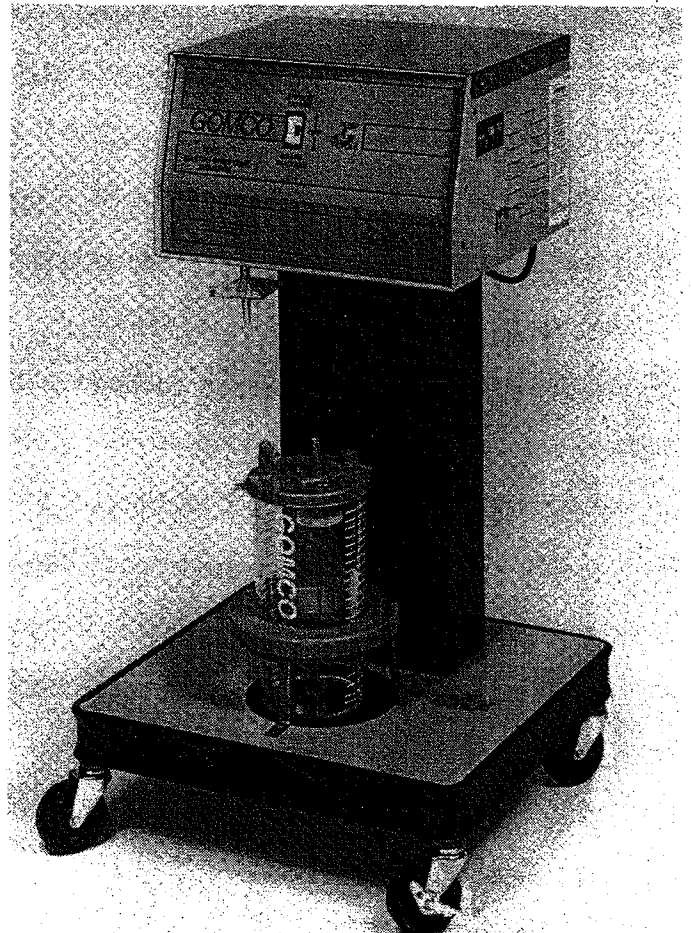
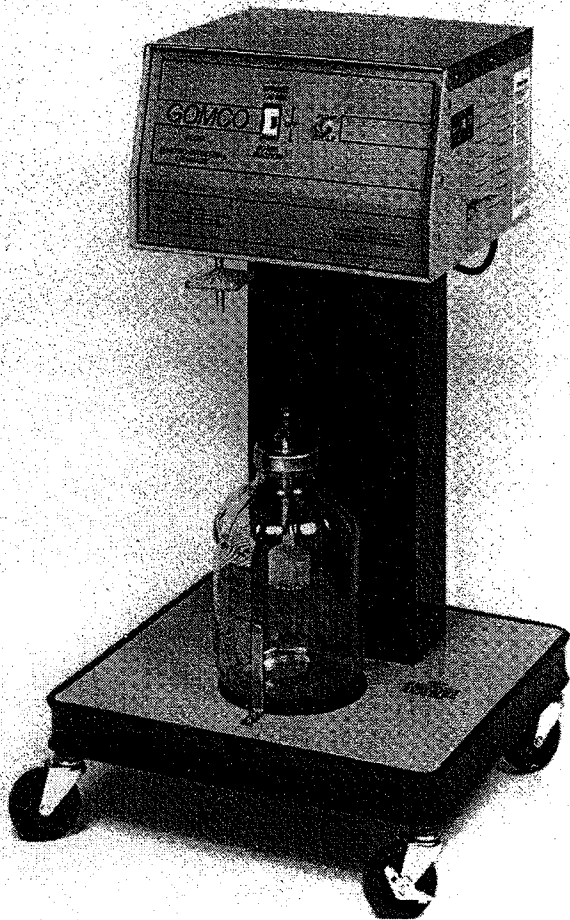


GOMCO MOBILE GASTRIC DRAINAGE PUMP MODELS 6000 & 6002



OPERATION, MAINTENANCE AND SERVICE MANUAL

INDEX

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- 2.0 SPECIFICATIONS
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1.0 GENERAL INFORMATION:

- 1.1 The Gomco Models 6000 and 6002 are Mobile Drainage Pumps designed to assure gentle suction for specialized uses as gastric lavage, abdominal decompression, duodenal and fistula drainage following prostatectomy. The suction system includes two preset drainage levels of 90 mm and 120 mm of mercury vacuum.

1.2 **Features, Model 6000:**

Supplied with model 6000 as standard equipment are:

1. One 2800 ml glass collection container with overflow protection cap assembly.
2. Three bacteria filters to prevent fluid and aerosol contaminations.
3. One disposable tubing package containing a 15-inch and a 72-inch length of clean ¼-inch I.D. clear flexible PVC tubing.
4. Compact cart with non-marking casters, easy to clean stainless steel top work surface, illuminated selector switch, pump cycle lamp and hospital grade plug.

1.2.1 **Bacteria Filter:**

The high efficiency bacteria filter is custom engineered to prevent fluid and aerosol contamination of mobile suction units. This filter features a hydrophobic, microporous membrane which filters air with maximum efficiency (0.3 micron particles in air), while blocking the flow of aqueous fluids and aerosol contaminants. The Gomco high efficiency filter protects against suction pump contamination in the case of canister overflow as it helps prevent the overflow from reaching the pump.

1.2.2 **OVERFLOW PROTECTION:**

The 2800 collection bottle assembly supplied with this pump includes a cap and float assembly (See Illustration No. 5). When collected patient drainage fluids reach the maximum safe limit of the bottle, the vacuum supply to the collection bottle is shut off by the cap and float.

1.3 **Features, Model 6002:**

Supplied with Model 6002 as standard equipment are:

1. One 2100 ml disposable collection container with overflow protection cap.
2. One collection container locating ring.
3. Three bacteria filters to prevent fluid and aerosol contaminations.
4. One disposable tubing package containing a 15-inch and a 72-inch length of clean ¼-inch I.D. clear flexible PVC tubing.
5. Compact cart with non-marking casters, easy to clean stainless steel top work surface, illuminated selector switch, pump cycle lamp and hospital grade plug.

1.3.1 **Bacteria Filter:**

The high efficiency bacteria filter is custom engineered to prevent fluid and aerosol contamination of mobile suction units. This filter features a hydrophobic, microporous membrane which filters air with maximum efficiency (0.3 micron particles in air), while blocking the flow of aqueous fluids and aerosol contaminants. The Gomco high efficiency filter protects against suction pump contamination in the case of canister overflow as it helps prevent the overflow from reaching the pump.

1.3.2 **2100 ML Disposable Collection Container:**

The 2100 ml DCU contains the same membrane as described in 1.3.1 bacteria filter. When collected patient fluids reach this membrane, the vacuum supply to the collection container is stopped, thereby preventing canister overflow.

2.0 SPECIFICATIONS:

- 2.1 **Vacuum*:**
At 90 mm setting: 90 mm to 99 mm
At 120 mm setting: 120 mm to 132 mm
- 2.2 **Flow Rate:**
At 90 mm setting: .25 LPM
At 120 mm setting: .3 LPM
- 2.3 **Electrical Requirements:**
115 Volts 50/60 Hz (1.5 amps)
230 Volts 50/50 Hz (1.3 amps)
- 2.4 **Pump Cylinder:**
155 to 160 OHMS Resistance
- 2.5 **Dimensions:**
(H) 33½" x (W) 18¼" x (D) 17"
- 2.6 **Weight:**
Shipping: 55-pounds
Net: 43-pounds
- 2.7 **Duty:**
Continuous

***NOTE:** Vacuum should be measured after the pump has been running for 15-minutes to normalize the pump cylinder temperature.

3.0 SET-UP:

- 3.1 **Bacteria Filter** (See Figure 1):
Install the bacteria filter to the stand prior to patient application by:
 - 1. Locate the vacuum and filter connection on the left bottom side of the stand body.
 - 2. Screw the threaded end of the filter into the vacuum and filter connection by turning in a clockwise direction.
 - 3. Tighten finger tight:
NOTE: Care must be taken when installing the filter to prevent thread damage due to cross threading and over-tightening.

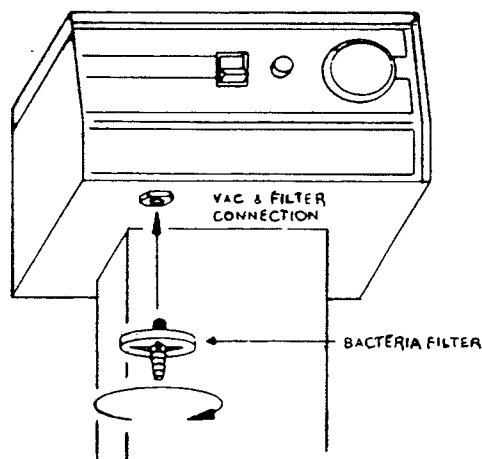


Figure 1

3.2 **2800 ML Collection Bottle** (See Illustration No. 5):

1. The bottle and cap assembly should be sterilized prior to use (See 6.5).
2. The bottle should be assembled as shown in Illustration No. 5.
3. Check the bottle top edges for nicks. If the bottle top is nicked, it will not seal.
4. Check that the cap gasket is properly positioned inside the cover.
5. Check that the float moves freely. Screw the cover assembly securely onto the bottle, making sure that the gasket seals.
6. Insert the bottle assembly into the bottle brackets on the stand base.
7. Connect the short length of tubing, enclosed in the tubing package, to the bacteria filter on the bottom side of the stand body and to the vertical fitting on the bottle cap and float assembly marked "to pump".
8. Connect the 6-foot length of patient tubing to the long bent metal tube of the cap assembly.

3.3 **2100 ML Disposable Collection Container** (See Illustration No. 6):

1. Make sure the filter shut-off is in place in the underside of the lid.
2. Place the bottle on a flat surface and snap the lid on firmly.
3. Connect the 72-inch length of clear tubing, enclosed in the tubing package, to the 90° tubing connector in the lid marked "Patient".
4. Connect the 15-inch length of tubing on the lid marked "Vacuum".
5. Place the orange locating ring on the bottle brackets on the stand base and insert the collection container.
6. Connect the other end of the 15-inch tubing to the barbed end of the bacteria filter on the bottom side of the stand body.

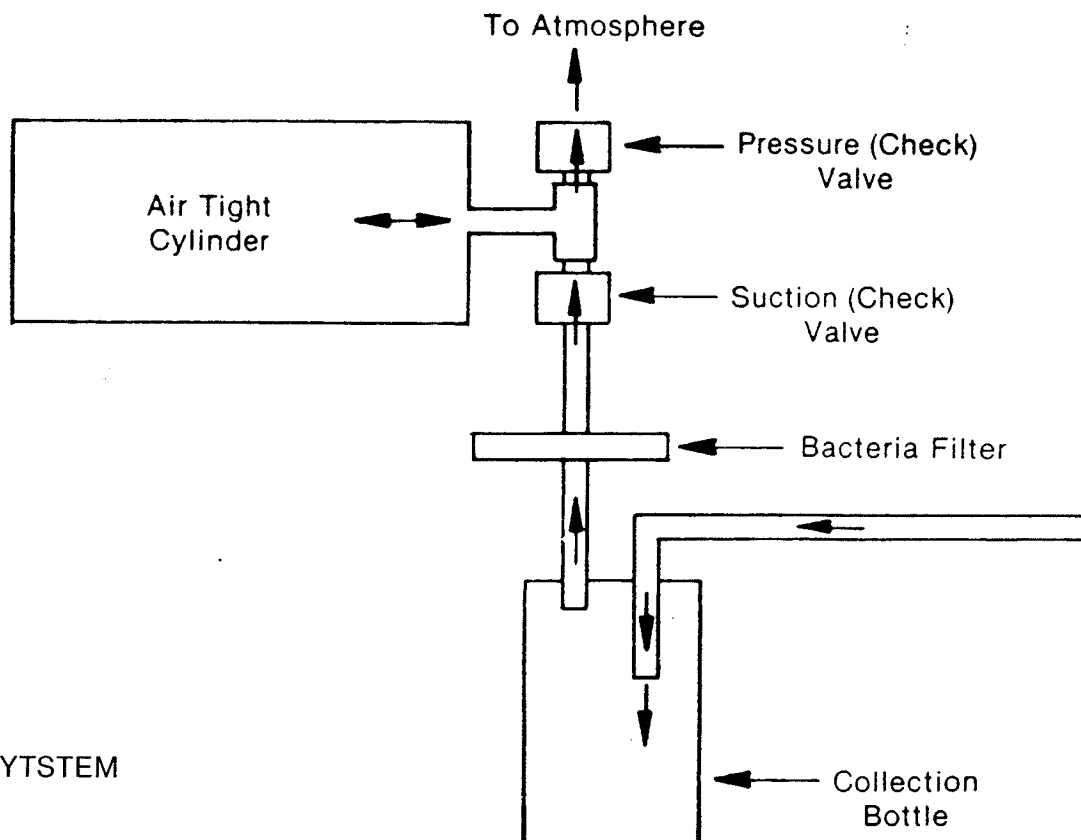
4.0 **OPERATING PROCEDURE** (See Illustration No. 4):

1. The selector switch should be in the center "off" position.
2. Plug the line cord into a grounded electrical outlet, making sure that it is the same voltage as indicated on the unit nameplate.
3. Be sure the collection bottle is assembled properly, see 3.0, and that the length of tubing from the bottle to the bacteria filter is dry.
4. Push the selector switch on the front control panel to the desired vacuum range, up for 120mm Hg and down for 90mm Hg. The red light within the switch will remain lit indicating the unit is on.
5. During operation, the amber "pump cycle" lamp will blink intermittently to indicate the intermittent pumping action. After four or five minutes of operation, the selected vacuum level will be reached.
6. Prior to using your pump on a patient, insure the vacuum by submerging the end of the patient tube into a container of water. Aspiration of water into the collection bottle should be noticed.
7. The pump is now ready for use.
8. During patient use, the level of the collected contents within the collection bottle should be frequently checked and emptied.

5.0 **OPERATING PRINCIPLE:**

The mild negative pressure of this unit is induced by the expansion and contraction of air within an airtight cylinder. The expansion and contraction of the air in the cylinder is controlled by pressure and suction valves and a solid state timing device to produce a mild suction. Contained within the air tight pump cylinder is a heating element wound with a resistance wire. During the "on" time line voltage is applied to the heating element for a period of 2 to 3.5 seconds (1 to 1.6 seconds for 230 volt units), depending upon the selected vacuum range, controlled by the solid state timer. The resistance wire heats the air within the cylinder and

expanded air is expelled into atmosphere through the pressure (check) valve. The amber pump cycle lamp in the front control panel (See Illustration No. 4) is lit during this time. During the "off" time, voltage to the heating element is interrupted by the solid state timer for a period of 19 to 22 seconds. The pressure valve closes during this period and the remaining air within the cylinder cools and contracts causing a partial vacuum which opens the suction (check) valve. Air from within the collection bottle is drawn into the cylinder to fill the vacuum. During this "off" time, the amber pump cycle lamp in the front control panel remains off and this is when suction actually occurs.



SUCTION SYTSTEM

6.0 MAINTENANCE AND SERVICE:

6.1 Pump:

The pump of this unit has no moving parts and therefore requires no maintenance. In the event flooding of the pump occurs, the element in the pump cylinder and the valves will need replacing. Attempting to continue to run a flooded pump may cause damage to the control circuit.

6.2 Pump Cylinder Replacement:

1. Disconnect the unit from its power source.
2. Remove the stainless steel top cover from the stand by removing the six self tapping screws.
3. Disconnect the valve and manifold assy from the cylinder tubing connector.
4. Remove the power cord ground wire from the chassis ground screw.
5. Remove the cylinder ground wire from the chassis ground screw.
6. Remove the two cylinder mounting screws from the bottom side of the stand body.
7. Unsolder the two cylinder wires at the cylinder cover terminals and remove.
8. The cylinder is now free. Install the new cylinder in reverse order.

Necessary tools: Phillips head screw driver

Screw driver

Soldering iron

3/8" wrench or nut driver

6.2.1 Element Replacement (See Illustration No. 7):

1. Remove pump cylinder as described in 6.2.
2. Remove the six slotted head machine screws fastening the cylinder cover to the cylinder.
3. Tap the edge of the pump cover with a plastic mallet to break it free.
4. Lift the cover off with heating element attached.
5. Remove the two element leads running thru the cover terminals by unsoldering them from the top side of the cover. Pry-up the two small tabs securing the wire to the terminals. The center terminal holes should be clear of solder.
6. Loosen the hex nut locking the element rod to the cover and unscrew the element from the cover.
7. Screw the new element into cover center hole approximately flush with the top surface of the cover. Tighten the element lock nut against cover.
8. Pass the two element leads thru the cover terminals and wind each lead around the small terminal tabs and bend both tabs down to secure the wires. Solder the two leads and solder closed the center terminal holes.
9. Check resistance to make sure of proper contact — 155 to 160 OHMS.
10. Place gasket to the seal surface of the cylinder. Apply a small drop of RTV sealant on top side of the cylinder cover at the center element rod hole to prevent any leaks.
11. Insert the element into the cylinder and place the cover onto the cylinder while aligning screw holes. Replace the six cover mounting screws and tighten. Note — care must be taken when handling the element and cover assembly to prevent damage to the fragile element.
12. Install cylinder as described in pump cylinder replacement — 6.2.

Necessary tools: Flat tip screw driver

Plastic mallet

Soldering iron

5/16" open end wrench

Ohm meter

- 6.3 **Suction and Pressure Valves:** check valves used in this unit are factory sealed, therefore require no maintenance (See Illustration No. 9).

6.3.1 Suction and Pressure Valve Replacement:

1. Disconnect the unit from its power source.
2. Remove the stainless steel top cover from the stand by removing the six self tapping screws.
3. Disconnect the white silicone rubber tubing from the pump cylinder tubing connector (See Illustration No. 7).
4. Disconnect the clear PVC tubing from the vacuum and filter connection (See Illustration No. 1) and lift out the valve and manifold assy.
5. Disconnect the clear PVC tubing from the suction valve (See Illustration No. 9).
6. Unscrew the suction and pressure valve from the valve manifold.
7. Lightly lubricate the threads of the new valves with petroleum jelly or equivalent and screw the new valves into the manifold. **NOTE:** Care must be taken when replacing valves to prevent thread damage due to cross threading and overtightening. Valves should only be installed finger tight.
8. Install valve and manifold assy in reverse order.

Necessary tools: Phillips head screw driver

6.4 Bacteria Filter:

The bacteria filter should be replaced after one month of patient use or when a reduction of the air flow rate is noticed. It **must be replaced** in the event fluids have entered in as in collection bottle overflow.

6.4.1 Bacteria Filter Replacement:

1. Unscrew the filter from the vacuum and filter connection (See Illustration No. 1) by hand turning in a counter-clockwise direction.
2. Screw a new filter into the vacuum and filter connection by turning in a clockwise direction finger tight.

NOTE: Care must be taken when replacing the filter to prevent thread damage due to cross threading and overtightening.

6.5 Sterilization of Glass Collection Bottle and Cap Assembly:

1. Remove the cap assembly from the bottle.
2. Dispose of drainage fluids and materials in the bottle.
3. Soak the bottle and cap assembly in a warm detergent solution. Wash all the parts with a nylon bristle brush, rinse thoroughly with water and aerate.
4. Autoclave at 250°F for 15 minutes following the autoclave manufacturer's recommended procedure.

CAUTION: Do not flash autoclave the glass collection bottle. If desired, sterilize the ethylene oxide gas. Follow manufacturer's directions for recommended procedure.

6.6 Control Circuit:

The pump cycles are controlled by a solid state printed circuit board (See Illustration No. 8) (Shts. 1 thru 5 for schematic and parts list) or Timer (See Illustration No. 8A). The timing is factory set and needs no adjustment.

Control Circuit Description (PN-2311) Illustration No. 8

The SF 120A-774 is an On/Off recycling timer which provides a fixed "Off" time of 19 to 22 seconds and a selectable "On" time of either 3.4 or 3.75 seconds or 2.1 to 2.25 seconds. The 2.1 to 2.25 second "On" time can be selected by shorting terminals 4 and 5 together. When power is applied, the "On" time occurs first.

A 9V power supply is supplied by D1, R1, C6, C7, C8, and Z1. C7 and C8 are used for high frequency noise filtering. C6 is the filter capacitor for the ½ wave voltage supplied through D1, and R1. Z1 is the regulating zener diode.

The circuit timing is accomplished by using a MC14541 programmable timer, IC1. This IC has a built in oscillator chip whose timing components are connected between pins 1, 2, and 3. The pin 3 connection used is determined by IC2, a MC4016 bilateral switch. The sections of this switch that are turned on, determine the timing components which are used.

During the "Off" time interval, P3, R7, R11, and C2 comprise the timing components. These are selected by a high signal on pin 6 of IC2.

The longer "On" time timing components are P2, R6, R12, and C3. These are selected by a high signal on pin 12 of IC2. When a shorter "On" time is desired, P2, and R6 are parallel by P1 and R5 by applying a high signal on pin 13 of IC2. Since "On" time is relatively short, resistor R14, a zero OHM resistor, is connected between pin 5 of IC2 and common during test. This prevents the timer from going into the "Off" time until both "On" times have been calibrated. This resistor is then removed.

The output of the timer is connected through a full wave bridge, BR1, and SCR. Q1. The gate drive to the SCR is controlled by R2, Q2, R4, and pin 8 of IC1. When pin 8 is low, transistor Q2 is off, and gate current to Q1 is supplied to Q1 via R2. The timer is then in the "On" state. When pin 8 of IC1 is high, transistor Q2 is "On", shorting the gate current of Q1 to common. This provides the "Off" time.

IC1 is programmed by the connection of pin 12 and 13 either a high or low state. For this circuit the IC is programmed to divide the oscillator frequency by 1024. Since the Q output of IC1 will change state in one half of that number of counts, the number of 512 is used to calculate the oscillator frequency. Therefore, the oscillator frequency.

Therefore, the oscillator frequency measured at pin 1 of IC1 should be 24.98 Hz for the "Off" time, 143.22 Hz for the long "On" time, and 227.56 Hz for the short "On" time.

6.6.1 Control Circuit Specifications:

1. Mode of operation: continuous on-off recycling with power applied to the input terminals. The load is energized during the "on" time period.
2. Input Voltage: 120 Volts \pm 15%, 50/60 Hz
230 Volts \pm 15%, 50/60 Hz
3. Time Delays:

		AT 120 MM SETTING	AT 90 MM SETTING
115 Volt	ON TIME	3.4 to 3.75 sec.	2.1 to 2.25 sec.
	OFF TIME	19 to 22 sec.	19 to 22 sec.
230 Volt	ON TIME	1.65 sec. to 1.82 sec.	1.1 to 1.2 sec.
	OFF TIME	19 to 22 sec.	19 to 22 sec.

4. LOAD: Approx. 160 OHMS resistive
NOTE: 230 Volt provides half-wave rectified 230 VAC to the load.

6.6.2 Control Circuit Replacement:

1. Disconnect the unit from its power source.
2. Remove the stainless steel top cover from the stand by removing the six self tapping screws.
3. Disconnect all wires from P.C. board by pulling off the quick connect terminals (Do not pull on wires. Make sure you have a firm hold on the terminal).
4. Remove the two P.C. board mounting screws from the bottom side of the stand body.
5. Install a new board in reverse order.
(See Illustration No. 1 for wiring detail.)
Necessary tools: Phillips head screw driver
Flat tip screw driver
6. **NOTE:** On 10/18/04 the P.C. board was replaced with a encapsulated circuit package. To install the encapsulated circuit package, install one mounting screw into an existing mounting hole in the bottom side of the case, connect all wires to the proper circuit package terminals (See Illustrations No. 2 for wiring detail).

7.0 ILLUSTRATIONS:

- No. 1 — Final Assembly & Wiring Detail w/P.C. BD
- No. 2 — Final Assembly & Wiring Detail w/Timer
- No. 3 — Stand Assembly
- No. 4 — Front Panel Assembly
- No. 5 — 2800 ML Collection Bottle
- No. 6 — 2100 ML Disposable Collection Unit
- No. 7 — Pump Cylinder Assembly
- No. 8 — Control Circuit (P.C. BD)
- No. 8A — Control Circuit (Timer)
- No. 9 — Valve and Manifold Assembly

ITEM NO		QTY	DESCRIPTION	PART NO.
1	1	1	BASE	2739
2	1	1	FLYER BUMPER	2816
3	1	1	COVER SOCKET	2808
4	1	1	BOTTLE BRACKET	2847
5	1	1	TOP RIVET 1/2 IN	2808-2
6	1	1	COVER BRACKET	2872
7	1	1	CORN CLIP	1894
8	1	1	TOP RIVET BRACKET	2808-1
9	1	1	BODY	2870
10	1	1	LANDING	2871
11	1	1	SPACER	2870
12	1	1	NO 3/8-1/4 DIA 1/16 IN	2870
13	1	1	NO 3/8-1/4 DIA 1/16 IN	2870
14	1	1	NO 3/8-1/4 DIA 1/16 IN	2870
15	1	1	NO 3/8-1/4 DIA 1/16 IN	2870
16	1	1	NO 3/8-1/4 DIA 1/16 IN	2870
17	1	1	NO 3/8-1/4 DIA 1/16 IN	2870
18	1	1	NO 3/8-1/4 DIA 1/16 IN	2870
19	1	1	NO 3/8-1/4 DIA 1/16 IN	2870
20	1	1	NO 3/8-1/4 DIA 1/16 IN	2870
21	1	1	NO 3/8-1/4 DIA 1/16 IN	2870

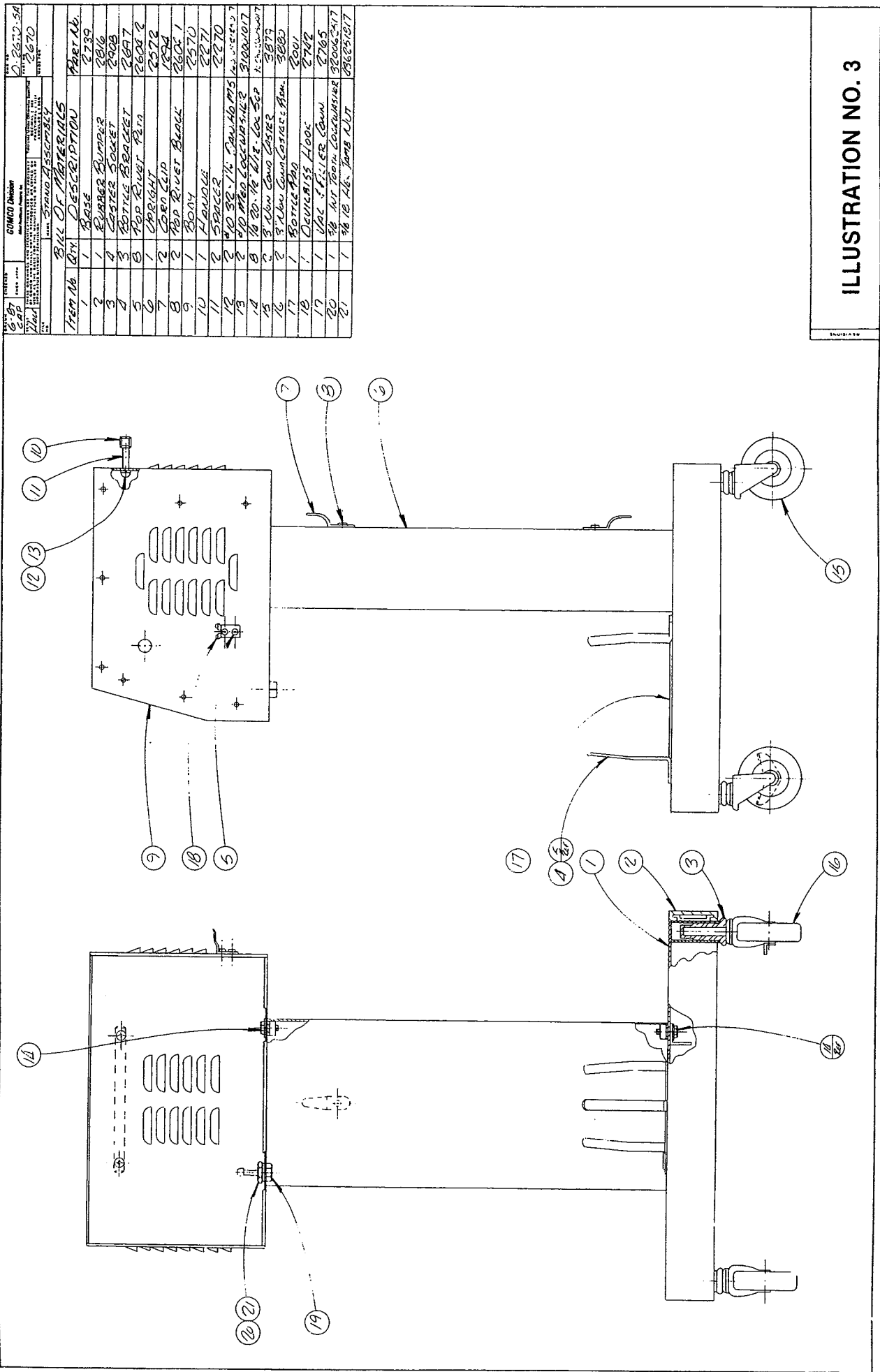


ILLUSTRATION NO. 3

BILL OF MATERIALS		
REF. NO.	DESCRIPTION	P/N
1	SELECTOR SWITCH	2309
2	PILOT LIGHT (CYCLE LAMP)	2310

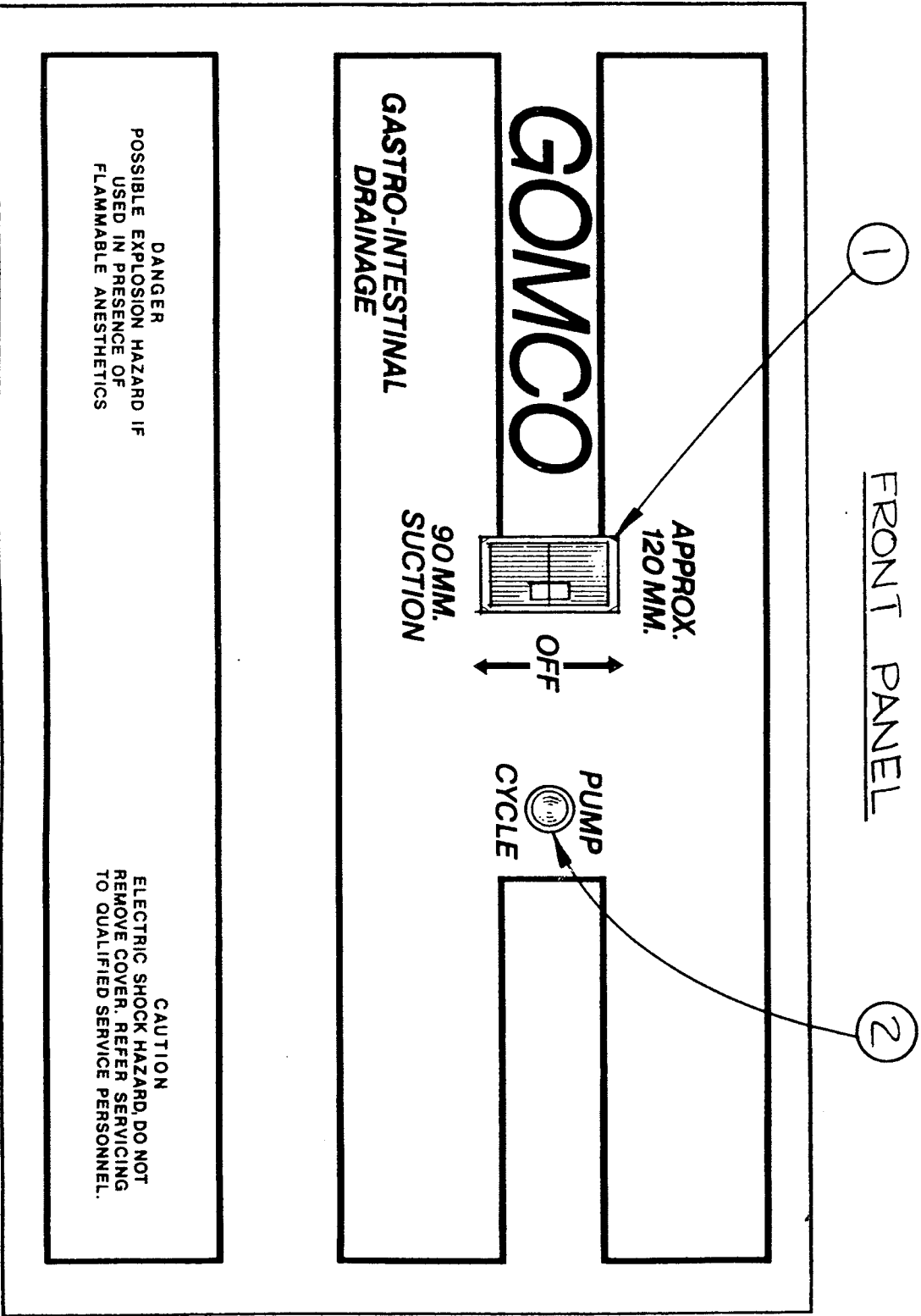
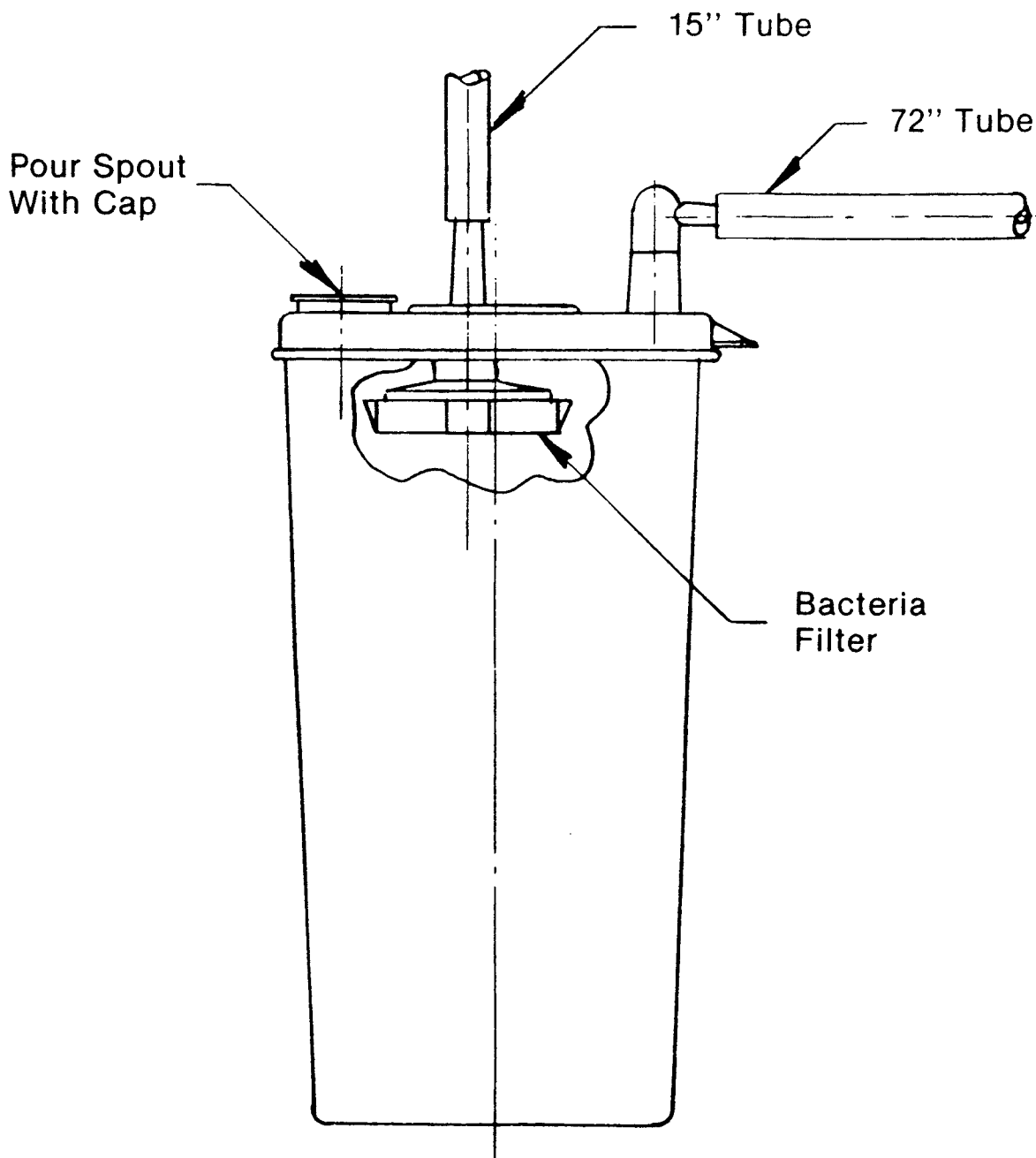


ILLUSTRATION NO. 4

ILLUSTRATION NO. 5

DRAWN 2-87 CAP	CHECKED ENGR. APPR.	GOMCO Division <i>Allied Healthcare Products, Inc.</i>	DWG NO.
SCALE HALF	THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF GOMCO AND SHALL NOT BE REPRODUCED, OR COPIED, OR USED AS THE BASIS FOR THE MANUFACTURE OR SALES OF APPARATUS WITHOUT PERMISSION.		PART NO.
FILE NO.	NAME 2100 Ml. Bottle		MADE FOR
Tolerance Unless Otherwise Specified DECIMAL $\pm .005$ FRACTIONAL $\pm 1/64$ ANGULAR ± 2 DEG			



Case Part Nos.

3712 10/Case

3711 42/Case

ILLUSTRATION NO. 6

REVISIONS

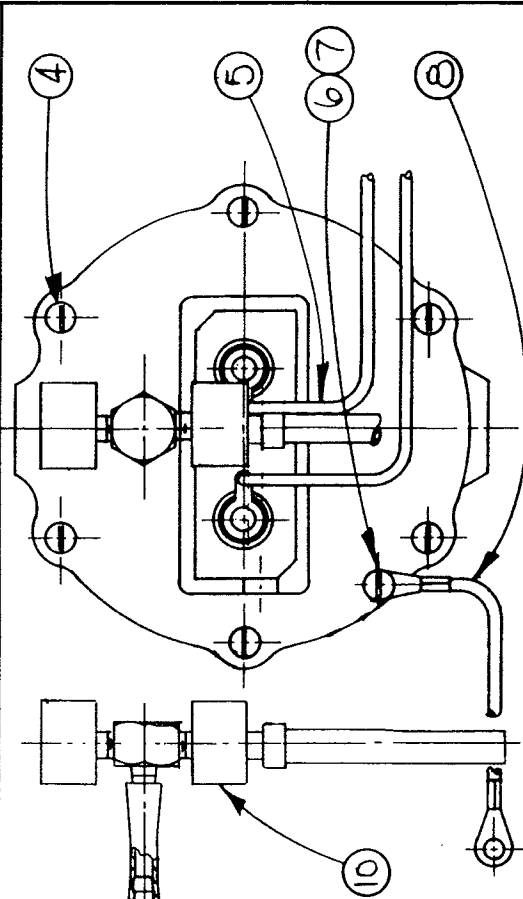
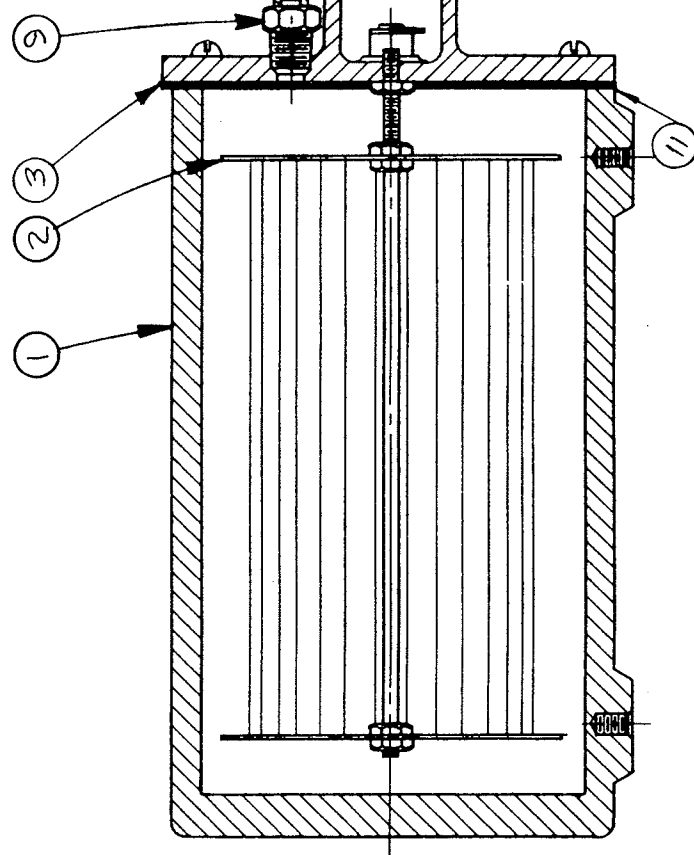
DRAWN 1-83 USD	CHECKED ENGR. APPR.	GOMCO SURGICAL MFG. CORP.		DWG. NO. B-2719-A
SCALE FULL	FILE NO.	PUMP CYLINDER ASSY		PART NO. 2719-A
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NEXT ASSY -

RESISTANCE ACROSS TERMINALS:
155-160 OHMS

BILL OF MATERIALS

REF. NO.	DESCRIPTION	P/N	QTY
1	PUMP CYLINDER	2715	1
2	ELEMENT ASSY	2713-SA	1
3	CYL. COVER ASSY	3449-SA	1
4	RD. HD. M.S. 8-32 x 5/8		6
5	WIRE	2716	2
6	PAN HD. S.T. SCREW 6-32 x 1/4		1
7	LOCKWASHER #6		1
8	GROUND WIRE ASSY	2718-SA	1



11	GASKET	3731	1
10	VALVE & MANIFOLD ASSY.	2725-SA	1
9	TUBING CONNECTOR	2708	1
REF. NO.	DESCRIPTION	P/N	QTY
BILL OF MATERIALS CONT'D			

ILLUSTRATION NO. 7

REVISIONS

PART NO: 2311-2312

REVISIONS

APP. BY

APPROVED FOR
PRODUCTION

SPECIFICATIONS

1. MODE OF OPERATION: CONTINUOUS ON-OFF RECTIFYING, WITH POWER APPLIED TO THE INPUT TERMINALS. THE LOAD IS ENERGIZED DURING THE ON TIME PERIOD.

2. INPUT VOLTAGE

2.1 SF120A-774 : 120 VOLTS AC, $\pm 5\%$, 50/60 HZ
2.2 SF230A-774 : 230 VOLTS AC, $\pm 5\%$, 50/60 HZ

3. TIME DELAYS

3.1 OFF TIME DELAYS : SF120A-774 : 19 TO 22 SECONDS
SF230A-774 : 19 TO 22 SECONDS
3.2 ON TIME DELAYS :

	HIGH	LOW
SF120A-774	3.4 TO 3.75 SEC.	2.1 TO 2.25 SEC
SF230A-774	1.65 SEC. $\pm 10\%$ 0	1.15 SEC. $\pm 10\%$ 0

4. LOAD : APPROX. 160 OHMS RESISTIVE

NOTE : SF230A-774 PROVIDES HALF-WAVE RECTIFIED 230 VAC TO THE LOAD

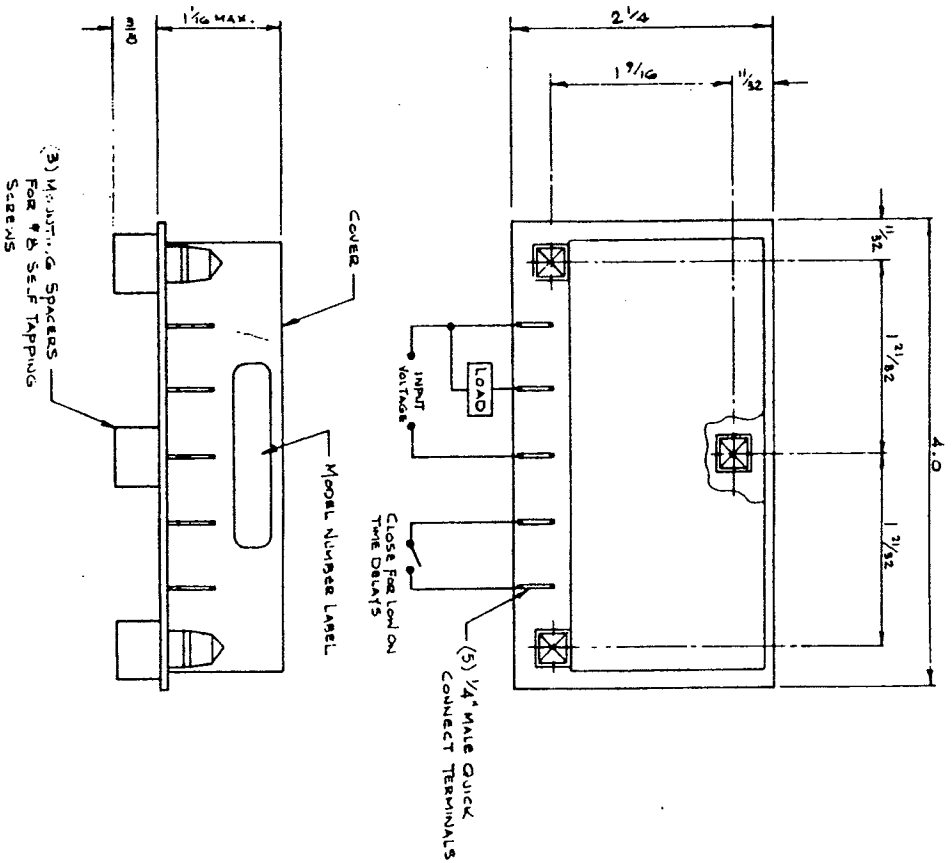
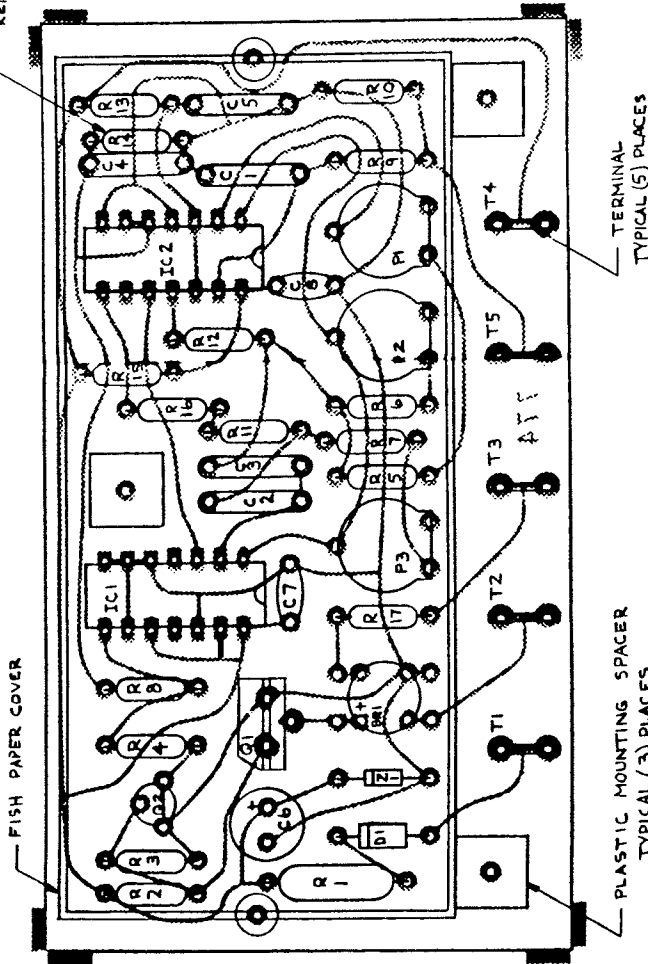


ILLUSTRATION NO. 8 SHEET NO. 1

DWN. BY: CFS	DATE: 9-16-80	DIMENSIONS: IN - MM 1/100 IN. = 25.40 MM.	TITLE: SOLID STATE TIMER
CHK. BY:	DATE:	FRACTIONS $\pm \frac{1}{16}$ - .4	PART NO: 2311-2312
APP. BY: 644	DATE: 12-10-80	2 PLACE DEC. $\pm .01$ - .25	DWG. 1 OF 1
SCALE: FULL	DO NOT SCALE DWG.	3 PLACE DEC. $\pm .005$ - .13	B 462
		ANGLES $\pm 1^\circ$	

PART NO:	
REVISIONS	APP. BY

R14 FOR CALIBRATION,
REMOVE BEFORE SHIPPING



NOTE: R1, R15, R16, R17 ARE 0.1% RESISTORS
AND DO NOT APPEAR ON CIRCUIT
DIAGRAM

APPROVED FOR
PRODUCTION

115 VOLT

DWG. 1 OF 1		B		10	
TITLE: COMPONENT LAYOUT					
PART NO:					
DWG. 1 OF 1					
B					
10					
TOLERANCES					
FRACTIONS $\pm \frac{1}{100}$					
2 PLACE DEC. $\pm .01$					
3 PLACE DEC. $\pm .005$					
ANGLES $\pm 1^\circ$					
DWN BY: RTF		DATE: 9-25-80			
CHK BY: GJA		DATE: 9-26-80			
APP BY: CFS		DATE: 12-10-80			
SCALE: 2X		DO NOT SCALE DWG.			

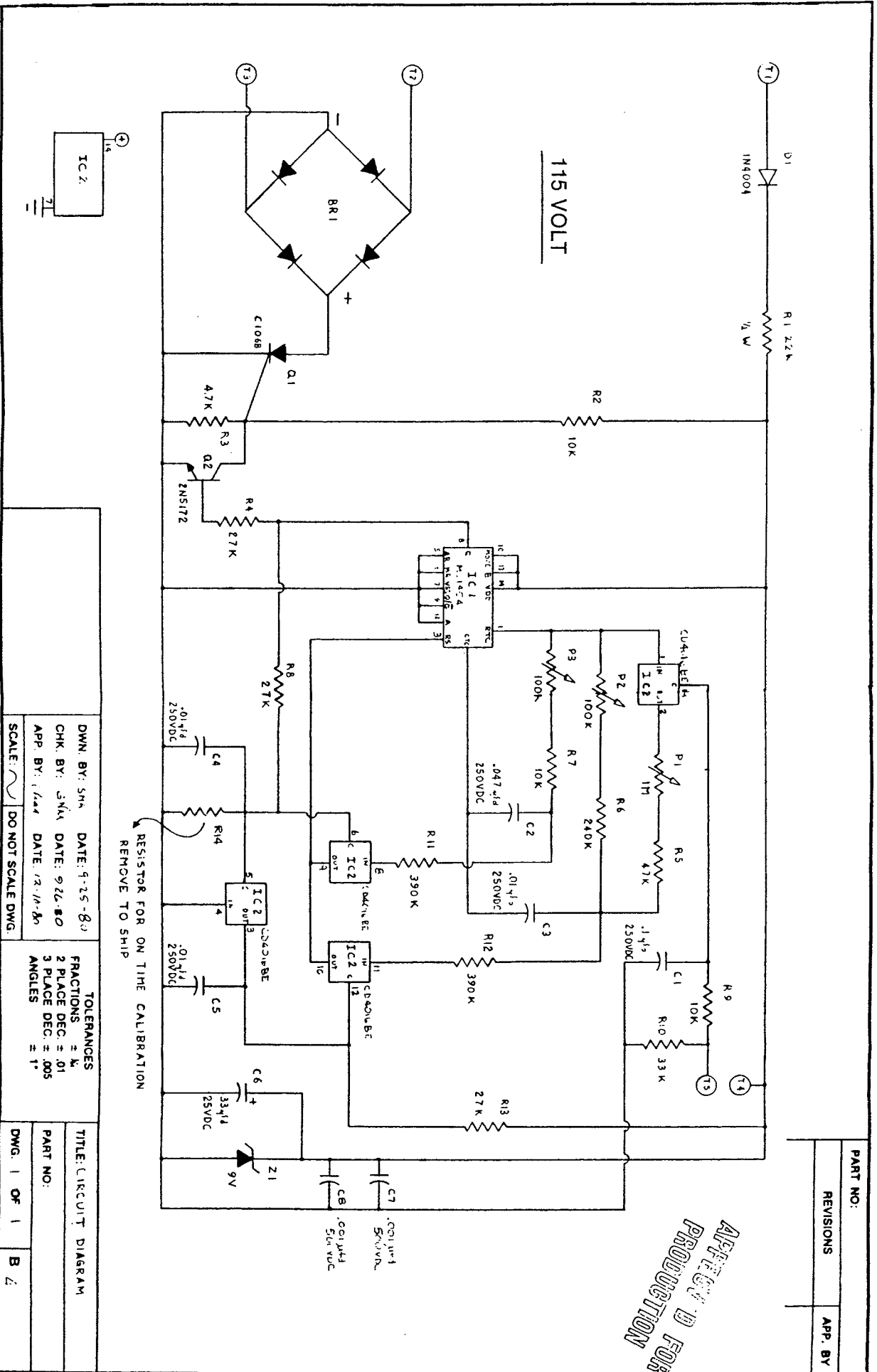


ILLUSTRATION NO. 8 SHEET NO. 3

PART NO:

REVISIONS

APP. BY

RESISTOR FOR ON TIME CALIBRATION
REMOVE FOR SHIP

DWN. BY: SMH DATE: 9-15-80
CHK. BY: JNM DATE: 9-26-80
APP. BY: JNM DATE: 12-10-80

TOLERANCES
FRACTIONS: $\pm .01$
2 PLACE DEC: $\pm .01$
3 PLACE DEC: $\pm .005$
ANGLES: $\pm 1^\circ$

TITLE: CIRCUIT DIAGRAM
PART NO:
DWG. 1 OF 1 B 2

BILL OF MATERIALS

REF. NO.	QTY.	DESCRIPTION
BR1	1	BRIDGE WO4MA
C1	1	CAPACITOR .1ufd 250 VDC
C2	1	CAPACITOR .1ufd 250 VDC
C3	1	CAPACITOR .01ufd 250 VDC
C4	1	CAPACITOR .01ufd 250 VDC
C5	1	CAPACITOR .01ufd 250 VDC
C6	1	CAPACITOR 33ufd 25 VDC MSR
C7, C8	2	CAPACITOR .001ufd 500 VDC
D1	1	RECTIFIER DIODE 1N4004
IC1	1	INTEGRATED CIRCUIT MC 14541 B
IC2	1	INTEGRATED CIRCUIT MC 14016 B
P1	1	TRIMPOT 1 MEG. OHM
P2	1	TRIMPOT 100K OHM
P3	1	TRIMPOT 100K OHM
Q1	1	SCR C 106 D
Q2	1	TRANSISTOR 2N5172
R1	1	RESISTOR 22K OHM 1/2 WATT
R2	1	RESISTOR 10K OHM 1/4 WATT
R3	1	RESISTOR 4.7K OHM 1/4 WATT
R4	1	RESISTOR 27K OHM 1/4 WATT
R5	1	RESISTOR 47K OHM 1/4 WATT
R6	1	RESISTOR 270K OHM 1/4 WATT
R7	1	RESISTOR 120K OHM 1/4 WATT
R8	1	RESISTOR 27K OHM 1/4 WATT
R9	1	RESISTOR 10K OHM 1/4 WATT

[illegible]

PART NO: SF230A-774	
REVISIONS	APP. BY

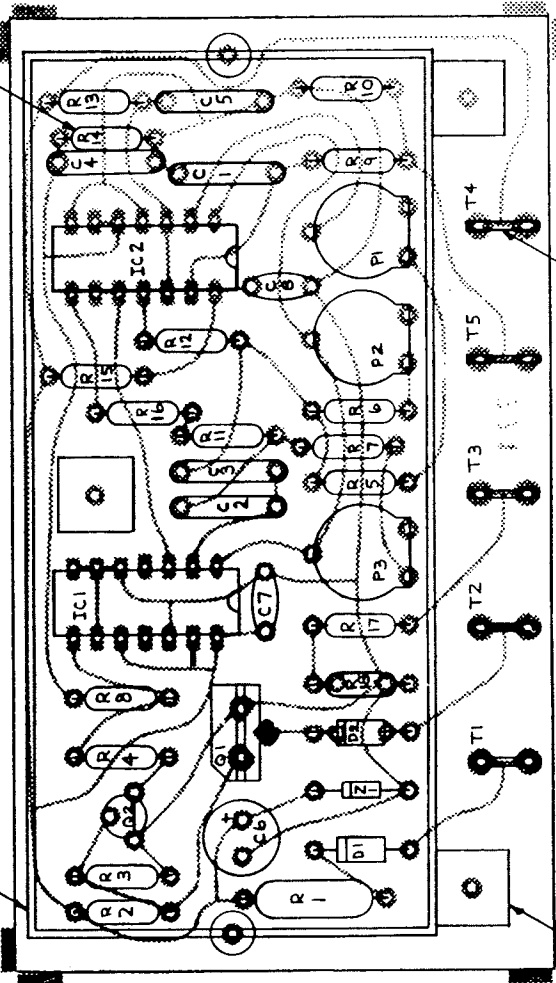
APPROVED FOR
PRODUCTION

NOTE: R1, R5, R16, R17, R18 ARE 0.1% RESISTORS
AND DO NOT APPEAR ON CIRCUIT
DIAGRAM.

230 VOLT

R14 FOR CALIBRATION,
REMOVE BEFORE SHIPPING

FISH PAPER COVER



PLASTIC MOUNTING SPACER
TYPICAL (3) PLACES

TERMINAL
TYPICAL (5) PLACES

TITLE: COMPONENT LAYOUT	
PART NO: SF230A-774	
DWG. 1	OF 1
B 464	

TOLERANCES FRACTIONS ± 1/16 2 PLACE DEC ± .01 3 PLACE DEC ± .005 ANGLES ± 1°	
DWN BY: RTF	DATE: 9-25-80
CHK BY: G/M	DATE: 9-25-80
APP BY: CFS	DATE: 12-10-80
SCALE: 2X	DO NOT SCALE DWG.

ILLUSTRATION NO. 8 SHEET 6

ILLUSTRATION NO. 8 SHEET 7

PART NO: SF 2.30A-774

REVISIONS

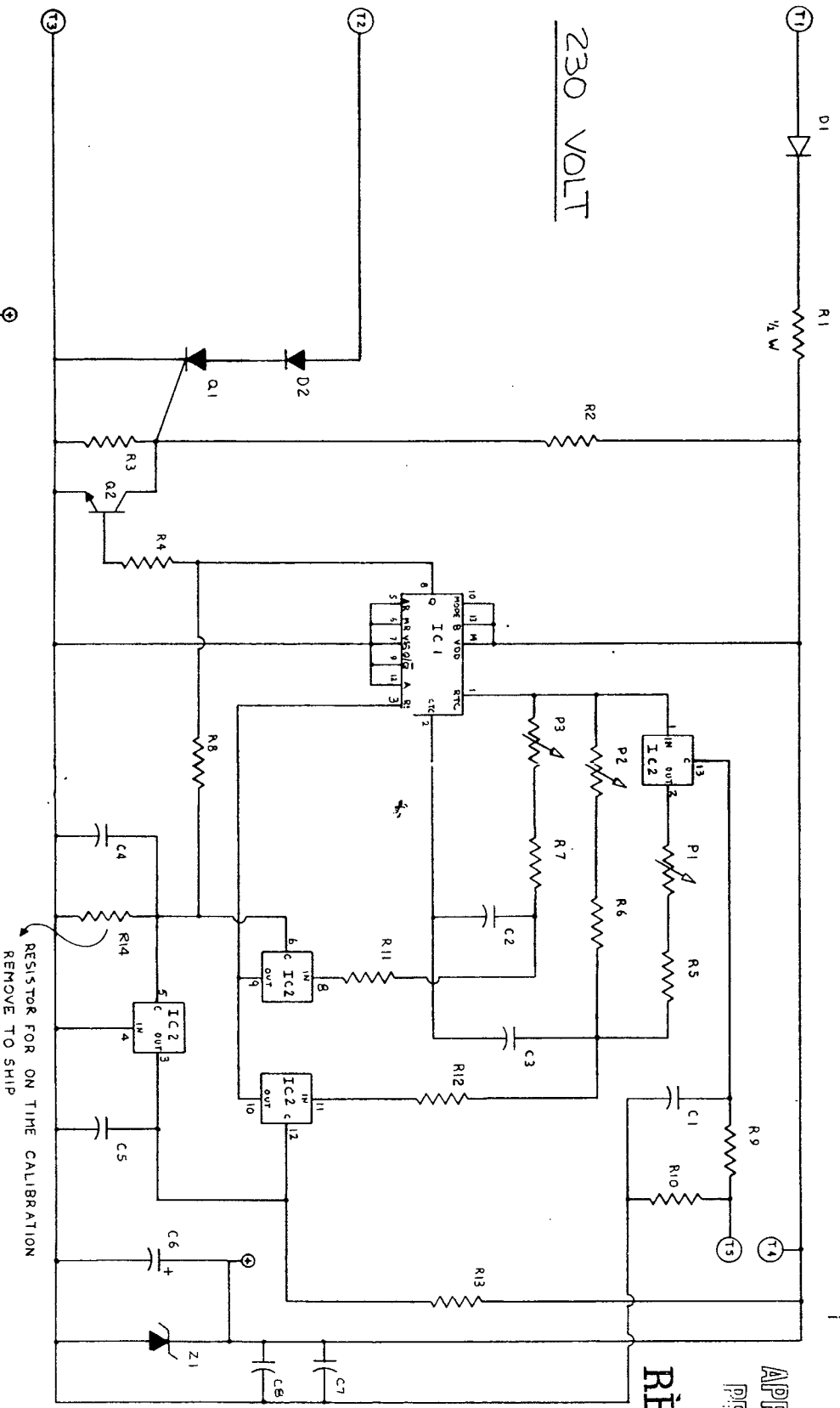
APP. BY

REPORTED VALUES OF COMPONENTS IN THE DRAWING 1-49-74

APPROVED FOR
PRODUCTION

REVISION

230 VOLT



<p>W.N. BY: RTF DATE: 9-24-80</p> <p>CHK. BY: G/M DATE: 9-25-80</p> <p>APP. BY: CFS DATE: 12-10-80</p> <p>SCALE: DO NOT SCALE DWG.</p>	<p>TOLERANCES</p> <p>FRACTIONS = K</p> <p>2 PLACE DEC. = .01</p> <p>3 PLACE DEC. = .005</p> <p>ANGLES = 1°</p>	<p>TITLE: CIRCUIT DIAGRAM</p> <p>PART NO: SF 2.30A-774</p> <p>DWG. 1 OF 1 B 46</p>
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230 VOLT

BILL OF MATERIALS

PART #2312

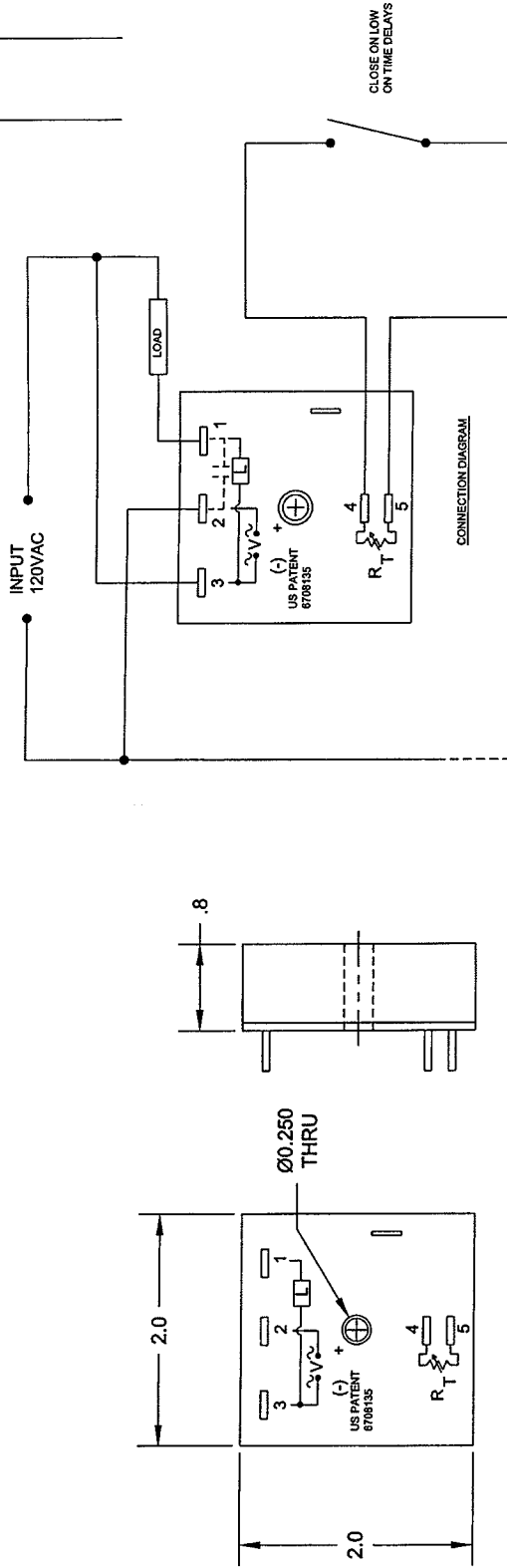
REF. NO.	QTY.	DESCRIPTION
C1	1	CAPACITOR .1ufd 250VDC
C2	1	CAPACITOR .1ufd 250 VDC
C3	1	CAPACITOR .01ufd 250 VDC
C4	1	CAPACITOR .01ufd 250 VDC
C5	1	CAPACITOR .01ufd 250 VDC
C6	1	CAPACITOR 33ufd 250 VDC
C7, C8	2	CAPACITOR .001ufd 500VDC
D1	1	RECTIFIER DIODE 1N4007
D2	1	RECTIFIER DIODE 1N4007
IC1	1	INTEGRATED CIRCUIT MC114541
IC2	1	INTEGRATED CIRCUIT CD4016BE
P1	1	TRIMPOT 1MEG
P2	1	TRIMPOT 100K
P3	1	TRIMPOT 100K
Q1	1	SCR GE8613
Q2	1	TRANSISTOR P1 0181
R1	1	RESISTOR 47K 1/2 WATT
R2	1	RESISTOR 10K 1/4 WATT
R3	1	RESISTOR 4.7K 1/4 WATT
R4	1	RESISTOR 27K 1/4 WATT
R5	1	RESISTOR 47K 1/4 WATT
R6	1	RESISTOR 100K 1/4 WATT
R7	1	RESISTOR 120K 1/4 WATT
R8	1	RESISTOR 27K 1/4 WATT
R9	1	RESISTOR 10K 1/4 WATT
R10	1	RESISTOR 33K 1/4 WATT
R11	1	RESISTOR 390K 1/4 WATT
R12	1	RESISTOR 390K 1/4 WATT
R13	1	RESISTOR 27K 1/4 WATT
R14	1	RESISTOR 0 OHM 1/4 WATT
R15, 16, 17, 18	4	RESISTOR 0 OHM 1/4 WATT

BILL OF MATERIALS

[illegible]

REVISIONS		
REV. LTR.	E.C.O. NUMBER	DATE

2311-1



0.25 INCH MALE QUICK CONNECT TERMINALS (5 PLACES)

PLACE LABEL AS SHOWN
 LABEL IS TO BE MARKED WITH
 THE FOLLOWING INFORMATION:
 CUSTOMER PART NUMBER AND DATE CODE
 TIME DELAYS, VOLTAGE AND
 CURRENT RATING.

SUPPLIER'S NOTE: ANY CHANGE IN MATERIAL OR PROCESS BY THE SUPPLIER WHICH AFFECTS THE QUALITY OR USE OF THE PARTS MUST BE SUBMITTED PROMPTLY FOR APPROVAL TO ALLIED HEALTHCARE PRODUCTS. NO SHIPMENT EMPLOYING SUCH A CHANGE IS TO BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF ALLIED HEALTHCARE PRODUCTS.

THIS PRINT IS THE PROPERTY OF ALLIED HEALTHCARE PRODUCTS. IT IS TO BE USED ONLY FOR THE PRODUCTION, LOANED OR DISPOSED OF EITHER DIRECTLY OR INDIRECTLY, NOR USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT IS SPECIFICALLY DESIGNED. EXCEPT BY WRITTEN PERMISSION, NO PART OF THIS PRINT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS.		UNLESS OTHERWISE SPECIFIED 125 PER ANSI STD. V 846.1 (1983) SYMBOLS PER ANSI STD. Y14.5 BREAK ALL SHARP EDGES .005/.015 FILLETS .015 R. MAX. REMOVE ALL BURRS DO NOT SCALE DRAWING		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: ANGLES ± 2° .XX ± .1 .XX ± .02 .XX ± .005 FRACTIONS ± 1/32"		THIRD ANGLE PROJECTION 	
MATERIAL FINISH		DRAWN M A G 01/05		CHECK DESIGN		APPROVED CATALOG NO.	
DRAW SCALE: 1:1 PLOT SCALE: 1:1		INITIAL RELEASE NO. 9847		SIZE B		DRAWING NO. 2311-1	
SCALE 1:1		REV. NEW 2/27/98		SHEET 1 OF 1		DRAWN ON AHP AUTOCAD SYSTEM (G:\DESIGN\2000\2311-1.DWG)	

Allied *Allied Healthcare Products, Inc.*
 1720 SUMMIT
 ST. LOUIS, MO 63110
 PHONE (314) 771-2400 FAX (314) 771-3465

ENCAPSULATED TIMER-120V

GOMCO

ILLUSTRATION NO. 8A

DRAWN 1-83 HJD	CHECKED ENGR. APPR.	GOMCO Division <i>Allied Healthcare Products, Inc.</i>	DWG. NO. A-2725-SA
SCALE FULL	THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF GOMCO AND SHALL NOT BE REPRODUCED, OR COPIED, OR USED AS THE BASIS FOR THE MANUFACTURE OR SALES OF APPARATUS WITHOUT PERMISSION.		PART NO. 2725-SA
FILE NO.	NAME VALVE & MANIFOLD ASSY		MADE FOR
Tolerance Unless Otherwise Specified DECIMAL $\pm .005$ FRACTIONAL $\pm 1/64$ ANGULAR ± 2 DEG.			

BILL OF MATERIALS

REF. NO.	DESCRIPTION	P/N	QTY.
1	PRESSURE VALVE	3432	1
2	VALVE MANIFOLD	2722	1
3	SILICONE TUBE	2723	1
4	SUCTION VALVE	3433	1
5	PVC TUBE	2724	1

NEXT ASSY- 2719-A

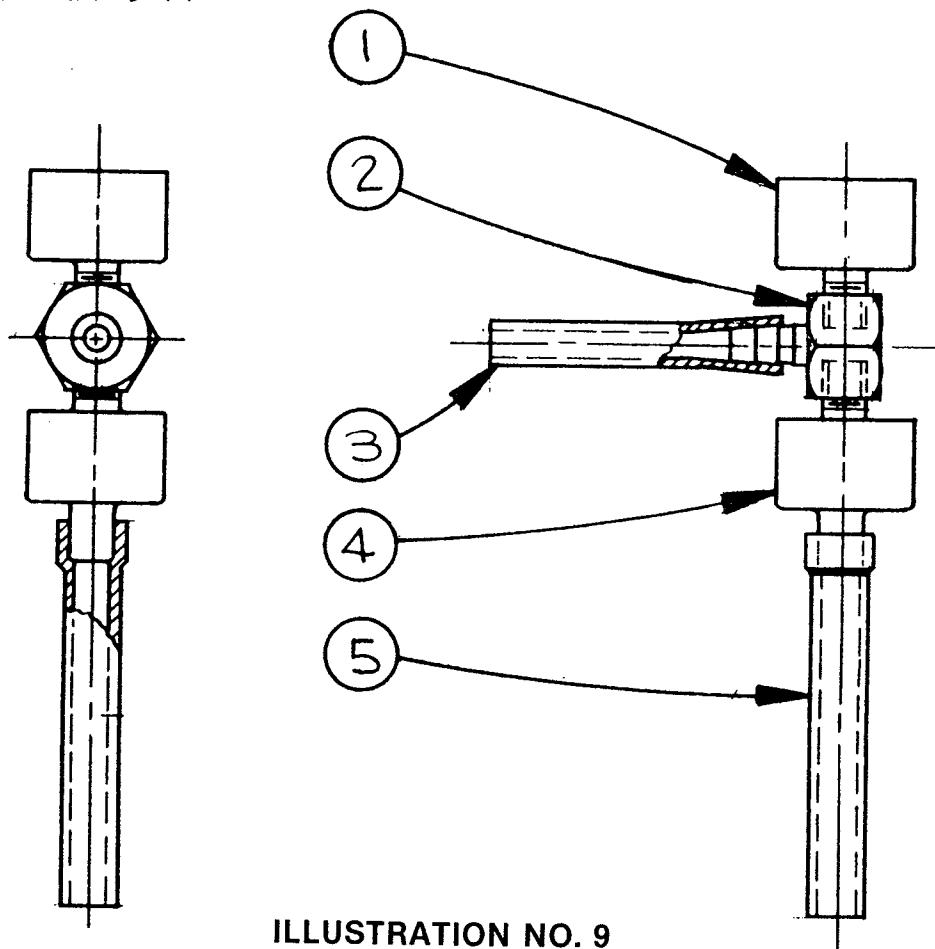


ILLUSTRATION NO. 9

REVISIONS

8.0 TROUBLE SHOOTING:

PROBLEM	PROBABLE CAUSES	REMEDY
NO SUCTION BUT PUMP CYCLING PROPERLY	1. SUCTION OR PRESSURE VALVE BAD	REPLACE, SEE 6.3.1
	2. LOOSE OR OPEN TUBING CONNECTION	CHECK ALL CONNECTIONS
	3. COLLECTION BOTTLE TOP LEAKING	CHECK SET UP — SEE 3.2 AND 3.3
LOW SUCTION	1. SUCTION OR PRESSURE VALVE LEAKING	REPLACE, SEE 6.3.1
	2. LOOSE TUBING CONNECTION	CHECK ALL CONNECTIONS
	3. COLLECTION BOTTLE TOP LEAKING	CHECK SET UP — SEE 3.2 AND 3.3
	4. HEATING ELEMENT SHORTENED OR BURNED	SEE SPECS - 2.4 AND 6.2.1
	5. CONTROL CIRCUIT MALFUNCTIONING	SEE SPECS. — 6.6.1
CYCLE LAMP REMAINS ON	1. CONTROL CIRCUIT BURNED OUT	SEE SPECS. — 6.6.1
CYCLE LAMP DOES NOT COME ON	1. CYCLE LAMP BURNED	REPLACE
	2. CONTROL CIRCUIT BURNED OUT	SEE SPECS — 6.6.1
	3. POWER SOURCE BAD	CHECK POWER OUTLET
	4. SELECTOR SWITCH BAD	REPLACE
	5. WIRING INCORRECT	CHECK WIRING (SEE ILL. NO. 1 OR NO. 2)

REPLACEMENT PARTS LIST MODELS 6000 AND 6002

		Ill. No.
01-90-2670	Stand Assembly	3
Body	01-90-2570	
Handle	01-90-2271	
Middle Spacer	01-90-2270	
Devilbiss Hook	01-90-2742	
Upright Assembly	01-90-2738	
Base Assembly	01-90-2656	
Caster, Locking	01-90-3922	
Caster, Non-Locking	01-90-3921	
01-90-2738	Upright Assembly	3
Upright	01-90-2572	
Cord Clip	01-90-1294	
01-90-2656	Base Assembly	3
Base	01-90-2739	
Rubber Bumper	01-90-2816	
Caster Socket	01-90-2908	
Bottle Pad	01-90-2001	
Bottle Bracket	01-90-2697	
01-90-2744	Front Panel Assembly	4
Front Panel	01-90-2610	
Pilot Lamp	01-90-2310	
Switch	01-90-2309	
01-90-2719	Pump Cylinder Assembly	7
Cylinder	01-90-2715	
Element Assembly	01-90-2713	
Cylinder Cover Assembly	01-90-2709	
Tubing Connector	01-90-2708	
Valve & Manifold Assembly	01-90-2725	
01-90-2725	Valve & Manifold Assembly	9
Pressure Valve	01-90-3432	
Suction Valve	01-90-3433	
Manifold	01-90-2722	
Silicone Tubing (1/8 x 1/8 6 FT.)	01-90-9043	
Clear PVC Tubing (3 1/16 x 5/16 6 FT.)	01-90-9034	
01-90-2771	Collection Bottle Assembly	5
2800 ml Bottle	01-90-3105	
Cap & Float Assembly	01-90-2768	
01-090-2768	Cap and Float Assembly	5
Cap (Includes Gasket)	01-90-2393	
Cap Gasket	01-90-2394	
Float Assembly	01-90-2878	
Float Gasket	01-90-2395	

01-90-3711	2100 ML Disposable Collection Container 42/cs	6
01-90-3712	2100 ML Disposable Collection Container 10/cs	6
01-90-3550	Locating Ring	2
01-90-2573	Stainless Steel Top	1
01-90-2311-1	Timer (115v)	8A
01-90-2312-1	Timer (230v)	8A
01-90-3100	Bacteria Filter Package (3 each)	1
01-90-2737	Power Cord Assembly (115v)	1
01-90-3109	Power Cord Assembly (230v)	1
01-90-2000	Tubing Package. (15" and 6 ft. piece)	Not Shown
01-90-2765	Vacuum and Filter Connection	3

***Allied Healthcare
Products, Inc.***

GOMCO Division

1720 Sublette Avenue
St. Louis, MO 63110
Telephone (314) 771-2400
Toll Free (800) 444-3954

INSTRUMENTS OF CARE