



# EQUIPMENT CARE BULLETIN

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## Preventive Maintenance for your Small Refrigeration Unit

### INTRODUCTION

Every year The Boiler Inspection and Insurance Company (BI&I) investigates numerous small refrigeration unit failures. The primary reason for the majority of these failures is poor or nonexistent preventive maintenance for the unit.

To help you achieve the reliable and uninterrupted service you expect from your refrigeration equipment, we are offering the following recommendations.

### MECHANICAL

Because the operation and safety controls, including the expansion valve(s), are the heart of the unit, they should be checked annually to make certain they are properly calibrated and in good working order. Like all electrical and mechanical equipment, these controls wear out and must be checked regularly and replaced when they are determined to be unreliable.

The oil in the unit can also be tested at this time. The results of this analysis will let you know if the oil will hold up in the coming year. If there is any question about oil quality, the oil should be replaced.

### ELECTRICAL

- The motor magnetic starter should also be checked annually.
- Contacts may be deteriorated as the result of cycling of the compressor.
- All terminal connections should be checked and tightened, and all pitted contacts should be replaced.
- The overload protection on the unit should also be examined for proper sizing.

### CONDENSER

The unit's condenser should be cleaned at a minimum of once each year. If the condenser is located in a high dust and dirt area, it should be scheduled for more frequent cleaning. A clean condenser will prevent high head pressure which can shorten the life of the unit.

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## MOISTURE

The small refrigeration unit should be equipped with a moisture indicator to detect the presence of moisture within the system. If moisture is pre-sent, filter dryers should be installed or changed to remove the moisture. More importantly, the source of the moisture should be determined and preventive action taken to correct the condition.

## COST

- The cost of unscheduled and unwanted breakdowns of your refrigeration unit can be more than you think.
- Even when machinery insurance is available, the deductible may still account for a considerable out-of-pocket expense.
- Because we are talking about refrigeration units, we must also consider spoilage of stored product due to a lack of refrigeration.
- Even though refrigerated spaces are checked at various intervals, spoilage due to lack of refrigeration can occur very rapidly.
- Having insurance may be of little comfort when your unit is down and your product is spoiled.
- Visual/audible alarms should be installed which will indicate unacceptable changes in refrigerated space temperatures.
- In addition, if you are trying to run a business, you don't need the added headaches of irate customers because your system is down from minor maintenance oversights.

Our advice is intended to complement the equipment manufacturers' recommendations - not replace them. If you have doubts about any particular procedure, contact your equipment service representative.

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