

MiTek Machinery  
**Service Bulletin**

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Product(s) Affected **Cyber® Saws**  
Description **Installing CAT5 Cross-Over Cable**  
Date **12/08/03**



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Product(s)  
 Affected **Cyber<sup>®</sup> Saws**  
 Description **Installing CAT5 Cross-Over Cable**  
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When replacing coaxial cable with CAT5 cross-over cable to communicate between the PLC and the touch screen computer on your saw, follow the procedure described in this document. All parts needed to complete this procedure are available in SB136KIT and are described in Table 1-1. The tools and supplies that must be supplied by the customer are listed in Table 1-2. Refer to the enclosed drawing for an illustration of the procedure.

If you have any questions, please call **MiTek** Customer Service at 800-523-3380.

**Table 1-1: Part Included in SB136KIT**

<b>Part #</b>	<b>Qty</b>	<b>Part Description</b>
508980	1	BNC transceiver
510001	50 ft	High-flex conduit
508986	1	CAT5 cross-over cable
511512	2	3/4" straight connector
511273	4	1" clamps
341157	4	1/4"-20-3/4" screw
364034	4	1/4" lock washer
365115	4	1/4" flat washer
SB136	1	Service Bulletin
SB136DWG	1	Drawing

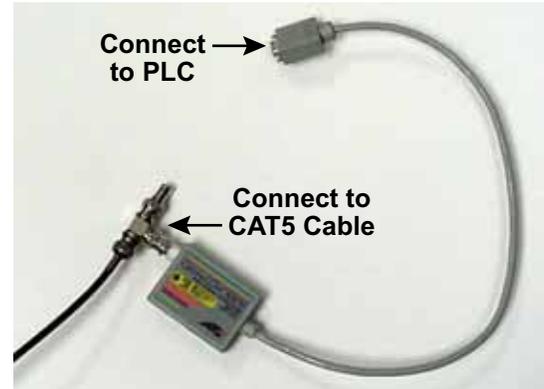
**Table 1-2: Tools and Supplies Required**

Fish Tape (min. length of 60 ft.)	Flat Head Screwdriver
Channel Locks	#7 (.201") drill bit
Wire Snips (small)	1-1/8" Hole Saw
Electrical Tape	1/4"-20 Hand Tap
Sharp Trim Knife	Tap Handle

## ***To Run the Cross-Over Cable:***

1. Refer to Drawing SB136DWG for proper installation of the CAT5 cross-over cable.
2. Activate an E-stop, and disconnect all power from the saw. Follow lockout and tagout procedures to ensure power is disconnected.
3. Open the enclosure on the stationary end of the saw.
4. Remove the BNC transceiver, shown in Figure 1-1, from the stationary enclosure, and unhook the coaxial cable attached to it. You may discard the BNC transceiver.
5. Disconnect the other end of the coaxial cable by opening the back of the touch screen enclosure and removing the cable from the network card. The connection is shown in Figure 1-2.
6. Cut the T-connection off of the cable end so it will pull through the touch screen enclosure wall and swing arm.
7. Gently pull the coaxial cable out of the touch screen enclosure and swing arm, out of the stationary enclosure, and completely out of the cable track. Discard this cable.
8. Connect the new transceiver (508974) to the PLC, as shown in Drawing SB136DWG.
9. Lay the 50 feet of highflex conduit (510001) out straight on the ground so the CAT5 cross-over cable can be fished through.
10. Insert a fish tape into one end of the conduit (must be at least 60' long) and extend to the opposite end.

**Figure 1-1: BNC Transceiver**



**Figure 1-2: Coax Cable on Touch Screen**



11. Attach one end of the CAT5 cross-over cable (508986) to the end of the fish tape, using electrical tape to secure the connection. Gently pull the cable back through the highflex conduit, leaving at least 5-6 feet of cable beyond the end of the conduit that will be routed through the touch screen swing arm.
12. Install the conduit (with cable in it) into the cable track. This can be done by using a screwdriver to gently pry open some of the cable track hinge sections and pulling the conduit through the length of the track. See Figure 1-3.
13. Drill a hole in the side of the stationary enclosure.
  - a) The connector requires a 3/4" knockout (1-1/8" diameter hole).



*Be careful not to damage existing wires or let metal filings fall into electrical components when drilling the hole in the enclosure!*

**Figure 1-3: Opening the Cable Track**



- b) Facing the open enclosure, the location of the hole should be on the left side, approximately 15" down from the top and 5" forward from the back of the enclosure. Be careful not to damage existing cables or other objects in the enclosure.
    - c) It is recommended that you drill from the inside to the outside to reduce the chance of metal filings falling into any electrical components in the enclosure. If you choose to drill from the outside in, tape a plastic bag around the hole to catch the filings.
14. Secure the cable conduit to the stationary enclosure. The manufacturer's instructions for the connectors are shown on the next page.
  - a) Remove the sleeve and locknut from one of the connectors (511512), if necessary, and install the connector body and locknut through the hole on the side of the stationary enclosure, with the locknut inside the enclosure and the connector body outside. Be sure to tighten the locknut before connecting the conduit and routing the cable into the connector body.
  - b) Slip the end of the cable nearest the stationary enclosure through the sleeve cap (through the narrow end first) and slide the sleeve cap forward until it is located at the end of the conduit. Route the cable through the connector body until it reaches the conduit.
  - c) Place the end of conduit into the connector body, and slip the sleeve back onto the fitting until it is self-latched into place.

Figure 1-4: Connector Parts

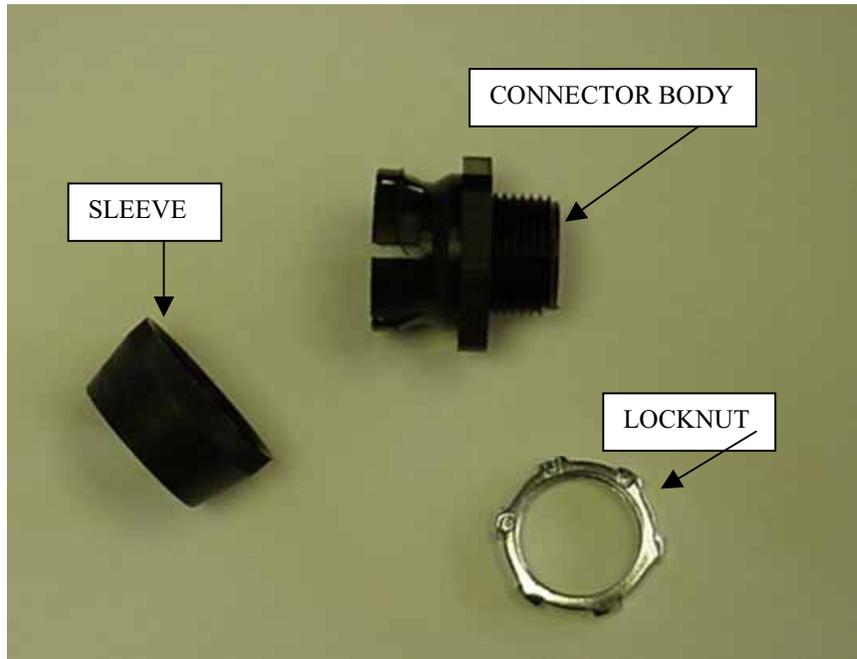
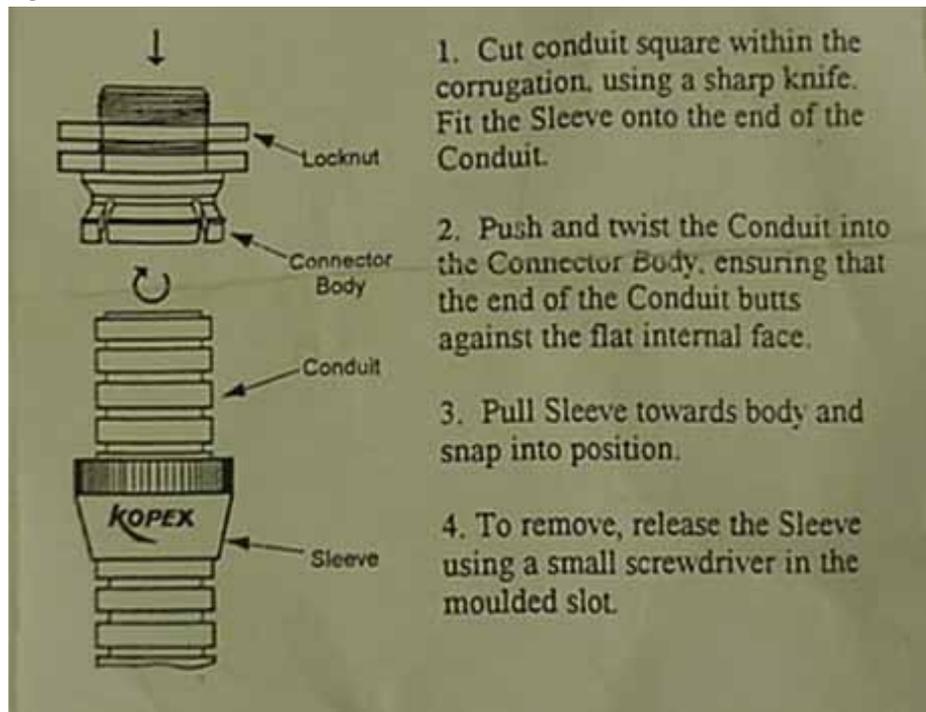


Figure 1-5: Connector Instructions



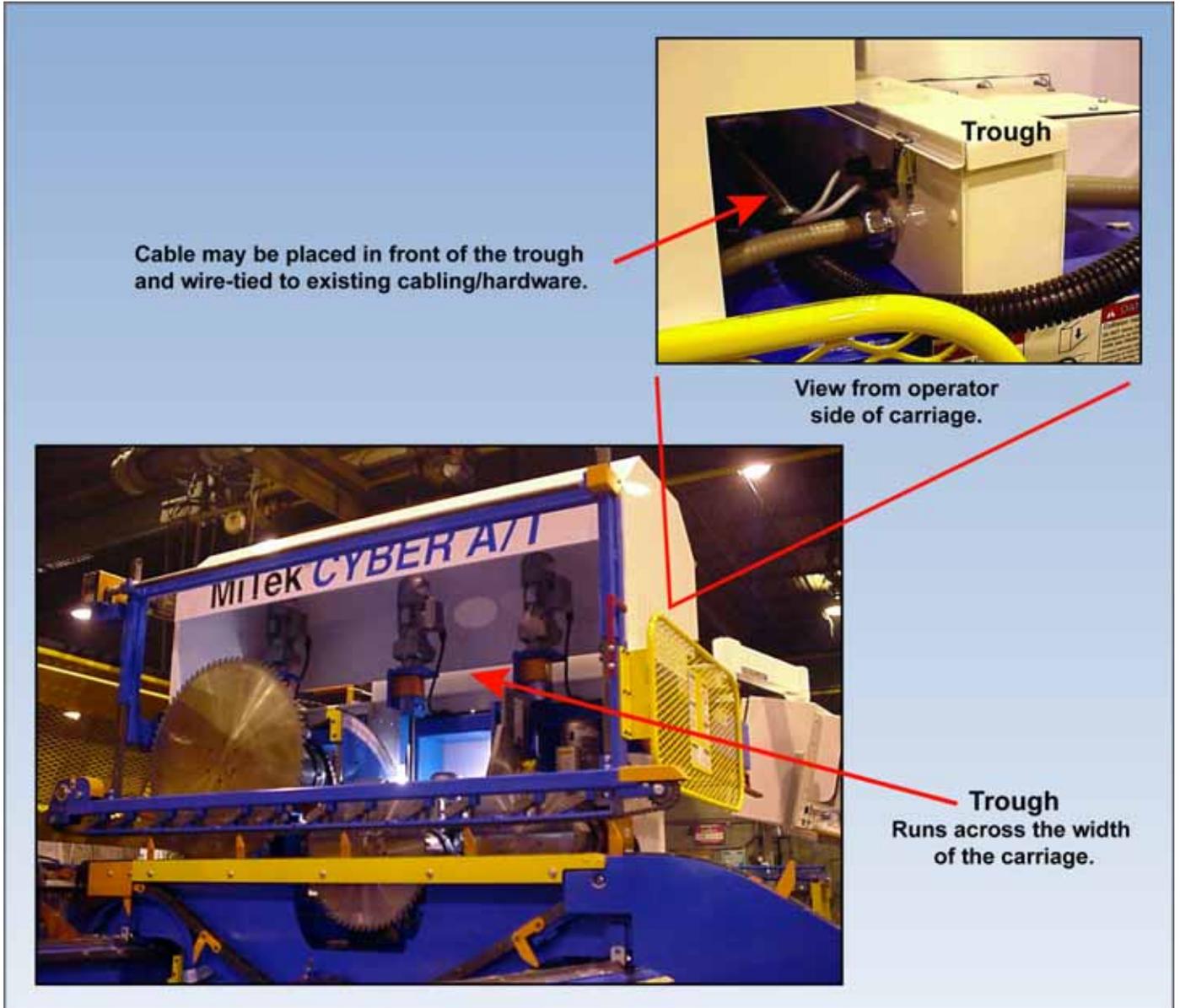
15. Attach the CAT5 cross-over cable to the new transceiver in the enclosure on the stationary end. Refer to Figure 1-1.
16. Reduce any slack of the conduit (not cable) by pulling it through the cable track, toward the carriage end, as shown in the picture below.

**Figure 1-6: Cable Track, Carriage End**

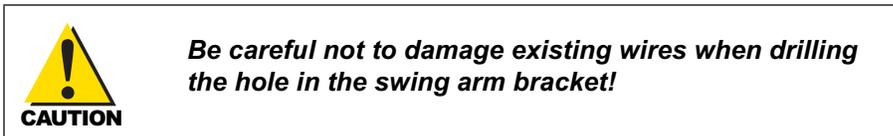


17. Lay the conduit in front of the trough on the carriage and run it across the width of the saw to the touch screen swing arm.

**Figure 1-7: Trough on the Carriage**

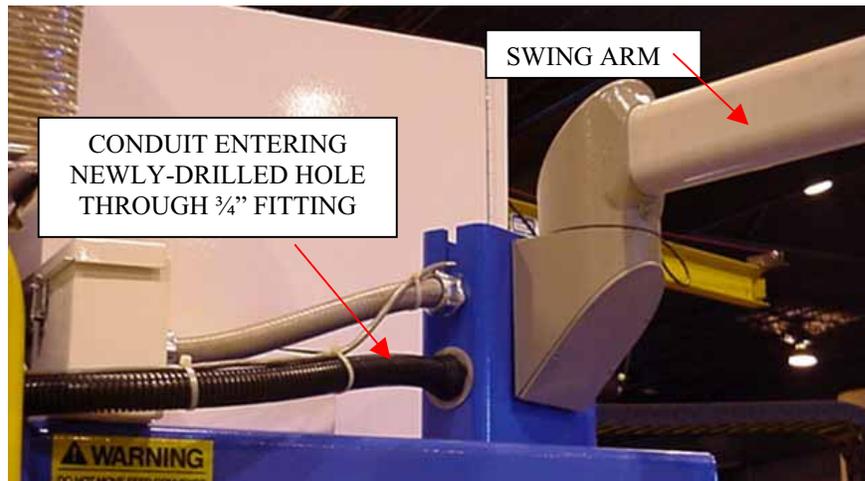


18. Attach the 1" clamps (511273) to the frame to hold the conduit in place as it runs in front of the trough.
  - a) Place the first clamp approximately 3" in from the end of the trough, on the surface of the frame.
  - b) Drill a hole through the frame with the #7 drill.
  - c) Tap the hole to full depth with the 1/4"-20 tap.
  - d) Attach the clamp to the frame with a 1/4"-20-3/4" screw (341157), a lock washer (364034), and a flat washer (365115).
  - e) Place three more clamps approximately 26" apart and repeat the steps above.
19. Drill a hole in the tube that the swing arm is mounted to for the connector and CAT5 cross-over cable, as shown in Figure 1-8.



- a) Drill a 1-1/8" diameter hole with a hole saw.
  - b) The hole location should be centered horizontally, but it may be above or below the already existing conduit. Be careful not to damage existing wires.
20. Trim any excess conduit at this time (if needed) using wire snips or a sharp trim knife so that the conduit may be trimmed without cutting the cable(s) inside the conduit.

**Figure 1-8: Swing Arm on Saw Frame**



21. Remove the sleeve and locknut from one of the connectors (511512), if necessary, and install the connector body and locknut in the newly-drilled hole on the side of the bracket, with the locknut inside the bracket and the connector body outside. Be sure to tighten the locknut before connecting the conduit and routing the cable into the connector body.
22. Thread the cable through the bracket and swing arm. This is easier to do before you attach the conduit to the bracket.
  - a) Grasp the cable extending from the end of the conduit and run it through the sleeve cap for the fitting (through the narrow end first).
  - b) Thread the cable through the swing arm and into the touch screen enclosure, allowing excess cable inside the touch screen enclosure for connections to be made.
23. Secure the conduit to the bracket.
  - a) Push the conduit into the connector body, ensuring that the end of the conduit butts against the flat internal face.
  - b) Slide the sleeve cap onto the connector body and snap it into place.
24. Connect the conduit to the tube using another straight connector and locknut assembly as described in step #14.
25. Connect the new CAT5 cross-over cable to the existing network card. It is shown in red in Figure 1-9, but the new CAT5 cable will be blue.
26. Close all enclosures and remove the lockout/tagout from the machine.
27. Return power to the saw.
28. Power-up the machine and reboot the computer.
  - a) If the computer does not reboot and operate as expected, it is possible your network interface card for the communication between the saw and computer needs to be reconfigured. Call **MiTek** Customer Service for assistance.
29. Continue to operate the saw as normal.

**Figure 1-9: CAT5 Cross-Over Cable in Network Card**

