Voyager III and Edge II Motherboard Replacement

Field Service Bulletin

Hypertherm®

		WARNING **ELECTRIC SHOCK CAN KILL**
	Engage the emergency Stop button on the CNC and disconnect electrical power before performing any maintenance.	

Introduction

Purpose

This FSB describes the steps for replacing the motherboard in the Voyager III and Edge II CNCs.

Materials and tools

No. 2 Phillips screwdriver

Kit 228560 contents

Part number	Description	Qty
PCBS-0124	PCB: Motherboard	1
CABL-0276	Cable: 20C/24C Motherboard power 23"	1
CABL-0278	Cable: PS_ON, 24 ", Kontron	1
806660	FSB: Voyager III and Edge II Motherboard Replacement	1

Remove the motherboard

Before you begin to remove the motherboard, take careful notes about the position and orientation of all cables as you disconnect them.

1. To open the front panel, remove the screws that secure the top and bottom of the panel. Open the panel.

2. Unplug the cables on the motherboard.

3. Carefully remove the 512 MB DRAM module and set it aside so it can be reinstalled on the new motherboard.

4. Remove all the hardware that secures the PCBs to the motherboard.

5. Unplug cables to the PCBs.

6. Slide the PCBs from their connectors on the motherboard.

7. Remove the screws that secure the motherboard to the subchassis.

8. Lift the motherboard out of the enclosure.

Install the new motherboard

1. Remove the new motherboard from the packaging.

2. Align the mounting holes in the motherboard with the standoffs on the subchassis.

3. Refasten the screws to the standoffs.

4. Insert the PCBs into the appropriate slots on the motherboard.

5. Reconnect the PCB fasteners and cables you removed earlier.

Replace cables

The cables that you connect to the new motherboard depend on the type of DC power cable that was used on the motherboard you removed.

To discover which cables to use, look at the DC power cable connector on the old motherboard. If it has 24 pins, you can use all the original cables on the new motherboard. Note, however, that the location of the connectors is different on the new motherboard. Refer to the following illustration for details.

CPU fan cable

DC power cable (24 pins)

12 V Power cable
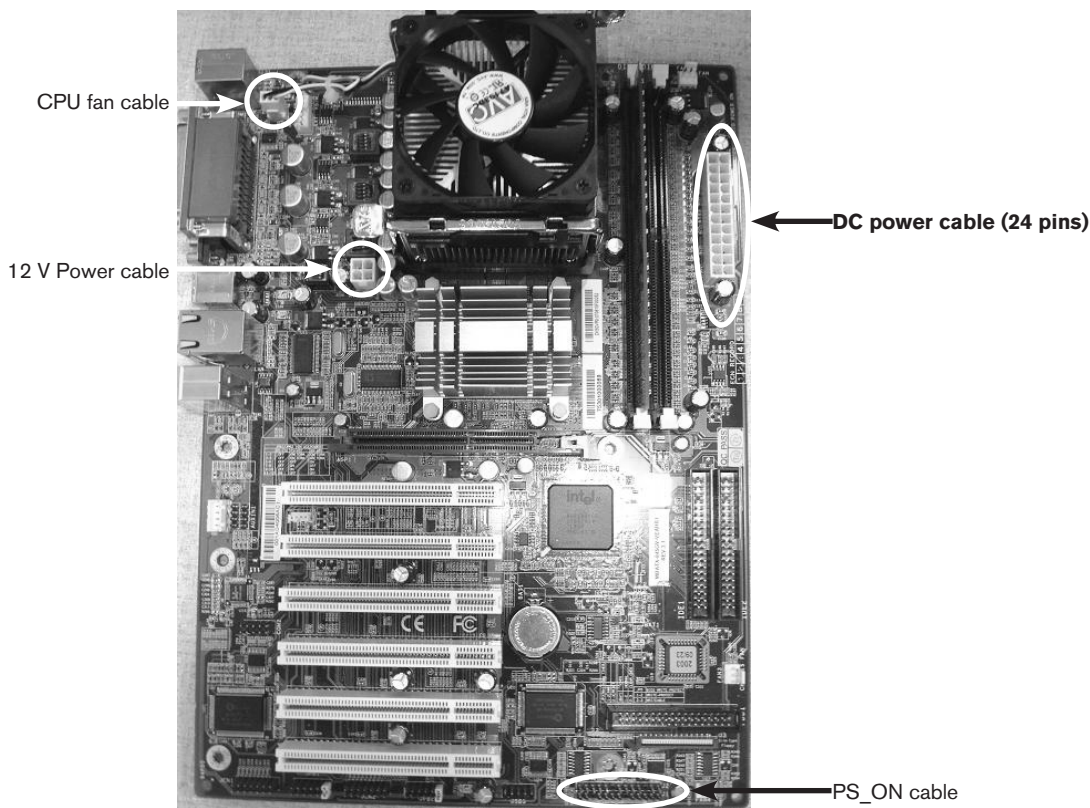
PS_ON cable

Motherboard with 24-pin DC power cable connector

If the DC power cable connector on the old mother board has 20 pins, as shown below, you must use the DC power (CABL-0276 and PS_ON (CABL-0278) cables that are supplied in this kit. Refer to *Voyager III installation* or *Edge II installation* for details.
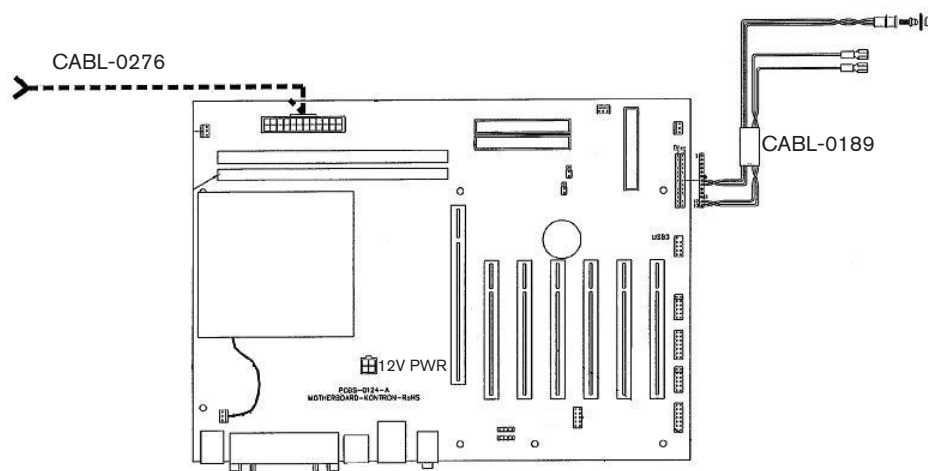

12 V Power cable

CPU fan cable

DC power cable (20 pins)

PS_ON cable
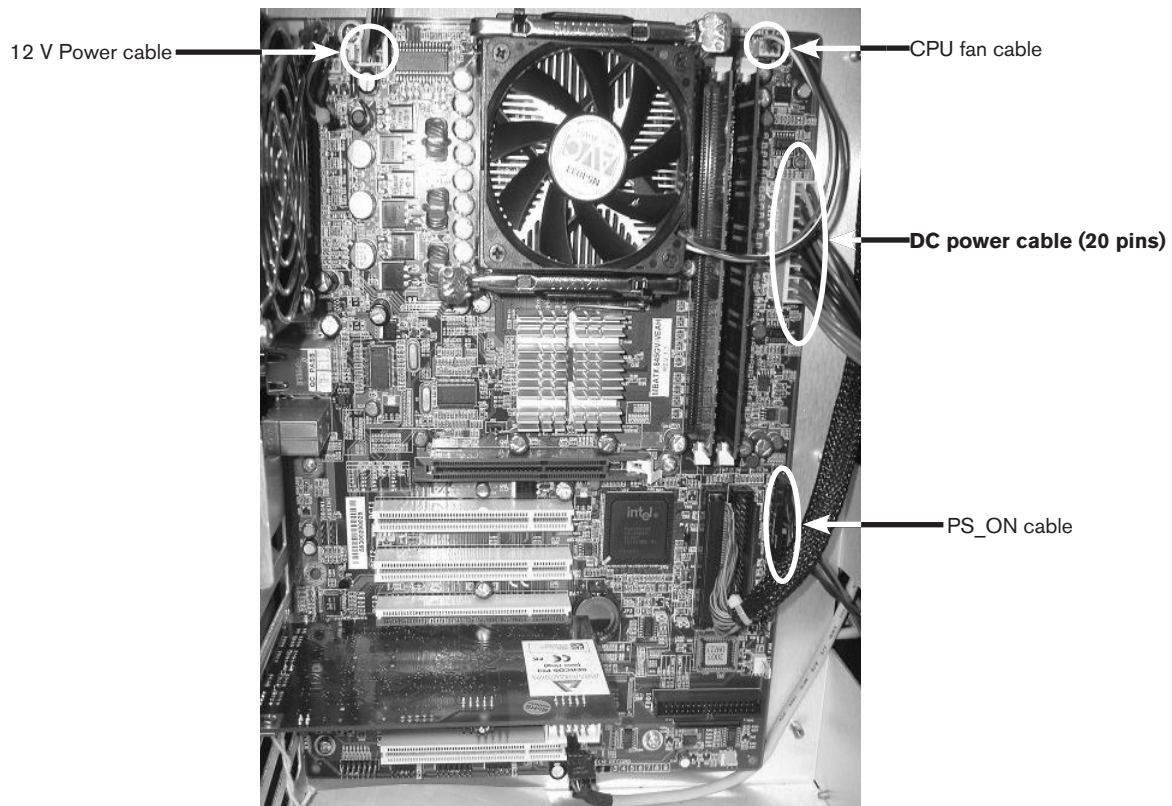
Motherboard with 20-pin DC power cable connector

Voyager III installation

If you are replacing the motherboard in a Voyager III CNC and the DC power cable connector on the old motherboard has 20 pins, use the following instructions to replace cables and DRAM module on the new motherboard. Refer to the wiring diagram for details about cable routing and connectors.

1. Connect the DC power cable (CABL-0276) from this kit to the DC power connector on the motherboard.

2. Connect the 12 V power cable and PS-ON cable that you removed from the old motherboard to the appropriate connectors on the new motherboard.
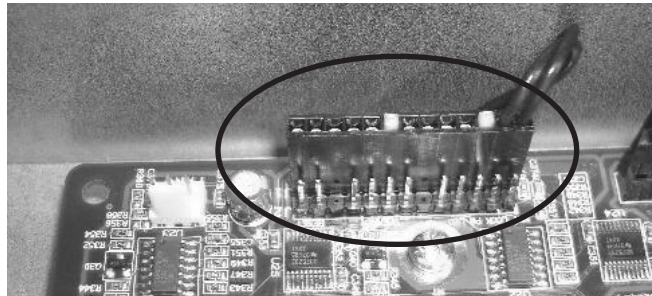

Voyager III motherboard wiring

3. Install the 512 MB DRAM module that you removed from the old motherboard.
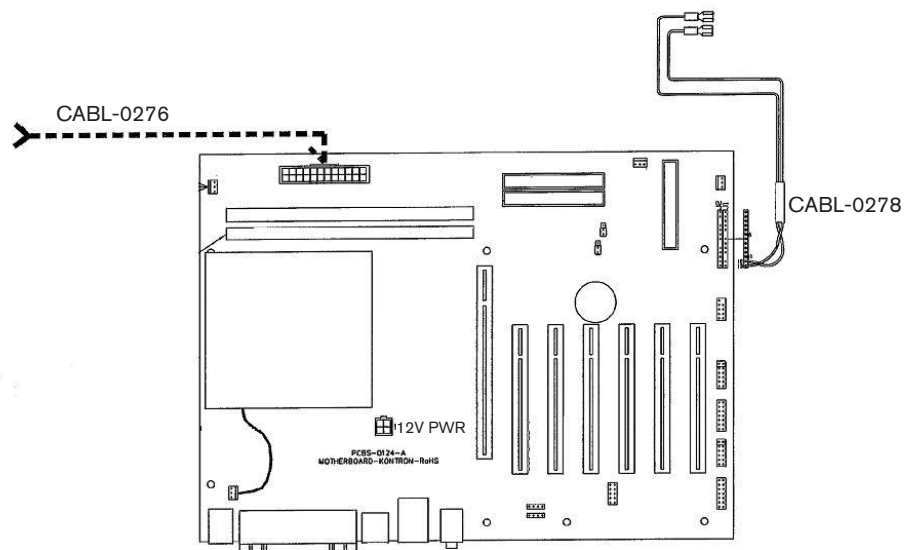
Edge II installation

If you are replacing the motherboard in an Edge II CNC and the DC power cable connector on the old motherboard has 20 pins, use the following instructions to replace cables and DRAM module on the new motherboard. Refer to the wiring diagram for details about cable routing and connectors.

1. Connect the DC power cable (CABL-0276) from this kit to the DC power connector on the motherboard.

2. Connect the PS_ON cable (CABL-0278) from this kit to pins 12 and 13, next to the edge of the motherboard on the PS_ON connector.

Location and orientation of the PS_ON cable connector in an Edge II installation

3. Connect the 12 V power cable that you removed from the old motherboard to the appropriate connector on the new motherboard.

4. Install the 512 MB DRAM module that you removed from the old motherboard.

Edge II motherboard wiring

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