

TABLE OF CONTENTS

Table of Contents	1
Photograph and Ice Making Capacity	2
Specifications and Dimensions	3
Description	4
Preparation for Installation	5
Installation	6
Installation Practices	7
Starting the machine	8
Refrigerant Charge	8
Final Check List	8
Refrigeration Cycle	9
Water Schematic	10
Ice Discharge Tube and Bin Thermostat Installation	11
Wiring Diagram-Air Cooled 230/60/1	12
Wiring Diagram-Water Cooled 230/60/1	13
Wiring Diagram-Air Cooled 208-220/60/3	14
Wiring Diagram-Water Cooled 208-220/60/3	15
Wiring Diagram-Air Cooled 208/60/1	16
Wiring Diagram-Water Cooled 208/60/1	17
Service Analysis	18-19
Maintenance Instructions	20
Service:	
Gear Motor	21
Freezer Assembly	21
Freezer Worm Shaft	21
Freezer Assembly Top Bearing	22
Freezer Assy. Bottom Bearing and Water Seal	22
Bin Thermostat	22
Contactor	22
Head Pressure Control (Water Cooled)	23
Head Pressure Control (Air Cooled)	23
Low Pressure Control	23
Water Regulating Valve (Water Cooled Models)	23
Water Reservoir	23
Parts Breakdown:	
Chassis Assembly-Air Cooled	24
Chassis Assembly-Water Cooled	25
Freezer Assembly	26
Gear Motor Assembly	27
Compressor Assembly	28
Control Box Assembly	29
Reservoir Assembly	30
Cabinet Assembly	31
Flaked Ice Transport System	32-34

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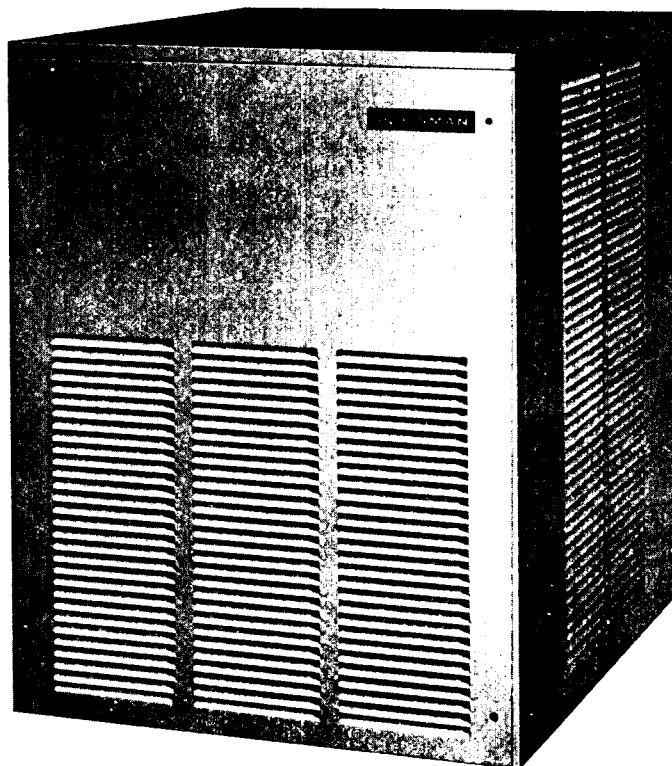


MODULAR FLAKER

MF5

SERIES

Continuous Flow

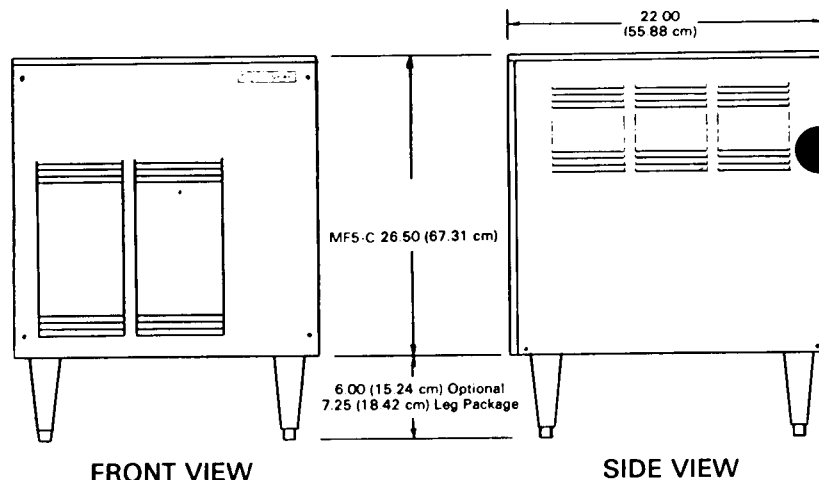


ice making capacity

Daily Ice Capacity is directly related to condenser air inlet temperature, water temperature, and age of machine.

NOTE: To keep you SCOTSMAN MODULAR FLAKER performing at it's maximum capacity, it is necessary to perform periodic maintenance as outlined on page 22 of this manual.

MF5C SERIES SPECIFICATIONS:



MECHANICAL

Compressor (Copelaweld)
Gear Drive Motor
Gear Drive Motor Output
Condenser
Refrigerant Control
Refrigerant Charge R-12

MF5 AE

1 H.P.
1/4 H.P.
12.2 RPM
Air
Capillary Tube
31 oz.

MF5 WE

1 H.P.
1/4 H.P.
12.2 RPM
Water
Capillary Tube
28 oz.

ELECTRICAL

Basic Electricals
Minimum Wire Size
Total Amperage
Compressor Amperage
Gear Drive Motor Amperage
*Condenser Motor Amperage
Basic Electricals
Minimum Wire Size
Total Amperage
Compressor Amperage
Gear Drive Motor Amperage
*Condenser Motor Amperage
Basic Electricals
Minimum Wire Size
Total Amperage
Compressor Amperage
Gear Drive Motor Amperage
*Condenser Motor Amperage

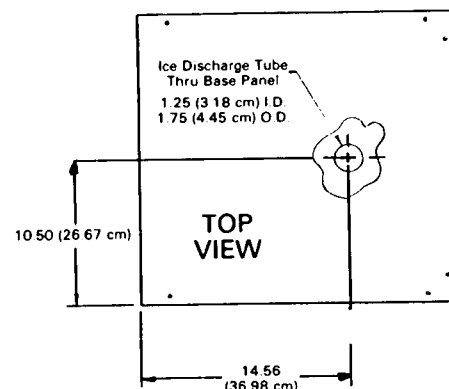
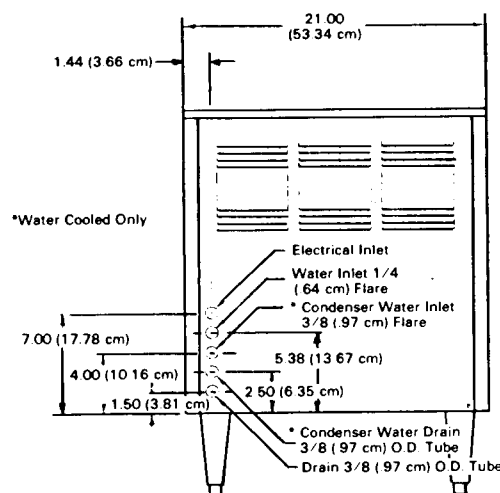
230/60/1
2w 10g
8.2
6.2
1.6
.22
208-220/60/3
3w 10g
6.1
4.1
1.5
.25
208/60/1
2w 20g
8.7
6.4
1.8
.22

230/60/1
2w 10g
7.3
5.7
1.6
208-220/60/3
3w 10g
5.4
3.9
1.5
208/60/1
2w 10g
7.0
5.2
1.8

WATER

Inlet Water Line (Freezer)
Inlet Water line (Condenser)
Drain Line
Drain Line-Water Cooled
Condenser

1/4" Flare
3/8" N.P.T.
3/8" I.D.
3/8" O.D.



Storage Bin: See Page 5
Stainless Steel Lined

NOTE: Requires additional installation space for:
air ventilation - 4" right & left side
utility connections - 6" back side

DESCRIPTION

SCOTSMAN Modular Flakers are designed for restaurants, super markets, soda fountains, hospitals, bakeries, fish markets, poultry stores, packing plants, etc. It is the finest Ice Maker on the market today. It will work 24 hours a day for you, or only as needed. It produces the highest quality ice available at any price.

SCOTSMAN Modular Flakers are easily installed requiring only standard water, drain and electrical connections.

ATTRACTIVE COMPACT CABINET. Sandlewood or stainless steel removable panels makes for easy access to mechanical parts.

SEALED REFRIGERATION SYSTEM. Provides quiet, efficient operation of the machine. Compressor motor is internally spring mounted for quiet operation. Compressor motor is covered by a full 5-Year Warranty.

HOW IT WORKS. An exclusive patented ice-making system, wherein water in the constant level float reservoir is fed to the bottom end of the freezing cylinder and turns to ice on the inside of this cylinder. Ice from the refrigerated walls of this cylinder is extruded past the ice breaker at the top of the cylinder through a side opening by means of a stainless steel auger driven by a gearmotor drive.

Model no. MF5 is a continuous flow type machine, and is manually started by an OFF and ON switch located inside the cabinet. Since the MF5 does not have its own attached bin, it is necessary to use an auxillary bin such as those listed below. A bin thermostat is mounted in each continuous flow type machine for the purpose of mounting control bulb from machine to bin.

USE WITH BIN MODEL ('S) B20, B40, B60, B80, B90, B500, B750, B1000, B1500

ACCESSORIES: BX83, BX85, BX87, BX15, BX25 KBTI, KBT4

INSTALLATION INSTRUCTIONS

The following installation instructions were written for use by a authorized tradesman only, not the user or customer. We suggest you call your local authorized Scotsman Service Agency for hook-up, start-up, and check out. He's listed under "Ice Making Machinery & Equipment" in your telephone book, yellow pages.

1. Select unit location prior to hook up of water drain and electrical in accordance with local and national codes. Minimum room temperatures is 50° Fahrenheit, maximum room temperature 100° Fahrenheit. On air cooled models, select well ventilated location. Minimum water temperature 40° F.
- *2. Install bin for use with modular flaker in its permanent location following instructions included with the storage bin.
- *3. Level bin with adjustable legs and wipe storage bin liner clean with damp cloth.
4. After uncrating modular flaker, remove front, side and top panels and inspect for any concealed damage. Notify carrier of any concealed damage claims.
5. Scotsman upright or vertical series bins have pre-punched holes in top covered by a rubber boot. To mount modular flaker on these bins, remove appropriate covers (spout and thermostat openings) then position flaker on bin top. Next, slide grommet on end of ice tube into place between flaker base and bin top. **Caution:** Make sure that grommet is not pinched or restricted in any way otherwise flaker will not operate properly, causing trip outs and overloads. Then install thermostat capillary and rubber grommet between flaker base and storage bin, attaching per drawing on page 13.
6. When using horizontal bins (B40, B60 etc.) and KBT-top, you have to drill both holes for ice spout and thermostat then install flaker as per above instructions.
7. Thru cabinet top, locate plastic reservoir. Check for proper water height - adjust if needed - locate level 1/4" below ice discharge opening.
8. Check motor compressor hold down nuts to insure motor compressor rides snug on mounting pads.
9. Remove water strainer from envelope for installation in water supply line feeding unit.
10. Open electrical control box cover and check unit nameplate voltage against building source voltage and make sure they correspond. **Caution:** Improper voltage supplied to units will void your parts replacement program.
11. Locate and tear out registration card from front of owners guide and fill out card completely including model and serial numbers as taken from aluminum plate found behind front service panel. Forward to Scotsman factory using self-mailing card.

*Standard Models do not include legs. Sales department carries leg package under accessory items.

INSTALLATION LIMITATIONS

ELECTRICAL

1. Scotsman, like most manufacturers, purchases electrical motors that are rated to operate within 10% variance above or below nameplate ratings.
2. Improper voltages applied to Scotsman equipment can cause premature failures and burnouts. Failures of this type are not considered as factory fault or defect.

AMBIENT

WARNING — This machine is not designed for outdoor installations. This machine will not operate when air temperatures are below 50° F. or above 100° F.

This unit was not fabricated nor intended to be installed outdoors.

WATER

3. Scotsman Ice Systems require 20 pounds flowing water pressure to operate satisfactorily. Pressures lower than 20 pounds or interruptions in the water supply can cause serious mechanical damage to this product.

This machine will not operate when water supply temperatures are below 40° F. or above 100° F.

**INSTALLATION
ELECTRICAL CONNECTIONS:
MF5AE-2
230 Volts, 60 Hertz, 1 Phase
20 Amp. Circuit**

10 Gauge wire should be used for electrical hook-up. All Scotsman Modular Flakers require a solid earth ground wire.

Be certain that the Flaker is on its own circuit and individually fused. The maximum allowable voltage variation should not exceed 10 per cent of the nameplate rating even under starting conditions. Low voltage can cause erratic operation and may be responsible for serious damage to the overload switch and motor windings.

All external wiring should conform to the National, State and local Electrical Code requirements. Usually an electrical permit and the services of a licensed electrician will be required.

**ELECTRICAL INSTALLATION
MF5AE-2**

Compressor	1 H.P.	Copelaweld: SSE4-0100-CAB-207 2 pole, 3500 RPM
	Voltage	230
	Amp. rating F.L.A.	8.0
	Hertz	60
	Phase	Single
Gear Drive Motor.	¼HP	Queen Products 12.2 RPM
	Voltage	208 - 230
	Amp. Rating	2.4
	Hertz	60
	Phase	Single
		Thermally Protected

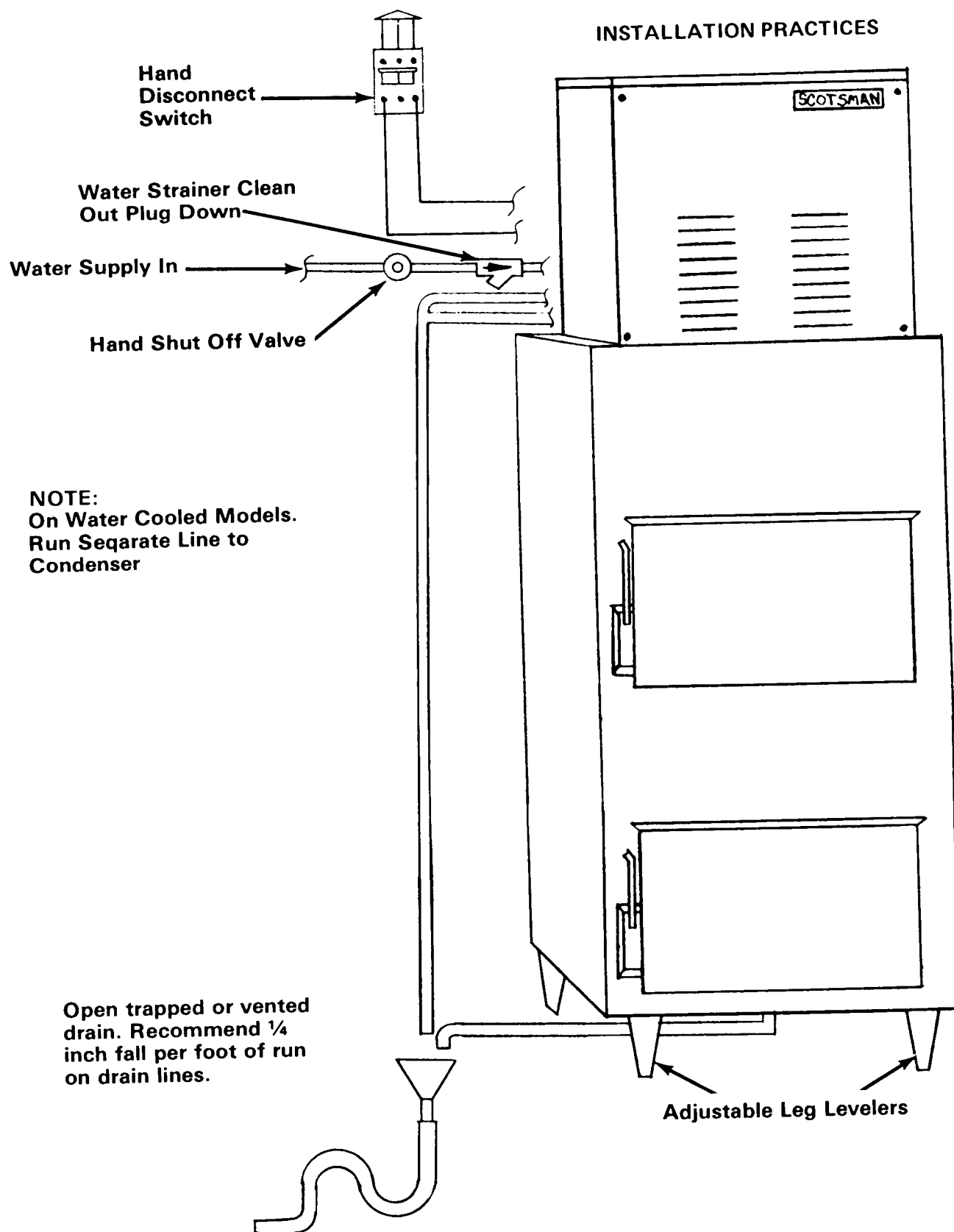
WATER SUPPLY: The recommended water supply line is ¼ inch O.D. copper tubing for the MF-5. Connect to cold water supply line with regular plumbing fittings, with a shut-off valve installed in an accessible place between supply line and machine. A water strainer must be installed with the unit and mounted with clean-out plug down. Locate the strainer next to the machine with the arrow in the direction of the flow. Most plumbing codes also call for double check valves in the supply water line, particularly for water-cooled models.

On air-cooled models the water supply line connects to the ¼ inch flare fitting on the machine. On water-cooled models connections are made to a ¾ inch male pipe nipple inside of the machine compartment. Incoming water goes through the water regulating valve first and then to the water-cooled condenser. Observe arrow on water regulating valve. Water supply must be installed to conform with local code. In some cases a licensed plumber and/or a plumbing permit will be required.

NOTE: If water supply to unit is to be interrupted for any period of time, the unit must be switched off to prevent damage to freezer mechanism.

DRAIN: The recommended drain from the bin is ½ inch OD copper tubing. Must be run to an open trapped and ventd drain. If drain is a long run, allow ¼ inch pitch per foot. Drain must be installed to conform with local code. Run separate line for condenser discharge water on water-cooled models.

INSTALLATION PRACTICES



STARTING THE MACHINE:

When the machine is placed and inspected as per instructions and all plumbing and electrical connections are completed and tested, turn on the water supply. Be sure the float cover is removed to check on the float operation and water level in the water reservoir. Be sure the water reservoir is filled before starting the machine. Water level should be ¼ inch below the reservoir overflow.

When this is completed, turn on the manual switch located behind front panel of the cabinet and the machine is in automatic operation. In two to three minutes ice will start dropping off the worm shaft and out the ice chute. Let the machine operate for at least 30 minutes and check for any excess noise other than the normal compressor noise. Test the ice storage control bulb by holding a handful of ice around the bulb until the machine shuts off. One minute should be normal for the control to function. Within minutes after the ice is removed, the bulb will warm up and the machine will automatically start up. The control is factory set and should not be reset until this test is made. Normal setting of this control should be approximately 35 degrees cut and 45 degrees cut in.

Check pressure setting at the time of start-up. On the water-cooled models set the head pressure at 135 PSI. On the air-cooled models the head pressure will vary between 130 and 145 PSI head pressure. The frost line should extend out of the accumulator if properly charged with refrigerant and suction pressure will range between 12 and 14 PSI with 50° F inlet water.

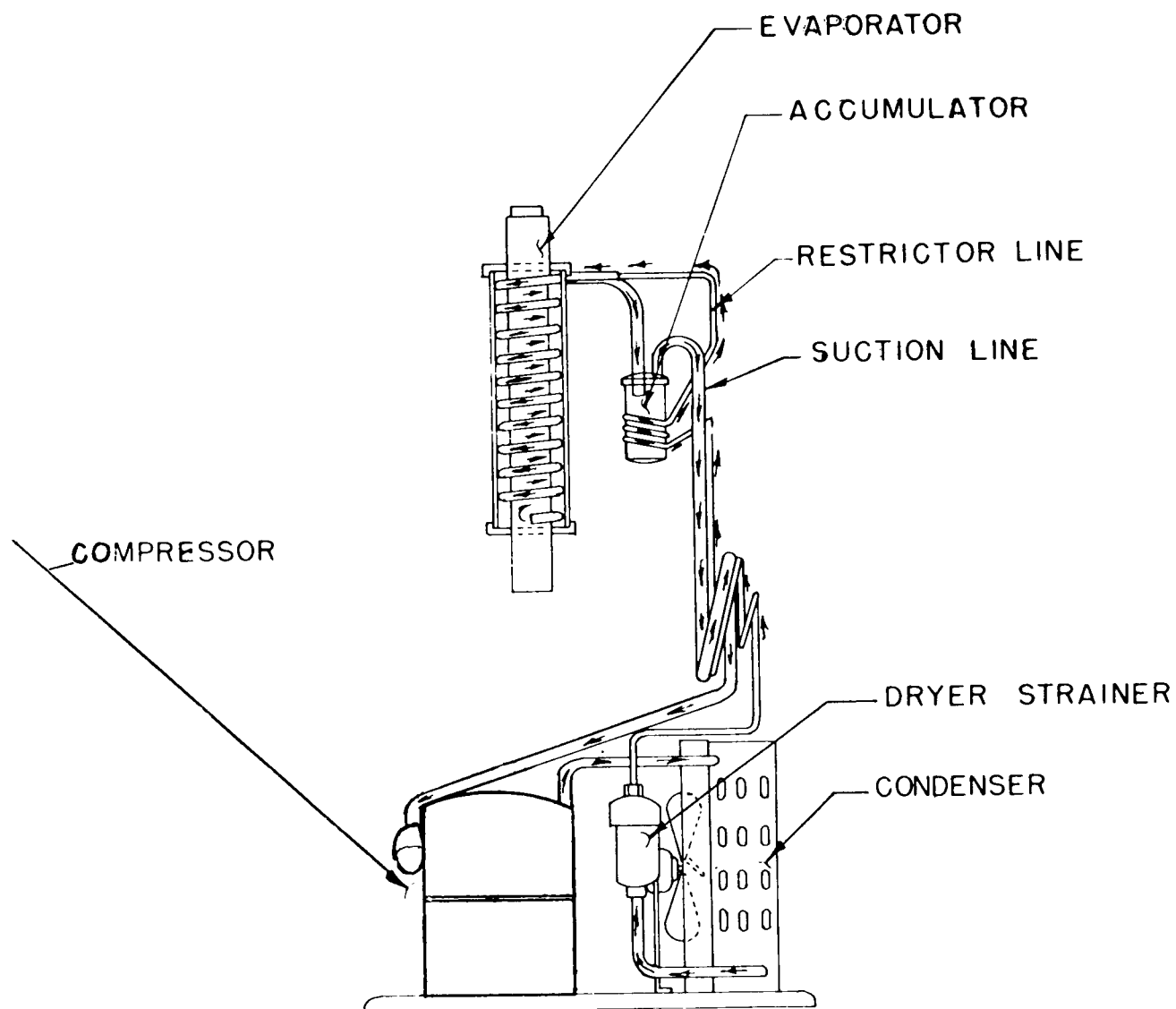
REFRIGERANT CHARGE:

The below refrigerant charge is approximate. When charging, set at 135 PSI head pressure and charge so that the frost line extends out of the evaporator and into the accumulator after fifteen minutes of operation.

Model	Refrigerant Charge
Air-Cooled	31 oz. R-12
Water Cooled	28 oz. R-12

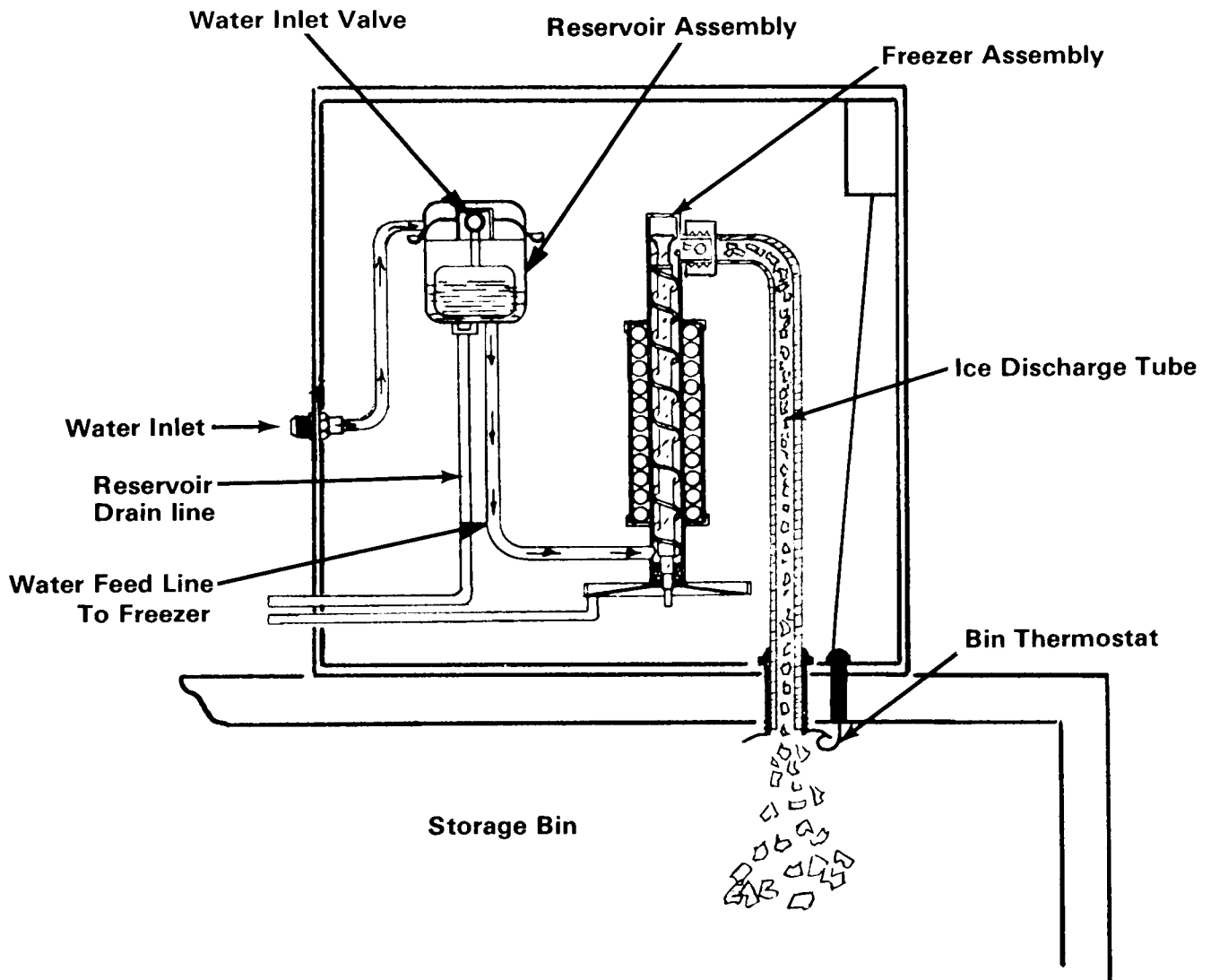
1. Is the unit level? (IMPORTANT)
2. Have all electrical and piping connections been made?
3. Has the voltage been tested and checked against the nameplate rating?
4. Is the water supply valve open and the electric power on?
5. Is the water reservoir filled and shut off?
6. Have unit and bin been wiped clean?
7. Has owner been given this Operating Instruction Booklet, and has he been instructed on how to operate the machine?
8. Have the installation and registration cards been filled out and mailed to the factory?
9. Check all refrigerant and conduit lines to guard against vibration and possible failure?
10. Installed in a well ventilated room where ambient temperatures do not fall below 50° Fahrenheit.
11. Is unit installed with a minimum 4" air space around sides and back?

WARNING: THIS MACHINE MUST NOT BE ALLOWED TO OPERATE WHEN THE WATER SUPPLY IS SHUT OFF, OR AT BELOW RECOMMENDED WATER PRESSURE. TURN MASTER SWITCH TO "OFF" POSITION WHEN WATER SUPPLY IS OFF, OR WHEN WATER PRESSURE IS BELOW RECOMMENDED OPERATING PRESSURE.



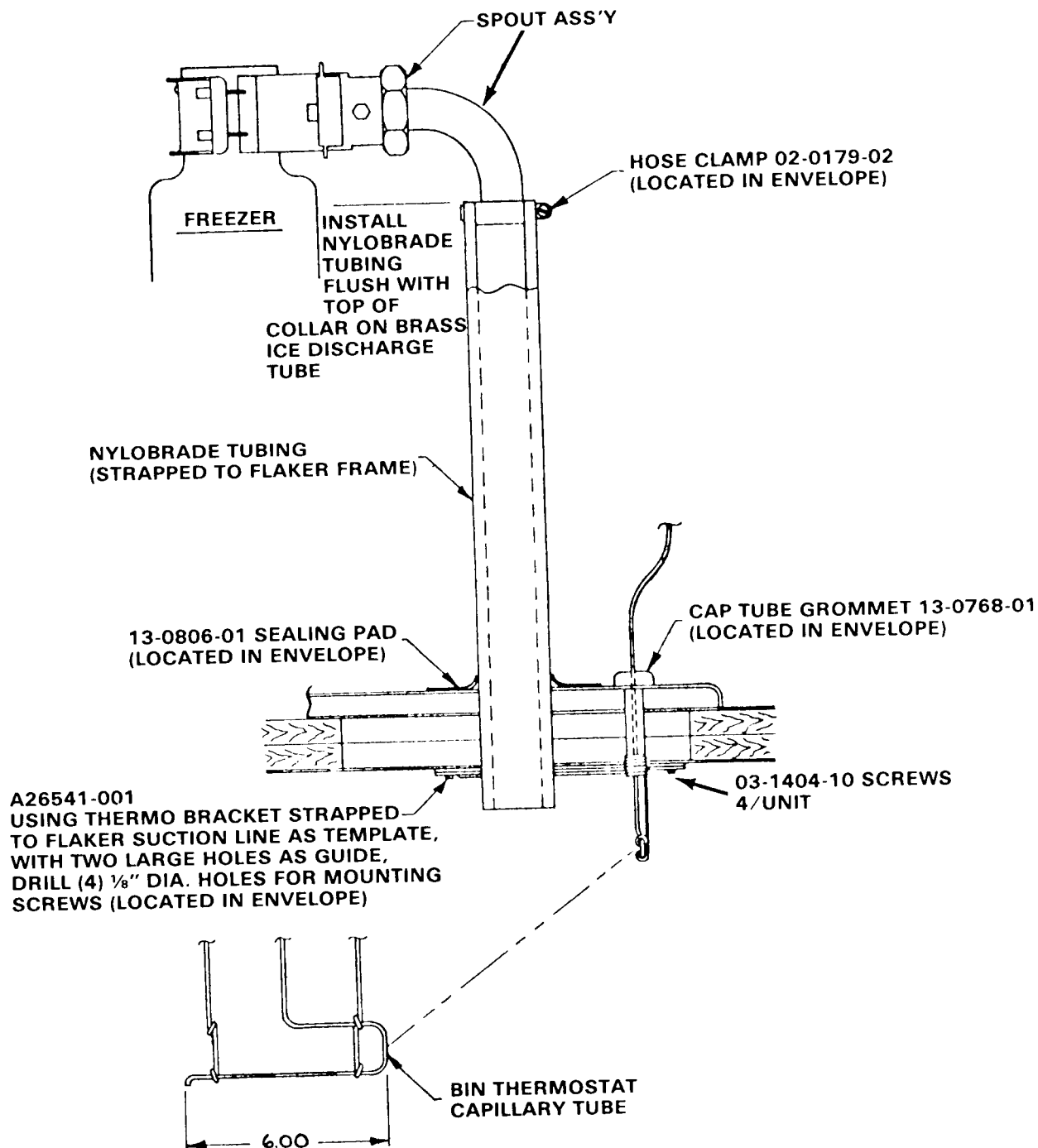
REFRIGERATION CYCLE

WATER SCHEMATIC



INSTALLATION INSTRUCTIONS

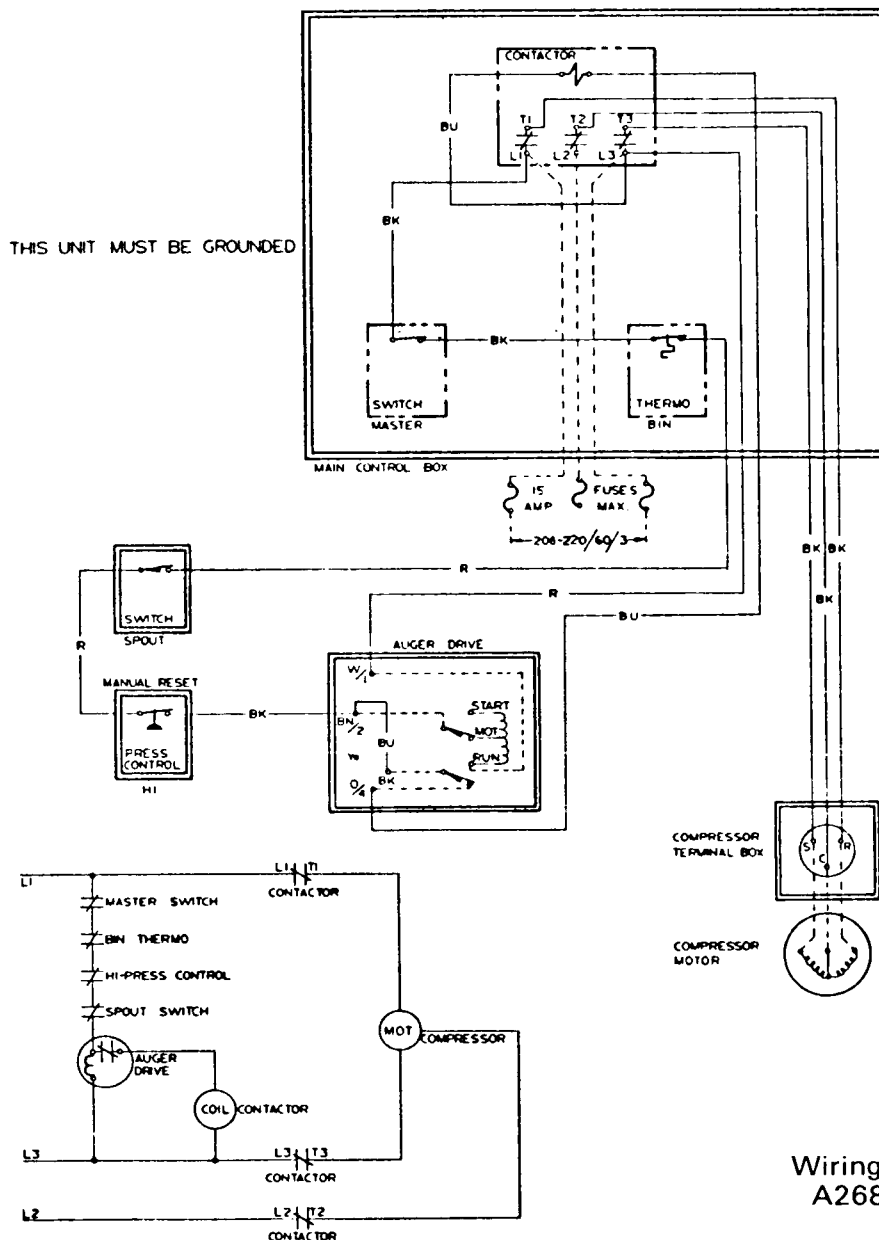
MODULAR FLAKER ICE DISCHARGE TUBE MF5 SERIES



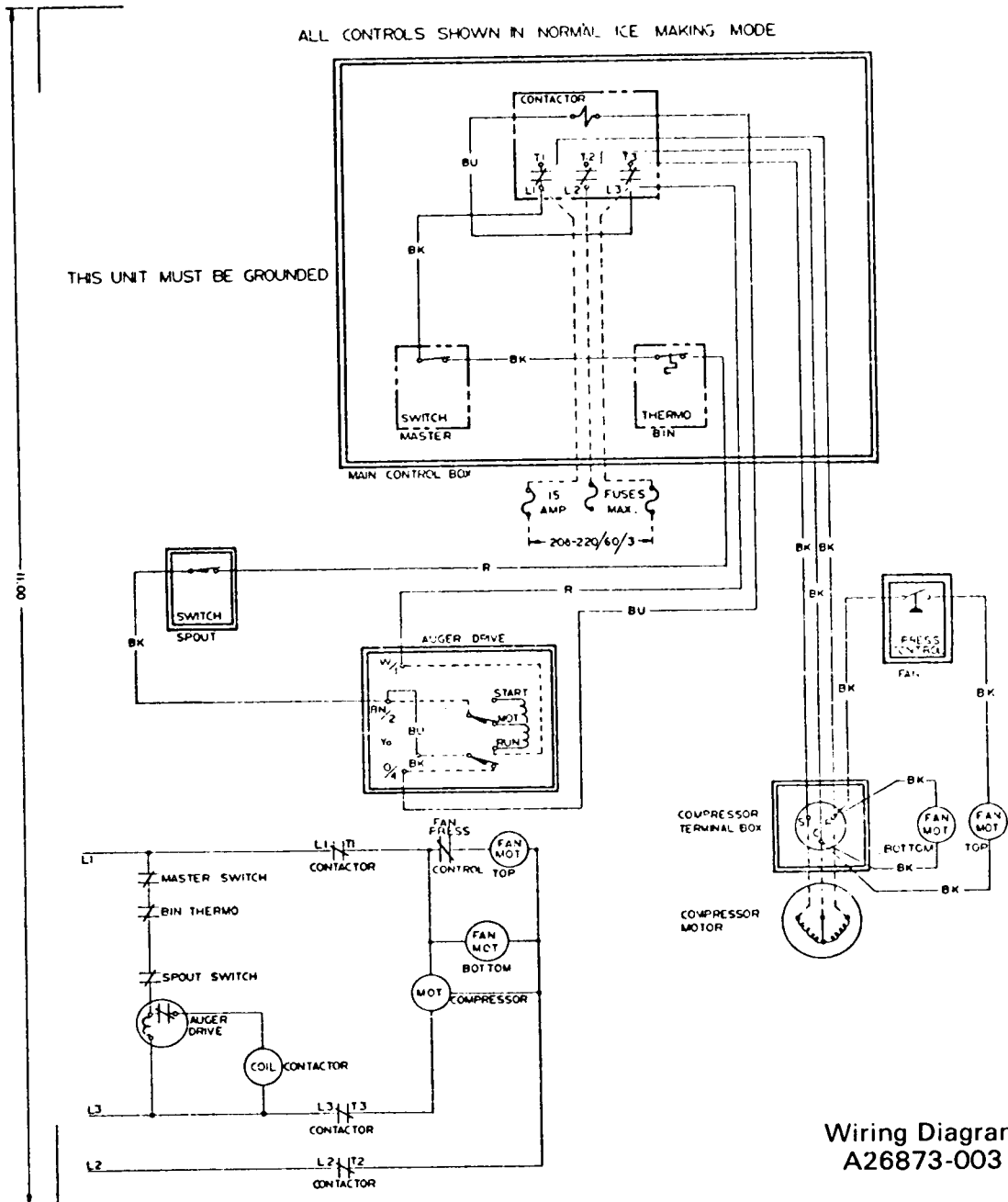
NOTE: See page 33 for
Spout Assy. Breakdown (Part No.'s).

WATER COOLED
208-220/60/3

ALL CONTROLS SHOWN IN NORMAL ICE MAKING MODE



NOTE: This unit must be grounded.



NOTE:
THIS UNIT MUST
BE GROUNDED

The diagram illustrates the electrical wiring for a 1/2 HP. auger unit. It features a main control box containing a start capacitor, run capacitor, potential relay, contactor, master switch, and thermo pin. The auger drive unit includes a manual reset, a switch, and a motor. The compressor motor is protected by a protector and fuse. The diagram shows the connections between these components, including the main power lines (R, BK, Y, BU) and the ground connection. A note states: "THIS UNIT MUST BE GROUNDED".

Wiring Diagram for 1/2 HP. Auger Unit

Components and Connections:

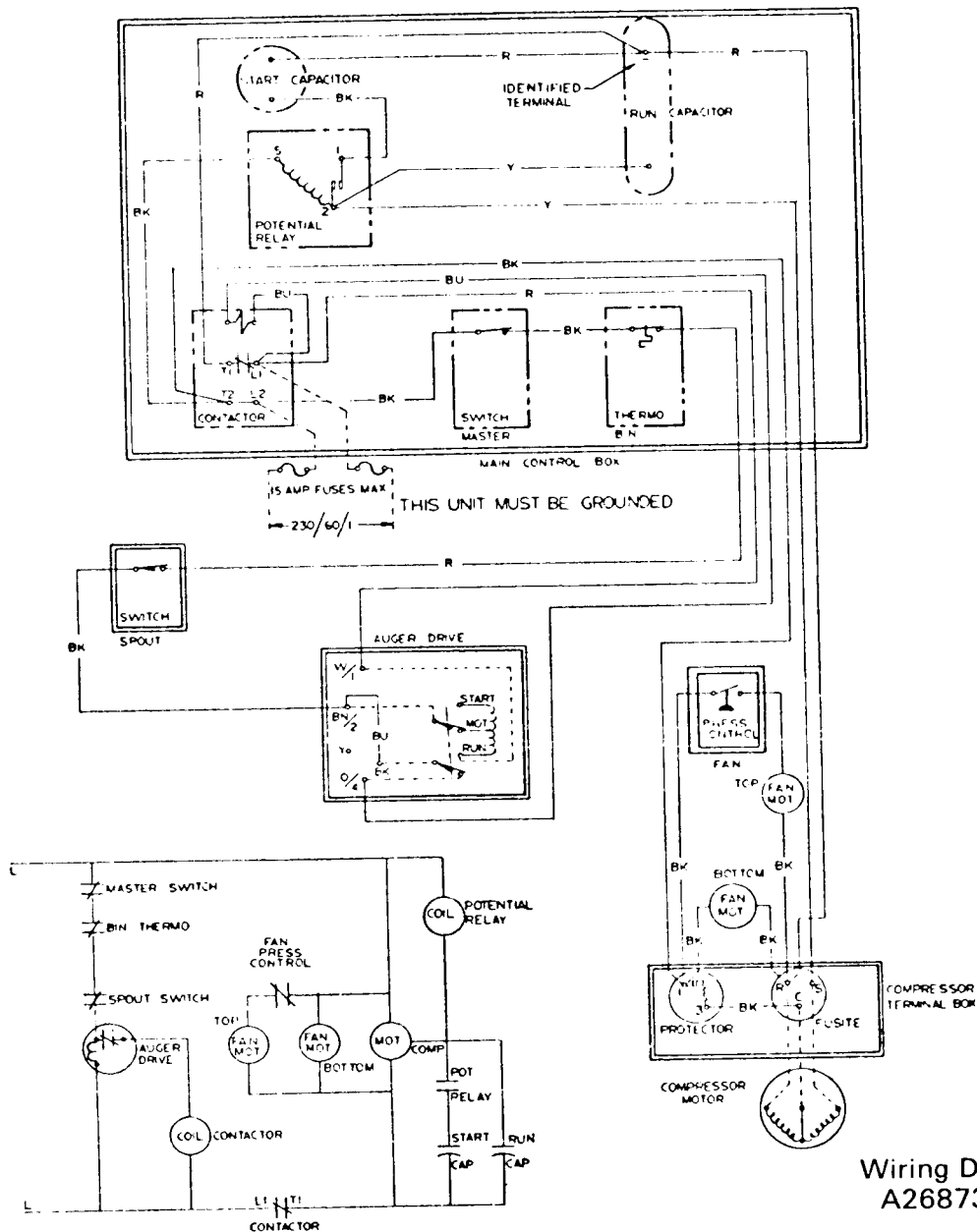
- Main Control Box:** Contains a Start Capacitor, Run Capacitor, Potential Relay, Contactor, Master Switch, and Thermo Pin.
- Auger Drive:** Includes a Manual Reset, Switch, and Motor.
- Compressor Motor:** Protected by a Protector and Fuse.
- Wiring:** Shows connections for R (Run), BK (Black), Y (Yellow), and BU (Blue) wires, along with ground connections.
- Notes:** "THIS UNIT MUST BE GROUNDED".

Wiring Diagram

A26874-002

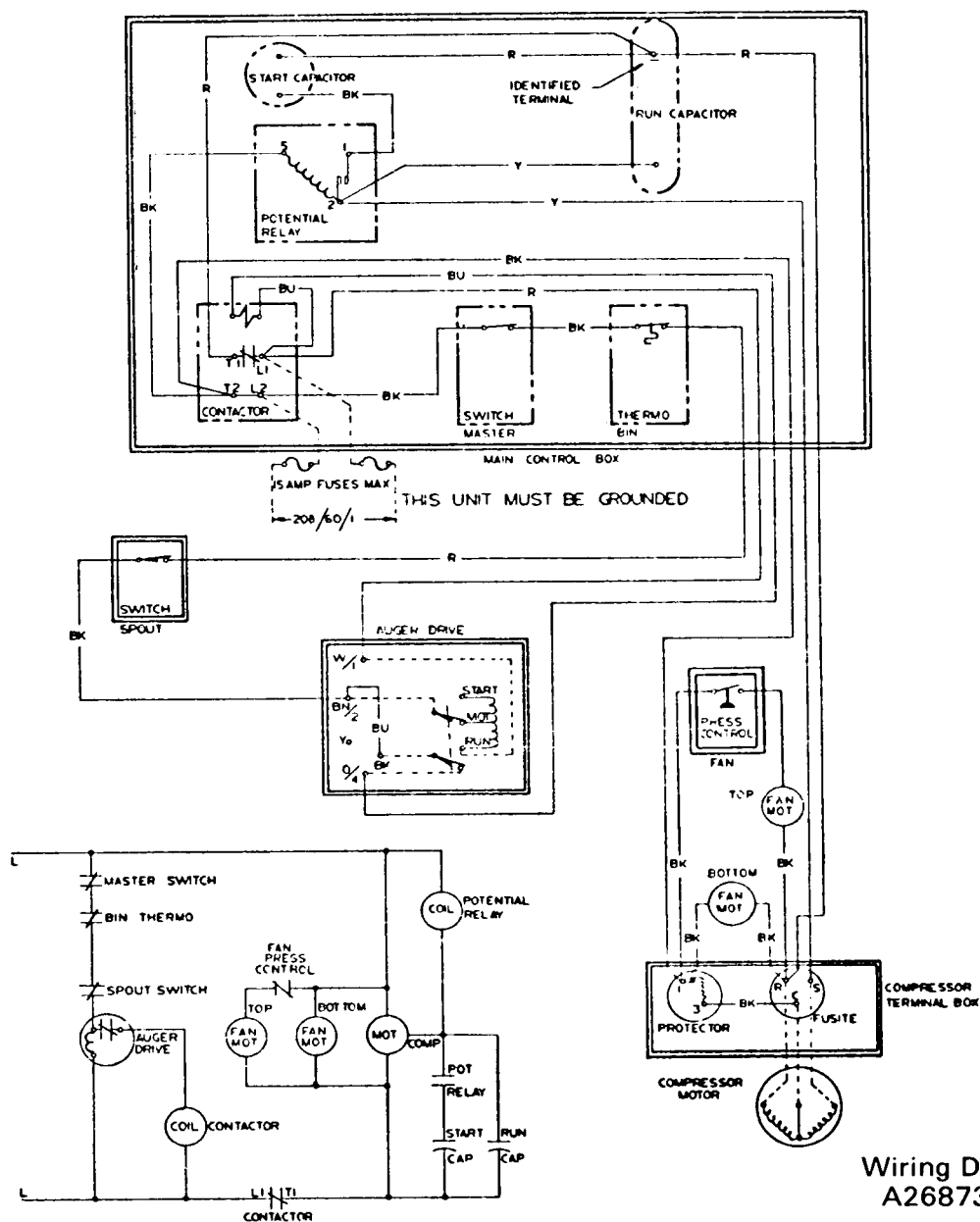
**NOTE:
THIS UNIT MUST
BE GROUNDED**

ALL CONTROLS SHOWN IN NORMAL ICE MAKING MODE



NOTE:
THIS UNIT MUST
BE GROUNDED

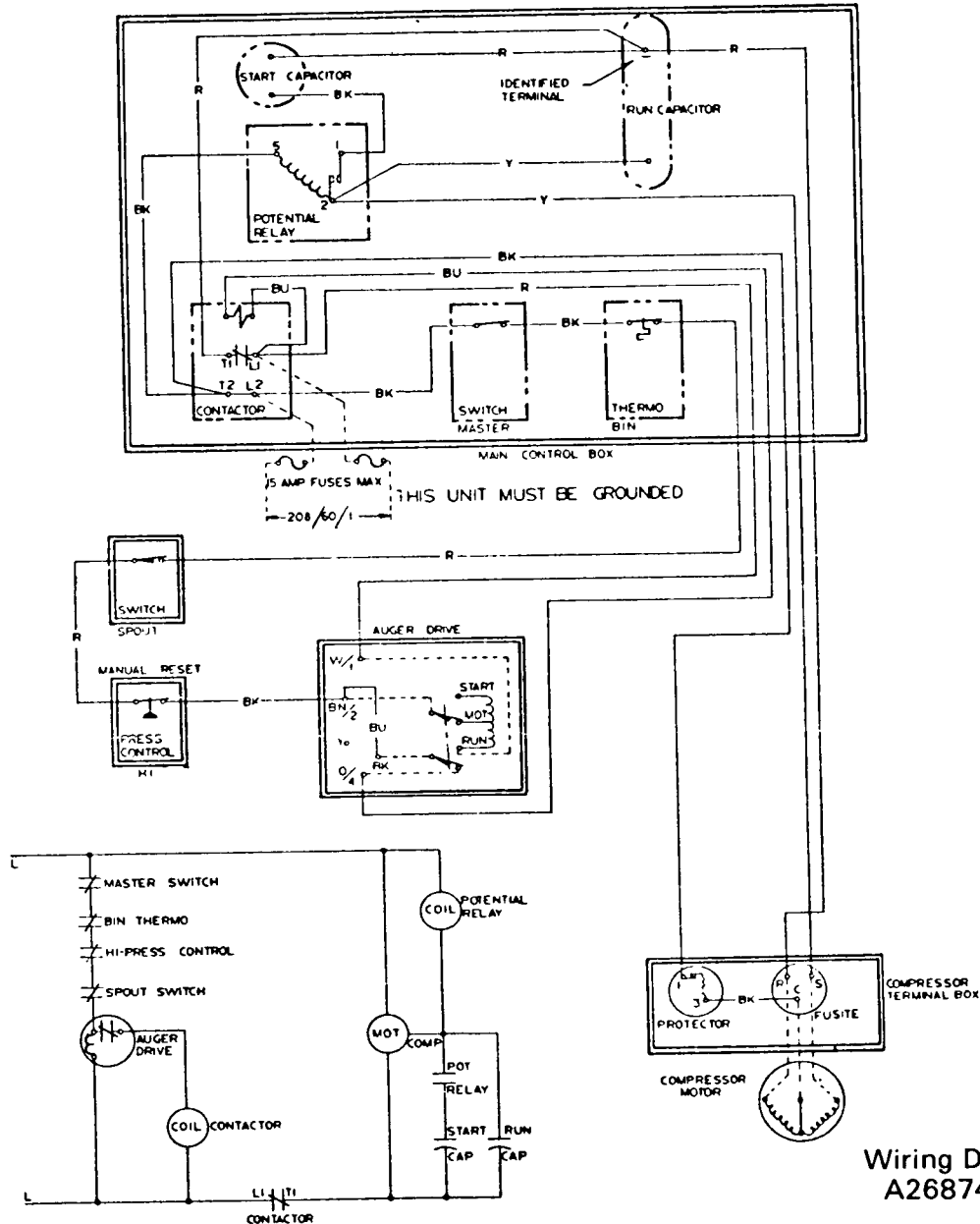
ALL CONTROLS SHOWN IN NORMAL ICE MAKING MODE



Wiring Diagram
A26873-007

NOTE:
THIS UNIT MUST
BE GROUNDED

ALL CONTROLS SHOWN IN NORMAL ICE MAKING MODE



Wiring Diagram
A26874-007

NOTE:
THIS UNIT MUST
BE GROUNDED

SERVICE ANALYSIS

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Unit will not run	Blown Fuse Thermostat set too high Loose electrical connection Switch in OFF position Inoperative master switch Spout safety switch tripped	Replace fuse and check for cause of blown fuse. Adjust thermostat. 35° cut-out and 45° cut-in. Check wiring. Turn switch to ON. Replace switch Reset - check actuator and bin thermostat location
Compressor cycles intermittently	Low voltage Dirty Condenser Air circulation blocked Inoperative condenser motor Non-condensable gases in system	Check for overloading. Clean. Move unit to correct Replace. Purge off.
Making wet ice	Surrounding air temperature Under or over-charge of refrigerant High water level in water reservoir Faulty compressor	Correct or move unit to cooler location. Recharge with the proper amount. Lower to 1/4 inch below overflow pipe. Repair or replace.
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 capillary tube or drier Inlet water strainer partially plugged. Corroded or stained worm shaft due to water condition.	Check and recharge with proper amount of refrigerant. Clean condenser Adjust to 1/4 inch below overflow pipe. Moisture in system. Overcharge of oil in System. Remove charge and drier. Replace and recharge system. Remove screen and clean. Remove worm shaft and clean.
Machine runs but makes no ice	Loss or under-charge of refrigerant Drive gearmotor or drive coupling stripped. Water not entering freezing chamber Moisture in system Water seal leaking Water supply to unit off	Check for leaks and recharge Check. Repair and/or replace. Plugged strainer or supply line. Check and clean. Air lock in gravity feed line. Check and remove air lock. Check and remove charge and drier. Replace seal Restore water supply to icemaker.

SYMPTOM	POSSIBLE CAUSE	CORRECTION
Water Leaks	Defective water seal Gravity feed line leaking "O" ring in spout casting leaking. Storage bin drain & connecting fittings leaking. Water level in reservoir too high	Replace Check hose clamps Remove spout casting and install new "O" ring. Check and repair. Adjust to 1/4 inch below overflow pipe
Excessive noise or chattering	Mineral or scale deposit on auger and inner freezing chamber walls. Low suction Intermittent water supply Water level in reservoir too low. Gearmotor loose on frame Gearmotor end-play or worn bearings.	Remove and manually polish auger, polish inner chamber walls of freezer barrel. For lighter concentrations use Scotsman Ice Machine Cleaner periodically. Add gas to raise suction pressure. Check & clean water strainer. Check gravity feed line for air lock. Remove air lock. Adjust to 1/4 inch below overflow pipe. Tighten. Repair or replace.
Machine continues to run with full storage bin	Storage bin thermostat not properly set.	Reset or replace. 35° cut-out, 45° cut-in Check operation with handful of ice.
Gearmotor noise	Low on oil	Remove case cover to check for proper oil level. Top of gears should be covered. Use Sun Oil Co. Prestige 50 EP.

MAINTENANCE INSTRUCTIONS — FLAKERS

THE FOLLOWING MAINTENANCE SHOULD BE SCHEDULED THREE TIMES PER YEAR ON ALL SCOTSMAN MODULAR FLAKERS. CALL YOUR AUTHORIZED SCOTSMAN SERVICE DEPARTMENT.

1. Check and clean water strainers and float valve. Depress float valve to insure full stream of water.
2. Check water level and machine level, keep water level below overflow, but as high as possible and still not run out of spout opening with machine off. Water droplets come out of spout with ice at all times. Adjust as required.
3. Clean reservoir and interior of freezer using SCOTSMAN Ice Machine Cleaner. If machine has been cleaned regularly and no problems such as dry ice or chatter are noticed, clean as per the following instructions:
 - a. Set main switch to OFF.
 - b. Remove all ice from storage bin.
 - c. Turn off water supply or block float. Drain reservoir by disconnecting tube between reservoir and freezer. After draining, reconnect tubing.
 - d. Set main switch to ON and pour cleaning solution into reservoir. Do not fill above overflow tube.
Use 6 oz. of Scotsman cleaner and 2½ qts. hot water.
 - e. Continue to make ice on solution until the solution is used up and reservoir is empty.
 - f. Set main switch to OFF Remove overflow tube, wash and rinse reservoir, replace overflow tube, turn water on or remove float block.
 - g. Turn MAIN SWITCH to ON. Let unit run for at least (15) minutes to flush out any cleaning fluid. Check ice for acid taste — run until ice tastes sweet.
 - h. Turn MAIN SWITCH to OFF. Add hot water to ice bin, using the melt water, thoroughly wash and rinse all surfaces within the storage bin.
 - i. Turn MAIN SWITCH to ON. Replace Service Door. Unit is ready for normal operation.

NOTE: Cleaning requirements vary according to local water conditions. Visual inspection of the auger before and after cleaning will indicate best procedure to be followed in local areas.

4. Check high and low side pressures. On air-cooled models head pressures range between 130 and 145 PSI. Suction pressure should be above 12 PSI and will range up to 15 PSI depending upon water and ambient temperatures.
5. Check gear motor operation. Normal running temperatures are in the area of 160° Fahrenheit, which is hot to the touch.
6. Check top bearing of freezing tube. Remove retainer ring around edge of stamped brass cap. If moisture is around bearing, wipe up and remove grease. Add new grease. Use Beacon No. 325. Replace cap and retainer ring.
7. Clean air-cooled condenser. Inform customer to clean frequently. Always shut off machine when cleaning.
8. Oil condenser fan motor when possible.
9. Check for refrigerant leaks and proper frost line. Should frost out of accumulator at least one-half way to compressor, and in some areas back to service valve.
10. Check for water leaks. Tighten drain line connections. Run water down bin drain line to make sure it is open.
11. Check quality of ice. Ice should be wet when formed, but will cure rapidly to normal hardness in bin.
12. Check thermostat and pressure plate cut off in spout. Micro switch cuts off only compressor. Bin thermostat should be set at 10° differential 35° cut out, 45° cut in.

FREEZER GEARMOTOR

The 1/4 H.P. gearmotor in Model MF5 is equipped with a set of auxilliary contacts on the motor starter activator assembly. After the motor has started and reached operating speed(off the start windings and onto the run windings) the auxilliary contacts activate the operating contactor coil to start the compressor.

In actual operation any condition that causes the motor to become overloaded will cause the thermal overload protector to open the operating circuit. Loss of power to the motor will also open the operating circuit. In both cases, the compressor is not running and making ice.

TO REPLACE:

1. Remove top, front and side panels.
2. Shut off water supply and electrical power to unit.
3. Remove the electrical leads from the motor to the control box.
4. Remove slip nut attaching ice discharge tube to freezer spout casting.
5. Next remove 3 bolts securing base adapter to gearmotor cover and the 4 bolts holding the gearmotor bracket to the cabinet base.
6. Lift freezer and adapter assembly off gearmotor and pull gearmotor and mounting bracket out of cabinet.

FREEZER ASSEMBLY

TO REPLACE:

1. To remove freezer first remove cabinet top, front and side panels.
2. Shut off water supply and disconnect electrical power to unit.
3. Drain reservoir and freezer of water by removing tygon tubing entering base of freezer.
4. Remove slip nut attaching ice discharge tube to freezer spout casting.
5. Purge off refrigerant and disconnect suction line from compressor. Disconnect capillary line at drier. Cap off all lines so no moisture can enter system.
6. Remove the 3 bolts securing freezer base adapter to top of gear motor cover.
7. Freezer assembly now can be lifted off gear motor and out of cabinet
8. To re-install reverse procedure. Refer to section "Specifications" for proper refrigerant charge and to page 10 for Head and Back pressure settings.

FREEZER WORM SHART (AUGER)

TO REPLACE:

1. Disconnect electrical supply and shut off water to unit.
2. Remove top and front panel of cabinet
3. Drain reservoir and freezer of water by removing tygon tubing entering base of freezer.
4. Next remove slip nut attaching ice discharge tube to freezer spout casting and insulation covering top of freezer chamber.
5. Remove the 4 bolts attaching the freezer spout casting to the spout bracket and remove spout casting. Also remove bracket by removing the stainless steel screw which secures the bracket to the freezer chamber.
6. By lifting up on the freezer cap pull ring, the complete worm shaft and bearing retainer can be removed from freezer chamber. NOTE: Top half of water seal is attached to the lower end of the worm shaft.

FREEZER ASSEMBLY TOP BEARING

TO REPLACE:

1. Follow steps 1 thru 6, freezer worm shaft removal.
2. To remove bearing and retainer from worm shaft, first remove retaining ring in top of bearing retainer.
3. Remove freezer cap and pull ring from bearing retainer.
4. Unscrew cap screw holding shaft to inner race of bearing and pull worm shaft free from bearing and retainer.
5. When replacing with a new bearing add new grease (Beacon No. 325) to top of bearing.

FREEZER ASSEMBLY BOTTOM BEARING AND WATER SEAL

TO REPLACE

1. To replace, follow steps 1 through 6 under Worm Shaft Removal.
2. Remove 3 bolts holding freezer to mounting adapter.
3. Lift freezer off adapter just high enough to allow bottom bearing and bottom half of water seal to be removed from bottom of freezer tube.
4. Lightly grease bottom half of new water seal and insert face approximately $\frac{1}{2}$ " in bottom of freezer tube.
5. Insert bottom bearing in bottom of freezer tube, force approximately $\frac{1}{8}$ " past bottom tube end. This will allow the positioning ring on adapter to properly position freezer tube when tightening up the three mounting bolts.
6. After securing mounting bolts, put new top half of water seal on worm shaft the same way as the old seal was removed. When reassembling, put a small amount of Vaseline on shaft end. This will allow shaft to slide smoothly through rubber bottom half of water seal without tearing it.
7. Carefully insert worm shaft assembly in freezer tube and into spline coupling on bottom.
8. Replace spout casting, screws, insulation pieces and unit is ready to resume operation.

BIN THERMOSTAT:

Thermostat control body is located in electrical control box. The thermostat sensing tube is threaded into the ice storage bin where it automatically stops the icemaker when ice bin fills to sensing tube level and restarts ice maker when ice is removed. Factory settings are 35° cut out, 45° cut in.

Altitude correction begins at 2,000 feet, cut in and cut out screws should be adjusted equally, not more than $\frac{1}{4}$ turn at a time.

IMPORTANT — Refer to page 13 for proper location of bin control capillary.

TO REPLACE:

1. Disconnect electrical supply.
2. Remove bin thermostat capillary tube from bin location.
3. Remove front panel and control box cover.
4. Disconnect two spade type electrical leads.
5. Loosen two screws in control mounting bracket.
6. Replace with new control and reassemble in reverse of above.
7. **CAUTION:** Always check new control power element charge before installation to assure receiving an operative control. A handful of ice on bulb will register on audible 'click' at cut off.

CONTACTOR

The electrical contactor is used to carry the compressor line current. It is wired so that any of the controls in the pilot circuit such as the bin thermostat 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 point.

HEAD PRESSURE CONTROL (WATER COOLED MODELS)

The head pressure safety control is factory preset at 250 lb. PSIG. This is a manual reset control with an adjustment screw for raising or lowering the cut out pressure. The control is placed in the system as a safety precaution, to terminate power to the unit should loss of water occur to the water cooled condenser.

HEAD PRESSURE CONTROL (AIR COOLED MODELS)

A reverse acting high pressure control is used and connected to the **top** fan motor. **Note:** The **bottom** fan motor runs continuously. As the head pressure drops below the cut-out setting the top motor cuts out. When the head pressure rises to the cut-in setting, the motor starts again. This feature protects the unit against low ambient conditions. Cut-out and cut-in pressures are set at 125 lb. cut-out and 160 lb. cut-in.

WATER REGULATING VALVE(Water Cooled Models Only)

The Water Regulating Valve is designed to maintain a constant head pressure by regulating the amount of incoming water flow through the water cooled condenser. This valve is operated by high side pressure and may be adjusted by the adjusting screw on top of the valve to raise or lower the operating head pressure.

TO REPLACE:

1. Shut off water supply to machine and disconnect electrical power.
2. Disconnect old valve from water supply line and install new valve. NOTE: Be sure arrow on side of valve points in direction of water flow.
3. Purge off refrigerant and disconnect valve capillary line from high side fitting and immediately attach capillary from new valve.
4. Recharge system. Refer to page 10 for proper refrigerant charge and head and back pressure settings.

WATER RESERVOIR

A WATER LEVEL IS MAINTAINED IN THE WATER RESERVOIR BY A FLOAT OPERATED
A water level is maintained in the water reservoir by a float operated valve. Water is piped from the water reservoir to the freezing chamber by a gravity feed line maintaining an equal water level.

The water reservoir is equipped with an air gap to prevent back siphoning and meet all health codes.

The water level in the water reservoir is adjusted by bending float arm. The water level should be set ¼ inch below the overflow standpipe.

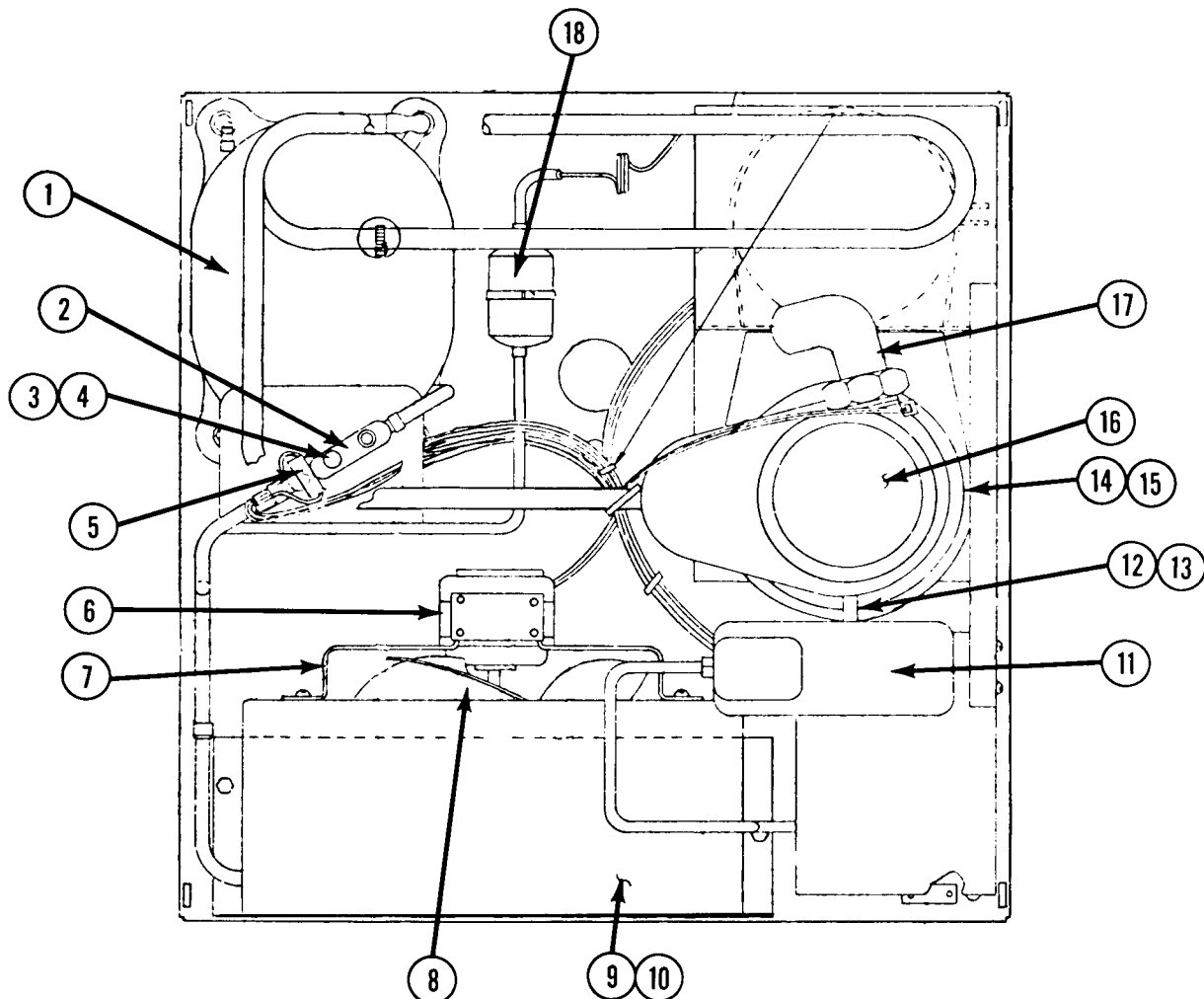
A water strainer must be installed in the supply line. Use strainer sent with machine.

TO REPLACE:

1. Remove cabinet top and side panel.
2. Turn off water supply and drain reservoir.
3. Remove ¼ inch inlet water line.
4. Remove plastic feed line to freezer.
5. Remove wingnut holding reservoir to bracket.
6. Lift out reservoir.
7. To replace, reverse procedure.

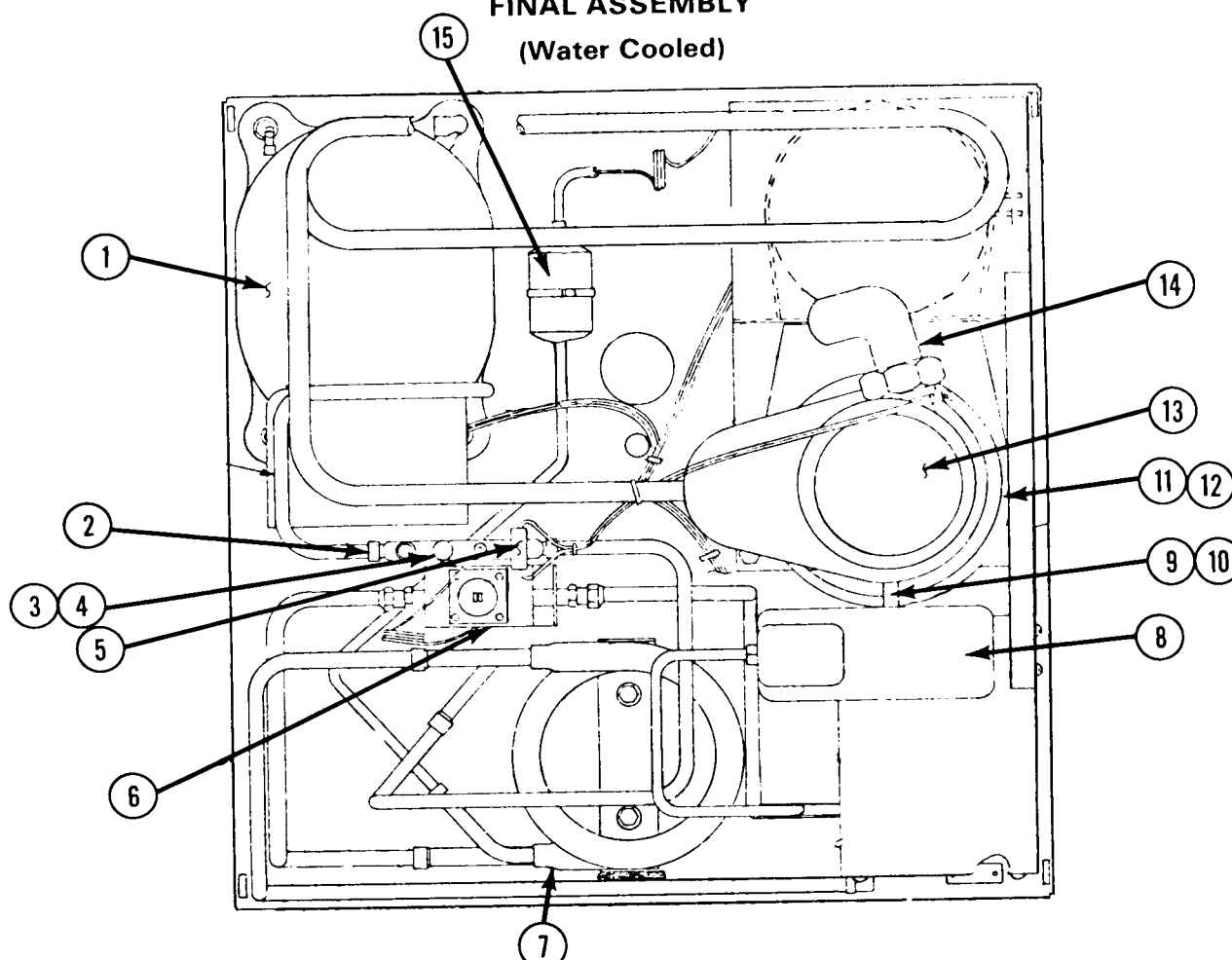
FINAL ASSEMBLY

(Air Cooled)

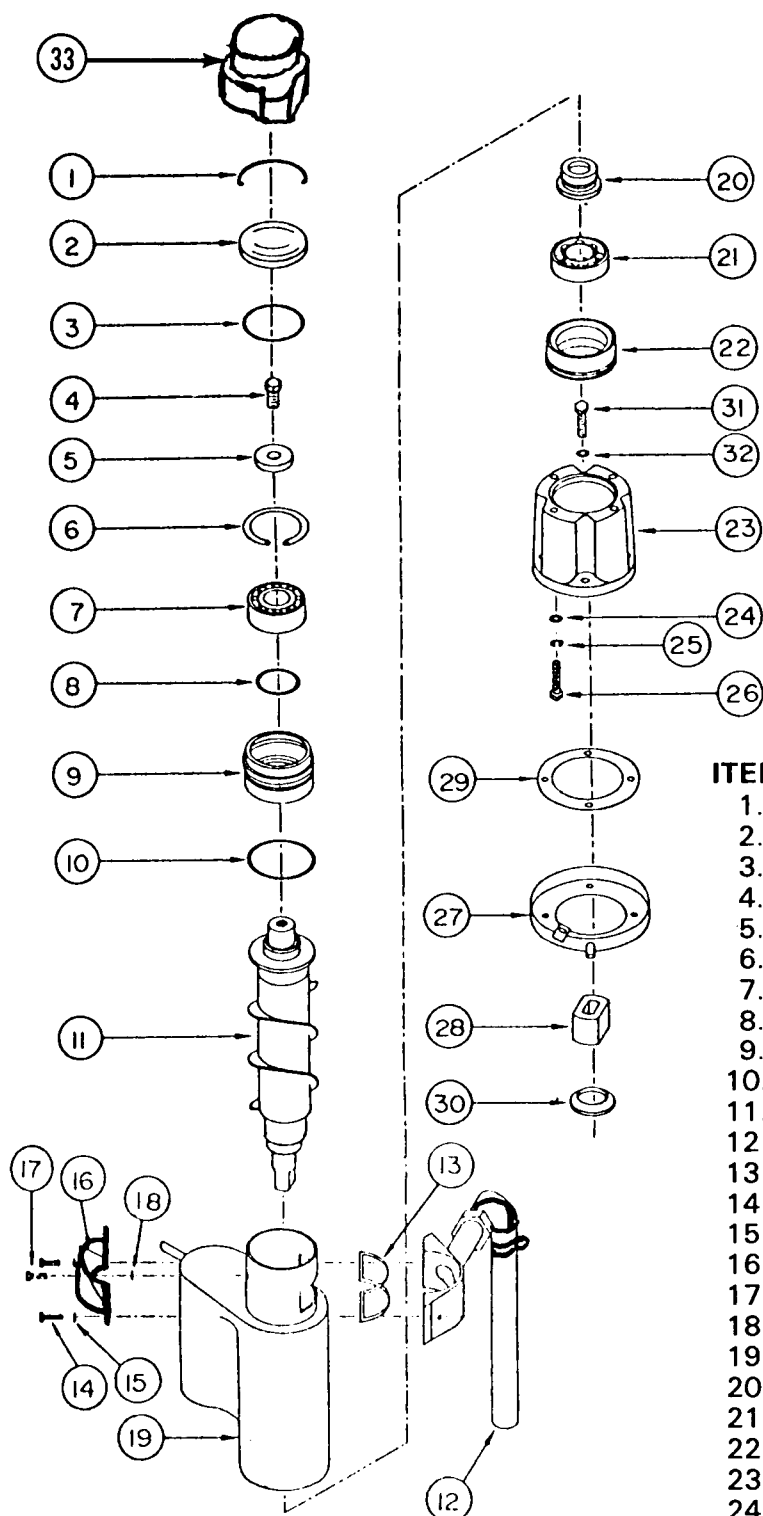


ITEM	PART NO.	DESCRIPTION	
1.	18-2300-02 18-2300-03 18-2300-07	Compressor 230/60/1 Compressor 208-220/60/3 Compressor 208/60/1	(See Page 30 For Component Breakdown)
2.	16-0673-04	Process Header	
3.	16-0563-00	Brass Cup	
4.	16-0560-00	Valve Core	
5.	11-0398-01	Fan Pressure Control	
6.	12-1576-02	Fan Motor 2/Unit	
7.	A26174-001	Fan Motor Bracket (2) Req. Per Motor	
8.	18-0231-00	Fan Blade & Nut	
9.	18-3714-01	Condenser	
10.	A26161-001	Shroud	
11.	02-2217-01	Reservoir Ass'y. See Page 34	
12.	13-0674-09	Tubing	
13.	02-0694-00	Clamp	
14.	A24156-002	Drip Pan Ass'y.	
15.	13-0704-00	Gasket	
16.		Freezer Ass'y. - See Page 28	
17.		Spout Ass'y. - See Page 33	
18.	02-0544-00	Drier	

FINAL ASSEMBLY
(Water Cooled)



ITEM	PART NO.	DESCRIPTION	
1.	18-3800-02	Compressor 230/60/1	(See Page 30 For Component Breakdown)
	18-3800-03	Compressor 208-220/60/3	
	18-3800-07	Compressor 208/60/1	
2.	16-0673-08	Process Header	
3.	16-0563-00	Brass Cap	
4.	16-0560-00	Valve Core	
5.	11-0397-01	Hi-Pressure Switch	
6.	11-0198-02	Water Regulator Valve	
7.	18-3306-02	Condensor (Water)	
8.	02-2217-01	Reservoir Ass'y. - See Page 34	
9.	13-0674-09	Tubing	
10.	02-0694-00	Clamp	
11.	A24156-002	Drip Pan	
12.	13-0704-00	Gasket	
13.		Freezer Ass'y. - See Page 28	
14.		Spout Ass'y. - See Page 33	
15.	02-0544-01	Drier	



FREEZER ASSEMBLY

ITEM

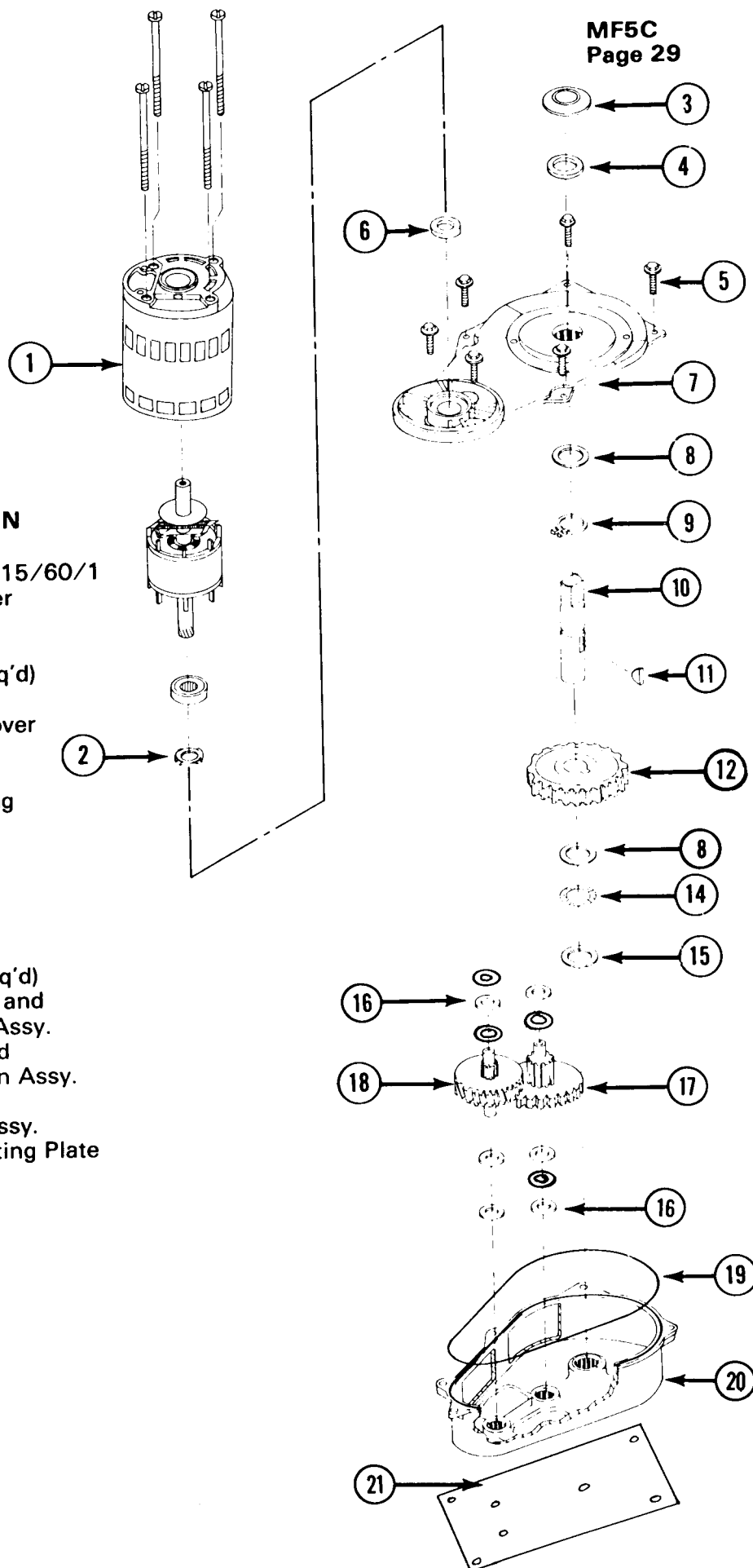
PART NO.

DESCRIPTION

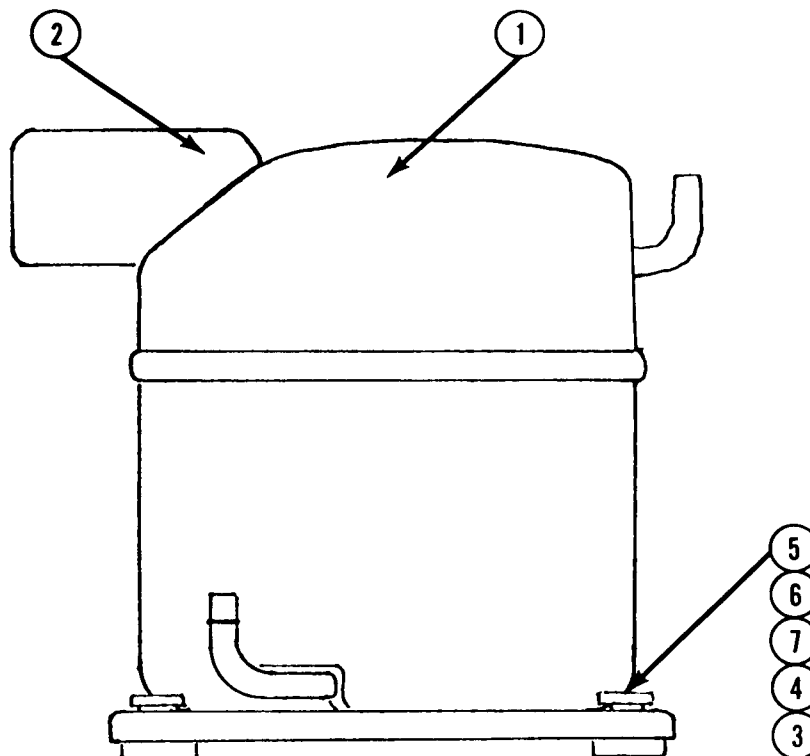
1.	A08582-000	Cap Hook
2.	A08581-000	Cap
3.	13-0617-20	"O" Ring
4.	03-1405-36	Cap Screw
5.	A06273-000	Washer
6.	03-1558-04	Retaining ring
7.	02-0646-00	Bearing
8.	13-1617-15	"O" Ring
9.	A26708-001	Bearing Retainer W/Bearing
10.	13-0617-40	"O" Ring
11.	02-2047-01	Auger
12.	See Page 24	Ice Spout Assy.
13.	02-1437-00	Gasket
14.	03-1544-02	Screw (4)
15.	03-1417-07	Lock Washer (4)
16.	A24928-001	Spout Plate
17.	03-1506-01	Screw
18.	03-1409-14	Washer
19.	A26869-001	Freezer w/Heat Exch.
20.	A22569-000	Water Seal
21.	02-0619-00	Lower Bearing
22.	A10591-000	Bearing Retainer
23.	02-1629-00	Adapter
24.	03-1405-41	Screw (4)
25.	03-1410-04	Lock Washer (4)
26.	03-1408-03	Washer (4)
27.	A24156-001	Drip Pan
28.	15-0573-01	Coupling
29.	13-0704-00	Cork Gasket
30.	13-0709-02	Rubber Water Shed
31.	03-1420-03	Screw (4)
32.	03-1408-03	Washer (4)
33.	13-0809-01	Rubber Cap

A24317-021
GEAR MOTOR ASSEMBLY
¼ HP 115/60/1
OUTPUT SHAFT TURNS
AT 12 RPM

ITEM	PART NO.	DESCRIPTION
1.	A26455-001	Drive Motor 115/60/1
2.	03-1426-00	Spring Washer
3.	13-0709-02	Water Shed
4.	02-1607-00	Oil Seal
5.	03-1251-01	Screws (6 Req'd)
6.	02-1606-00	Oil Seal
7.	A22200-000	Gear Case Cover Assembly
8.	02-1681-00	Thrust Race
9.	03-1363-00	Retaining Ring
10.	02-1652-00	Output Shaft
11.	03-1364-00	Key
12.	02-1653-00	Output Gear
13.		
14.	02-1680-00	Bearing
15.	02-1679-00	Thrust Race
16.	03-1408-24	Washer (9 Req'd)
17.	02-2071-00	Second Gear and Third Pinion Assy.
18.	02-2072-00	First Gear and Second Pinion Assy.
19.	A26103-001	"O" Ring
20.	A22199-000	Gear Case Assy.
21.	A26599-001	Motor Mounting Plate



MOTOR COMPRESSOR AIR AND WATER COOLED



ITEM	PART NO.	DESCRIPTION
1.	18-3800-02	Compressor 230/60/1
	18-3800-03	Compressor 208-220/60/3
	18-3800-07	Compressor 208/60/1
2.	18-2300-25	Overload 230/60/1
	18-2300-32	Overload 208/60/1
	18-2300-31	Overload 208/220/60/3
3.	18-2300-27	Mounting Grommet (4)
4.	18-2300-26	Mounting Sleeve (4)
5.	3-1405-40	Screw (4)
6.	3-1417-12	Washer (4)
7.	3-1408-29	Washer (4)

BELOW LISTED ITEMS NOT SHOWN

18-1900-31 Relay & Capacitor
Assy (208/60/1)

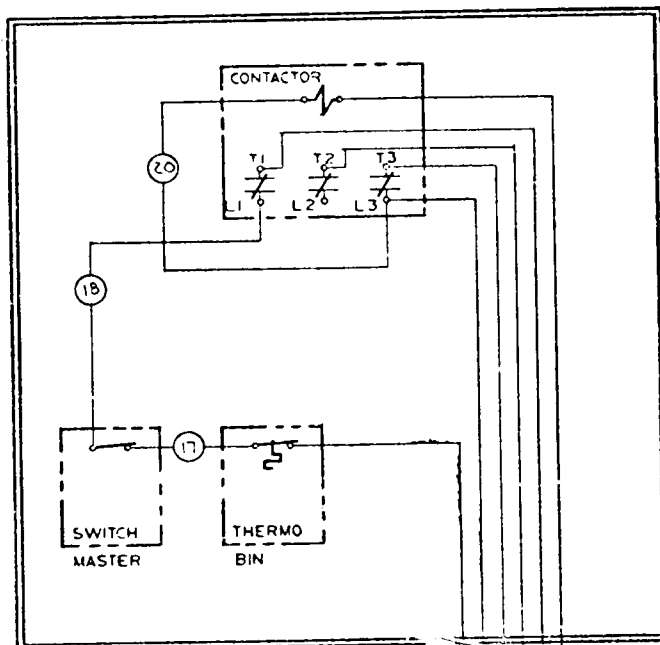
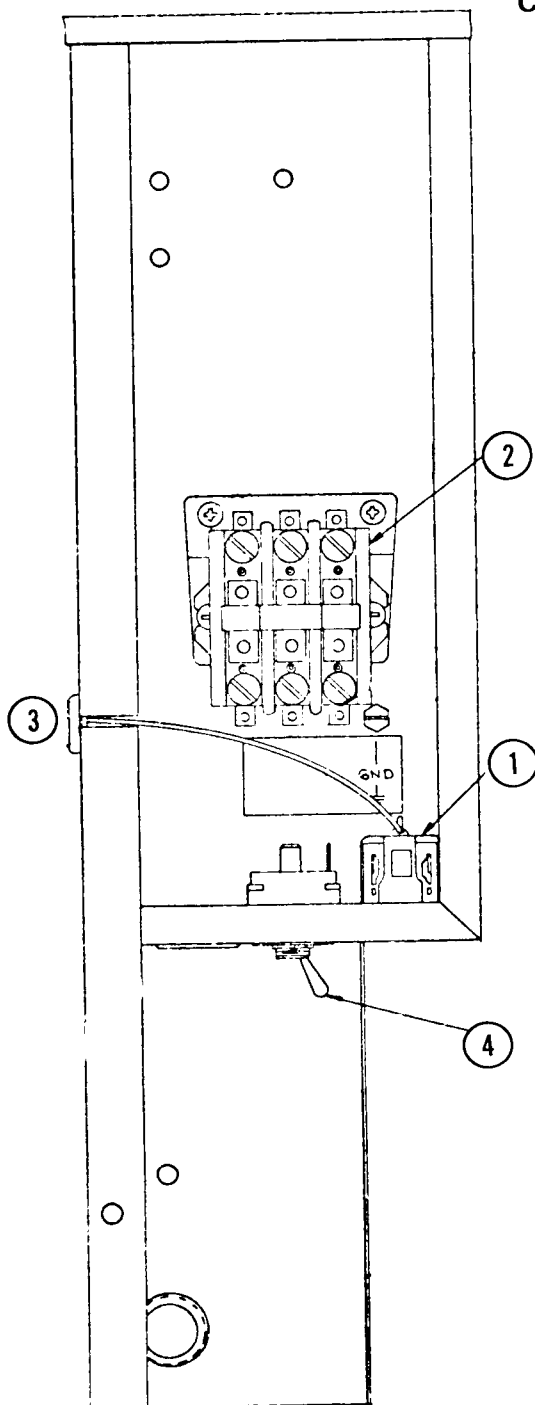
18-1901-15 Start Capacitor
18-1902-29 Run Capacitor
18-1903-29 Relay

18-1900-34 Relay & Capacitor
Assy (230/60/1)

18-1901-15 Start Capacitor
18-1902-34 Run Capacitor
18-1903-34 Relay

CONTROL BOX ASSEMBLY 208-220/60/3

MF5C
Page 31

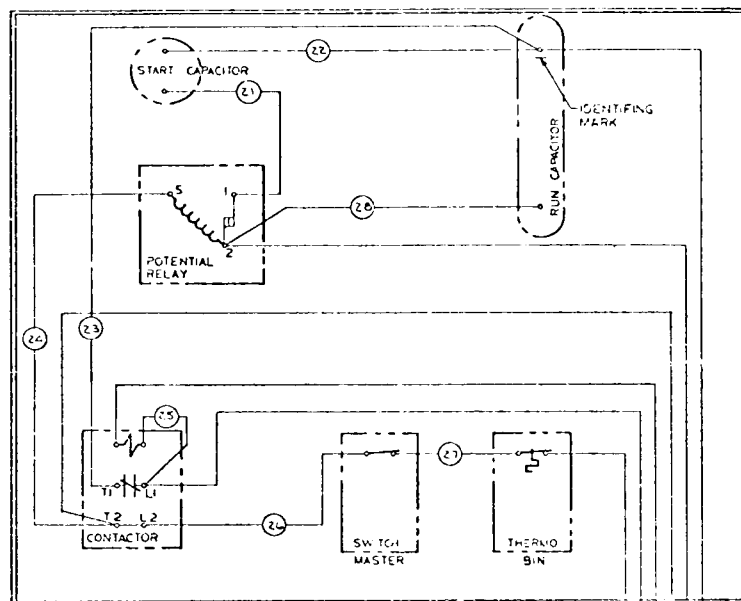
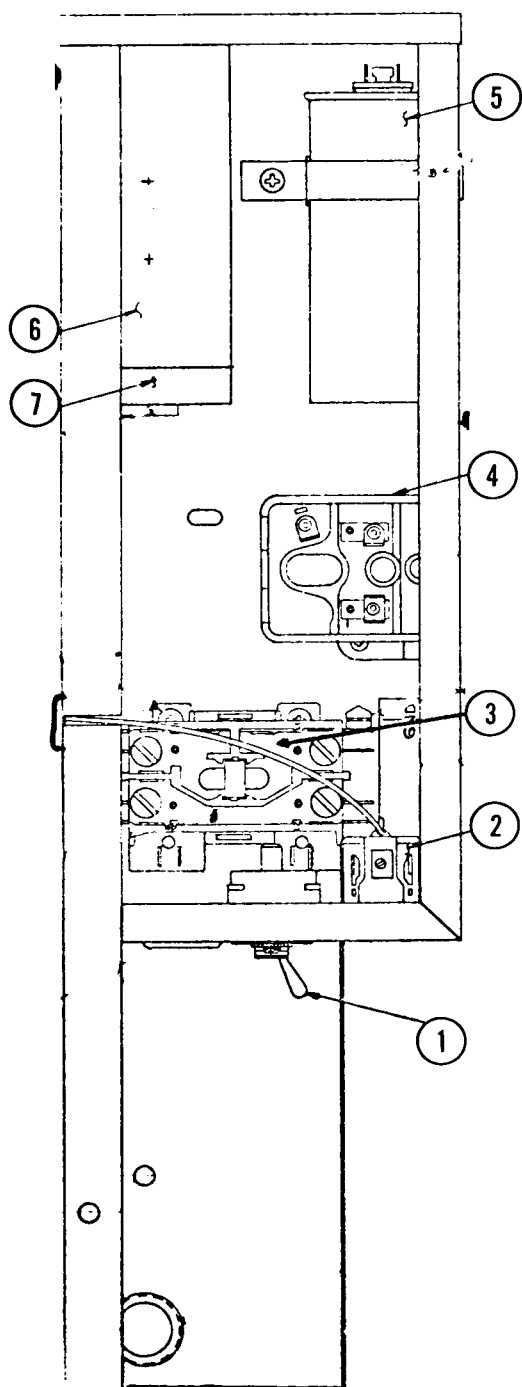


ITEM	PART NO.	DESCRIPTION
1.	11-0354-00	Bin Control
2.	12-0739-02	Contactor
3.	13-0557-00	Grommet (3)
4.	12-0426-01	Switch

CONTROL BOX ASSEMBLY

230/60/1

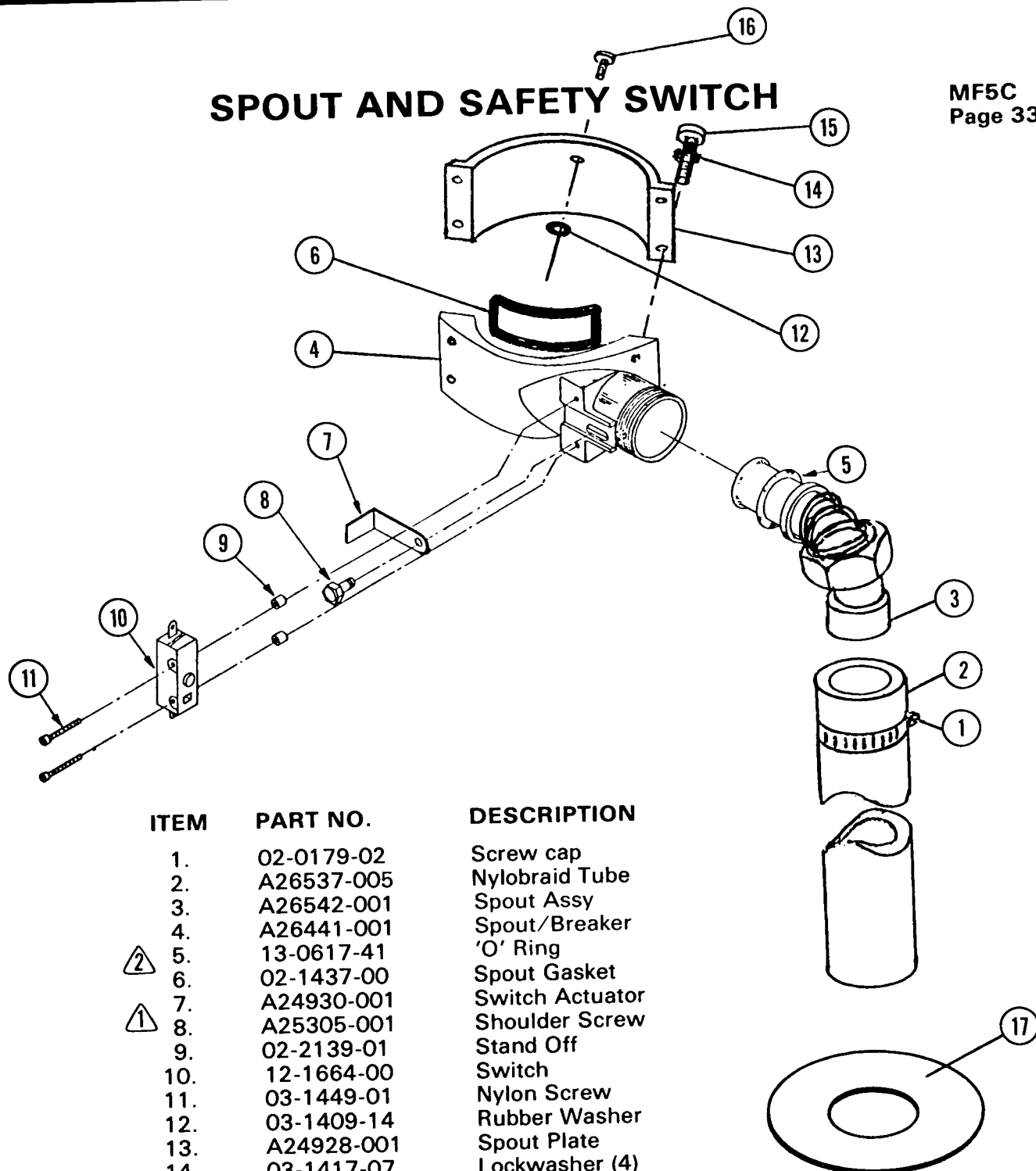
208/60/1



ITEM	PART NO.	DESCRIPTION
1.	12-0426-01	Switch
2.	11-0354-00	Bin Control
3.	12-2048-02	Contactor
4.	18-1903-29	Relay 230/60/1
4.	18-1903-34	Relay 208/60/1
5.	18-1902-29	Run Capacitor 230/60/1
5.	18-1902-34	Run Capacitor 208/60/1
6.	18-1901-15	Start Capacitor
7.	18-2200-38	Capacitor Cap

SPOUT AND SAFETY SWITCH

MF5C
Page 33

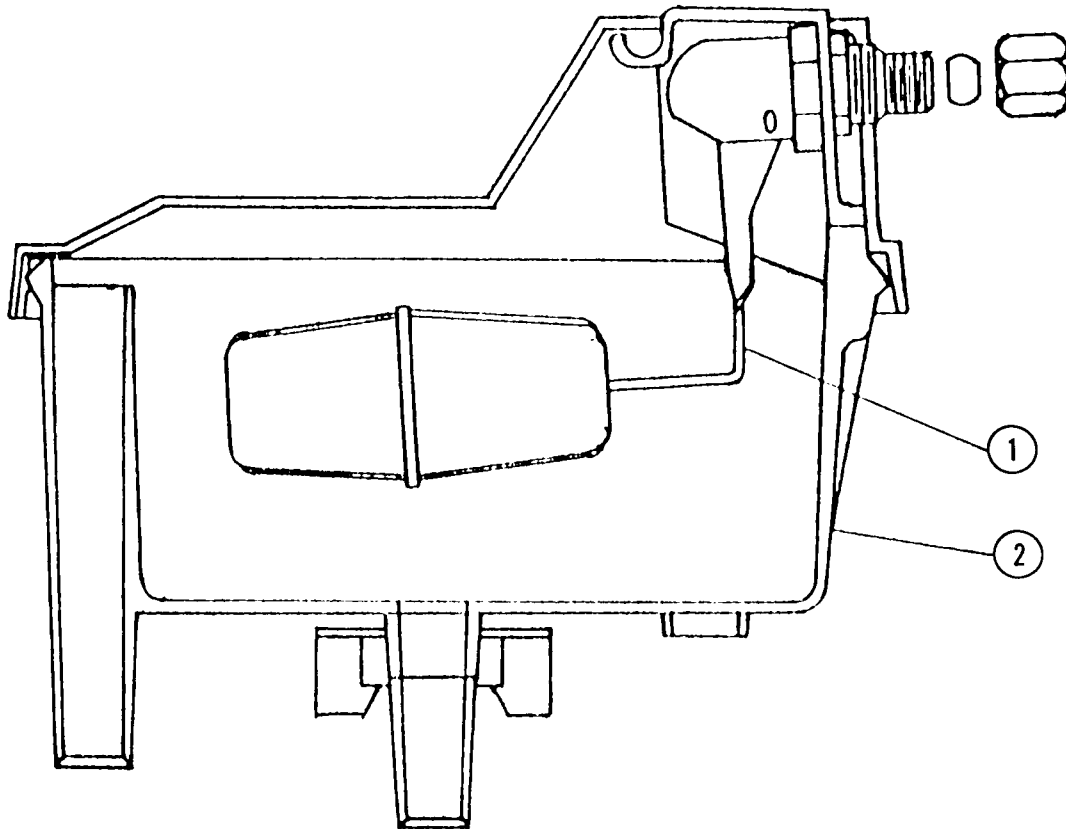


ITEM	PART NO.	DESCRIPTION
1.	02-0179-02	Screw cap
2.	A26537-005	Nylobraid Tube
3.	A26542-001	Spout Assy
4.	A26441-001	Spout/Breaker
⚠ 5.	13-0617-41	'O' Ring
6.	02-1437-00	Spout Gasket
⚠ 7.	A24930-001	Switch Actuator
8.	A25305-001	Shoulder Screw
9.	02-2139-01	Stand Off
10.	12-1664-00	Switch
11.	03-1449-01	Nylon Screw
12.	03-1409-14	Rubber Washer
13.	A24928-001	Spout Plate
14.	03-1417-07	Lockwasher (4)
15.	03-1544-03	Socket Head Screw (4)
16.	031506-01	Screw
17.	13-0806-01	Sealing Pad

NOTE:

⚠ 1. Tighten carefully, small thread & brass

⚠ 2. A light coating of petro-iel req'd on 'O' Ring & Spring

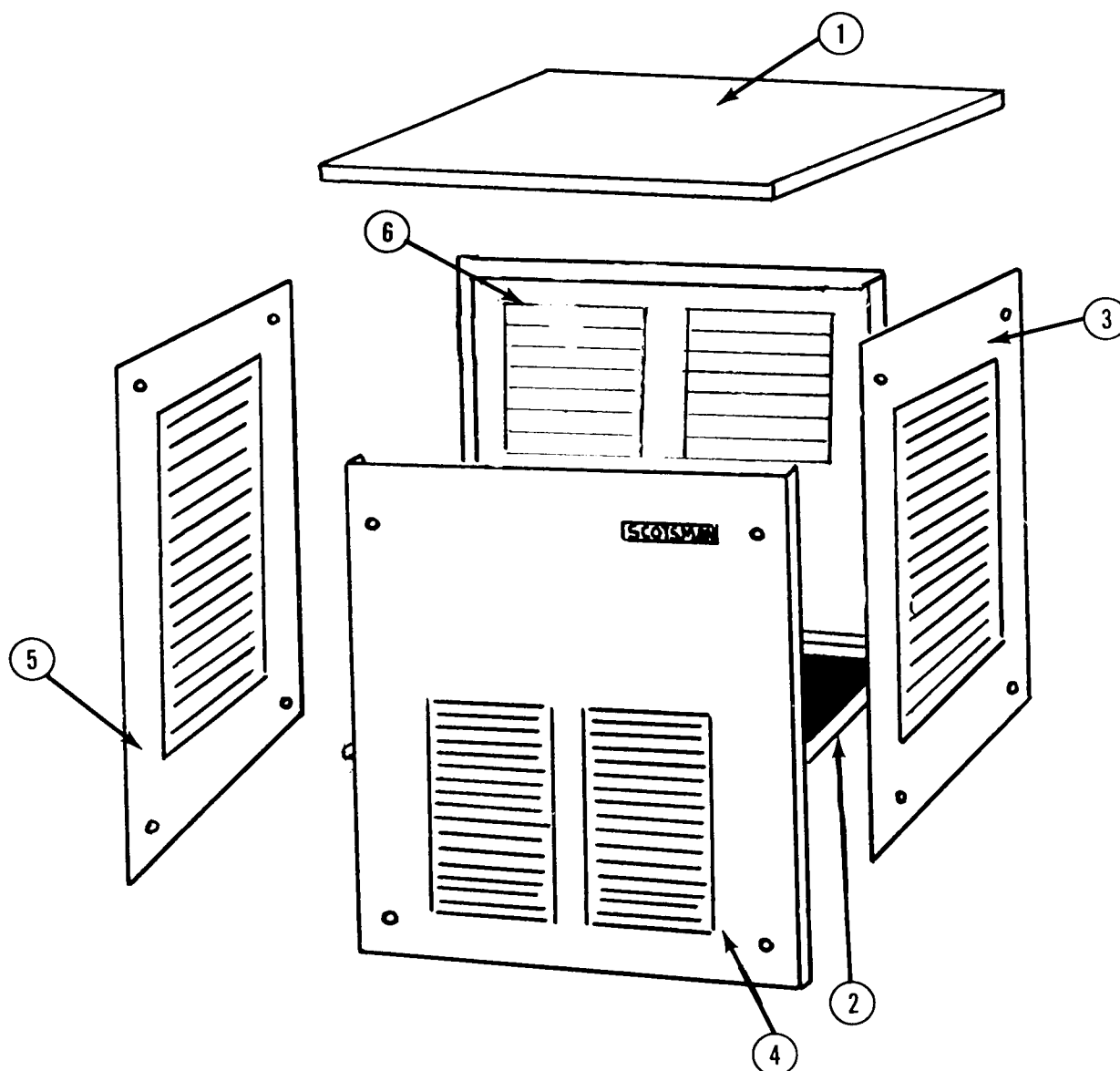


RESERVOIR ASSEMBLY

ITEM	PART NO.	DESCRIPTION
1.	02-2217-02	Valve Assy
2.	02-2217-01	Reservoir Complete

CABINET PARTS

MF5C
Page 35



ITEM DESCRIPTION

ENAMEL

STAINLESS STEEL

1.	Panel Top	A26625-001	A26625-002
2.	Cabinet Base	A26596-001	Same
3.	Panel, Right Side	A26866-001	A26866-002
4.	Panel, Front	A26865-001	A26865-002
5.	Panel, Left Side	A26864-001	A26864-002
6.	Panel, Rear	A26863-001	A26863-002
*	Mounting Screw	03-1404-09	Same
*	Speed Nut	03-1507-01	Same
*	Lockwasher	03-1417-03	Same
*	Aerosol Paint (micromatte)	10-0314-01	—

*Items not Illustrated