

MH750R

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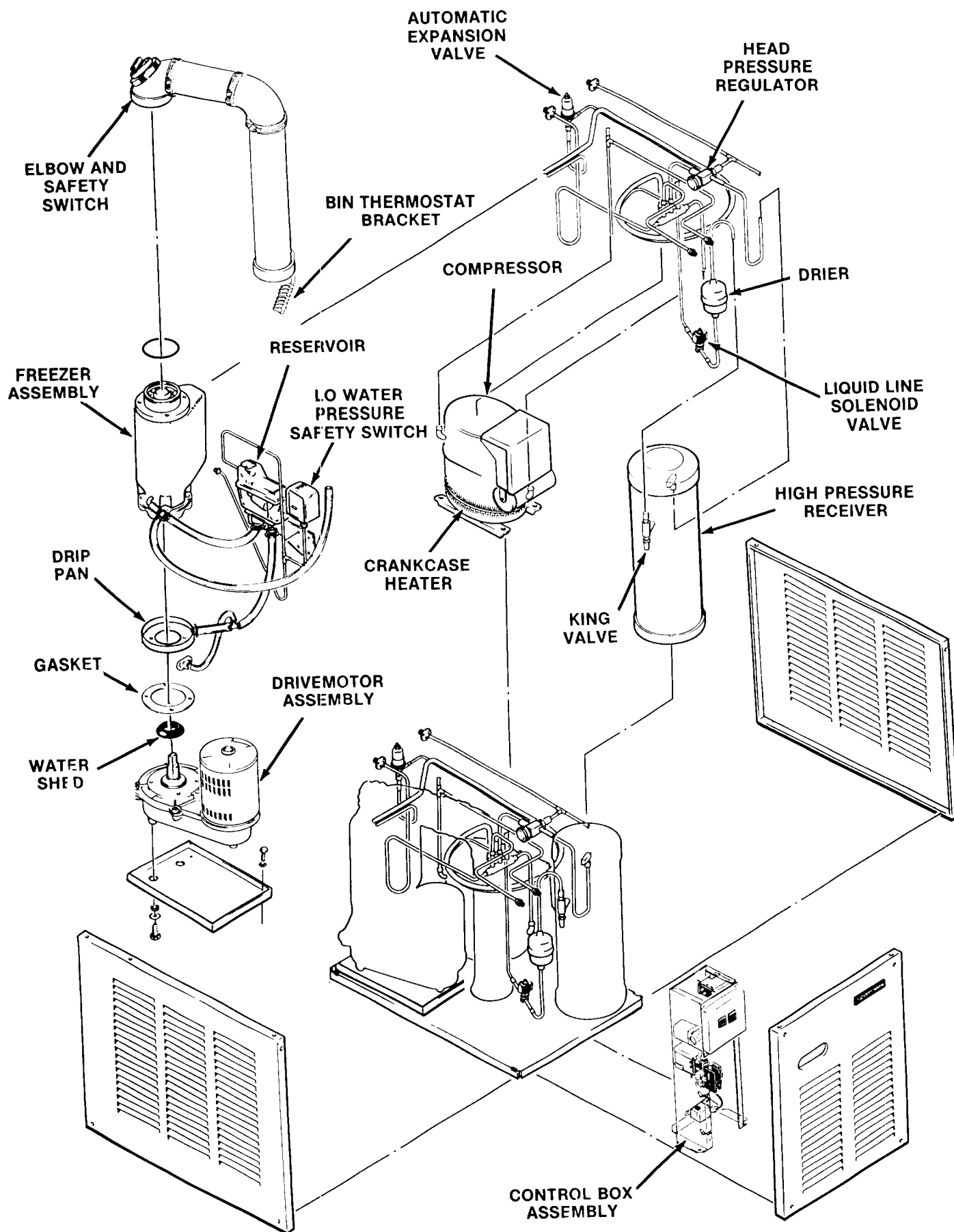
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MH750R GENERAL INFORMATION AND INSTALLATION



MH750R GENERAL INFORMATION AND INSTALLATION

INTRODUCTION

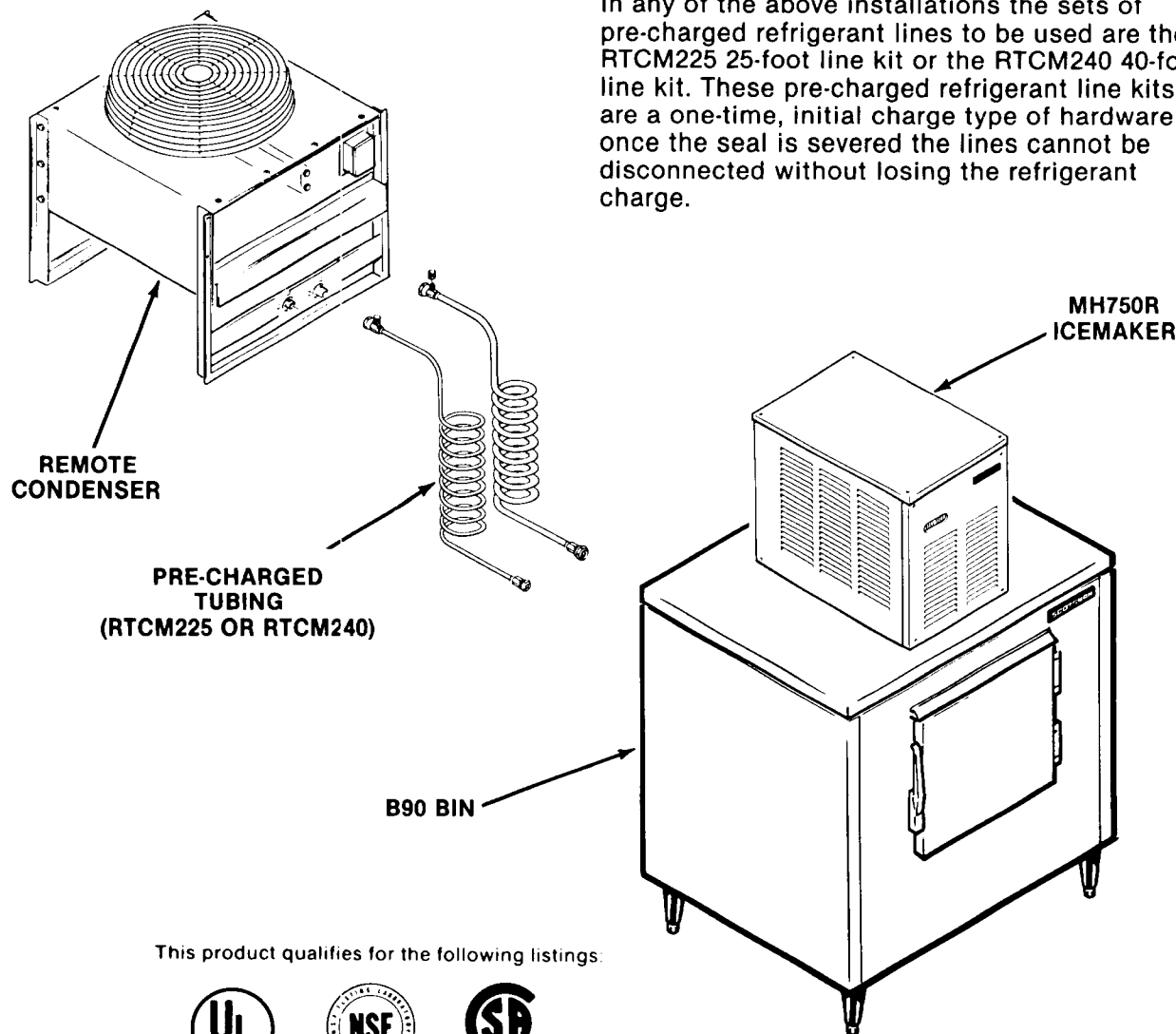
These instructions provide the specifications and the step-by-step procedures for the installation, start up and operation for the Scotsman Model MH750R modular nugget icemakers with remote condenser.

The Modular MH750R is a quality designed, engineered, constructed and thoroughly tested icemaking system, providing the utmost in flexibility to fit the needs of a particular user.

The model MH750R can be installed with either of two remote condensers and with either of two lengths of pre-charged refrigerant lines.

Single circuit and two circuit condensers are available. The single circuit condenser can accommodate a single icemaker. The two circuit condenser can accommodate two separate icemakers.

In any of the above installations the sets of pre-charged refrigerant lines to be used are the RTCM225 25-foot line kit or the RTCM240 40-foot line kit. These pre-charged refrigerant line kits are a one-time, initial charge type of hardware; once the seal is severed the lines cannot be disconnected without losing the refrigerant charge.



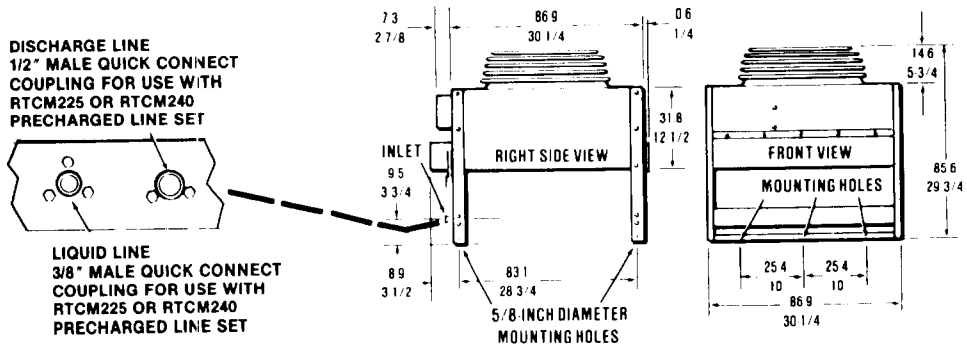
This product qualifies for the following listings:



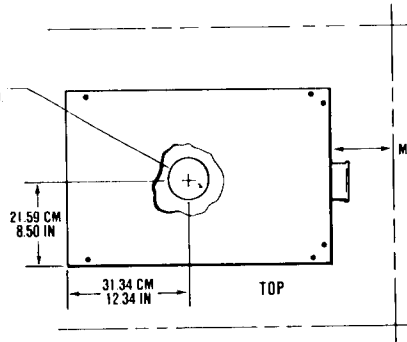
This icemaker has been engineered to our rigid safety and performance standards. The National Sanitation Foundation (NSF) seal, signifies that it is listed with the NSF and that it complies with the materials and construction standards of the NSF. In addition, the Underwriters Laboratories, Inc., (UL) Listing Mark signifies that its construction and design have been inspected and tested by them. NSF, UL inspectors also periodically examine production icemakers at the factory to assure continued compliance.

To retain the safety and performance built into this icemaker, it is important that installation and maintenance be conducted in the manner outlined in this manual.

MH750R SYSTEM SPECIFICATIONS

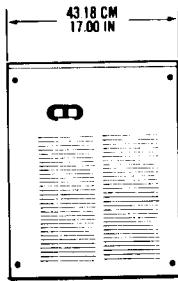


ICE DISCHARGE TUBE THRU BASE
8.20 CM 3.23 IN I.D./8.89 CM 3.50 IN O.D.

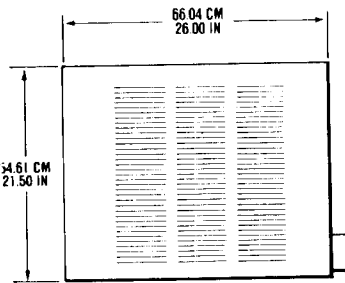


15.24 CM 6.00 IN
MINIMUM FOR UTILITIES AND AIR FLOW (SIDES AND REAR)

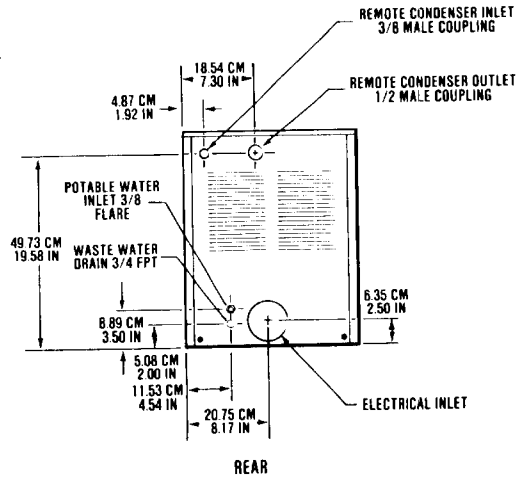
(Except for side by side installation on B90 bin.)



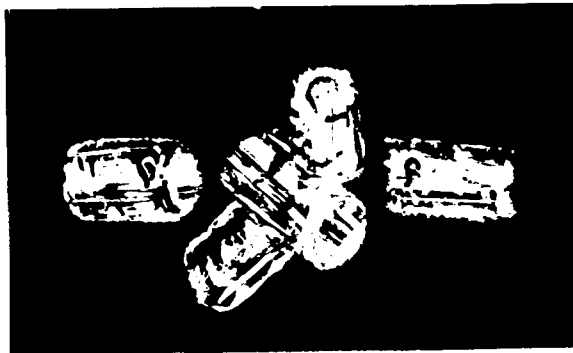
FRONT



SIDE

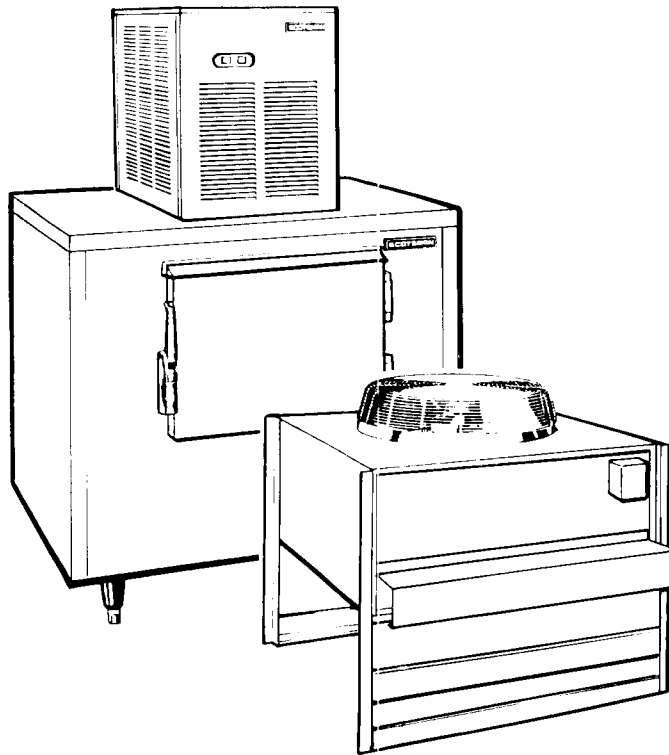


REAR



ICE NUGGETS

MH750R FOR THE INSTALLER



EQUIPMENT LIST/MH750R ICE SYSTEM

All of the following components must be available before assembly.

Icemaker - MH750RE-1A
 Remote Condenser - RC151-32B or RC302-32B

STORAGE BIN - With related bin tops, refer to listing below

We reserve the right to make product improvements at any time. Specifications and design are subject to change without notice.

SPECIFICATIONS

Model Number	(Height - w/o Legs) Dimensions H" x W" x D"	Cube	Cond. Type	Finish **	Basic Electrical	Comp. H.P.	No. of Wires	Min. Circuit Ampacity †	* Max. Fuse Size	Ship. Wt. lbs./kg.
MH750RE-1A	21½ x 17 x 26	Nuggets	Remote	EC	115/60/1	3/4	2	16.0	25	195/88

**EC Charcoal Brown high-gloss, baked enamel finish on leathergrain embossed steel.
 †Use this value to determine minimum wire size as per National Electric Code Standards

★ Or HACR type circuit breakers.

SPECIFICATIONS

Model Number	Dimensions H" x W" x D"	Cond. Unit	Basic Electrical	Comp. H.P.	Min. No. of Wires	Circuit Ampacity †	Max. Fuse Size	Ship. Wt. lbs./kg.
RC151-32B	29¾ x 32 x 39¾	R-Air	208-230/60/1	—	2	2.0	15	115/52
RC302-32B	29¾ x 32 x 39¾	R-Air	208-230/60/1	—	2	2.0	15	135/61

Produces up to 510 lbs. of ice at 90°F condenser air, 90°F indoor air and 70°F water. Ice capacity will vary depending upon air and water temperatures.

IMPORTANT OPERATING REQUIREMENTS

* Air Temperatures	MINIMUM 50°F (10.0°C)	MAXIMUM 100°F (38°C)
Water Temperatures	40°F (4.4°C)	100°F (38°C)
Water Pressures	20 lbs. gauge	120 lbs. gauge
Electrical Voltage Variations		
Voltage rating specified on nameplate	-10%	+ 10%

* This does not include the remote condenser. Remote condensers are designed to operate in outdoor installations in a temperature range of -20° to 120° F.

Extended periods of operation at temperatures exceeding these limitations constitutes misuse under the terms of Scotsman Manufacturer's Limited Warranty, resulting in a loss of warranty coverage.

OPTIONAL STAINLESS STEEL PANEL KITS

SPKMH750A replaces top, front and 2 side panels. Not factory installed.

STORAGE BINS:

The MH750R is dimensioned to fit on the following bins:

BH500, HTB500 for use with KBT10 Top.

B60 and BX25 for use with KBT9 Top.

B90 and BX83 for use with KBT4H Top.

BH750 and BH1000 fits with KBT8 2 machines side by side.

PRE-CHARGED REFRIGERANT TUBE KITS

RTCM225 25 foot pre-charged with R12 Refrigerant tubing with connectors.

RTCM240 40 foot pre-charged with R12 Refrigerant tubing with connectors.

MH750R FOR THE INSTALLER

LOCATION AND LEVELING — ICEMAKER

CAUTION

This icemaker is NOT designed for outdoor installations or where air temperature is below 50-degrees F. or above 100-degrees F., and the water temperature is below 40-degrees F. or above 100-degrees F. Operation at temperatures exceeding these limitations will constitute misuse under the terms of the SCOTSMAN Manufacturer's limited warranty coverage.

This does not include the Remote Condenser. Remote condensers are designed to operate in outdoor installations in a temperature range of -20° to 120° F.

NOTE

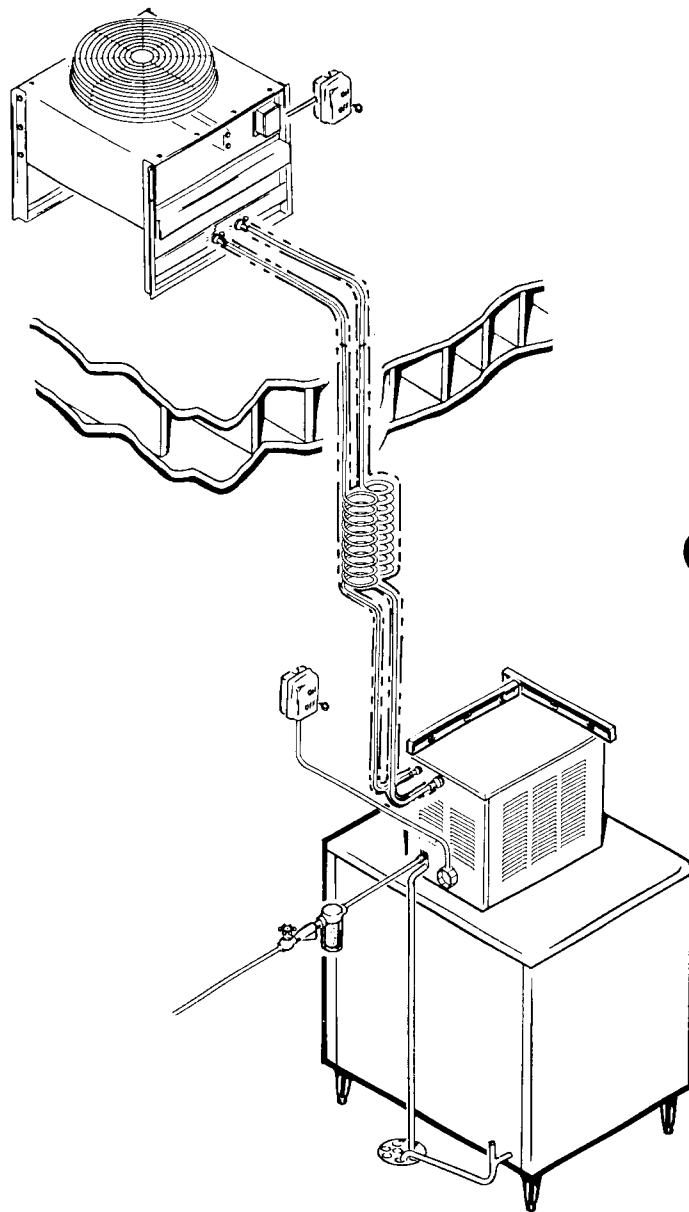
Prior consideration for location site shall include:

*Minimum room temperatures 50-degrees F.
Maximum room temperature 100-degrees F.*

*Water inlet temperatures:
Minimum 40-degrees F.
Maximum 100-degrees F.*

SERVICE ACCESS: Adequate space for all service connections through the back of the Cabinet. A six-inch minimum clearance at back.

1. Position the bin in the selected permanent location.
2. Level the selected bin and top in both the left-to-right and front-to-back directions.
3. Install bin top. Remove knockout of location to be used.
4. Carefully lift the MH750R onto bin top, over knockout.



MH750R FOR THE INSTALLER

INSTALL TRANSPORT TUBE ASSEMBLY

The model MH750R is designed to be installed on top of an ice storage bin and the ice transport tube and bin thermostat bracket extend through the cabinet base and into the ice storage bin.

The ice transport tube, bin thermostat bracket must be assembled and installed before operation.

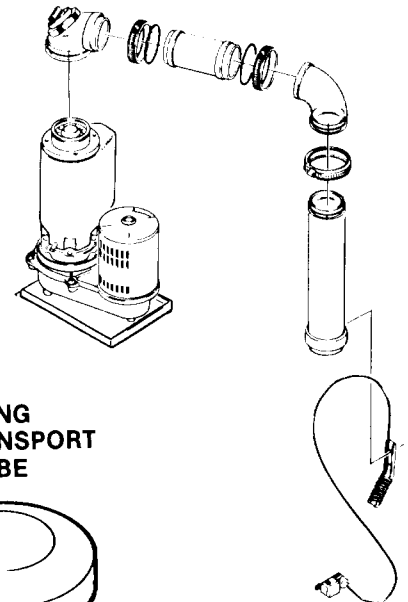
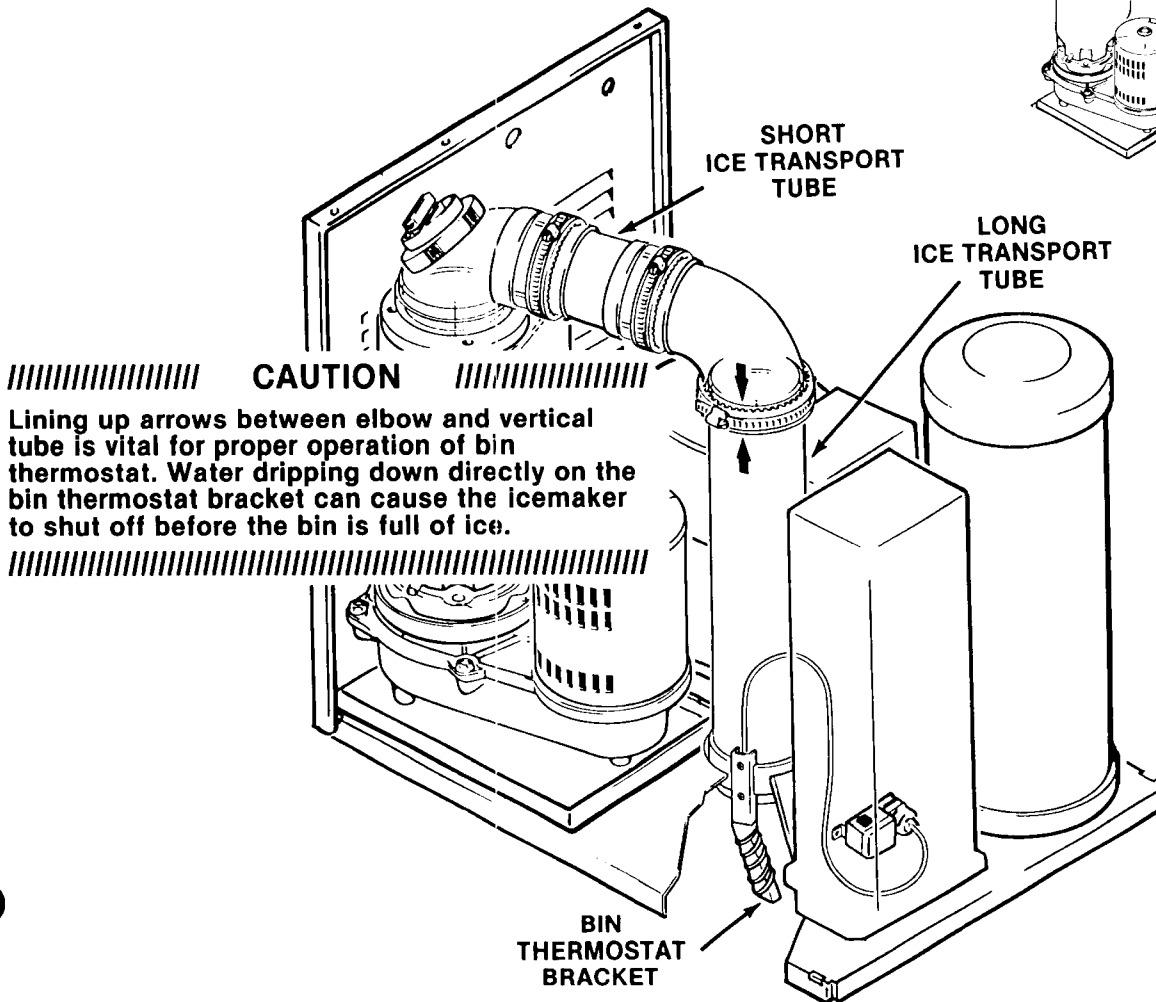
1. Remove cabinet top, front and both side panels.
2. Remove packing material and remove ice transport tube parts.
3. Carefully uncoil bin thermostat capillary tube and bin thermostat bracket to gain enough length for assembly.
4. Attach the bin thermostat bracket to the long tube using the two screws provided. Insert the bin thermostat bracket end through the center hole in base. Install the o-rings onto the grooves in the horizontal ice transport tube and, attach the vertical tube to the horizontal tube with the screw clamp and "U" channels provided.

5. Insert bin thermostat bracket and ice tube into center hole in base of icemaker and rotate the tube until arrows line up.

CAUTION

Lining up arrows between elbow and vertical tube is vital for proper operation of bin thermostat. Water dripping down directly on the bin thermostat bracket can cause the icemaker to shut off before the bin is full of ice.

6. Route bin thermostat capillary tube in a clean path from the bin thermostat control to the bin thermostat bracket. DO NOT KINK or touch other components in the cabinet.



MH750R FOR THE INSTALLER

REMOTE CONDENSER AND PRE-CHARGED LINES — INSTALLATION

Location Considerations:

Remote Condenser - Must be above icemaker. Limited to a 40-foot length or a 25-foot length of pre-charged refrigerant lines from the rear of the icemaker chassis to the remote condenser.

Best available location protected from the extremes of dirt, dust, and sun. The condenser location is very important for optimum performance as reflected roof heat or stagnant air will adversely affect ice production.

Must meet local building code installation requirements.

Remote Condenser - Roof Attachment:

1. Install and attach the remote condenser to the roof of the building using the methods and practices of building standards that conforms to and meets the local building code requirements in your area.

Pre-Charged Refrigerant Lines:

1. Each set of pre-charged refrigerant lines consist of a 3/8-inch diameter self-sealing LIQUID line and a 1/2-inch diameter self-sealing DISCHARGE line. One coupling on each line is fitted with a charging port, which provides the service man with access for service gauges at the REMOTE CONDENSER location when necessary.

NOTE

The openings in the building ceiling or wall listed in the next step are minimum sizes recommended through which the pre-charged refrigerant lines may pass, and are to be considered only if they conform to and meet the local building code requirements in your area.

2. Minimum recommended size for opening required in a ceiling or wall for the precharged refrigerant lines to pass is 1-3/4 diameter.

PRE-CHARGED TUBING KIT ROUTING:

////////// CAUTION //////////

Do not connect pre-charged tubing until all routing and forming of tubing is complete. See Page 10 for connecting instructions.

////////////////////////////////////

Excess Length of Pre-Charged Refrigerant Lines:

At installations where the icemaker chassis-to-remote condenser refrigerant line path is substantially LESS than the 25-foot length or 40-foot length of pre-charged refrigerant line kit to be installed, route and dress the excess refrigerant line as follows:

1. Follow straight line routing when possible.
2. Retain excess pre-charged refrigerant line INSIDE the building.
3. SPIRAL the excess footage of the pre-charged refrigerant line(s) in the best selected INSIDE location and in a manner that PREVENTS refrigerant TRAPPING. See *Pre-Charged Refrigerant Line Routing* illustration for recommended methods of spiralling the excess refrigerant lines.

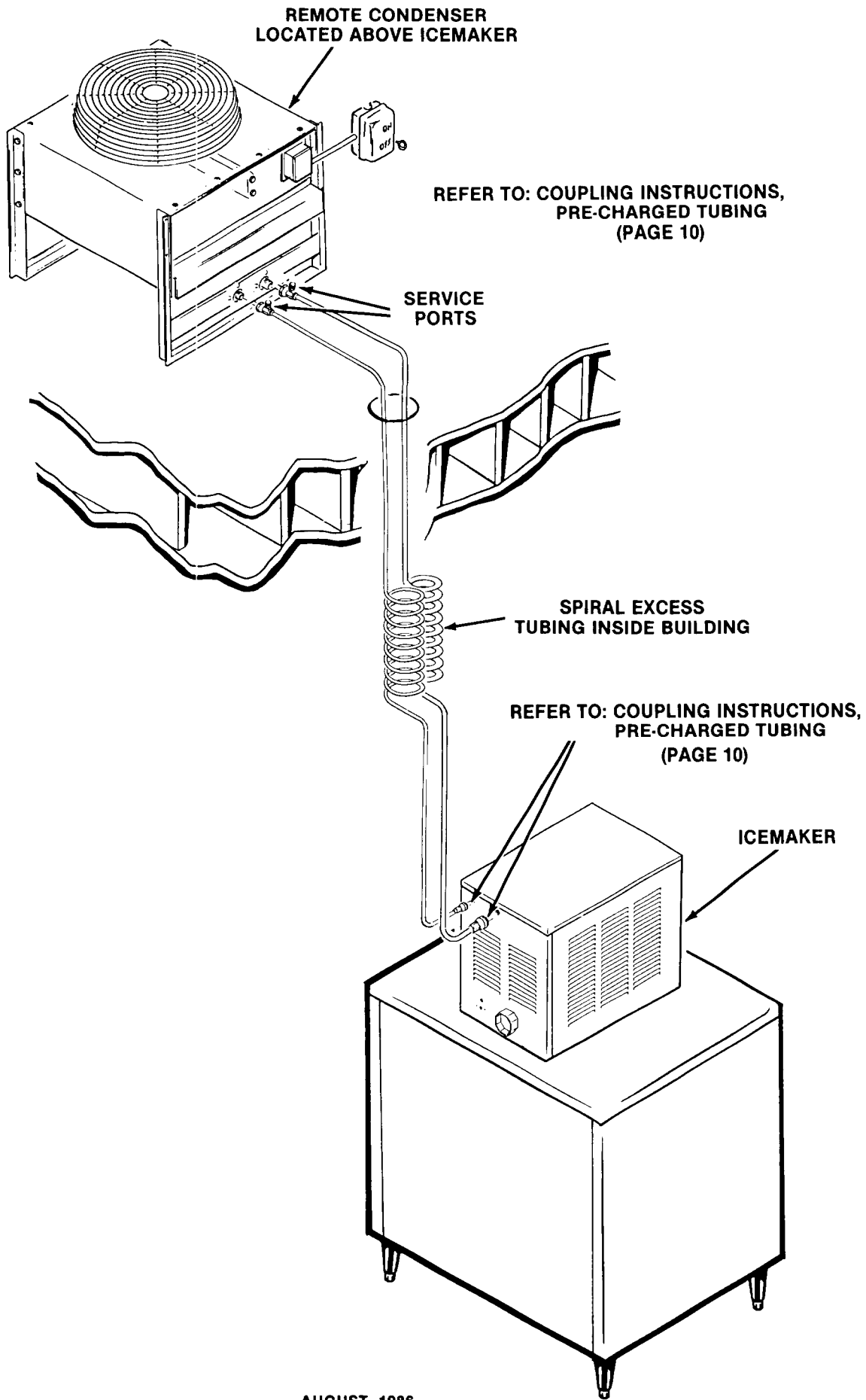
////////// CAUTION //////////

DO NOT kink or crimp the refrigerant lines. DO NOT bend the excess refrigerant lines in a vertical LOOP(s), which allow trapping of refrigerant in LOW sections during OFF time. Bend and shape the excess refrigerant lines in VERTICAL spirals, not HORIZONTAL spirals. See Pre-Charged Refrigerant Line Hook-Up.

////////////////////////////////////

4. Insulate the pre-charged tubing lines individually if not insulated from the factory.

MH750R FOR THE INSTALLER



MH750R FOR THE INSTALLER

COUPLING INSTRUCTIONS, PRE-CHARGED TUBING

//////////////////// CAUTION //////////////////////

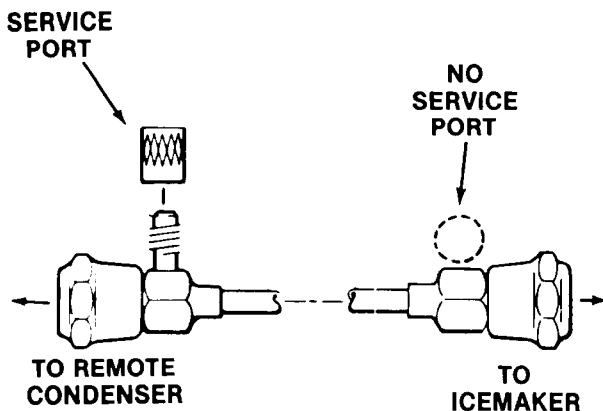
The couplings on the sets of pre-charged refrigerant lines, the refrigerant fittings on the remote condenser and the rear of the icemaker chassis are SELF-SEALING and should be connected as follows:

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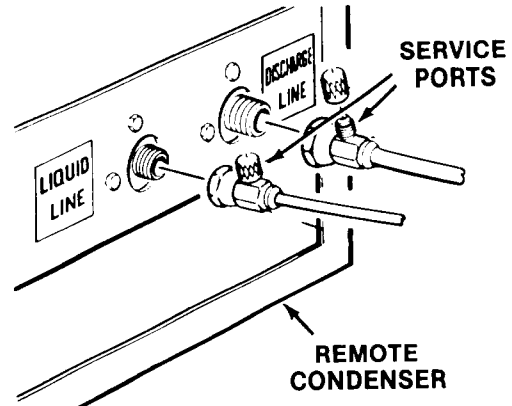
1. Remove protector caps and plugs and carefully wipe coupling seats and threaded surfaces with a clean cloth to prevent the inclusion of dirt or any foreign material in the system.
2. LUBRICATE male half diaphragm and synthetic rubber seal with refrigerant oil. Thread coupling halves together by hand to insure proper mating of threads. Use proper size wrenches (on coupling body hex and on union nut) and tighten until coupling bodies "bottom" or a definite resistance is felt.
3. Using a marker or ink pen, mark a line lengthwise from the coupling union nut to the bulkhead. Then tighten an additional 1/4 turn. The misalignment of the line will show the amount the coupling has been tightened. This final 1/4 turn is necessary to insure the formation of leakproof joint.

ALWAYS USE TWO WRENCHES WHEN TIGHTENING THESE FITTINGS. ONE AS BACKUP WRENCH TO PREVENT TWISTING OF TUBING AND POSSIBLE KINKING OR LINE RUPTURE.

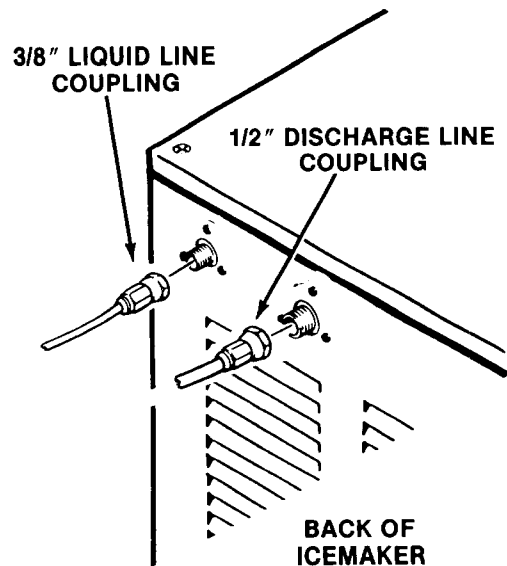
BE SURE to connect the ends of the precharged refrigerant lines that have the charging port fittings, TO THE REMOTE CONDENSER FITTINGS. This gives the serviceman access for service gauges at the REMOTE CONDENSER location when necessary.



4. Connect the 3/8-inch diameter refrigerant line coupling with the SERVICE PORT fitting, to the remote condenser refrigerant fitting labeled, LIQUID LINE, as detailed in Coupling Instructions.
5. Connect the 1/2-inch diameter refrigerant line coupling with the CHARGING PORT fitting to the Remote Condenser refrigerant fitting labeled, DISCHARGE LINE. Tighten as detailed in Coupling Instructions.



6. Connect the 3/8-inch diameter refrigerant line coupling to the refrigerant fitting on the upper right rear of the icemaker chassis labeled, LIQUID LINE. Tighten as detailed in Coupling Instructions.
7. Connect the 1/2-inch diameter refrigerant line coupling to the refrigerant fitting on the upper, right rear of the icemaker chassis labeled, DISCHARGE LINE. Tighten as detailed in Coupling Instructions.



Coupling — Pre-Charged Tubing

MH750R FOR THE ELECTRICIAN

ELECTRICAL CONNECTIONS

The icemaker and the remote condenser must be connected to separate circuits. When the system is operating, the icemaker cycles as required by the bin thermostat and the remote condenser operates continuously.

////////// WARNING //////////

This icemaker requires a SOLID EARTH GROUND that meets the national, state and local electrical code requirements. To prevent possible SEVERE ELECTRICAL SHOCK INJURY to individuals or extensive damage to equipment, install the approved SOLID EARTH GROUND wire to this icemaker. SEE wiring diagram.

////////////////////////////////////

SEE NAMEPLATE of current requirements to determine wire size to be used for electrical hookup.

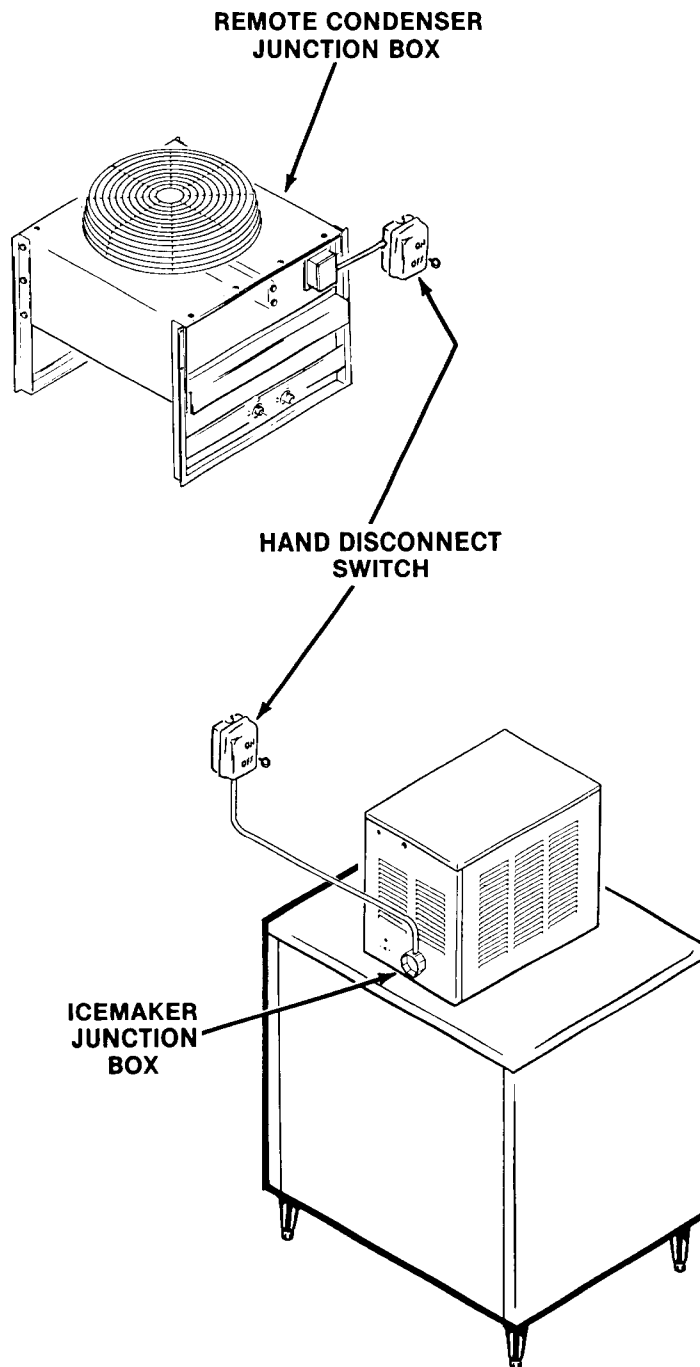
ICEMAKER

Be certain the icemaker is connected to its own electrical circuit and individually fused. The maximum allowable voltage variation should not exceed ten percent of the nameplate rating, even under starting conditions. Low voltages can cause erratic operation and may be responsible for serious damage to the overload, switch and motor windings.

REMOTE CONDENSER

The remote condenser must be wired in accordance with local and national electrical codes with a minimum of 18 Awg wire with a ground bonding wire connected to the ground screws provided in both the condenser and machine field wiring boxes. All outdoor wiring must be in rainproof conduit.

All external wiring should conform to the national, state and local electrical code requirements. Usually an electrical permit and services of a licensed electrician will be required.



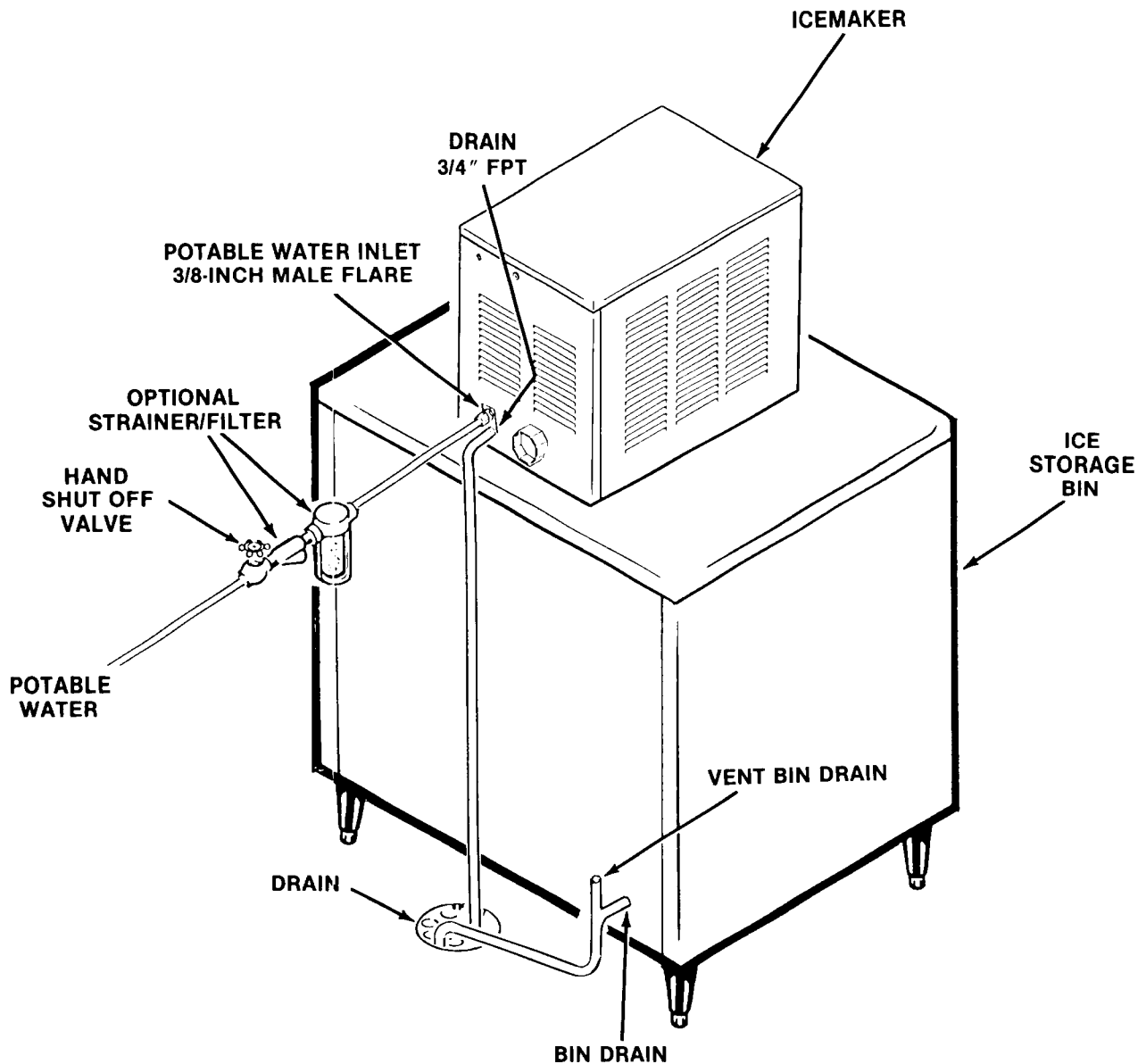
MH750R FOR THE PLUMBER

WATER SUPPLY AND DRAIN CONNECTIONS

The recommended water supply line is a 3/8-inch O.D. copper tubing with a minimum operating pressure of 20 PSIG and a maximum of 120 PSIG. Connect to cold water supply line with standard plumbing fittings with a shutoff valve installed in an accessible place between the water supply and the icemaker. In some cases a plumbing permit and services of a licensed plumber will be required.

DRAIN CONNECTIONS: All drains are gravity type and must have a minimum of 1/4-inch fall per foot on horizontal runs. The drains are to be installed to conform with the local plumbing code. Install a vertical open vent on drain line to ensure good venting. The drain receptacle must be either trapped or vented.

Recommended bin drain is 5/8-inch O.D. copper tubing and should be vented and run separately.

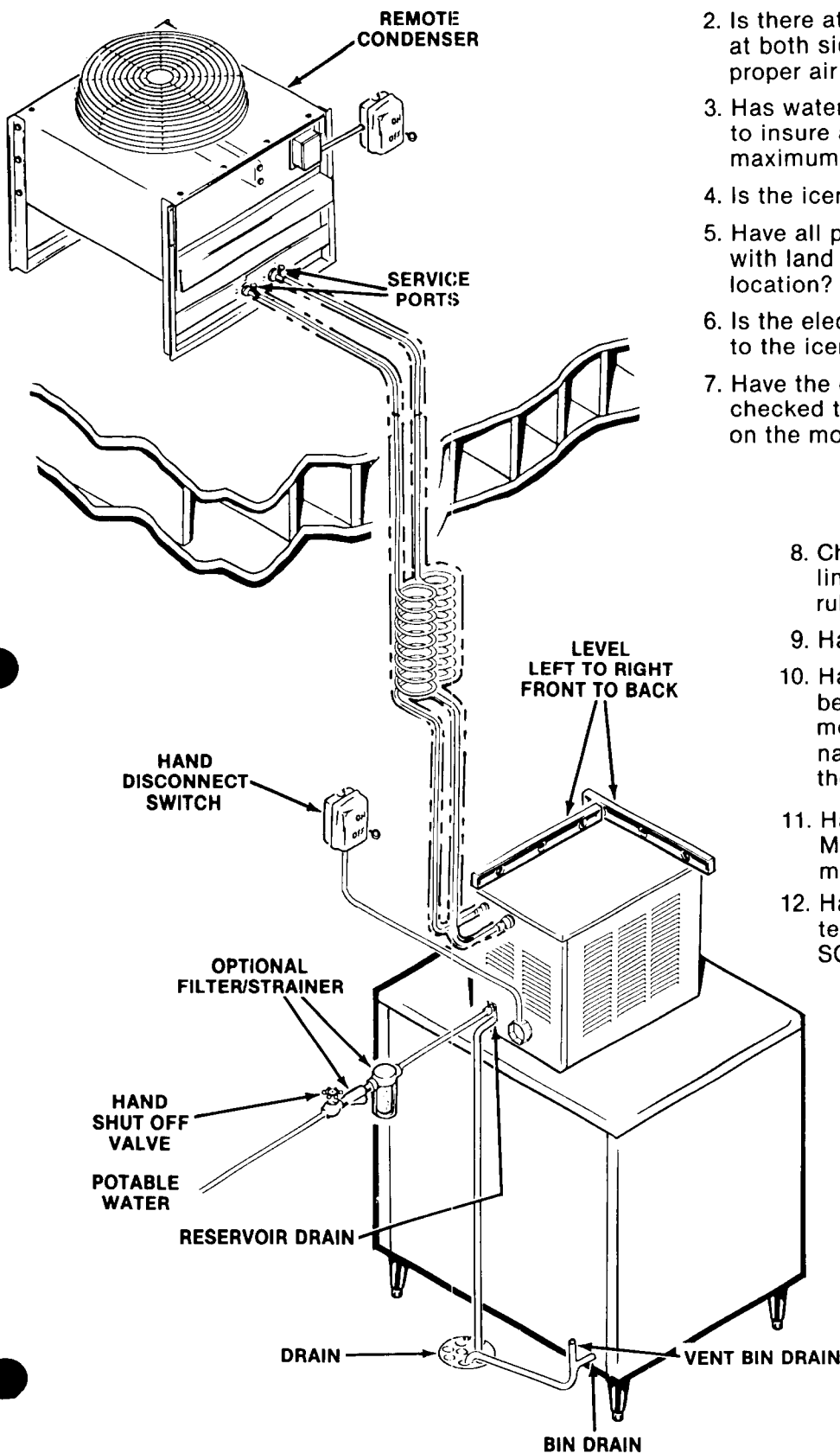


MH750R GENERAL INFORMATION AND INSTALLATION

FINAL CHECK LIST

1. Is the cabinet in a room where ambient temperatures are within the minimum and maximum temperatures specified?
2. Is there at least six inches clearance at both sides and back of the cabinet for proper air circulation?
3. Has water supply pressure been checked to insure a minimum of 20 PSIG and a maximum of 120 PSIG operating pressure?
4. Is the icemaker and the remote unit level?
5. Have all plumbing connections been made with land shut-off valve in an accessible location?
6. Is the electrical wiring properly connected to the icemaker and the remote unit?
7. Have the compressor hold-down nuts been checked to be sure the compressor is snug on the mounting pads?

8. Check all refrigerant lines and conduit lines, to guard against vibration or rubbing and possible failure.
9. Have the bin and cabinet been wiped clean?
10. Has the Manufacturer's Registration Card been properly filled out? Check for correct model and serial numbers from Serial nameplate, then mail the completed card to the SCOTSMAN factory.
11. Has the owner/user been given the Service Manual and instructed how to operate and maintain the icemaker?
12. Has the owner been given the name and telephone number of the authorized SCOTSMAN Service Agency serving him?



MH750R OPERATING INSTRUCTIONS

PRE-START

1. Verify that the MASTER SWITCH is in the OFF position.
2. Operate the switch at the building source to supply electrical power to the icemaker a minimum of 12 hours BEFORE start up.

START-UP

DO NOT start icemaker until the 12-hour pre-start Heating of the compressor has been completed. The dome of the compressor must be warm before start up.

1. Remove screws and the top, side and front panels.
Remove the stem cap from the receiver outlet (King) valve and fully open the valve. Replace the cap. Check for leaks at the Stem Cap.
2. OPEN the water supply line shutoff valve.
3. Observe the water filling operation, see water schematic.
 - a. Water flows into water reservoir.
 - b. Water flows through water feed line to bottom of freezer assembly.
 - c. Float moves up as water rises.
 - d. Float stops water flow, when water level reaches the molded horizontal line, on the body of the water reservoir.
4. Check all internal water connections for leaks.
5. Operate the switch at the building source to supply electrical power to the remote condenser. See the motor operate.
6. Press the Master ON-OFF pushbutton to on and momentarily contact the START-RESET pushbutton to start the automatic icemaker operation.

CAUTION

BE ALERT that momentary LOSS OF POWER, such as a brief power outage, will cause the RED light of the START-RESET pushbutton to turn ON. It must be PRESSED, to reset and restart the icemaker.

Repeated need to PRESS the START-RESET pushbutton, requires checking for:

1. Faulty bin thermostat control.
2. Need to clear jammed ice tube.
3. Loose wiring connections.

CAUTION

7. Observe that ice begins dropping into the ice storage bin.
8. Let the system operate until ice covers the bottom of the bin. Check for any excess noises beyond normal compressor noise at the remote condenser:
 - a. Fan noises, when blades touch other surfaces; blades bent, out-of-balance, or loose on shaft.
 - b. Vibrating type, from touching lines.
 - c. Chattering: Lack of water in freezer.
 - d. Compressor loose at one or more holddown bolts.

CAUTION

This icemaker is equipped with a low water pressure safety device, which in the event of interruptions or low water pressure, the icemaker will automatically stop to prevent damage. It will restart automatically after the water pressure is restored.

CAUTION

9. Place ice on the bin thermostat control bulb, to test shut-off.

Within minutes after the ice is removed from the sensing bulb, the bulb will warm up and cause the icemaker to restart. This control is factory set and should not be reset until testing is performed. Normal setting is 35-degrees F. CUT-OUT and 45-degrees F. CUT-IN, to prevent short cycling.

10. Thoroughly explain to the owner/user the significant specifications of the icemaker, the start up and operation, going through the procedures for the operating instructions. Answer all questions about the icemaker, by the owner; and, inform the owner of the name and telephone number of the authorized SCOTSMAN Distributor or Service Agency serving him.

MH750R OPERATING INSTRUCTIONS

ICEMAKER

The potable water supply flows from the building source through the inlet fitting and into the water reservoir. The water reservoir functions to maintain a constant water level inside the freezer assembly. Water from the water reservoir enters at the bottom of the freezer assembly and is changed into ice by low temperatures inside the freezer.

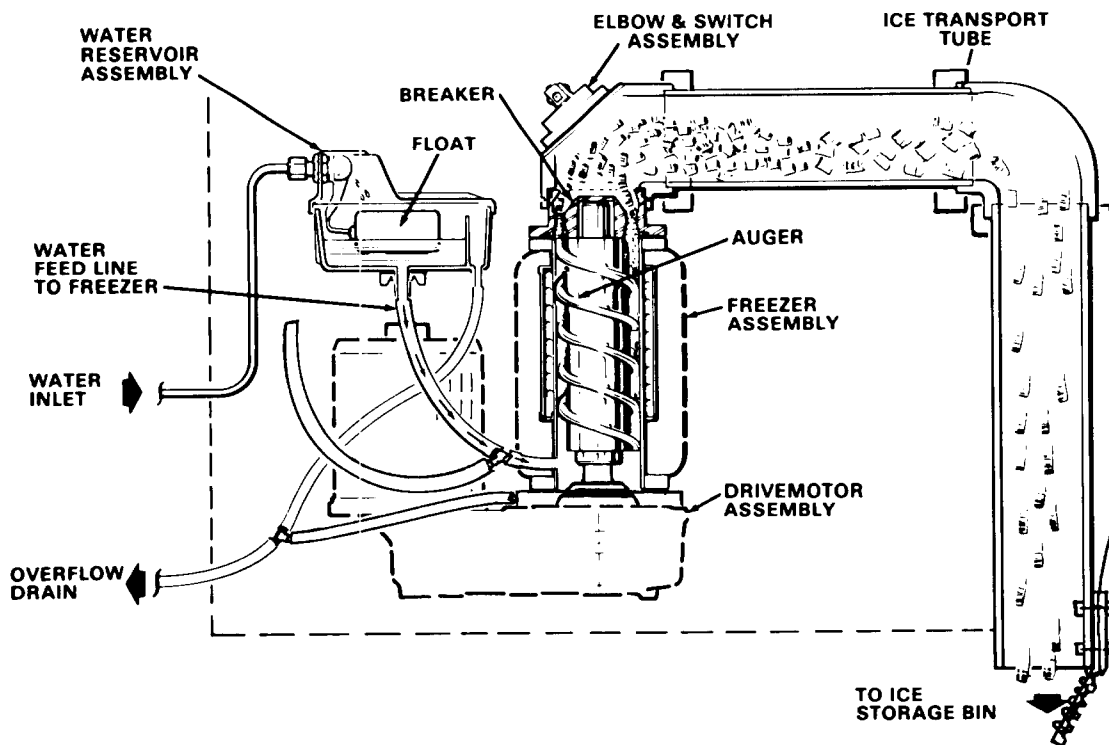
A stainless steel auger within the freezer is powered by a direct-drive gearmotor. The rotating auger carries the ice upward to the end of the auger (See Water Schematic) where excess water is pressed out of the ice as it is extruded and broken into equal length chunks. The ice is pushed out through the ice transport tube and into the ice storage bin.

When the ice storage bin fills with ice to the level of the bin thermostat control capillary bulb, the icemaking process shuts OFF.

As ice is removed from the ice storage bin, the bulb warms up restarting the automatic icemaking process.

Factory settings for the bin thermostat are 35-degrees F. CUT-OUT and 45-degrees F. CUT-IN.

Altitude adjustment should ONLY be performed on icemakers installed at 2000-foot level locations and ABOVE, and adjust only in increments of one-fourth turn of screw at a time.



Water Schematic

MH750R OPERATING INSTRUCTIONS

ELECTRICAL/REFRIGERATION

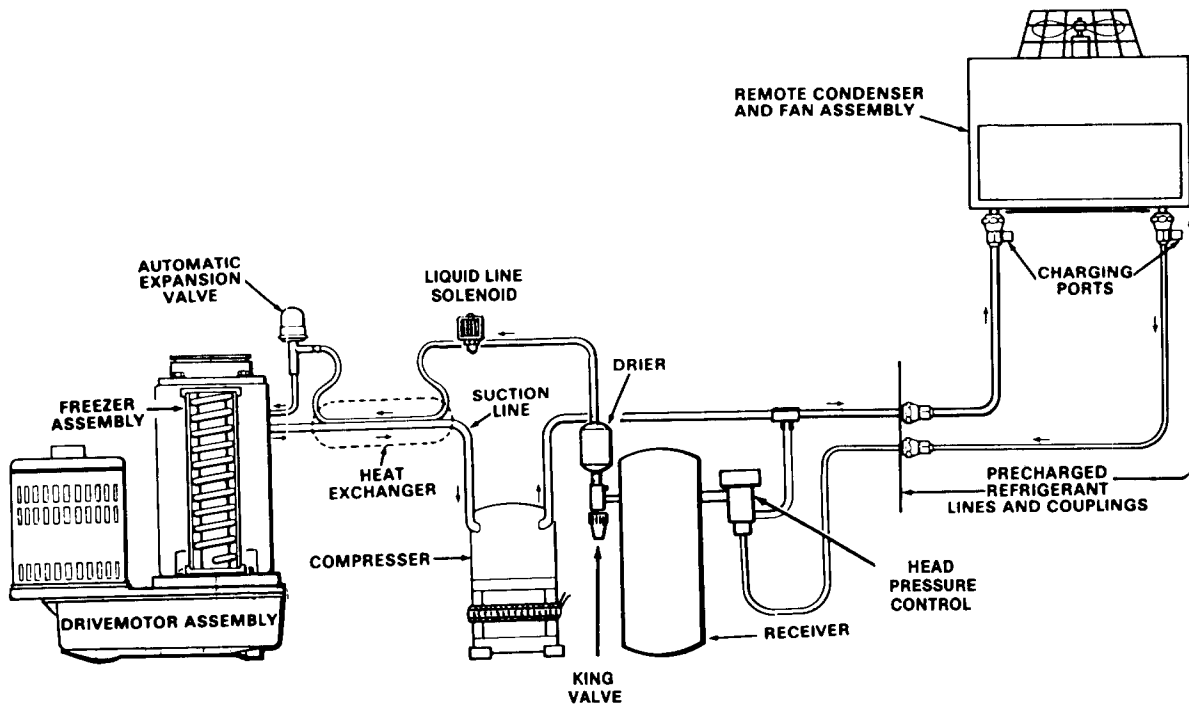
The Model MH750R icemaker is designed to operate on standard electrical supply 115 volts, 60 Hertz, single phase. Other voltage requirements are available on special order. Therefore, always CHECK NAMEPLATE for electrical information BEFORE proceeding with wiring connection to the icemaker.

Refer to the appropriate wiring diagram and trace circuitry and control functions.

The head pressure is normally about 120 PSIG and it is maintained by a head pressure control inside the icemaker cabinet. This control bypasses the remote condenser refrigeration circuit until there is enough pressure and then it meters the discharge of gas into the condenser. The fan runs all the time.

Suction pressure should be 12 PSIG.

When charging the system with refrigerant, always CHECK NAMEPLATE for specific refrigeration charge for individual icemaker.



MH750R COMPONENT DESCRIPTION

ELBOW SAFETY SWITCH

The elbow safety switch is an ON-OFF switch that shuts off the compressor when an ice jam presses against the rubber diaphragm depressing the switch and opening the circuit. Melting action relieves pressure closing the circuit, lighting the start-reset pushbutton. The start-reset switch must then be pressed to start the automatic icemaking process.

ICE BREAKER ASSEMBLY

The ice breaker assembly, bolted to the top of the freezer, contains the bearing and seal for the top of the auger. Flaked ice created by the freezer is carried by the auger to the ice breaker assembly and the flaked ice is pushed by the auger through the tapered holes in the ice breaker. Flaked ice is compressed by auger pressure as it is pushed through the ice breaker assembly and the shafts of compressed ice and are broken into random lengths of ice nuggets by the taper on the top of the ice breaker.

RESERVOIR DRAIN

The reservoir drain is for use to drain the water reservoir when cleaning or maintenance of the icemaking system.

DRIVEMOTOR

The drivemotor assembly rotates the auger through a series of reduction gears from the electric motor to the freezer assembly. Cold ambient temperatures and interruptions in water supply are conditions that can cause excessively hard ice and overloads within the freezer assembly which is directly transmitted to the drivemotor; and in turn, will cause speed reduction or ultimate freezeup.

When the drivemotor is slowed to a pre-determined RPM, a sensing switch in the motor is designed to open the electrical circuit to the compressor. The compressor stops operating, no more ice is produced and the drivemotor continues to operate rotating the auger to clear the overload and gradually build up to full speed.

At a pre-determined higher RPM drivemotor speed, the speed sensing switch closes the electrical circuit to the compressor causing the normal icemaking process to resume.

LIQUID LINE SOLENOID VALVE

The liquid line solenoid valve provides positive shutoff of refrigerant flow for off cycle evaporator pump down.

WATER RESERVOIR

The water reservoir functions to maintain a constant water level inside the freezer assembly. Water from the water reservoir enters at the bottom of the freezer assembly and is changed into ice by low temperatures inside the freezer.

WATER PRESSURE SAFETY SWITCH

A low water pressure safety switch is installed in the potable water inlet line on all Scotsman Flakers to prevent damage to the gearmotor and evaporator components due to low water pressure or interruption of the water supply to the unit. This safety device with an automatic reset is set to shut the refrigeration system off if the water pressure falls below 10 psig and restart the unit automatically when the pressure rises to 20 psig.

BIN THERMOSTAT BRACKET

The bin thermostat bracket is the bin full ice contact point of the bin thermostat capillary tube.

BIN THERMOSTAT CONTROL

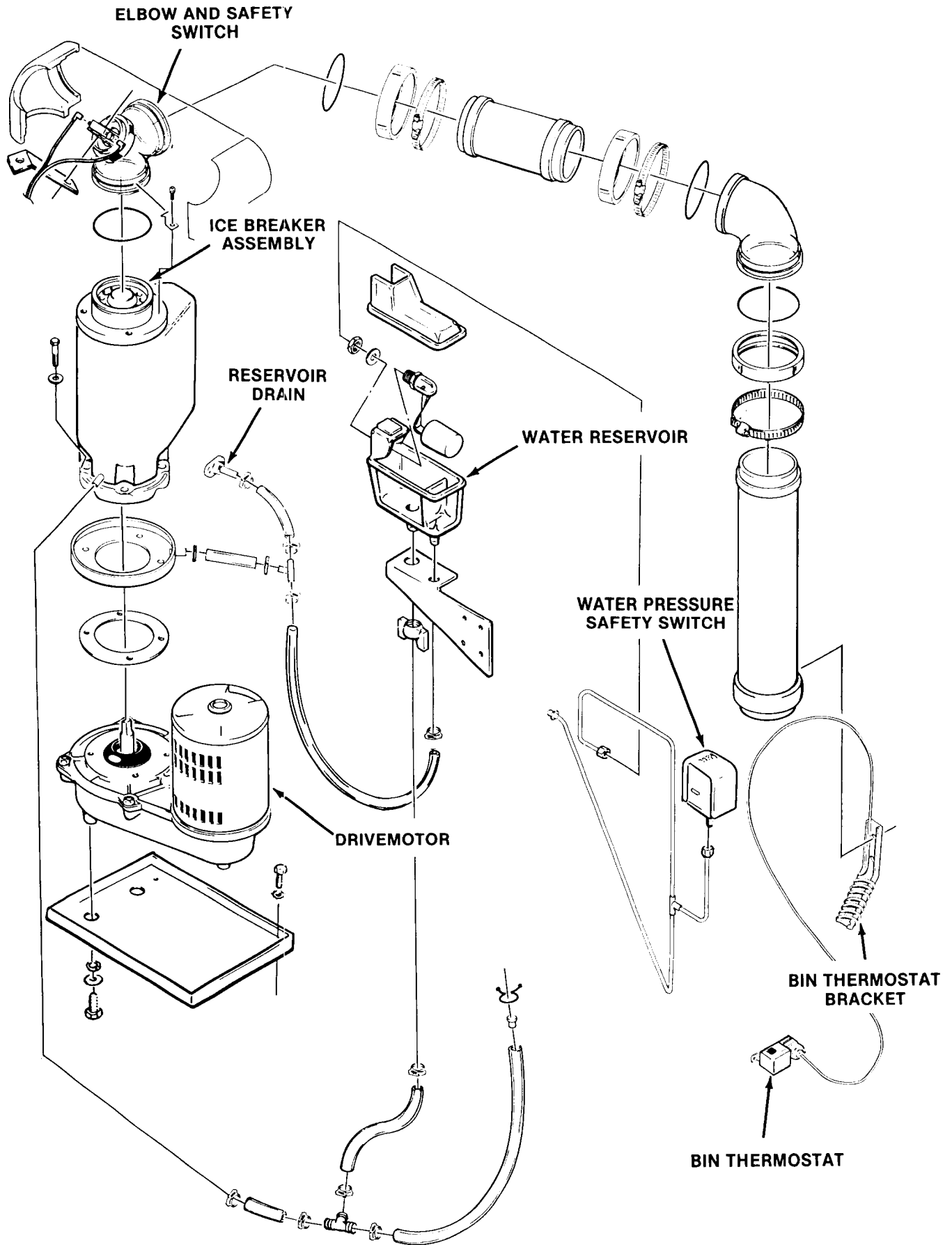
The bin thermostat control is located in the center of the control box. The sensing capillary tube of the control is routed from the control box to the bin thermostat control bracket at the end of the ice discharge tube hanging in the ice storage bin. The bin thermostat control functions to automatically shut OFF the icemaker when the ice storage bin is filled and the ice contacts the capillary tube. It also signals the RESTART of the icemaker when the capillary tube starts to warm up after ice has been removed from the bin. The control is factory set and should not be reset until testing is performed. Normal setting is 35 degrees F. CUT-OUT and 45 degrees F. CUT-IN to prevent short cycling.

Bin thermostat control adjustment should ONLY be performed if premature shut off occurs or ice backs up into the ice discharge tube. Adjust only in increments of one eighth turn of a screw at a time - normally only required in installations over 2,000 feet above sea level.

HEAD PRESSURE CONTROL

Maintains compressor head pressure from dropping below 120 PSIG during cross ambient operation, by-passing the remote condenser, by diverting a portion of hot gas directly into the receiver.

MH750R COMPONENT DESCRIPTION



MH750R COMPONENT DESCRIPTION

ON-OFF AND START/RESET SWITCH

When pushed, completes the electrical circuit through the icemaker electrical components. The **START RESET PUSHBUTTON** must be pressed to restart the icemaking process whenever any of the safety control have functioned to stop the icemaker or an interruption in the electrical supply has occurred.

ELBOW SAFETY SWITCH RELAY

The elbow safety switch relay circuit through the elbow safety switch until the elbow safety switch opens and switches the current through the lamp of the start reset pushbutton, which must be pushed and reset to restart the automatic icemaking process.

COMPRESSOR CONTACTOR

The compressor contactor functions to carry the compressor line current. The contactor is wired so any control in the pilot circuit, such as the bin thermostat, low pressure and high pressure controls, etc., will cause the contactor holding coil to be de-energized when the control contact **OPENS**, thereby breaking the circuit to the compressor through the contactor points.

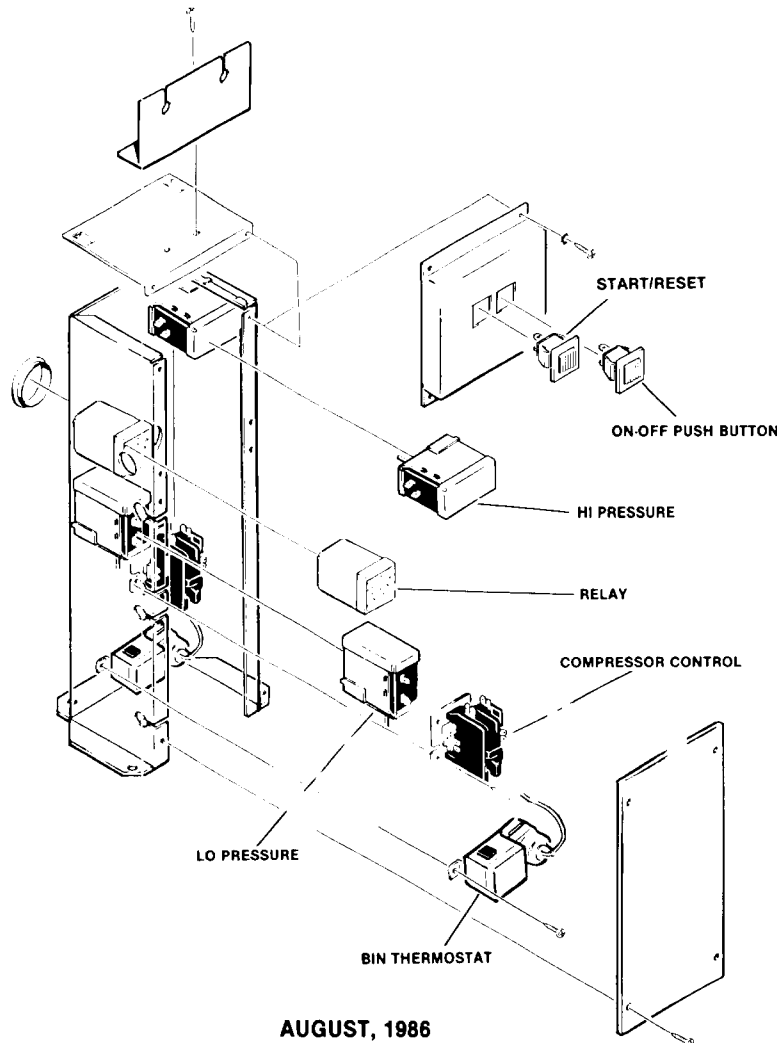
REFRIGERANT LOW PRESSURE CONTROL

The main function of this control is to run the compressor. It turns the compressor **ON** after the liquid line solenoid opens and **OFF** when it closes.

Another purpose of this safety control is to protect the unit from damage due to a loss of the refrigerant charge. It also provides additional protection from the unit in case low ambient or water temperatures exist. This is an automatic reset control connected to the refrigeration system low side. It is set to stop the unit completely when the low-side pressure drops to less than 4 PSIG. This is an **AUTOMATIC RESET** control.

REFRIGERANT HIGH PRESSURE CONTROL

The purpose of this safety control is to protect the unit from damage due to high refrigerant pressure. It also provides additional protection for the unit in high ambient temperatures. This is a manual reset control connected to the refrigeration system high-side. It is set to stop the unit completely when the high-side pressure reaches the preset limit (250 PSIG).



MH750R COMPONENT DESCRIPTION

AUTOMATIC EXPANSION VALVE (AXV)

The automatic expansion valve regulates the flow of refrigerant to the evaporator and reduces pressure of liquid refrigerant from condensing pressure to evaporating pressure. Set at 12 PSIG.

FREEZER ASSEMBLY

The freezer assembly is a vertical cylinder wrapped on the outside with the evaporator coils. Inside the freezer assembly is a stainless steel auger. As ice forms inside the freezer, it is pushed up and out by a rotating auger.

COMPRESSOR CRANKCASE HEATER

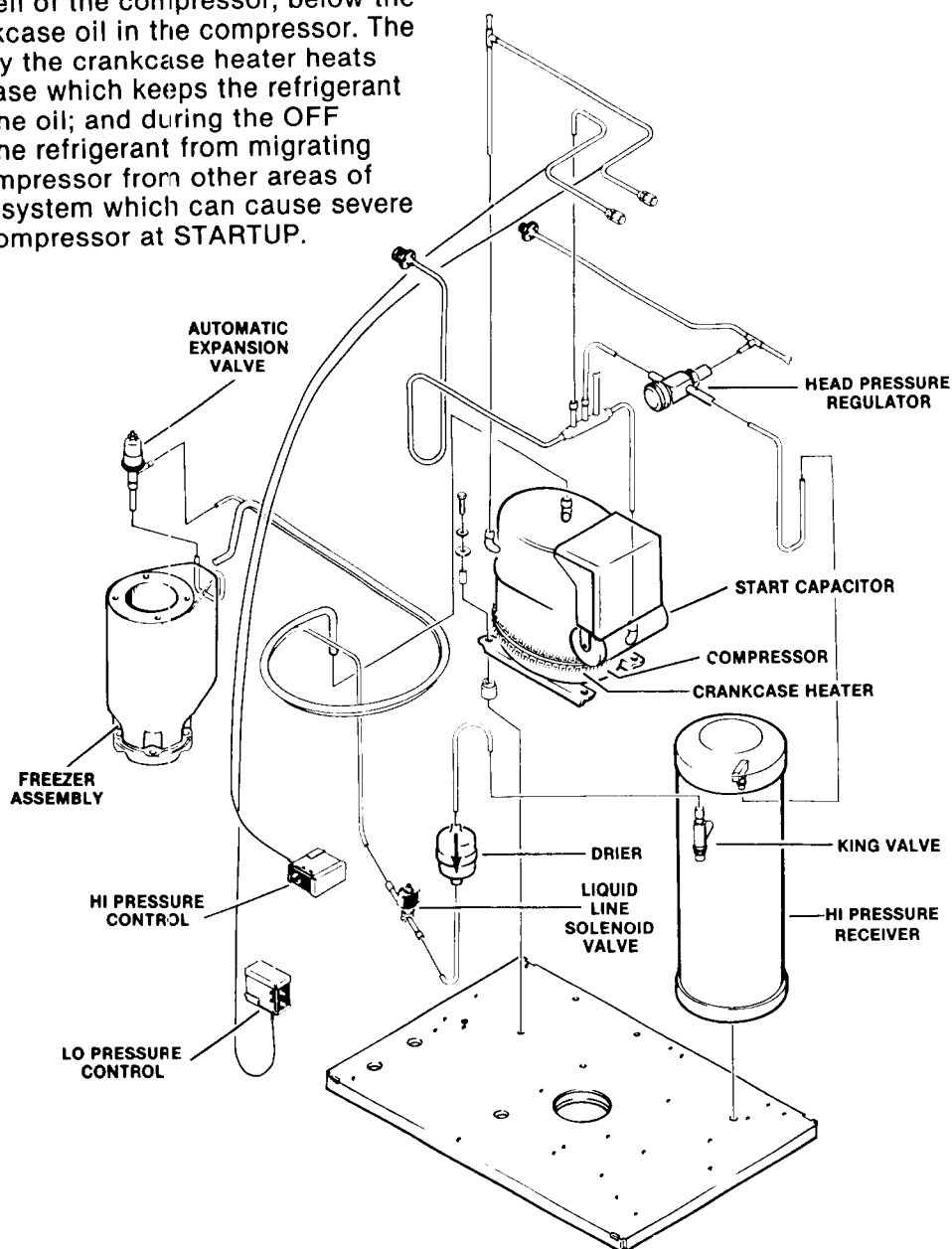
The compressor crankcase heater is an electrical wire band heater located around the lower outside shell of the compressor, below the level of the crankcase oil in the compressor. The heat generated by the crankcase heater heats oil in the crankcase which keeps the refrigerant separated from the oil; and during the OFF cycle, prevents the refrigerant from migrating back into the compressor from other areas of the refrigeration system which can cause severe damage to the compressor at STARTUP.

KING VALVE

The king valve prevents refrigerant from escaping from the receiver during shipment and before use. The king valve must be opened after connection of the precharged tubing kit and before operation of the icemaker.

HIGH PRESSURE RECEIVER

Provides storage volume for refrigerant during cross ambient operation. The high pressure receiver is sized large enough to hold the entire refrigerant charge. During cold operation there is enough liquid in the receiver to maintain a liquid seal to the liquid line.



MH750R OPERATION - ELECTRICAL SEQUENCE

A. STANDBY

SWITCHES	ON (CLOSED)	OFF (OPEN)
Bin Thermostat		X
Contactors		X
Drivemotor Switch		X
High Pressure Control	X	
Low Pressure Control		X
ON-OFF Switch	X	
Relay Contacts 9-6	X	
Relay Contacts 4-7	X	
Relay Contacts 9-3		X
Spout Switch	X	
Start-Reset Switch		X
Water Pressure Switch	X	

LOADS	ON	OFF
Compressor		X
Contactors Coil		X
Crankcase Heater	X	
Drivemotor		X
Fan Motor	X	
Lamp, ON-OFF Switch	X	
Lamp, Start Reset Switch		X
Liquid Line Solenoid		X
Relay Coil	X	

At standby, the fan is running, and the crankcase heater is heating.

MH750R OPERATION - ELECTRICAL SEQUENCE

B. RUN

SWITCHES	ON (CLOSED)	OFF (OPEN)
Bin Thermostat	X	
Contactora	X	
Drivemotor Switch	X	
High Pressure Control	X	
Low Pressure Control	X	
ON-OFF Switch	X	
Relay Contacts 9-6	X	
Relay Contacts 4-7	X	
Relay Contacts 9-3		X
Spout Switch	X	
Start-Reset Switch		X
Water Pressure Switch	X	

LOADS	ON	OFF
Compressor	X	
Contactora Coil	X	
Crankcase Heater	X	
Drivemotor	X	
Fan Motor	X	
Lamp, ON-OFF Switch	X	
Lamp, Start Reset Switch		X
Liquid Line Solenoid	X	
Relay Coil	X	

The bin control has closed and energized the liquid line solenoid, causing the low side pressure to rise over 20 PSIG, switching ON the low pressure control, which energizes the compressor contactor and auger drivemotor.

MH750R OPERATION - ELECTRICAL SEQUENCE

C. PUMP DOWN

SWITCHES	ON (CLOSED)	OFF (OPEN)
Bin Thermostat		X
Contactator	X	
Drivemotor Switch	X	
High Pressure Control	X	
Low Pressure Control	X	
ON-OFF Switch	X	
Relay Contacts 9-6	X	
Relay Contacts 4-7	X	
Relay Contacts 9-3		X
Spout Switch	X	
Start-Reset Switch		X
Water Pressure Switch	X	

LOADS	ON	OFF
Compressor	X	
Contactator Coil	X	
Crankcase Heater	X	
Drivemotor	X	
Fan Motor	X	
Lamp, ON-OFF Switch	X	
Lamp, Start Reset Switch		X
Liquid Line Solenoid		X
Relay Coil	X	

When the bin thermostat opens, the liquid line solenoid closes, causing the refrigerant to be pumped into the receiver. When the low side pressure reaches 4 PSIG, the low pressure control opens and the unit is in standby.

MH750R OPERATION - ELECTRICAL SEQUENCE

D. TRIPPED ON SPOUT SWITCH

SWITCHES	ON (CLOSED)	OFF (OPEN)
Bin Thermostat	X	
Contactator		X
Drivemotor Switch		X
High Pressure Control	X	
Low Pressure Control	X	
ON-OFF Switch	X	
Relay Contacts 9-6		X
Relay Contacts 4-7		X
Relay Contacts 9-3	X	
Spout Switch		X
Start-Reset Switch		X
Water Pressure Switch	X	

LOADS	ON	OFF
Compressor		X
Contactator Coil		X
Crankcase Heater	X	
Drivemotor		X
Fan Motor	X	
Lamp, ON-OFF Switch	X	
Lamp, Start Reset Switch		X
Liquid Line Solenoid		X
Relay Coil		X

In this example the spout switch has opened due to the bin thermostat failing closed, overfilling the bin with ice. Until the ice melts, the start-reset light will not be on. Pushing the start-reset switch will restart the unit.

MH750R MAINTENANCE & CLEANING INSTRUCTIONS

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A Scotsman Ice System represents a sizable investment of time and money in any company's business. In order to receive the best return for that investment, it MUST receive periodic maintenance.

It is the USERS RESPONSIBILITY to see that the unit is properly maintained. It is always preferable; and less costly in the long run, to avoid possible down time by keeping it clean, adjusting it as needed and by replacing worn parts before they can cause failure. The following is a list of recommended maintenance that will help keep your machine running with a minimum of problems.

Maintenance and cleaning should be scheduled at a MINIMUM of twice per year.
////////////////////////////////////

GENERAL

The periods and procedures for maintenance and cleaning are given as guides and are not to be construed as absolute or invariable. Cleaning especially will vary, depending upon local water conditions and the ice volume produced and each icemaker must be maintained individually in accordance with its own particular location requirements.

ICEMAKER

THE FOLLOWING MAINTENANCE SHOULD BE SCHEDULED AT LEAST TWO TIMES PER YEAR ON THIS ICEMAKER. CALL YOUR AUTHORIZED SCOTSMAN SERVICE AGENCY.

1. Check and clean water line strainers.
2. Check that the water level in the water reservoir is at the water level on the side of the float.
3. Remove cover from water reservoir and depress the float to ensure that a full stream of water enters the reservoir.
4. Check that the icemaker is level in side-to-side and front-to-back directions.
5. Clean the water reservoir and interior of the freezer assembly using a solution of SCOTSMAN Ice Machine Cleaner. Refer to CLEANING — Icemaker.

NOTE

Cleaning requirements vary according to local water conditions and individual user operation. Visual inspection of the auger before and after cleaning will indicate frequency and procedure to be followed in local areas.

6. When doubtful about refrigerant charge, install refrigerant gauges on service valves and check gauge for compressor head pressure: 120 to 160 PSIG.
7. Check gauge for suction line pressure: Suction pressure is approximately 12 PSIG. CAUTION: The only positive way to determine the exact refrigerant charge is to purge the system of refrigerant, evacuate, and weigh in the nameplate charge.

8. Check drivemotor operation:

Normal operating temperatures are about 160-degrees F., which is hot to touch.

9. Oil drivemotor once per year.

WARNING

////////////////////////////////////
Disconnect electrical power supply before removal procedures.
////////////////////////////////////

10. Check the elbow safety switch by removing the insulation halves, twisting the locking ring 90° and pulling out the switch assembly. The switch action can then be tested.

NOTE

The elbow safety switch is an ON-OFF switch that shuts off the compressor when an ice jam presses against the rubber diaphragm depressing the switch and opening the circuit. Melting action relieves pressure closing the circuit, lighting the start-reset pushbutton. The start-reset switch must then be pressed to start the automatic icemaking process.

11. Check for refrigerant leaks.
12. Check for water leaks. Pour water down bin drain to be sure that drain line is open and clear.
13. Check the bin thermostat control.

NOTE

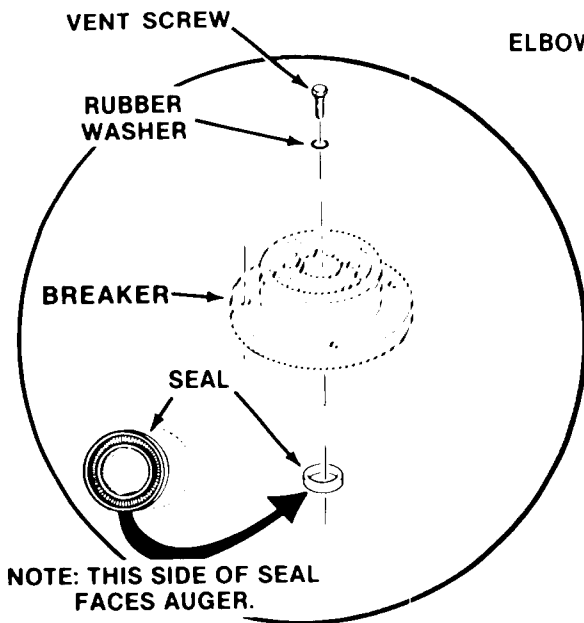
The bin thermostat is factory set at 10-degrees F. differential and should keep the entire icemaker shut off at least 20 minutes in high ambient temperatures, longer in low ambient temperature during normal operation. Settings are 35-degrees F. CUT-OUT and 45-degrees F. CUT-IN.

MH750R MAINTENANCE & CLEANING INSTRUCTIONS

NOTE

If the breaker being serviced is equipped with a STEEL NEEDLE bearing, the breaker assembly should be REPLACED. Contact your local Scotsman Distributor for further information. Breakers with a NON-METALLIC bearing should be cleaned and the seal replaced ONCE PER YEAR. If the type of breaker bearing is not known, the breaker should be inspected. Most MH750R's have non-metallic bearings in the breaker.

1. Remove elbow insulation and remove three Allen head screws and spout retaining brackets from the freezer assembly end of the elbow and switch assembly.
2. Remove three Allen head screws and spout retaining brackets from the freezer assembly end of the elbow and switch assembly.



NOTE

In order to accomplish removal of the elbow and switch assembly in the next step, it may be necessary to further remove panels and disassemble the ice transport tube.

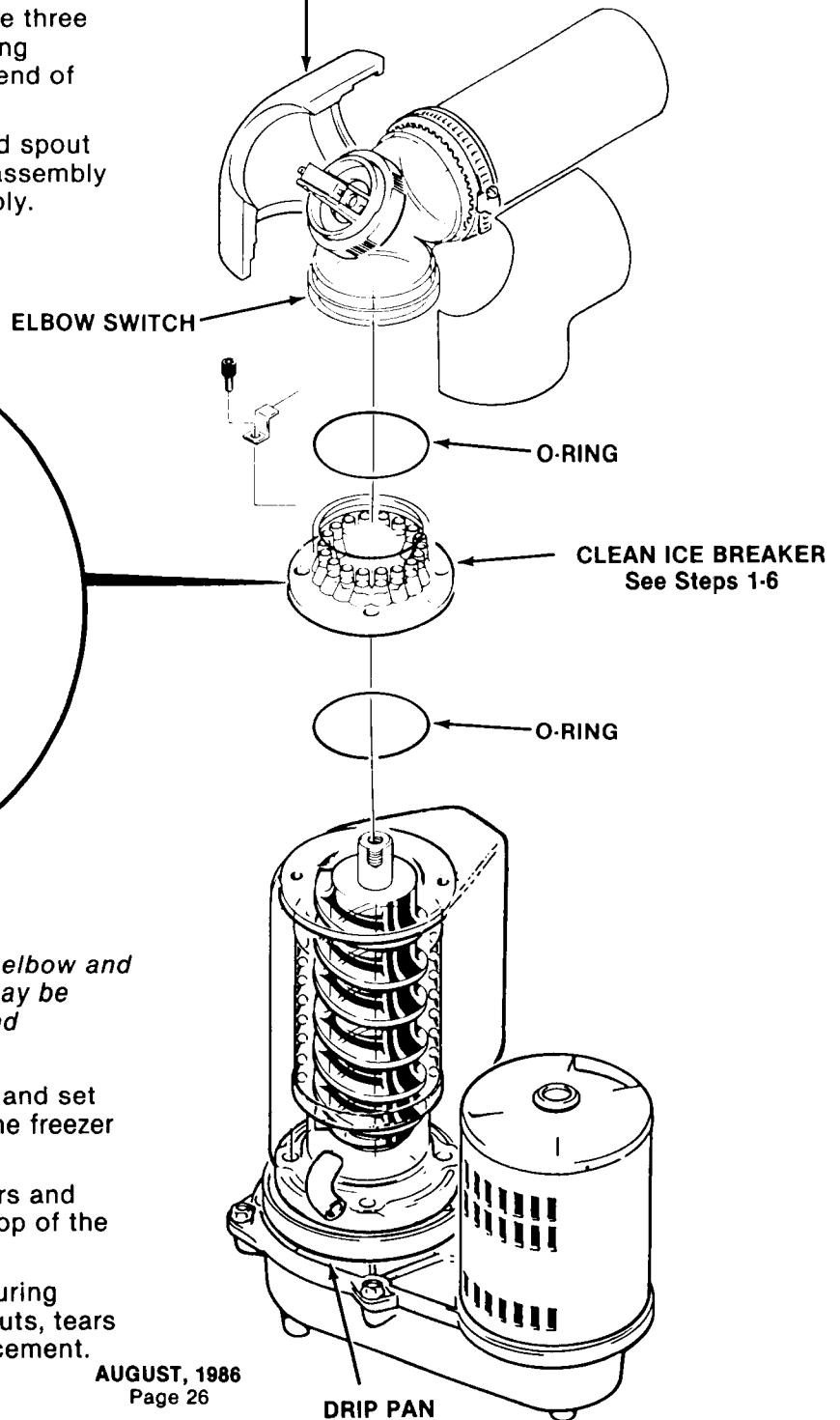
3. Lift the elbow and switch assembly and set aside to gain access to the top of the freezer assembly.
4. Remove four capscrews, lockwashers and the ice breaker assembly from the top of the freezer assembly for inspection.
5. Retain the O-ring for replacement during reassembly. Inspect the O-ring for cuts, tears or excessive wear, causes for replacement.

6. Replace the lip seal and inspect the top bearing seated in the ice breaker, wipe clean of mineral build up. Remove auger. Check seal and check auger for stains.

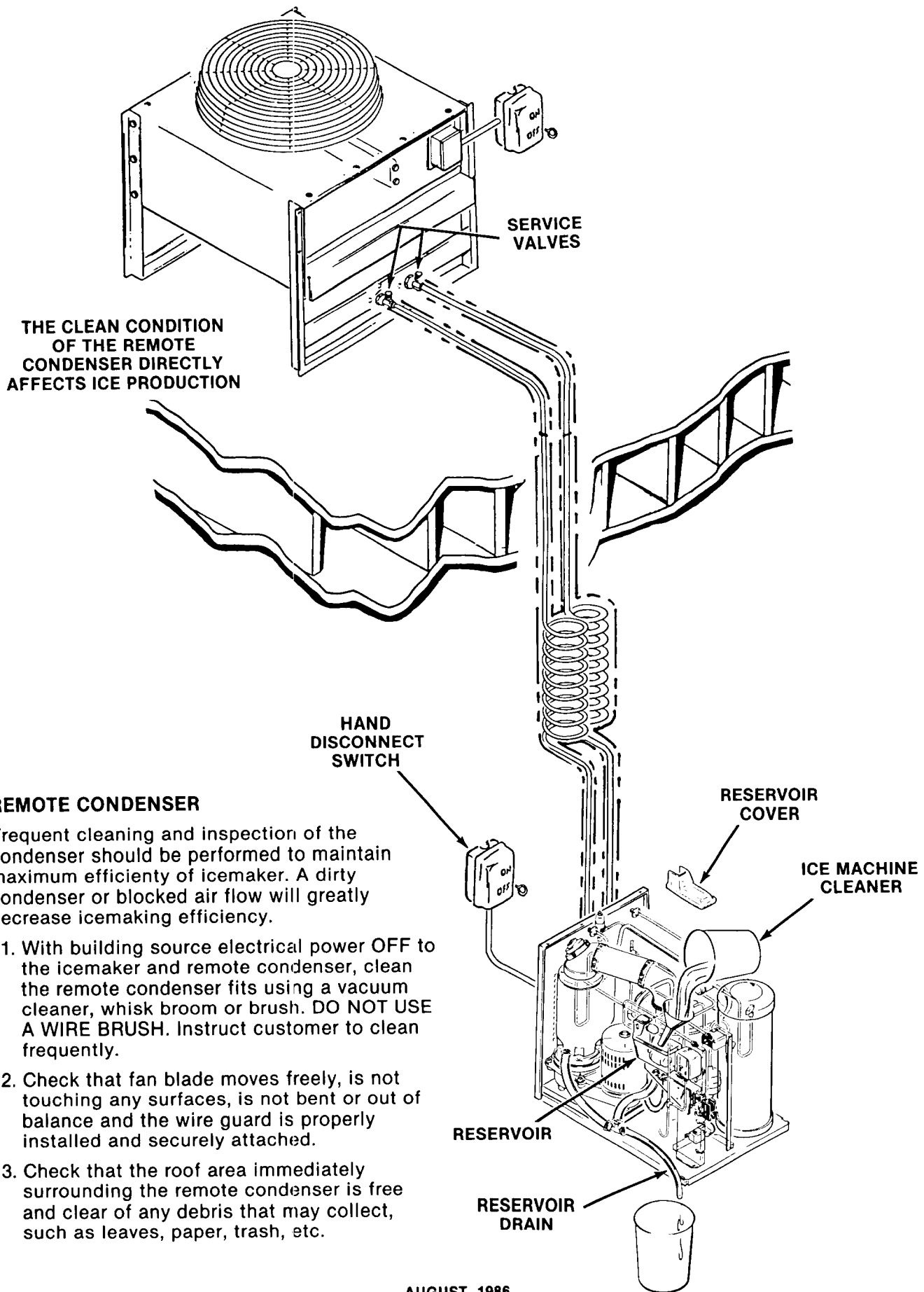
CAUTION

DO NOT force the auger and breaker together without having the vent hole open because pushing the breaker on with no air relief will cause the internal air pressure to force the grease seal away from the breaker.

INSULATION



MH750R MAINTENANCE & CLEANING INSTRUCTIONS



Frequent cleaning and inspection of the condenser should be performed to maintain maximum efficiency of icemaker. A dirty condenser or blocked air flow will greatly decrease icemaking efficiency.

1. With building source electrical power OFF to the icemaker and remote condenser, clean the remote condenser fins using a vacuum cleaner, whisk broom or brush. DO NOT USE A WIRE BRUSH. Instruct customer to clean frequently.
2. Check that fan blade moves freely, is not touching any surfaces, is not bent or out of balance and the wire guard is properly installed and securely attached.
3. Check that the roof area immediately surrounding the remote condenser is free and clear of any debris that may collect, such as leaves, paper, trash, etc.

MH750R MAINTENANCE & CLEANING INSTRUCTIONS

CLEANING — Icemaker

1. PRESS the master ON-OFF pushbutton to OFF.
2. Remove screws, top and front panel.
3. Remove all ice from the ice storage bin.
4. Remove the reservoir cover and block the float in the water reservoir up to stop water flow.
5. Drain the reservoir using the drain provided between the water reservoir and the bottom of the freezer assembly and drain water from the reservoir and tube. Replace the drain tube.

////////////////////// WARNING ////////////////////////

SCOTSMAN Ice Machine Cleaner contains Phosphoric and Hydroxyacetic acids. These compounds are corrosive and may cause burns. If swallowed, DO NOT induce vomiting. Give large amounts of water or milk. Call Physician immediately. In case of external contact flush with water. KEEP OUT OF THE REACH OF CHILDREN.

//////////////////////

6. Prepare cleaning solution: Mix six ounces of SCOTSMAN Ice Machine Cleaner with one and one-half quarts of hot water.
7. Slowly pour the cleaning solution into the water reservoir.
8. PRESS the master ON-OFF pushbutton to ON.
9. Continue to slowly pour the cleaning solution into the water reservoir. Maintain level just below the reservoir overflow.
10. Continue icemaking using the cleaning solution, until all the solution is used up and the water reservoir is almost empty. DO NOT allow the icemaker to operate with empty reservoir.
11. PRESS the master ON-OFF pushbutton to OFF.
12. Wash and rinse the water reservoir.
13. Remove the block from the float in the water reservoir.
14. PRESS the master ON-OFF pushbutton to ON.

15. Continue icemaking for at least 15 minutes to flush out any cleaning solution. Check ice for acid taste. Continue icemaking until ice tastes sweet.
16. PRESS the master ON-OFF pushbutton to OFF.

////////////////////// CAUTION ////////////////////////

DO NOT use ice produced from the cleaning solution. Be sure none remains in the bin.

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17. Remove all ice from the ice storage bin.
18. Add warm water to the ice storage bin and thoroughly wash and rinse all surfaces within the bin.
19. Clean and sanitize the ice storage bin each week.

MH750R SERVICE DIAGNOSIS

INTRODUCTION

The Service Diagnosis is for use in aiding the serviceman in diagnosing a particular problem for pin-pointing the area in which the problem lies, thus an ever available reference for proper corrective action.

The following chart lists corrective actions for the causes of known symptoms of certain problems that can occur.

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Water Leaks.	Defective water seal. Gravity feed line leaking. Water level in reservoir too high. Storage bin drain and connecting fittings.	Replace seal. Check hose clamp. Adjust water level to molded line on the float assembly. Check and repair.
Excessive noise or chattering.	Mineral or scale deposit on auger and inner freezing chamber walls. Evaporator water inlet frozen shut. Intermittent water supply. Water level in reservoir too low. Gear reducer loose on frame. Motor compressor not solid on rubber mounts. Gearmotor thrust bearing worn. Top bearing worn.	For severe deposit, remove and manually polish auger, sand inner chamber walls of freezer barrel. For lighter concentration, use Scotsman Ice Machine Cleaner periodically. Thaw and check for water interruption. Check and clean water strainer. Check gravity feed line for air lock. Check to be sure float orifice is not restricted. Check incoming water supply. Remove air lock. See CORRECTION for water leaks above. Tighten gear reducer. Repair or replace rubber mounts. Check/replace bearing. Check/replace breaker.
Drivemotor makes high pitched noise.	Rotor bearing dry or worn. Dry grease seal under rotor bearing.	Replace motor or bearing. Grease seal.

MH750R SERVICE DIAGNOSIS

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Making wet ice	Back pressure too high. Faulty compressor. Expansion valve set wrong.	Overcharge of refrigerant, faulty compressor or high head pressure. Lower pressure as indicated. Replace compressor. Adjust to 12 PSIG.
Low ice production.	Loss of refrigerant. Under or over-charge of refrigerant. Dirty or plugged condenser. Low water level in water reservoir. Partial restriction in expansion valve or drier. Inlet water strainer partially plugged. Corroded or stained auger due to water condition.	Check and recharge. See NAMEPLATE for charge correction. Clean condenser. See CORRECTION for water leaks above. Moisture in system. Overcharge of oil in system. Remove charge by blowing back through cap tube. Replace drier evacuate and recharge. Remove screen and clean. Remove auger and clean, or use Scotsman Ice Machine Cleaner. See Maintenance Section.
Gearmotor noise.	Low on oil.	Remove case cover to check for proper oil level and condition.
Icemaker will not operate.	Blown fuse in line. Bin thermostat set too high or faulty. Loose electrical connection. Switch in OFF position. Inoperative master switch. Off on manual-reset high pressure control. Low supply water pressure. Low on refrigerant off-on low pressure control. Spout switch open.	Replace fuse and check for cause of blown fuse. Adjust thermostat. Set at 35-degrees cut-out, 45-degrees cut-in. Replace. Check wiring. Set switch to ON position. Replace switch or thermal overload. Reset — Check condenser. Restore water pressure. Find leak, replace drier, evacuate and recharge. Reset start switch.

MH750R SERVICE DIAGNOSIS

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Icemaker continues to operate with full storage bin.	Bin thermostat not properly set or is defective.	Re-set or replace bin thermostat. Re-set to 35-degrees cut-out, 45-degrees cut-in.
Compressor cycles intermittently.	Low voltage. Dirty condenser. Air circulation blocked. Inoperative condenser fan motor. Non-condensable gases in system. Bin thermostat differential too small causing short cycling. Cycling on elbow switch. Low on refrigerant causing low pressure control to cycle. Low water pressure causing control to cycle.	Check for overloading. Clean condenser. Remove cause or move unit. Replace motor. Check for gas leaks, evacuate and recharge. Widen differential 35-degrees cut-out, 45-degrees cut-in. Set or replace bin thermostat. Check for leaks. Restore water pressure.
Icemaker operates but makes no ice.	Loss or undercharge of refrigerant. Water not entering chamber. Moisture in system. Water seal leaking. Drivemotor stripped. Compressor over load faulty.	Check for leaks and recharge. See NAMEPLATE for correct charge. Plugged strainer or supply line. Check and clean. Air lock in gravity feed line. Check and remove air lock. Check, evacuate, replace drier. Recharge. See NAMEPLATE for correct charge. Replace seal. Repair or replace drivemotor. Replace over load.

MH750R ADJUSTMENT PROCEDURES

Read the instructions thoroughly before performing any adjustment or removal and replacement procedures.

ADJUSTMENT OF THE BIN THERMOSTAT CONTROL

The control for the bin thermostat is the temperature control, located in the center of the control box.

Above 2,000 feet only.

To adjust the bin thermostat control:

1. Hold a handful of ice against the capillary bulb in the ice storage bin.
2. Slowly rotate the adjusting screw in the appropriate direction until the icemaker shuts OFF.
3. Remove ice from the capillary bulb. Then, place warm hand on the capillary bulb to restart the icemaker.

4. Place handful of ice against the capillary bulb and observe that the icemaker should shut OFF within ten seconds, usually less.

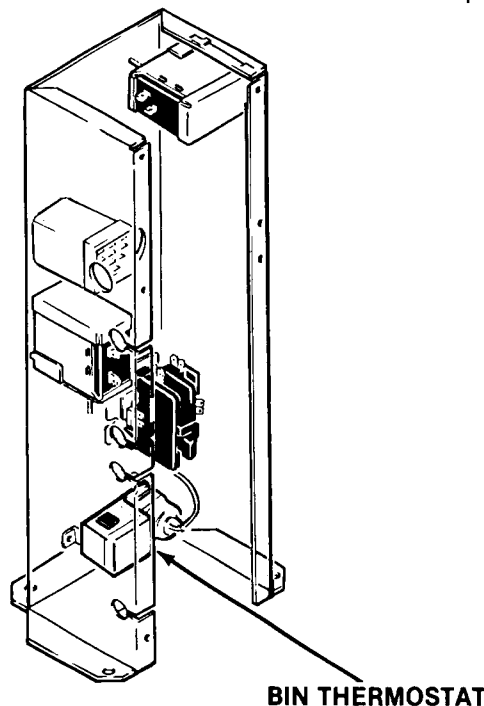
CAUTION

The adjusting screws on the temperature control device have very sensitive response to adjustment. DO NOT attempt to adjust the screw until after thoroughly reading and understanding the instructions and illustrations. Over-adjusting or erratic guessing can foul the instrument and cause ultimate delay and part replacement, WHICH COULD HAVE BEEN PREVENTED.

ADJUSTMENT OF THE AUTOMATIC EXPANSION VALVE

To adjust the automatic expansion valve:

1. Attach service gauges to the refrigeration system service ports.
2. Loosen locknut and rotate adjustment screw in or out to achieve an approximate 12 PSIG low side pressure.



MH750R REMOVAL AND REPLACEMENT PROCEDURES

ADJUSTMENT OF THE WATER RESERVOIR FLOAT

The correct water level in the water reservoir should be at the level of the raised molded line on the side of the body of the water reservoir. When the water line level is above or below the raised molded line, adjustment can be performed to raise or lower the water level by bending the metal arm of the float inside the water reservoir.

NOTE

Check that the installed replacement water reservoir assembly float moves freely. Bend metal arm on float to adjust, as necessary. The correct water level in the water reservoir is the point of the raised molded line on the side of the body of the water reservoir.

REMOVAL AND REPLACEMENT OF THE WATER RESERVOIR ASSEMBLY

To remove the water reservoir assembly:

////////////////////// WARNING ////////////////////////

Be sure the electrical power supply to the icemaker is OFF before proceeding with removal procedures.

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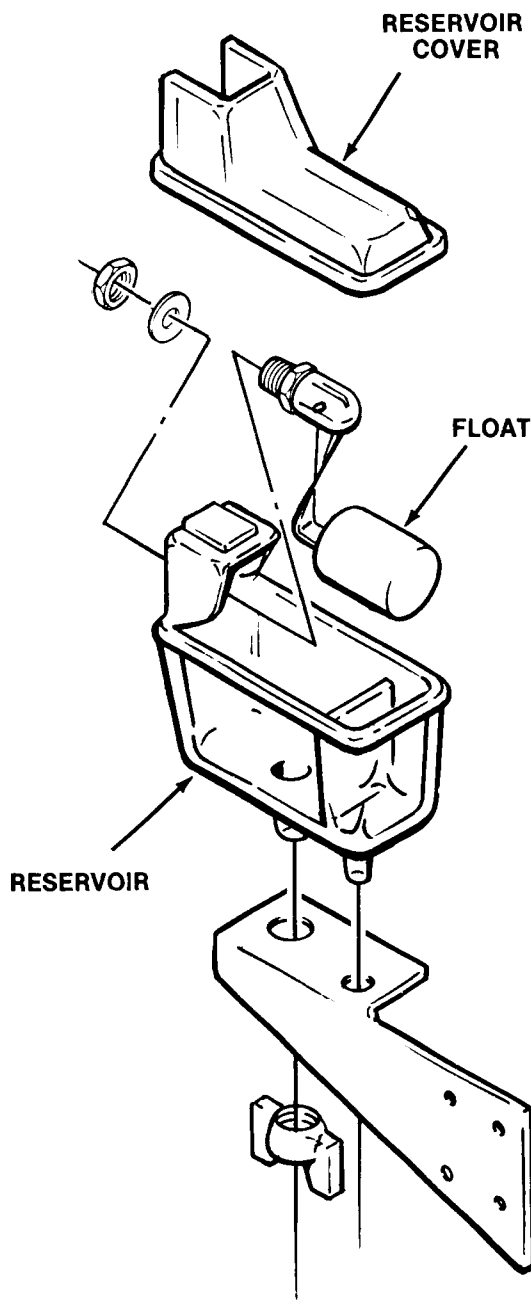
1. Shut off water supply to the icemaker at the water supply valve.
2. Remove screws and remove cabinet panels.

NOTE

Be prepared with container to catch water left in lines disconnected in next steps to prevent draining water on parts, components, electrical lines, etc.

3. Disconnect the water inlet tube from the water reservoir assembly.
4. Remove two Corbin clamps and two tubes from the bottom of the water reservoir assembly.
5. Unscrew and remove the wing nut from the bottom of the water reservoir assembly.
6. Lift and remove the water reservoir assembly from the mounting bracket.

To replace the water reservoir assembly, reverse the removal procedure.



MH750R REMOVAL AND REPLACEMENT PROCEDURES

//////////////////// WARNING //////////////////////

Be sure the electrical power supply and the water supply are OFF, BEFORE starting any of the following REMOVAL AND REPLACEMENT procedures as a precaution to prevent possible personal injury or damage to equipment.

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REMOVAL AND REPLACEMENT OF THE WATER SEAL, INCLUDES REMOVAL AND REPLACEMENT OF THE AUGER, O-RING, AND ICE BREAKER.

To service ice breaker and O-ring only, omit steps 4, 9, 12, 13, 14, 15, 16, 17, 18, 19.

To remove the auger, water seal, o-ring and ice breaker assembly:

1. Shut off water supply to the icemaker at the building source.
2. Disconnect or shut-off electrical power to the icemaker at the building source.
3. Remove screws and remove top, front and left panels.
4. Remove screws securing back panel to base, disconnect drain connection, disconnect water line, remove nut holding water inlet fitting to back panel, pull panel back and up slightly, disconnect internal drain hose from fitting, carefully pull panel at bottom edge away from the base, bending the attached refrigerant links. CAUTION - DO NOT KINK REFRIGERANT LINES. Move the panel just enough to gain access to the freezer/gearmotor retaining bolts.
5. Separate insulation halves and remove from the elbow safety switch.
6. Remove three socket head screws and spout retaining brackets from the end of the spout assembly at the top of the freezer assembly.
7. Lift the elbow safety switch and spout UP, off of the freezer assembly.
8. Retain the o-ring for replacement during reassembly. Inspect for cuts, tears or excessive wear, causes for replacement.
9. Unclip freezer drain hose, drain the freezer. Remove hose clamp and water inlet line from freezer inlet.
10. Remove four capscrews, lockwashers and the ice breaker assembly from the top of the freezer assembly.

11. Retain the o-ring for replacement during reassembly. Inspect for cuts, tears or excessive wear, causes for replacement.
12. Remove the auger. If necessary a bolt can be threaded into the top end of the auger from the freezer and a hand tool used to pull on the bolt to remove the auger.
13. Pull back permagum around freezer base mounting bolts and remove four screws and flatwashers. Separate the freezer assembly, gasket and adapters, from the drivemotor assembly.
14. Remove snap ring from inside bottom of evaporator assembly. Using a suitable length and size of wooden dowel or punch inserted through the top of the open freezer assembly, tap the stationary portion of the water seal out the bottom of the freezer assembly.
15. Replace the water seal any time it has been removed.

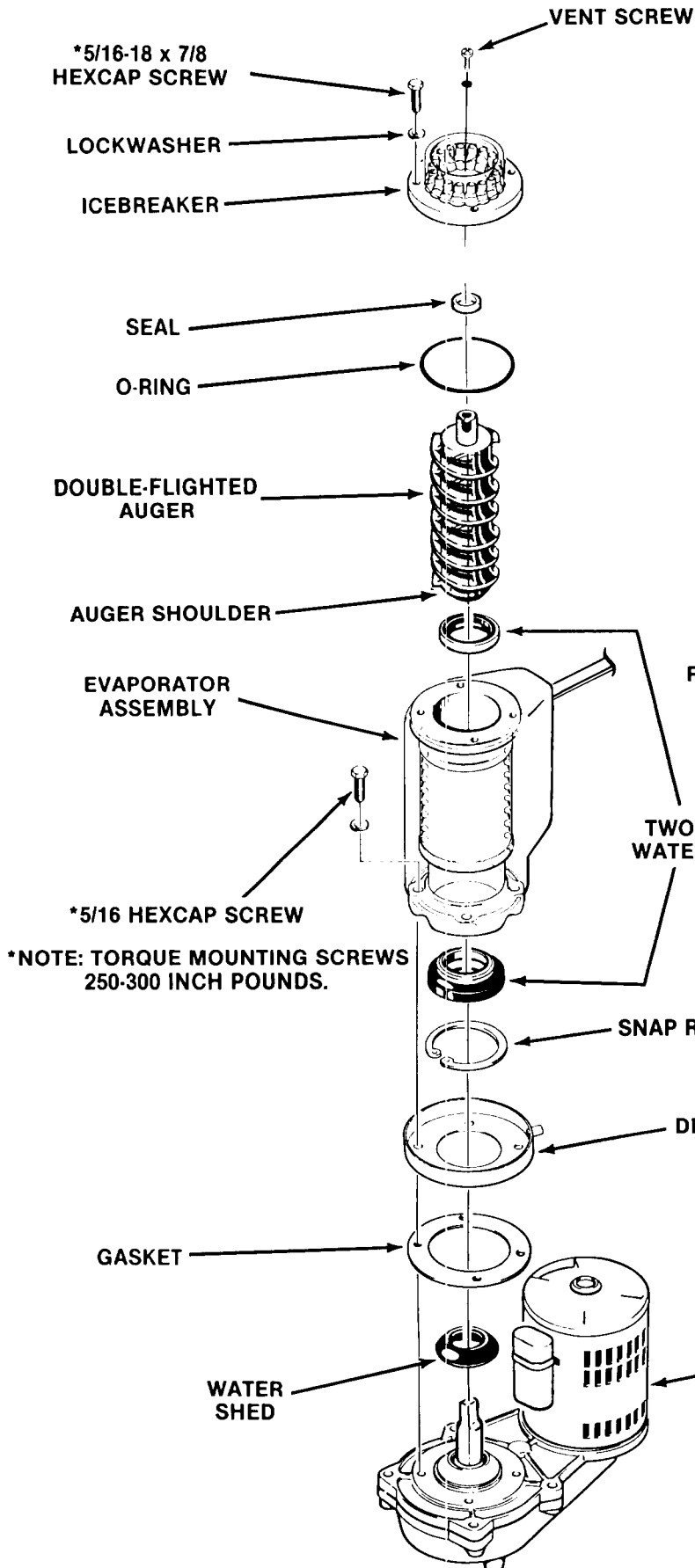
//////////////////// CAUTION //////////////////////

The lower two-part water seal is a precise seal and fitting. Any damage or wear will cause a failure. It is recommended that the lower two-part water seal be replaced any time there is a question of condition.

////////////////////////////////////

16. Replace the new stationary portion of the two-part water seal in the bottom of the freezer assembly and press in far enough to install the snap ring. **IMPORTANT:** pull water seal back down against snap ring all the way around the freezer.
17. Mount the freezer, drip pan and gasket to the gearmotor case. Check to be sure the gearmotor is in good condition and the water shed is in place around the output shaft.
18. Apply Scotsman part number 19-0529-01 RTV silicone rubber to the auger shoulder before pushing on the water seal. Place just enough silicone on to the auger, so that when the water seal is placed on the auger, the gap between the auger shoulder and water seal is completely filled with silicone.

MH750R REMOVAL AND REPLACEMENT PROCEDURES



The silicone must be allowed to "set-up" or dry on the surface before any water can be added to the freezer.

//////////////////// **WARNING** //////////////////////

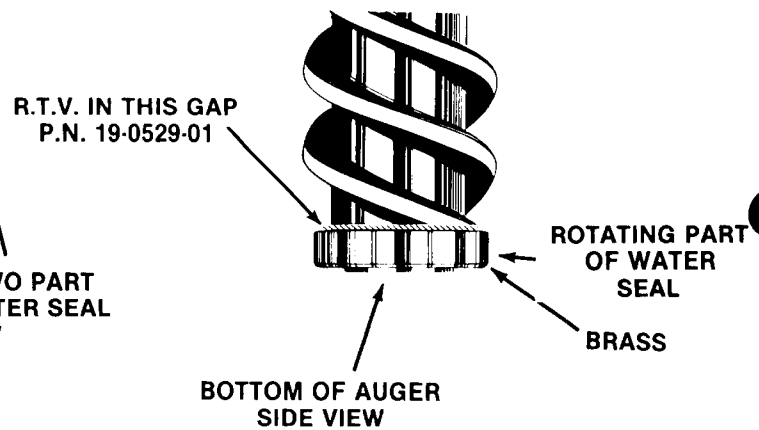
If any silicone gets onto the mating surfaces of the water seal, the seal is ruined, and cannot be used.

////////////////////

19. Install auger. Water test unit.

20. Replace ice breaker, be sure o-ring is in place, and vent screw has been removed. After the ice breaker is securely on the freezer, the vent screw should be replaced. Add RTV Silicone Rubber or Loctite to the vent screw threads before installing the screw.

* Torque bolts to 250-300 inch pounds.



MH750R REMOVAL AND REPLACEMENT PROCEDURES

REMOVAL AND REPLACEMENT OF THE FREEZER ASSEMBLY

NOTE

The cabinet may have to be removed from its permanent location, especially if located in a corner, in order to have access to the left side and rear of the chassis.

To service on site, without removing pre-charged lines, see steps 3, 4, page 35.

WARNING

Shut OFF electrical power and close the inlet water valve to the icemaker. Disconnect the inlet water line at the rear of the cabinet BEFORE moving the icemaker from the permanent location.

To remove the freezer assembly:

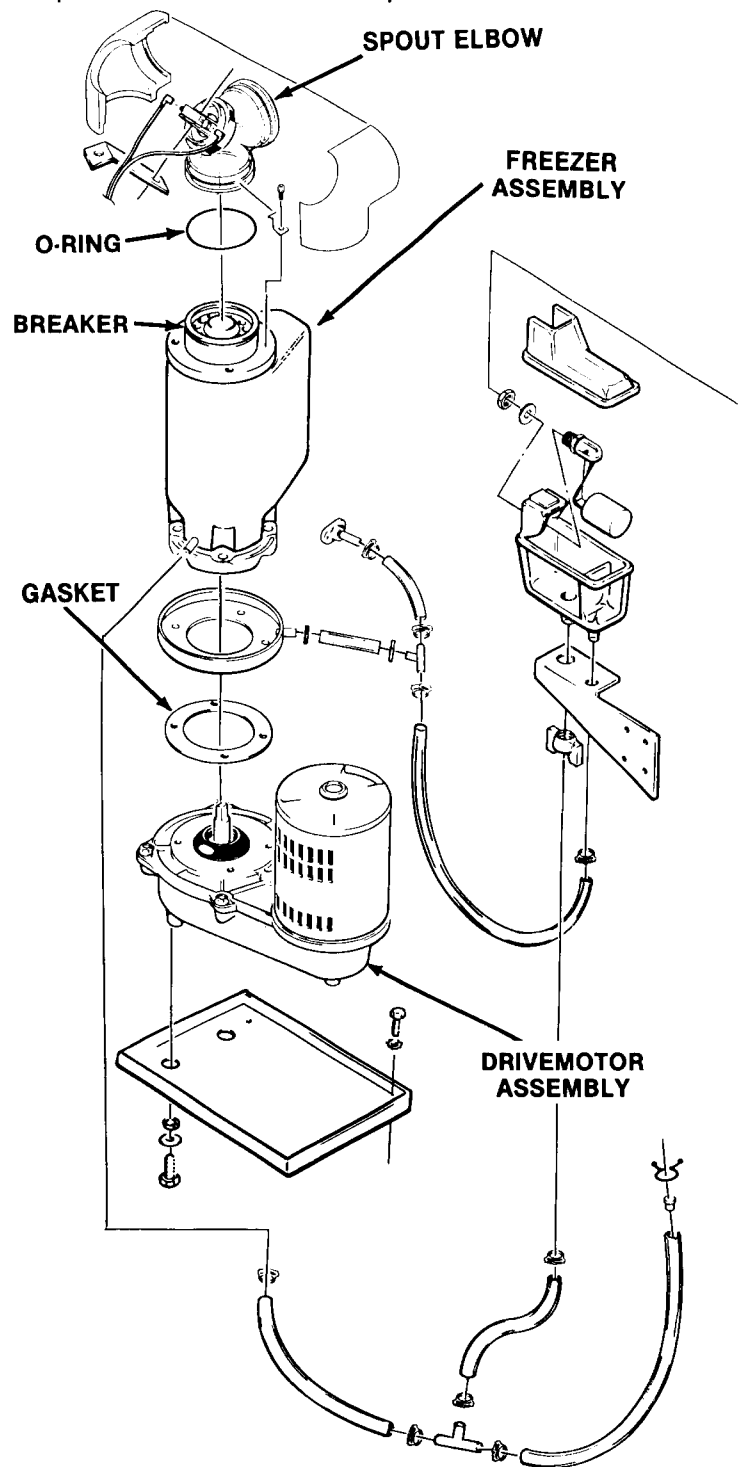
1. Remove screws and remove top, side and front panels.
2. Disconnect the electrical leads from the spout switch.
3. Remove ice discharge tube from spout elbow.
4. Remove four screws and washers and separate the breaker assembly from the freezer assembly.
Inspect the o-ring and retain for the replacement procedure. Replace a torn, cut or worn, defective o-ring.
5. Remove corbin clamp and Tygon tube from the freezer assembly that connects to the water reservoir assembly.
6. Bleed off the refrigerant charge through the Schrader valve.
7. Unsolder the refrigerant tubing at the joints located approximately two inches beyond the outside of the freezer.
8. Unsolder the automatic expansion valve from the freezer assembly. Unsolder the liquid line at the drier.
9. Pull back permagum to gain access and remove four screws, lockwashers and washers which attach the bottom of the freezer assembly to the drivemotor assembly.
10. Lift the freezer assembly up and off of the adaptor and drivemotor assembly.

To replace the freezer assembly, reverse the removal procedure. (See page 35 - steps 16, 17, 18, 19, 20.)

Evacuate and recharge to nameplate.

NOTE

Always install a replacement drier, anytime the sealed refrigeration system is opened. Do not replace the drier until all other repair or replacement has been completed.



MH750R REMOVAL AND REPLACEMENT PROCEDURES

REMOVAL AND REPLACEMENT OF THE GEAR DRIVEMOTOR

//////////////////// **WARNING** //////////////////////

Be sure the electrical power supply to the icemaker is OFF before proceeding with removal procedures.

////////////////////

To remove the auger drivemotor.

1. Refer to Removal and Replacement, page 35 to gain access to the gearmotor assembly, unbolt gearmotor from icemaker base, slide gearmotor away from icemaker to expose motor.
2. Disconnect electrical power leads from the motor.
3. Unscrew four capscrews securing motor to gearcase.
4. Lift off motor winding the gear reducer.
5. Use a pry bar to remove rotor and rotor bearing from the gearcase.
6. Examine grease seal in gearcase. Replace if worn. Add grease to seal and bearing housing before re-assembly.

To replace, reverse the removal procedures.

NOTE

Motors must be exchanged complete. DO NOT mix rotors, housings or windings.

REMOVAL AND REPLACEMENT OF THE GEAR MOTOR ASSEMBLY

//////////////////// **WARNING** //////////////////////

Be sure the electrical power supply to the icemaker is OFF before proceeding with removal procedures.

////////////////////

To remove the gear motor assembly:

1. Refer to Removal and Replacement, page 35, to gain access to the gearmotor assembly and perform steps 1-11.
2. Thread suitable length bolt, having No. 5/16-18 UNC-2B threads, into thread hold in the top of the auger. Grasp bolt head with hand tool and pull auger out.
3. Unbolt freezer from gear motor assembly, lift up and off gear motor.
4. Remove the drivemotor cover and disconnect the three electrical wire leads.
5. Remove bolts holding gear motor plate to the machine base.

6. Lift the gear motor from the machine base.

To replace the gear motor assembly, reverse the removal procedure.

* Torque bolts to 250-300 inch pounds.

REPAIR OF THE GEAR MOTOR ASSEMBLY

1. Remove (6) cap screws to prepare to open the gearcase.
2. Pry the two cases apart, inspect the internal parts, look for:
 - Condition and quality of lubricant. (The proper oil level is flush with the top of the output (biggest) gear.)
 - Gear and gear shaft condition
 - Woodruff key between output gear and shaft
 - Grease seals, back to back
 - Vent hole open
 - Thrust bearing intact.

Be sure to count and retain the spacer washers as they come out of the gearbox.

Replace the parts as required, using the part numbers found in the parts list section of this manual. Replace the gears into a CLEAN bottom gearcase, replacing the spacer washers in the same quantity as they were upon disassembly. If no count was kept, refer to the parts illustration.

Output gear, when installed, must be assembled with the flush, machined side DOWN and the protruding bossed center UP.

NOTE: Some bearing grease should be placed in all bearings before assembly to insure proper lubrication upon start-up.

(Uses 1 pint of gear oil)

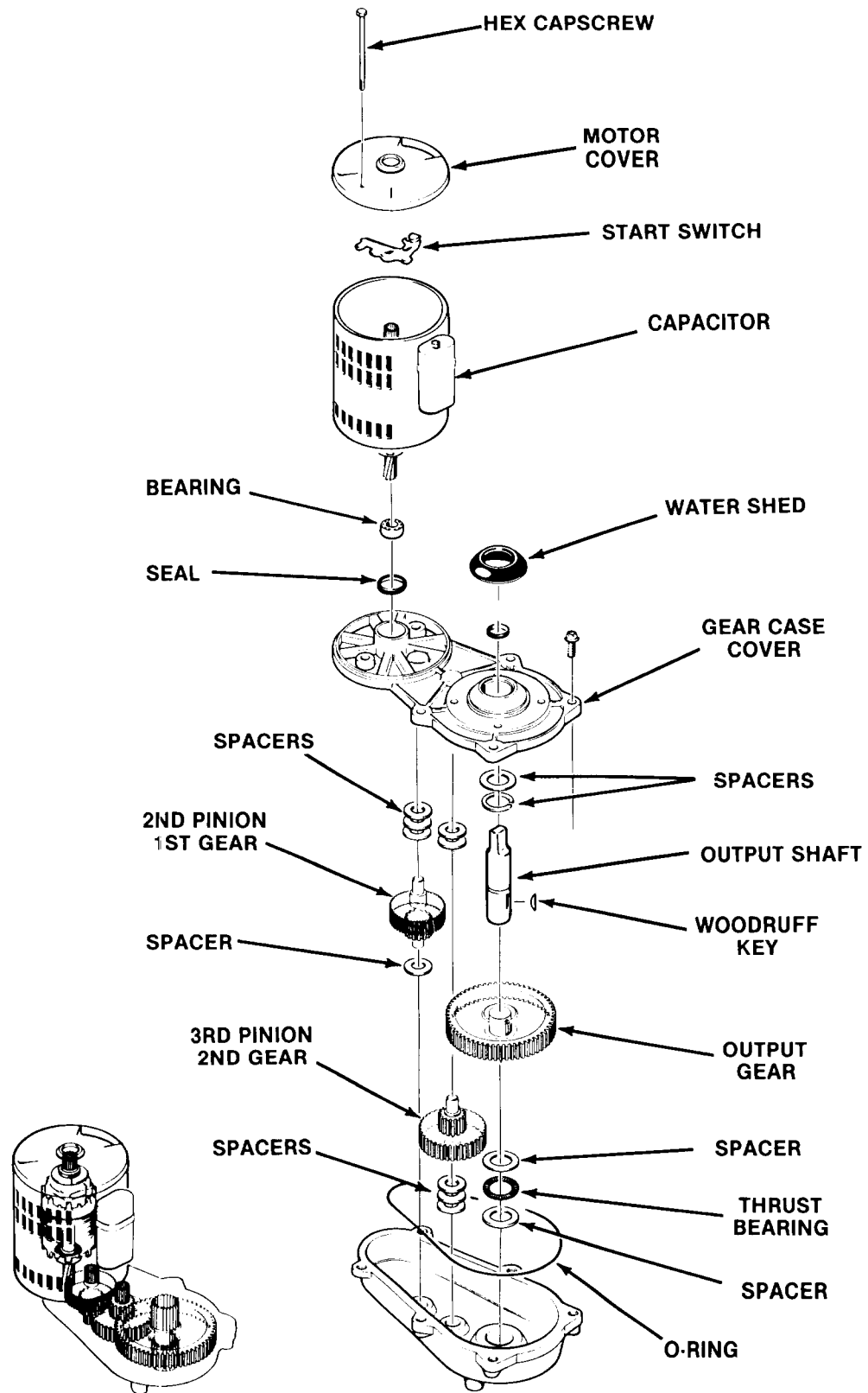
To reassemble:

1. Set top gearcase on gears and spacers and oil. Be sure O-ring is in place.
2. Replace gearcase cover. Drive in alignment pins before tightening cap screws and torque at 250-300 inch pounds.
3. Bench test the gearmotor assembly.
Test for noise, amp draw (must not be in excess of icemaker nameplate for gearmotor) and oil leaks.

Return gearbox to the unit. Be certain all mounting surfaces are clean and reassemble gearbox to chassis and freezer assembly.

If the freezer water seal begins to leak, removal of the auger is required in order to replace the top bearing and water seal. AT THE SAME TIME, it would be recommended to remove the gearmotor assembly, open it up and inspect it.

MH750R REMOVAL AND REPLACEMENT PROCEDURES



MH750R REMOVAL AND REPLACEMENT PROCEDURES

////////// WARNING //////////

Be sure the electrical power supply and the water supply are OFF, BEFORE starting any of the following REMOVAL AND REPLACEMENT procedures as a precaution to prevent possible personal injury or damage to equipment.

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REMOVAL AND REPLACEMENT OF THE AUTOMATIC EXPANSION VALVE

To remove the automatic expansion valve:

1. Remove screws and the top panel.
2. Bleed off the refrigerant charge through the service valve.
3. Unwrap insulation around the automatic expansion valve.

////////// CAUTION //////////

Wrap the automatic expansion valve with WET CLOTHS to protect the sensitive parts during soldering and installation. DO NOT direct flame toward valve.

////////////////////////////////////

4. With the automatic expansion valve covered with WET CLOTHS, unsolder the 1/4-inch O.D. line from the side of the valve.
5. Unsolder the 3/8-inch O.D. line from the bottom of the valve and remove the valve.

To replace the automatic expansion valve, reverse the removal procedures and follow special precautions given for steps in installing and soldering valve tubing.

Evacuate and recharge.

REMOVAL AND REPLACEMENT OF THE COMPRESSOR ASSEMBLY

To remove compressor:

1. Remove two screws and the cover from the compressor junction box.
2. Disconnect the electrical leads at the compressor junction box that originate in the control box.
3. Bleed off the refrigerant charge through the Schrader valve.
4. Unsolder the suction line from the compressor.
5. Unsolder the discharge line from the compressor.
6. Unsolder the process header tube from the compressor and retain for installation on the replacement compressor.
7. Remove four bolts, lockwashers and washers which secure the compressor to the chassis mounting base.
8. Remove the compressor from the chassis.

To replace the compressor assembly, reverse the removal procedures.

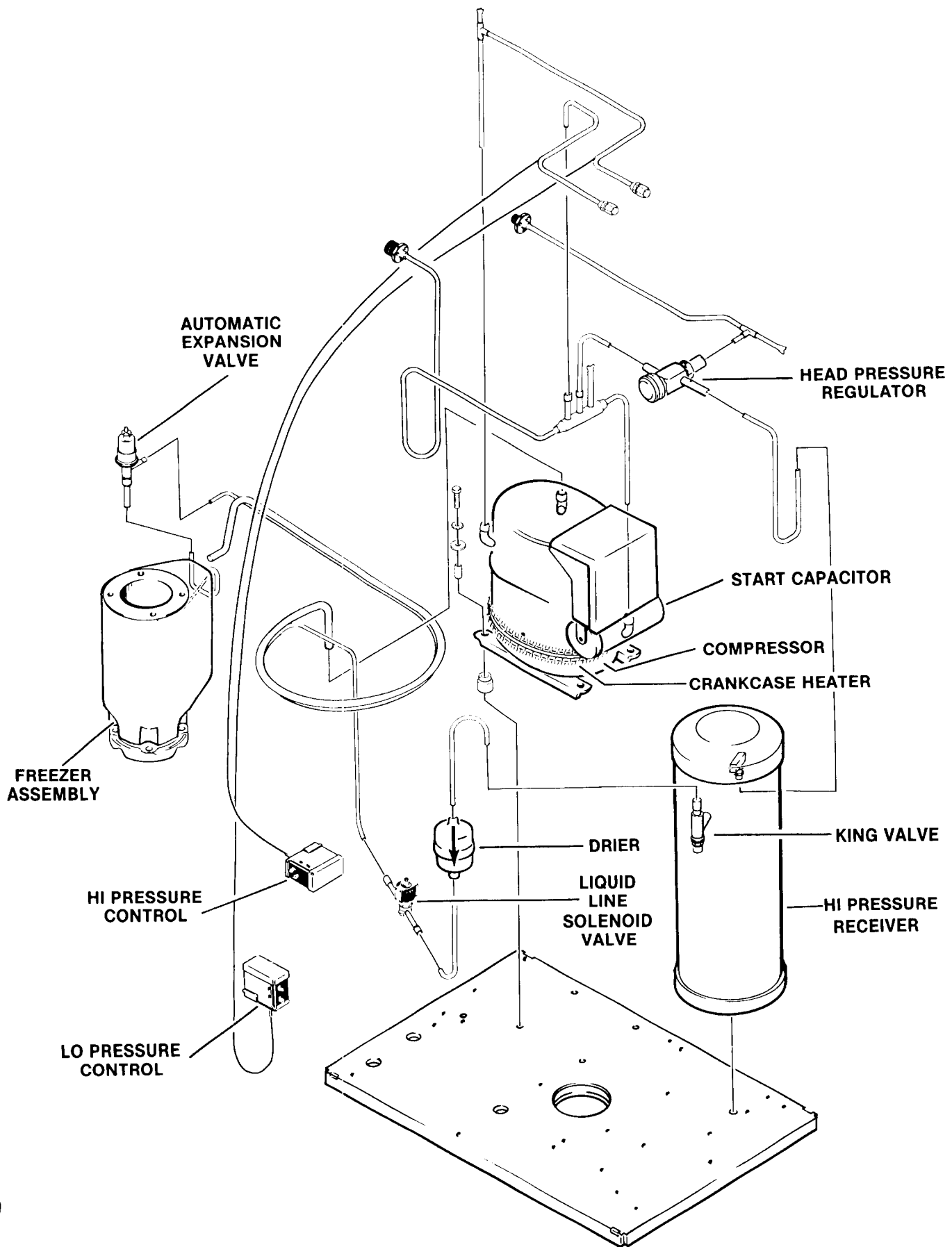
10. When recharging the system with refrigerant, always check nameplate for the specified refrigerant charge.

////////// NOTE //////////

Always install a replacement drier, anytime the sealed refrigeration system is opened. Do not replace the drier until all other repair or replacement have been completed. BE SURE the compressor crankcase heater is ON, 12-HOURS BEFORE START UP.

Thoroughly evacuate the system to remove moisture and non-condensables.

MH750R REMOVAL AND REPLACEMENT PROCEDURES



MH750R REMOVAL AND REPLACEMENT PROCEDURES

REMOVAL AND REPLACEMENT OF THE HEAD PRESSURE REGULATOR VALVE

NOTE

Always install a replacement Drier, anytime the sealed refrigerant system is opened. Do not replace the Drier until all other repair or replacement have been completed. BE SURE the Compressor Crankcase Heater is ON, 12-HOURS BEFORE START UP.

To remove the head pressure regulator valve:

1. Remove screws and the top panel.
2. Bleed off the refrigerant charge through the Schrader Valve.
3. Unwrap insulation around the head pressure regulator valve.

//////////////////// CAUTION //////////////////////

Wrap the head pressure regulator valve with WET CLOTHS, to protect the sensitive parts during soldering and installation. DO NOT direct flame toward the valve.

////////////////////////////////////

4. With the head pressure regulator valve covered with WET CLOTHS, unsolder the 1/4-inch O.D. line from the side of the valve.
5. Unsolder the 3/8-inch O.D. line from the bottom of the valve and remove the valve.

To replace the head pressure regulator valve, reverse the removal procedures and follow special precautions given for steps in installing and soldering valve tubing.

REMOVAL AND REPLACEMENT OF THE LIQUID LINE DRIER

To remove the drier:

1. Remove screw and drier brace attaching the drier.
2. Bleed off the refrigerant charge through the Schrader valve.
3. Unsolder refrigerant lines at top and bottom of drier, remove the drier and separate the drier from the drier brace.

To replace the drier:

1. Remove the factory seals from the replacement drier and install the drier in the refrigerant lines with the arrow positioned in the direction of the refrigerant flow.

//////////////////// CAUTION //////////////////////

If the factory seal is broken on the replacement drier, exposing it to the atmosphere for more than a few minutes, the drier will absorb moisture from atmosphere and lose substantial ability for moisture removal.

Be sure the replacement drier is installed with the arrow positioned in the direction of the refrigerant flow.

////////////////////////////////////

2. Install the drier brace on the drier.
3. Solder the drier into the lines, two places.
4. Purge the system and check for leaks.
5. Thoroughly evacuate the system to remove moisture and non-condensables.
6. Charge the system with refrigerant by weight. SEE NAMEPLATE for specifications.

MH750R REMOVAL AND REPLACEMENT PROCEDURES

CHARGING PROCEDURES

Particular care must be taken when recharging this remote system. No liquid refrigerant may be placed in the system at the compressor. DO NOT use the Schrader valves at the front of the machine for weighing in the charge. All liquid R-12 must be weighed into the receiver through the "front seated" king valve.

