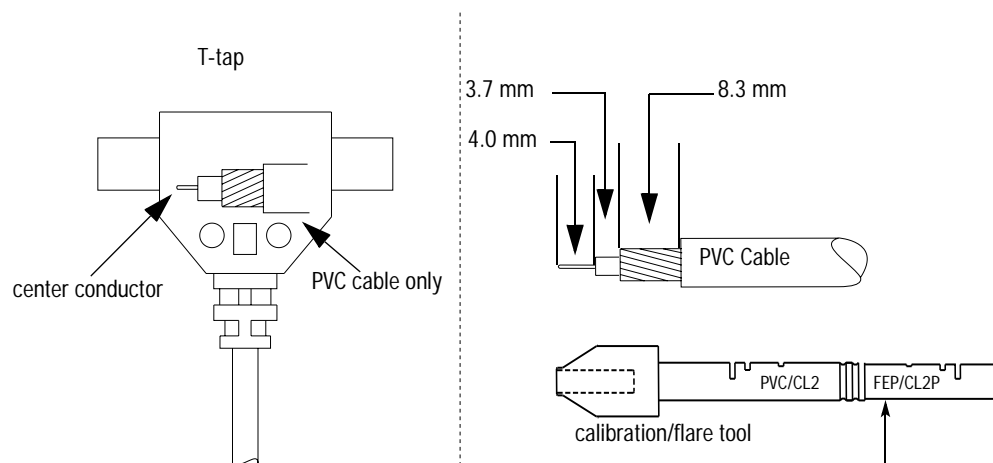
If you are using: Go to step:

FEP cable	7
PVC cable	8

- 7.** If you are using plenum FEP cable, cut off an additional 3.1mm (approximately 1/8") of the outer sheath with the knife from the toolkit.



- 8.** Be certain that the center conductor is 4.0 mm. Use the imprint guide on the back of the ControlNet tap or the calibration tool to verify this.



The center conductor should be 4.0 mm exactly. If the center conductor is too long, cut off the excess with the wire cutter from the cable kit. If it is too short, repeat the entire cable stripping process.

Use this end of the calibration tool to verify proper measurements for FEP cable.

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ATTENTION: Check for any braid stranding that may not have been cut at the proper length. If one strand comes in contact with the center conductor, it could short out the cable. If you find any such strands, cut them to the correct length.

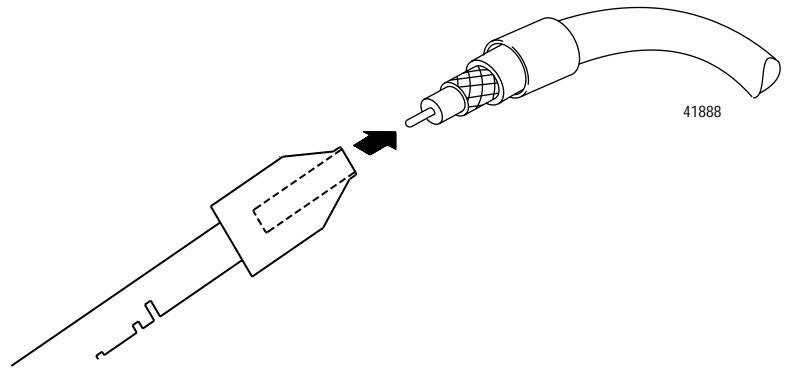


ATTENTION: Check the outer braid of cable for cut or scored braid wire after you strip the cable. If the braid is damaged, cut off the end and strip the cable again. You may need to adjust the appropriate stripper blade by backing the set screw out 1/8 of a turn. Do not crimp the BNC to a damaged braid. This type of mistake accounts for most of the connectivity problems that can occur. Precise, clean connections will reduce network errors.

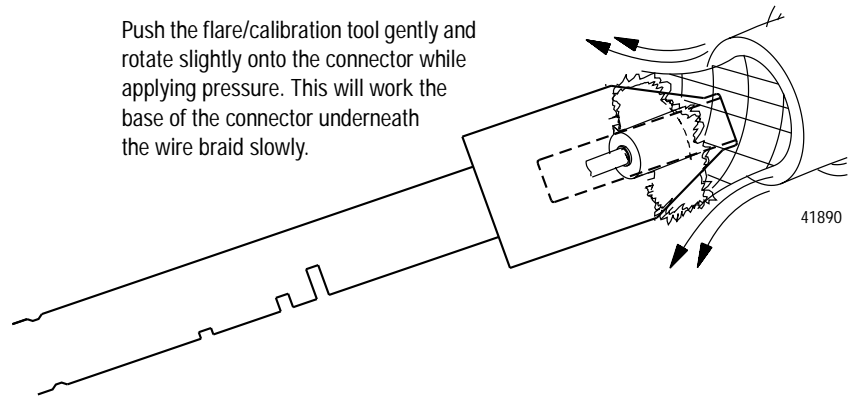
Attach the Connectors to the Cable

Important: Pages 8 through 10 replace pages 3-15 through 3-16 in the ControlNet Coax Media Planning and Installation Manual, publication 1786-6.2.1.

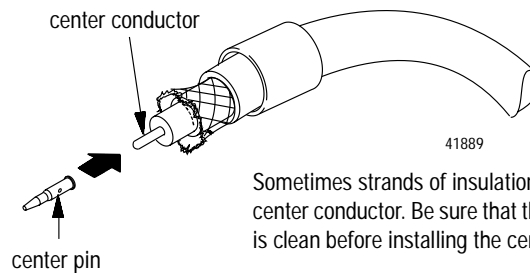
1. Push the flare tool onto the cable and with a slight twisting motion (*with sufficient inward pressure*) to expand the braid.



Push the flare/calibration tool gently and rotate slightly onto the connector while applying pressure. This will work the base of the connector underneath the wire braid slowly.



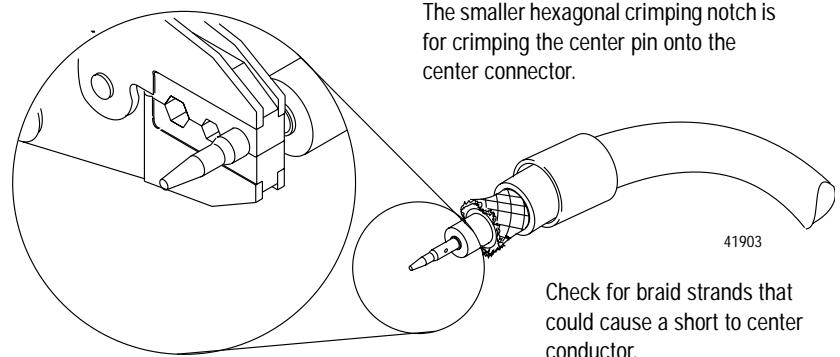
2. Place the center pin over the center conductor.



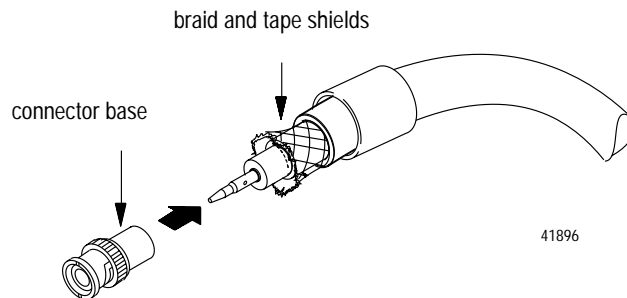
Sometimes strands of insulation is left on the center conductor. Be sure that the center conductor is clean before installing the center pin.

Important: Be certain that the center pin slips onto the center conductor completely. The back shoulder of the center pin should be up against the white insulation. If it is not, recheck the length of the center conductor.

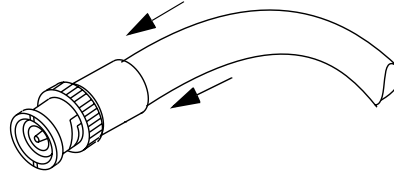
3. With the center pin in place, use the crimp tool to crimp the pin into place.



4. Slide the ControlNet connector onto the cable.

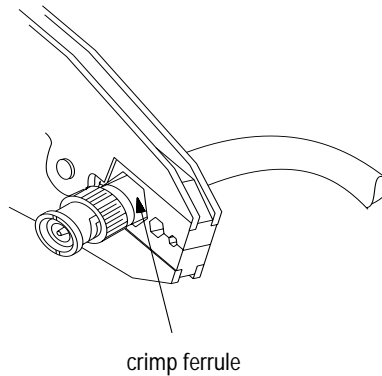


5. Slide the crimp ferrule over the three outer shields and connector base until it meets the shoulder on the connector.



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6. Using the crimp tool, crimp the ferrule. Position the crimp tool on the ferrule as close as possible to the connector base and ferrule meeting line. Press the tool tightly around the ferrule until the crimp tool allows release.



The larger hexagonal crimping notch is for crimping the ferrule which holds the connector to the cable.

Important: Many network problems are due to improperly installed connectors. You should have tight-fitting connectors on the ends of all your cables. Pull the connector to verify that it is attached. If it is loose or comes off, snip off the connector and install a new one. The connector should withstand a minimum 75lbs pull force if properly installed.

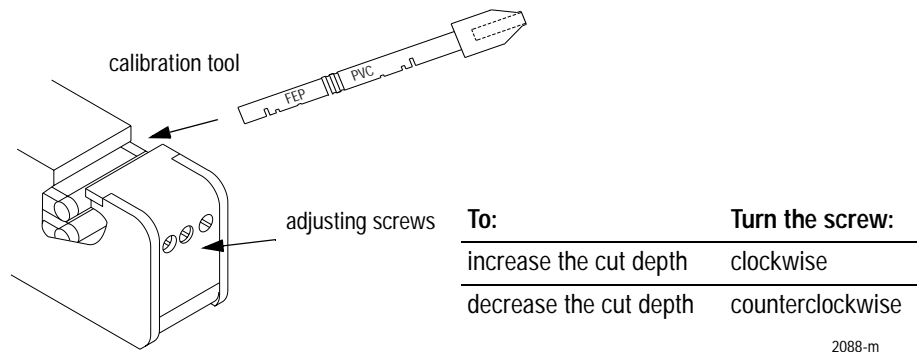
Adjust the Cable Strip Tool

Calibrate The Cutting Blades

Important: Pages 11 and 12 replace pages B-1 and B-2 in the ControlNet Coax Media Planning and Installation Manual, publication 1786-6.2.1.

Use the following procedure to calibrate your cable strip tool to cut FEP or PVC cable.

1. Turn the three screws outward to back the blades out. This prevents the calibration tool from bottoming out.
2. Place the calibration tool into the cable strip tool with the narrow end installed and facing forward for FEP cable (use the wider end for PVC).



3. Tighten the chamber gauge ring so that the calibration tool is locked in place. Close all the way to the chamber gauge stop.

Important: When aligned properly, the grooves of the calibration tool should align with the blades.

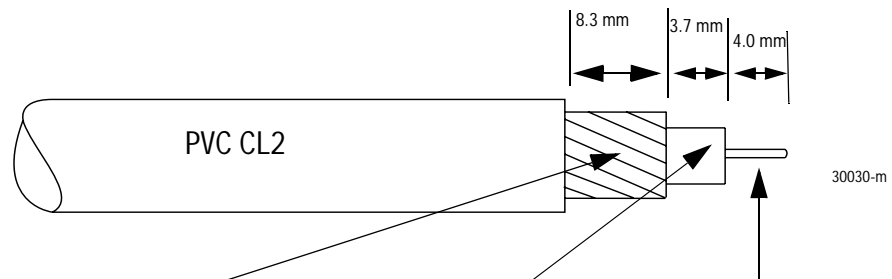
4. Adjust the screws of the memory clip so that the blades just touch the calibration tool.



ATTENTION: Do not over-tighten the screws of the cable strip tool. The blades should not bend, shift, or penetrate the calibration tool.

5. Retract the handle of the cable strip tool.
6. Remove the calibration tool from the cable strip tool.

When finished, the blade should make a cut of the following dimensions in your cable.



First Cut: all four shield layers-braid/tape/braid/tape
 The first cut should cut the outer sheath without cutting the outer wire braid. If the braid is frayed, scored, or cut by the blade, adjust the blade outward slightly to eliminate the fraying.

Second Cut: white insulation or 1st tape
 The second cut should cut the sheath, three outer shields, and possibly the inner tape shield. The insulation can be scored slightly, but should not have a deep cut.

Third Cut: center conductor
 The third cut should cut all layers of the cable down to the center conductor. This cut should not score the center conductor. If the blade leaves a mark on the conductor, adjust the blade slightly so to eliminate marking the conductor.

Important: The first and second cut adjustments need to be precise. Adjustments as small as 1/12 to 1/8 of a turn can make the difference between a perfect and an imperfect cut.



ATTENTION: Check the outer braid of cable for cut or scored braid wire after stripping the cable. If the braid is damaged, strip the cable again. If needed, adjust the appropriate striper blade by backing the set screw out 1/8 of a turn. Do not crimp the BNC to a damaged braid. This type of mistake accounts for most of the connectivity problems that occur. Precise, clean connections will reduce network errors.

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