Carrier
A United Technologies Company

REPLACEMENT COMPONENTS DIVISION

SERVICE BULLETIN

SUBJECT: Control Transformer Backfeed

NUMBER: C9620
DATE: 7-11-96
SUPERSEDES:
DATE:
PAGE: 1 **OF:** 2

MODELS AFFECTED: All Centrifugal or Screw Chillers

PURPOSE:

To inform the field of the safety hazard that may occur if the certified prints delivered with the machine are not used by the electricians when the machine is being wired or if poor servicing practices are used while working on a chiller or starter.

BACKGROUND:

Most (around 90%) of the starters delivered with Carrier centrifugal and screw chillers are equipped with a control power transformer, This includes all unit-mounted starters and most free-standing starters.

On units with PIC controls, the output of this transformer is connected to starter terminals TB6-LL1 & LL2. These terminals are labeled with the value of control voltage (115V-1PH-50/60Hz).

Electricians using the Installation Instructions figures instead of the certified prints for a job have wired 115 volts to these terminals. The typical wiring drawings in the Installation Instructions are **NOT** acceptable substitutes for certified prints. They were never intended to be and they may be wrong for a specific job.

Transformers are not one way devices. For example, a 4160 volt to 115 volt control transformer reduces 4160 volts on the primary winding to 115 volts on the secondary winding. If 115 volts is applied to the secondary winding, the primary winding and EVERY CONDUCTOR ATTACHED TO IT will be at a potential of 4160 volts.

The fact that this was being done was discovered and brought to our attention after start-up technicians discovered the incorrect wiring.

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CORRECTIVE ACTION:

AT THE FACTORY - SYRACUSE

A note is being added to the "Typical Field Wiring" figures in the Installation and Start-up, Operation and Maintenance Instructions. The note is referenced right next to terminals LL1 & LL2.

The note reads: "Voltage from terminals LL1 & LL2 comes from a control transformer in a starter built to Carrier specifications. Do not connect an outside source of control power to the compressor motor starter (terminals LL1 & LL2). An outside power source will produce dangerous voltage at the line side of the starter, because supplying voltage at the transformer secondary terminals produces input level voltage at the transformer primary terminals."

IN THE FIELD - SERVICING TECHNICIANS

First and most important, never assume there is no voltage on a conductor, EVER, until you have checked it with a meter first.

Never apply voltage to the secondary winding of a transformer while servicing a starter or chiller.