

Technical Note

Freedom 10, 15, 20, 25

512-0094-01-01 Rev 1

Microprocessor Replacement Procedure

Overview

The purpose of this procedure is to aid the technician in identifying and replacing the microprocessor on the main control board of the Freedom 10, 15, 20 and 25.

Equipment Required

#1 Phillips screwdriver

Microprocessor extraction tool (reshaped paper clip)

Disassembly

Ensure that the Freedom inverter is disconnected from AC input power and from the batteries prior to doing any disassembly work.

Using the Phillips screwdriver, remove the 12 screws (6 on each side) that hold the top cover to the chassis. Lift the top cover from the unit.

Using the attached main board layout diagram identify the microprocessor on the main control board.

Microprocessor Removal and Reinstallation

WARNING: The microprocessor is a static-sensitive device. Ground yourself prior to handling the part outside of its protective envelope. A static discharge will damage the device.

Removal

Prior to removal, note the orientation of the microprocessor in the socket—the new microprocessor will need to be installed the same way.

Using the microprocessor extraction tool, remove the microprocessor from the socket by hooking the tool under the chip through the slots in the microprocessor socket.

Lift the tool upward using a screwdriver that is under the middle of the tool and has its end on the heat sink using the heat sink as a pivot point.

Reinstallation

The small dot on the new microprocessor identifies how it should be aligned in the socket. This dot is located on the beveled edge of the microprocessor and identifies the top and pin 1 of the microprocessor. This beveled edge

of the processor should be aligned with the edge of the socket and the flat corner of the microprocessor aligned with the flat corner of the socket. Try to install it so that the four sides are inserted evenly.

Assembly

Place the top cover back on the unit and reattach the 12 Phillips screws. Bench test the unit if possible.

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