Repositioning SERCOS II and SERCOS III Boards in EDGE® Pro and MicroEDGE® Pro CNCs

Field Service Bulletin

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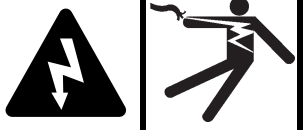
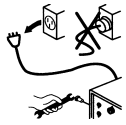
Introduction



WARNING!

ELECTRIC SHOCK CAN KILL



Disconnect electrical power before performing any maintenance.

Only qualified personnel can work inside the CNC cabinet with AC power connected.

See the *Safety* section of the system's manual for more safety precautions.

CAUTION!

Static electricity can damage circuit boards. Use proper precautions when handling printed circuit boards.

Store PC boards in anti-static containers.

Wear a grounded wrist strap when handling PC boards.

Purpose

SERCOS II and SERCOS III boards share the PCI bus with many other devices. Certain MS Windows operations, such as reading a USB memory device, can take priority over SERCOS signals and cause a slight delay in SERCOS communication. This delay can cause a drive fault or other cutting performance issues.

This Field Service Bulletin (FSB) describes the steps required to reposition the SERCOS II or SERCOS III master boards in the EDGE Pro and MicroEDGE Pro CNCs as a first step in addressing these performance issues.

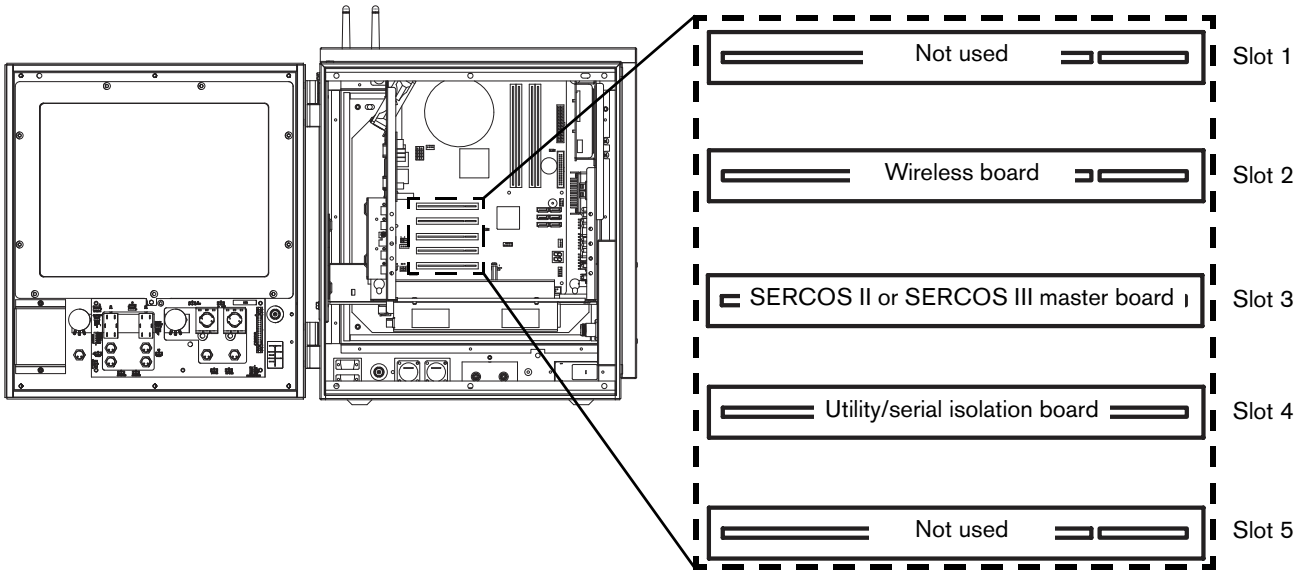
Tools and materials needed

- #1 Phillips screwdriver
- 5/16-inch wrench or socket
- 1/4-inch wrench

Contents of kit 428305

Part number	Description	Quantity
208027	6-32 x 1/4 hex x 2-3/8-inch long standoff	1

Repositioning SERCOS II and SERCOS III boards in the EDGE Pro CNC



Location of boards in EDGE Pro PCI slots

As you follow this procedure, set aside all screws and other hardware for reuse.

To open the CNC enclosure:

1. To open the front panel, use a 5/16-inch wrench to remove the three screws at the top of the panel and the three screws at the bottom of the panel.
2. To open the side, use a 5/16-inch wrench to remove the two screws at the top of the panel and the two screws at the bottom of the panel.

To remove the SERCOS II or SERCOS III master board:

1. Remove the RX and TX cables from the outside edge of the board.
2. Use a #1 Phillips screwdriver to remove the screw in the mounting frame.
3. Pull the board from PCI slot 3 on the motherboard.

To reposition the utility and serial isolation board:

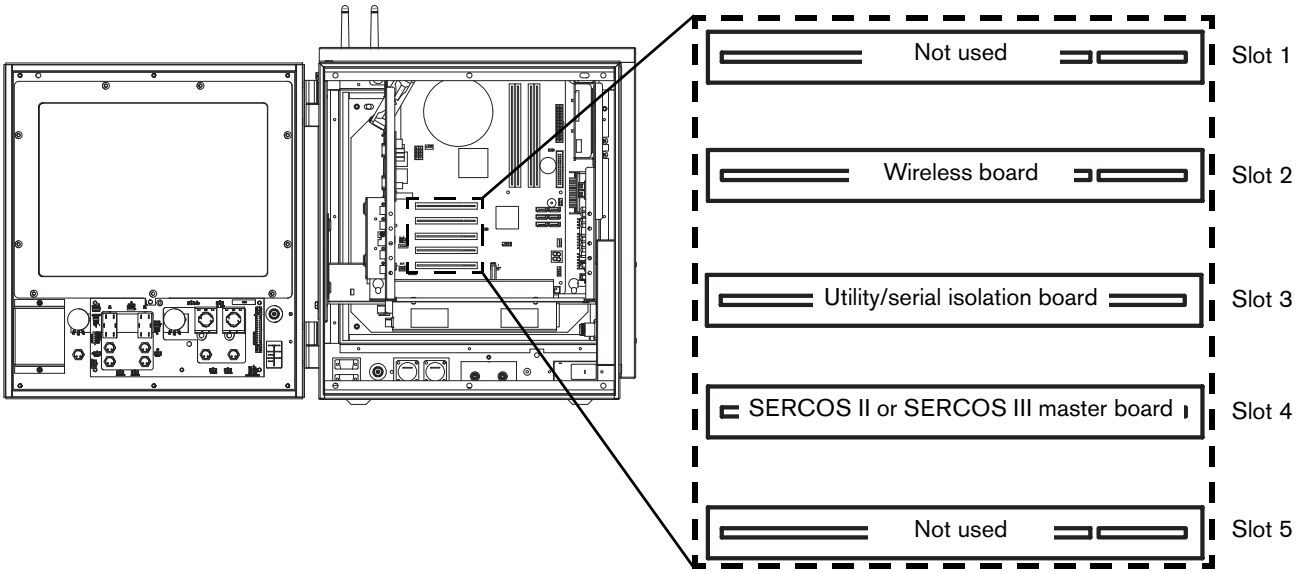
1. Remove the serial cables from the left side of the board:
   a. Use a #1 Phillips screwdriver to remove the screws from either side of the serial cable connectors.
   b. Remove the grey and multicolored ribbon cable connectors from the serial connectors on the left side of the board.
   c. Remove the screw that holds the silver board bracket to the side of the subchassis.

   You do not need to remove any other cables from the connectors on the board.
2. Use a #1 Phillips screwdriver to remove the screw from the standoff at the right front of the board.

3. Pull the board from PCI slot 4 on the motherboard.
4. Insert the board connector into PCI slot 3 on the motherboard.
5. Use a 1/4-inch wrench to replace the standoff with the new standoff from the kit. Tighten the new standoff to 1.12 N·m (10 lb·in.).
6. Position the hole at the front of the board over the new standoff.
7. Fasten the screw through the board to the standoff and tighten it to 1.12 N·m (10 lb·in.).
8. Fasten the screw through the board bracket to the subchassis and tighten it to 1.12 N·m (10 lb·in.).
9. Plug the serial cables into the left side of the board:
   a. Plug the grey ribbon cable into the Serial 2 connector.
   b. Plug the multicolored ribbon cable into the Serial 1 connector.
10. Fasten the screws on either side of both serial cable connectors and tighten them to 0.67 N·m (6 lb·in.).

To replace the SERCOS II or SERCOS III board:

1. Insert the SERCOS II or SERCOS III board into PCI slot 4 on the motherboard.
2. Fasten the screw in the mounting frame and tighten it to 1.12 N·m (10 lb·in.).
3. Reconnect the RX and TX cables to the correct connector on the side of the board.



New location of boards in EDGE Pro PCI slots

To replace the CNC enclosure:

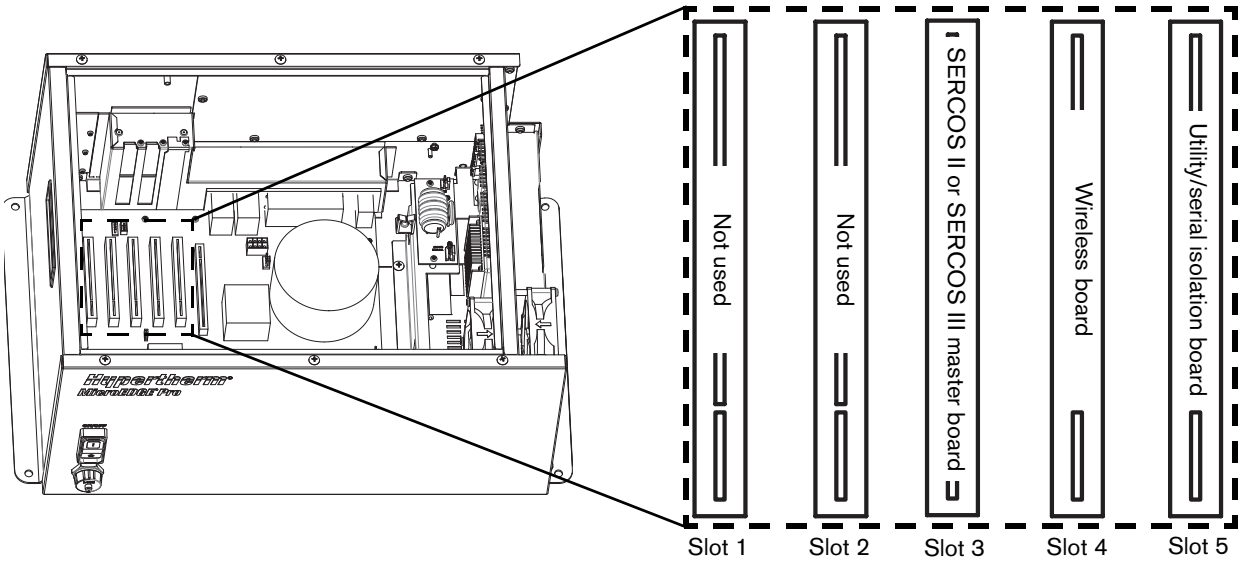
1. Fasten the screws at the top and bottom of the front panel and tighten them to 3.39 N·m (30 lb·in.).
2. Fasten the screws at the top and bottom of the side panel and tighten them to 3.39 N·m (30 lb·in.).

After you reposition the boards

After a SERCOS II update, if you cannot establish the ring, verify that the RX and TX fiber optic cables are securely plugged into the correct connector. LED 1, for the RX port, should be illuminated in green. For more details, see the *EDGE Pro SERCOS II Instruction Manual* (807640).

After a SERCOS III update, if you cannot establish the ring, verify that the SERCOS III cables are securely plugged into the correct ports.

Repositioning SERCOS II and SERCOS III boards in the MicroEDGE Pro CNC



Location of boards in MicroEDGE Pro PCI slots

As you follow this procedure, set aside all screws and other hardware for reuse.

To remove the enclosure cover:

1. Use a #1 Phillips screwdriver to remove the 6 screws on the top of the panel.
2. Use a #1 Phillips screwdriver to remove the 2 screws on the side, at the bottom.

To remove the SERCOS II or SERCOS III master board:

1. Remove the RX and TX cables from the back of the CNC.
2. Use a #1 Phillips screwdriver to remove the screw that connects the PCI bracket at the side of the board to the enclosure.
3. Pull the board from PCI slot 3 on the motherboard.

To reposition the wireless board:

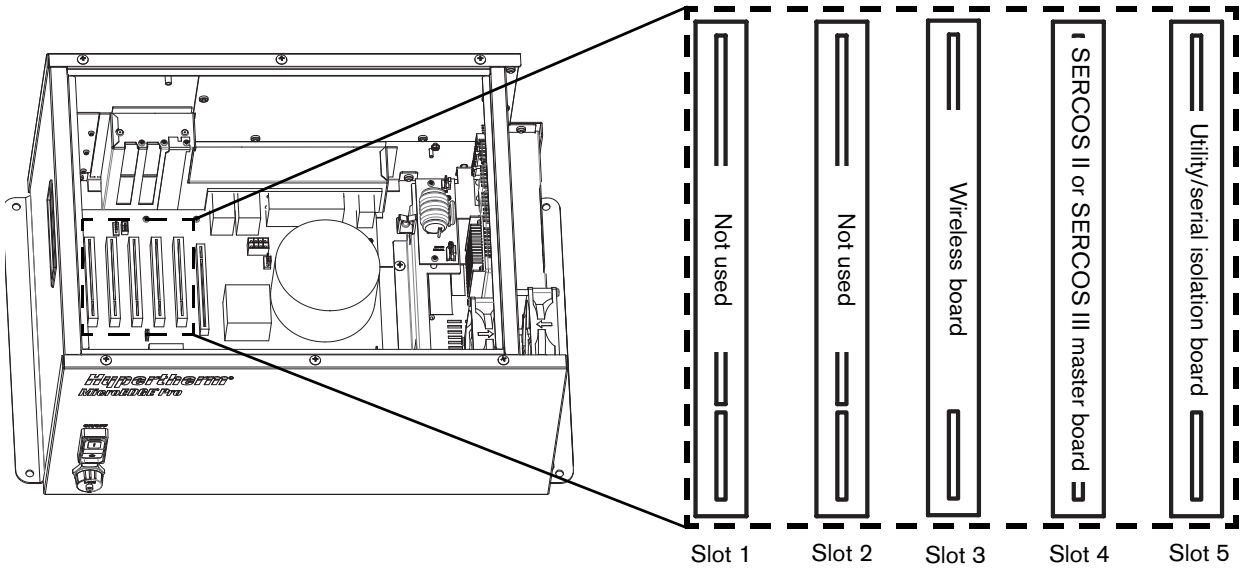
1. Disconnect the antennas or antenna cables from the connectors on the back of the CNC.
2. Use a #1 Phillips screwdriver to remove the screw that connects the PCI bracket to the enclosure.
3. Pull the wireless board from PCI slot 2 on the motherboard.
4. Insert the PCB connector into PCI slot 3 on the motherboard.
5. Fasten the screw through the PCI bracket into the enclosure and tighten it to 1.12 N·m (10 lb·in.).
6. Connect the antennas or antenna cables to the back of the CNC.

To replace the SERCOS II or SERCOS III board:

1. Insert the SERCOS II board into PCI slot 2 on the motherboard.
2. Fasten the screw in the PCI bracket and tighten it to 1.12 N·m (10 lb·in.).
3. Reconnect the RX and TX cables to the correct connector on the back of the CNC.

To replace the enclosure cover:

1. Place the cover over the enclosure.
2. Fasten the 6 screws on the top of the cover and tighten them to 2.25 N·m (20 lb·in.).
3. Fasten the 2 screws on the side, at the bottom and tighten them to 2.25 N·m (20 lb·in.).



New location of boards in MicroEDGE Pro PCI slots

After you reposition the boards

Moving the wireless card may reset network passwords and IDs. If the controller does not connect to the network, refer to the *MicroEDGE Pro Instruction Manual* for wireless setup information.

After a SERCOS II update, if you cannot establish the ring, verify that the RX and TX fiber optic cables are securely plugged into the correct connector. LED 1, for the RX port, should be illuminated in green. For more details, see the *EDGE Pro SERCOS II Instruction Manual* (807640).

After a SERCOS III update, if you cannot establish the ring, verify that the SERCOS III cables are securely plugged into the correct ports.