

The Delfield Company

V18000 SERIES

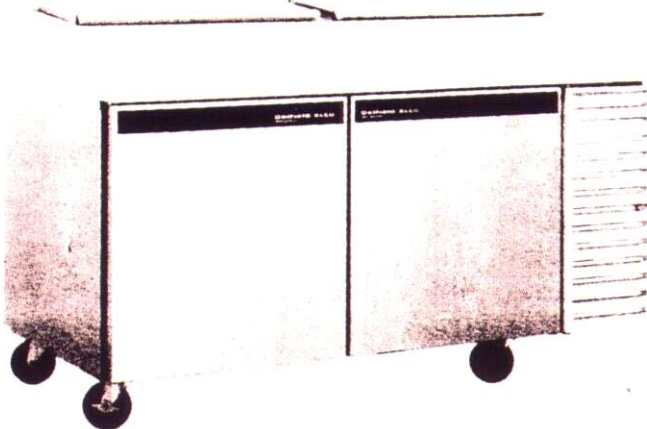
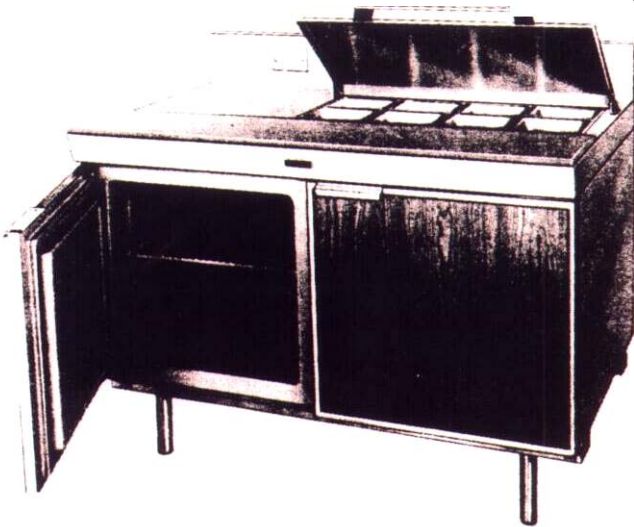
Refrigerator and Freezer Bases

18000 SERIES

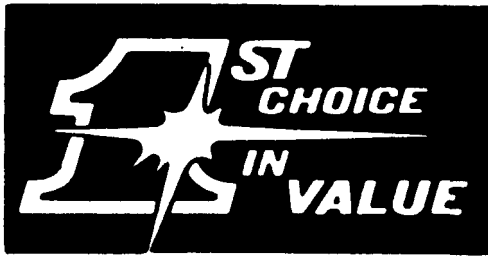
**Refrigerated Work
Tables**

Service and Installation Manual

Effective April 1990



**WARNING:
Read Before
Operating**



The Delfield Company

STANDARD ONE YEAR WARRANTY — REFRIGERATED UNITS

We warrant to the original purchaser every new Delfield refrigerated unit, and all parts thereof, to be free from defects in material and workmanship under normal use and service for a period of one year from the shipping date of the units, to the original purchaser only, our obligation here under being limited to the repairing or replacing F.O.B. Delfield plant, without cost to such original purchaser within such period, any part or portion thereof, which upon examination we judge to be thus defective. This warranty shall not be deemed to place any liability on us for any labor cost, crating cost, or freight cost incurred in the removal of the unit and shipment to Delfield plant.

The warranty does not apply to any material that has been subjected to misuse, neglect, alteration, or accident, such as accidental damage to the exterior finish, and to any refrigerated unit or part thereof, which has been repaired or altered by other than Delfield in any way so as in our judgment to affect its quality or efficiency. This warranty also does not cover the refrigerator drier or the light bulbs used in the refrigerator. THE WARRANTY IS SUBJECT TO THE USER'S NORMAL RESPONSIBILITY; AND IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, OR ORAL OR IMPLIED, INCLUDING ANY WARRANTY OF PERFORMANCE, MERCHANTABILITY, OR FITNESS FOR PURPOSE, AND OF ALL OTHER OBLIGATIONS ON OUR PART. We neither assume, nor authorize any other person to assume for us, any other liability in connection with our products.

Removal or defacement of the original Serial Number or Model Number from any refrigerated unit shall be deemed to release us from all obligations hereunder or any other obligations, express or implied.

Failure of the purchaser to receive such manufacturer's warranty shall in no way create any warranty express or implied, or any other obligation or liability on our part in respect thereof.

If shipment of a replacement part is requested prior to the arrival in Delfield factory of the part claimed to be defective, the customer must accept delivery of the replacement part on a C.O.D. basis, with credit being issued when the defective part has been received and inspected at our plant and proved to be within this warranty.

This warranty under no condition gives the right to the purchaser-user to replace the defective unit with a complete unit of the same manufacturer or of another make. It further does not permit the replacement to be made with a motor compressor assembly of another kind unless authorized by us in writing.

No claims can be made against the warranty for spoilage of products on account of refrigeration failure.

Performance by use under this warranty is contingent upon causes beyond our control, and we shall not be liable for any default or delay in performance there under caused by any contingency beyond our control, including war, governmental restrictions or restraints, strikes, fire, floods. Acts of God, short or reduced supply or raw materials, or discontinuance of the parts by the original part manufacturer.

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INSTALLATION

LOCATION: All Models — Be sure the location chosen has a floor strong enough to support the total weight of the cabinet and contents Reinforce the floor if necessary to provide for maximum loading

Good refrigeration is based on good air circulation inside and out

Inside Cabinet: Do not pack refrigerator so full that air cannot circulate

Outside Cabinet: Be sure that the unit has access to ample air It is suggested that the rear of the unit be no less than two inches from any wall, partition or any other object which will restrict exhaust air flow Avoid hot corners and locations near stoves and ovens

LEVELING: A level cabinet looks better and will perform better because:

- 1 The drain pan will drain properly
- 2 The doors will line up with the door frames properly
- 3 The cabinet will not be subject to undue strain

STABILIZING: Some models are supplied on casters for your convenience, for ease of cleaning underneath and mobility However it is of utmost importance the cabinet be installed in a stable condition with the front wheels locked

ELECTRICAL: Refer to the amperage data on page 4 and your local code or the National Electrical Code for proper wire sizes All case wiring is labeled with the required voltage — be sure it is connected to the proper power source A protected circuit of the correct voltage and amperage must be run for connection of the line cord

NOTE: This unit is intended to operate on a maximum 15 amp fuse at 115 volts, 60 hertz, single phase

On cord-connected units only, a double-pole, single throw ON/OFF switch is located directly behind the louvered panel covering the compressor section Its purpose is to disconnect all electrical current to the unit For your protection this switch should be turned to its OFF position whenever doing the following:

- 1 Performing maintenance functions
- 2 Changing or replacing light bulbs
- 3 Replacing a worn-out fan motor assembly
- 4 Cleaning the refrigerated cabinet area

Under no circumstances should the unit be operated without the louvered panel in place!

If receptacles are to be mounted in the unit back splash, they must be wired independently from the existing unit wiring If a unit does not have a condensate evaporator, the unit's drain must have an outlet to an appropriate drainage area or container

OPERATION

The Mark V refrigerator unit is designed and tested to maintain an operational temperature between 36°F and 40°F, while the freezer unit is designed and tested to maintain an operational temperature between 0°F and 10°F

Do not place hot pans on the blue ABS liner

Do not load storage area so as to restrict the air flow

Overloading will result in a loss of temperature

Do not throw items into the storage area Care must be taken not to damage the blower coil or the interior of the cabinet Continuous opening and closing of the doors or drawers will hamper the unit's ability to maintain optimum refrigeration temperature

SPECIFICATIONS

V18100 & V18200 Prep Top Units – Remote

LENGTH	HORSEPOWER	AMPS
24" to 54"	1/4*	3.0
60" to 66"	1/3*	3.0
72"	1/3*	6.0
84" to 96"	1/2*	6.0

V18300 Work Top Units – Remote

LENGTH	HORSEPOWER	AMPS
24" to 54"	1/4*	3.0
60" to 66"	1/3*	3.0
72"	1/3*	6.0
84" to 96"	1/2*	6.0

V18400 & V18500 Prep Top Units – Self-Contained

LENGTH	HORSEPOWER	AMPS	PLUG
36" to 66"	1/4	8.0	5-15P
72" to 84"	1/3	12.0	5-15P
96" to 108"	1/2	16.0	5-20P

V18600 & V18700 Work Top Units – Self-Contained

LENGTH	HORSEPOWER	AMPS	PLUG
36" to 66"	1/4	8.0	5-15P
72" to 84"	1/3	12.0	5-15P
96" to 108"	1/2	16.0	5-20P

V18800 Work Top Freezers – Self-Contained

MODEL	HORSEPOWER	AMPS	PLUG
V18838-F	1/4	10.0	5-15P
V18866-F	1/2	12.0	5-15P
V18896-F	1/2	16.0	5-20P

V18900 Work Top Freezers – Remote

MODEL	HORSEPOWER	AMPS
V18930-F	1/4*	10.0
V18954-F	1/2*	10.0
V18978-F	1/2*	15.0

All 18000 & V18000 Series units operate on 115 volts, 60 Hertz, single phase.

IMPORTANT!

NOTIFY CARRIER OF DAMAGE

If there are damages of any kind on the equipment when it is uncrated, call the transporting agents at once and advise them of the damage. Request an immediate inspection. This is for your protection in settling damage claims.

* Recommended horsepower

V18300 "P32" Prep Tables – Remote

MODEL	HORSEPOWER	AMPS
V18348-P32	1/3*	3.0
V18372-P32	1/2*	6.0
V18396-P32	1/2*	6.0

V18600 "P32" Prep Tables – Self-Contained

MODEL	HORSEPOWER	AMPS	PLUG
V18660-P32	1/3	12.0	5-15P
V18684-P32	1/2	16.0	5-15P
V186114-P32	3/4	16.0	5-20P

18300 "PT" Pizza/Sandwich Tables – Remote

MODEL	HORSEPOWER	AMPS
18354 PT	1/3*	3.0
18381 PT	1/2*	6.0

18600 "PT" Pizza/Sandwich Tables – Self-Contained

MODEL	HORSEPOWER	AMPS	PLUG
18666 PT	1/3	11.0	5-15P
18693 PT	1/2	15.0	5-20P

18300 Baker's Tables – Remote

LENGTH	HORSEPOWER	AMPS
54"	1/3*	3.0
81"	1/3*	6.0

18600 Baker's Tables – Self-Contained

LENGTH	HORSEPOWER	AMPS	PLUG
66"	1/3	11.0	5-15P
93"	1/3	12.0	5-15P

18600 Taco Tables

MODEL	HORSEPOWER	AMPS	PLUG
18670 TT	1/3	26.0	hard-wired

The Delfield Company

P.O. Box 470

Mount Pleasant, MI 48804-0470

(800) 248-8821

(517) 773-7981 in Michigan

Parts and service telecopier:

(517)773-3210

MAINTENANCE

The interior and exterior can be cleaned using soap and warm water. If this is not sufficient try ammonia and water or a non-abrasive liquid cleaner. When cleaning the exterior, always rub with the "grain" of the stainless steel to avoid marring the finish. **Do not** use an abrasive cleaner because it will scratch the stainless steel and plastic.

In order to maintain proper refrigeration performance, the condenser fins must be cleaned of dust, dirt, and grease regularly. It is recommended that this be done at least every three months. If conditions are such that the condenser is totally blocked in three months, the frequency of cleaning should be increased. Clean the condenser with a vacuum cleaner or stiff brush. If extremely dirty, a commercially available condenser cleaner may be required.

The door gaskets should be cleaned as required to maintain their ability to seal properly. Do not use sharp tools or knives to scrape the bellows as this may tear the gasket

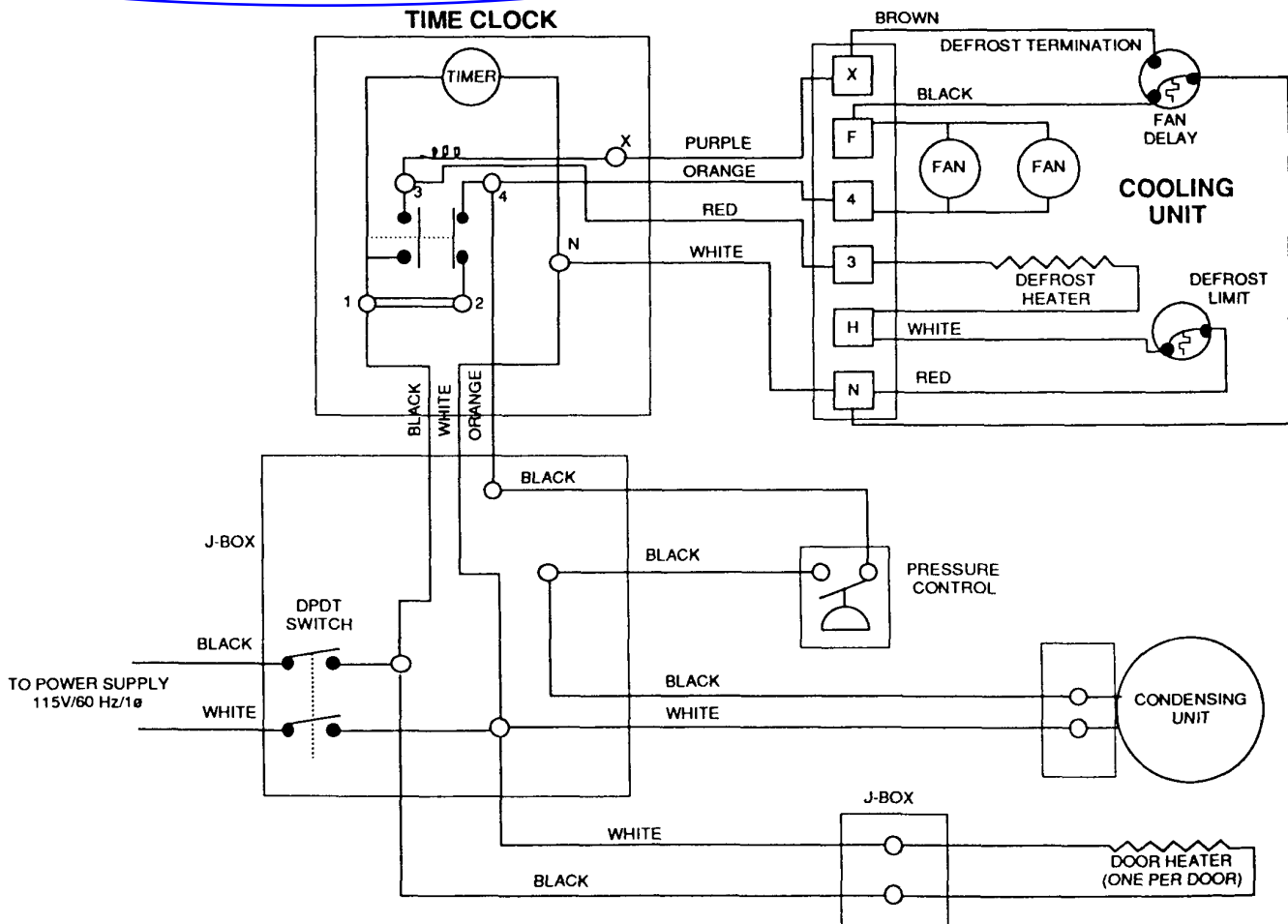
and eliminate its ability to seal. A bristle brush and solution of soap and water should be all that is required to keep the gaskets clean. Do not use full strength degreas-ing agents on the gasket as they could cause the gasket to crack and become brittle. To help prevent the blower coil becoming corroded, store all acidic items, such as pickles, with lids that are sealable. Immediately wipe up all spillages of items that are either acids or bases.

Factory recommended low-pressure control settings are as follows:

Refrigerators: 37# cut-in and 17# cut-out will maintain approximate box temperature of 38°F.

Freezers: 10# cut-in and 2# cut-out will maintain approximate box temperature of 0°F to 5°F.

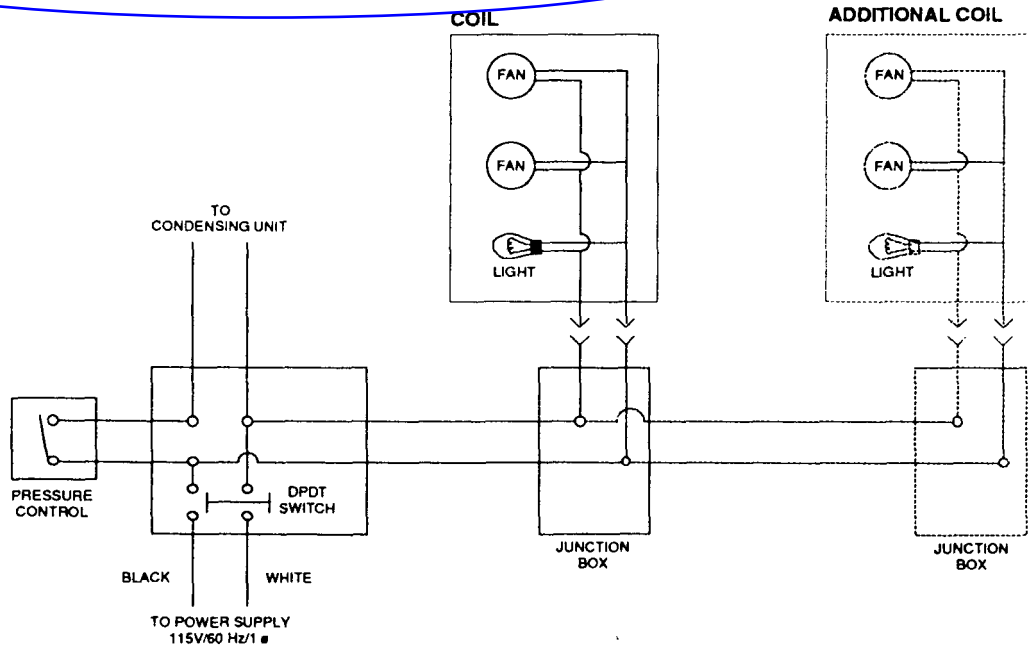
WIRING SCHEMATIC - FREEZER BASES



REPLACEMENT PARTS LIST

	V18000 Refriger- ators	PTs & Baker's Tables	V18000 Freezers	V18000 Refriger- ators	PTs & Baker's Tables	V18000 Freezers
Blower coil, 1 dr. units			351-6070	Gasket, 18" dr.	170-2001	
Blower coil, 2 dr. units			351-6063	Gasket, 18" drawer	170-2007	
Blower coil, 3 dr. units			351-5998	Gasket, 24" dr.	170-2003	170-2003
Caster with lock, plate style	010-1555	323-4027	010-1555	Gasket, 24" drawer	170-2008	170-2008
Caster without lock, plate style	010-1556	323-4026	010-1556	Gasket, 27" dr. (other units)		170-2110
Compressor, 1/2 h.p., 2 dr. frzr.			352-6791	Gasket, 27" dr. (units with "T" in serial #)	170-2144	
Compressor, 1/2 h.p., 3 dr. frzr.			352-6670	Handle, dr. or drawer	323-4319	323-4319
Compressor, 1/2 h.p., refg	352-6690	352-6690		Hinge, cabinet	323-4301	323-4301
Compressor, 1/3 h.p., refg	352-6696	352-6696		Hinge, dr., top L or bottom R	323-4265	323-4265
Compressor, 1/4 h.p., frzr.			509-0001	Hinge, dr., top R or bottom L	323-4422	323-4422
Compressor, 1/4 h.p., refg	352-6685			Leg	037-0072	
Compressor, 3/4 h.p., refg	Copeland FBEH-0075-IAA-208			Leg	323-4438	323-4438
Condensate evaporator element	219-4199	219-4199	219-4199	Pressure control	351-6044	351-6044
Defrost heater, 1 dr. units			351-6210	Roller bearing, drawer	323-4232	
Defrost heater, 2 dr. units			351-6211	Roller bearing, drawer		323-4293
Defrost heater, 3 dr. units			351-6212	Salad pan covers (Units with black, 16" long handles, specify "old style")		
Drawer front, plastic, 18"	010-0106			6 pan	010-0129	
Drawer front, plastic, 24"	010-0107			8 pan	010-0603	
Drawer liner, 18"	170-2074			10 pan	010-0604	
Drawer liner, 24"	170-2075			Salad pan cover pins	consult factory	
Drawer track, 18x28	010-0001			Shelf		397-8014
Drawer track, 24x28	010-0002			Shelf support	323-4290	323-4290
Drier	351-6197	351-6197	351-6192	Shelf, 18x28	397-7995	397-7995
Drip pan, plastic	010-1003	010-1003		Shelf, 18x32	397-7996	397-7996
Evaporator coil	351-6064	351-6064		Shelf, 24x28	397-7997	397-7997
Evaporator fan blade	351-6167	351-6167	351-6207	Shelf, 24x32	397-7998	397-7998
Evaporator fan defrost control			351-6208	Solenoid valve		351-6041
Evaporator fan guard			351-6209	Timer		219-4151
Evaporator fan motor	216-2671	216-2671	216-2676			
Expansion valve	351-6127	351-6127	351-5999			

WIRING SCHEMATIC - REFRIGERATED BASES



TROUBLESHOOTING REFERENCE CHART

This chart is provided for the assistance of refrigeration technicians **only** and is not intended for use by untrained or unauthorized service personnel.

If your Delfield unit is not operating properly, check the following **before** calling your Authorized Delfield Service Agent:

- check the power flow to the unit (plug in outlet? fuse and/ or circuit breaker OK?)
- readjust the thermostat

Compressor does not run

- | | |
|----------------------------------------|---------------------------------------------------------------------------|
| 1. Motor line open | 1. Close start or disconnect switch |
| 2. Fuse blown | 2. Replace fuse |
| 3. Control stuck open | 3. Repair or replace |
| 4. Pistons stuck | 4. Remove motor - compressor head. Look for broken valve and jammed parts |
| 5. Frozen compressor or motor bearings | 5. Repair or replace |

Unit short cycles

- | | |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 1. Control differential set too closely | 1. Widen differential |
| 2. Discharge valve leaking | 2. Correct condition |
| 3. Motor-compressor overload cutting out | 3. Check for high head pressure, tight bearings, stuck piston, clogged water or air-cooled condenser or water shutoff |
| 4. Shortage of gas | 4. Repair leak and recharge |
| 5. Leaky expansion valve | 5. Replace |
| 6. Refrigerant overcharge | 6. Purge |

Unit operates long or continuously

- | | |
|----------------------------------------|------------------------------------|
| 1. Shortage of gas | 1. Repair leak and recharge |
| 2. Control contacts frozen | 2. Clean points or replace control |
| 3. Dirty condenser | 3. Clean condenser |
| 4. Location too warm | 4. Change to cooler location |
| 5. Air in system | 5. Purge |
| 6. Compressor inefficient | 6. Check valves and pistons |
| 7. Plugged expansion valve or retainer | 7. Clean or replace |
| 8. Iced or plugged coil | 8. Defrost or clean |
| 9. Service load | 9. Keep doors closed |

Fixture temperature too high

- | | |
|----------------------------------------|--------------------------------------------|
| 1. Refrigerant shortage | 1. Repair leak and recharge |
| 2. Control set too high | 2. Reset control |
| 3. Expansion valve or strainer plugged | 3. Clean or replace |
| 4. Compressor inefficient | 4. Check valves and pistons |
| 5. Expansion valve set too high | 5. Lower setting |
| 6. Iced or dirty coil | 6. Defrost or clean |
| 7. Restricted or small gas lines | 7. Clear restriction or increase line size |

Head pressure too high

- | | |
|---------------------------|------------------|
| 1. Refrigerant overcharge | 1. Purge |
| 2. Air in system | 2. Purge |
| 3. Dirty condenser | 3. Clean |
| 4. Unit location too warm | 4. Relocate unit |

CAUTION: Do not attempt to repair or service this unit beyond these check points. Contact your equipment dealer for the nearest Authorized Delfield Service Agent. These are the only service agents the company will authorize to repair Delfield units. Repairs made by any other service agents without prior authorization by The Delfield Company will void the warranty on the unit.

Head pressure too low

- | | |
|-------------------------------------------------------|------------------------------------------|
| 1. Refrigerant shortage | 1. Repair leak and recharge |
| 2. Compressor suction or discharge valves inefficient | 2. Clean or replace leaky valve plates |
| 3. Unit location too cold | 3. None needed — efficiency is increased |

Unit is very noisy

- | | |
|----------------------------------------------|---------------------------------------------------------------------------------------------------|
| 1. Improper unpacking | 1. Remove shipping blocks and/or angles |
| 2. Insufficient compressor oil | 2. Add oil to proper level |
| 3. Tubing rattle | 3. Bend tubes away from point of contact |
| 4. Mountings loose | 4. Tighten |
| 5. Oil slugging or refrigerant flooding back | 5. Adjust oil level or refrigerant charge, and check expansion valve for leak or oversize orifice |

Compressor loses oil

- | | |
|---------------------------------------------|--------------------------------------------------------------------------------------------|
| 1. Shortage of refrigerant | 1. Repair leak and recharge |
| 2. Plugged expansion valve or strainer | 2. Clean or replace |
| 3. Oil trapping in lines | 3. Drain tubing toward compressor |
| 4. Short cycling | 4. Refer to "Unit short cycles" |
| 5. Superheat too high at compressor suction | 5. Change location of expansion valve bulb or adjust valve to return wet gas to compressor |

Frosted or sweating suction line

- | | |
|-------------------------------------------------|---------------------------|
| 1. Expansion valve admitting excess refrigerant | 1. Adjust expansion valve |
|-------------------------------------------------|---------------------------|

Hot liquid line

- | | |
|----------------------------------|-----------------------------|
| 1. Shortage of refrigerant | 1. Repair leak and recharge |
| 2. Expansion valve open too wide | 2. Adjust expansion valve |

Frosted liquid line

- | | |
|-----------------------------------------------------------|-------------------------------------|
| 1. Receiver shut-off valve partially closed or restricted | 1. Open valve or remove restriction |
| 2. Restricted dehydrator or strainer | 2. Replace restricted part |

Top condensor coils cool when unit is in operation

- | | |
|----------------------------|---------------------------------|
| 1. Shortage of refrigerant | 1. Repair leak and recharge |
| 2. Compressor inefficient | 2. Check and correct compressor |

Unit on vacuum — frost on expansion valve only

- | | |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 1. Ice plugging expansion valve orifice | 1. Apply hot wet cloth to expansion valve. Moisture indicated by increase in suction pressure. Install dryer |
| 2. Plugged expansion valve strainer | 2. Clean strainer or replace expansion valve |