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PRODUCT NAME:

**SCOTSMAN[®]
ICEMAKER-DISPENSER
AD-2 SERIES**

MANUFACTURER:

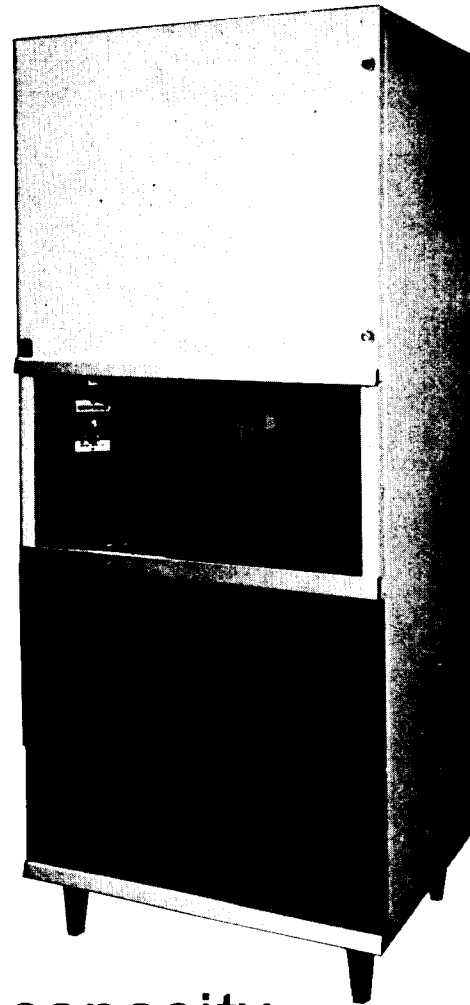
QUEEN PRODUCTS DIVISION
KING-SEELEY THERMOS CO.
ALBERT LEA, MINNESOTA 56007



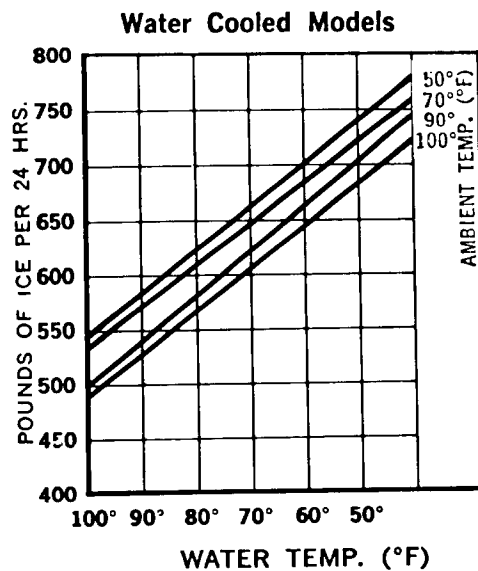
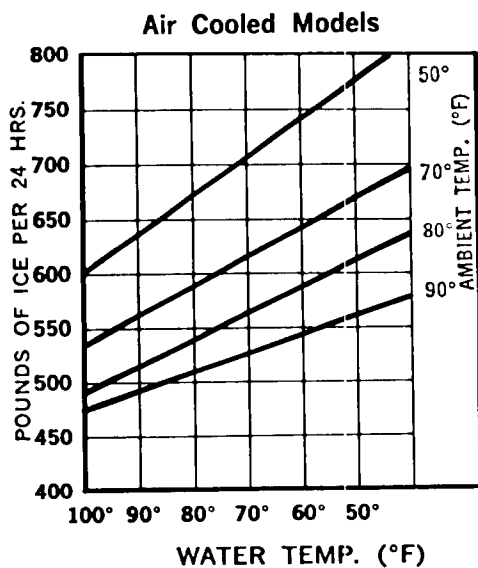
SCOTSMAN ICE MACHINES ARE
APPROVED BY THE NATIONAL
SANITATION FOUNDATION.

Underwriters' Laboratories, Inc. listed

CSA APPROVED



ice making capacity

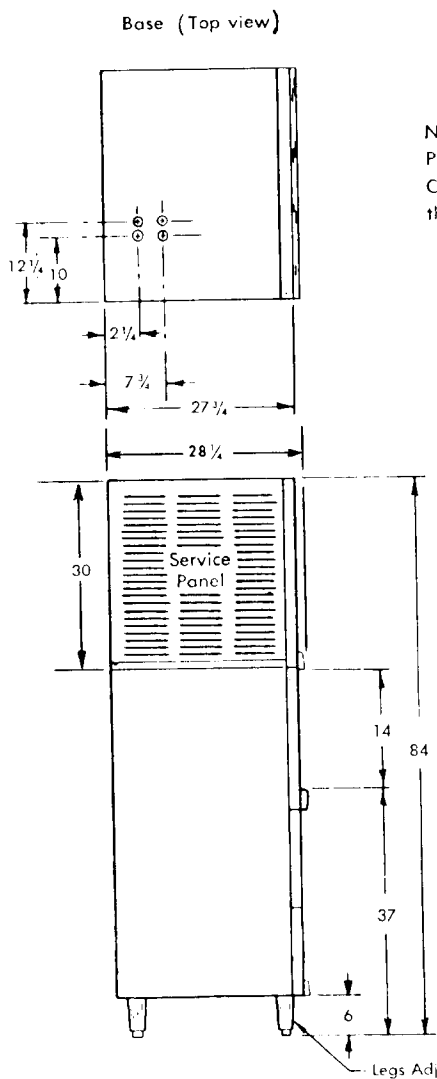


SPECIFICATIONS

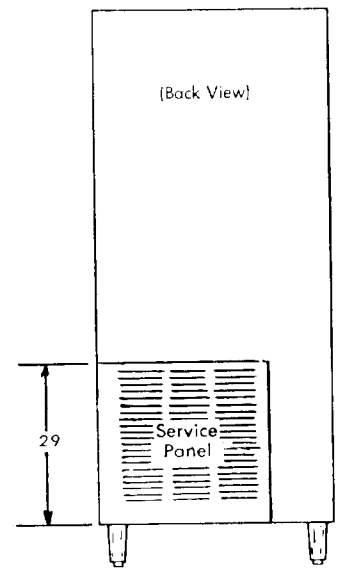
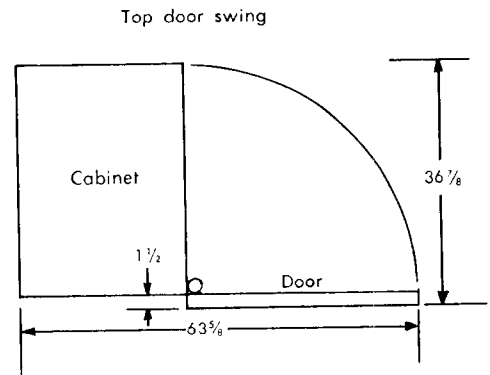
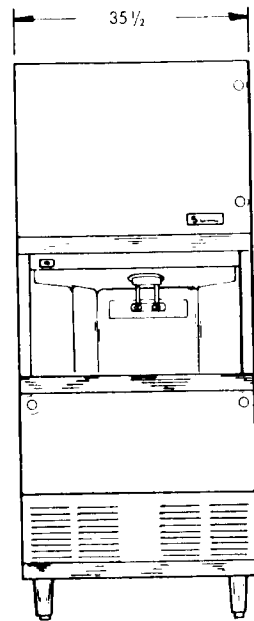
SUPER FLAKER AD-2 SERIES ICEMAKER-DISPENSER	MODEL AD-2HB	MODEL AD-2WHB	MODEL AD-2HB-SS	MODEL AC-2WHB-SS
CONDENSER, Air Cooled	X		X	
CONDENSER, Water Cooled		X		X
CONDENSER WATER INLET $\frac{3}{8}$ " SAE Flare		X		X
CONDENSATE DRAIN $\frac{3}{8}$ " O.D.		X		X
FINISH, Baked enamel - Light Grey with Dark Grey lower panel	X	X		
FINISH, Stainless steel			X	X
SHIPPING WEIGHT	727	721	727	721

DAILY CAPACITY up to 650 lbs.
 STORAGE COMPARTMENT CAPACITY 100 lb.
 ILLUMINATED WORKING COMPARTMENT
 COMPRESSOR $\frac{3}{4}$ H.P.
 ELECTRICAL 115 V, 60 CY, 1 PH
 WATER INLET $\frac{3}{8}$ " IPT

OVERFLOW DRAIN $\frac{1}{2}$ " IPT
 STORAGE BIN, Stainless steel
 HEIGHT (With legs) $84\frac{3}{4}$ "
 HEIGHT (Without legs) 78"
 WIDTH $35\frac{1}{2}$ "
 DEPTH $28\frac{1}{4}$ "



NOTE:
 Plumbing and Electrical
 Connections are made
 through the base.



Specifications subject to change without notice.

ICE MAKER

DISPENSER

COMPRESSOR:

Copeland #RSL2-0075-1AA-218
 Hermedically Sealed
 2 Pole - 3500 R.P.M.
 115 V - 60 Hz - 1 Ph *
 F.L.A. - 14.0
 L.R.A - 66.3

REFRIGERANT

Freon R-12
 Charge 30 oz.

FAN MOTOR

115 V - 60 Hz - 1 Ph *
 9 Watt .74 AMP.

FREEZER DRIVE MOTOR

1/4 HP 1725 R.P.M.
 115 V - 60 Hz - 1Ph *
 F.L.A. 5.2
 L.R.A. 22.0
 Rotation CCW
 Capacitor Start

FREEZER GEAR REDUCER

Windsmith # 3CT
 Input Speed 387 R.P.M.
 Output 8 R.P.M.

DISPENSER DRIVE MOTOR

1/4 HP 1725 R.P.M.
 115 V - 60 Hz - 1 Ph *
 F.L.A. - 5.2
 L.R.A. - 22.0
 Rotation CW
 Thermo Protected (internal)
 Capacitor Start.

SHUTTER MOTOR

Fractional HP
 115 V - 60 Hz - 1 Ph
 F.L.A. - 3.3
 Rotation CW

DISPENSER GEAR REDUCER

Queen Products #2-1880
 Input Speed 600 R.P.M.
 Output - Dispensing Bin 1.934 R.P.M.
 Output - Auger Drive 55.7 R.P.M.

ELECTRONIC TIMER

Potter Brumfield #CDZ 99-70036
 Min. Timing Rate .33 sec.
 Max. Timing Rate 2.20 sec.
 115 V - 60 Hz - 1 Ph

TRANSFORMER

Prim. 115 V - 60 Hz - 1 Ph *
 Sec. 24V - 60 Hz
 V.A. 40

LINEFUSE

35 AMP/115 V

POWER SUPPLY CONDUCTORS

#10 AWG Copper

FLUORESCENT LAMP

115 V - 60 Hz
 14 Watt

DISPENSING RATE

3.5 oz. per sec. (average)

PORTION CONTROL

Setting #1 - 1.25 oz.
 Setting #5 - 4.00 oz.
 Setting #9 - 7.75 oz.
 (average)

* Special Voltages, Hertz & Phases Upon Request.

All information in this manual are for standard
 115 V - 60 Hz - 1 Ph. operation.

For replacement parts having other ratings
 specify the volts, Hertz & Phase when ordering.

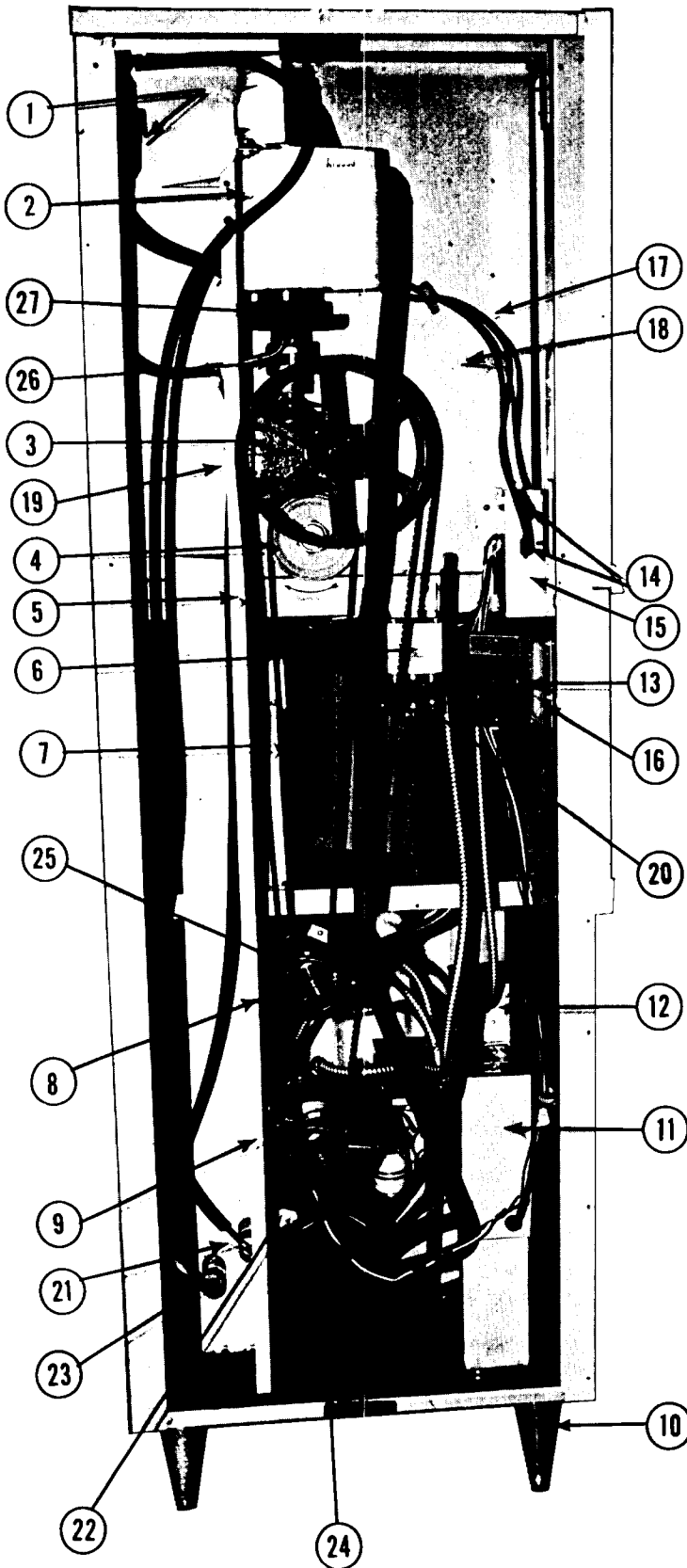
OPERATION OF THE ICE MAKER

1. Turn power on to the main control box. (#11 page 9)
2. Water must be on to the machine and the reservoir (#1 page 8) filled.
3. Electrical cords from the ice spout (#2 page 20) and from the cabinet top must be plugged into recepticals (#14 page 8) of the 24 V Junction box.
4. The Top compartment door must be closed to depress interlock switch. (#50 page 9)
5. Turn master switch (#49 page 9) "ON".
6. The flaker is then in operating condition. Should it fail to operate the pressure control (#46 page 9) may be off.
7. To reset the pressure control push down on the reset arm located on the top back edge of the control.
8. Should there be a persistent cutting off of the pressure control a service man should be notified.
9. As the storage bin fills with ice the differential plate (#35 page 9) will be pushed back to stop the freezer unit.
10. It is possible that ice will fill in the flaker discharge spout (#30 page 9) which will also stop the unit.

OPERATION OF THE ICE DISPENSER

1. Master switch (#49 page 9) must be "ON".
2. Top compartment door must be closed to depress the interlock switch (#50 page 9)
3. Dispenser switch (51 page 9) must be "ON" (illuminated)
4. If water is to be dispensed with the ice the water switch (#54 page 9) must be "ON" (illuminated)
5. Adjust the portion control knob (#53 page 9) for the amount of ice required for each vend. See page 5 for quantities dispensed at various settings.
6. If knob is turned completely clock wise to continuous flow - ice will be dispensed as long as the actuator (#57 page 9) is depressed.
7. If the water switch is "ON" water will run as long as the actuator lever is depressed.
8. The dispensing cycle consists of a series of operations that can take place in less the 1/2 second.
 - (a) The actuator lever (#57 page 9) is depressed.
 - (b) The shutter (#7 page 10) is automatically opened.
 - (c) An electronic timer starts the dispenser motor which dispenses ice for a time duration depending on the portion control setting.
 - (d) When the electronic timer is energized, power is also applied to the water switch which energizes a water solinoid to dispense water with the ice.
9. It is sometimes desirable to have the portion control knob and the water switch located beyond the reach of unauthorized persons. This may be accomplished by the following procedure.
 - (a) Turn master switch (#49 page 9) off.
 - (b) Remove the back emblem plate (#13 page 8)
 - (c) Remove only the two screws that hold the front plate (#52 page 9)
 - (d) The front plate can be turned sidewise and pushed through the box without removing wires or components.
 - (e) Replace screws - mounting portion control plate on back of the box and emblem plate on the front.
 - (f) Turn master switch back "ON".
 - (g) Readjustments on portion control and water switch can still be made by opening top compartment door and reaching over junction box (#15 page 9)

IDENTIFICATION OF COMPONENTS LEFT SIDE VIEW



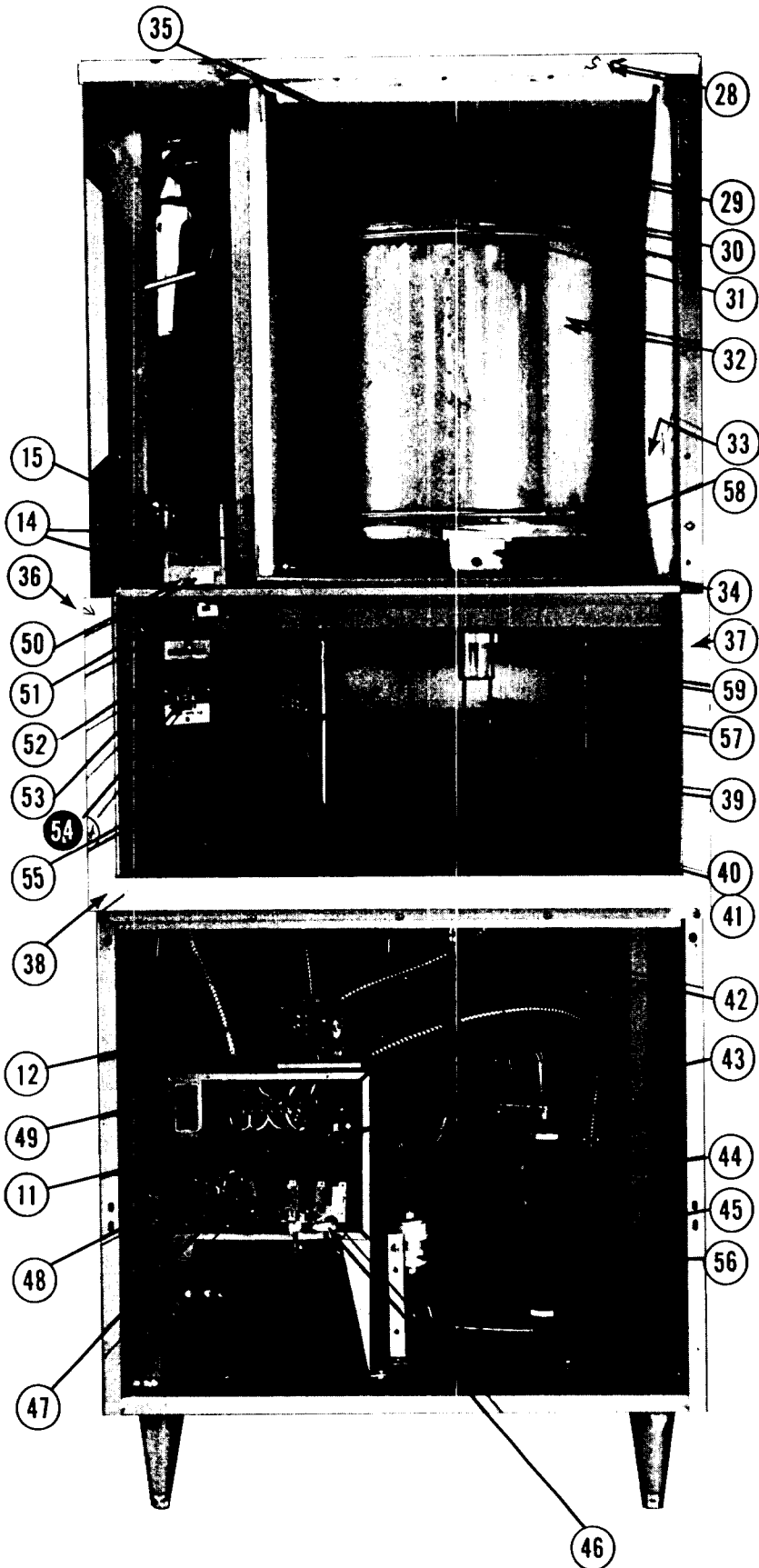
IDENTIFICATION NO.

PARTS NO.

COMPONENT

1.	2-1793-1	Reservoir
2.	A13953	Freezer Assy.
3.	2-580	Gear Reducer
4.	2-1917	Dispenser Pulley
5.	13-552	Freezer Belt
6.	A21229	Shutter Control Box
7.	13-553	Dispenser Belt
8.	12-643-1	Dispenser Drive Motor
9.	12-864-1	Freezer Drive Motor - 115
10.	A15803-1	Leg
11.	A21763-1	Main Control Box
12.	A22215	Timer Control Box Assy
13.	2-1813-1	Emblem Plate
14.	12-994	Cord Recepticals
15.	A18247	24 V Junction Box
16.	A22215	Potentiometer & Water Swt. Box Assy.
17.	12-1210-1	Cord to Spout Swt.
18.	12-1210-2	Cord to Differential Swt.
19.	2-378	Pulley - Gear Reducer
20.	12-1613	Shutter Control Motor
21.	A21679	Water Connection
22.	12-1434-7	Water Solenoid
23.	A21695	Drain Connection
24.	2-1441	Pulley - Freezer Motor
25.	2-1410	Pulley - Dispense Motor
26.	A6165	Coupling - Top Half
	S7716	Coupling - Bottom Half
	13-131	Coupling - Rubber Insert
27.	13-152	Drip Shield

IDENTIFICATION OF COMPONENTS FRONT VIEW



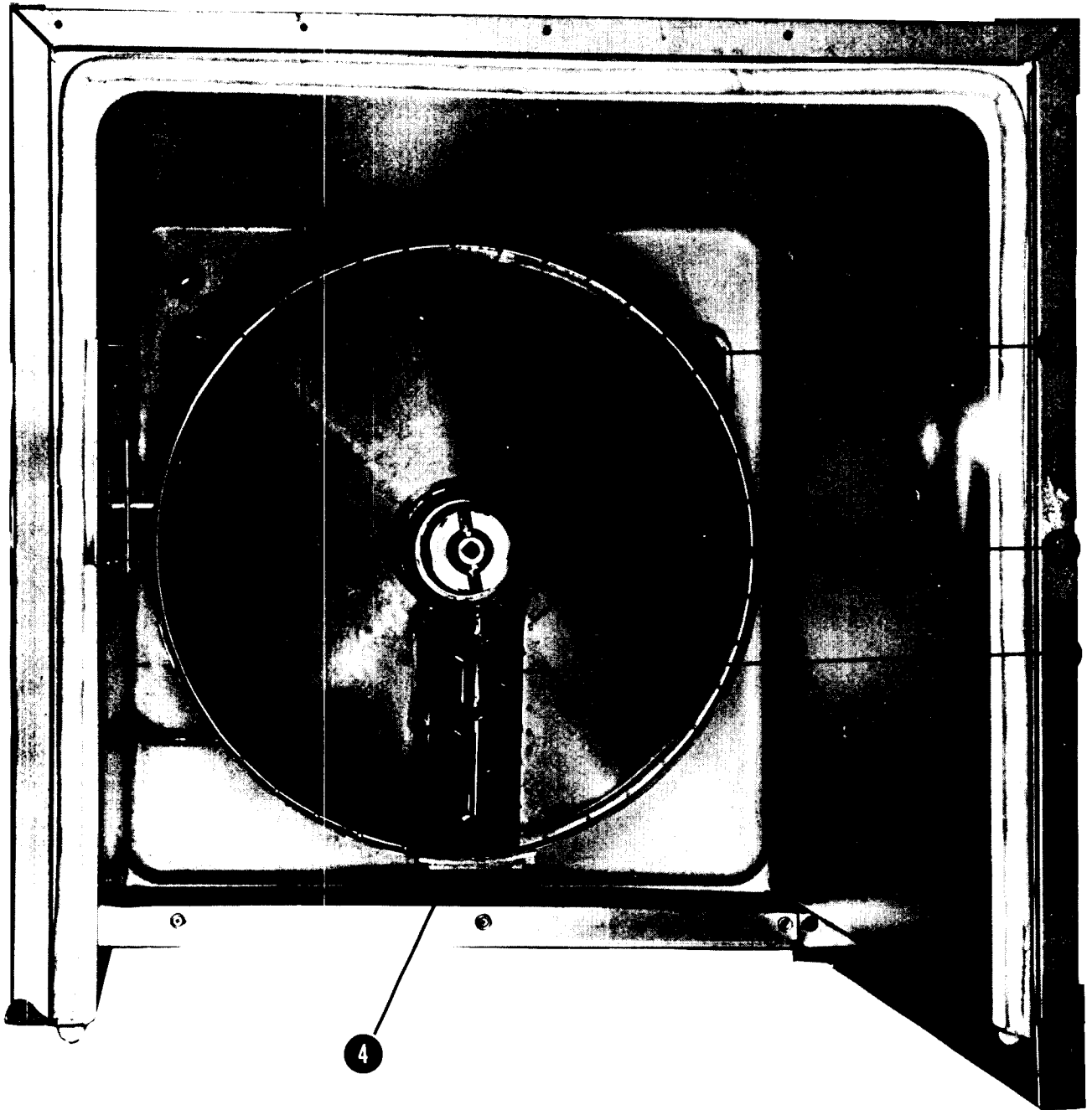
IDENTIFICATION NO.

PARTS NO.

COMPONENT

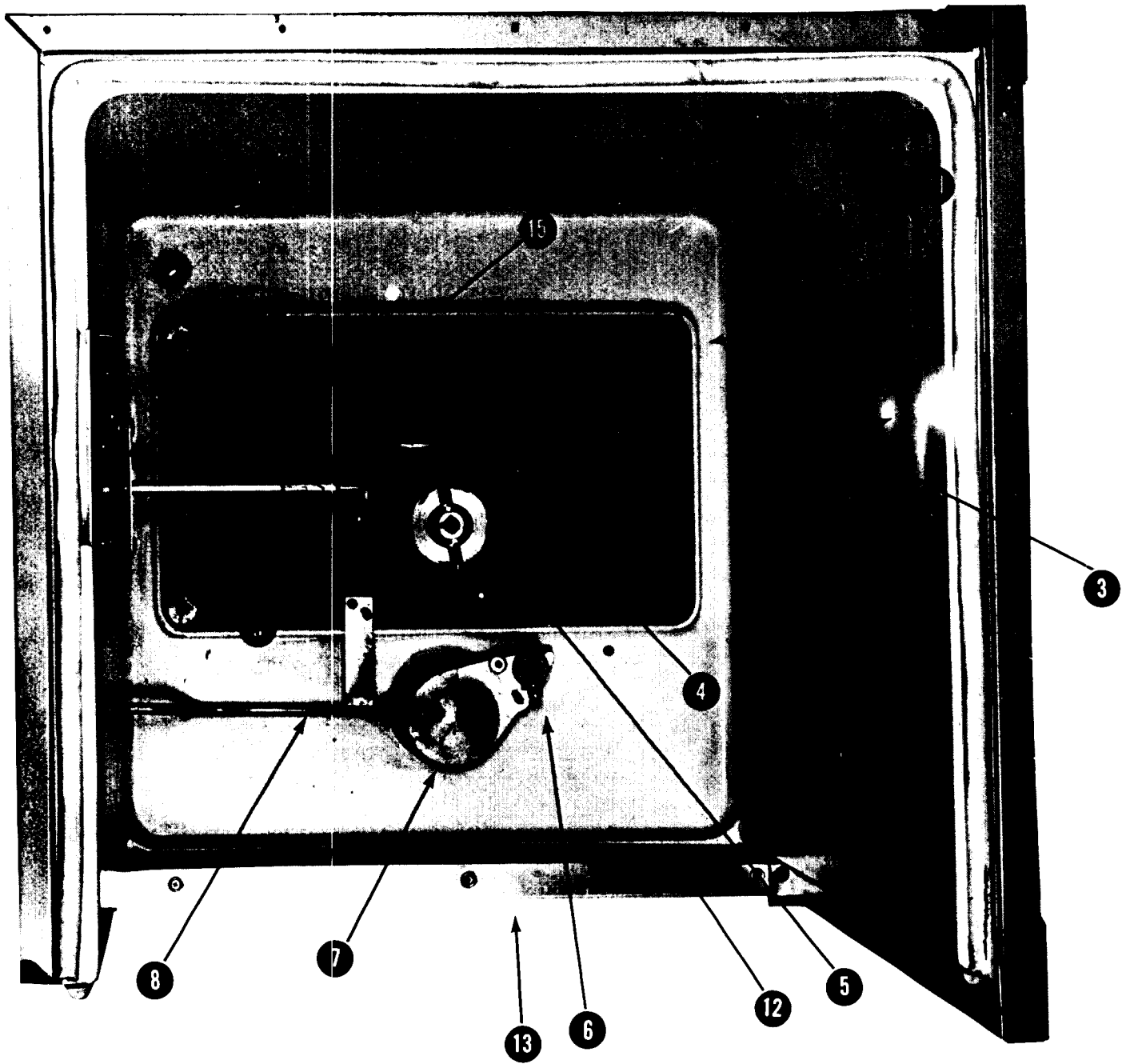
11.	A21763-1	Main Control Box Assy.
12.	A22215	Timer Control Box Assy
14.	12-995	Cord Recepticals
15.	A18247	24 V Junction Box
28.	A13581	Cabinet Top Assy.
29.	A16857	Locking Pin
30.	A21655	Flaker Spout
31.	A14926	Spout Locking Pin
32.	A14945	Dispensing Bin
33.	A13686	Upper Storage Compartment
34.	A14933	Auger End Plate
35.	A16772	Ice Control Diff. Plate
36.	15-444	Lift Side Trim
37.	14-445	Right Side Trim
38.	15-443	Front Trim
39.	2-1814	Lower Compartment
40.	2-1487	Drain Grate
41.	A6448	Drain Strainer
42.	A18150	Drain Fitting
43.	12-1615-1	Transformer
44.	18-2400-1	Compressor
45.	18-2420	Capacitor
46.	11-273-1	Pressure Control
47.	12-419-1	Dispensing Relay
48.	12-419-1	Flaker Relay
49.	12-1220A	Master Switch
50.	12-1225	Interlock Switch
51.	12-1211-1	Dispenser Switch
52.	2-1813	Control Panel Plate
53.	2-1810	Potentiometer Knob
54.	12-1616	Water Switch
55.	A18342-1	Florescent Light
56.	2-5 54	Drier
57.	A21682	Actuator for Vend Switch
58.	A14931	Stationary Bottom
59.	A21650	Spout

UPPER STORAGE COMPARTMENT With Dispensing Auger & Bin Bottom



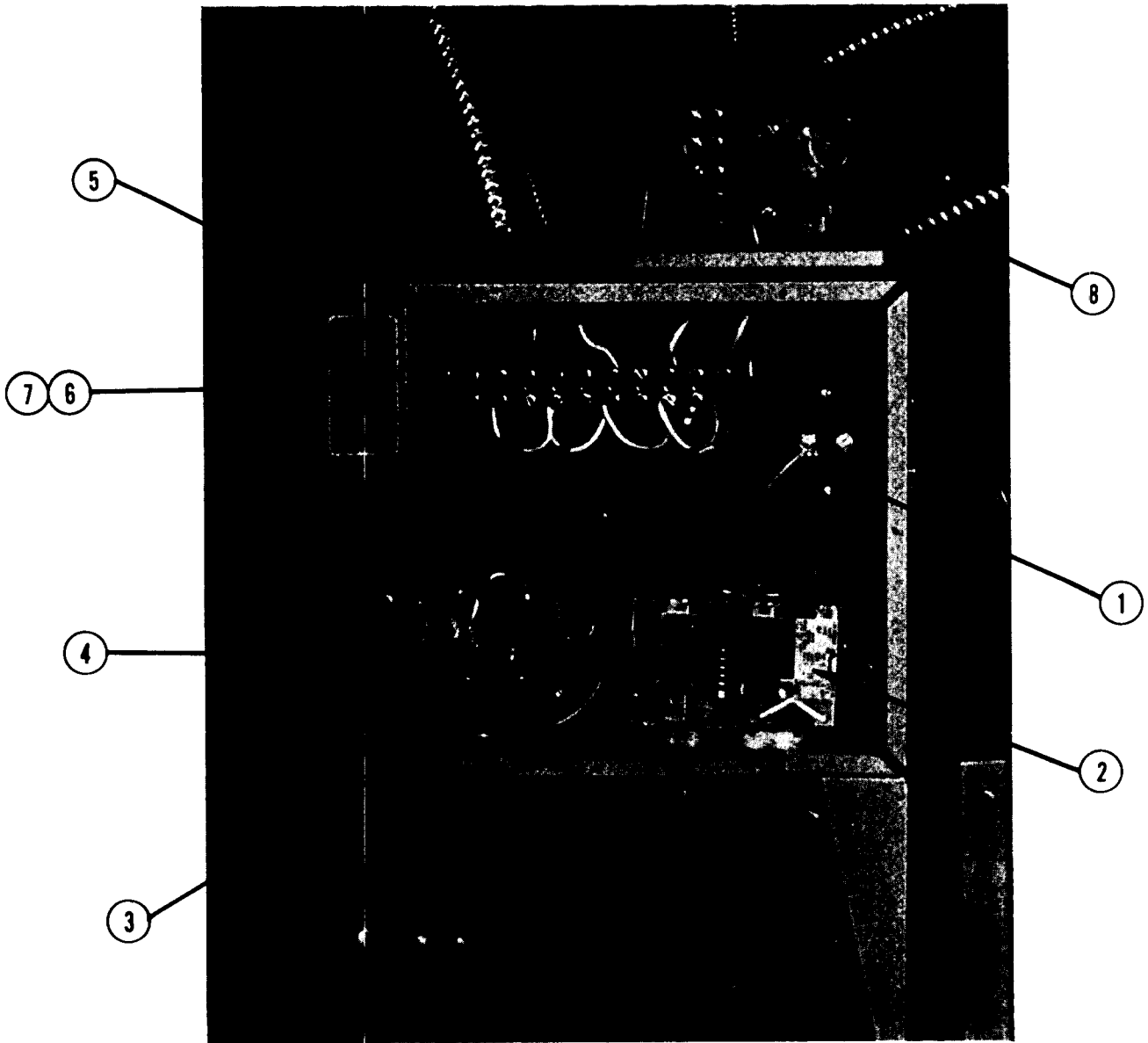
1	A16766	Dispensing Auger
2	A14931	Stationary Bin Bottom
3	3-1235	Wing Nuts
4	A14933	Auger End Plate

UPPER STORAGE COMPARTMENT TOP VIEW



- | | | |
|----|--------|-----------------------------------|
| 1 | 2-1404 | Bearing |
| 2 | A22399 | Gear Reducer Mounting Plate |
| 3 | A13686 | Storage Bin Liner |
| 4 | 2-1880 | Gear Reducer |
| 5 | A16841 | Mounting Plate Drive Nut |
| 6 | A16857 | Knurled Pin for Shutter |
| 7 | A16772 | Ice Spout Shutter |
| 8 | A21689 | Waterline to Spout |
| 9 | A15448 | Coupling |
| 10 | A22491 | Drive Shaft |
| 11 | A18329 | Top Bin Gasket |
| 12 | 13-322 | Front Bin Gasket |
| 13 | A13693 | Front S. S. Trim Strip |
| 14 | A16841 | Plate Nuts |
| 15 | A22399 | Mounting Plate |
| | 2-1402 | Key For 2-1404 Bearing |
| | A16831 | Key for A15448 Coupling |
| | A14949 | Drive Pin for A16841 Mounting Nut |

MAIN CONTROL BOX A21762-1

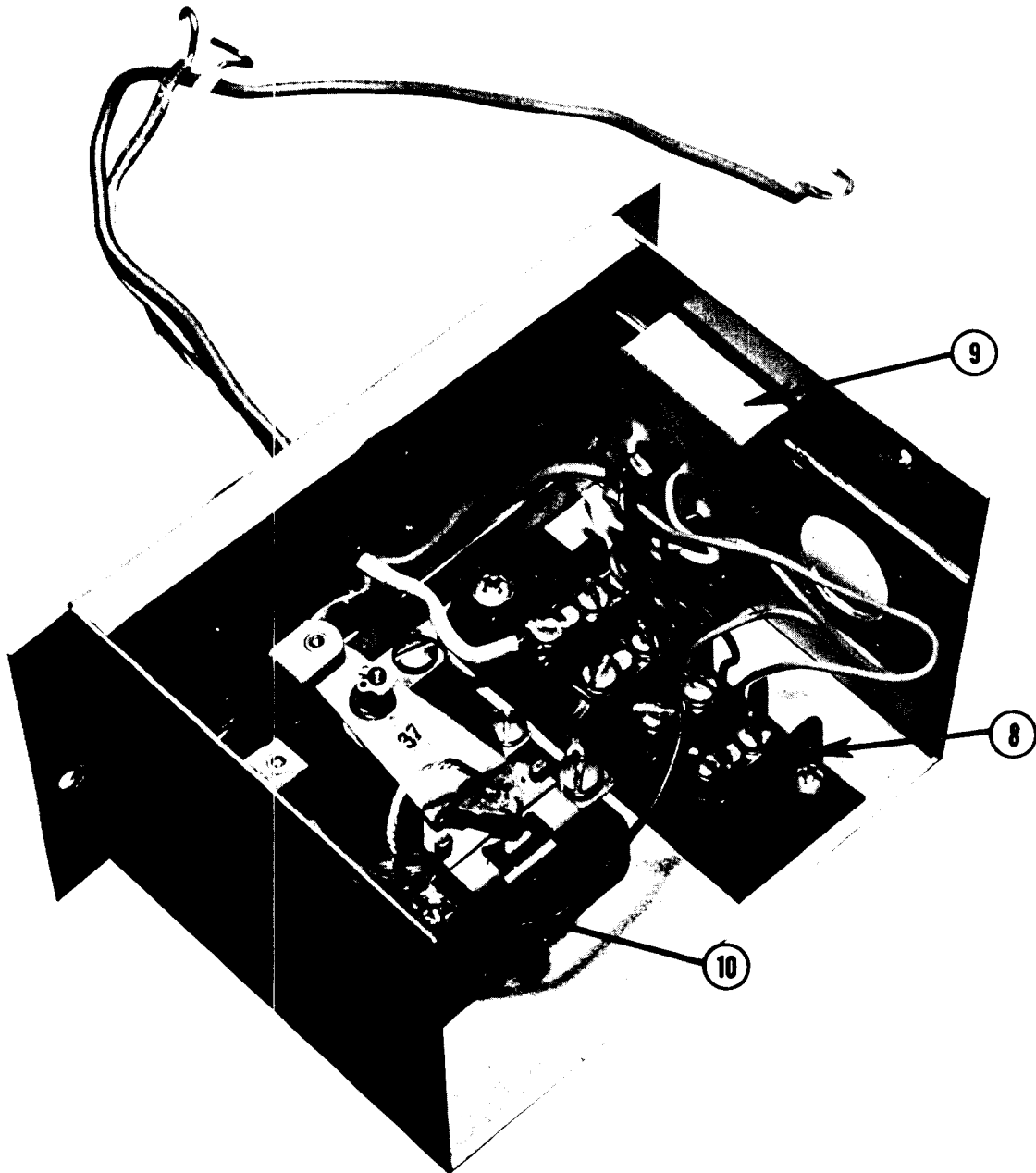


- | | | |
|---|-----------|--|
| 1 | 12-1615-1 | Transformer 115 V to 24 V |
| 2 | 11-286-1 | Pressure Control - Water Cooled Units |
| 2 | 11-273-1 | Lo Pressure Control - Air Cooled Units |
| 3 | 12-419-1 | Dispenser Relay - 24V |
| 4 | 12-419-1 | Freezer Relay - 24V |
| 5 | 12-813-6 | Terminal Block |
| 6 | 12-1220A | Master Switch |
| 7 | 12-1221 | Overload in Switch (Heaters) * |
| 8 | A21233 | Timer Module Box - See Page 13 |

Flaker Drive Motor
 General Electric
 Westinghouse
 Century

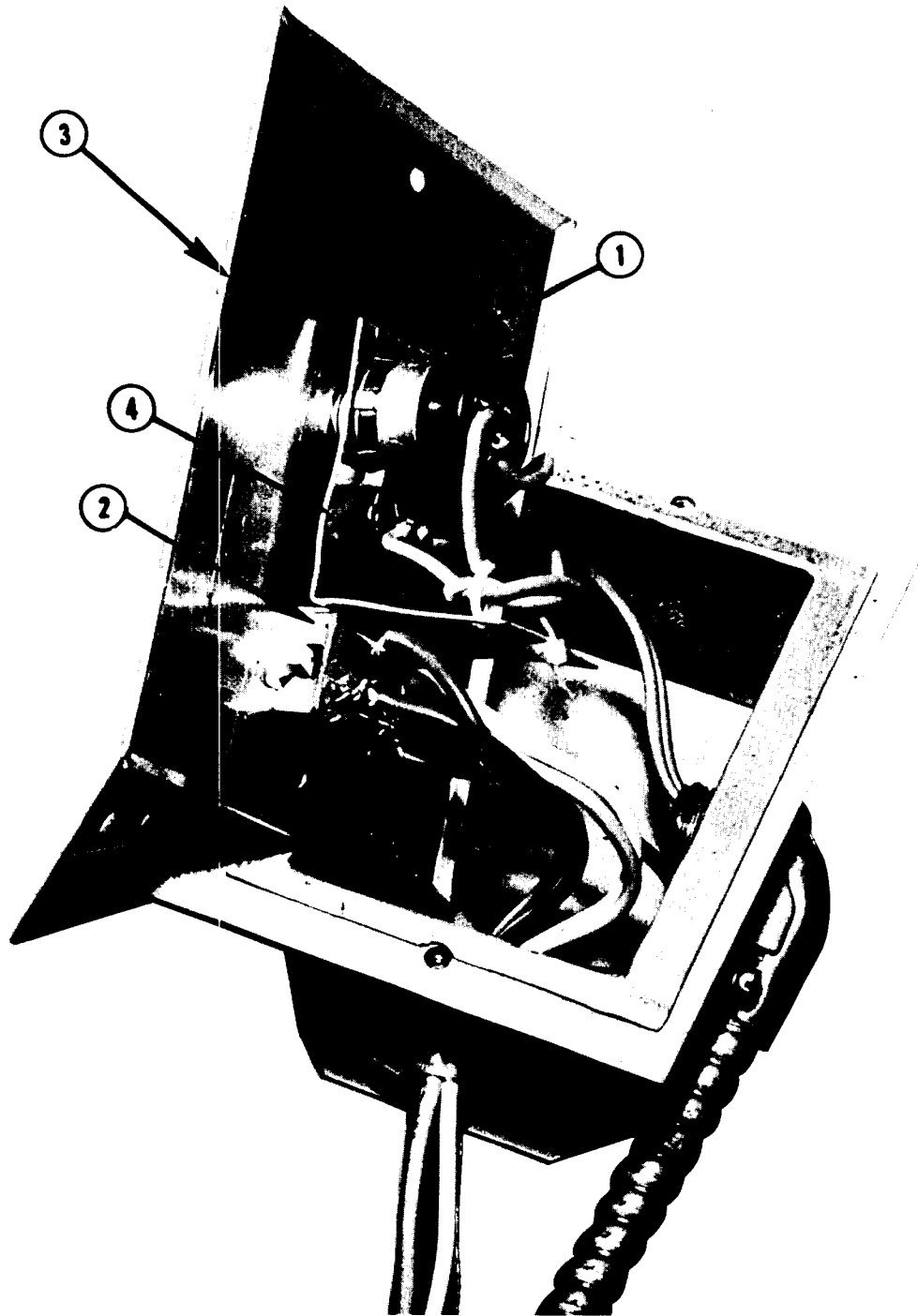
*Heater to Use
 12-1221-27
 12-1221-29
 12-1221-25

TIMING CONTROL A21233



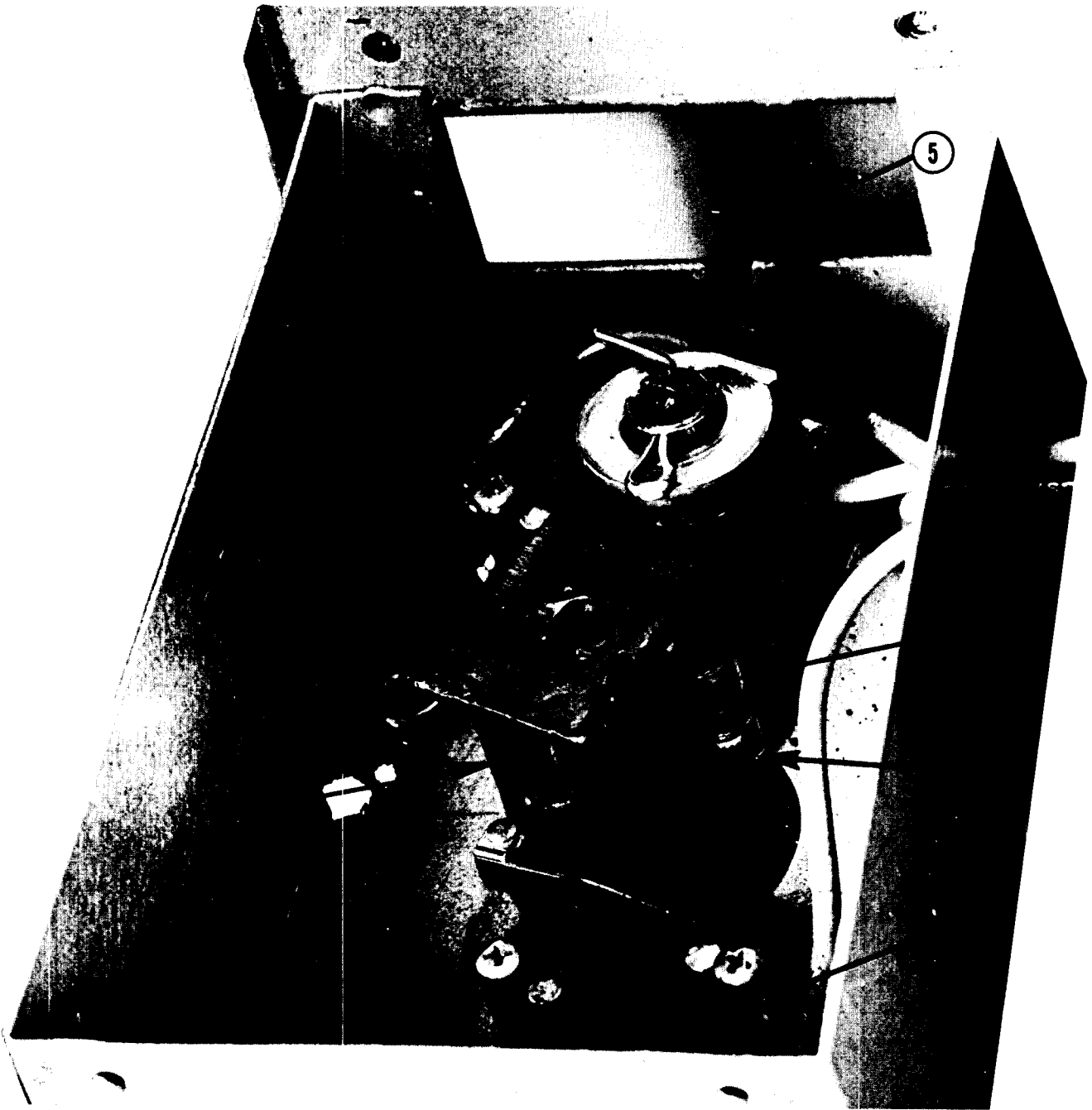
- | | | |
|----|----------|------------------------------------|
| 8 | 12-313-1 | Terminal Block |
| 9 | 12-1559 | Timing Module |
| 10 | 12-1558 | Spec. Module Relay (1200 OHM Coil) |

PORTION CONTROL BOX



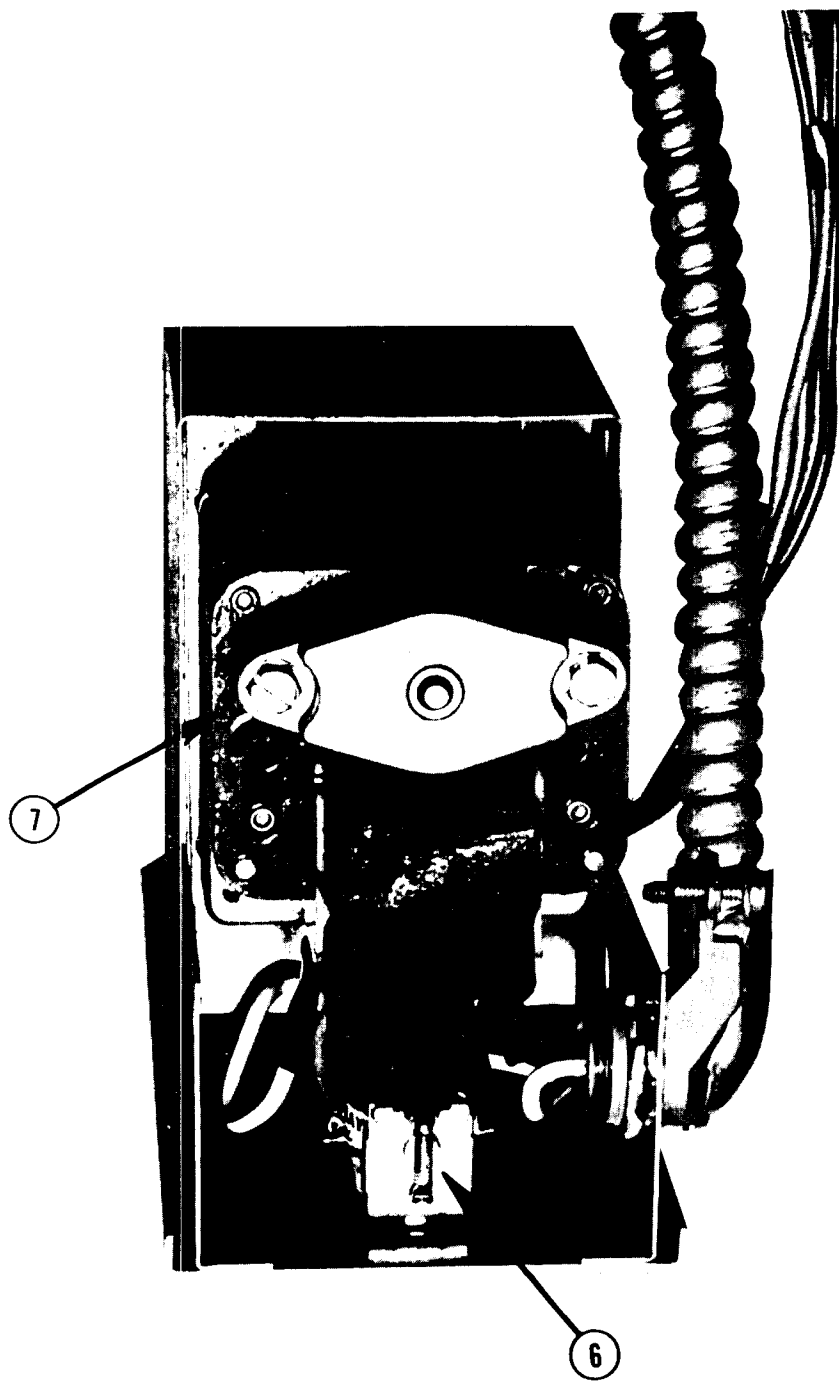
- | | | |
|---|----------|-------------------------------|
| 1 | 12-1557 | Potentiometer & Switch |
| 2 | 12-1616 | Water (illuminated) Switch |
| 3 | 2-1813 | Front Plate |
| 4 | A21903 | Stop Bracket |
| | 2-1813-1 | Emblem (Back Plate) Not Shown |
| | 2-1810 | Knob For Potentiometer |

SHUTTER CONTROL ASSY. A21229
TOP VIEW

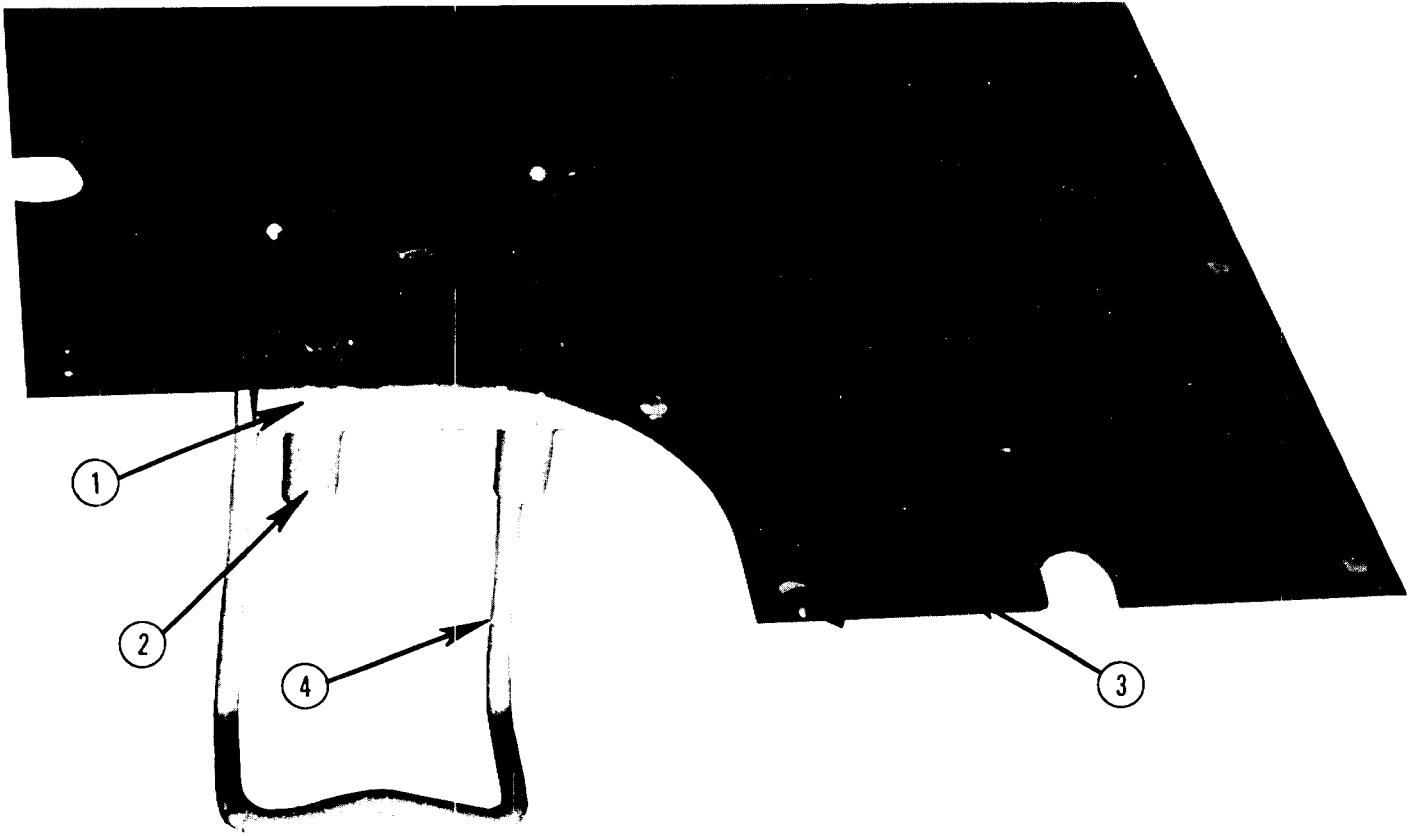


- | | | |
|---|---------|------------------------------|
| 1 | 12-1614 | Cam Switch (closing shutter) |
| 2 | 12-1614 | Cam Switch (opening shutter) |
| 3 | 12-1614 | Cam Switch (start vend) |
| 4 | A211227 | Cam Assy. |
| 5 | A21234 | Shutter Actuator Rod |

SHUTTER CONTROL ASSY. A21229
BOTTOM VIEW

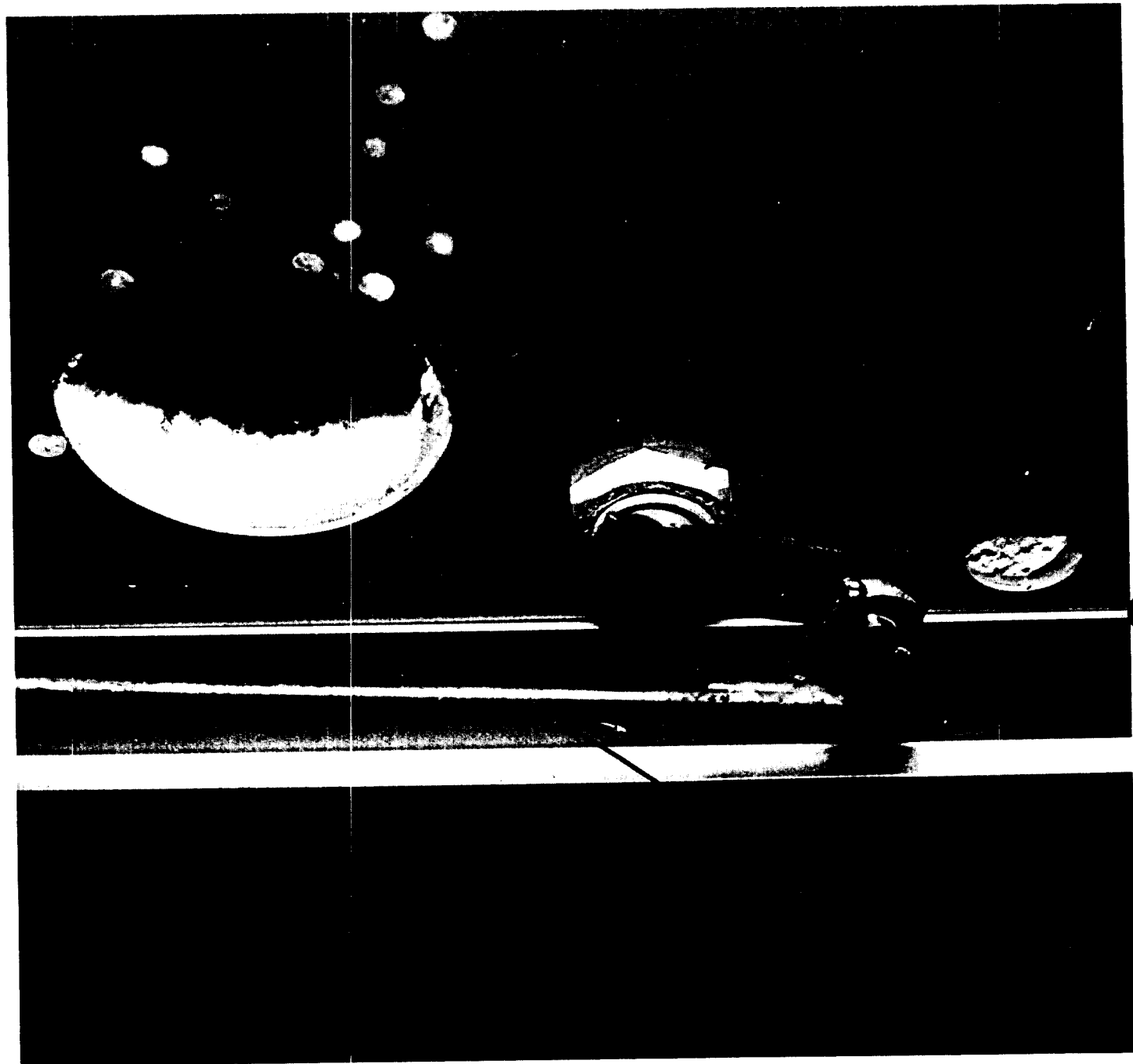


- | | | |
|---|---------|-------------------------|
| 6 | 12-1467 | 24 Volt Relay S.P.D. T. |
| 7 | 12-1613 | 115 Volt Motor |



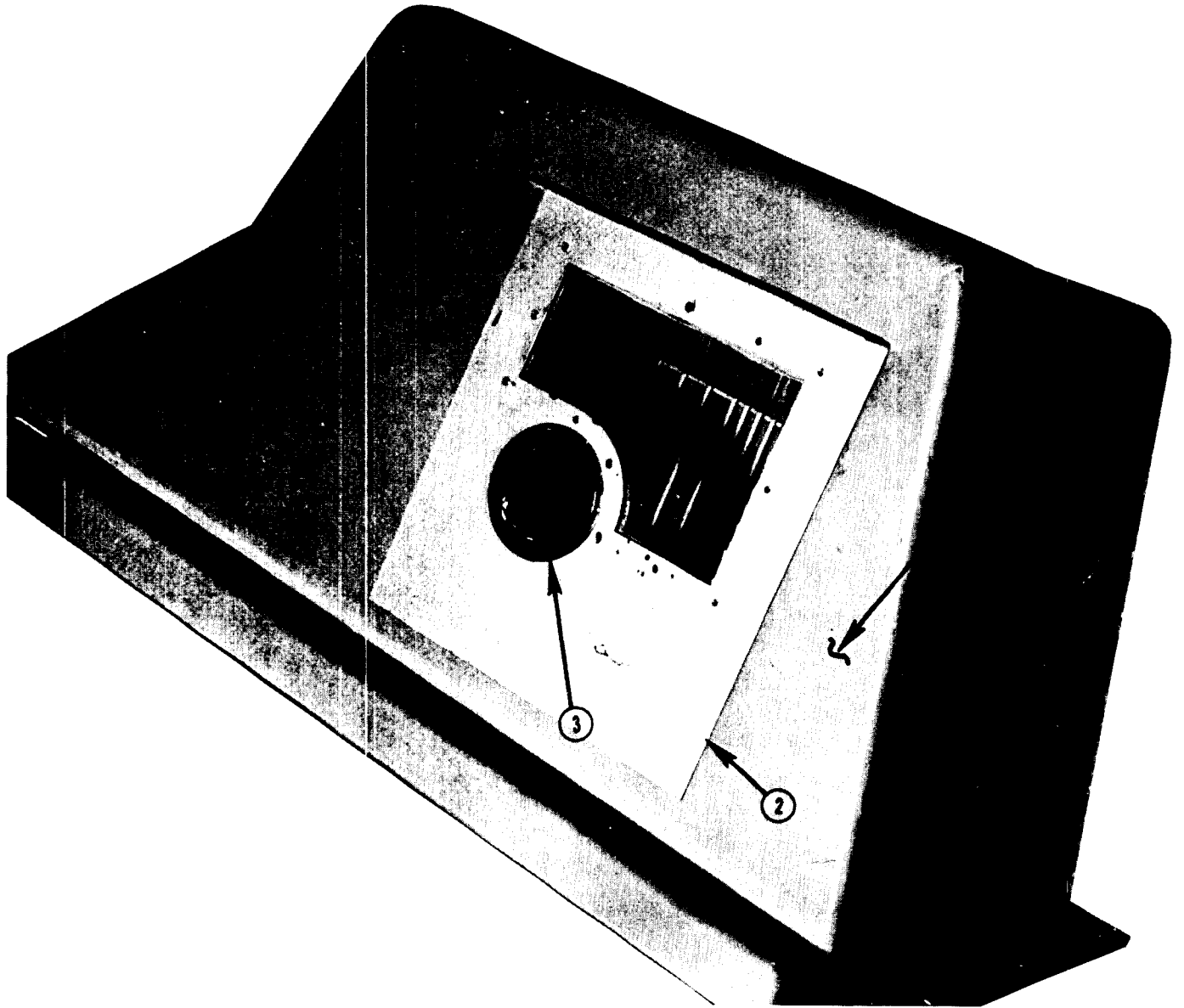
- | | | |
|---|---------|----------------|
| 1 | A22032 | Adapter |
| 2 | A22031 | Thumb Nuts |
| 3 | A21686 | Mounting Plate |
| 4 | A21682 | Actuator |
| 5 | 12-1570 | Switch |

SHUTTER ACTUATOR



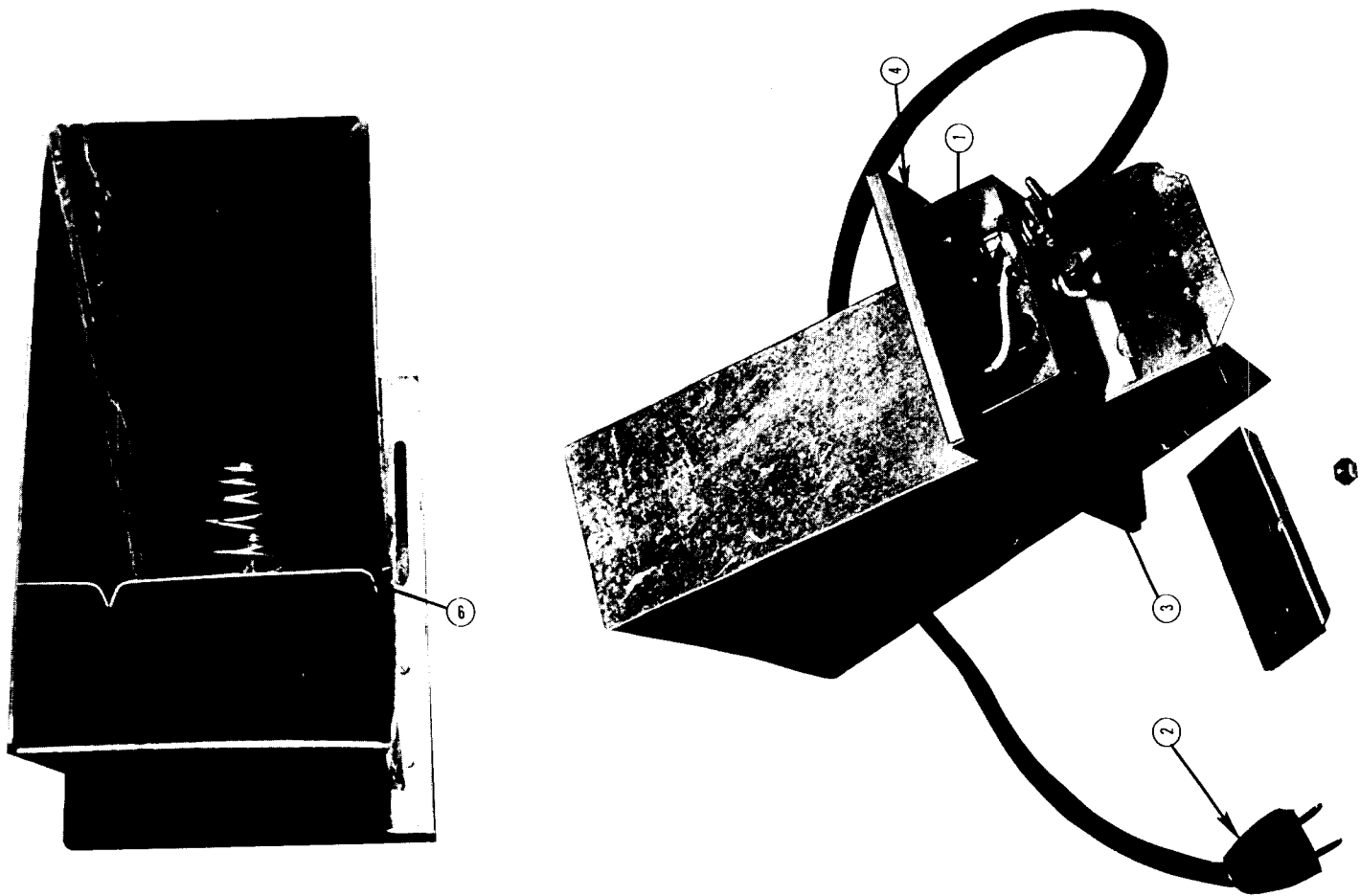
- | | | |
|---|--------|----------------------|
| 5 | A21234 | Shutter Actuator Rod |
| 8 | A21248 | Shutter Actuator Arm |
| 9 | A16835 | Bearing Nut |

LOWER COMPARTMENT



- | | | |
|---|--------|-------------------|
| 1 | 2-1814 | Lower Compartment |
| 2 | A21691 | Reinforcing Plate |
| 3 | 13-703 | Spout Grommet |

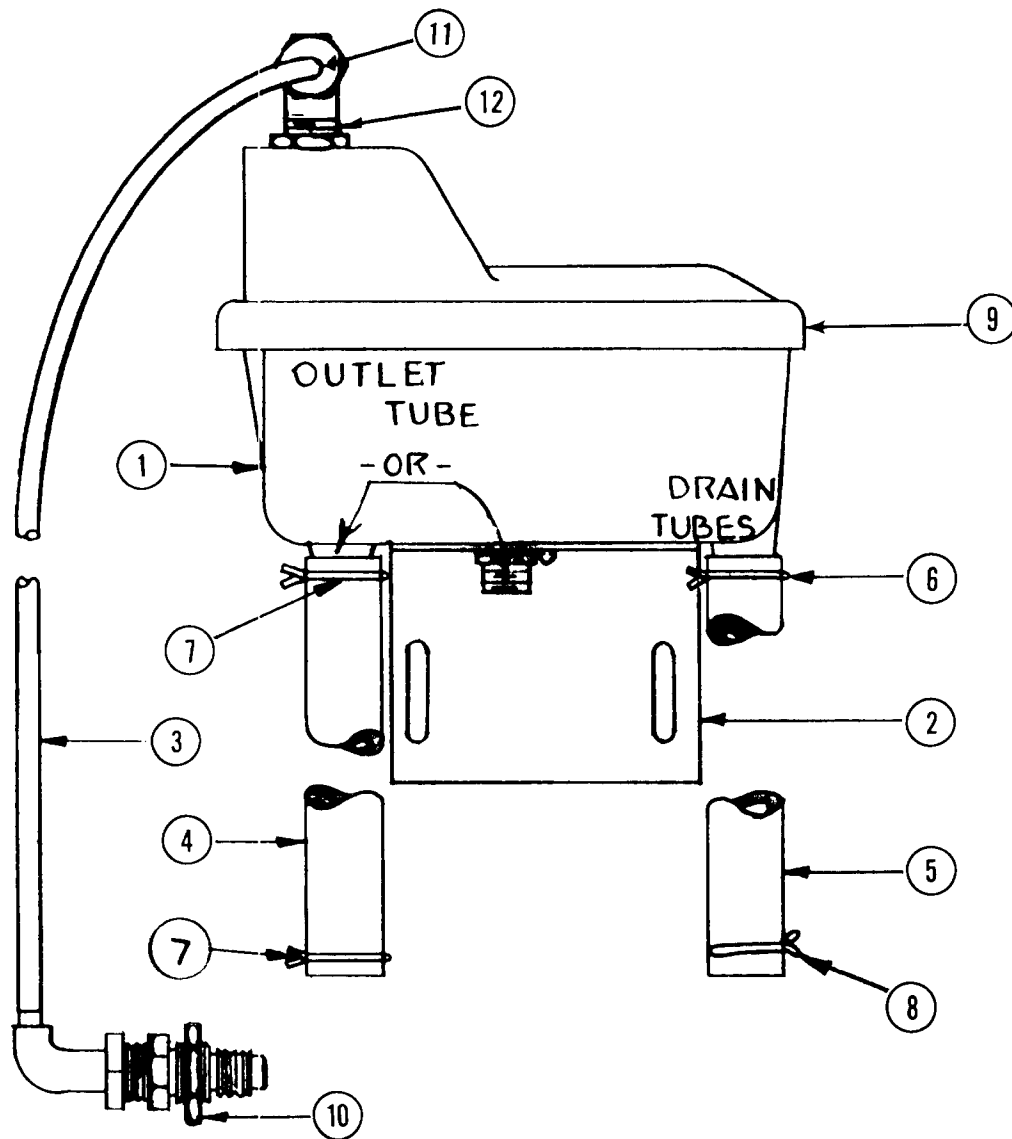
FLAKER DISCHARGE SPOUT A21655



Inside view

- | | | |
|---|-----------|---------------------|
| 1 | 12-1018 | Switch |
| 2 | 12-1210-1 | Cord & Plug |
| 3 | 13-624-1 | Gasket - 2 Required |
| 4 | 13-624-2 | Gasket - 2 Required |
| 5 | 2-1321 | Spring |
| 6 | A16354 | Pressure Plate |

RESERVOIR 2-1793-1



1	2-1793-4	Body
2	A20959	Bracket
3	A21604-26	Inlet Tube
4	A21574-4	Freezer Tube
5	A21002-8	Drain Tube
6	2-535	Clamp
7	2-694	Clamp
8	2-534	Clamp
9	2-1793-3	Cover
10	2-1793-6	"O" Ring
11	2-1793-5	Nut
12	2-1793-2	Valve Assy.

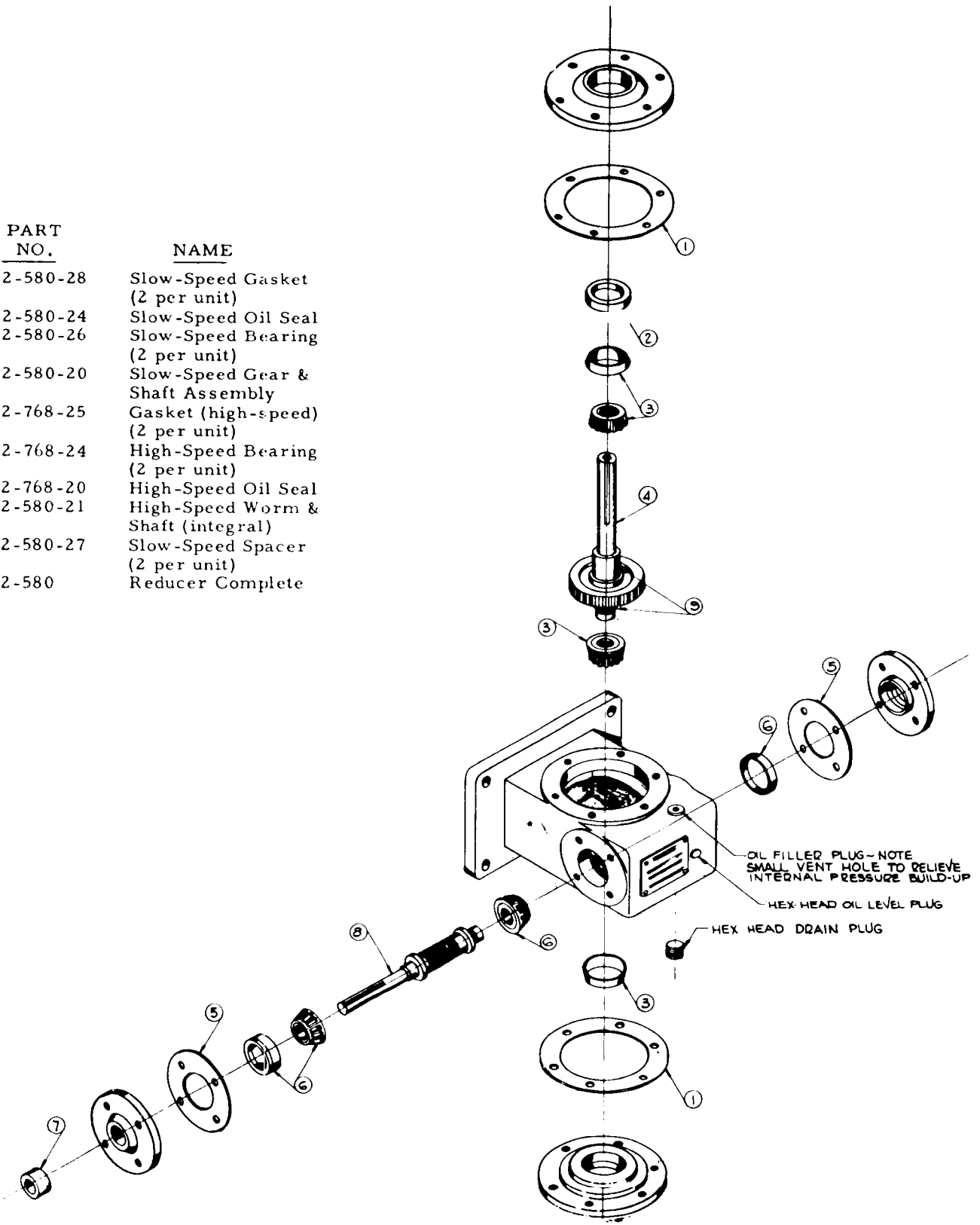
AD-2 ICE MAKER GEAR REDUCER

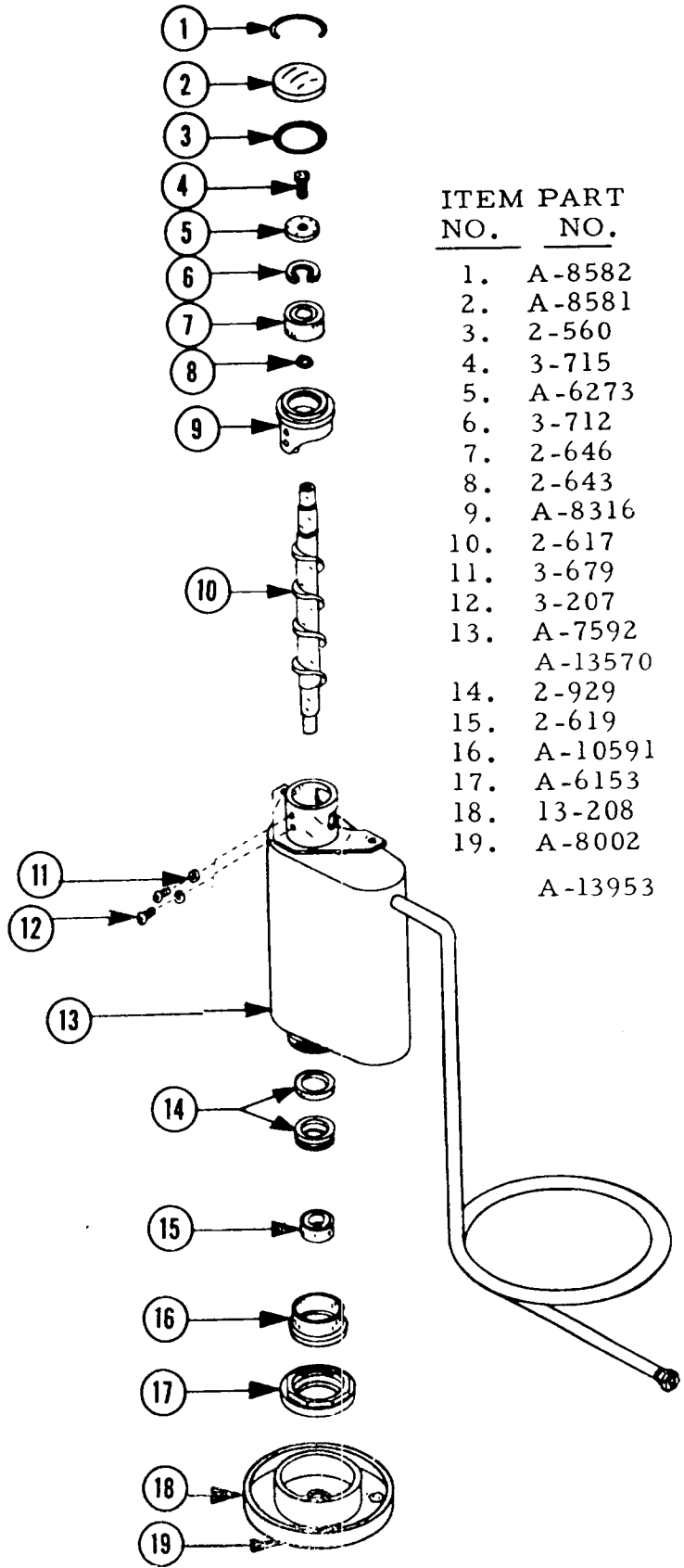
Thru HB Models

Scotsman Part No. 2-580

Winsmith Part No. (3CT)

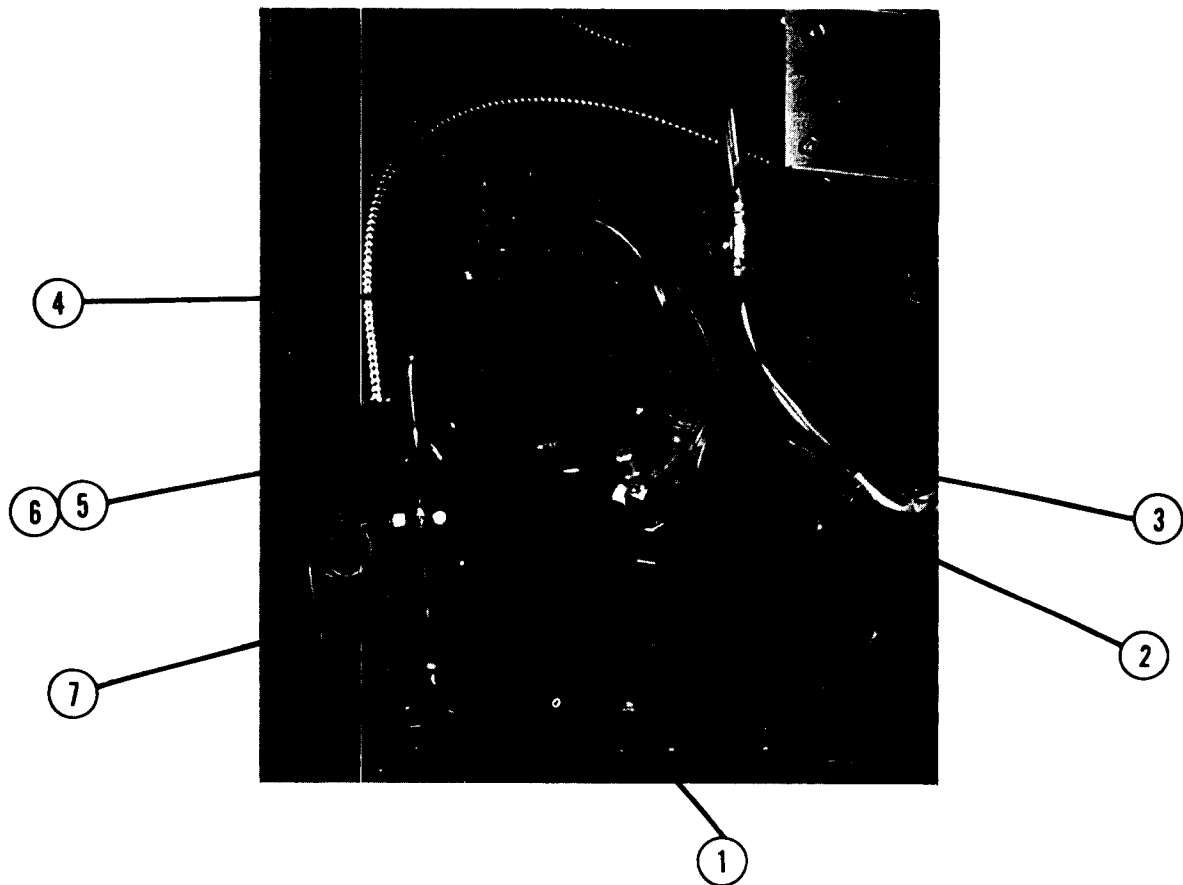
ITEM NO.	PART NO.	NAME
1.	2-580-28	Slow-Speed Gasket (2 per unit)
2.	2-580-24	Slow-Speed Oil Seal
3.	2-580-26	Slow-Speed Bearing (2 per unit)
4.	2-580-20	Slow-Speed Gear & Shaft Assembly
5.	2-768-25	Gasket (high-speed) (2 per unit)
6.	2-768-24	High-Speed Bearing (2 per unit)
7.	2-768-20	High-Speed Oil Seal
8.	2-580-21	High-Speed Worm & Shaft (integral)
9.	2-580-27	Slow-Speed Spacer (2 per unit)
10.	2-580	Reducer Complete





<u>ITEM NO.</u>	<u>PART NO.</u>	<u>NAME</u>
1.	A-8582	Cap Hook
2.	A-8581	Worm Tube Cap
3.	2-560	'O' Ring
4.	3-715	Cap Screw
5.	A-6273	Worm Tube Washer
6.	3-712	Retainer Ring
7.	2-646	Top Bearing
8.	2-643	'O' Ring
9.	A-8316	Ice Breaker
10.	2-617	Auger
11.	3-679	Lockwashers (2)
12.	3-207	Screws (2)
13.	A-7592	Freezing Chamber, Suction
	A-13570	Line, Cap Tube
14.	2-929	Water Seal
15.	2-619	Bottom Bearing
16.	A-10591	Bearing Retainer
17.	A-6153	Worm Tube Nut
18.	13-208	Drip Pan
19.	A-8002	Outlet Tube
	A-13953	Freezer Complete

CONDENSING UNIT WATER COOLED



1	18-2400-1	Compressor - 115V - 60Hz - 1Ph*
2	2-1572-2	Drier
3	A21605	Water Regulator
4	18-699-5	Condenser
5	18-2400-25	Overload
6	18-2410	Relay
7	18-2420	Capacitor

* Other Voltage, Hertz & Phase Available

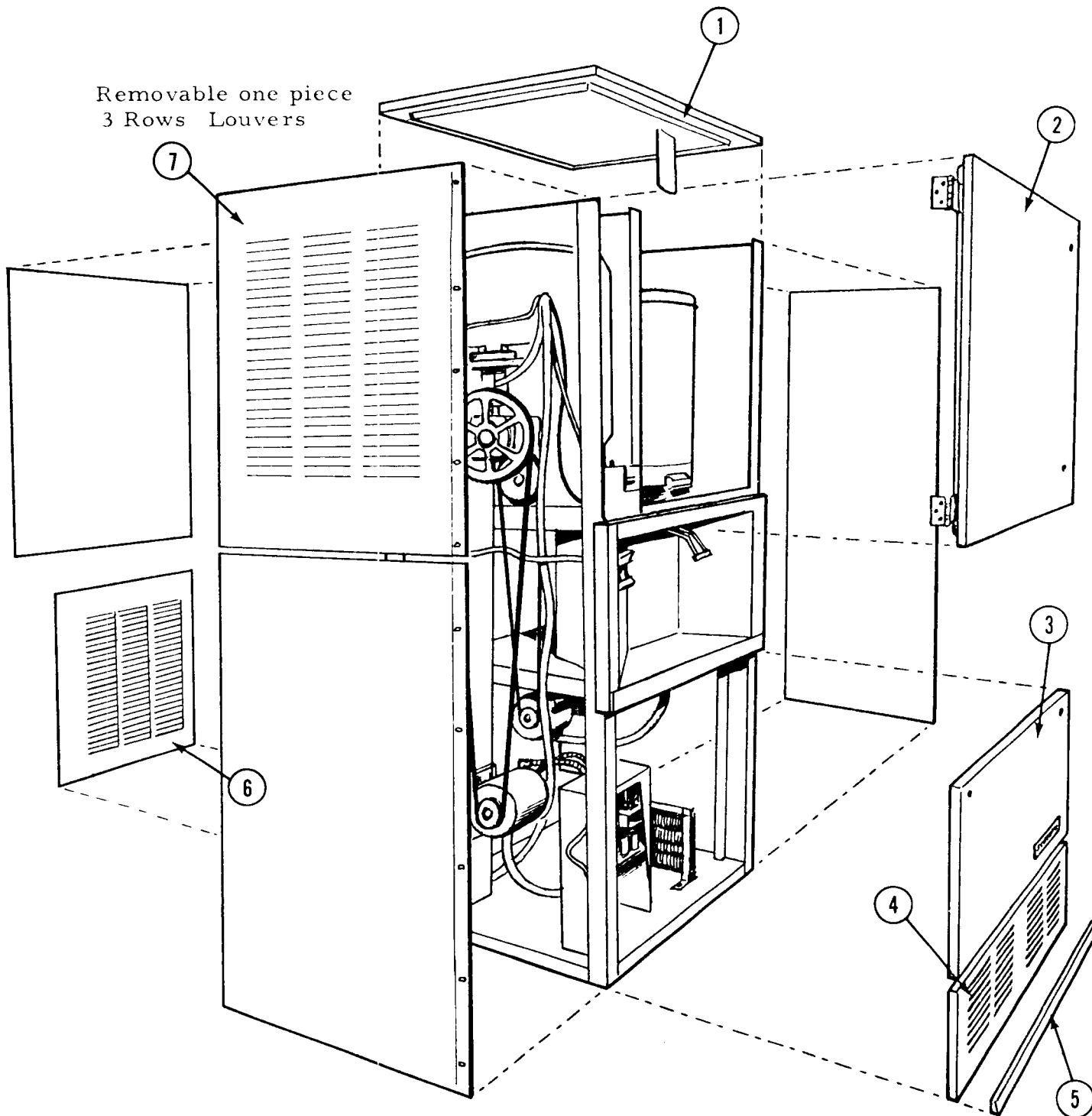
CONDENSING UNIT
AIR COOLED



1-18-2400-1	Compressor - 115V - 60Hz - 1Ph*
2	2-1572-2 Drier
3	12-1576-1 Fan Motor
4	18-363 Fan Blade
5	18-334 Condenser
6	18-2400-25 Overload
7	18-2410 Relay
8	18-2420 Capacitor

* Other Voltage, Hertz & Phase Available

CABINET PANELS AD-2HB

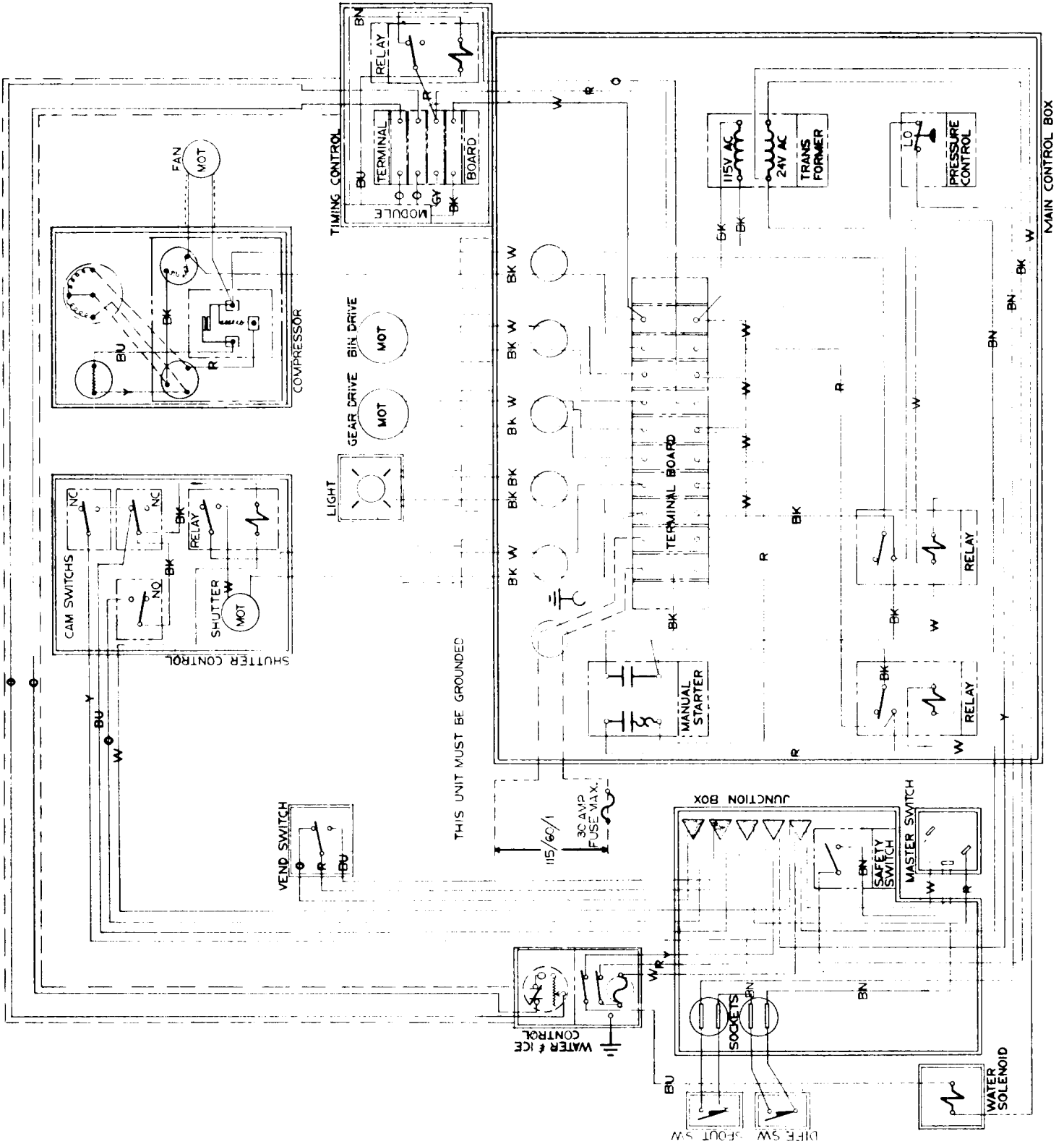


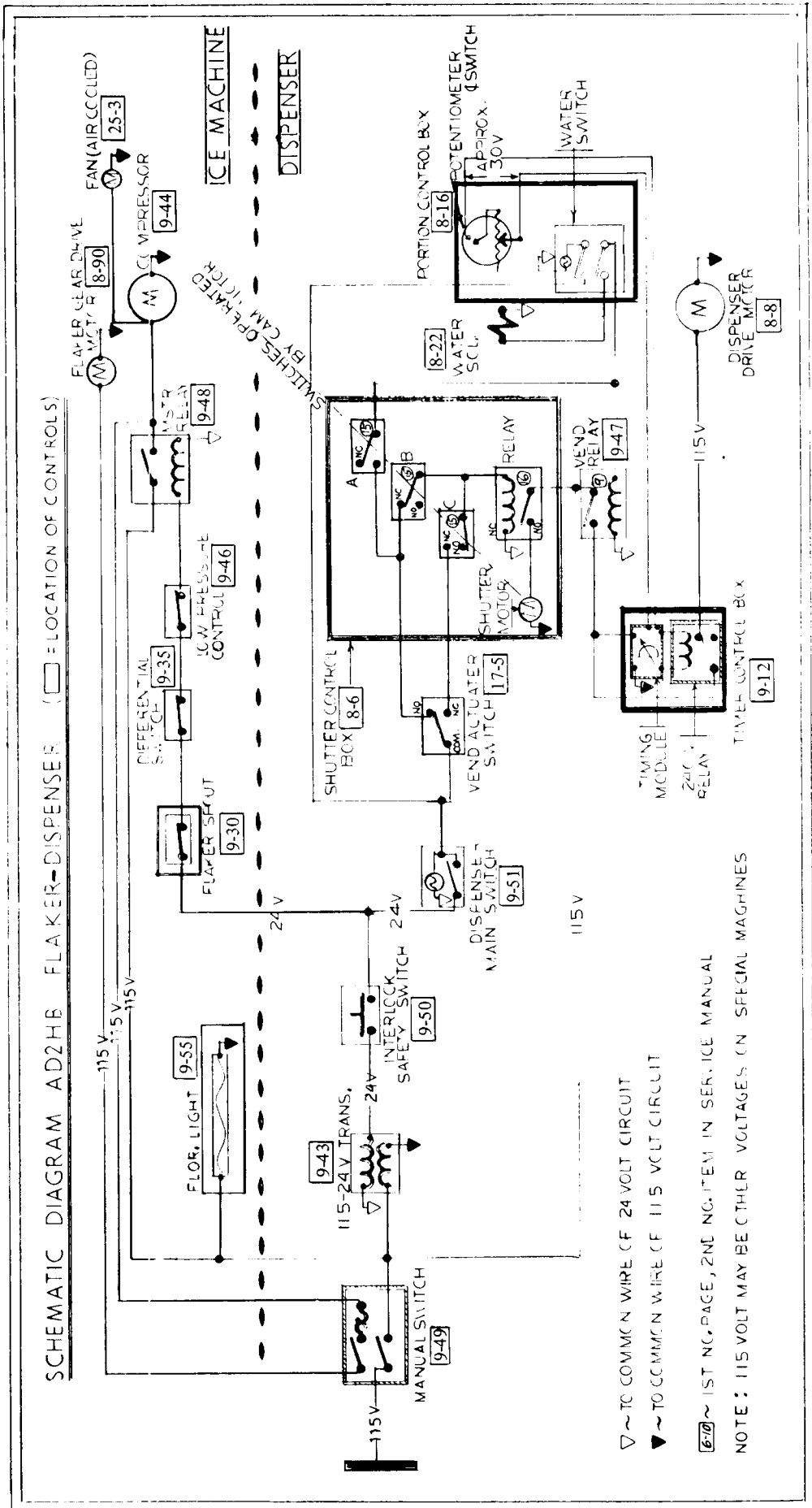
ITEM NO.	PART NO.	NAME
1.	A-13581	Top Assembly
2.	A-14910	Upper Door Assembly
3.	A-14913	Lower Door
4.	A-14992	Lower Louvered Panel
5.	15-448	Trim Strip

ITEM NO.	PART NO.	NAME
6.	A-18845	Rear Service Door
7.	A-18831	Left Side Louvered Panel

Add a Dash -1 to above numbers
for stainless steel models

WIRING DIAGRAM





SERVICE INFORMATION

General:

1. The operation of the ice maker is independent of the dispensing mechanism.
2. The voltage to all switches of the control circuit is 24 volts.
3. All high voltage (115V) conductors are in conduit.
4. Control boxes contain both 24 and 115 volt circuits.
5. The interlock switch (#50 Page 9) is held on by the top storage compartment door. When the door is opened neither the ice maker or dispenser will operate.

CAUTION: This does not disconnect the power to the machine but merely opens the 24V control circuit.

6. Cleaning instructions are on the inside of the top compartment storage door.
7. The machine must be level.
8. Always maintain a good ground from the cabinet frame to a solid earth ground or metal cold water pipe.

INFORMATION FOR THE SERVICEMAN

ICE FLAKER:

Refer to Page 6 for operation

1. Sequence operation of controls page 28 will indicate that the Differential Plate switch (#35 page 9) located in the cabinet top and the Flaker ice spout switch (#30 page 9) are connected in series. Either switch will stop the machine and both must be on for the machine to operate.
2. Also in series with these two switches is the pressure control (#46 page 9). On the water cooled models this is a Hi-lo pressure control that will cut out the compressor on abnormally high head pressure or low back pressure.

The low side comes set at 5 PSI and the high side at 180 PSI.

The air cooled models contain only a low pressure control also set at 5 PSI:

If either control cuts out they must be reset manually before the condensing unit will again operate.

3. The flaker control relay (#4 page 12) has a 24 volt coil with 115 volts through the contacts to operate both the condensing unit and the flaker gear drive motor.
4. The flaker drive motor is protected by a thermo protector (heater) located in the master switch (#7 page 12)
5. This drive motor is a capacitor start induction motor turning counter clockwise. Always check replacements for the proper rotation.
6. The reservoir water level should be .70 inches below the bottom of the cast metal freezer discharge spout. (This is the location on the freezer that the sheet metal spout fits around.)
7. If water level is too high the ice will be wet and mushy where as too low a water level usually causes the auger to squeel and attempt to freeze on the cylinder wall. Serious damage can be caused by operating the freezer with the water supply turned off.
8. The head pressure on the water cooled models should be set at 135 P.S.I. by adjusting the water regulator (#3 page 24). Air cooled models will operate at 130 and up to 180 P.S.I. with a high ambient of 105° F. and 80° F. water.

9. The frost line will extend 24 inches out of the accumulator when properly charged and the suction pressure will range from 12 to 17 P.S.I. with 50° inlet water. .
10. The unit should be charged with 30 oz.of Freon R-12. The minimum charge would be 28 oz.and maximum 33.

SERVICEMAN'S INFORMATION

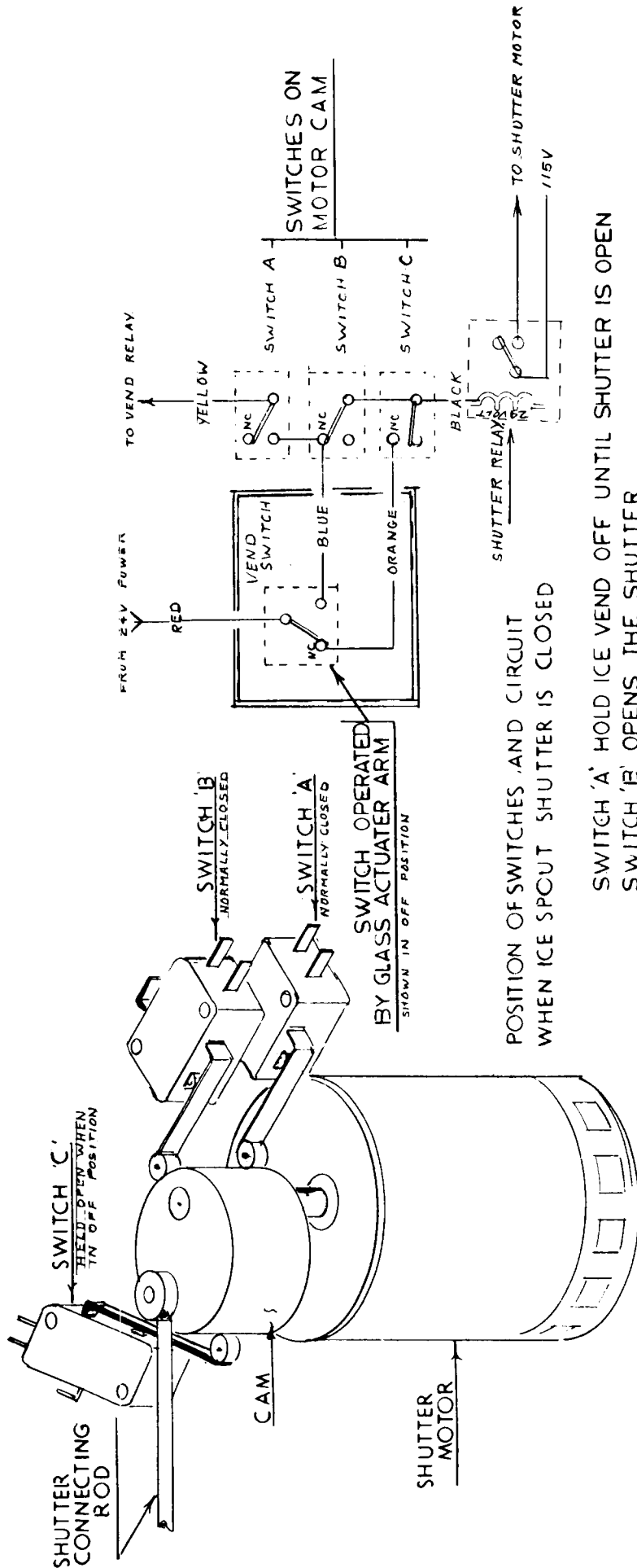
ICE DISPENSER:

(Refer to page 6 for the operation)

1. See page 28 for sequence of operation.
2. Ice cannot be dispensed until the spout shutter (#7 page 11) is open. Depressing the vend switch operates the shutter motor to pull the shutter open.
3. When the shutter motor (#7 page 16) opens the shutter the cam (#4 page 15) also closes switch (#3 page 15) to energize the vending relay to start the vend.
4. As shown on page 34, switches B & C control the motor to open and close the shutter. Switch A controls power to vend circuit.
5. Refer to page 28, when the vend (dispensing) relay is energized 115 volts power will be directed through the contacts for the timing module and to the timing module relay contacts which drive the dispensing motor (#8 page 8) to turn the dispensing bin.
6. The timing module will load up and fire in from .3 to 2 seconds depending on the setting of the potentiometer in the portion control box.
7. When the module fires it energizes the coil of the timing module relay to open the contacts and stop the dispensing motor.
8. The water solenoid will remain energized as long as cam switch A is closed and the water switch is in the illuminated position. Releasing the actuator lever opens switch A.

8. If the water switch is on (illuminated) the water solenoid will remain energized as long as cam switch A is closed. This of course closes to stop the vend as soon as the vend actuator (#4 page 17) is released.
9. When the portion control is set at extreme clockwise position to continuous flow of ice the timer circuit is opened by the switch on the potentiometer and the timing module has no control of the dispensing motor. It will continue to run as long as the glass actuator is held depressed.

**SIMULATED ICE SHUTTER CONTROL
TO OPEN & CLOSE THE ICE DISCHARGE SPOUT**



SWITCH 'A' HOLD ICE VEND OFF UNTIL SHUTTER IS OPEN
 SWITCH 'B' OPENS THE SHUTTER
 SWITCH 'C' CLOSES THE SHUTTER

POSITION OF SWITCHES AND CIRCUIT
 WHEN ICE SPOUT SHUTTER IS CLOSED

SERVICE ANALYSIS CHART
ICE MAKER SECTION

COMPLAINT	POSSIBLE CAUSE	CORRECTION
Excessive noise or chattering (cont.)	Low ambient temperature.	Set head pressure and resultant back pressure higher, or move to heated space.
	Gear reducer low on oil charge.	Check oil level and refill to oil level plug.
	Gear reducer loose on frame.	Tighten.
	Pulleys worn or loose on shaft.	Repair or replace.
	Belt cracked or worn. Drive motor end-play or worn bearings.	Replace belt. Repair or replace.
Machine continues to run with full storage bin.	Storage bin controls are defective	Replace.
Squeal in freezer	Too hard ice	Change pulley on motor to larger size 3 1/4" pulley Increase water level in reservoir

SERVICE ANALYSIS CHART
ICE MAKER SECTION

COMPLAINT	POSSIBLE CAUSE	CORRECTION
Low ice production	<p>Loss of refrigerant. Under or over-charge of refrigerant.</p> <p>Drive motor weak.</p> <p>Dirty or plugged condenser</p> <p>Low water level in water reservoir.</p> <p>Overcharge of oil in system</p> <p>Partial restriction in capillary tube or drier.</p> <p>Inlet water strainer partially plugged.</p> <p>Corroded or strained worm shaft due to water condition.</p> <p>Slipping drive belt</p> <p>Defective gear reducer.</p>	<p>Check and recharge with proper amount of refrigerant.</p> <p>Replace.</p> <p>Clean condenser.</p> <p>See para. 6 page 30</p> <p>Check at oil hole and lower to 1 1/2 inch from top of hole or 1/3 full on crank-case sight glass.</p> <p>Moisture in system. Overcharge of oil in system. Remove charge by blowing back through cap tube. Replace and recharge.</p> <p>Remove screen and clean.</p> <p>Remove worm shaft and clean, or use Ice Machine Cleaner. See Maintenance Section.</p> <p>Adjust belt tension or replace worn belt.</p> <p>Check reducer driven shaft to freezer shaft. Should rotate at 8 RPM. Replace if worn.</p>
Machine runs but makes no ice	<p>Loss or undercharge of refrigerant.</p> <p>Drive motor, belts, gear reducer on drive coupling inoperative.</p> <p>Pulleys loose on shafts</p> <p>Water inlet to freezer froze shut. Caused by stoppage of water supply to the machine</p>	<p>Check for leaks and recharge.</p> <p>Gear reducer and worm turn at 8 RPM. Check. Repair or replace.</p> <p>Tighten, repair or replace.</p> <p>Remove side panel and leave freezer thaw - at least 2 hours</p>

SERVICE ANALYSIS CHART
ICE MAKER SECTION

COMPLAINT	POSSIBLE CAUSE	CORRECTION
Machine runs but makes no ice (cont.)	<p>Water not entering freezing chamber.</p> <p>Moisture in system.</p> <p>Water seal leaking.</p> <p>Defective manual overload switch.</p>	<p>Plugged strainer or supply line. Check and clean.</p> <p>Air lock in gravity feed line. Check and remove air lock.</p> <p>Check and remove charge and drier. Replace and re-charge.</p> <p>Replace seal. See section on maintenance.</p> <p>Replace switch.</p>
Water leaks	<p>Defective water seal</p> <p>Gravity feed line leaking</p> <p>'O' ring in spout casting leaking.</p> <p>Storage bin drain and connecting fitting.</p> <p>Water level in reservoir too high</p>	<p>Replace. See section on maintenance.</p> <p>Check hose clamps.</p> <p>Remove spout casting and install new 'O' ring.</p> <p>Check and repair. Tighten fitting --replace 'O' ring.</p> <p>Adjust - See para 6, page 30</p>
Excessive noise or chattering.	<p>Scale or mineral build-up on inside of freezer.</p> <p>Mineral deposit or scale on auger and cylinder walls.</p> <p>Low suction pressure.</p> <p>Intermittent water supply.</p> <p>Water level in reservoir too low.</p> <p>Mis-aligned coupling or worn insert.</p>	<p>Clean with Ice Machine Cleaner. See section on maintenance.</p> <p>Ice sticking and jamming inside. Clean with Ice Machine Cleaner or remove auger and polish.</p> <p>Raise suction pressure. Adjust head pressure control to recommended setting or balance refrigerant charge.</p> <p>Check and clean water strainer. Check gravity feed line for air lock. Remove air lock.</p> <p>Adjust - See para. 6, page 30</p> <p>Repair or replace.</p>

SERVICE ANALYSIS CHART
(DISPENSER SECTION)

COMPLAINT	POSSIBLE CAUSE	CORRECTION
<p>When actuating arm is pushed shutter does not open.</p>	<p>Actuator not depressing switch plunger</p> <p>Loose thumb screws</p> <p>Defective switch</p> <p>Shutter (#7 page 11) rubbing on plastic bin liner.</p> <p>Shaft on actuator arm #8 page 18 to tight in bushing.</p> <p>Actuator rod (#5 page 18) bent</p> <p>Cam switch (#1 page 15) out of adjustment</p> <p>Cam switch (#1 page 15) defective</p> <p>Contacts on relay (#6 page 16) bent or relay defective.</p> <p>Motor #7 page 16 defective</p>	<p>Check switch (#5 page 17) must be adjusted down to activate with lever #4.</p> <p>Tighten screws (#2 page 17)</p> <p>Replace switch (#5 page 17)</p> <p>Remove shutter and install washer on shaft to raise shutter.</p> <p>Remove and polish shaft. This can be removed by lowering mounting plate (#3 page 17)</p> <p>Replace rod or check set screw on motor cam.</p> <p>Adjust - see page 34</p> <p>Replace switch</p> <p>Replace relay</p> <p>Replace motor.</p>
<p>When actuating arm is pushed shutter opens but machine will not vend.</p>	<p>Switch (#3 page 15) out of adjustment</p> <p>Switch (#3) defective will not energize vend relay (#3 page 12)</p>	<p>Adjust - see page 34</p> <p>Replace switch.</p>
<p>Vends only continuous</p>	<p>If leads to potentiometer No.1 on Page 14 are grounded the module #9, page 13 will burn out.</p>	<p>Check Potentiometer leads for ground before replacing module.</p>

COMPLAINT	POSSIBLE CAUSE	CORRECTION
Vend relay energized but machine will not dispense ice.	<p>Contacts on relay bent or wires to relay loose.</p> <p>Contacts on module relay (#10 page 13) defective</p> <p>Contacts on relay remain open.</p> <p>Dispenser motor (#8 page 8) defective.</p> <p>Belt broken or slipping</p> <p>Pulley loose on motor or gear unit shaft (#4 page 8)</p> <p>Shaft coupling slipping (#9 page 11)</p> <p>Pin in drive nut (#5 page 11) sheared</p> <p>Rear unit (#4 page 11) defective</p>	<p>Replace relay or tighten connections.</p> <p>Replace relay</p> <p>Replace timing module (#9 page 13)</p> <p>Repair or replace this motor has an internal thermo overload - automatic reset.</p> <p>Replace or tighten.</p> <p>Replace Key.</p> <p>Replace pin.</p> <p>Replace gear unit.</p>
Portion control will not work. Runs continuous when actuator is held on	<p>Module (#9 page 13) defective</p> <p>Module relay (#10 page 13) defective</p> <p>Potentiometer switch or Potentiometer defective loose connection or open wires to POT</p>	<p>Replace module</p> <p>Replace relay</p> <p>Replace (#1 page 14) Potentiometer</p> <p>Check terminal wires</p>
Will not dispense water when water switch is illuminated	<p>Defective water switch (#2 page 14)</p> <p>Defective water solenoid (#22 page 8)</p> <p>Water line restricted</p>	<p>Replace 12-1616 switch</p> <p>Replace 12-1434-7 solenoid</p> <p>Clean</p>
Shutter motor will not stop shutter opens and closes	Defective cork brake by lower end of motor rotor	Motor must stop instantly or cam switch will close again.

COMPLAINT	POSSIBLE CAUSE	CORRECTION
	Switches out of adjustment.	<p>clean cork disk. Check rotor for free operation.</p> <p>Increase spring tension on front of rotor shaft. Rotor can be removed by unscrewing 2 bolts on lower motor bracket.</p> <p>Adjust - see page 34</p>
Auger will not turn.	<p>Drive on end of auger sheared.</p> <p>Gear unit auger drive shaft gear defective</p>	<p>Replace drive</p> <p>Replace gear unit.</p>
Flourescent light	Will not operate	<p>The tube, ballacts and starter can be replaced by removing the lamp assy. from the machine. Remove 4 screws on the legs to the assemble location back of condensing unit in motor compartment.</p>