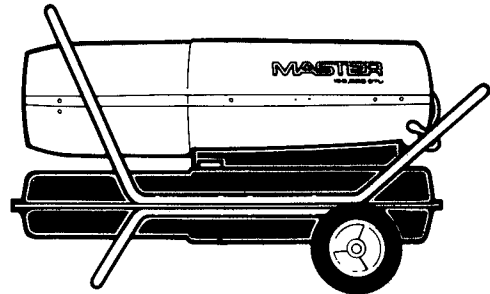
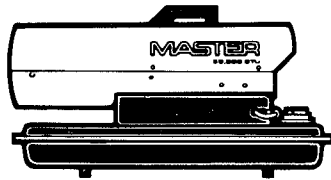
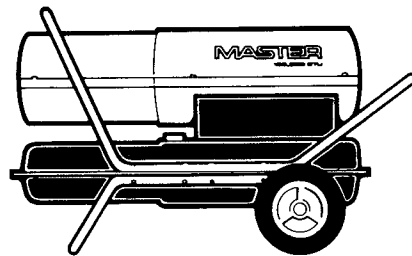


079465-01



OWNER'S OPERATING, MAINTENANCE AND SERVICE MANUAL

MODELS	B50B	B100A	B150A
SPEC.NO.'S	5003G12	5060G04	3199G20



DESA AMCA INTERNATIONAL CONSUMER & AUTOMOTIVE PRODUCTS DIVISION 2701 INDUSTRIAL DRIVE BOWLING GREEN, KY 42101

M29870-146 REV E

# WARNING

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## Safety Requirements

IMPORTANT: READ AND UNDERSTAND OWNER'S MANUAL BEFORE STARTING OR SERVICING!

IMPROPER USE OF THIS HEATER CAN RESULT IN SERIOUS BODILY INJURY DUE TO HAZARDS OF FIRE OR EXPLOSION, CARBON MONOXIDE POISONING, BURN, AND ELECTRICAL SHOCK.

NEVER USE GASOLINE, NAPHTHA, PAINT-THINNERS, ALCOHOL OR OTHER VOLATILE FUELS!

USE ONLY IN AREAS FREE OF FLAMMABLE VAPOR OR HIGH DUST CONTENT. NEVER USE HEATER WHERE GASOLINE, PAINT THINNER OR OTHER HIGHLY FLAMMABLE VAPORS ARE PRESENT.

USE ONLY IN WELL VENTILATED ROOMS. PROVIDE VENTILATION OF AT LEAST 3 SQUARE FEET FOR EACH 100,000 OF BTU RATING.

NEVER ATTACH DUCT WORK TO FRONT OF HEATER.

USE ONLY WITH ELECTRICAL VOLTAGE AND FREQUENCY SPECIFIED ON MODEL PLATE.

USE ONLY A PROPERLY GROUNDED THREE-WIRE EXTENSION CORD. MAKE SURE HOT AIR OUTLET IS AT LEAST 5 FEET FROM COMBUSTIBLE MATERIALS.

FOR BEST RESULTS, USE ONLY KEROSENE OR NO. 1 FUEL OIL. REFER TO OWNER'S MANUAL FOR ALTERNATE FUELS.

FILL FUEL TANK OR MOVE HEATER ONLY WHEN HEATER IS UNPLUGGED. HEATER MUST BE LEVEL WHILE HOT OR OPERATING, OR A FIRE MAY OCCUR. DO NOT MOVE, HANDLE OR SERVICE WHILE HOT OR BURNING.

WHEN USED WITH THERMOSTAT, HEATER MAY START ANYTIME!

KEEP CHILDREN AWAY FROM HEATER AT ALL TIMES--NEVER LEAVE A HEATER PLUGGED IN WITHOUT AN ADULT PRESENT IF CHILDREN OR ANIMALS ARE LIKELY TO BE PRESENT.

NEVER USE HEATER WHILE SLEEPING.

STORE IN A LEVEL POSITION WHEN FILLED OR FUEL LEAKAGE MAY OCCUR. USE ONLY IN ACCORDANCE WITH LOCAL ORDINANCES AND CODES.

Safety requirements and model plate data  
comply with AMERICAN NATIONAL STANDARD  
INSTITUTE, INC. Safety Requirements--  
ANSI A10.10-1970

# UNPACKING AND ASSEMBLY

## Unpacking

1. Remove all protective material which may have been applied to the heater for shipment.
2. Remove the heater from the carton.
3. Check the heater for possible shipping damage, if any damage is found, IMMEDIATELY notify the dealer where you purchased the heater.
4. Follow the assembly instructions.

## Assembly

(Does not apply to model B50B)

Some models are equipped with wheels and handles. These models are shipped with these items removed from the unit and can be found in the shipping carton along with the mounting hardware. The wheels, axle and mounting hardware are in a plastic package. The following items are included in the carton:

- |                                |   |
|--------------------------------|---|
| A) Heater Body                 | F) Two (2) Wheels                         |
| B) One (1) Front Handle        | G) Eight (8) Screws<br>#10-24 x 1-3/4 in. |
| C) One (1) Rear Handle         | H) Eight (8) Nuts #10-24                  |
| D) One (1) Wheel Support Frame | J) Two (2) Cap Nuts                       |
| E) One (1) Axle                |   |

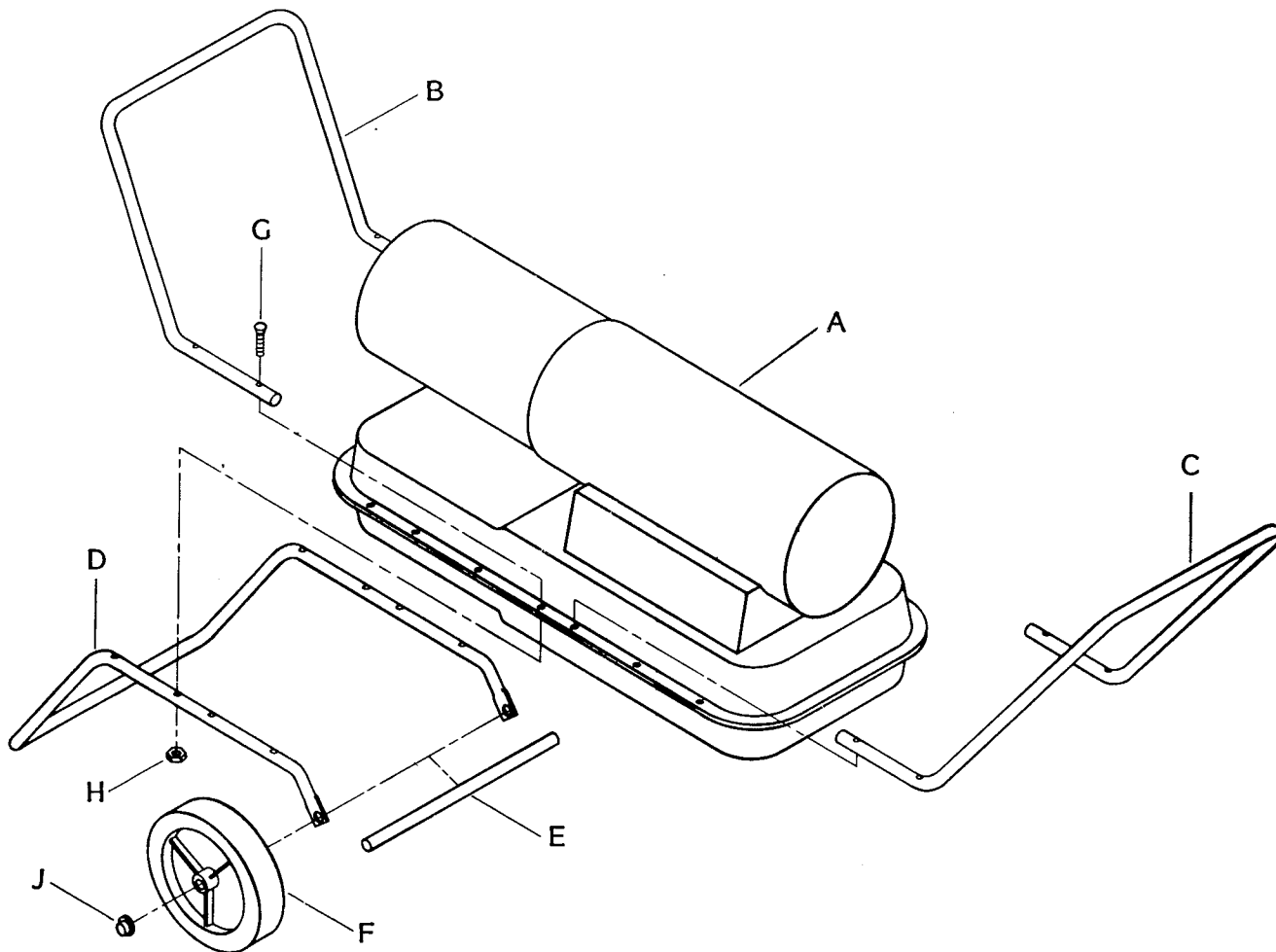
## Assembly Instructions

### TOOLS REQUIRED

Medium Phillips Screwdriver, 3/8" Open or Adjustable Wrench, Hammer.

### DO NOT TIGHTEN NUTS UNTIL STEP 5

1. Slide the axle (E) through the wheel support frame (D). Install the wheels (F) on the axle (E). **IMPORTANT:** The extended hub of the wheel should be positioned toward the wheel support frame. Position the cap nuts (J) on the axle ends and gently tap with a hammer to secure.
2. Position the heater on the wheel support frame assembly with the motor end over the wheels.
3. Use four screws (G) and nuts (H) to attach the front handle (B) to the top of the tank flange. The screws will go through the front handle, the tank flange and the wheel support frame. Install the four nuts (H) finger tight only.
4. Using four screws (G) and nuts (H) install the rear handle (C) as outlined in step 3.
5. Tighten all nuts.
6. Remove tape from the fuel filler neck and install the fuel cap.



# VENTILATION

## CAUTION

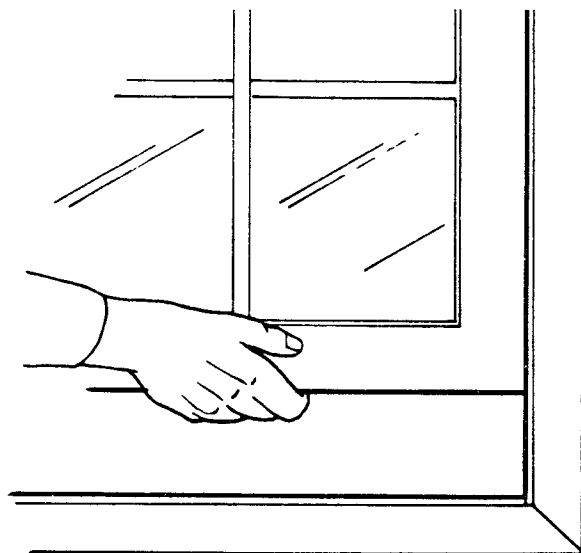
Use only in well ventilated areas--see chart below.

## FRESH AIR OPENING REQUIREMENTS

Note: If more than one heater is being used provide additional fresh air.

HEATER SIZE	SQUARE FOOT OPENING
50,000 BTU	1.50
100,000 BTU	3.00
150,000 BTU	4.50

EXAMPLE: A 50,000 BTU heater will require a two-car garage door, raised two inches or a single garage door raised four inches. A window can also be used for ventilation. The 50,000 BTU heater requires at least 2 thirty inch windows raised 3.5 inches.



# FUELS

1. Use only kerosene or #1 fuel oil.
2. Never use gasoline, naphtha, paint thinners, alcohol or other volatile fuels.
3. Use of #2 fuel oil or #2 diesel oil may result in:
  - a. More frequent clogging of fuel filters and nozzles.
  - b. The formation of carbon on the spark plug.

Do not allow your spark plug to get a carbon buildup on the electrodes.

Carbon deposits on the spark plug can cause interrupted starting and raw fuel emission from the heater.

## FUEL SOURCE

FUELS CAN BE PURCHASED AT YOUR LOCAL GASOLINE SERVICE STATION OR LOOK IN THE TELEPHONE DIRECTORY UNDER "KEROSENE" TO FIND ANOTHER SOURCE.

# SPECIFICATIONS

MODEL	B50B	B100A	B150A
Output Rating (BTU Per Hour)	50,000	100,000	150,000
Fuel	Use Only Kerosene or #1 Fuel Oil		
Fuel Tank Capacity, U. S. Gallons	3.25	9.00	13.50
Fuel Consumption, Approx. U. S. Gal. Per Hr.	0.36	0.74	1.10
Electric Requirements	120 Volt 60 Hz	120 Volt 60 Hz	120 Volt 60 Hz
.Amperage (During Normal Run)	2.75	5.50	5.00
.Starting Amperage	4.00	10.00	10.00
Motor RPM	1730	3450	3450
Air Output (CFM)	145	273	360
Air Pump Pressure	3.60	4.00	5.00
Shipping Weight (Approx. Lbs.)	38.00	64.00	94.00
Heater Weight Without Fuel	34.00	55.00	77.00

# OPERATION

## THEORY OF OPERATION

There are four basic systems within the heater. The fuel system, the air system, the ignition system, and the flame-out control system.

An air pump on one end of the motor shaft forces air through the air tube and out of the burner nozzle. The moving air creates a pressure differential in the burner head causing fuel to be drawn from the tank. The fuel and air mix is sprayed into the combustion chamber in a fine mist.

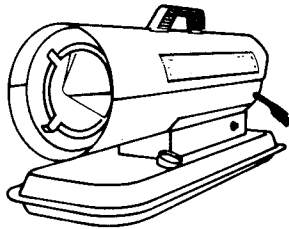
Additional air is supplied to the combustion chamber by a fan on the opposite end of the motor shaft. Ports around the burner head allow a portion of the air being moved by the fan to enter the combustion chamber to support combustion.

The remaining air is directed around and over the combustion chamber. This air mixes with the heated air from the combustion chamber and is ejected as a jet of clean, heated air.

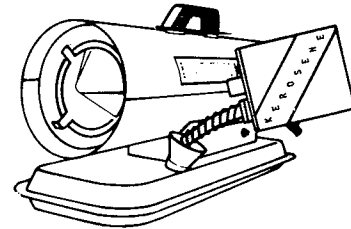
The ignition system consists of a transformer and a spark plug. The transformer creates a spark between the electrodes of the spark plug and ignites the fuel and air mixture within the combustion chamber. The spark plug fires constantly during operation.

A light sensitive (photo) cell detects the flame. If the flame should fail, the photocell causes the safety control to automatically trip the circuit breaker, thereby causing the heater to shut down.

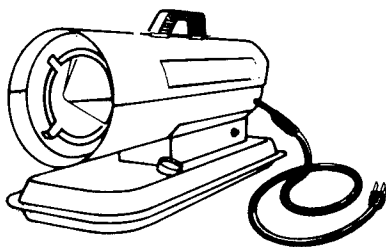
1. Check reset button to be sure it is pushed in.



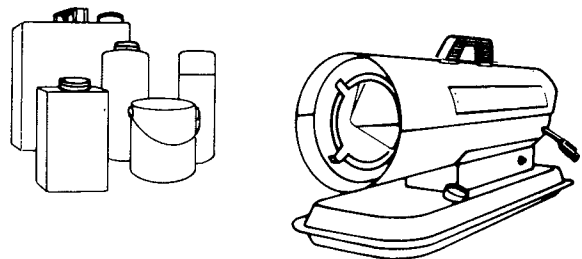
2. Fill fuel tank with correct fuel. See charts on fuel.



3. The heater has a short power cord; use an extension cord of at least six (6) feet long.



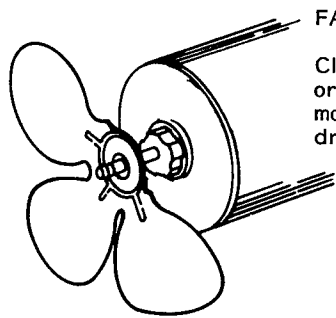
4. Make sure the front, Hot Air outlet, is at least five (5) feet from any flammable materials.



5. Heater will start when plugged in. Outlet must be grounded.

# MAINTENANCE

**WARNING:** Always unplug heater before servicing.

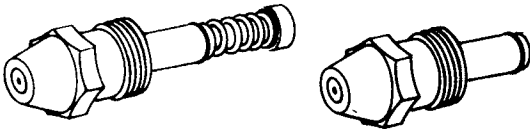


FAN BLADES

Clean after every 500 hours of operation or as necessary. Use a soft cloth moistened with kerosene or solvent, then dry thoroughly.

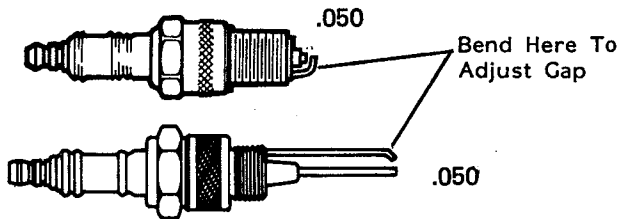
## NOZZLE

Clean at least once during heater season. Remove burner head. Use a socket wrench to remove nozzle. Blow through the face (outlet) end **ONLY**. **IMPORTANT:** Protect nozzle face from damage while out of the heater.



## SPARK PLUG

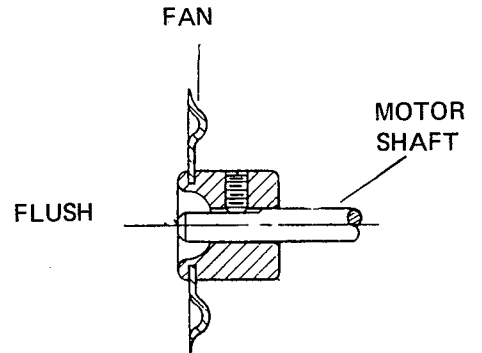
After every 300 hours of operation, clean and adjust spark plug electrodes. Adjust gap or replace spark plug as required.



## CAUTION

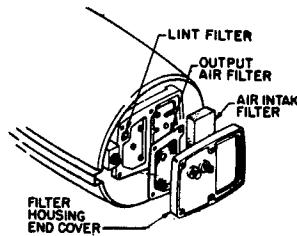
When removing the motor from the heater, always remove the fan first. The weight of the motor resting on the fan could damage the fan pitch.

When replacing the fan on the motor shaft, place the fan hub flush with the motor shaft as shown.

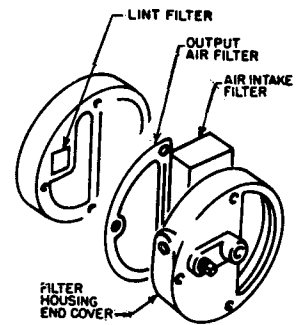


## AIR FILTERS

Check frequently for dust film. To clean, remove the filter from housing, wash with mild detergent and dry thoroughly before replacing. Replace once each season. **IMPORTANT:** Do Not oil the filter elements.



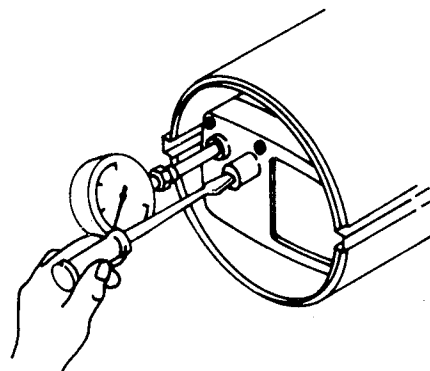
B100A & B150A



B50B

## ADJUSTMENT OF PUMP PRESSURE

- Remove the plug from the air filter housing and install the pressure gauge (HA1180).
- To adjust the pump pressure, turn the pressure relief valve in to raise, out to lower.
- After adjustment, remove the gauge and replace the plug.



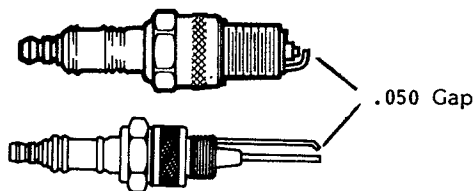
# STORAGE

**WARNING:** Always unplug heater before servicing.

Store heater in a dry location, free of corrosive fumes and dust.

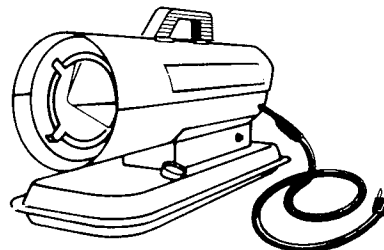
## SPARK PLUG

Clean and adjust spark plug, or replace if necessary.



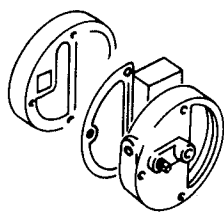
## FUEL TANK

Flush tank with clean fuel before storing. Drain all fuel from tank.

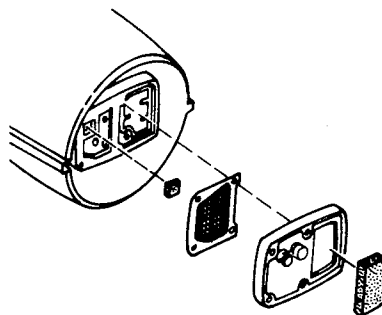


## AIR FILTERS

Remove and clean or replace filters if necessary.



B50B



B100A & B150A

# TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
<p>Motor does not start; thermostat (if used) is set to call for heat.</p>	<p>Electrical Troubles</p>	
	<p>1. No power or low voltage at heater.</p> <p>2. Damaged motor/motor start relay (B150A only).</p> <p>3. Thermostat damaged (if used).</p>	<p>1a. Be sure power is reaching heater; check condition of heater cord. Repair or replace.</p> <p>b. Use extension cord with wires heavy enough to carry the electrical load of the heater.</p> <p>c. Be sure voltage at outlet is same as shown on heater instruction plate.</p> <p>2a. Check motor. Replace damaged motor.</p> <p>b. Check relay. Replace damaged relay.</p> <p>3. Replace. Not a serviceable part.</p>
<p>Heater will not ignite, but motor runs for a short time.</p>	<p>Mechanical Troubles</p>	
	<p>1. Fan obstructed by mechanical damage or dirt.</p>	<p>1a. Check for bent outer shell.</p> <p>b. Check for damaged fan; replace if damaged.</p> <p>c. Check for damaged motor mount; replace if damaged.</p> <p>d. Check for tight pump; replace if damaged.</p>
<p>Fuel System Troubles</p>		
	<p>1. Fuel tank empty, water in fuel, wrong fuel.</p> <p>2. Fuel filter clogged.</p> <p>3. Nozzle plugged or damaged.</p> <p>4. Very low temperature may cause fuel to thicken and not flow.</p> <p>5. Dirty air filters.</p> <p>6. Air leak at fuel filter.</p>	<p>1a. Add fuel to tank.</p> <p>b. Check for water in tank; clean tank and fuel filter if water is found (water in the tank will form globules in the bottom which you can see).</p> <p>c. Add fresh, clean fuel to tank.</p> <p>2. Remove and wash in clean fuel. Blow dry and replace.</p> <p>3a. Clean by blowing compressed air through nozzle from outlet end of nozzle.</p> <p>b. Replace nozzle if cleaning does not solve the problem.</p> <p>4. Use a non toxic anti-icer such as "Heet", "Methanol Alcohol", or "Frostex."</p> <p>5. Be sure air filters are clean.</p> <p>6. Check fuel filter for air leak and for tightness of fit where it is connected to fuel line.</p>



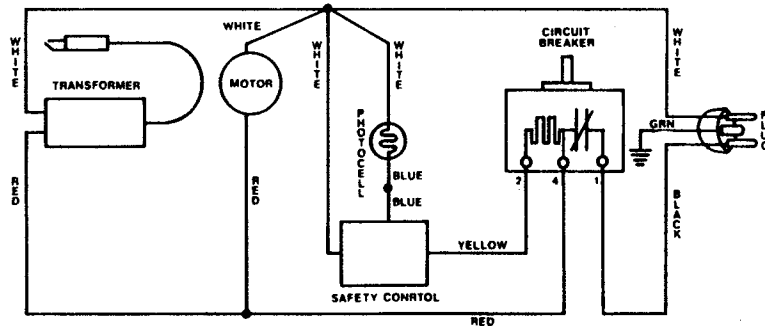
# TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
<p>(Continued) Heater will not ignite, but motor runs for a short time.</p>	<p style="text-align: center;">Ignition Troubles</p> <ol style="list-style-type: none"> <li>1. Spark plug wire disconnected from plug.</li> <li>2. Damaged spark plug (wrong gap, plug wet with fuel or electrodes carboned, or plug damaged).</li> <li>3. Damaged transformer.</li> </ol>	<p style="text-align: center;">CAUTION: Disconnect heater cord!</p> <ol style="list-style-type: none"> <li>1. Check to be sure wire is tight.</li> <li>2a. Gap between electrodes should be .050" or about thickness of a dime. Adjust electrode gap.</li> <li>b. Inspect plug for worn or eroded electrodes.</li> <li>c. Replace a damaged spark plug.</li> </ol> <p style="text-align: center;">CAUTION: High Voltage</p> <ol style="list-style-type: none"> <li>3. Connect heater cord. Disconnect spark plug wire and check transformer for spark; replace if no spark can be obtained.</li> </ol>
<p>Heater burns, but puffs of smoke can be seen; heater will not burn steady; heater burns with odor; heater smokes continuously.</p>	<p style="text-align: center;">Improper Fuel-Air Mixture (Not Enough Fuel)</p> <ol style="list-style-type: none"> <li>1. Heater running out of fuel; water condensation in fuel tank; wrong fuel.</li> <li>2. Dirty air filters causing reduced air flow through nozzle, resulting in low fuel flow.</li> <li>3. Fuel filter loose, dirty or connection loose.</li> <li>4. Dirty nozzle.</li> <li>5. Fan blade.</li> <li>6. Loose air output line connections between filter housing and burner.</li> <li>7. Rubber sleeve on shank of nozzle is leaking (remote possibility).</li> </ol>	<ol style="list-style-type: none"> <li>1a. Shut heater off; check fuel tank. If you can see globules of water in the bottom, drain and flush the tank and filter with clean fuel.</li> <li>b. Add fresh, clean fuel to tank.</li> <li>2. Remove and clean the air filters. Be sure air intake is not blocked.</li> <li>3a. Remove and wash fuel filter in clean fuel.</li> <li>b. Check condition of connection between fuel line and burner.</li> <li>c. Replace with new fuel line.</li> <li>4a. Remove and clean the burner head.</li> <li>b. Blow compressed air through nozzle from outlet end. Never use a drill, wire, or other tool to open a nozzle passage.</li> <li>5. Check for excessive dirt accumulation on fan blade which could be causing motor to slow down.</li> <li>6. Be sure connections are tight.</li> <li>7. If heater puffs intermittently, replace the rubber sleeve (handle parts carefully to prevent damage, assemble them carefully to preserve airtightness).</li> </ol>

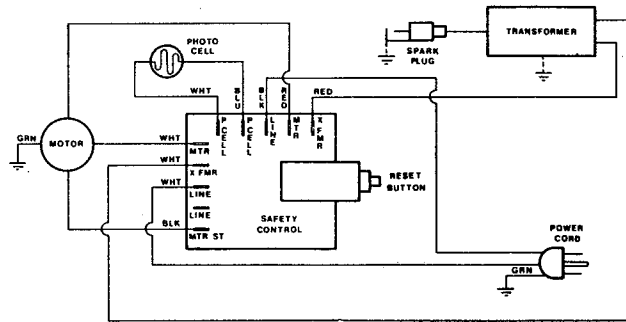
# TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
<p>Flames come out front of heater.</p>	<p style="text-align: center;">Improper Fuel-Air Mixture (Too much fuel, or not enough air for amount of fuel being supplied)</p> <ol style="list-style-type: none"> <li>1. Dirty fan, or air passageway through heater blocked by dirt or trash.</li> <li>2. Fan loose or improperly located on shaft.</li> <li>3. Bent or damaged fan.</li> <li>4. High pump pressure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean the fan. Be sure the air passageway through the heater is clean. Keep the heater clean.</li> <li>2. Check fan; tighten or reposition.</li> <li>3. Replace. Do not attempt repair of fan.</li> <li>4. Check pressure.</li> </ol>
<p>Heater cycles intermittently.</p>	<p style="text-align: center;">Electrical System Troubles</p> <ol style="list-style-type: none"> <li>1. Damaged thermostat (if used).</li> <li>2. Damaged electrical supply or damaged connections.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace a damaged thermostat.</li> <li>2a. Be sure extension cord and heater service cord are in good condition, without intermittent open circuits.</li> <li>b. Check mechanical and electrical soundness of all wiring connections in the heater and service cord.</li> </ol>
<p>Heater ignites, but button of safety control circuit breaker pops out anyway.</p>	<ol style="list-style-type: none"> <li>1. Dirty photocell.</li> <li>2. Damaged photocell.</li> <li>3. Damaged safety control.</li> <li>4. Damaged electrical connections through photocell and safety control.</li> <li>5. Inlet/outlet blocked.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check to see if glass face of cell is so dirty it cannot "see" the flame; clean glass if dirty.</li> <li>2. Replace photocell.</li> <li>3. Replace safety control.</li> <li>4. Be sure all solder joints and wiring connections are secure. Check wiring diagram.</li> <li>5. Remove blockage.</li> </ol>
<p>Safety control circuit breaker fails to trip when a no-flame condition exists.</p>	<ol style="list-style-type: none"> <li>1. Damaged circuit breaker.</li> <li>2. Safety control dirty or damaged.</li> <li>3. Photocell electrical leads shorted.</li> </ol>	<ol style="list-style-type: none"> <li>1a. Replace circuit breaker.</li> <li>b. Replace with a new printed circuit board (B100A only).</li> <li>2a. Replace safety control.</li> <li>b. Replace the printed circuit board (B100A only).</li> <li>3. Check photocell leads for shorted leads. Replace photocell if damaged.</li> </ol>
<p>Button on safety control circuit breaker will not stay in when pressed.</p>	<ol style="list-style-type: none"> <li>1. Resetting is tried too soon after the breaker trips.</li> <li>2. Damaged circuit breaker.</li> </ol>	<ol style="list-style-type: none"> <li>1. Wait 5 minutes and try again.</li> <li>2a. Replace circuit breaker.</li> <li>b. Replace with a printed circuit board (B100A only).</li> </ol>

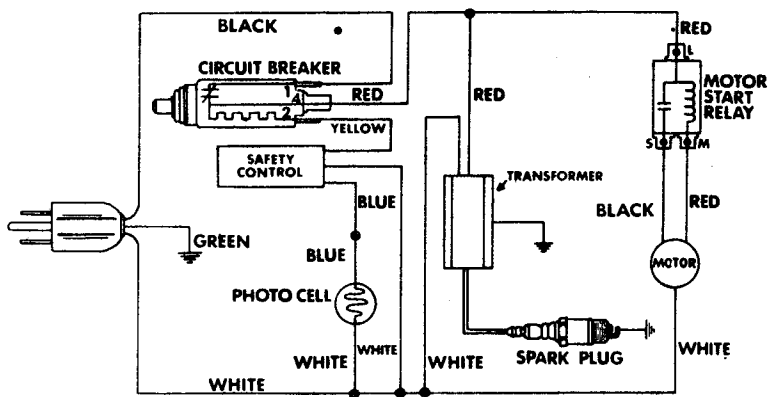
# WIRING DIAGRAMS



B50B



B100A

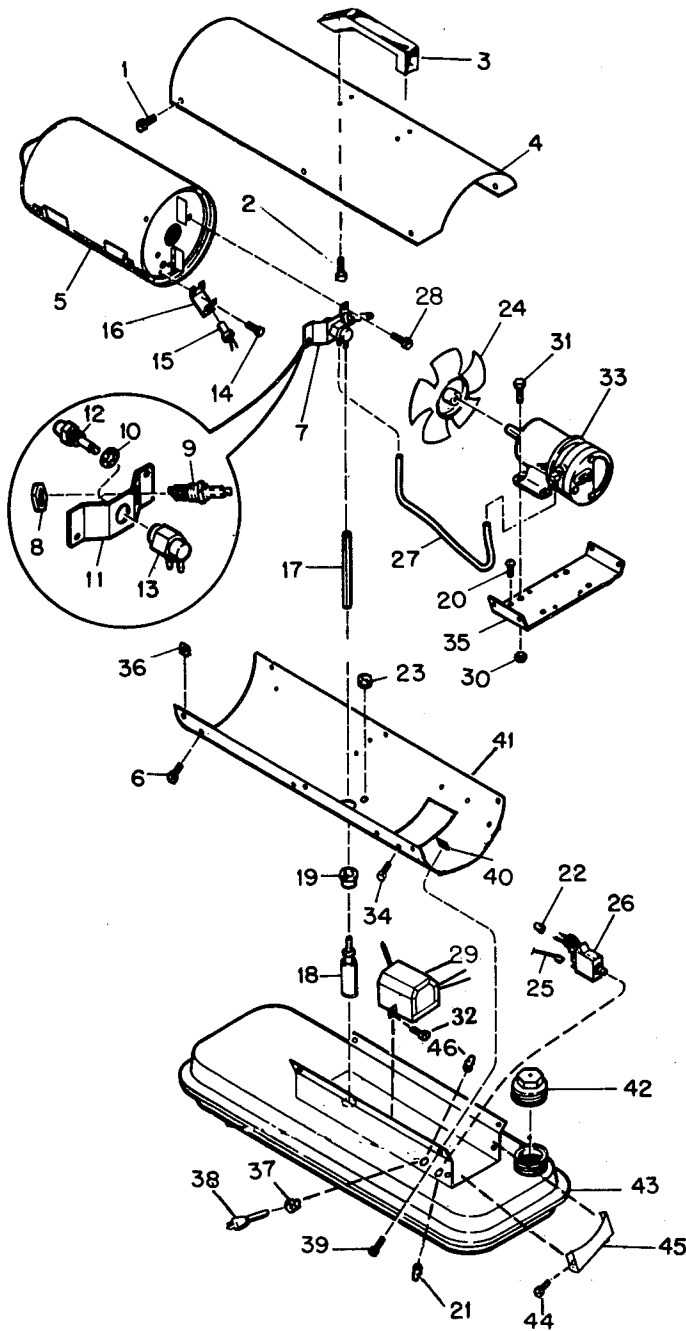


B150A

# PARTS - MODEL B50B

When ordering your part, be sure to provide all pertinent facts when you call or visit your service dealer.  
 The model and serial number of your portable heater will be found on a decal toward the rear (motor end) of your unit.  
 When ordering repair parts always give the following:

A) Part Number      B) Model Number      C) Description



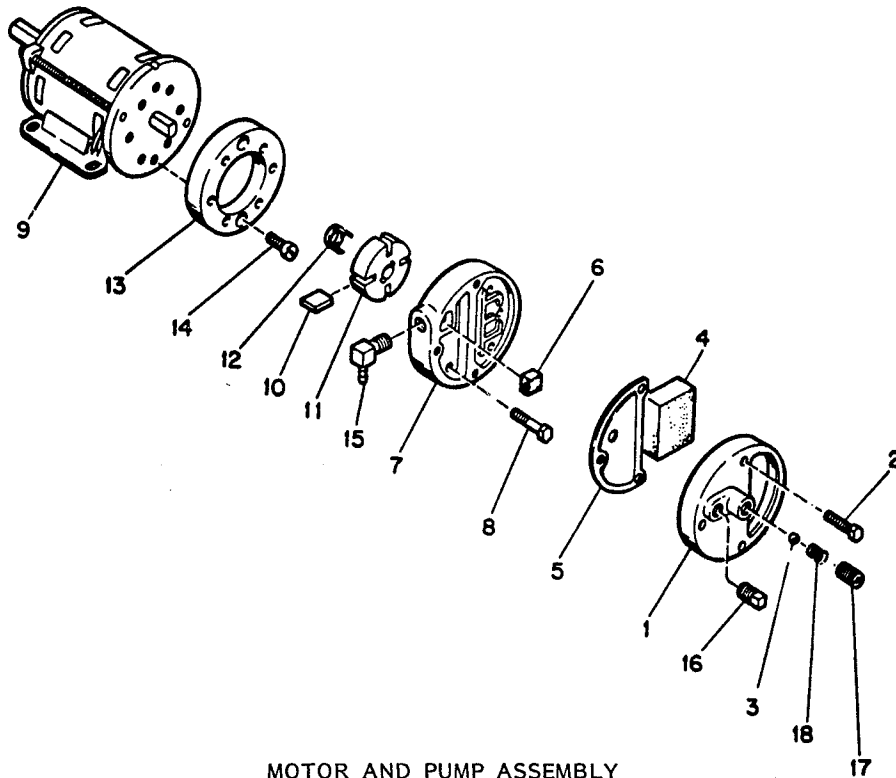
HEATER EXPLODED VIEW  
 MODEL B50B

KEY NO.	PART NUMBER	PART DESCRIPTION	QTY
1	M11084-27	Screw, Hex Head, 10-16 x 1/2	6
2	M50589-01	Screw, Holds Handle to Shell	2
3	M51104-01	Handle	1
4	M51391-01AB	Shell, Upper	1
5	M30883-01	Chamber, Combustion, Assembly	1
6	M11084-26	Screw, Hex, Head 10-16 x 3/8	4
7	M29707-02	Burner Head Assembly	1
8	M29824	Nut, Special 14 MM	1
9	M29835	Spark, Plug	1
10	M16741-18	Ring, Retainer	1
11	M29615-01	Bracket, Assembly	1
	M29705-02	Nozzle Adaptor Assembly (key numbers 12 and 13)	
12	M30875	Nozzle Siphon	1
13	M29805	Adaptor, Nozzle	1
14	M10908-2	Screw, Hex Head 6-32 x 3/8 Secures Photocell Bracket to Combustion Chamber	2
15	M16656-4	Photocell and Bushing Assembly	1
16	M16660	Bracket, Photocell	1
17	M29652-02	Tubing, Fuel Line	1
18	M29814-03	Filter, Fuel	1
19	M10990-3	Bushing, Rubber	1
20	M11084-26	Screw, Hex Head 10-16 x 3/8 (Ground)	1
21	M13942-5	Connector, Wire	1
22	M13942-7	Connector, Wire	1
23	1000576	Grommet	2
24	M30884	Fan	1
25	M16841-16	Wire Assembly	1
26	M28898-03	Flame Out Control Assembly (safety)	1
27	M29652-01	Tubing, Airline	1
28	M11084-26	Screw, Hex Head, 10-16 x 3/8 Secures Burner Head Assembly to Combustion Chamber	2
29	M16697-01	Transformer Assembly 5000 Volt	1
30	NTC-3C	Nut, 10-24	4
31	M12461-50	Screw, Hex Head, 10-24 x 3/8	4
32	M11084-26	Screw, Hex Head, 10-16 x 3/8	2
33	M29750-02	Motor and Pump Assembly	1
34	M11084-26	Screw, Hex Head, 10-16 x 3/8 Secures Motor Support Bracket to Lower Shell	4
35	M29616	Motor Support Bracket	1
36	M11271-6	Nut, Clip	6
37	M11143-1	Bushing, Strain, Relief	1
38	M10813-74	Power Cord	1
39	M11084-27	Screw, Hex Head, 10-16 x 1/2 Secures Lower Shell in Position	4
40	M11271-6	Nut, Clip	4
41	M30763AB	Shell, Lower	1
42	M51027-09	Kit, Cap, Fuel	1
43	M30873-01AA	Tank, Fuel Assembly	1
44	M11084-26	Screw, Hex Head 10-16 x 3/8	2
45	M30726AA	Bracket, End Cover	1
46	M13942-6	Connector, Wire	1

PARTS AVAILABLE--NOT SHOWN

M51295-02	Decal, Tradename
M30728	Decal, Wiring Diagram
M50011	Decal, Spark Plug
M51393-01	Decal, Warning
M51392-03	Decal, Information

KEY NO.	PART NUMBER	PART DESCRIPTION	QTY
	M29750-02	Motor Package Assembly	
1	M29609	End Cover, Filter	1
2	M12461-31	Screw (Filter End Cover to Pump End Cover)	3
3	M8940	Ball, 1/4 in. dia.	1
4	M29633	Intake Air Filter	1
5	M29612-01	Output Filter Assembly	1
6	M29632	Filter, Lint	1
7	M29608	End Cover, Pump	1
8	M12461-31	Screw (End Cover to Motor)	6
9	M30876-01	Motor	1
10	M8643	Blade	4
11	M22456-1	Rotor, Pump	1
12	M22009	Insert, Rotor	1
13	M8645	Pump Body	1
14	FHPF3-4C	Screw (Pump Body to Motor)	2
15	M50016	Elbow	1
16	M22997	Plug, Pipe	1
17	M27694	Screw, Pressure Adjustment	1
18	M10993-1	Spring, Compression (Pressure Relief)	1



MOTOR AND PUMP ASSEMBLY  
EXPLODED VIEW  
MODEL B50B

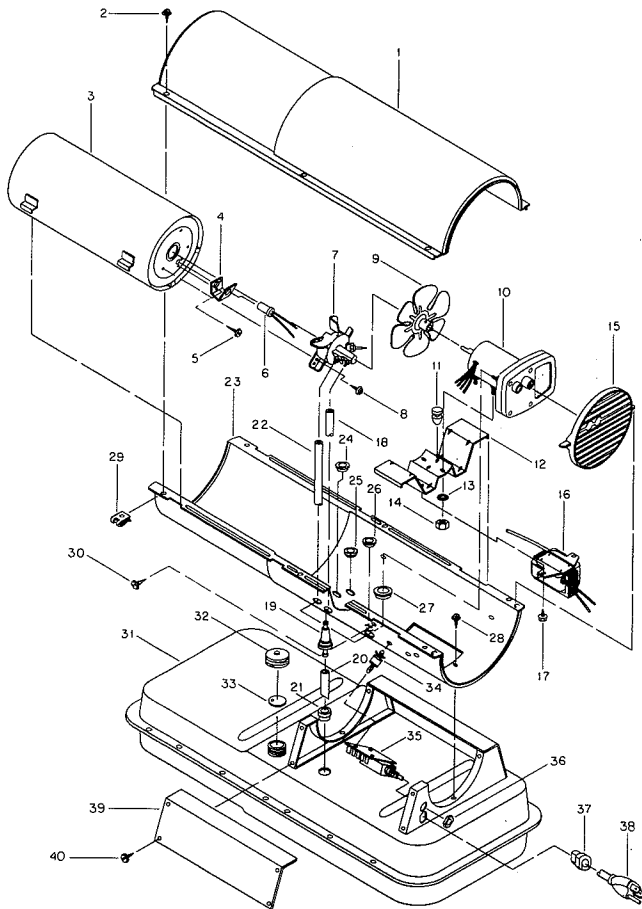
# PARTS - MODEL B100A

When ordering your part, be sure to provide all pertinent facts when you call or visit your service dealer.  
 The model and serial number of your portable heater will be found on a decal toward the rear (motor end) of your unit.  
 When ordering repair parts always give the following:

- A) Part Number      B) Model Number      C) Description

## PARTS AVAILABLE--NOT SHOWN

- M51295-01      Decal, Tradename  
 M51138-07      Decal, Wiring Diagram  
 M51146-03      Decal, General Information

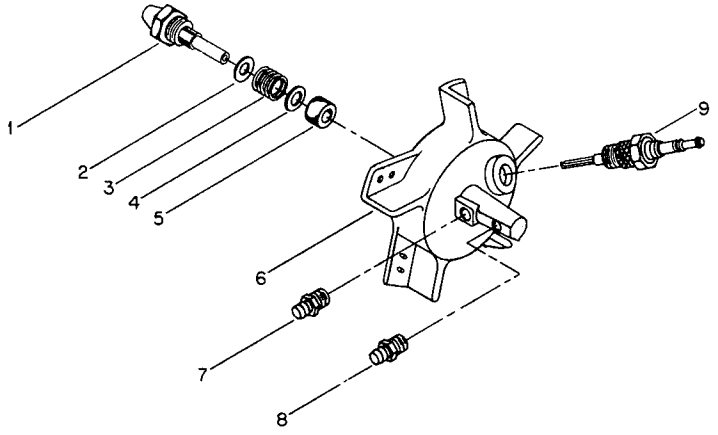


HEATER EXPLODED VIEW  
 MODEL B100A

## KEY

NO.	PART NUMBER	PART DESCRIPTION	QTY
1	M51072-01AB	Upper Shell	1
2	M15823-27	Screw, Hex Hd., 10-16 x 1/2	6
3	M51075-01	Assembly, Combustion Chamber	1
4	M16660	Bracket, Photocell	1
5	M10908-2	Screw, Hex Hd., 6-32 x 3/8 Attaches Photocell Bracket to Combustion Chamber	2
6	M16656-10	Photocell Assembly	1
7	M51126-01	Burner Head Assembly (See Page 14 For Details)	1
8	M11084-27	Screw, Hex Hd., 10-16 x 1/2	3
9	M51153-01	Fan	1
10	M23149-14	Motor & Pump Assembly (See Page 14 For Details)	1
11	M50631	Bumper, Rubber	2
12	M51074-01	Bracket, Motor Mounting	1
13	WLI-4C	Washer, Lock 1/4 in.	2
14	NJC-4C	Nut, Hex Jam	2
15	M51114-01	Guard, Fan	1
16	M50570-04	Transformer, 5000 Volt	1
17	M11084-3	Screw, Hex Hd., 12-14 x 1/2	2
18	M51345-01	Fuel Line	1
19	M51150-01	Filter, Fuel	1
20	M51151-01	Tube, Fuel Line	1
21	M10990-3	Bushing, Rubber	1
22	M50814-06	Airline, Rubber	1
23	M51073-01AB	Shell, Lower	1
24	M30865-02	Bushing (Photocell Wires)	1
25	M30865-02	Bushing (Transformer Lead to Spark Plug)	1
26	M30865-02	Bushing (Transformer Lead to Spark Plug)	1
27	M50104-02	Bushing (Airline & Wires Thru Shell)	1
28	M11084-3	Screw, Hex Hd., 12-14 x 1/2 Secures Lower Shell to Tank Brackets	6
29	M11271-8	Nut, Clip	6
30	M15823-37	Screw, Grounding 8-18 x 1/4	1
31	M51115-02AA	Tank, Fuel	1
32	M51000-01	Cap, Filler Neck (Order M51027-06)	1
33	M51002-01	Gasket-Cap (Order M51027-06)	1
34	M51122-01	Support-Circuit Board	3
35	M51060-03	Control Board, Safety, PCB (Order M50671-02)	1
36	M51157-01	Nut Hex 12 MM Secures PCB to Bracket	1
37	M11143-1	Bushing, Strain Relief	1
38	M10813-84	Assembly, Extension Cord	1
39	M51077-01AA	Cover, Side	1
40	M11084-3	Screw, Hex Hd., 12-14 x 1/2	4

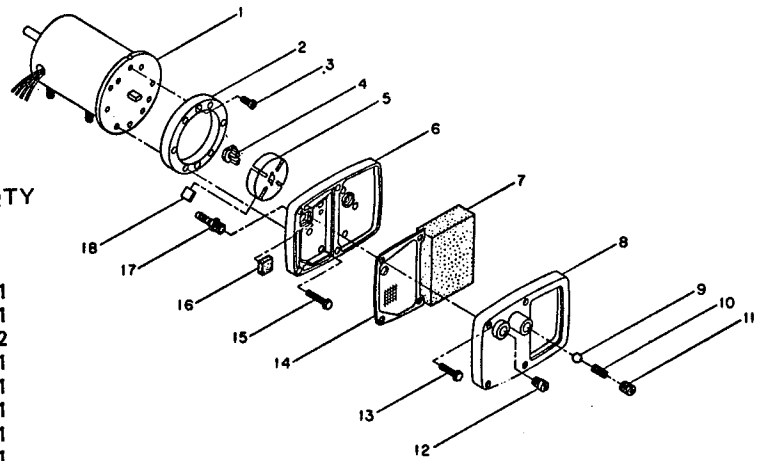
KEY NO.	PART NUMBER	PART DESCRIPTION	QTY
	M51126-01	Burner Head Assembly Does Not Include M10962-2 Spark Plug	
1	M51120-01	Nozzle	1
2	M10659-1	Washer, Nozzle Seal	1
3	M10809-1	Spring, Nozzle Seal	1
4	M10659-1	Washer, Nozzle Seal	1
5	M8882	Seal, Nozzle, Sleeve	1
6	M50924-03	Body, Burner Head	1
7	M50820-02	Fitting, Barb	1
8	M50820-02	Fitting, Barb	1
9	M10962-2	Spark Plug	1



BURNER HEAD ASSEMBLY  
EXPLODED VIEW  
MODEL B100A

12244-1

KEY NO.	PART NUMBER	PART DESCRIPTION	QTY
	M23149-14	Motor and Pump Assembly	
1	M51131-01	Motor-Split Single Phase	1
2	M8645	Pump Body	1
3	FHPF3-4C	Screw 10-32 x 1/2	2
4	M22009	Insert	1
5	M22456-1	Rotor, Pump	1
6	M50545	Cover, End Pump	1
7	M12179	Filter, Intake	1
8	M16545	Cover, End, Filter	1
9	M8940	Ball, Steel 1/4 Dia.	1
10	M10993-1	Spring-Pressure Relief	1
11	M27694	Screw, Adjusting	1
12	M22997	Plug, Pipe	1
13	M12461-31	Screw, Hex Hd., 10-32 x 1 Attaches Filter End Cover to Pump End Cover	4
14	M12244-1	Filter Assembly, Output	1
15	M12461-32	Screw, Hex Hd., 10-32 x 1 1/8	6
16	M11637	Filter, Lint	1
17	M50820-02	Fitting, Barb	1
18	M8643	Blade	4



MOTOR AND PUMP ASSEMBLY  
EXPLODED VIEW  
MODEL B100A

# PARTS - MODEL B150A

When ordering your part, be sure to provide all pertinent facts when you call or visit your service dealer.

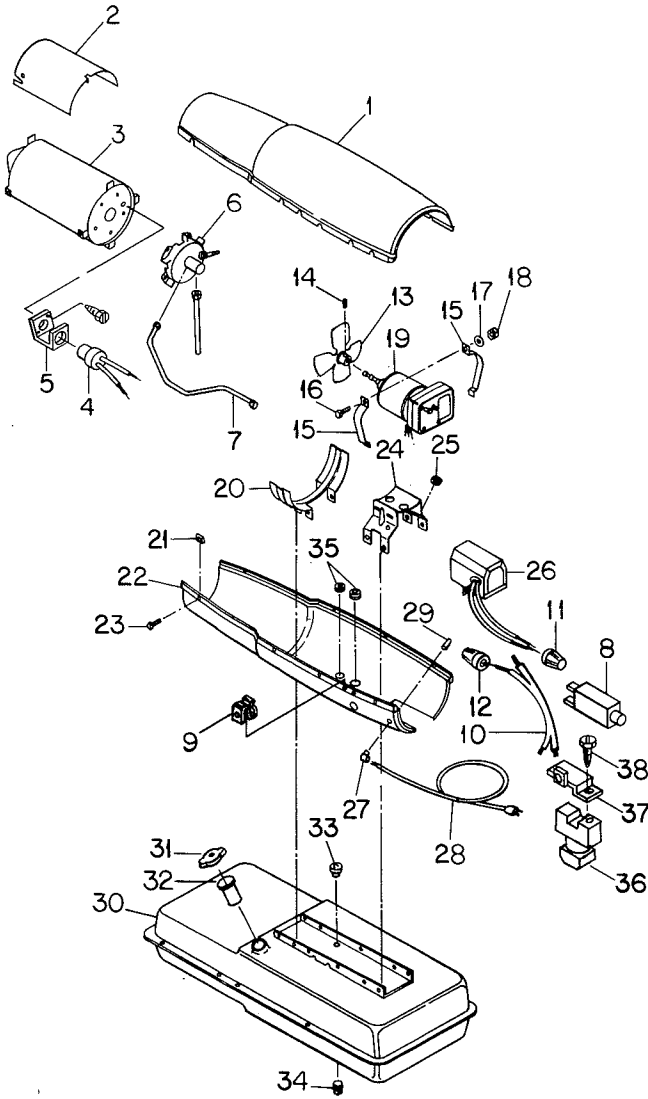
The model and serial number of your portable heater will be found on a decal toward the rear (motor end) of your unit.

When ordering repair parts always give the following:

- A) Part Number      B) Model Number      C) Description

PARTS AVAILABLE--NOT SHOWN

- M25352      Decal, Wiring Diagram  
 M51146-06      Decal, General Information  
 M51295-03      Decal, Tradename

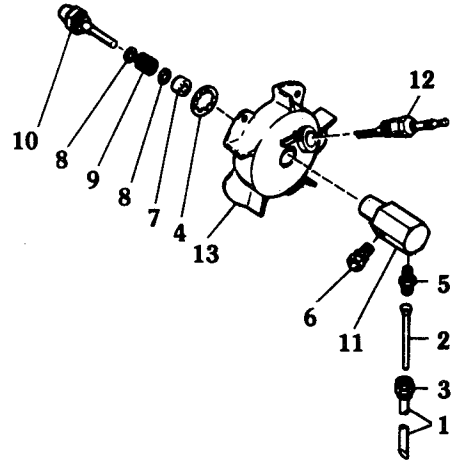


HEATER EXPLODED VIEW  
 MODEL B150A

KEY NO.	PART NUMBER	PART DESCRIPTION	QTY
1	M17014AB	Shell Assembly, Upper	1
2	M16679	Deflector, Heat	1
3	M16887-6	Chamber Combustion, Assembly	1
	M11084-27	Screw, Hex Hd., 10-16 x 1/2	4
	M11084-27	Attaches Combustion Chamber Front	
	M11084-27	Screw, Hex Hd., 10-16 x 1/2	2
	M11084-27	Attaches Combustion Chamber Rear	
4	M16656-4	Photocell Assembly	1
5	M16660	Bracket, Photocell	1
	M10908-2	Screw, Hex Hd., 6-32 x 3/8	2
	M10908-2	Attaches Photocell Bracket	
6	M16803-8	Burner Head Assembly	1
	M11084-27	(See Page 16 For Details)	
	M11084-27	Screw, Hex Hd., 10-16 x 1/2	3
	M11084-27	Attaches Burner Head	
7	M50814-03	Airline, Includes Sleeves, Nuts	1
8	M28898-03	Control, Flame Out	1
9	M50873-01	Clip, Airline	2
10	M16841-40	Assembly, Wire, Red	2
11	M13942-5	Connector, Wire	1
12	M13942-6	Connector, Wire	1
13	M17058	Fan	1
14	SF4-2.5K	Setscrew, Socket Hd., Cup Point 1/4-20, Attaches Fan to Motor	2
15	M16661	Clamp, Motor	4
16	M51043-01	Screw, Motor Clamp, 1/4-20 x 1 1/2	2
17	WLM-4	Lockwasher 1/4 in.	2
18	NPC-4C	Nut, Hex 1/4-20	2
19	M51158-01	Motor & Pump Assembly	1
	M51158-01	(See Page 16 For Details)	
20	M12828	Bracket, Shell Support	1
	M11084-29	Screw, Hex Hd., 10-16 x 3/4	4
	M11084-29	Attaches Support Bracket to Shell and Fuel Tank	
21	M11271-6	Nut, Clip	8
22	M16810A	Shell, Lower	1
23	M11084-27	Screw, Hex Hd., 10-16 x 1/2	8
	M11084-27	Attaches Lower Shell to Upper Shell	
24	M16645	Bracket, Motor Support	1
25	1000577	Grommet	1
26	M16697-02	Transformer, 5000 Volt	1
27	M11143-1	Bushing, Strain Relief	1
28	M10813-88	Cord, Power	1
29	M13942-7	Connector, Wire	1
30	M51011-01AA	Tank, Fuel	1
31	M51027-06	Cap, Fuel	1
32	M51001-01	Filter, Fuel	1
33	M10990-3	Bushing, Rubber, Fuel Line Into Fuel Tank	1
34	M27417	Plug, Drain, Includes "O" Ring	1
35	1000576	Grommet Leads Thru Lower Shell	2
36	M12462-6	Relay, Motor Start	1
37	M25296-1	Bracket, Safety Control	1
38	M11084-27	Screw, 10-16 x 1/2, Grounding	1

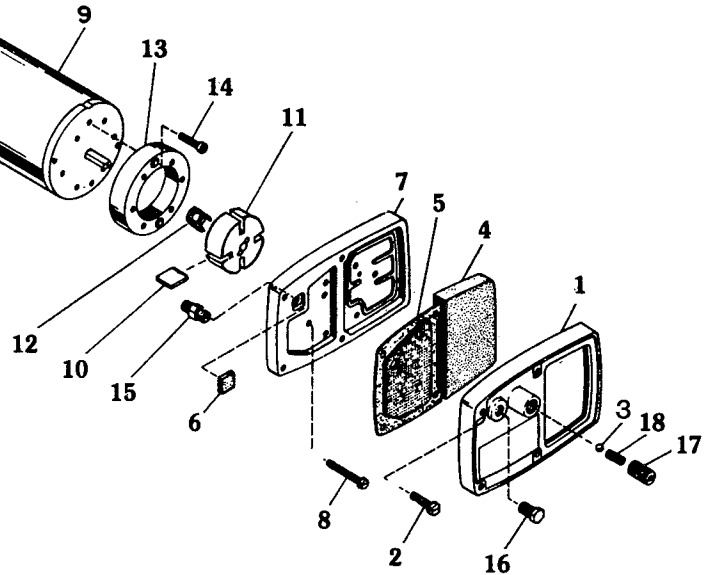


KEY NO.	PART NUMBER	PART DESCRIPTION	QTY
	M16803-8	Burner Head Assembly	
1	M16790-12	Tube, Filter, (Fuel Line)	1
2	M19630	Filter, Fuel	1
3	M13849	Nut, Flared	1
4	M16741-18	Ring, Retaining	1
	M16787-9	Nozzle Adapter Assembly	1
5	M16791	Connector, Male	1
6	M50817-01	Fitting Barb	1
7	M8882	Sleeve, Nozzle Seal	1
8	M10659-1	Washer, Nozzle	2
9	M10809-1	Spring, Nozzle Seal	1
10	M18022	Nozzle, 1.1 GPH	1
11	M16535	Adapter, Nozzle	1
12	M10962-2	Spark Plug	1
13	M23090	Body, Burner Head	1



BURNER HEAD ASSEMBLY  
EXPLODED VIEW  
MODEL B150A

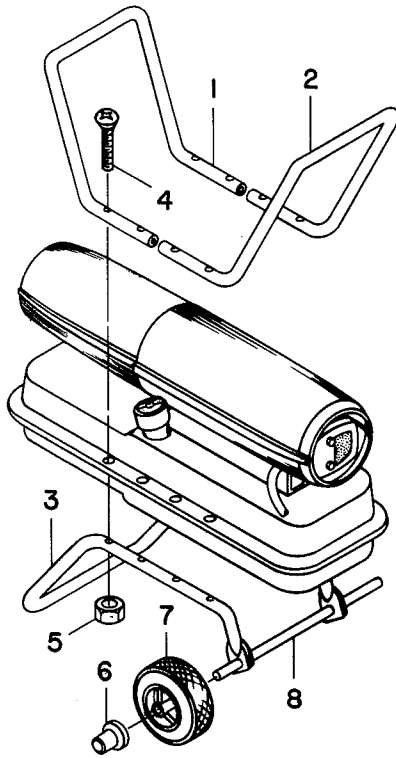
KEY NO.	PART NUMBER	PART DESCRIPTION	QTY
	M51158-01	Motor & Pump Assembly-- Complete	
1	M16545	End Cover, Filter	1
2	M12462-31	Screw, Hex Hd., 10-32 x 1 Attaches Filter End Cover To Pump End Cover	4
3	M8940	Ball ½ in. dia.	1
4	M12179	Filter, Air, Intake	1
5	M12244-1	Filter Assembly, Output	1
6	M11637	Filter, Lint	1
7	M50545	Cover, End Pump	1
8	M12461-34	Screw, Hex Hd., 10-32 x 1½	6
9	M51159-01	Motor	1
10	M8643-3	Blade, Pump	4
11	M22456-3	Rotor, Pump	1
12	M22009	Insert, Hold Rotor To Motor Shaft	1
13	M8645-3	Body, Pump	1
14	FHPF3-7C	Screw, 10-32 x 7/8	2
15	M50817-01	Fitting Barb	1
16	M22997	Plug, Pipe	1
17	M27694	Screw, Pressure Adjustment	1
18	M10993-1	Spring, Compression Pressure Relief	1



MOTOR AND PUMP ASSEMBLY  
EXPLODED VIEW  
MODEL B150A

# PARTS

The wheel and handle groups are for models B100A and B150A only. For assembly instructions, see page 2.



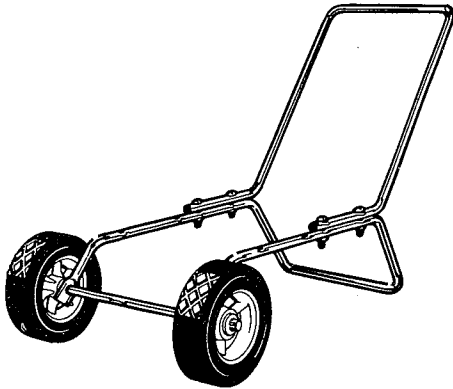
## WHEEL AND HANDLE GROUP MODEL B100A

KEY NO.	PART NUMBER	PART DESCRIPTION	QTY
1	M15131-5	Handle, Front	1
2	M51334-02	Handle, Rear	1
3	M12342-3	Wheel Support Frame	1
4	M12345-33	Screw, Handles and Wheel Support Frame to Fuel Tank	8
5	NTC-3C	Nut, Hex 10-24, Torque Lock	8
6	M28526	Nut, Cap	2
7	M19295	Wheel	2
8	M51015-01	Axle	1

## WHEEL AND HANDLE GROUP MODEL B150A

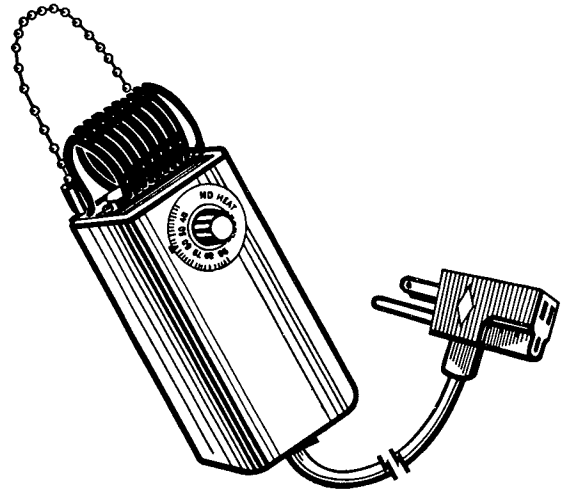
KEY NO.	PART NUMBER	PART DESCRIPTION	QTY
1	M51334-03	Handle, Front	1
2	M51334-01	Handle, Rear	1
3	M12831-3	Frame Wheel Support	1
4	M12345-33	Screw, Oval Hd., 10-24 x 1 3/4	8
5	NTC-3C	Nut, Torque, Lock No. 10-24	8
6	M28526	Nut, Cap	2
7	M19295	Wheel	2
8	M16801-2	Axle	1

# ACCESSORIES



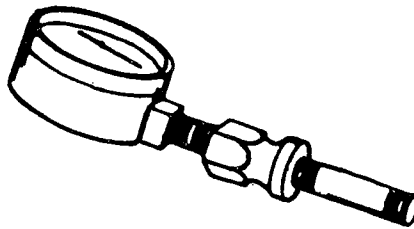
**WHEELS AND HANDLE KIT - HA1181**

For model B50B. Makes heater even more portable and convenient. Easy to assembly, install.



**THERMOSTAT KIT - HA1200**

For all models. Keeps your building at the temperature you select day and night.



**AIR GAUGE KIT - HA1180**

For all models. Special tool to check air pressure.

## OWNER'S REGISTRATION

Please complete and return this postage paid card as soon as possible.

Model \_\_\_\_\_ Serial No. \_\_\_\_\_

Customer Name \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Date Purchased \_\_\_\_\_ Phone No. (\_\_\_\_) \_\_\_\_\_

This Will Be Used: On Farm \_\_\_\_\_ In Garage \_\_\_\_\_ Construction Site \_\_\_\_\_ For Rental \_\_\_\_\_  
Other (specify) \_\_\_\_\_

Age of Purchaser: 30 or less \_\_\_\_\_ 31 to 40 \_\_\_\_\_ 41 to 50 \_\_\_\_\_ 51 to 60 \_\_\_\_\_ 61 & over \_\_\_\_\_

Sex: Male \_\_\_\_\_ Female \_\_\_\_\_

Approx. Family Income: \$12,000 or less \_\_\_\_\_ \$12,000 to \$18,000 \_\_\_\_\_ \$18,000 to \$24,000 \_\_\_\_\_  
\$24,000 to \$30,000 \_\_\_\_\_ \$30,000 or more \_\_\_\_\_

Where Do You Live? City \_\_\_\_\_ Suburb \_\_\_\_\_ Rural \_\_\_\_\_

What Influenced You To Purchase Your Heater?

TV Ad \_\_\_\_\_ Magazine Ad \_\_\_\_\_ Local Newspaper Ad \_\_\_\_\_

Price \_\_\_\_\_ Warranty \_\_\_\_\_ Feature or Features \_\_\_\_\_

Other \_\_\_\_\_

What Price Did You Pay For Your Heater? \$ \_\_\_\_\_

Store Name: \_\_\_\_\_

Store Address: \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

Type of Store: Department \_\_\_\_\_ Hardware \_\_\_\_\_ Discount \_\_\_\_\_ Farm \_\_\_\_\_ Home Center \_\_\_\_\_  
Appliance \_\_\_\_\_ Other(specify) \_\_\_\_\_

# KEEP THIS WARRANTY

Model/Spec. No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Date Purchased \_\_\_\_\_

Fill in above information for your own record

*ALWAYS SPECIFY MODEL, SPECIFICATION, AND SERIAL NUMBERS WHEN COMMUNICATING WITH THE FACTORY.*

WE RESERVE THE RIGHT TO AMEND THESE SPECIFICATIONS AT ANY TIME WITHOUT NOTICE. THE ONLY WARRANTY APPLICABLE IS OUR STANDARD WRITTEN WARRANTY WE MAKE NO OTHER WARRANTY, EXPRESSED OR IMPLIED

## CERTIFICATE OF GENERAL EQUIPMENT - LIMITED SIX MONTHS WARRANTY (U.S.A.)

AMCA International warrants new Products sold by it to be free from defects in material or workmanship for a period of six months after date of delivery to the first user and subject to the following conditions:

AMCA International's obligation and liability under this Warranty is expressly limited to repairing or replacing at AMCA International's option, any parts which appear to AMCA International upon inspection to have been defective in material or workmanship when shipped from the factory. Such parts shall be provided at no cost to the user, at the business establishment of any factory authorized service center or the factory during regular working hours. This Warranty shall not apply to component parts or accessories of Products not manufactured by AMCA International and which carry the warranty of the manufacturer thereof, or to normal maintenance (such as pressure adjustments) or to normal maintenance parts (such as filters and spark plugs). Replacement or repair parts installed in the Product covered by this Warranty are warranted only for the remainder of this Warranty as if such parts were original components of said Product. AMCA INTERNATIONAL MAKES NO OTHER EXPRESS WARRANTY. TO THE EXTENT PERMITTED BY LAW AMCA INTERNATIONAL MAKES NO IMPLIED WARRANTY AND MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. IN ANY EVENT IMPLIED WARRANTIES INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE DURATION OF THIS EXPRESS WARRANTY. (Some states do not allow limitations of how long an implied warranty lasts, so the above limitation may not apply to you.)

Any transportation charges, costs of installation, duty, taxes or any other charges whatsoever must be borne by the user. AMCA International's obligation under this limited Warranty shall not include any liability for direct, indirect, incidental, or consequential damage or delay. (Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above may not apply to you.) If requested by AMCA International, Products or parts for which a warranty claim is made are to be returned transportation prepaid by user to the factory. Any improper use, including operation after discovery of defective or worn parts, operation beyond rated capacity, substitution of parts not approved by AMCA International, or any alteration or repair by others in such manner as in AMCA International's judgment affects the Product materially and adversely, shall void this Warranty.

"NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY UNLESS SUCH CHANGE IS MADE IN WRITING AND SIGNED BY AN OFFICER OF AMCA INTERNATIONAL AT ITS HOME OFFICE."

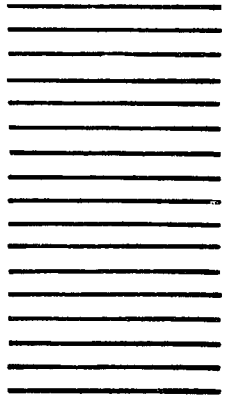
This Warranty gives you specific legal rights and you may also have other rights which vary from state to state. For information write AMCA International, P.O. Box 719, Bowling Green, Ky. 42101, Attention: Customer Service Dept.

K4213-06



FIRST CLASS  
PERMIT NO. 521  
Bowling Green,  
Kentucky 42101

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CONSUMER AND AUTOMOTIVE PRODUCTS DIVISION  
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BOWLING GREEN, KY 42101