IMPORTANT
INFORMATION
for
DW/SF/SD 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.

*Copy of Warranty
Available Upon Request

809-002A

PLACE
POSTAGE
HERE

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

BEVERAGE-AIR®

BOTTLE COOLER SERIES DW, SF, SD 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.

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 100 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.

STARTING UP OF UNIT
Factory setting of temperature control is at No. 5 position (normal) on control dial which will maintain the product at about 36°F. For colder temperatures, turn knob clockwise one number at a time. Number 9 position (coldest setting) will maintain the produce at about 29°F to 31°F. Freezer temperature on SD models can be accurately controlled from -10°F to +10°F.

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.

CAPCATCHER
To install capcatcher, place slotted holes over the two mounting screws and push down. The mounting screws are pre-set at the factory for proper installation but should be turned in or out if further adjustment is required.

DEFROSTING - SD MODEL
To defrost the SD freezer compartment, set control dial on 1 or 2 overnight. Cabinet temperature will rise to about 45°F during the defrost period.

DRAINAGE - DW, SF, SD MODELS
The condensation drains into a condensate disposal pan located just below the unit compartment grill. This pan is equipped with wicking to hasten the evaporation process so plumbing is not required. The drain lines and pan should be thoroughly cleaned periodically as solids from spilled products will not evaporate, resulting in an unsanitary condition. Should the drain become clogged, it should be cleaned with a small round brush - do not use wire, as this may puncture the plastic drain line.

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 use, dust, etc. Clean as follows:

DW, SF, SD Models - Remove front grille and vacuum clean surfaces of condenser. (Alternate method for DW, SF, SD - Direct forced air through condenser from fan side.)

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 using 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.
	Past 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.
	Cooper'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.
	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.
Heat Tint or Heavy Discoloration	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.

ILA-1265
Instructions for SS Cleaning

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. Control stuck in open position. 5. Wiring improper or loose.	1. Plug in line cord. 2. Replace fuse. 3. Refer to electrical section. 4. Repair or replace control. 5. Check wiring against diagram.
Compressor will not start - hums but trips on overload protector.	1. Improperly wired. 2. Low voltage to unit. 3. Starting capacitor defective. 4. Compressor motor has a winding open or shorted.	1. Check wiring against diagram. 2. Determine reason and correct. 3. Determine reason and replace. 4. Determine reason and correct, replace if necessary.
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. Compressor motor has a winding open or shorted.	1. Determine reason and correct. 2. Determine reason and correct, replace if necessary. 3. Determine reason and replace. *4. Replace compressor.
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 ventilation, restrictions in cooling medium, restrictions in refrigeration. *6. Check refrigerant charge (fix leak if necessary).
Unit runs OK, but short cycles.	1. Overload protector. 2. Cold control. 3. Overcharge. 4. Air in system. 5. Undercharge.	1. Check wiring diagram. 2. Differential set too close. *3. Reduce refrigerant charge. *4. Recover and recharge. *5. Fix leak, add refrigerant.
Unit operates long or continuously.	1. Shortage of refrigerant. 2. Control contacts stuck or frozen. 3. Evaporator coil iced. 4. Restriction in refrigeration system. 5. Dirty condenser.	*1. Fix leak, add charge. 2. Clean contacts or replace control. 3. Defrost. *4. Determine location and remove. 5. Clean condenser.
Start capacitor open, shorted or blown.	1. Relay contacts not opening properly. 2. Low voltage to unit. 3. Improper relay.	1. Clean contacts or replace relay if necessary. 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. Improper overcharge. 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. 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.

BEVERAGE-AIR®

SALES OFFICE: PO Box 5932, Spartanburg, SC 29304-5932
PLANTS: SPARTANBURG, SOUTH CAROLINA;
HONEA PATH, SOUTH CAROLINA;, BROOKVILLE, PENNSYLVANIA
PHONE: 864-582-8111 TOLL FREE: 800-845-9800

FEDERAL LAW REQUIRES THAT SOME REFRIGERANTS BE RECOVERED PRIOR TO SERVICING.

REFRIGERATION SYSTEM

SERVICE AND ANALYSIS CHART

- **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 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 over load. (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 are present, system freeze ups will occur. Even in a minute amounts, moisture will combine with refrigerant 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 moisture from the system, it is recommended that the system be triple evacuated, breaking each time with dry refrigerant. 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 charge cylinder. After maximum vacuum has been obtained as detailed above, attach charging cylinder to the suction 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.

OVERCHARGE
When the cabinet has pulled down to operating temperature, an indication of an overcharge is that the suction line will be cooler than 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.

When correct charge has been obtained with cabinet at operating temperature, (several seconds after compressor has started after cycle), suction line will frost and remain frosted for approximately (60) seconds.

FEDERAL LAW REQUIRES THAT SOME REFRIGERANTS BE RECOVERED PRIOR TO SERVICING.

BEVERAGE-AIR®

KEY:

WIRE: ———

OPTIONAL: — · · —

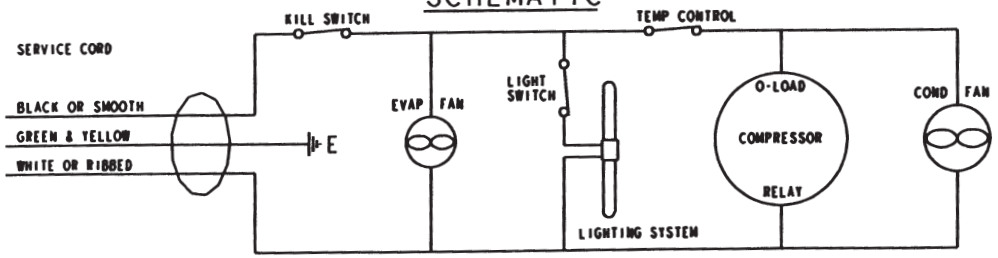
IL-2111B

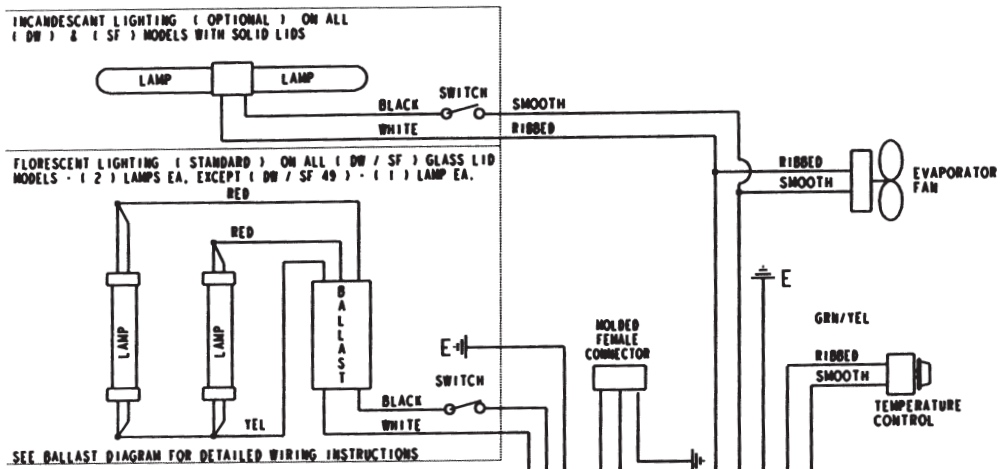
EN #: 8457 REV: A

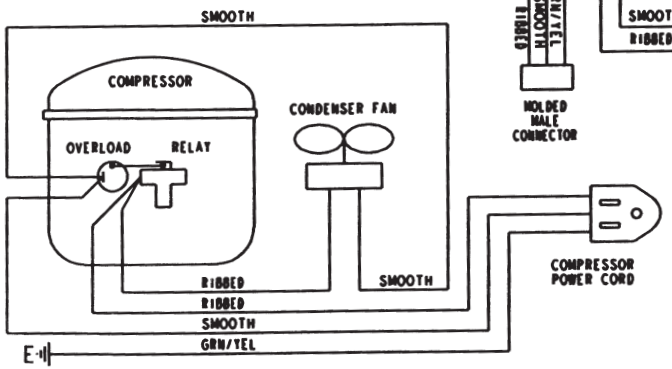
MODELS AFFECTED:

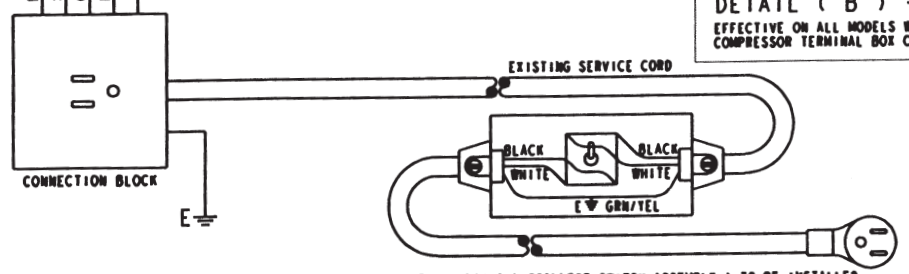
DW & SF

SCHEMATIC







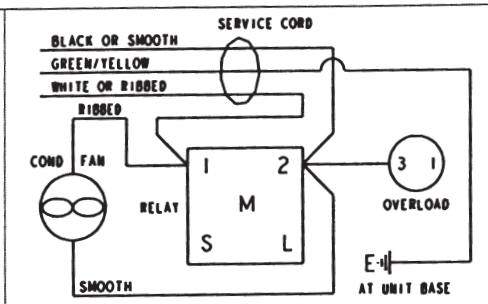


ABOVE WIRING IS FOR 1/3 HP UNITS AND UNDER
ALL MODELS INCLUDED EXCEPT (DW 79), (DW 94) & (SF 94)
SEE DETAIL (A) FOR WIRING 1/2 HP UNITS (AND UP)
SEE DETAIL (B) FOR WIRING (ALL) COPELAND UNITS
IF FUTHER DETAILS ARE NEEDED, SEE COMPRESSOR TERMINAL BOX COVER FOR WIRING CONNECTIONS FOR OVERLOAD, STARTING RELAY, AND MOTOR TERMINALS.

THE ABOVE (J-BOX & DISCONNECT SWITCH ASSEMBLY) TO BE INSTALLED ON (DW 79-11), (DW 94-11) & (SF 94-11) MODEL MODIFICATIONS FOR CSA. ON ALL OTHER MODELS THE EXISTING SERVICE CORD WILL RUN WITHOUT ANY INTERRUPTION AND BE TERMINATED WITH MOLDED MALE PLUG.

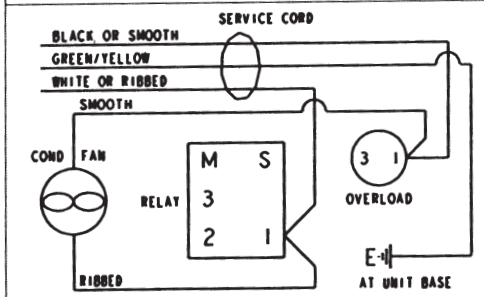
WIRING DIAGRAM

ALL DW & SF MODELS



DETAIL (A) -- TECUMSEH 1/2 HP

EFFECTIVE ON (DW & SF 94 AND DW 79) SEE COMPRESSOR TERMINAL BOX COVER FOR MORE DETAILED WIRING INSTRUCTIONS.



DETAIL (B) -- COPELAND (ALL)

EFFECTIVE ON ALL MODELS WITH COPELAND COMPRESSORS. SEE COMPRESSOR TERMINAL BOX COVER FOR DETAILED INSTRUCTIONS.

SERVICE RECORD