



OPERATING INSTRUCTIONS & PARTS MANUAL  
**PORTABLE OIL FIRED HEATERS**  
 MODELS 2E510A, 2E511A, 3E218A & 3E219

FORM  
 5S1792  
 01582

**DAYTON ELECTRIC MANUFACTURING CO. CHICAGO 60648**

0583/166/1M

**READ INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO ASSEMBLE, OPERATE OR SERVICE THE DAYTON OIL FIRED HEATER. FAILURE TO COMPLY WITH INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE!  
 RETAIN INSTRUCTIONS FOR FUTURE REFERENCE.**

**Description**

The Dayton portable oil fired heater is designed to provide temporary heat. It must be used with adequate ventilation, 115V, 60 Hz electrical power and kerosene or No. 1 fuel oil.

**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 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 cell detects a flame, which the flame-out control automatically trips if the flame fails, thereby causing the heater to shut down.

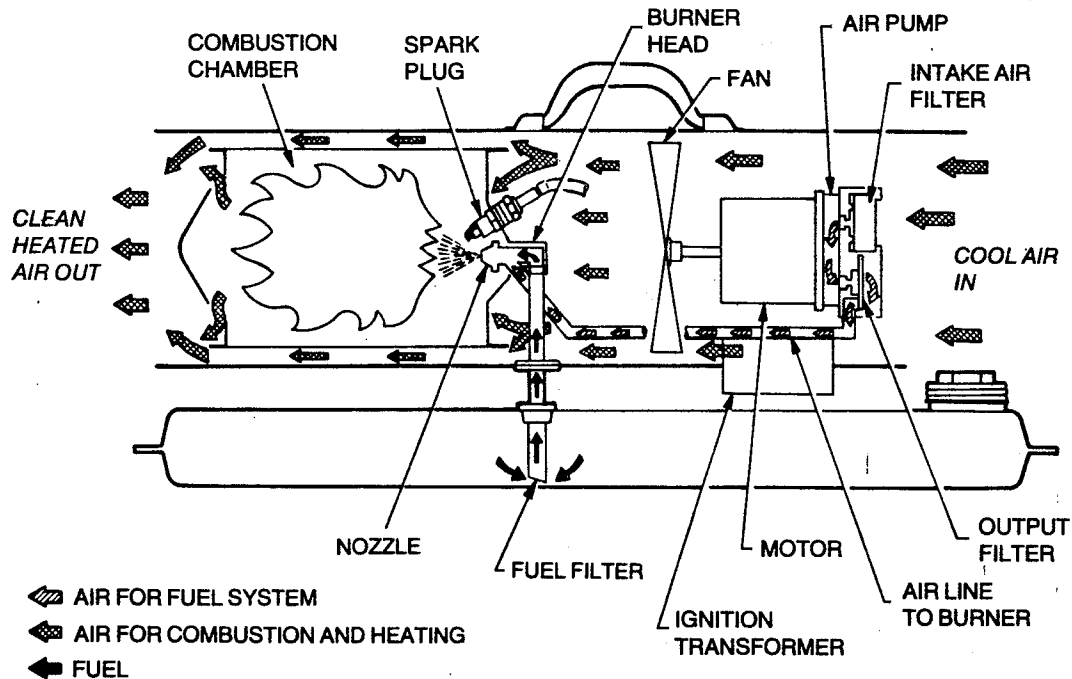


Figure 1 — Theory of Operation

### Specifications

| MODEL   | 2E510A                             | 2E511A                     | 3E218A  | 3E219   |
|---|------------------------------------|----------------------------|---------|---------|
| Output rating (Btu per hour)                  | 30,000                             | 50,000                     | 100,000 | 150,000 |
| Fuel  |                                    | Kerosene or No. 1 fuel oil |         |         |
| Fuel tank capacity (U.S. gallons)             | 3.00                               | 4.00                       | 9.00    | 13.50   |
| Fuel consumption (approx. U.S. gal. per hour) | 0.23                               | 0.37                       | 0.74    | 1.10    |
| Electric requirements                         | 120 volts, 60 Hz (same all models) |                            |         |         |
| Amperage (during normal run)                  | 2.78                               | 2.90                       | 5.00    | 5.00    |
| Starting amps                                 | 4                                  | 4                          | 10      | 10      |
| Motor RPM                                     | 1710                               | 1730                       | 3450    | 3450    |
| Air output (CFM)                              | 123                                | 106                        | 273     | 538     |
| Air pump pressure (PSi)                       | 3.00                               | 3.60                       | 4.00    | 5.00    |
| Shipping weight (approx. lbs.)                | 42                                 | 43                         | 64      | 94      |
| Heater weight without fuel                    | 35                                 | 36                         | 55      | 77      |

### General Safety Information

**WARNING: 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!**

**WARNING: DO NOT USE HEATER WHERE GASOLINE, PAINT THINNER OR OTHER HIGHLY FLAMMABLE VAPORS ARE PRESENT. DO NOT USE GASOLINE, NAPHTHA, PAINT THINNERS OR OTHER VOLATILE FUELS. USE ONLY IN AREAS FREE OF FLAMMABLE VAPOR OR HIGH DUST CONTENT.**

1. Use only in well-ventilated rooms. Provide ventilation of at least three square feet for each 100,000 Btu of rating.
2. Do not attach duct work to front of heater.
3. Use only in accordance with local and electrical codes and ordinances.
4. Use only with electrical voltage and frequency specified on model plate.
5. Use only a properly grounded three-wire extension cord. Cord must be at least six feet long.
6. Make sure hot air outlet is at least five feet from combustible materials.
7. Fill fuel tank or move heater only when heater is unplugged. See FUELS under Operation.
8. Heater must be level while hot or operating to prevent a fire caused by fuel leakage.
9. Do not move, handle or service while hot or burning.
10. When used with thermostat, heater may start anytime, so observe caution.
11. 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.
12. Never use heater while sleeping.
13. Check reset button to be sure it is pushed in.

### Unpacking

1. Remove all protective material which may have been applied to the heater for shipment.
2. Remove the heater from carton.
3. Check the heater for possible shipping damage. If any damage is found immediately notify the dealer from whom you purchased the heater.

### Assembly

(Does not apply to Models 2E510A, 2E511A)

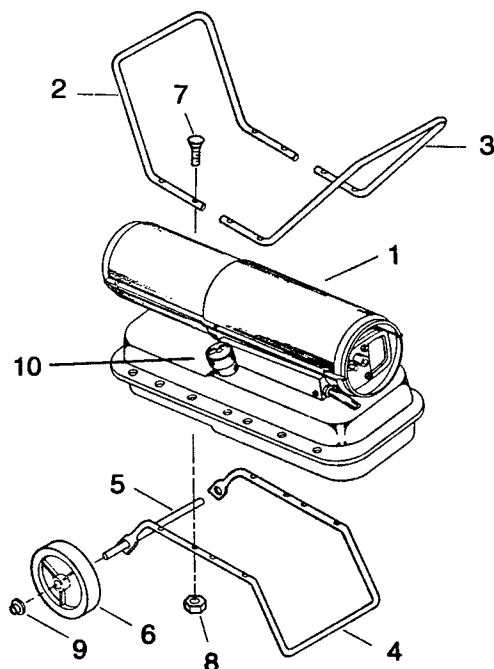
Some models are equipped with wheels and handles. These items are removed from the unit and can be found in the shipping carton along with mounting hardware. The wheels, axle and mounting hardware are in a plastic package. The following items should be included:

1. Heater body
2. One front handle
3. One rear handle
4. One wheel support frame
5. One axle
6. Two wheels
7. Eight screws  
#10-24 x 1-3/4 in.
8. Eight nuts #10-24
9. Two cap nuts
10. One fuel cap

Note: The front and rear handles are alike.

### TOOLS REQUIRED

Medium Phillips screwdriver, 3/8" open or adjustable wrench and hammer.



**Assembly (Continued)**

**CAUTION: Do not tighten nuts until step 5.**

(Refer to illustration on page 2)

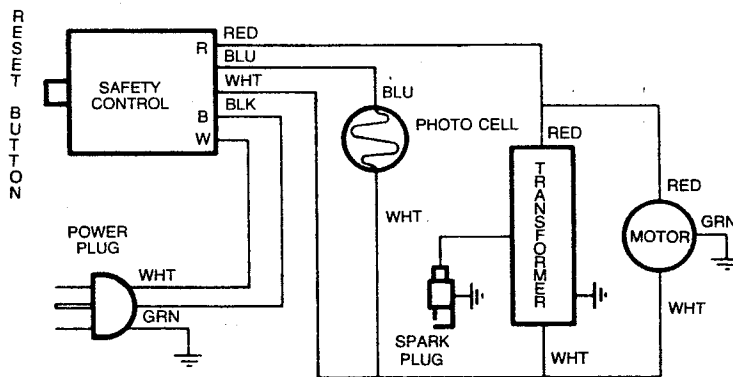
1. Slide the axle (5) through the wheel support frame (4). Install the wheels (6) on the axle. **IMPORTANT:** The extended hub of the wheel should be positioned toward the wheels support frame. Position the cap nuts (9) on the axle ends and gently tap with a hammer to secure.
2. Position the heater on the wheel support frame assembly with the combustion chamber end over the wheels.

3. Use four screws (7) and nuts (8) to attach the front handle 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 nuts fingertight only.
4. Using four screws (7) and nuts (8) install the rear handle (3) as outlined in Step 3.
5. Tighten all nuts.
6. Remove tape from the fuel filler neck and install the fuel cap.

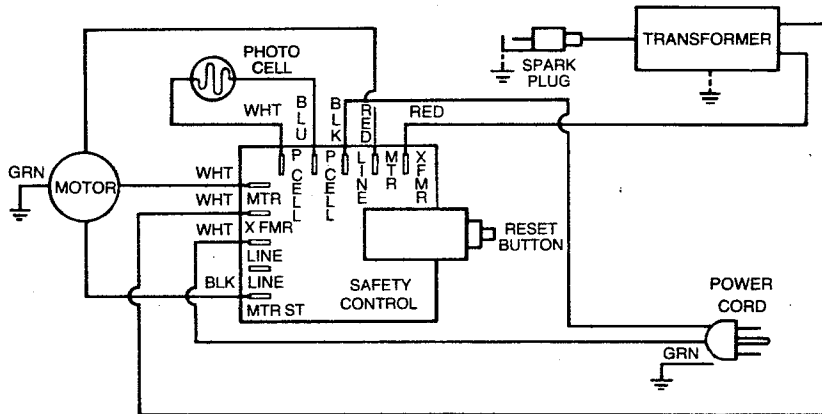
**Installation**

WIRING DIAGRAMS

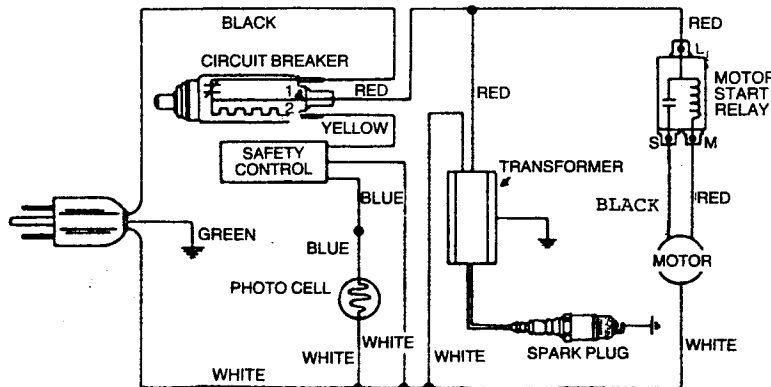
MODELS 2E510A & 2E511A



MODEL 3E218A



MODEL 3E219



## Operation

**WARNING: 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 FEET OPENING |
|-------------|---------------------|
| 30,000 Btu  | 1.0                 |
| 50,000 Btu  | 1.5                 |
| 100,000 Btu | 3.0                 |
| 150,000 Btu | 4.5                 |

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 two thirty-inch windows raised 3.5 inches.

### FUELS

1. Use only kerosene, or No. 1 fuel oil.
2. **Never** use gasoline, naphtha, paint thinners, alcohol or other volatile fuels.
3. Use of No. 2 fuel oil or No. 2 diesel oil may result in:
  - a) More frequent clogging of fuel filters and nozzles
  - b) The formation of carbon on the spark plug.
4. Do not allow spark plug to get a carbon buildup on the electrodes. Carbon deposits 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.

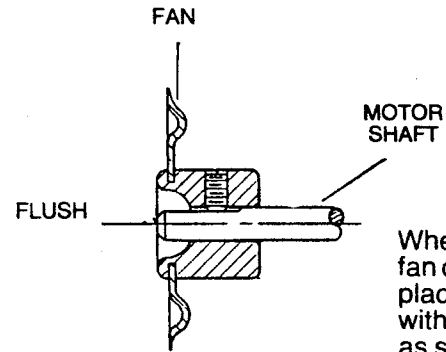
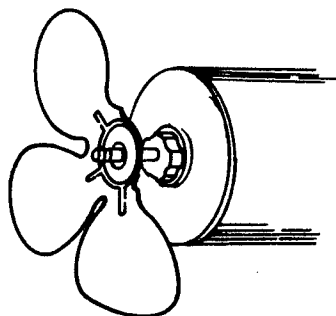
## Maintenance

**WARNING: ALWAYS UNPLUG HEATER BEFORE SERVICING.**

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

### FAN BLADES

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

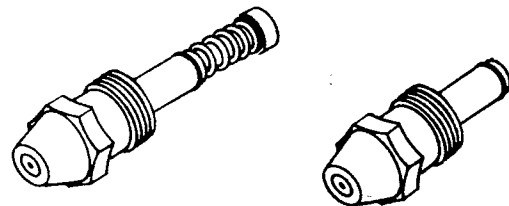


When replacing the fan on the motor shaft, place fan hub flush with the motor shaft as shown.

### NOZZLE

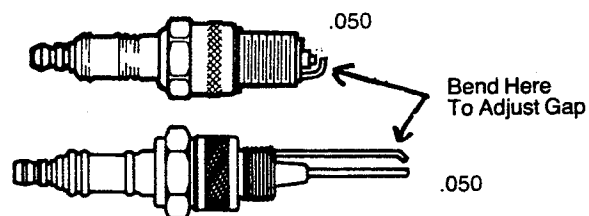
Clean at least once during heating season. Remove burner head. Use a socket wrench only to remove nozzle. Blow through the face (outlet) end **ONLY**.

**CAUTION: Protect nozzle face from damage while out of the heater.**



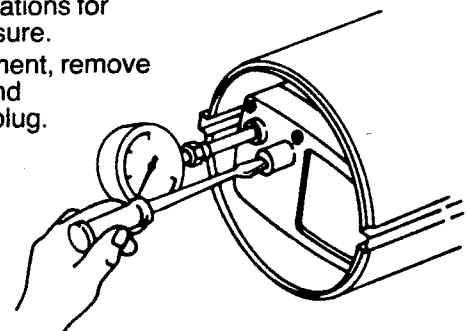
### SPARK PLUG

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



### ADJUSTMENT OF PUMP PRESSURE

1. Remove the plug from the air filter housing and install the pressure gauge. (HA1180)
2. To adjust the pump pressure, turn the pressure relief valve in to raise, out to lower. See Specifications for correct pressure.
3. After adjustment, remove the gauge and replace the plug.

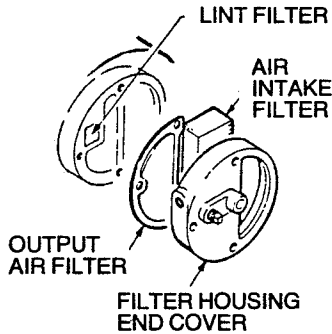


## Maintenance

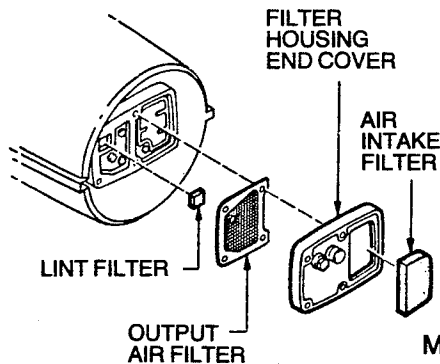
### AIR FILTERS

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.

**CAUTION: Do Not oil the filter elements.**



MODELS 2E510A & 2E511A

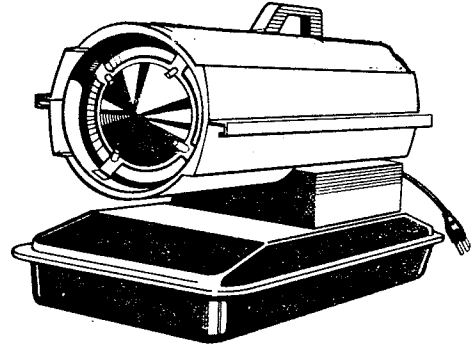


MODELS 3E218A & 3E219

### STORAGE

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

**WARNING: ALWAYS UNPLUG HEATER BEFORE SERVICING.**



### FUEL TANK

Drain all fuel from tank. Clean and flush tank before storing.

### AIR FILTERS

Remove and clean, or replace filters if necessary.

### SPARK PLUG

Clean and adjust spark plug, or replace if necessary.

## LIMITED WARRANTY

Dayton portable oil fired heaters, Models 2E510, 2E511A, 3E218A & 3E219 are warranted by Dayton Electric Mfg. Co. (Dayton) to the original user against defects in workmanship or materials under normal use (rental use excluded), for 90 days after date of purchase.

Any part which is determined to be defective in material or workmanship and returned to an authorized service location, as Dayton designates, shipping costs prepaid, will be repaired or replaced at Dayton's option. For warranty claim procedures, see "Prompt Disposition" below. This warranty gives purchasers specific legal rights, and purchasers may also have other rights which vary from state to state.

**WARRANTY DISCLAIMER.** Dayton has made a diligent effort to illustrate and describe the products in this literature accurately; however, such illustrations and descriptions are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit a particular purpose, or that the products will necessarily conform to the illustrations or descriptions.

Except as provided below, no warranty or affirmation of fact, expressed or implied, other than as stated in "LIMITED WARRANTY" above is made or authorized by Dayton, and Dayton's liability in all events is limited to the purchase price paid.

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some states do not allow limitations on how long an implied warranty lasts, consequently the above limitation may not apply to you; and (c) by law, during the period of this Limited Warranty, any implied warranties of merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

**PROMPT DISPOSITION.** Dayton will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within warranty. For any product believed to be defective within warranty, first write or call dealer from whom product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Dayton at address below, giving dealer's name, address, date and number of dealer's invoice, and describing the nature of the defect. If product was damaged in transit to you, file claim with carrier.

**DAYTON ELECTRIC MFG. CO., 5959 W. HOWARD STREET  
CHICAGO, ILLINOIS 60648**

**Trouble Shooting Chart**

| <b>SYMPTOMS</b>  | <b>POSSIBLE CAUSE(S)</b>   | <b>CORRECTIVE ACTION</b>  |
|--|--|---|
|  | <b>Electrical Troubles</b>   |   |
| Motor does not start; thermostat (if used) is set to call for heat.  | 1. No power or low voltage at heater   | 1a. Be sure power is reaching heater; check condition of heater cord. Repair or replace as needed.<br>b. Use extension cord with wires heavy enough to carry the electrical load of the heater.<br>c. Be sure voltage at outlet is same as shown on heater instruction plate. |
|  | 2. Damaged motor or motor start relay. (Models 3E218A & 3E219 only)                            | 2. Check motor and relay; replace if damaged.   |
|  | 3. Thermostat damaged (if used)  | 3. This is not a serviceable part; replace.   |
|  | <b>Mechanical Troubles</b>   |   |
|  | 1. Fan obstructed by mechanical damage or dirt   | 1a. Check for bent outer shell.<br>b. Check for damaged fan; replace if damaged.<br>c. Check for damaged motor mount.<br>d. Check for tight pump.   |
|  | <b>Fuel System Troubles</b>  |   |
| Heater will not ignite, but motor runs for a short time.   | 1. Fuel tank empty   | 1. Add fuel to tank.  |
|  | 2. Water in fuel   | 2. 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.)   |
|  | 3. Wrong fuel  | 3. Add fresh, clean fuel to tank.   |
|  | 4. Fuel filter clogged   | 4. Remove and wash in clean fuel. Blow dry and replace.   |
|  | 5. Nozzle plugged or damaged   | 5a. Clean by blowing compressed air through nozzle from outlet end of nozzle.<br>b. Replace nozzle if cleaning does not solve the problem.  |
|  | 6. Very low temperature may cause fuel to thicken and not flow.                                | 6. Use a non toxic anti-icer such as "Heet," "Methanol Alcohol" or "Frostex."   |
|  | 7. Dirty air filters   | 7. Be sure air filters are clean.   |
|  | 8. Air leak at fuel filter   | 8. Check fuel filter for air leaks and for tightness of fit where it is connected to fuel line.   |
|  | <b>Ignition Troubles</b>   |   |
|  | <b>WARNING: DISCONNECT HEATER CORD!</b>  |   |
|  | 1. Spark plug wire disconnected from plug or from terminal of transformer                      | 1. Check at plug and transformer to be sure wire is tight at both ends.   |
|  | 2. Damaged spark plug. (Wrong gap, plug wet with fuel or electrodes carboned, or plug damage.) | 2a. Gap between electrodes should be 0.050" or about thickness of a dime. Adjust electrode gap.<br>b. Inspect plug for worn or eroded electrodes.<br>c. Replace a damaged spark plug.   |
|  | <b>WARNING: HIGH VOLTAGE</b>   |   |
|  | 3. Damaged transformer   | 3. Disconnect spark plug wire from transformer, and check transformer for spark: replace if no spark can be obtained.   |
|  | <b>Improper Fuel-Air Mixture<br/>(Not enough fuel)</b>   |   |
| Heater burns, but puffs of smoke can be seen; heater will not burn steady; heater burns with odor; heater smokes continuously. | 1. Heater running out of fuel; water condensation in fuel tank; wrong fuel.                    | 1a. Shut heater off: check fuel tank. If you see globules of water in the bottom, drain and flush the tank and filter with clean fuel.<br>b. Refill with fresh, clean fuel.   |

**Trouble Shooting Chart (Continued)**

| SYMPTOMS  | POSSIBLE CAUSE(S)   | CORRECTIVE ACTION  |
|---|---|--|
| Heater burns, but puffs of smoke can be seen; heater will not burn steady; heater burns with odor; heater smokes continuously.<br>(Continued) | 2. Dirty air filters causing reduced air flow through nozzle, resulting in low fuel flow<br>3. Fuel filter loose, dirty, or connection loose<br>4. Dirty nozzle<br>5. Fan blade<br>6. Loose air output line connections between filter housing and burner.<br>7. Rubber sleeve on shank of nozzle is leaking. (Remote possibility). | 2. Remove and clean the air filters. Be sure air intake is not blocked.<br>3a. Remove and wash fuel filter in clean fuel.<br>b. Check condition of connection between fuel line and burner.<br>c. Replace with new fuel line.<br>4a. Remove and clean the burner head.<br>b. Blow compressed air through nozzle from outlet end.<br>c. Never use a drill, wire or other tool to open a nozzle passage.<br>5. Check for excessive dirt accumulation on fan blade which could be causing motor to slow down.<br>6. Be sure connections are tight.<br>7. If heater puffs intermittently, replace the rubber sleeve. (Handle parts carefully to prevent damage; assemble them carefully to preserve airtightness.) |
| <b>Improper Fuel-Air Mixture<br/>                     (Too much fuel, or not enough air for amount of fuel being supplied)</b>                |   |  |
| Flames come from front of heater.   | 1. Dirty fan<br>2. Air passageway through heater blocked by dirt or trash<br>3. Fan loose or improperly located on shaft<br>4. Bent or damaged fan<br>5. High pump pressure<br>6. Air intake blocked  | 1. Clean the fan.<br>2. Be sure the air passageway through the heater is clean. Keep the heater clean.<br>3. Check fan; correct if not right.<br>4. Replace. Do not attempt repair of fan.<br>5. Check and adjust pressure.<br>6. Check filters.   |
| <b>Electrical System Troubles</b>   |   |  |
| Heater cycles intermittently.   | 1. Thermostat (if used) set too low<br>2. Damaged thermostat (if used)<br>3. Low voltage causing tripout of safety control<br>4. Damaged electrical supply or damaged connections   | 1. Set thermostat to a higher temperature for more even operation.<br>2. Replace a damaged thermostat.<br>3. Check power line voltage. Use extension cord with proper size wire.<br>4a. Be sure extension cord and heater service cord are in good condition, without intermittent open circuits.<br>b. Check mechanical and electrical soundness of all wiring connections in the heater and service cord.  |
| Heater ignites, but button of safety control circuit breaker pops out anyway.   | 1. Damaged photo cell<br>2. Damaged safety control<br>3. Damaged electrical connections in circuit through cell and control   | 1. Check to see if glass face of cell is so dirty it can't "see" the flame; clean glass if dirty. Replace with a cell that is known to be good.<br>2. Replace with a control that is known to be good.<br>3. Be sure all solder joints and wiring connections are secure. Check wiring diagram.  |
| Safety control circuit breaker fails to trip when a no-flame condition exists.  | 1. Damaged circuit breaker<br>2. Control dirty or damaged   | 1a. Replace with a circuit breaker that is known to be good.<br>b. Replace with a new printed circuit board. (Model 3E218A only).<br>2a. Replace damaged control with one that is known to be good.  |

**Trouble Shooting Chart (Continued)**

| SYMPTOMS  | POSSIBLE CAUSE(S)   | CORRECTIVE ACTION  |
|---|---|--|
| Safety control circuit breaker fails to trip when a no-flame condition exists.<br>(Continued) | 3. Photocell electrical leads shorted   | b. Replace the printed circuit board. (Model 3E218A only).<br>3. Check photo cell leads for shorted leads. Replace photo cell if damaged.  |
| Button on safety control circuit breaker won't stay in when pressed.                          | 1. Resetting is tried too soon after the breaker trips.<br>2. Damaged circuit breaker<br><br>3. Photo cell circuit open | 1. Wait 5 minutes and try again.<br>2a. Replace with a circuit breaker that is known to be good.<br>b. Replace with a printed circuit board. (Model 3E218A only).<br>3. Check photo cell for open condition. Replace if damaged. |

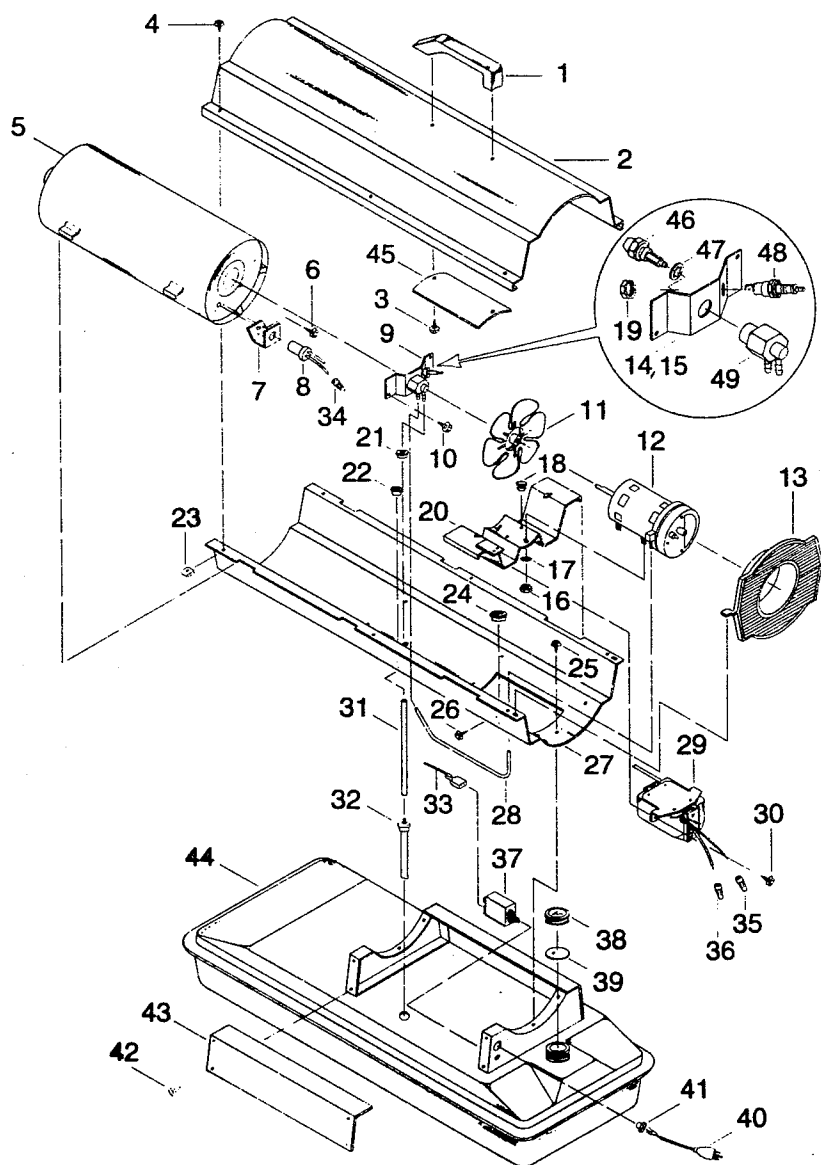


Figure 2 — Replacement Parts Illustration for Heater Models 2E510A & 2E511A



**Replacement Parts List for Heater Models 2E510A & 2E511A**

| REF. NO. | PART NO.    | DESCRIPTION  | 2E510A QTY. | 2E511A QTY. |
|----------|-------------|--|-------------|-------------|
| 1        | M51104-01   | Handle   | 1           | 1           |
| 2        | M50901-01AZ | Upper shell  | 1           | 1           |
| 3        | M50589-01   | Handle screw   | 2           | 2           |
| 4        | M11084-27   | Hex head screw #10-16 × 1/2                              | 6           | 6           |
| 5        | M50785-02   | Assembly combustion chamber                              | 1           | —           |
| 6        | M50785-04   | Assembly combustion chamber                              | —           | 1           |
| 6        | M10908-2    | Hex head screw #6-32 × 3/8                               | 2           | 2           |
| 7        | M16660      | Photo cell bracket                                       | 1           | 1           |
| 8        | M16656-9    | Photo cell assembly                                      | 1           | 1           |
| 9        | M29707-04   | Burner head assembly                                     | 1           | —           |
| 9        | M29707-03   | Burner head assembly                                     | —           | 1           |
| 10       | M11084-26   | Hex head screw #10-16 × 3/8                              | 2           | 2           |
| 11       | M30884      | Fan 7¼" dia. — 1.437                                     | 1           | 1           |
| 12       | M29750-05   | Motor and pump assembly                                  | 1           | —           |
| 12       | M29750-04   | Motor and pump assembly (See figure for parts reference) | —           | 1           |
| 13       | M51105-01   | Fan guard  | 1           | 1           |
| 14       | M51013-01   | Bracket  | 1           | —           |
| 15       | M29613-01   | Bracket  | —           | 1           |
| 16       | NJC-4C      | Hex jam nut  | 2           | 2           |
| 17       | WLI-4C      | Lockwasher   | 2           | 2           |
| 18       | M50631      | Rubber bumper  | 2           | 2           |
| 19       | M29824      | Nut, 14mm  | —           | —           |
| 20       | M50784      | Motor bracket  | 1           | 1           |
| 21       | M30865-02   | Bushing (wire from transformer to spark plug)            | 1           | 1           |
| 22       | M25907      | Bushing (photo cell wired)                               | 1           | 1           |
| 23       | M11271-8    | Tinnerman nut  | 6           | 6           |
| 24       | M50104-02   | Bushing (wires)  | 1           | 1           |
| 25       | M11084-26   | Hex head screw #10 - 16 × 3/8                            | 6           | 6           |
| 26       | M15823-37   | Grounding screw #8 × 1/4                                 | 1           | 1           |
| 27       | M50902-01AZ | Lower shell  | 1           | 1           |
| 28       | M29652-04   | Rubber airline   | 1           | 1           |
| 29       | M50570-03   | Transformer  | 1           | 1           |
| 30       | M11084-26   | Hex head screw #10-16 × 3/8                              | 2           | 2           |
| 31       | M29652-05   | Fuel line (Buna "n" rubber)                              | 1           | 1           |
| 32       | M50876-02   | Assembly fuel filter                                     | —           | 1           |
| 32       | M50876-04   | Assembly fuel filter                                     | 1           | —           |
| 33       | M9900-157   | Wire assembly (red)                                      | 1           | 1           |
| 34       | M13942-7    | Wire connector (blue photo cell wire)                    | 1           | 1           |
| 35       | M13942-5    | Wire connector (red wires)                               | 1           | 1           |
| 36       | M13942-6    | Wire connector (white wires)                             | 1           | 1           |
| 37       | M50300-01   | Flame out control (safety)                               | 1           | 1           |
| 38       | M51000-01   | Fuel tank cap  | 1           | 1           |
| 39       | M51002-01   | Fuel tank and cap gasket                                 | 1           | 1           |
| 40       | M10813-81   | Power cord   | 1           | 1           |
| 41       | M11143-1    | Strain relief bushing                                    | 1           | 1           |
| 42       | M11084-26   | Hex head screw #10-16 × 3/8                              | 2           | 2           |
| 43       | M50899-03AA | Side cover   | 1           | 1           |
| 44       | M50811-04AA | Fuel tank  | 1           | —           |
| 44       | M50811-05AA | Fuel tank  | —           | 1           |
| 45       | M51108-01   | Heat-shell shield  | 1           | 1           |
| 46       | M29681      | Nozzle   | 1           | —           |
| 46       | M50597      | Nozzle   | —           | 1           |
| 47       | M16741-18   | Retainer ring  | 1           | 1           |
| 48       | M29835      | Spark plug   | 1           | 1           |
| 49       | M29805      | Nozzle adapter   | 1           | 1           |

**PARTS NOT SHOWN****MODEL 2E510A**

M51110-03 Warning decal  
M51544-01 Trade name decal  
M51544-05 Trade name decal  
M51138-03 Wiring diagram decal  
M50011 Spark plug placing decal

**MODEL 2E511A**

M51110-03 Warning decal  
M51544-02 Trade name decal  
M51544-06 Trade name decal  
M51138-03 Wiring diagram decal  
M50011 Spark plug placing decal

01582

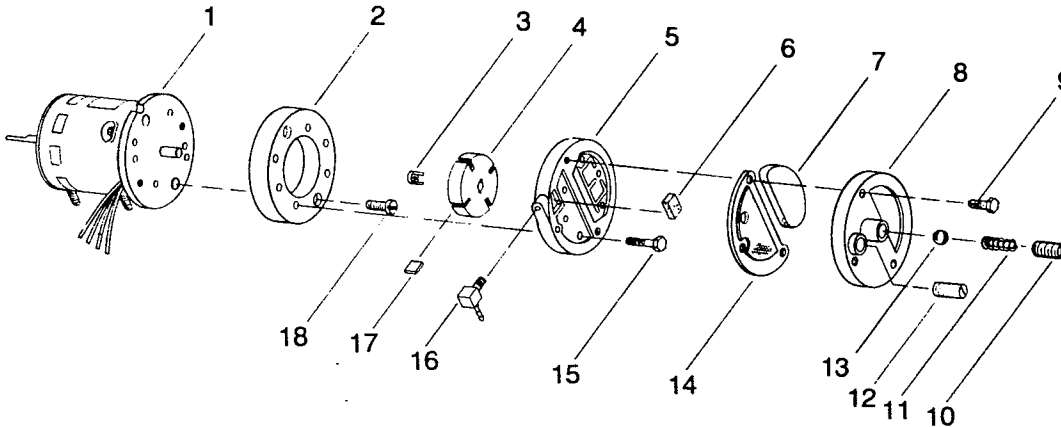


Figure 3 — Replacement Parts Illustration for Motor and Pump Assembly Models 2E510A &amp; 2E511A

**Replacement Parts List for Motor and Pump Assembly  
Models 2E510A & 2E511A**

| REF. NO. | PART NO.  | DESCRIPTION             | 2E510A QTY. | 2E511A QTY. |
|----------|-----------|-------------------------|-------------|-------------|
| 1        | M29750-05 | Motor and pump assembly | 1           | —           |
|          | M29750-04 | Motor and pump assembly | —           | 1           |
|          | M50843-01 | Motor                   | —           | 1           |
|          | M50843-02 | Motor                   | 1           | —           |
| 2        | M8645     | Pump body               | 1           | 1           |
| 3        | M22009    | Insert                  | 1           | 1           |
| 4        | M22456-1  | Rotor                   | 1           | 1           |
| 5        | M29608    | End pump cover          | 1           | 1           |
| 6        | M29632    | Lint filter             | 1           | 1           |
| 7        | M29633    | Intake filter           | 1           | 1           |
| 8        | M29609    | End cover filter        | 1           | 1           |
| 9        | M12461-31 | Screw #10-32 × 1        | 3           | 3           |
| 10       | M27694    | Adjusting screw         | 1           | 1           |
| 11       | M10993-1  | Pressure relief spring  | 1           | 1           |
| 12       | M22997    | Plug                    | 1           | 1           |
| 13       | M8940     | Steel ball 1/4" dia.    | 1           | 1           |
| 14       | M29612-01 | Output filter           | 1           | 1           |
| 15       | M12461-31 | Screw #10-32 × 1        | 6           | 6           |
| 16       | M50016    | Elbow 90°               | 1           | 1           |
| 17       | M8643     | Blade                   | 4           | 4           |
| 18       | FHPF3-4C  | Screw #10-32 × 1/2      | 2           | 2           |

**Replacement Parts List for Heater Model 3E218A**

| REF. NO. | PART NO.    | DESCRIPTION  | QTY. | REF. NO. | PART NO.  | DESCRIPTION   | QTY. |
|----------|-------------|--|------|----------|-----------|---|------|
| 1        | M51072-01AZ | Upper shell  | 1    | 10       | M23149-14 | Motor and pump assembly (See Figure 11 for details) | 1    |
| 2        | M15823-27   | Hex head screw #10-16 × 1/2  | 6    | 11       | M50631    | Rubber bumper                                       | 2    |
| 3        | M51075-01   | Combustion chamber assembly  | 1    | 12       | M51074-01 | Motor mounting bracket                              | 1    |
| 4        | M16660      | Photo cell bracket   | 1    | 13       | WLI-4C    | Lockwasher 1/4"                                     | 2    |
| 5        | M10908-2    | Hex head screw #6-32 × 3/8 (Attaches photo cell bracket to combustion chamber) | 2    | 14       | NJC-4C    | Hex jam nut   | 2    |
| 6        | M16656-10   | Photo cell assembly  | 1    | 15       | M51114-01 | Fan guard   | 1    |
| 7        | M51126-01   | Burner head assembly (See figure for details)                                  | 1    | 16       | M50570-04 | Transformer, 5000 volt                              | 1    |
| 8        | M11084-27   | Hex head screw #10-16 × 1/2  | 3    | 17       | M11084-3  | Hex head screw #12-14 × 1/2                         | 2    |
| 9        | M51153-01   | Fan  | 1    | 18       | M51345-01 | Fuel line   | 1    |
|          |             |  |      | 19       | M51150-01 | Fuel filter   | 1    |
|          |             |  |      | 20       | M51151-01 | Fuel line tube                                      | 1    |
|          |             |  |      | 21       | M10990-3  | Rubber bushing                                      | 1    |
|          |             |  |      | 22       | M50814-06 | Rubber airline                                      | 1    |

**Replacement Parts List for Heater Model 3E218A (Continued)**

| REF. NO. | PART NO.    | DESCRIPTION  | QTY. | REF. NO.  | PART NO.    | DESCRIPTION                            | QTY. |
|----------|-------------|--|------|---|-------------|--|------|
| 23       | M51073-01AZ | Lower shell  | 1    | 33  | M51002-01   | Cap gasket                             | 1    |
| 24       | M30865-02   | Bushing (photo cell wires)   | 1    | 34  | M51122-01   | Circuit board support                  | 3    |
| 25       | M30865-02   | Bushing (transformer lead to spark plug)                           | 1    | 35  | M51060-03   | Safety control board, PCB              | 1    |
| 26       | M30865-02   | Bushing (transformer lead to spark plug)                           | 1    | 36  | M51157-01   | Hex nut 12 mm (Secure PCB to brackets) | 1    |
| 27       | M50104-02   | Bushing (airline and wires thru shell)                             | 1    | 37  | M11143-1    | Strain relief bushing                  | 1    |
| 28       | M11084-3    | Hex head screw #12-14 x 1/2 (Secures lower shell to tank brackets) | 6    | 38  | M10813-84   | Extension cord assembly                | 1    |
| 29       | M11271-8    | Clip nut   | 6    | 39  | M51077-01AA | Side cover                             | 1    |
| 30       | M15823-37   | Grounding screw #8-18 x 1/4  | 1    | 40  | M11084-3    | Hex head screw #12-14 x 1/2            | 4    |
| 31       | M51115-01AA | Fuel tank  | 1    | <b>PARTS NOT SHOWN</b>  |             |  |      |
| 32       | M51000-01   | Filler neck cap  | 1    |   |             |  |      |
|          |             |  |      | M51545-01 Trade name decal<br>M51545-04 Trade name decal<br>M51138-07 Wiring diagram<br>078994-01 General information decal |             |  |      |

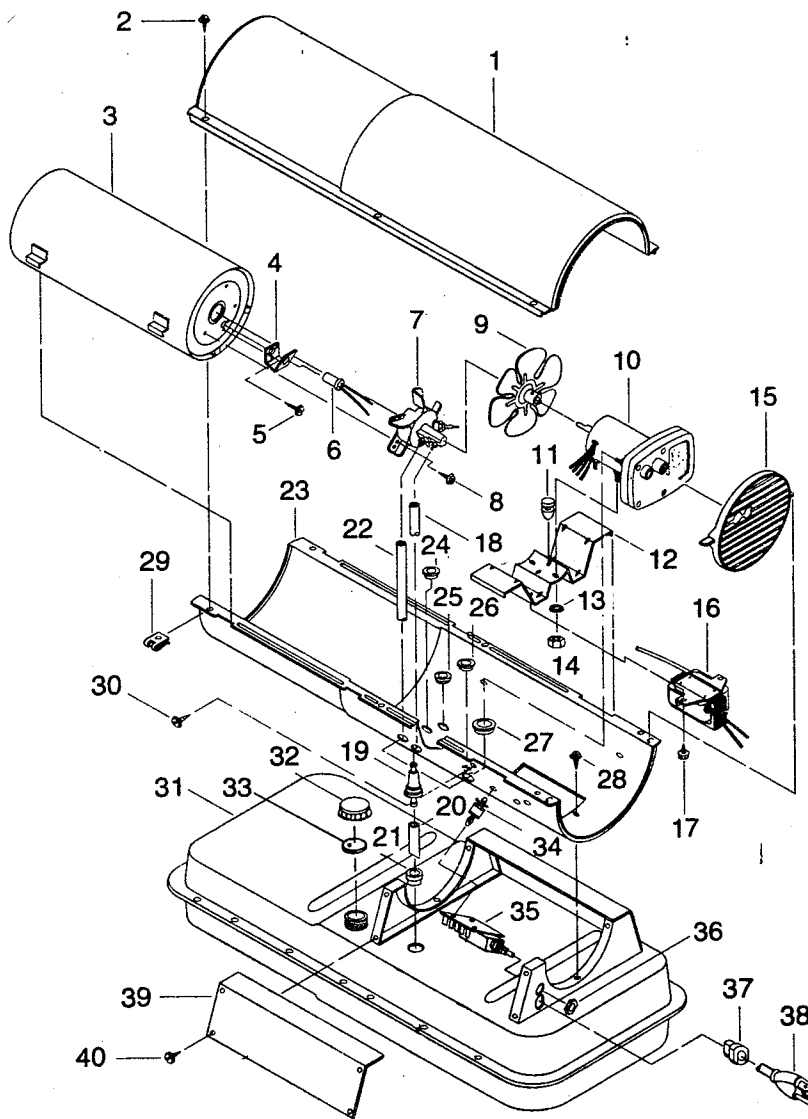
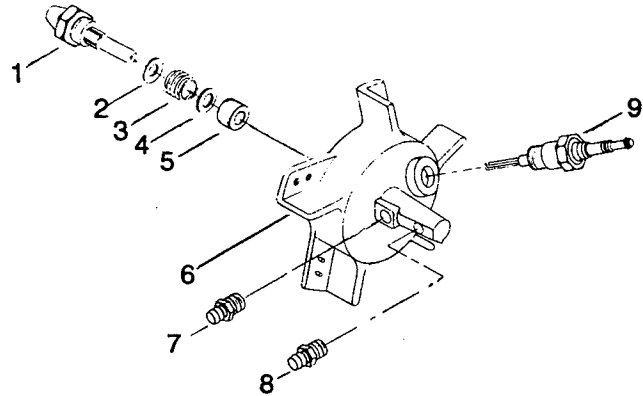


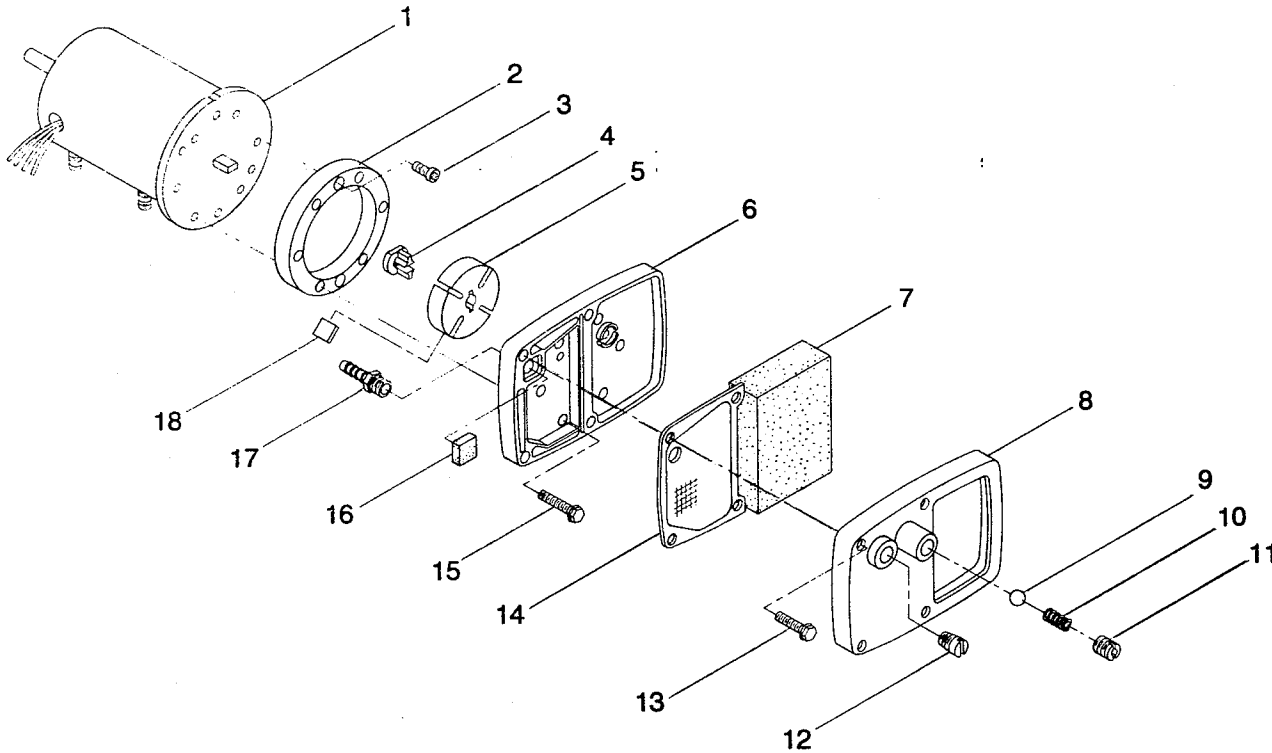
Figure 4 — Replacement Parts Illustration for Heater Model 3E218A

**Replacement Parts List for  
Burner Head Assembly  
Model 3E218A**

| REF. NO. | PART NO.  | DESCRIPTION          | QTY. |
|----------|-----------|----------------------|------|
| 1        | M51126-01 | Burner head assembly | 1    |
| 2        | M51120-01 | Nozzle               | 1    |
| 3        | M10659-1  | Nozzle seal washer   | 1    |
| 4        | M10809-1  | Nozzle seal spring   | 1    |
| 5        | M10659-1  | Nozzle seal washer   | 1    |
| 6        | M8882     | Nozzle sleeve seal   | 1    |
| 7        | M50924-03 | Burner head body     | 1    |
| 8        | M50820-02 | Barb fitting         | 1    |
| 9        | M50820-02 | Barb fitting         | 1    |
| 9        | M10962-2  | Spark plug           | 1    |



**Figure 5 — Replacement Parts Illustration for  
Burner Head Assembly Model 3E218A**



**Figure 6 — Replacement Parts Illustration for Motor and Pump Assembly Model 3E218A**

**Replacement Parts List for Motor and Pump Assembly Model 3E218A**

| REF. NO. | PART NO.  | DESCRIPTION              | QTY. | REF. NO. | PART NO.  | DESCRIPTION   | QTY. |
|----------|-----------|--------------------------|------|----------|-----------|---|------|
| 1        | M23149-14 | Motor & pump assembly    | 1    | 12       | M22997    | Pipe plug   | 1    |
|          | M51131-01 | Split single phase motor | 1    | 13       | M12461-31 | Hex head screw #10-32 x 1 in. (Attaches filter end cover to pump end cover) | 4    |
| 2        | M8645     | Pump body                | 1    | 14       | M12244-1  | Output filter assembly  | 1    |
| 3        | FHPF3-4C  | Screw #10-32 x 1/2       | 2    | 15       | M12461-32 | Hex head screw #10-32 x 1 1/8   | 6    |
| 4        | M22009    | Insert                   | 1    | 16       | M11637    | Lint filter   | 1    |
| 5        | M22456-1  | Pump rotor               | 1    | 17       | M50820-02 | Barb fitting  | 1    |
| 6        | M50545    | End pump cover           | 1    | 18       | M8643     | Blade   | 4    |
| 7        | M12179    | Intake filter            | 1    |          |           |   |      |
| 8        | M16545    | Filter end cover         | 1    |          |           |   |      |
| 9        | M8940     | Steel ball 1/4" dia.     | 1    |          |           |   |      |
| 10       | M10993-1  | Pressure relief spring   | 1    |          |           |   |      |
| 11       | M27694    | Adjusting screw          | 1    |          |           |   |      |

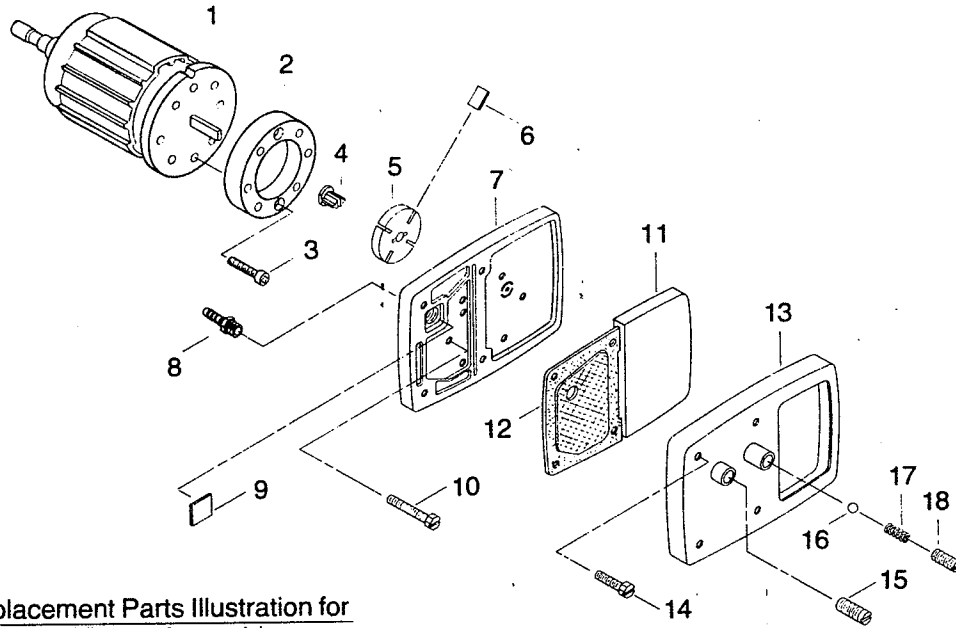


Figure 7 — Replacement Parts Illustration for Motor and Pump Assembly Model 3E219

**Replacement Parts List for Motor and Pump Assembly Model 3E219**

| REF. NO. | PART NO.  | DESCRIPTION                     | QTY. | REF. NO. | PART NO.  | DESCRIPTION               | QTY. |
|----------|-----------|---------------------------------|------|----------|-----------|---------------------------|------|
|          | M17875-14 | Motor & pump assembly complete  | —    | 11       | M12179    | Air intake filter         | 1    |
| 1        | M50450-01 | Motor                           | 1    | 12       | M12244-1  | Output filter assembly    | 1    |
| 2        | M8645-3   | Pump body                       | 1    | 13       | M16545    | Filter end cover          | 1    |
| 3        | FHPF3-7C  | Screw, #10-32 x 7/8             | 2    | 14       | M12461-31 | Hex head screw #10-32 x 1 | 4    |
| 4        | M22009    | Insert                          | 1    | 15       | M22997    | Solid plug                | 1    |
| 5        | M22456-3  | Pump motor                      | 1    | 16       | M8940     | Ball, 1/4" dia.           | 1    |
| 6        | M8643-3   | Pump blade                      | 4    | 17       | M10993-1  | Compression spring        | 1    |
| 7        | M50545    | End pump cover                  | 1    | 18       | M27694    | Pressure adjustment screw | 1    |
| 8        | M50817-01 | Fitting barb                    | 1    |          |           |                           |      |
| 9        | M11637    | Lint filter                     | 1    |          |           |                           |      |
| 10       | M12461-34 | Hex head screw #10 x 32 x 1 1/2 | 6    |          |           |                           |      |

**Replacement Parts List for Burner Head Assembly Model 3E219**

| REF. NO. | PART NO.  | DESCRIPTION                   | QTY. |
|----------|-----------|-------------------------------|------|
|          | M16803-8  | Burner head assembly complete |      |
| 1        | M18022    | Nozzle, 1.1 GPH               | 1    |
| 2        | M10659-1  | Nozzle seal washer            | 2    |
| 3        | M10809-1  | Nozzle seal spring            | 1    |
| 4        | M8882     | Nozzle seal sleeve            | 1    |
| 5        | M16741-18 | Retaining ring                | 1    |
| 6        | M23090    | Burner head body              | 1    |
| 7        | M10962-2  | Spark plug                    | 1    |
| 8        | M16535    | Nozzle adapter                | 1    |
| 9        | M50817-01 | Barb fitting                  | 1    |
| 10       | M16791    | Male connector                | 1    |
| 11       | M19630    | Fuel filter                   | 1    |
| 12       | M16790-12 | Tube filter, fuel line        | 1    |
| 13       | M13849    | Nut flare                     | 1    |

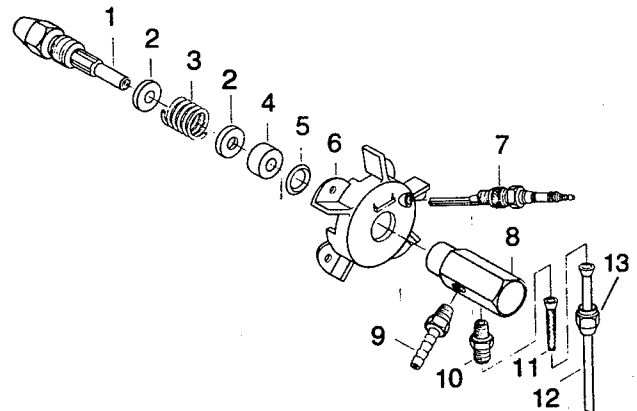


Figure 8 — Replacement Parts Illustration for Burner Head Assembly Model 3E219

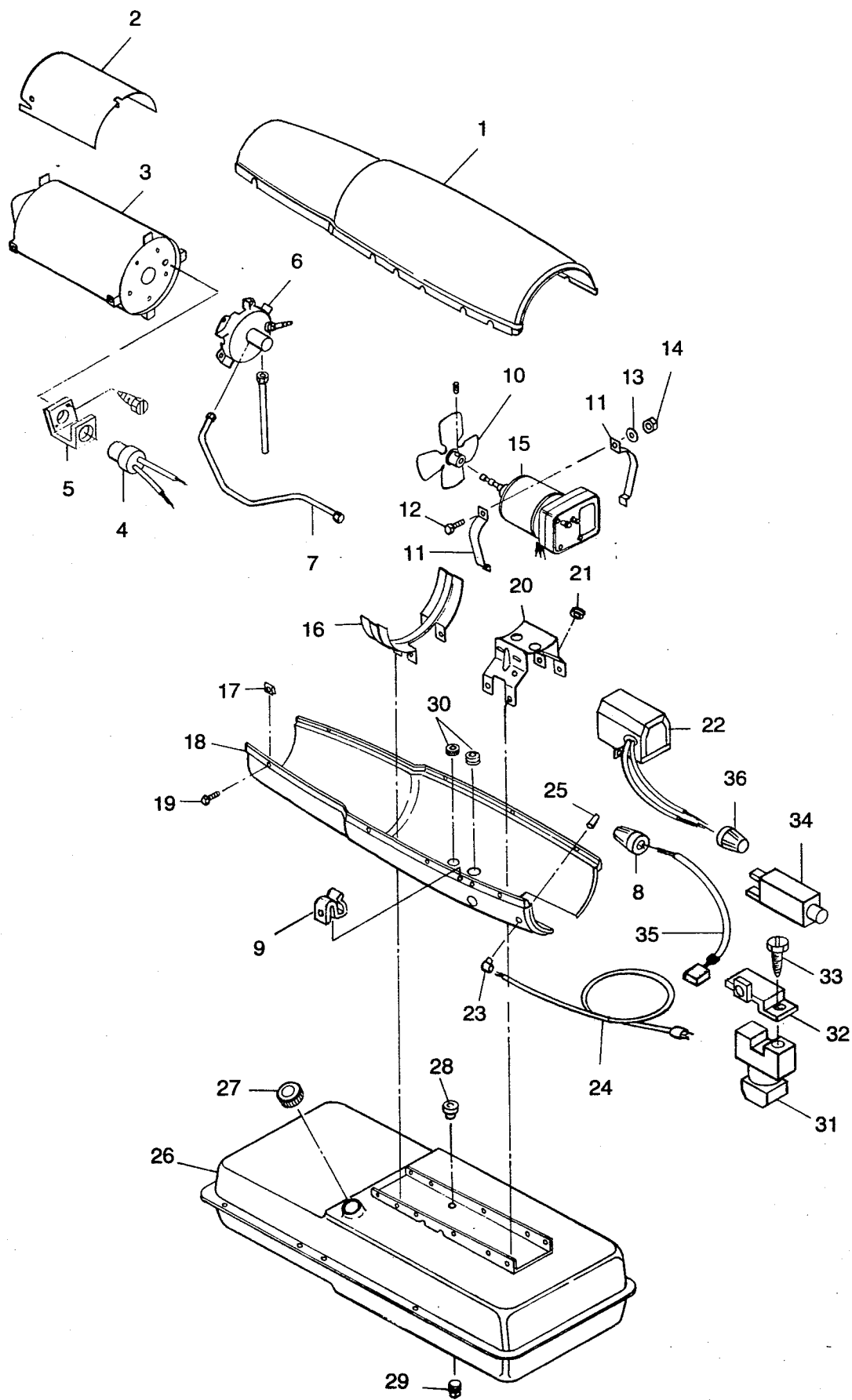


Figure 9 — Replacement Parts Illustration for Heater Model 3E219

**Replacement Parts List for Heater  
Model 3E219**

| REF. NO. | PART NO.  | DESCRIPTION  | QTY. | REF. NO.               | PART NO.                     | DESCRIPTION                    | QTY. |
|----------|-----------|--|------|------------------------|------------------------------|--------------------------------|------|
| 1        | M17014AZ  | Upper shell  | 1    | 20                     | M16645                       | Motor support bracket          | 1    |
| 2        | M16679    | Heat deflector   | 1    | 21                     | 1000577                      | Grommet                        | 1    |
| 3        | M16887-6  | Combustion chamber   | 1    | 22                     | M16697-02                    | Transformer, 5000 volt         | 1    |
| 4        | M16656-4  | Photo cell assembly  | 1    | 23                     | M11143-1                     | Strain relief bushing          | 1    |
| 5        | M16660    | Photo cell bracket   | 1    | 24                     | M10813-74                    | Power cord                     | 1    |
|          | M10908-2  | Screws, #6-32 × 3/7<br>(holds photo cell bracket<br>to combustion chamber) | 2    | 25                     | M13942-6                     | Wire connector                 | 1    |
| 6        | M16803-8  | Burner head assembly<br>(See Figure 8 for<br>parts detail)                 | 1    | 26                     | M51011-01AA                  | Fuel tank assembly             | 1    |
| 7        | M50814-03 | Airline tubing (Neoprene)  | 1    | 27                     | M51000-01                    | Fuel cap                       | 1    |
| 8        | M13942-5  | Wire connector   | 1    | 28                     | M51002-01                    | Gasket (fuel cap)              | 1    |
| 9        | M50873-01 | Airline clip   | 2    | 29                     | M10990-3                     | Bushing                        | 1    |
| 10       | M17058    | Fan  | 1    | 30                     | M27417                       | Drain plug                     | 1    |
| 11       | M16661    | Motor clamp  | 4    | 31                     | 1000576                      | Grommet                        | 2    |
| 12       | M51043-01 | Hex head screw<br>1/4-20 × 1/2   | 2    | 32                     | M12462-17                    | Motor start relay              | 1    |
| 13       | WLM-4     | Lockwasher 1/4" dia.   | 2    | 33                     | M25296-1                     | Safety control bracket         | 1    |
| 14       | NPC-4C    | Hex nut 1/4-20   | 2    | 34                     | M11084-27                    | Hex head screw<br>#10-16 × 1/2 | 1    |
| 15       | M17875-14 | Motor assembly<br>(See Figure 7 for<br>parts detail)                       | 1    | 35                     | M28898-03                    | Flame-out control              | 1    |
| 16       | M12828    | Shell support bracket  | 1    | 36                     | M16841-40                    | Wire assembly (red)            | 2    |
| 17       | M11271-6  | Clip cut   | 6    |                        | M13942-7                     | Wire connector                 | 1    |
| 18       | M16810AZ  | Lower shell  | 1    | <b>PARTS NOT SHOWN</b> |                              |                                |      |
| 19       | M11084-27 | Hex head screw<br>#10-16 × 1/2   | 6    | M50838                 | Warning decal                |                                |      |
|          |           |  |      | M50623                 | Operation instructions decal |                                |      |
|          |           |  |      | M22743                 | Warning decal                |                                |      |
|          |           |  |      | M25352                 | Wiring diagram decal         |                                |      |
|          |           |  |      | M51545-02              | Trade name decal             |                                |      |
|          |           |  |      | M51545-05              | Trade name decal             |                                |      |

**ORDER REPLACEMENT PARTS THROUGH DEALER  
FROM WHOM PRODUCT WAS PURCHASED**

Please provide following information:

- Model Number
- Serial Number (if any)
- Part Description and Number  
as shown in parts list.

If dealer cannot supply,  
order from:  
Dayton Electric Mfg. Co.  
Parts Department  
5959 W. Howard St.  
Chicago, Illinois 60648

**Replacement Parts List for  
Handle and Wheel Group  
Model 3E218A**

| REF. NO. | PART NO.  | DESCRIPTION                     | QTY. |
|----------|-----------|---------------------------------|------|
| 1        | M15131-5  | Front and rear handle           | 2    |
| 2        | M12345-33 | Oval head screw<br>#10-24 × 1¾" | 8    |
| 3        | M12342-3  | Wheel support frame             | 1    |
| 4        | NTC-3C    | Hex nut 10-24, torque<br>lock   | 8    |
| 5        | M51015-01 | Axle                            | 1    |
| 6        | M19294    | Wheel                           | 2    |
| 7        | M28526    | Cap nut                         | 2    |

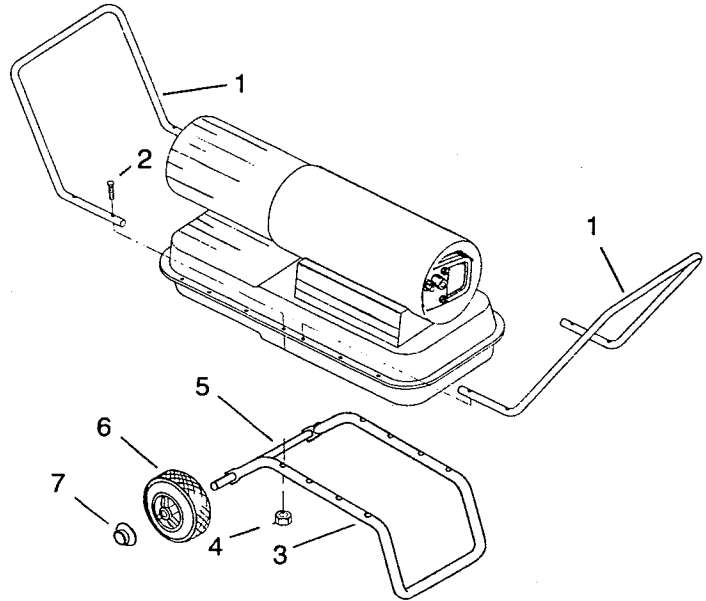


Figure 10 — Replacement Parts Illustration for  
Handle and Wheel Group Model 3E218A

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- Serial Number (if any)
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Parts Department  
5959 W. Howard St.  
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**Replacement Parts List for  
Handle and Wheel Group  
Model 3E219**

| REF. NO. | PART NO.  | DESCRIPTION                    | QTY. |
|----------|-----------|--------------------------------|------|
| 1        | M15813-3  | Front handle                   | 1    |
| 2        | M15813-3  | Rear handle                    | 1    |
| 3        | M12831-3  | Wheel support frame            | 1    |
| 4        | M12345-33 | Oval head screw<br>10-24 × 1¾" | 8    |
| 5        | M28526    | Cap nut                        | 2    |
| 6        | NTC-3C    | Torque, lock nut #10-24        | 8    |
| 7        | M19294    | Wheel                          | 2    |
| 8        | M16801-2  | Axle                           | 1    |

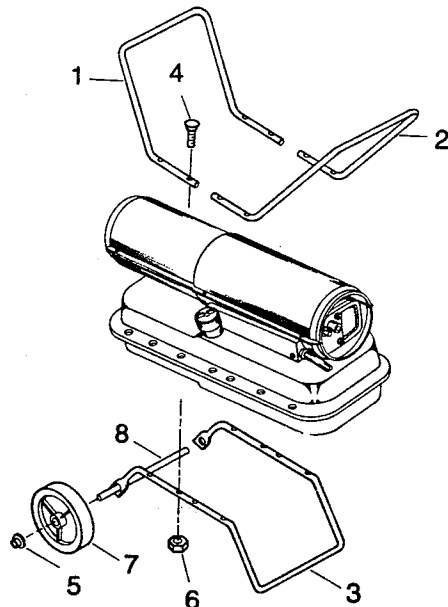


Figure 11 — Replacement Parts Illustration for  
Handle and Wheel Group Model 3E219



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