TROUBLE SHOOTING

Refrigeration System

Although the Refrigeration System has many components which are subject to failure only a few problems can be solved by action in the field, other problems should be repaired at the origination of the equipment. The problems that can be solved in the field are listed below in order of most frequently occurring:

1 Failure in start circuit - by either the start relay or capacitor.

2 Thermostat fault

3 Compressor thermal overload switch fault.

4 Fan failure.

5 Low refrigerant level if the leak can be isolated and corrected.

When insufficient cooling occurs the following should be examined:

a) Does the fan run?

Yes - this would confirm electrical power is getting to the fan and is therefore also available to operate the compressor.

No - if the fan will not run either there is no electrical power getting to the fan (check thermostat) or the fan has failed.

b) How does the compressor perform?

It runs smoothly, i.e. steady vibration - this confirms the starting circuit works and that power is getting through to the compressor. Insufficient cooling would result from:

Compressor shuts off before cooling is achieved because of either the thermostat command or the compressor thermal overload switch opening.

Low freon level which if too low will cause the compressor's thermal overload to cycle with the compressor off to cool itself (while the fan continues to run).

NB The refrigeration R12 capacity is as follows: Spacesaver 10-13oz.
Spacesaver 20 - 32 oz.
WARNING. These are exact charges excess freon can ruin a compressor.

Slower than normal cooling can result at the beginning of a shift from either the reservoir being too full or the injection of alcohol, i.e. mixing alcohol and water raises the temperature initially.

Taking corrective action

By virtue of evaluating fan and compressor observations with meter readings can isolate the majority of faults. Service organisations qualified to work on L'UNITE compressors are located at nearly every major town or city and by having the afore mentioned information and knowledge of the compressor model etc. field repairs can be made in a relatively short time. Low refrigerant level would usually be caused by a leak which is a very rare occurrence. These leaks can be located with a halogen leak detector. The system should be re-evacuated prior to recharging, recharging without repairing a leak does not solve the problem and overcharging of the freon can ruin the compressor.