IMPORTANT
WARRANTY ENCLOSED
for
GF/DD/BB/BM SERIES

This cooler has passed the
QUALITY CONTROL INSPECTION
and meets the high standards at Beverage-Air.
This inspection includes complete refrigeration
system, cabinet construction & finish.

* _____
Quality Control Inspector – Beverage-Air

WARRANTY REGISTRATION CARD

Cabinet Serial No. _____

Original Purchaser _____

Address _____
CITY STATE

Installation Location _____
NAME

_____
ADDRESS

Beverage-Air Model No. _____ Installation Date _____

This card must be mailed within 10 days after installation date to

BEVERAGE-AIR®

809-003A

BEVERAGE-AIR®

LIMITED WARRANTY

Beverage-Air warrants to the original purchaser the "Beverage-Air" unit sold and all parts thereof to be free from defects in material or workmanship, under normal use and service, for a period of one (1) year from the date of registration, or fifteen (15) months from date of shipment by us, whichever is earlier.

Our obligation under this warranty shall be limited to repairing or replacing f.o.b. factory any part of such product which proves thus defective and which our examination shall disclose to our satisfaction to be defective.

a. Any part returned to the company under the terms of this warranty must be accompanied by a record of the cabinet model, serial number and return authorization number, and such return shall be on the basis of TRANSPORTATION CHARGES PAID.

b. Improper operation due to low voltage conditions, inadequate wiring, and accidental damage are not manufacturing defects and are strictly the responsibility of the purchaser.

c. Condenser coils must be cleaned at regular intervals. Failure to do so can cause compressor malfunction, and will void warranty. This contract does not apply outside the limits of Continental United States, nor does it apply to any part which has been subject to misuse, neglect, alteration, accident, or to any damage caused by transportation, flood, fire or the acts of God.

This contract is not effective unless the Beverage-Air Warranty Registration Card, furnished with each Unit, is properly filled in and mailed to Beverage-Air within ten (10) days from date of installation.

The term "original purchaser" as used herein shall be deemed to mean that person, firm, association or corporation for whom the Refrigeration Unit referred to herein is originally installed.

ADDITIONAL
FOUR-YEAR COMPRESSOR REPLACEMENT WARRANTY

In addition to the warranty set forth above, Beverage-Air warrants the hermetically sealed compressor for an additional (4) years, not to exceed sixty (60) months from date of shipment from our plant provided, upon receipt of the compressor, manufacturer examination shows the sealed compressor to be defective. This extended warranty does not apply to any electrical controls, condenser, evaporator, fan motors, overload switch, starting relay, temperature control, dryer, accumulator, or wiring harnesses, which are covered by the standard warranty.

No claims can be made against this warranty for spoilage of products.

These warranties are in lieu of all other warranties, express or implied, and all other obligations or liabilities on our part, and we neither assume nor authorize any other person to assume for us any other obligation or liability in connection with the sale of said Refrigeration Units or any part thereof. This warranty shall not be assignable and shall be honored only in so far as the original purchaser.

Date _____ 1.88

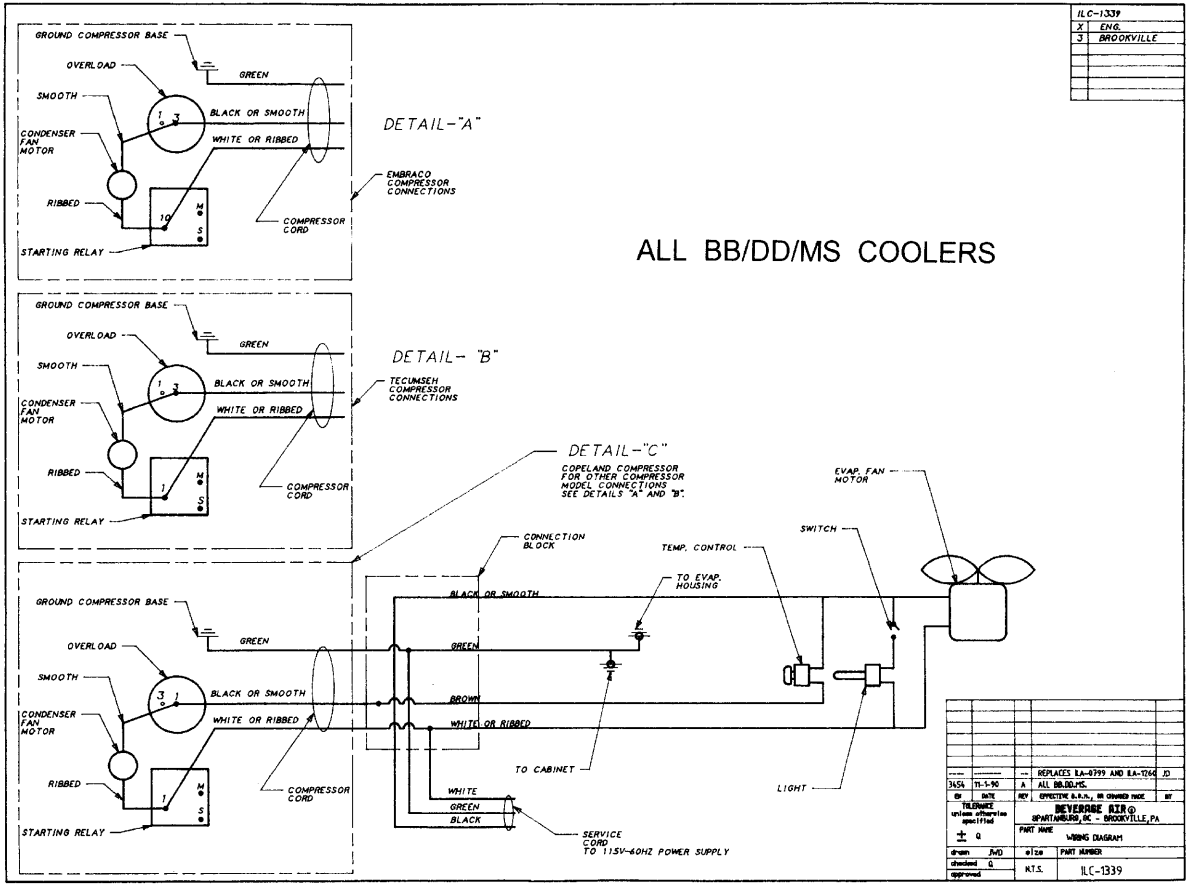
WARRANTY VALID ONLY IN U.S.A.

RETAIN THIS PORTION FOR YOUR RECORDS

_____
_____
_____
_____

PLACE
POSTAGE
HERE

BEVERAGE-AIR®
PO BOX 5932
SPARTANBURG, SC 29304-5932


ILC-1339
X ENG.
3 BROOKVILLE
GROUND COMPRESSOR BASE
OVERLOAD
GREEN
SMOOTH
BLACK OR SMOOTH
CONDENSER FAN MOTOR
WHITE OR RIBBED
RIBBED
STARTING RELAY
COMPRESSOR CORD
EMBRACO COMPRESSOR CONNECTIONS
DETAIL-"A"
TECUMSEH COMPRESSOR CONNECTIONS
DETAIL- "B"
DETAIL-"C"
COPELAND COMPRESSOR FOR OTHER COMPRESSOR MODEL CONNECTIONS SEE DETAILS "A" AND "B".
ALL BB/DD/MS COOLERS
CONNECTION BLOCK
TEMP. CONTROL
TO EVAP. HOUSING
EVAP. FAN MOTOR
SWITCH
BROWN
WHITE
TO CABINET
LIGHT
SERVICE CORD TO 115V-60HZ POWER SUPPLY
REPLACES RA-0799 AND RA-1266
3454 11-5-90 A ALL BB,DD,MS.
BEVERAGE AIR
SPARTANBURG, SC - BROOKVILLE, PA
WIRING DIAGRAM
ILC-1339

BEVERAGE-AIR®

BEVERAGE DISPENSER, BACK BAR COOLER AND GLASS FROSTER SERIES

GF, DD, BB, BM MODELS
INSTALLATION AND OPERATING INSTRUCTIONS

LOCATING COOLER

It is necessary to properly level cooler to provide adequate drainage and efficient functioning of the unit. Make sure there is enough room around the cooler to assure good air circulation through the condenser.

INSTALLATION OF DRAFT ARMS – DD, BM MODELS

To install draft arms, first place rubber washer over draft arm mounting holes in cabinet top and put beer line connector down through hole. Next secure each draft arm with four bolts provided. Place air hose clip over beer line and insert one inch plastic hose in draft arm, being careful not to disturb insulation. Remove top cover of draft arm and attach air hose clip to the 1/4 inch stainless steel elbow at faucet connection. Replace top cover. This clip will assure that air hose remains in the proper place at all times, keeping the beer faucet cold.

To retain complete mobility of the BarMobiles, the accessory CO_2 tank (up to five pounds in size) can be placed inside the cooler. For permanent installation, where a larger cylinder is desired, a "knockout" plug has been provided on all DD models on the outside of the cabinet through which the CO_2 line can be extended.

ELECTRICAL SUPPLY

Plug all standard models into a 115 volts A.C. 60 Hz. outlet. Low line voltage is often the cause of service complaints. Check to see that the line voltage is 110 volts or more with the unit running. Other motors or heavy appliances should not be used on the same circuit with the cooler. When working on the inside of the cooler, disconnect from electrical circuit for safety reasons. CAUTION: If an extension cord is necessary, use only a three wire grounding type of wire, size 16 AWG or larger; do not exceed 20 feet in length. The use of ungrounded cords or overloaded circuit voids compressor warranty.

STARTING UP OF UNIT – DD, BM, BB MODELS

Temperature control set at No. 5 position (normal) cools cabinet at 36° to 38°F. Allow cooler to function several hours, completely cooling cabinet and product before changing the control setting. The coolers are designed to maintain temperatures from 30° to 45°, according to control setting. Excessive tampering with the control could lead to service difficulties. Should it become necessary to replace temperature control, be sure it is ordered from an authorized Beverage-Air Distributor or direct from the factory.

STARTING UP OF UNIT – GF MODEL

Coldest setting of temperature control (arrow pointing at 3 o'clock position) will maintain glass temperatures at -10° to 15°F. Turn knob counter-clockwise for warmer setting.

AUTOMATIC DEFROST – GF MODEL

The defrost system includes an electric timer to automatically defrost the finned coil six times each 24-hour period. When the defrost cycle control switch is activated, the refrigeration system stops and the defrost heater is energized. After twenty minutes the defrost cycle terminates and the refrigeration system resumes normal operation.

MANUAL DEFROST – GF MODEL

Manual defrost can be initiated by rotating the defrost timer shaft (with screwdriver) in a clockwise direction up to one revolution until an audible click in the switch is heard. (The defrost control should never be turned counter-clockwise.) CAUTION: Do not turn defrost shaft past the audible click as this will terminate the defrost cycle and switch the refrigeration system back into normal operation. Normal practice is to initiate a defrost cycle manually one hour prior to your busy period. Then an automatic defrost cycle will occur each four hours thereafter.

CONDENSATE DRAINAGE – GF, BM AND BB MODELS

The condensate drains into a pan located just below condensing unit compartment grille. On the BM model, the condensate drains into a pan beneath the cabinet. Waste beer drains into a plastic jar placed inside the cooler which must be emptied and cleaned periodically. The condensate drain pans contain wicking to hasten the evaporation process so that plumbing is not required. These pans should be cleaned periodically.

CLEANING

Wash or clean the cooler inside and out at regular intervals to preserve the finish and appearance. If stainless steel becomes discolored or stained, it should be cleaned with standard cleaners, but not with steel wool. CONDENSER COILS MUST BE CLEANED AT REGULAR INTERVALS. FAILURE TO DO SO CAN CAUSE COMPRESSOR MALFUNCTION AND WILL VOID WARRANTY. Clean condenser every 6 months, depending upon usage, dust, etc. Clean as follows:

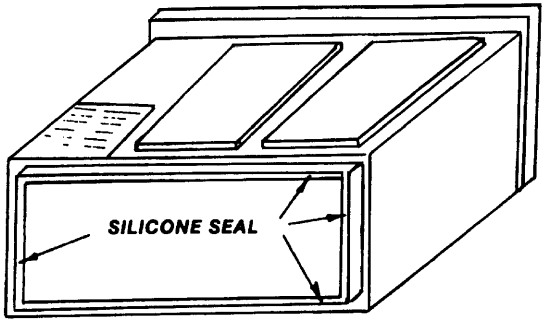
DD, BB, GF MODELS
Remove front grille and vacuum clean surfaces of condenser.

BM MODEL
Remove condensing unit cover (rear of cooler) and vacuum clean surfaces of condenser.

ALTERNATE CLEANING METHOD (BUT LESS EFFECTIVE), ALL MODELS:
Direct forced air through condenser from fan side.

AF 21156A

ILA-0962	
	ENG.
2	BKV.



WHEN SANITATION CODES REQUIRE SEALING TO FLOOR THIS METHOD MAY BE USED

1. Tip cabinet and apply a bead of silicone seal on bottom edge of the base.

2. Return cabinet to upright position and using proper equipment, lift cabinet into location.

2242		A	6/15/83	ALL BB, DD, MS, PT	DH
EN	SER NO		DATE	EFFECTIVE BM OR CHANGE MADE	BY

BEVERAGE-AIR.
SPARTANBURG, SOUTH CAROLINA BROOKVILLE, PENNSYLVANIA

PART NAME: Base Sealing

DRAWN	DH	SIZE	PART NUMBER
CHECKED			**ILA-0962**
APP			

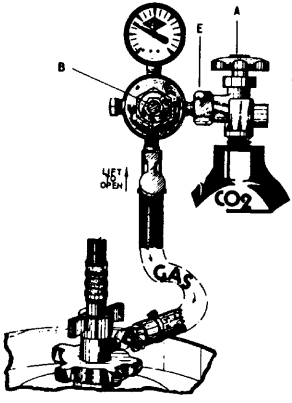
SAFETY FIRST

How to Install a CO_2 Regulator or Replace an Empty CO_2 Cylinder

1. To shut off gas pressure to dispenser always close cylinder valve "A". Then proceed with step 2.
2. Unscrew (counter-clockwise) regulator key "B" as far out as it will go. (The regulator is now in the off position.)
3. Remove regulator from empty cylinder at "E".
4. Remove dust cap from new cylinder at "E". Open and close valve "A" quickly to blow dust from outlet.
5. With cylinder valve "A" in closed position, re-attach regulator to cylinder at "E". (Use fibre washer to couple regulator to cylinder.)
6. Open valve "A" all the way. (This is important because this cylinder valve seals in two places.)
7. Screw regulator key "B" in (clockwise) until required pressure is reached.

A CO_2 cylinder contains 800 P.S.I. pressure regardless of size, and therefore, should be handled with care!

DIAGRAM NO. 1

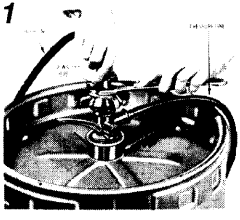


How to Tap a Keg of Beer

Sankey Type Barrel

DIAGRAM NO. 2

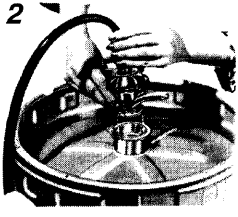
1



Connect line from pressure source to tap nipple (use clamp).

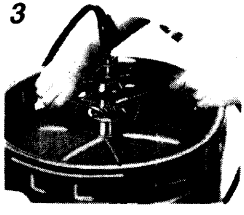
Using coupling washer, connect beer line to thread on probe. Holding flats on probe with wrench, tighten wing nut or hex nut on beer hose.

2



Align tap with lugs in barrel, insert tap.

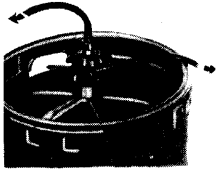
3



Turn tap body handle 1/4 turn clockwise until tight to secure tap to barrel. Turn on pressure regulator.

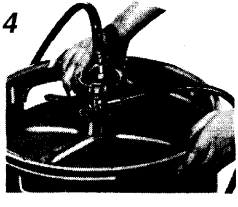
BARREL IS TAPPED

To Beer Faucet



To Pressure Source

4



Rotate wheel handle 1/4 turn clockwise. Be certain handle is turned as far as it will go to stop. This will assure that the beer and gas ports in the keg down tube will be fully opened.

TAP-RITE PRODUCTS DIVISION
P.O. Box 127
204 Railroad Ave.
Hackensack, New Jersey 07602

BEVERAGE-AIR®

ILA-0928

INSTALLATION AND OPERATING INSTRUCTIONS
QUARTERMASTER
MODEL QM-20

LOCATING COOLER

Find a proper location avoiding sunlight and heat registers. Make sure there is enough room around the cooler to assure good air circulation through the condenser.

INSTALLATION OF DRAFT ARM

To install draft arm, first place rubber washer over draft arm mounting holes in cabinet top and put beer line connector down through hole. Next secure draft arm with four bolts provided.

To retain complete mobility of the cooler, the accessory CO_2 tank (up to five pounds in size) must be placed inside the cabinet.

ELECTRICAL SUPPLY

Plug unit into a 115 volt 60 Hz. grounded outlet. Low line voltage is often the cause of service complaints. Check to see that the line voltage is 110 volts or more with the unit running. Heavy appliances should not be used on the same circuit with the cooler. When working on the inside of the cooler, disconnect from electrical circuit for safety reasons. CAUTION: If an extension cord is necessary, use only a three wire grounding type of wire, size 16 AWG or heavier; do not exceed 20 feet in length. The use of ungrounded cords or overloaded circuit voids compressor warranty.

STARTING OF UNIT

Temperature control set at No. 5 position (normal) cools cabinet at 36° to 38°F. Allow cooler to function several hours, completely cooling cabinet and product before changing the control setting. This cooler is designed to maintain temperatures from 30° to 45°, according to control setting. Excessive tampering with the control could lead to service difficulties. Should it become necessary to replace temperature control, be sure it is ordered from an authorized Beverage-Air Distributor or direct from the factory.

DEFROSTING

The beer cooler will not require much defrosting since the door opening is at a minimum. Defrosting should be done when the keg is changed. To do this unplug the beer cooler and leave the door open for fifteen minutes. Defrost water will accumulate in a pan under the evaporator and will drain to a plastic container in the storage area under the beer keg shelf.

Do not use a pick, knife etc., to pry ice from evaporator as this could puncture evaporator or damage the finish.

CLEANING OF CABINET

The exterior of the cabinet is vinyl-coated and should be cleaned only with lukewarm water with a small quantity of bicarbonate of soda, taking care not to scratch the vinyl. Mild detergents are also recommended. The interior can be cleaned in a similar manner.

THE CONDENSER MUST BE CLEANED AT REGULAR INTERVALS. FAILURE TO DO SO CAN CAUSE COMPRESSOR MALFUNCTION AND WILL VOID WARRANTY. Clean approximately every six months, depending upon usage, dust, etc. Pull cabinet away from wall and thoroughly vacuum the condenser and surrounding surfaces.

PREPARATION, OPERATION AND MAINTENANCE OF BEER DISPENSING SYSTEM

The pressure source in direct draw dispensers is bottled CO_2 gas. This gas is reduced to the proper dispensing pressure by a regulator and then delivered to the barrel through a flexible hose and tap (or vent). This tap has a check valve in it to prevent beer from backing up into the hose and regulator. Before a new barrel is tapped, this line should be purged by quickly opening and closing the regulator outlet valve, allowing a surge of gas to travel through the line and tap.

INSTALLING CO2 CYLINDER AND REGULATOR

Refer to diagram #1 for detailed instructions.

Make certain that all fittings in system are tight.

Always keep the CO_2 cylinder in vertical position.

The recommended pressure for the CO_2 system is 8-10 psi.

CAUTION: Handle all pressure system components with care. Do not use excessive pressures. Be sure instructions are understood thoroughly. If in doubt, contact your dealer/distributor for explanation.

TAPPING INSTRUCTIONS

Refer to diagram #2 for detailed instructions.

There are four (4) types of beer keg tap systems available for draft beer dispensing. All are described in the diagrams. This cooler will accept only the quarter-size keg. The Sankey type is the most modern and easiest of all to tap with the available taps. The type keg and tap you use will depend on the brand of beer you purchase. Your beer distributor can provide additional instruction and tips on how to maintain the beer to your satisfaction.

Following these tapping instructions, place the keg in front of cabinet for tapping. After all connections are complete and checked for leaks, place the CO_2 bottle in the rear (inside) of cabinet with the pressure gage visible for reading, then place the keg in position, allowing the door to be closed completely without interference.

Make certain that beer line and keg are not touching the evaporator.

CLEANING INSTRUCTIONS

Proper cleaning is important for the beer faucet, drain pan or any item coming in contact with food or beverages to prevent odors and tastes from bacteria.

Prior to removing the faucet for cleaning, close the tap valve at the keg.

The faucet should be cleaned every week. Using the spanner wrench provided, remove the faucet from the shank and thoroughly clean with hot water and detergent. Rinse completely and reinstall the faucet. (Note: The faucet may be taken apart for more thorough cleaning.)

NOTICE

This cooler is designed to maintain your beer keg temperature within the most desirable range of 35° to 40°F. You can expect this temperature with the proper temperature control setting and in a normal environment. It is important to understand that when the keg of beer is purchased, it must be installed inside the cooler as soon as possible to avoid excessive warm-up of the beer. If this happens, it may take many hours for the temperature to be reduced to the desirable range. No provision is made for rapid cooling of a keg which has become too warm. When purchasing your keg of beer, you can wrap the keg in a blanket or other insulation to help keep it cool prior to installing in the cooler.

METHODS FOR CLEANING STAINLESS STEEL

	CLEANING AGENT*	METHOD OF APPLICATION**	EFFECT ON FINISH
Routine Cleaning	Soap, ammonia or detergent and water.	Sponge with cloth, then rinse with clear water and wipe dry.	Satisfactory for use on all finishes.
Smears and Fingerprints	Arcal 20, Lac-O-Nu, Lumin Wash O'Cedar Cream Polish, Stainless Shine.	Rub with cloth as directed on the package.	Satisfactory for use on all finishes. Provides barrier film to minimize prints.
Stubborn Spots and Stains, Baked-On Splatter, and Other Light Discolorations.	Allchem Concentrated Cleaner.	Apply with damp sponge or cloth	Satisfactory for use on all finishes.
	Samae, Twinkle or Cameo Copper Cleaner	Rub with damp cloth.	Satisfactory for use on all finishes if rubbing is light.
	Grade FFF Italian pumice, whiting, or talc.	Rub with damp cloth.	Use in direction of polish lines on No. 4 (polished) finish. Use light pressure on No. 2 (mill) finishes, and Nos. 7 and 8 (polished) finishes.
	Liquid NuSteel	Rub with dry cloth. Use small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and Nos. 7 and 8 (polished) finishes.
	Paste NuSteel or DuBois Temp.	Rub with dry cloth using a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and Nos. 7 and 8 (polished) finishes.
	Copper's Stainless Steel Cleaner Revere Stainless Cleaner	Apply with damp sponge or cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and Nos. 7 and 8 (polished) finishes.
	Household cleansers, such as Old Dutch, Lighthouse, Sunbrite, Wyandotte, Bab-O, Gold Dust, Sapolio, Bon Ami, Ajax, or Comet	Rub with a damp cloth. May contain chlorine bleaches. Rinse thoroughly after use.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and Nos. 7 and 8 (polished) finishes.
	Grade F Italian Pumice, Steel Bright, Lumin Cleaner, Zud, Restoro, Sta-Clean, or Highlite.	Rub with a damp cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and Nos. 7 and 8 (polished) finishes.
	Penny-Brite or Copper-Brite.	Rub with a dry cloth using a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and Nos. 7 and 8 (polished) finishes.
Heat Tint or Heavy Discoloration	Penny-Brite or Copper-Brite.	Rub with a dry cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and Nos. 7 and 8 (polished) finishes.
	Past NuSteel, DuBois Temp, or Tarnite.	Rub with a dry cloth or stainless steel wool.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and Nos. 7 and 8 (polished) finishes.
	Revere Stainless Steel Cleaner.	Apply with damp sponge or cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and Nos. 7 and 8 (polished) finishes.
	Allen Polish, Steel Bright, Wyandotte, Bab-O or Zud.	Rub with a damp cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and Nos. 7 and 8 (polished) finishes.
Burnt-On Foods and Grease Fatty Acids, Milkstone (where swabbing or rubbing is not practical)	Easy-Off, De-Grease-It, 4 to 6% hot solution of such agents as trisodium phosphate or sodium tripolyphosphate or 5 to 15% caustic soda solution.	Apply generous coating. Allow to stand for 10-15 minutes. Rinse. Repeated application may be necessary.	Excellent removal, satisfactory for use on all finishes.
Tenacious Deposits, Rusty Discolorations, Industrial Atmospheric Stains	Oakite No. 33, Dilac Texo 12, Texo N.Y., Flash-Klenz, Caddy Cleaner, Turco Scale 4368 or Permag 57.	Swab and soak with clean cloth. Let stand 15 minutes or more according to directions on package, then rinse and dry.	Satisfactory for use on all finishes.
Hard Water Spots and Scale	Vinegar.	Swab or wipe with cloth. Rinse with water and dry.	Satisfactory for all finishes.
	5% oxalic acid, 5% sulfamic acid, 5 to 10% phosphoric acid, or Dilac, Oakite No. 33, Texo 12, Texo N.Y.	Swab or soak with cloth. Let stand 10-15 minutes. Always follow with neutralizer rinse, and dry.	Satisfactory for all finishes. Effective on tenacious deposits or where scale has built up.

Cleaning data supplied by AISI.

NOTES

* Use of proprietary names is intended only to indicate a type of cleaner, and does not constitute an endorsement, nor is omission of any cleanser to imply its inadequacy. It should be emphasized that all products should be used in strict accordance with instructions on package.

** In all applications a stainless steel wool or sponge or fibrous brush or pads are recommended. Avoid use of ordinary steel wool or steel brushes for scouring stainless steel.

SUGGESTIONS:

- Use the mildest cleaning procedure that will do the job effectively.
- Rub in the direction of polish lines for maximum effectiveness and to avoid marring the surface.
- Rinse thoroughly with fresh water after every cleaning operation.
- Wipe dry to avoid water marks.

BEVERAGE-AIR®

Spartanburg, South Carolina
Brookville, Pennsylvania
Honea Path, South Carolina
MADE IN U.S.A.

SERVICE AND ANALYSIS CHART

REFRIGERATION SYSTEM

MALFUNCTION	POSSIBLE CAUSE	SOLUTION
Compressor will not start - no hum	1. Line cord not plugged in. 2. Fuse removed or blown. 3. Overload protector tripped. 4. Temp control stuck in open position. 5. Wiring improper or loose.	1. Plug in the cord. 2. Replace fuse. 3. Refer to electrical section. 4. Repair or replace temp control. 5. Check wiring against diagram.
Compressor will not start - hums but trips on overload protector.	1. Low voltage to unit 2. Relay failing to close 3. Starting capacitor defective. 4. Improperly wired.	1. Determine reason and correct 2. Determine reason and correct,replace if necessary 3. Determine reason and replace 4. Check wiring against diagram
Compressor starts but does not switch off of start winding.	1. Low voltage to unit. 2. Relay failing to open. 3. Run capacitor defective 4. Comp Mt winding is open or shorted	1. Determine reason and correct. 2.Determine reason and correct,replace if necessary. 3. Determine reason and replace. * 4. Determine cause,correct, and replace comp
Compressor starts and runs, but short cycles on overload protector.	1. Additional current passing through overload protector. 2. Low voltage to unit. 3. Overload protector defective. 4. Run capacitor defective. 5. Excessive discharge pressure. 6. Compressor too hot - return gas hot.	1. Check wiring diagram. Check for added fan motors, pumps, etc. connected to wrong side of protector. 2. Determine reason and correct. 3. Check current, replace protector. 4. Determine reason and replace. * 5. Check ventillation, restrictions in cooling medium,restrictions in refrigeration system. * 6. Check refrigerant charge (fix leak if necessary). Check air flow across condenser.
Unit runs OK, but short cycles.	1. Overload protector. 2. Cold control. 3. Overcharge. 4. Air in system. 5. Undercharge.	1. Check wiring diag for correct wiring 2. Differential set too close. * 3. Reduce refrigerant charge. * 4. Recover and recharge. * 5. Fix leak and recharge with refrigerant.
Unit operates long or continuously.	1. Dirty condenser 2. Shortage of refrigerant. 3. Temp control contacts stuck or frozen 4. Evaporator coil iced. 5. Restriction in refrigeration system.	* 1. Clean condenser 2. Fix leak,add charge,correct charge 3. Replace Temp control * 4. Defrost 5. Determine location and remove.
Start capacitor open, shorted or blown.	1. Relay contacts not opening properly. 2. Low voltage to unit. 3. Improper relay.	1. Replace relay 2. Determine reason and correct. 3. Replace.
Run capacitor open, shorted or blown.	1. Improper capacitor. 2. Excessively high line voltage (110% of rated max).	1. Determine correct size and replace. 2. Determine reason and correct.
Relay defective or burned out.	1. Incorrect relay. 2. Line voltage too high or too low. 3. Relay being influenced by loose vibrating mounting.	1. Check and replace. 2. Determine reason and replace. 3. Remount rigidly.
Space temperature too high.	1. Control setting too high. 2. Overcharged with refrigerant. 3.Inadequate air circulation.	1. Reset control. * 2. Recover refrigerant and recharge with proper charge specified on dataplate. 3. Improve air movement.
Cooler freezing beverage.	1. Temperature control	1. Reset control.
Unit noisy.	1. Loose parts or mountings. 2. Tubing rattle. 3. Bent fan blade causing vibration. 4. Fan motor bearings worn.	1. Find and tighten. 2. Reform to be free of contact. 3. Replace blade. 4. Replace motor.

ALL SERVICING MUST COMPLY WITH STATE AND FEDERAL REGULATIONS

SALES OFFICE: P.O. BOX 5932, SPARTANBURG, SOUTH CAROLINA 29304
PLANTS: SPARTANBURG, SOUTH CAROLINA; HONEA PATH, SOUTH CAROLINA;
BROOKVILLE, PENNSYLVANIA
PHONE: 864-582-8111 TOLL FREE: 1-800-845-9800

- REFRIGERATION SYSTEM
  The Refrigeration System consists of a hermetically sealed compressor and finned evaporator and condenser.

- CONDENSER
  The condenser has wide finned spaces, which allow more air passage with less dirt or dust accumulation. The condenser still requires periodic cleaning for maximum efficiency.

- CONDENSER FAN MOTOR
  The condenser fan motor assembly is mounted between the condenser and the compressor. Air is drawn through the condenser, over the body of the compressor and out the rear of the unit compartment.
  The motor is wired to cycle with the compressor but will continue to operate should the compressor cut out on the overload. (The motor is permanently lubricated; therefore, oiling is not required).

- DRIER
  The drier is installed in the system just before the capillary tube. Its purpose is to trap minute particles of foreign material and absorb any moisture in the system.

- LIQUID CONTROL AND HEAT EXCHANGE
  Liquid refrigerant control to the evaporator of the system is accomplished by the use of a capillary tube. This capillary tube is soldered to the suction line to form a heat exchanger which subcools the liquid refrigerant to maintain high efficiency within the system.

REFRIGERATION SERVICE

- EVACUATION
  Moisture in a refrigeration system is directly or indirectly the cause of more problems and complaints than all other factors combined.
  When large amounts of moisture are present, system freeze ups will occur. Even in minute amounts, moisture will combine with refrigerants to form an acid. The corrosive action of this acid forms sludge, which will plug the lines and drier.
  Since most field type vacuum pumps cannot pull a low enough vacuum to remove all moisture from the system, it is recommended that the system be triple evacuated, breaking each time with dry refrigerant nitrogen. Use care to purge air from the charging hose when breaking the vacuum.

- CHARGING REFRIGERATION SYSTEM
  Since capillary tube systems have small critical refrigerant charges, we recommend that a field charge either be weighed in or put in from a portable charging cylinder. After maximum vacuum has been obtained as detailed above, attach charging cylinder to the system line making sure to purge air from hose with refrigerant. With the unit running, allow refrigerant to run slowly into the system until the desired charge is reached. When using Refrigerant Blends it is recommended to liquid charge into the high side of the system with the initial charge and then any remaining charge can be put into the suction side; however, care must be taken to meter the remaining amount into the low side so as not to cause excess liquid to go into the compressor.

OVERCHARGE
When the cabinet has pulled down to operating temperature, an indication of an overcharge is that the suction line will be cooler that normal with the compressor running. Running time will be higher than normal. Suction line will sweat or frost.
Reclaim excessive refrigerant from the system very carefully in small amounts waiting several minutes for the system to balance.

UNDERCHARGE
An undercharge or shortage of refrigerant will result in any of the following:
1. Lower than normal head pressure.
2. Lower than normal suction pressure.
3. Excessive or continuous operation of compressor.
4. Higher than normal cabinet temperature.

FEDERAL LAW REQUUIRES THAT REFRIGERANTS BE RECOVERED PRIOR TO SERVICING.

SERVICE RECORD