Carrier
A United Technologies Company

REPLACEMENT COMPONENTS DIVISION

SERVICE BULLETIN

SUBJECT: Benshaw, SMM-less Starter Shunt Trip Reset	**NUMBER:** C9813 **DATE:** 6-1-98 **SUPERSEDES:** **DATE:**
MODELS AFFECTED: All 19XL/XR/XRT/XT, 23XL Chillers	**PAGE:** 1 **OF:** 2

PURPOSE:

To inform the field of the Benshaw, SMM-less starter shunt trip reset procedure.

INFORMATION:

All machines are shipped from the factory with Product Intergrated Controls (PIC) in Pumpdown Lockout Mode. This prevents accidental operation of the machine until a service technician arrives to start the chiller and protects the machine if it is in a vacuum. In this mode, the PIC control sends a signal to shunt trip the breaker. Once the breaker has been shunt tripped, the Redistart Micro continuously sends a signal to maintain the shunt trip status. The Benshaw Redistart Micro controller will not allow a reset of the shunt trip without a power reset to the starter.

DO NOT disable the shunt trip option to clear this situation.

To release the machine from the Pumpdown Lockout Mode, access to Controls Test must be obtained. PIC will not allow access to the Controls Test menu if the control voltage is less than 90% of its rating. With the Benshaw SMM-less starter, this occurs with a brown out condition or when the main circuit breaker, CB1, is open. The low voltage Controls Test lockout is a service feature for troubleshooting. While the microprocessor can operate at voltages to 50% of its design voltage, the driven devices (relays and contactors) cannot operate below 90% of their design voltage rating. If the control voltage is within the acceptable range and a device does not activate when commanded, it is safe to assume the device is faulty. A Controls Test performed outside of the acceptable voltage range can lead to a misdiagnosis of the problem. For this reason, the Controls Test is locked out below 90% of the rated voltage.

The PIC will not allow access to the Controls Test menu while the machine is in a vacuum, again for the machine's protection. If the machine is charged with all vessels above atmospheric pressure and the control voltage is in the acceptable range, Controls Test can be accessed for normal termination of Pumpdown Lockout. If the machine is in a vacuum, force the cooler and condenser pumps on in the Status screen. Charge the machine using standard refrigeration techniques.

Once the vacuum is broken and the appropriate controls voltage applied, access to Controls Test is allowed. Clear all alarms, if any, on the LID before proceeding by pressing the RESET soft key on the LID. Clear the shunt trip using the following procedure on the Benshaw SMM-less starter:

1. Press the Fault Reset button on the Redistart Micro Display.
2. Wait 30 seconds.
3. Reset Shunt Breaker (CB1).