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Part No. 74570
Revised June 1996

Mighty-Mite

Instruction Manual

Model #2035BG (Bottle Gas)

Model #2035DC (DC Motor, Bottle Gas)

Model #2035NG (Natural Gas)





GOLD MEDAL®


FUNFOOD EQUIPMENT & SUPPLIES


Cincinnati, OH 45214-2089 USA


SAFETY PRECAUTIONS

	⚠ CAUTION
	This equipment is designed and sold for commercial use only. This equipment is not to be used by the consumer in home use. Do not allow direct contact of this equipment by the public when used in food service locations. Only personnel trained and experienced in the equipment operation may operate this equipment. Carefully read all installation instructions before operating the equipment.

	⚠ WARNING
	Always wear safety glasses when servicing this equipment.

	⚠ WARNING
	To avoid serious burns, do NOT touch the kettle while it is hot.

	⚠ WARNING
	Any alterations to this equipment will void the warranty and may cause a dangerous situation. NEVER make alterations to the equipment. Make sure all machine switches are in the OFF position before plugging the equipment into a receptacle.

	⚠ DANGER
	Machine must be properly grounded to prevent electrical shock to personnel. Do NOT immerse the kettle, warmer, or any other part of this equipment in water. Always unplug the equipment before cleaning or servicing.

NOTE

The information, specifications and illustrations contained in this manual represent the latest data available at time of publication. Right is reserved to make changes as required at the discretion of Gold Medal Products Company without notice.

This instruction booklet is very thorough and complete. Please take the time to read this entire booklet before attempting to operate the appliance.


Your Mighty-Mite Commercial Popper is the finest 14 Oz. gas popper ever built. The special alloy steel kettle is extra heavy to prevent burnouts or warping, and is made from excellent heat conducting steel. Your Mighty-Mite has an extra heavy duty motor equipped with an extra fan and air tunnel to direct cooling over the motor at all times allowing the motor to run cooler under heavier popping conditions.

UNPACKING AND ASSEMBLY

After unpacking your Mighty-Mite, set it on a counter where you intend to use it and remove all the tape. Make sure clearances around and overhead the appliance comply with the marking on the data plate for the location you have selected. Attach the counterweight assembly as per Drawing D-4957.

INSTALLATION

When installing your new Mighty-Mite Commercial Gas Popper, you must conform with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1-1980.

	⚠ DANGER
	Gas is safe when used properly, but can be very dangerous when used improperly. We suggest that installation be carefully made by only a qualified service person. Gas companies have competent service people to provide safe installation.

When selecting a location for your new Mighty-Mite, pay close attention to the installation clearances. The MINIMUM clearance for the sides is 6 inches; the MINIMUM top, back and frontal clearance is 30 inches. This unit is certified for use on combustible surfaces.

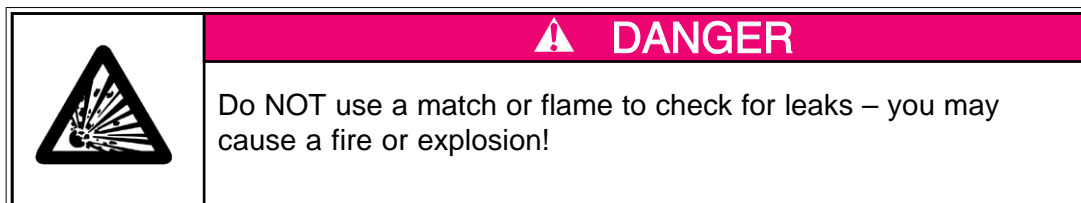
The appliance and its individual shutoff valve must be disconnected from the gas supply piping during pressure testing of that system at pressures greater than 0.5 psig (3.45 kPa).

During any pressure testing of the gas supply piping system at pressures equal to or less than 0.5 psig (3.45 kPa), the appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve.

This unit must be grounded in accordance with local codes; or, in the absence of local codes, with the National Electric Code - ANSI/NFPA No. 70-1981. Secure grounded wire to ground lug provided inside the cabinet wiring junction box.

When wiring your new Mighty-Mite, refer to the wiring diagram located inside of the cabinet and in this Instruction Manual (Drawing No. A-74500 for AC Model; Drawing No. A-74511 for DC Model).

After installation all gas connections must be checked for leaks with a soap solution. When gas connection is complete, wire the unit to the power source which will carry the current specified on the unit's data plate.



TYPES OF GAS

The nameplate is marked at the factory to indicate the type of gas the appliance uses: either, LP or propane for Liquefied Petroleum Gas, or NAT or NG for Natural Gas. If necessary the unit can be altered to change fuels, but we suggest a qualified service person do the work. Please have your service person refer to the *Maintenance and Repair* section of this manual.

ALTITUDE RANGE


The factory has sized the burner orifices for an elevation up to 2000 feet above sea level. For high altitude operation, please contact Gold Medal Engineering for the proper orifice size.

GAS PRESSURE

We have determined that optimum popping results occur when the gas pressure is adequate. For LP gas, we recommend a pressure setting of 10 inches water column (6 oz. per square inch); and, for Natural Gas, 4 inches water column (2 oz. per square inch). The pressure is measured at the appliance while the main burner is ignited. A pressure regulator is supplied to deliver the optimum pressure for both types of gas when the unit is changed from the original factory specification. Follow the instructions in the *Maintenance and Repair* section. Adequate gas requirements are maintained by properly sized piping. Be sure the piping is properly sized to supply the needed pressure.

LIGHTING AND SHUTDOWN INSTRUCTIONS

1. Turn the handle of the gas safety valve to the "PILOT" position.
2. Push down the red reset button, depress the spark igniter and repeat until the pilot lights. Hold the red reset button for about 30-45 seconds or until the pilot remains burning when the button is released.
3. Turn the main handle to the "ON" position. The main burner should now ignite from the pilot burner.
4. If you want to turn off both the pilot and the main burner, pull lock on safety and turn to the "OFF" position.

	⚠ WARNING
	If pilot is turned out, a five minute shut down period is required before attempting to relight.

AIR ADJUSTMENT ON BURNER

After your main burner has been lit according to the directions above, you might have to make some air adjustment in order to get the best flame. The Air Adjustment Cap should be turned to give more or less air. A blue flame is desired for optimum heat.

TO POP POPCORN


Turn the main burner on and put oil in the kettle. You can let oil heat slightly before adding the popcorn and salt. We recommend 14 ounces of popcorn, 4 ½ ounces of high quality coconut oil, and Flavacol salt to give the best results. A good measure of oil and Flavacol is the secret to top quality popcorn; popcorn that brings you more repeated sales. If you are in a commercial pre-pop operation, this is even more important; good quality pre-pop commands a higher price. To your customer, it is well worth the slight extra price.

Yes, you can put more corn into the kettle, but this will lengthen the popping cycle and your overall production will decrease. You can make smaller batches, if necessary, but always use a corn to oil ration of 3:1. When using a smaller batch you might turn the burner down slightly to prevent it from getting too hot.




IF THE FLAME GOES OUT

A 5 minute shutdown period is required before attempting to relight.

1. Check to see if you are out of gas.
2. Check to see if the thermocouple is in the proper position.

	⚠ WARNING
	At no time during a power failure is there to be an attempt to operate this unit. In the case that a power failure occurs during operation, the gas supply is to be turned OFF until power failure has subsided. Then, and only then, should a relight attempt be made per the <i>Lighting and Shutdown Instructions</i> .

MAINTENANCE INSTRUCTIONS

	<p style="text-align: center;">⚠ CAUTION</p> <p>THE FOLLOWING SECTIONS OF THIS MANUAL ARE INTENDED ONLY FOR QUALIFIED SERVICE PERSONNEL WHO ARE FAMILIAR WITH ELECTRICAL EQUIPMENT. THESE ARE NOT INTENDED FOR THE OPERATOR.</p>
	<p style="text-align: center;">⚠ WARNING</p> <p>Adequate eye protection must be used when servicing this equipment to prevent the possibility of injury.</p>
	<p style="text-align: center;">⚠ DANGER</p> <p>Do NOT immerse the equipment in water. Unplug your machine before servicing.</p>

LUBRICATION REQUIREMENTS

DRIVE MOTOR

This is a sealed bearing type motor and requires no lubrication.

GAS CONVERSION

1. Disconnect the power supply at the fuse box or breaker.
2. Turn off the gas supply.
3. Refer to drawing number D-5019.
4. Place the kettle in the dump position. Remove the retainer screws. Remove the burner (Part No. 74558) to expose the burner orifice hood. Replace the main burner hood with the appropriate part number for the intended type of gas.
 - A. Part # 74629 (#61) for LP gas.
 - B. Part # 74630 (#53) for Natural Gas.
5. Replace the pilot burner orifice with the appropriate part number for the intended type of gas.

Pilot Burner Part No. 74028

 - A. Part No. 74029 (.011 Dia. Holes) for "LP" Gas.
 - B. Part No. 74531 (.018 Dia. Holes) for Natural Gas. ("NAT")

Pilot Burner Part No. 57031

 - A. Part No. 74029 (.011 Dia. Holes) for "LP" Gas.
 - B. Part No. 74030 (.023 Dia. Holes) for Natural Gas. ("NAT")
6. Remove the hex cap on the pressure regulator and position the appropriate end of the red plug down. "LP" for Liquefied Petroleum Gas, and "NAT" for Natural Gas. Replace the hex cap. (Instructions continued next page.)

7. **CAUTION:** Orifice hoods and spuds must be screwed tight when LP gas is used.
8. Turn on gas supply and leak test all connections with a soap solution.
9. Turn on main power.

ORDERING SPARE PARTS

1. Identify the desired part by checking it against the photos, illustrations, and/or the parts list.
2. When ordering, please include part number, part name, and quantity desired.
3. Please include your model name and machine serial number (located on the machine nameplate) with your order.
4. Address all parts orders to:

Jarco Industries

order toll free 800-458-7578

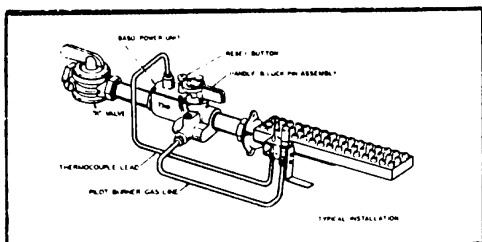
or order online at www.concessionstands.com

BASO VALVE INFORMATION

INSTRUCTIONS

**BASO®
VALVE
SERIES
B843
B843G
C843**

INSTALLATION



The above series Baso valves may be mounted in any convenient position.

When installing the valve on the manifold, be sure that the gas flow through the body is in the proper direction as indicated on the body. Do not exert pressure on any part of the valve except on

wrench flats at inlet and outlet.

The first two or three threads of manifold pipes or connecting nipples and of valve inlet and outlet should be doped with a good non-galling thread compound. Take care to see that excess compound does not work into valve and get onto valve seats. Threads of pipes and nipples must be smooth and free of tears and burrs.

Attach thermocouple to pilot burner firmly and screw terminal end to power unit terminal on valve. Be sure that this electrical connection is tight and clean.

Attach pilot gas line to pilot burner fitting and to opening of pilot boss on valve or to the "B" valve, if one is used, at the pilot gas outlet.

Check for leaks with a soap solution.

OPERATION

1. Close "A" valve and wait at least five minutes for unburned gas to escape from appliance; then reopen "A" valve.
2. **CAUTION: DO NOT ATTEMPT TO FORCE RESET BUTTON OR HANDLE UNDER ANY CIRCUMSTANCES.** Turn handle to "PILOT" position.
3. Push down reset button and light pilot burner, continuing to hold down reset button 30 to 45 seconds or until pilot remains burning when button is released.
4. Turn handle to "ON". Main burner should now

ignite from pilot burner.

5. If valve is used to throttle main burner, throttle between "ON" and "PILOT" positions only.
6. The valve in "OFF" position shuts off both pilot and main burner gas. To turn off, pull lock button, if valve has one, and turn handle to "OFF".
7. On valves where pilot adjustment is provided, adjust pilot flame by removing slotted pipe plug and turning inner screw to the right to decrease, or to the left to increase pilot burner gas. Replace slotted pipe plug tightly to prevent gas leakage.

SERVICE SUGGESTIONS

Field servicing of this control is limited to replacement of the Baso power unit assembly and handle assembly, and to cleaning and greasing the plug valve. After a replacement, check for leaks with a soap solution. See "OPERATION" for relighting pilot burner.

TO REMOVE POWER UNIT ASSEMBLY:

1. Close "A" valve. Disconnect thermocouple lead connector at power unit assembly.
2. Remove screws.
3. Turn handle to "PILOT" position.
4. Push down firmly on reset button with index finger and grip edge of plate with remaining fingers and thumb.
5. While holding down reset button, slide assembly away from handle and lift assembly carefully.
6. Throw away old gasket.

TO INSTALL NEW POWER UNIT ASSEMBLY:

1. See that gasket seat is clean. Allow no dirt particles to fall into valve.
2. Position new gasket on underside of replacement power unit assembly cover plate. Make sure that all holes line up with the screw holes in the plate.
3. While holding down reset button with index finger, place power unit assembly in valve with leather disc pointing toward valve handle. Hold alignment by inserting screw through two holes above valve inlet.
4. Start remaining screws down through cover plate turning down all screws evenly, proceeding diagonally and laterally until screws are driven home with as nearly the same pressure as possible.
5. Open "A" valve.

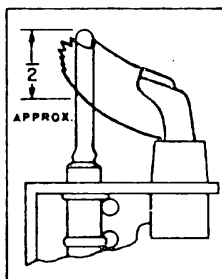
BASO VALVE INFORMATION (continued)

TO CLEAN AND GREASE PLUG VALVE:

1. Close "A" valve. Remove handle set screw and lift off handle.
2. Remove cover plate screws while maintaining downward pressure on cover plate.
3. Lift off cover plate, washer and spring, and pull out plug.
4. Clean plug with a soft cloth and petroleum solvent, taking care not to scratch or mar the plug or seat surface.
5. Grease surface of plug lightly and evenly with Baso Div., #341 gas valve grease or equivalent.
6. Return plug to seat and turn back and forth two or three times and remove from body.
7. Without touching plug surface, clean excess grease out of valve ports of plug and body, and return plug to seat. Reassemble spring, washer, cover plate, cover plate screws, handle, and handle set screw in that order. Open "A" valve.

PILOT SERVICE IN THE EVENT OF PILOT FLAME FAILURE

1. If pilot flame burns yellow, clean pilot orifice and pilot burner to insure a steady, blue flame. The orifice can be cleaned by washing in a solvent such as trichloroethylene and/or blowing out.
2. Flame must surround thermocouple tip for approximately $\frac{1}{2}$ inch.
3. Thermocouple lead connections must be tight, clean, and free of grease. This is an electrical connection.



Check millivoltage output of the thermocouple and milliamp dropout range of the Baso power unit to see that they meet the values given in Table I and Table II. Step-by-step procedures for these checks are included with Baso Test Kit No. 120.

TABLE I. THERMOCOUPLE OUTPUT

Thermocouple Lead Type	Turn Down	MV Range	
		Normal	Not Less Than
80, 88D	4 MV	20-25	15
87D	4 MV	30-35	17

TABLE II. DROPOUT RANGE

Model No.	Set Switch At	MA Range of Power Unit Assy.		Thermocouple Lead Type and Lengths
		Low	High	
B843 C843	300 MA	100	300	No. 80 or No. 88 up to 48" Incl. No. 87 49" to 72" Incl.
X5 Power Units for above	300 MA	60	200	No. 37 73" to 144" Incl.
X6 Power Units for above	300 MA	50	145	No. 37 145" to 240" Incl.
B843G	300 MA	50	150	No. 80 or No. 88 up to 48" Incl. No. 87 49" to 72" Incl.

CAUTION: DO NOT LIFT UP ON HANDLE OF CONTROL WHILE PRESSING DOWN RESET BUTTON.

REPLACEMENT PARTS

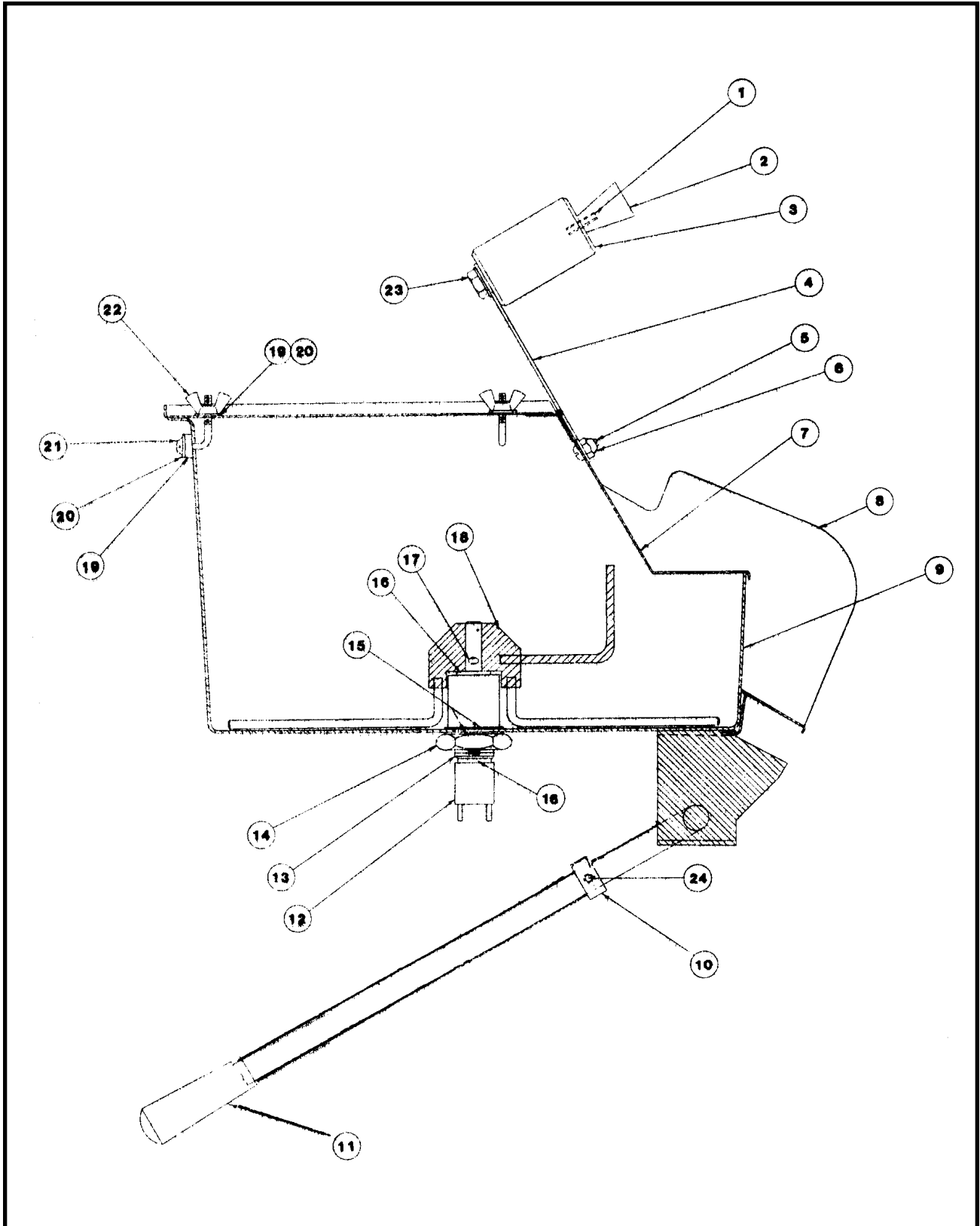
MODEL NUMBER	† BASO POWER UNIT ASSEMBLY	HANDLE ASSEMBLY
B843-3	801-117	R54149-1
B843-43	801-117	R54149-1
B843-100	801-117	R54149-2
C843-3	801-117	R54149-5
B843G-3	801-118	R54149-1
B843-101	801-117	R54149-2

*ANY ATTEMPT TO REPAIR THIS ASSEMBLY
VOIDS THE MANUFACTURER'S GUARANTEE.

† WHEN MODEL NUMBER ENDS IN X5 OR X6 ORDER
REPLACEMENT NUMBER ENDING IN X5 OR X6.

BASO PRODUCTS DIVISION
PENN CONTROLS INC., MILWAUKEE, WI. 53215

KETTLE CROSS SECTION ASSEMBLY



PARTS LIST – KETTLE CROSS SECTION ASSEMBLY

Item No.	Part No.	Description
1-1	74571	Set Screw, #8-32 x $\frac{5}{8}$ "
1-2	47120	Knob, Lid Lift
1-3	82108	Counter Weight, with #8-32 Tap
1-4	74529	Counter Weight Bar, 14 Ounce
1-5	74147	Screw, #8-32 x $\frac{1}{2}$ " Rd. Hd. Ph.
1-6	74146	Hex Nut, #8-32 ESLOK
1-7	74545	Lid Assembly, Welded
1-8	74546	Dump Chute
1-9	74504	Kettle without Agitator and Lid
1-10	74102	Set Collar, Reamed
1-11	41139	Dump Handle, Plastic
1-12	74512	Drive Shaft Assembly
1-13	74513	Kettle Bearing Hub Assembly
1-14	74553	Nut, Hex Jam $\frac{3}{4}$ -16
1-15	74555	Washer, Copper $\frac{3}{4}$ " I.D.
1-16	74554	Thrust Washer, Bronze
1-17	86540	Cotter Pin
1-18	74527	Agitator Assembly
1-19	74088	Seal, Lid Hold Down Screw
1-20	74117	Flat Washer, #8
1-21	74001	Screw, Lid Hold Down
1-22	74574	Wing Nut, #10-24 Nylon Insert
1-23	74520	Hex Head Bolt, $\frac{1}{4}$ -20 x $\frac{3}{4}$ "
1-24	47751	Set Screw, $\frac{1}{4}$ -20 x $\frac{3}{16}$ "

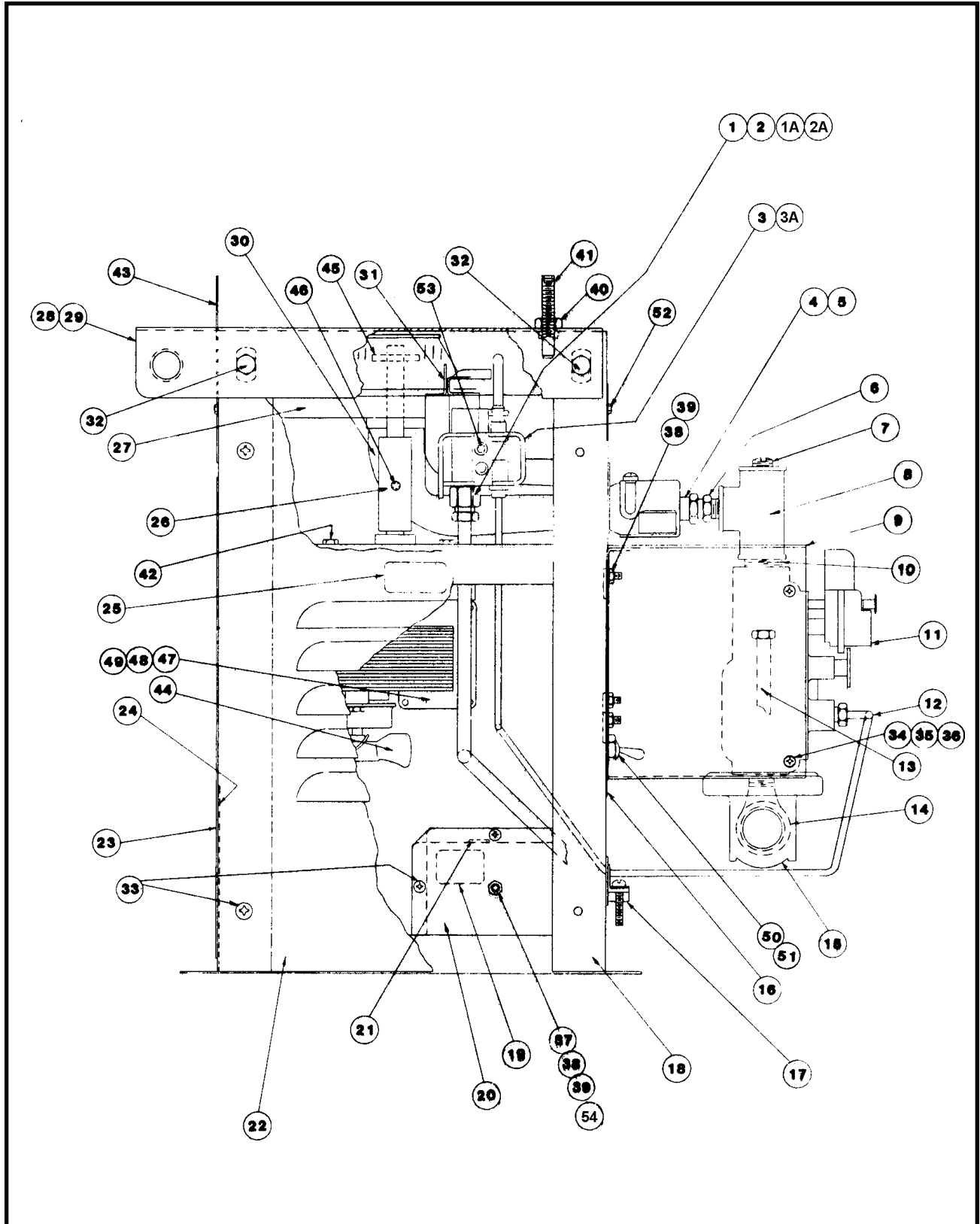
ADDITIONAL PARTS for Mighty-Mite (Items not shown)

47145	A Scoop
47147	Measure, One Cup
47148	Measure, 14 Ounce
47660	Gold Towel
47679	Measure, 14,7cc
74505	Kettle Assembly, Complete
74552	Spring Pin, $\frac{1}{8}$ " x $\frac{3}{4}$ "
47010	Label, Safe Operating Instructions
74510	Shaft, Extension
74631	Label, Do Not Leave Burner
74570	Parts Manual, Mighty-Mite
74575	Tag, Warning LP Gas

ADDITIONAL PARTS for Model #2035DC (Items not shown)

74636	Fuseholder, Mighty-Mite
74637	Fuse, 2.5 Amp
74640	Mighty-Mite Cabinet Assembly

CABINET ASSEMBLY



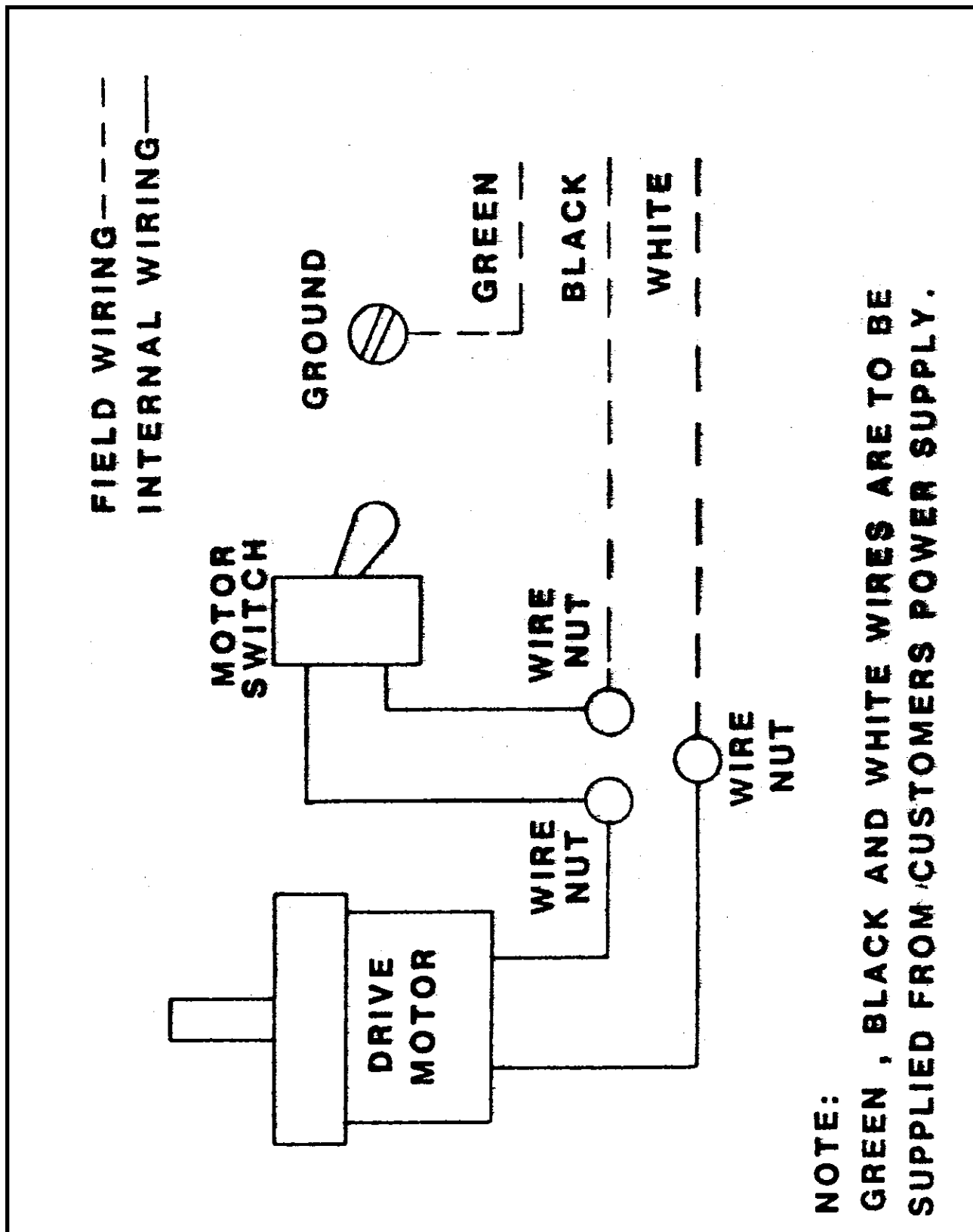
PARTS LIST – CABINET ASSEMBLY

Item No.	Part No.	Description
2-1	74029	Pilot Orifice .011 LP (Used with P/N 74028)
2-1a	74029	Pilot Orifice .011 LP (Used with P/N 57031)
2-2	74531	Pilot Orifice .018 NAT (Used with P/N 74028)
2-2a	74030	Pilot Orifice .023 NAT (Used with P/N 57031)
2-3	74028	Pilot Burner
2-3a	57031	Pilot Burner
2-4	74629	Hood, Orifice #61 LP
2-5	74630	Hood, Orifice #53 NAT
2-6	74658	Fitting, Orifice Brass
2-7	74562	Brass Pipe Plug, 1/8" NPT
2-8	74560	T-fitting
2-9	74536	Mounting Bracket Regulator
2-10	74559	3/8" Close Nipple
2-11	74027	Gas Safety Valve
2-12	57030	Thermocouple
2-13	74561	1/4" Alum. Tube, 18" Long
2-14	74036	3/8" Brass Street Ell
2-15	74115	Pressure Regulator, NG & LP
2-16	74120	Label, Lighting Instruction
2-17	89045	Strain Relief, T & B #3302
2-18	74543	Mighty-Mite Pedestal Weld
2-19	74116	Label, Ground
2-20	74519	Front Cover Junction Box
2-21	47236	Bushing, Snap #SB-500-6
2-22	74538	Front Cover Plate
2-24a	74500	Wiring Diagram, 120 & 230 Volt
2-24b	74511	Wiring Diagram, 12 Volt
2-25	74119	Label, Warning Disc. Power
2-26	74551	Extension Shaft Assembly
2-27	74542	Mount Plate, Burner
2-28	74532	Dump Bar Mounting Bracket, L. Side
2-29	74535	Dump Bar Mounting Bracket, R. Side
2-30	74558	Burner, Mighty-Mite
2-31	74515	Shield, Pilot Burner
2-32	74520	Hex Head Bolt, 1/4-20 x 3/4"
2-33	74141	Screw, #8-32 x 3/8" Rd. Hd. Ph.
2-34	74143	Hex Nut, #10-32
2-35	74145	Screw, #10-32 x 1 1/2" Rd. Hd. Ph.
2-36	42302	Washer, #10 Internal Tooth
2-37	74147	Screw, #8-32 x 1/2" Rd. Hd. Ph.
2-38	74150	Washer, #8 Internal Tooth
2-39	74149	Hex Nut, #8-32
2-40	74133	Hex Nut, 1/4-20
2-41	42153	Set Screw, 1/4-20 x 1 1/2"
2-42	74136	Hex Head Bolt, #10-24 x 3/4"

PARTS LIST – CABINET ASSEMBLY (continued)

Item No.	Part No.	Description
2-43	74530	Shield, Heat
2-45	46566	Spring Pin, $\frac{1}{8}$ " x $\frac{7}{8}$ "
2-46	42070	Set Screw #10-24 x $\frac{1}{2}$ "
2-47	47183	Kettle Motor, 120V 60 Cycle
2-48	47028	Kettle Motor, 230V 50 Cycle
2-49	74576	12 Volt DC Motor
2-50	47202	Switch, Motor 120 & 230 Volt
2-51	47201	Switch, On-Off 12 VDC
2-52	74147	Screw, #8-32 x $\frac{1}{2}$ " Rd. Hd. Ph.
2-53	74153	Screw, #8-32 x 1" Hex Hd.
2-54	74633	Ground Lug

ELECTRICAL SCHEMATIC



NOTE:
GREEN , BLACK AND WHITE WIRES ARE TO BE
SUPPLIED FROM CUSTOMERS POWER SUPPLY .

ELECTRICAL SCHEMATIC – MODEL #2035DC ONLY

