UNITED TECHNOLOGIES CARRIER

Commercial Division
Carrier Corporation

BULLETIN: CA-SB-19-D-89-116
DATE: 4/7/89
PAGE: 1 OF: 2

SERVICE BULLETIN

SUPERSEDE BULLETIN:
DATE:
PAGE: OF:

SUBJECT: 32MP I-O BOARD COMPONENT FAILURE
32MP I-O BOARD MOV COLOR

PURPOSE

This bulletin provides information on a component failure on recently shipped 32MP input-output boards that can lead to improper chiller and auxiliary equipment starts and subsequent damage. It also provides information on the 32MP I-O board MOV's (metal oxide varistors) shipped after April 1989.

MACHINES AFFECTED

17/19 32MP chillers, retrokits and Replacement Components Division replacements

BACKGROUND

The HK35EZ002 and HK35EZ008 I-O boards shipped from the supplier from October 1988 until 4/89 (s/n xxx8844 and later) have a misrated component. The MOV's in question are small disk shaped devices with two leads, located just to the right of the large heat sink bar near the fuses. The board is stamped RV1 through RV12 on the right side of the MOV's. Early versions were red, blue or black but recently the supplier switched to a green MOV made by Sanken. The MOV is a miniature surge protector in parallel with the output triacs intended to protect the triacs from voltage surges from the power supply to the control panel.

PROBLEM DEFINITION

Since the Sanken MOV is not of the proper rating it can overheat and fail when the power is turned on even with the chiller shutdown. It is likely that it will short as it fails and then the output (pumps or even compressor starter) is powered from L1 and can not be turned off. All chillers, retrokits and replacement boards shipped from Carrier or the Replacement Components Division from November 1988 until April 1989 must be inspected and all I-O boards with green MOV's must be removed and returned to the Replacement Components Division for repair by the supplier.

NOTE: The supplier of the board was able to get properly rated MOV's immediately but they were also green. Rather than confuse personnel with "good" and "bad" green MOV's , it was decided to dip "good" green MOV's in orange paint. The dipping process left small areas of green near the leads on some devices which has concerned a few observant people. Please be assured that only "good" green MOV's were painted and that the board supplier is inspecting all MOV's electronically to prevent a repeat of the problem.

SERVICE BULLETIN

TEMPORARY FIX

If a chiller must be operated and an I-O board with good MOV's (not green) is not available, the green MOV's can be cut off and removed and the control will still function properly. The board should be changed out as soon as reworked I-O's are available, however, to provide full protection of the triacs.

DO NOT LEAVE POWER ON ANY CONTROL WITH GREEN MOV'S! SERIOUS DAMAGE CAN RESULT!