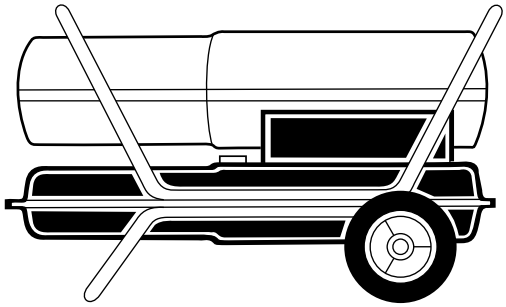
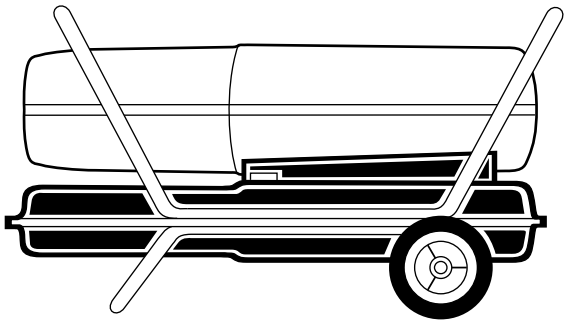
jetaire

PORTABLE FORCED AIR HEATERS

OWNER'S MANUAL



J100ECA 100,000 BTU/Hr



J150ECA 150,000 BTU/Hr

IMPORTANT

Read and understand this manual before assembling, starting or servicing heater. Improper use of heater can cause serious injury. Keep this manual for future reference.

CONTENTS

SAFETY INFORMATION

⚠ WARNINGS

IMPORTANT: Read this Owner's Manual carefully and completely before trying to assemble, operate, or service this heater. Improper use of this heater can cause serious injury or death from burns, fire, explosion, electrical shock, and carbon monoxide poisoning.

⚠ DANGER

Carbon monoxide poisoning may lead to death!

Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness, and/or nausea. If you have these signs, the heater may not be working properly. **Get fresh air at once!** Have heater serviced. Some people (such as pregnant women, persons with heart or lung disease, persons with anemia, those under the influence of alcohol, and those at high altitudes) are more affected by carbon monoxide than others.

Make certain you read and understand all Warnings. Keep this manual for reference. It is your guide to safe and proper operation of this heater.

- Use only kerosene or No. 1 fuel oil to avoid risk of fire or explosion. Never use gasoline, naphtha, paint thinners, alcohol, or other highly flammable fuels.
- Never use heater where gasoline, paint thinner, or other highly flammable vapors are present.
- Follow all local ordinances and codes when using heater.
- Use only in well vented areas. Provide at least three square feet (2800 square cm) of fresh, outside air for each 100,000 BTU/Hr of rating.
- Use only in places free of flammable vapors or high dust content.
- Use only with the electrical voltage and frequency specified on model plate.
- Use only a three-wire, grounded (earthed) extension cord.
- Minimum heater clearances from combustibles:
  Outlet: 8 Ft. (250cm) Sides, Top, and Rear: 4 Ft. (125cm)
- Locate heater on a stable and level surface while hot or running or a fire may occur.
- When moving or storing heater, keep heater in a level position or fuel spillage may occur.
- Keep children and animals away from heater.
- Unplug heater when not in use.
- When used with thermostat, heater may start anytime.
- Never use heater in living or sleeping areas.
- Never block air inlet (rear) or air outlet (front) of heater.
- Never move, handle, refuel, or service a hot, operating, or plugged in heater.
- Never attach duct work to front or rear of heater.

PRODUCT IDENTIFICATION

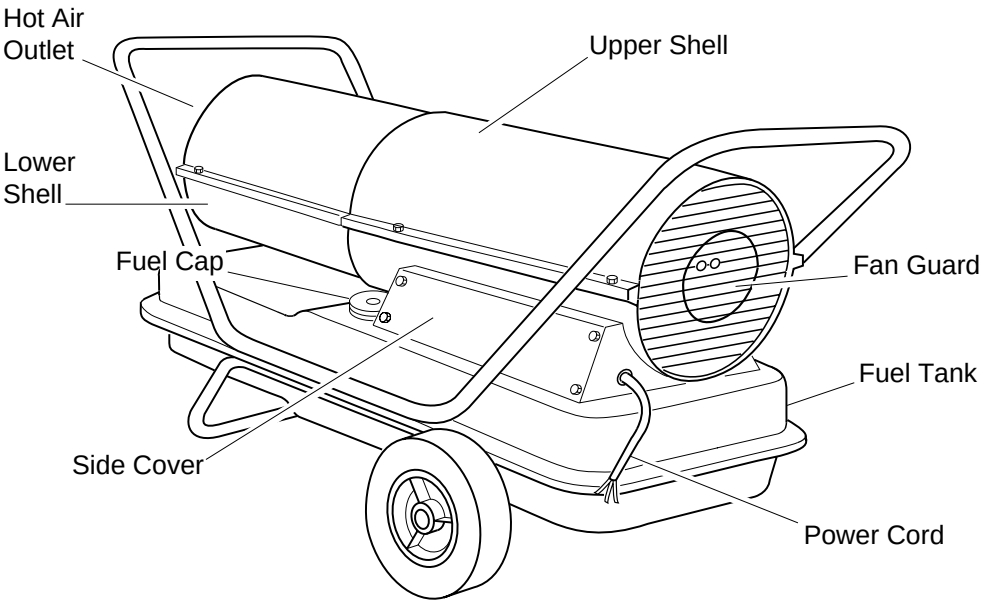


Figure 1 - 100,000 BTU/Hr Model

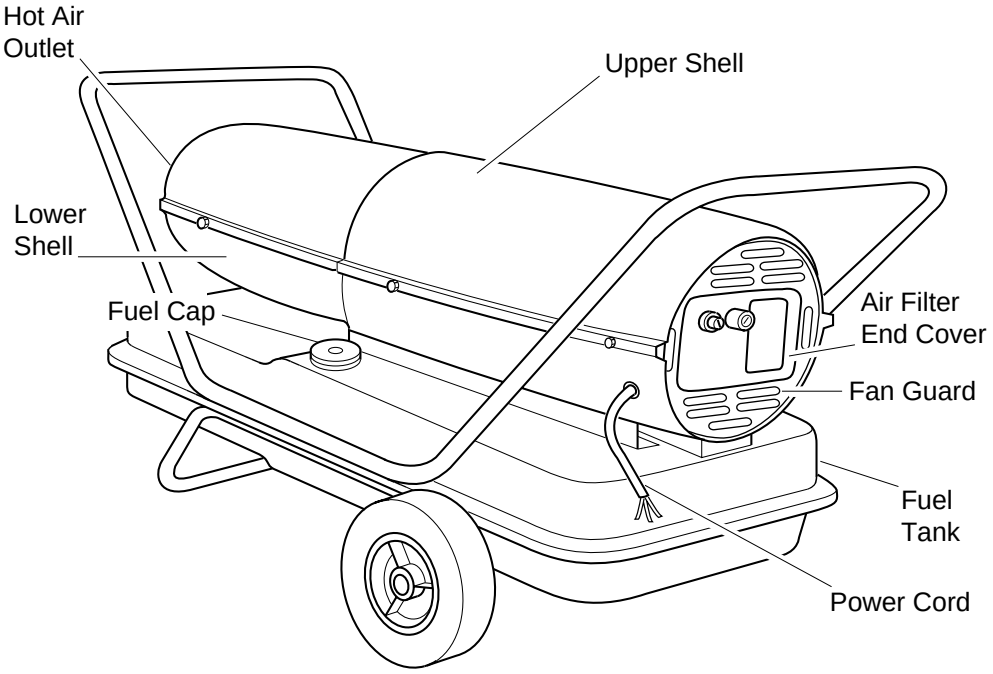


Figure 2 - 150,000 BTU/Hr Model

UNPACKING

1. Remove all packing items applied to heater for shipment.
2. Remove all items from carton.
3. Check items for any shipping damage. If heater is damaged, promptly inform dealer where you bought heater.

ASSEMBLY

These models are furnished with wheels and handles. Wheels, handles, and the mounting hardware are found in the shipping carton.

Tools Needed

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

1. Slide axle through wheel support frame. Install wheels on axle. *IMPORTANT:* When installing wheels, point extended hub of wheels toward wheel support frame (see Figure 3).
2. Place cap nuts on axle ends. Gently tap with hammer to secure.
3. Place heater on wheel support frame. Make sure air inlet end (rear) of heater is over wheels. Line up holes on fuel tank flange with holes on wheel support frame.
4. Place front handle and rear handle on top of fuel tank flange. Insert screws through handles, fuel tank flange, and wheel support frame. Attach nut finger tight after each screw is inserted.
5. After all screws are inserted, tighten nuts firmly.

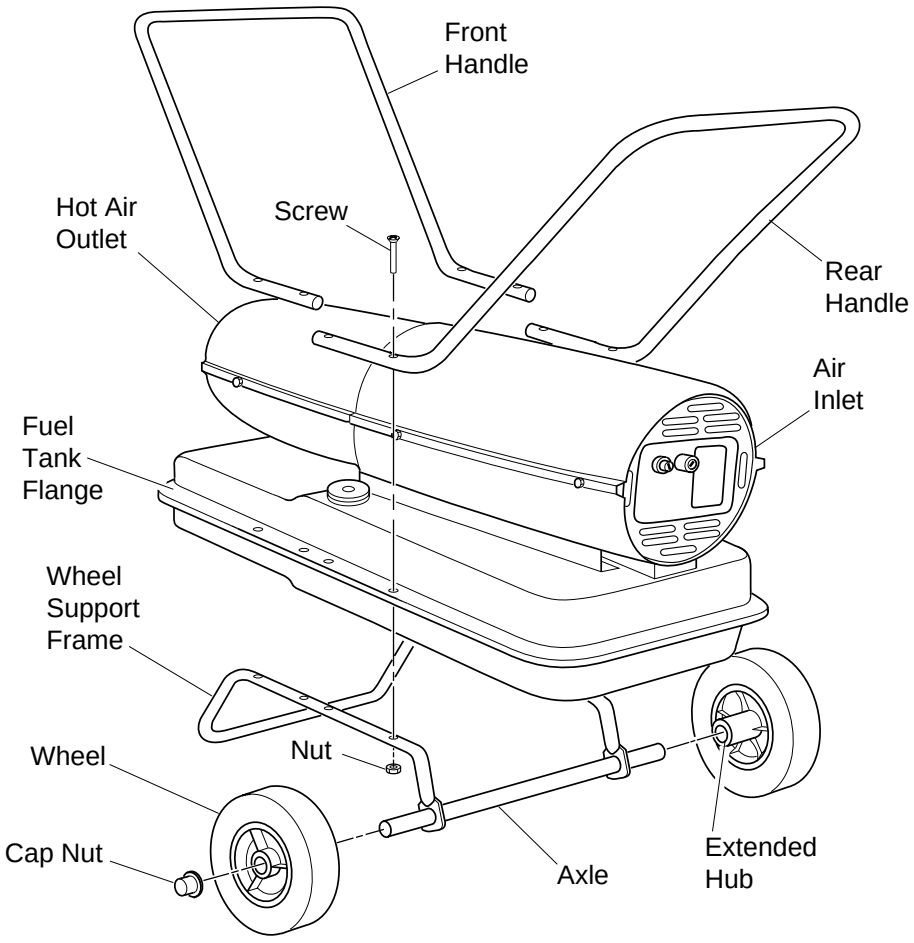


Figure 3 - Wheel and Handle Assembly

THEORY OF OPERATION

The Fuel System: The air pump forces air through the air line. The air is then pushed through the burner head nozzle. This air causes fuel to lift from the tank. A fine mist of fuel is sprayed into the combustion chamber.

The Air System: The motor turns the fan. The fan pushes air into and around the combustion chamber. This air is heated and provides a stream of clean, hot air.

The Ignition System: The electronic ignitor sends voltage to the spark plug. The spark plug ignites the fuel and air mixture.

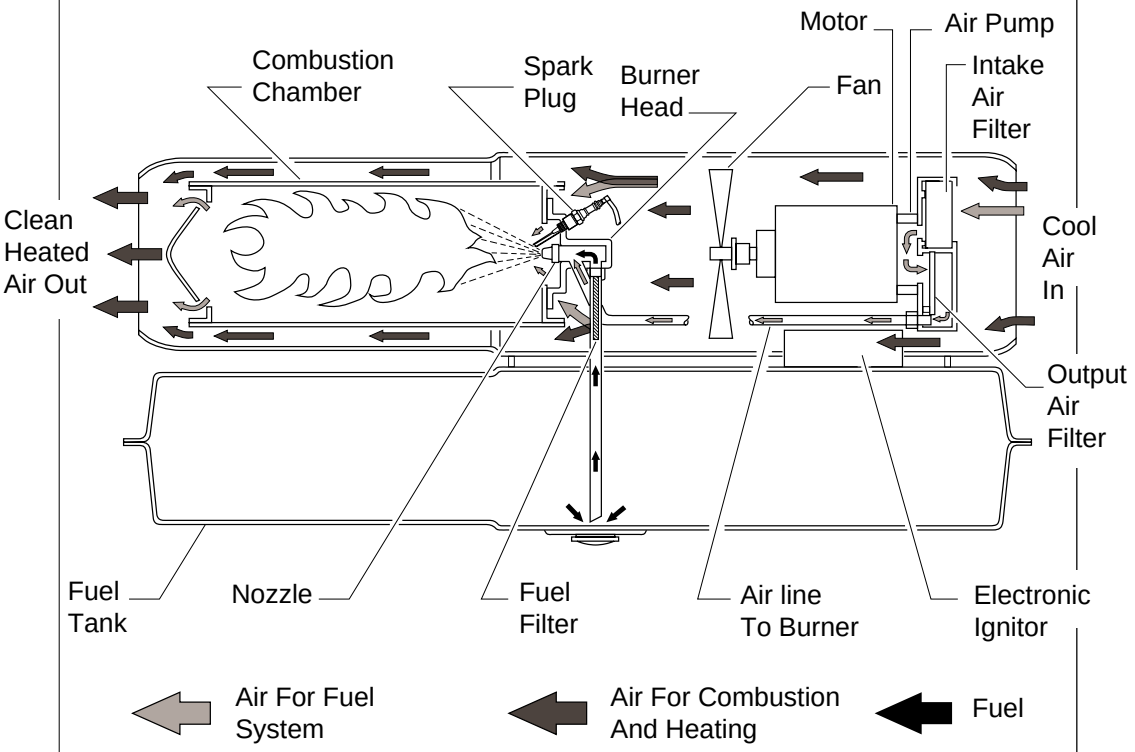


Figure 4 - Cross Section Operational View

FUELS

⚠ WARNING

Use only kerosene or No. 1 fuel oil to avoid risk of fire or explosion. Never use gasoline, naphtha, paint thinners, alcohol or other highly flammable fuels.

Do not use heavy fuels such as No. 2 fuel oil or No. 2 Diesel. Using heavy fuels will result in:

- clogged fuel filter and nozzle
- carbon build up on spark plug
- use of non-toxic anti-icer in fuel during very cold weather

IMPORTANT: Use a KEROSENE ONLY container. Be sure storage container is clean. Foreign matter such as rust or dirt may require you to clean fuel system often.

VENTILATION

⚠ WARNING

Follow the minimum fresh, outside air ventilation requirements. If proper fresh, outside air ventilation is not provided, carbon monoxide poisoning can occur. Provide proper fresh, outside air ventilation before running heater.

Provide a fresh air opening of at least three square feet (2800 square cm) for each 100,000 BTU/Hr rating. Provide extra fresh air if more heaters are being used.

Example: A 150,000 BTU/Hr heater requires one of the following:

- a two-car garage door raised six inches (15.24cm)
- a single-car garage door raised nine inches (22.86cm)
- two, thirty-inch (76.20cm) windows raised twelve inches (30.48cm)

OPERATION

⚠ WARNING

Review and understand the warnings in the Safety Information Section. They are needed to safely operate this heater. Follow all local codes when using this heater.

To Start Heater

1. Follow all ventilation and safety information.
2. Fill fuel tank with kerosene or No. 1 fuel oil.
3. Attach fuel cap.
4. Plug power cord of heater into standard 120 volt/60 hertz, grounded (earthed) outlet. Use an extension cord if needed. Use only a three-wire, grounded (earthed) extension cord.

   Extension Cord Wire Size Requirements
   Up to 100 feet (30.5 meters) long, use 16 AWG (1.0mm^2) conductor
   101 to 200 feet (30.6 to 61 meters) long, use 14 AWG (1.5 mm^2) conductor

   Heater will start when power cord is plugged into outlet.

To Stop Heater

1. Unplug power cord from outlet.

To Restart Heater

1. Wait 2 minutes after stopping heater.
2. Repeat steps under *To Start Heater*, above.

STORAGE

1. Drain fuel tank.

   Note: Locate drain plug on underside of fuel tank. Remove drain plug to drain all fuel. Be sure all fuel is removed.
2. Replace drain plug.
3. Add one gallon (4 liters) of clean kerosene to fuel tank.
4. Attach fuel cap.
5. Move heater forwards and backwards to stir fuel.
6. Remove drain plug and drain fuel tank. Be sure all fuel is removed.
7. Replace drain plug. Properly dispose of old and dirty fuel.
8. Store heater in dry place. Make sure storage place is free of dust and corrosive fumes.

IMPORTANT: Do not store kerosene over summer months for use during next heating season. Using old fuel could damage heater.

PREVENTATIVE MAINTENANCE SCHEDULE

⚠ WARNING

Never service heater while it is plugged in, operating, or hot. Severe burns and electrical shock can occur.

Item	How Often	How To
Fuel tank	Flush every 150-200 hours of operation or as needed.	See *Storage* above.
Air output and lint filters	Replace every 500 hours of operation or once a year.	See *Air Output, Air Intake, and Lint Filters*, page 13.
Air intake filter	Wash and dry with soap and water every 500 hours of operation or as needed.	See *Air Output, Air Intake, and Lint Filters*, page 13.
Fuel filter	Clean twice a heating season or as needed.	See *Fuel Filter*, page 11.
Spark plug	Clean and regap every 600 hours operation or replace as needed.	See *Spark Plug*, page 12.
Fan blades	Clean every season or as needed.	See *Fan*, page 17.
Motor	Not required/permanently lubricated	

TROUBLE-SHOOTING

⚠ WARNING

Never service heater while it is plugged in, operating, or hot. Severe burns and electrical shock can occur.

OBSERVED FAULT	POSSIBLE CAUSE	REMEDY
Heater burns, but creates puffs of smoke. Heater will not burn steady. Heater burns with odor. Heater smokes continuously.	A) Water in fuel B) Wrong fuel	A) Check fuel tank for bubbles of water in bottom. If found, remove fuel and clean tank (see *Storage*, page 8). B) Remove wrong fuel and clean tank (see *Storage*, page 8). Fill with correct fuel.
	Wrong pump pressure	See *Pump Pressure Adjustment*, page 13.
	Dirty air output, air intake, and lint filters	See *Air Output, Air Intake and Lint Filters*, page 13.
	Dirty fuel filter	See *Fuel Filter*, page 11.
	Dirt in nozzle	See *Nozzle*, pages 14 and 15.
Heater will not ignite, but motor runs.	Heater almost out of fuel	Add fuel to tank. See *Fuels*, page 6.
	Wrong pump pressure	See *Pump Pressure Adjustment*, page 13.
	Carbon deposits on spark plug and/or improper gap	See *Spark Plug*, page 12.
	Dirty fuel filter	See *Fuel Filter*, page 11.
	Dirt in nozzle	See *Nozzle*, pages 14 and 15.
	Water in fuel tank	Drain and flush fuel tank with clean kerosene. See *Storage*, page 8.
	⚠ WARNING: High voltage!	
	Electronic ignitor not grounded (earthed)	Make sure electronic ignitor mounting is tight.
	Bad electronic ignitor	Replace electronic ignitor.
Motor does not start when heater is plugged in, fan rotates slowly or does not turn.	Binding pump rotor	If fan is hard to turn, see *Pump Rotor*, page 16.
	Solid state relay not allowed to reset	Wait two minutes before trying to restart heater.

SERVICE PROCEDURES

Upper Shell Removal

1. Remove screws along each side of heater using 5/16" nut-driver. These screws attach upper and lower shells together.
2. Lift upper shell off.
3. Remove fan guard.

⚠ WARNING

Never service heater while it is plugged in, operating, or hot. Severe burns and electrical shock can occur.

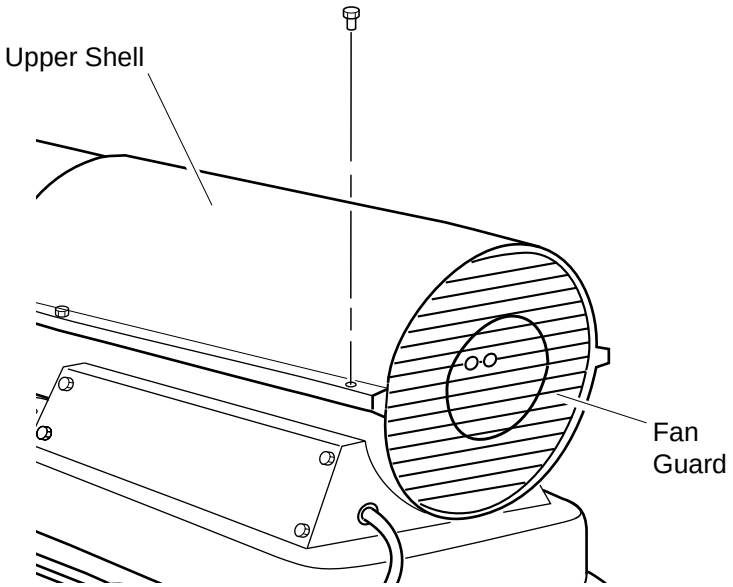


Figure 5 - Upper Shell Removal, 100,000 BTU/Hr Model

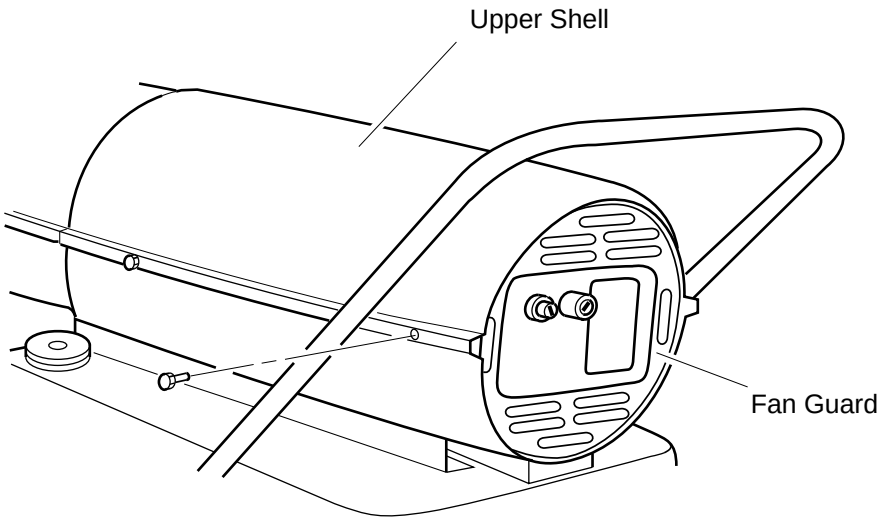


Figure 6 - Upper Shell Removal, 150,000 BTU/Hr Model

Fuel Filter

(100,000 BTU/Hr Model)

1. Remove side cover screws using 5/16" nut-driver.
2. Remove side cover.
3. Pull upper fuel line off fuel filter neck.
4. Carefully pry bushing, lower fuel line, and fuel filter out of fuel tank.
5. Wash fuel filter with clean fuel and replace in tank.
6. Attach upper fuel line to fuel filter neck.
7. Replace side cover.

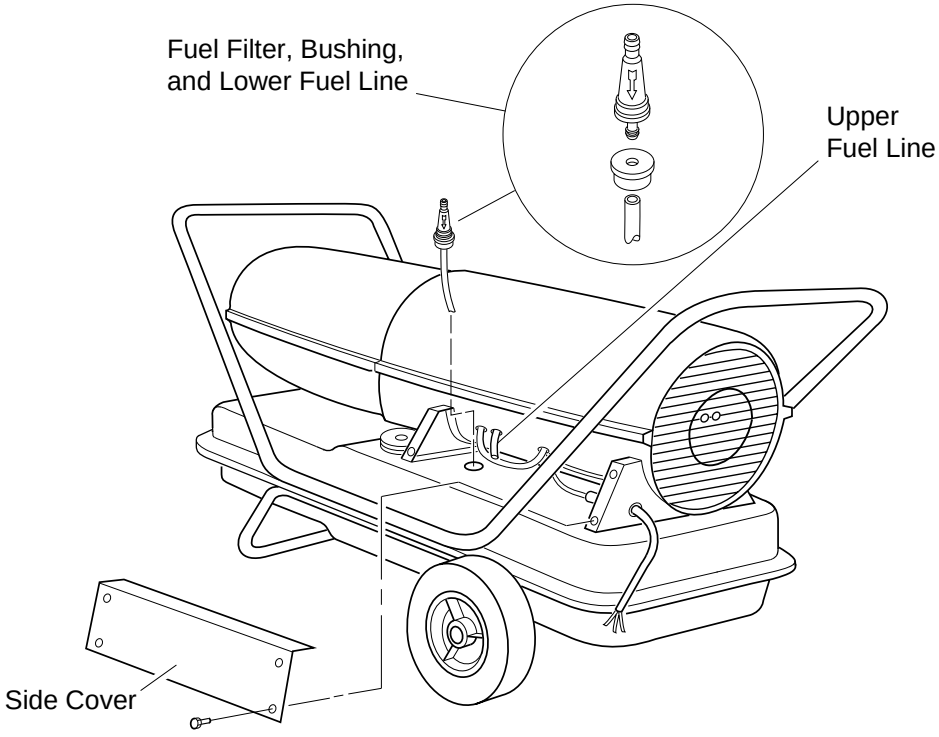


Figure 7 - Fuel Filter Removal, 100,000 BTU/Hr Model

Fuel Filter

(150,000 BTU/Hr Model)

1. Remove upper shell (see page 10).
2. Remove fan (see page 17).
3. Loosen flare nut using 3/4" open-end wrench. Push fuel tube down, away from burner head. Fuel filter is located inside of fuel tube.
4. Lift out fuel filter.
5. Wash fuel filter with clean fuel and replace in fuel tube.
6. Connect fuel tube to burner head. Attach flare nut until nut seats against fuel tube and fitting. Tighten 1/4 turn more using 3/4" open-end wrench (100-130 inch-pounds/11.3-14.7 n-m).
7. Replace fan (see page 17).
8. Replace fan guard and upper shell.

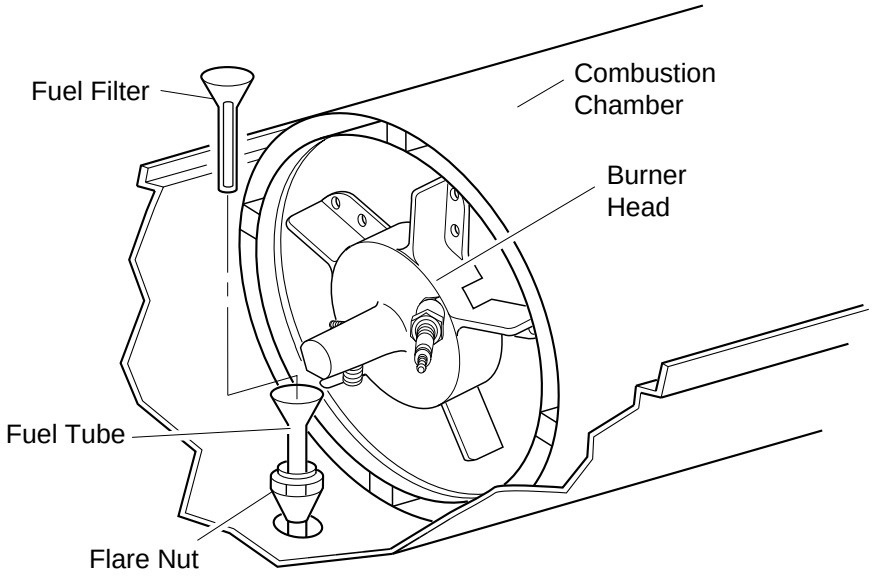


Figure 8 - Fuel Filter Removal, 150,000 BTU/Hr Model

Spark Plug

1. Remove upper shell (see page 10).
2. Remove fan (see page 17).
3. Remove spark plug wire from spark plug.
4. Remove spark plug from burner head using 13/16" open-end wrench.
5. Clean and regap spark plug electrodes as follows:
   .055" (1.4 mm) = 100,000 BTU/Hr model
   .075" (1.9 mm) = 150,000 BTU/Hr model
6. Install spark plug in burner head.
7. Attach spark plug wire to spark plug.
8. Replace fan (see page 17).
9. Replace fan guard and upper shell.

(100,000 BTU/Hr Model Shown)

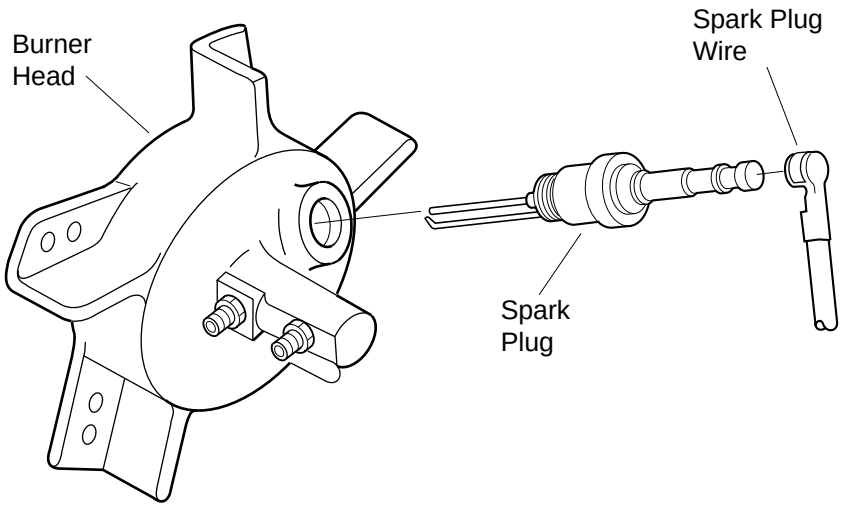


Figure 9 - Spark Plug Removal

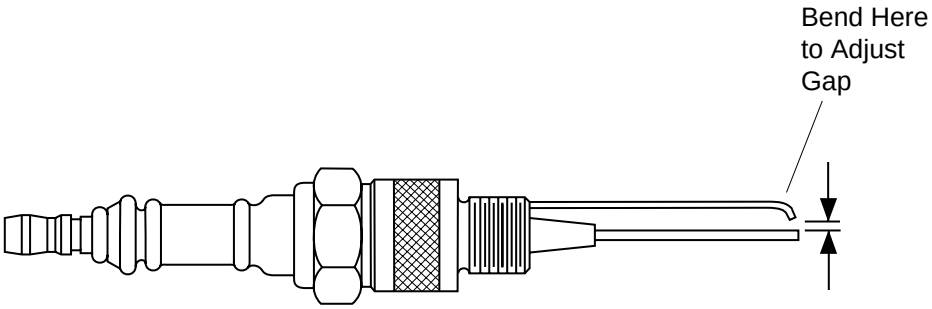


Figure 10 - Spark Plug Gap

Air Output, Air Intake, and Lint Filters

1. Remove upper shell (see page 10).
2. Remove filter end cover screws using 5/16" nut-driver.
3. Remove filter end cover.
4. Replace air output and lint filters.
5. Wash or replace air intake filter (see *Preventative Maintenance Schedule*, page 8).
6. Replace filter end cover.
7. Replace fan guard and upper shell.

IMPORTANT: Do not oil filters.

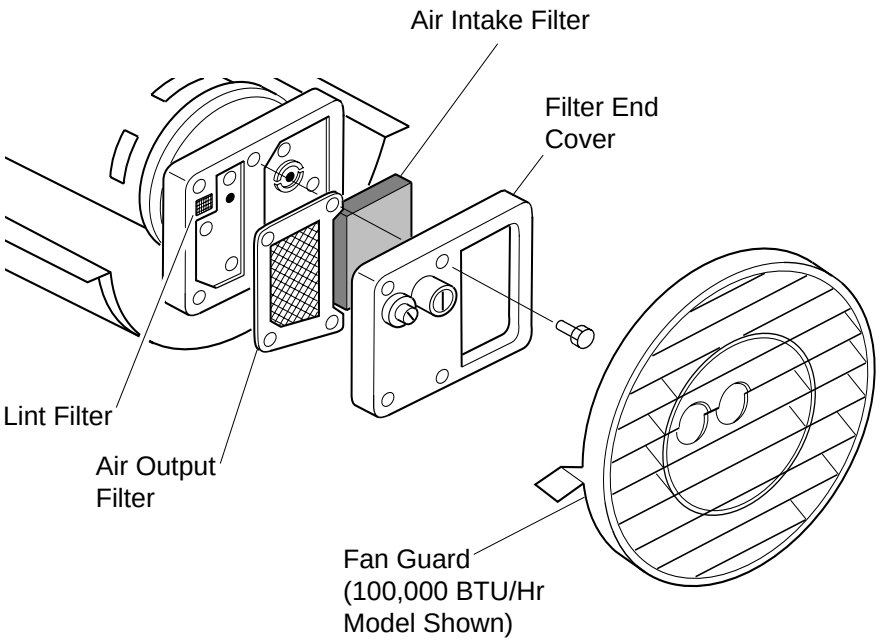


Figure 11 - Air Output, Air Intake, and Lint Filters

Pump Pressure Adjustment

1. Remove pressure gauge plug from filter end cover.
2. Install accessory pressure gauge (part number HA1180).
3. Start heater (see *Operation*, page 7). Allow motor to reach full speed.
4. Adjust pressure. Turn relief valve to right to increase pressure. Turn relief valve to left to decrease pressure. See specifications at right for correct pressure for each model.
5. Remove pressure gauge. Replace pressure gauge plug in filter end cover.

(150,000 BTU/Hr Model Shown)

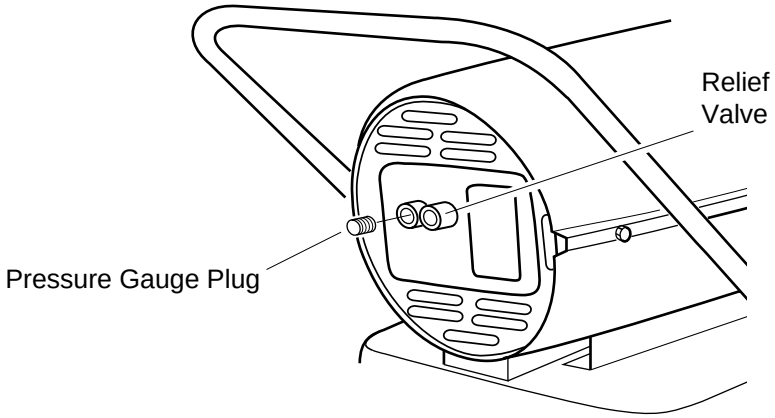


Figure 12 - Pressure Gauge Plug Removal

Model	Pump Pressure
100,000 BTU/Hr	4.0 PSI
150,000 BTU/Hr	5.0 PSI

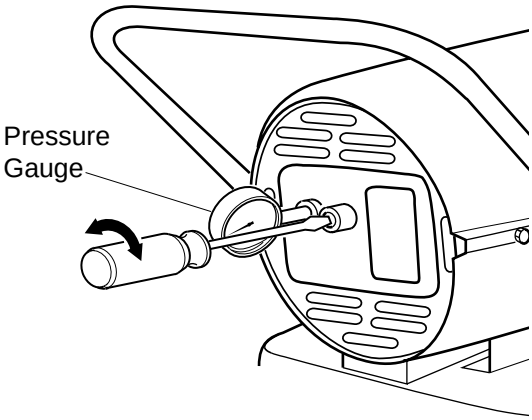


Figure 13 - Adjusting Pump Pressure

Nozzle

(100,000 BTU/Hr Model)

1. Remove upper shell (see page 10).
2. Remove fan (see page 17).
3. Remove fuel and air line hoses from burner head.
4. Remove spark plug wire from spark plug.
5. Remove spark plug from burner head using 13/16" open-end wrench.
6. Remove three screws using 5/16" nut-driver and remove burner head from combustion chamber.
7. Place burner head into vise and lightly tighten.
8. Carefully remove nozzle from burner head using 5/8" socket wrench (see Figure 15).
9. Blow compressed air thru face of nozzle. This will free any dirt in nozzle area.
10. Inspect nozzle seal for damage.
11. Replace nozzle into burner head and tighten firmly (80-110 inch-pounds/9.1-12.4 n-m).
12. Attach burner head to combustion chamber.
13. Install spark plug in burner head.
14. Attach spark plug wire to spark plug.
15. Attach fuel and airline hoses to burner head.
16. Replace fan (see page 17).
17. Replace fan guard and upper shell.

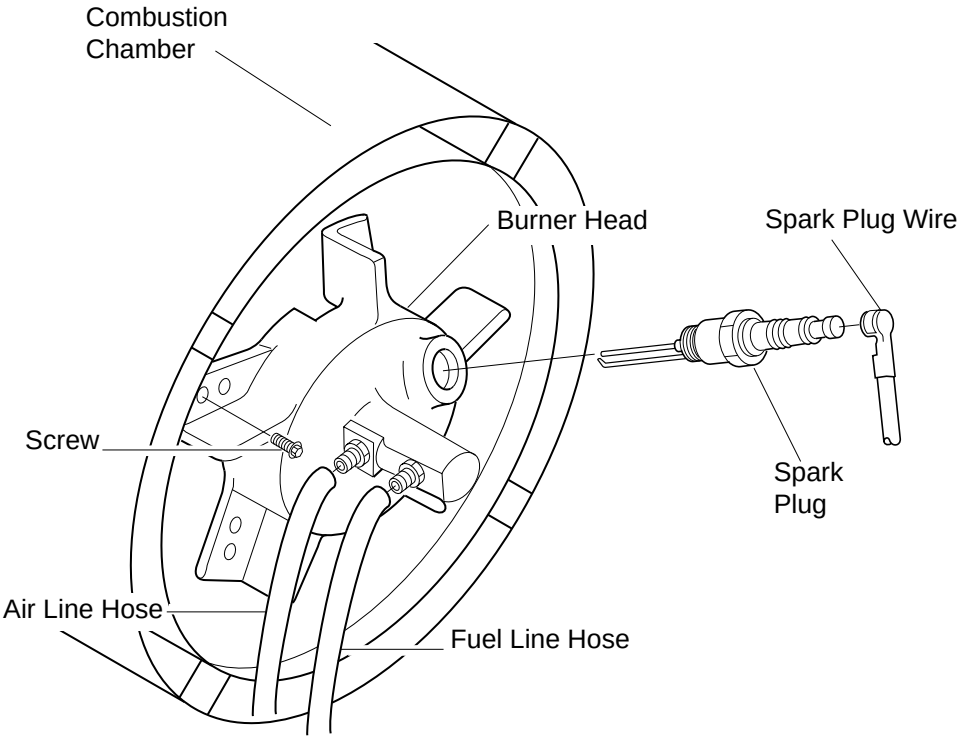


Figure 14 - Removing Burner Head, 100,000 BTU/Hr Model

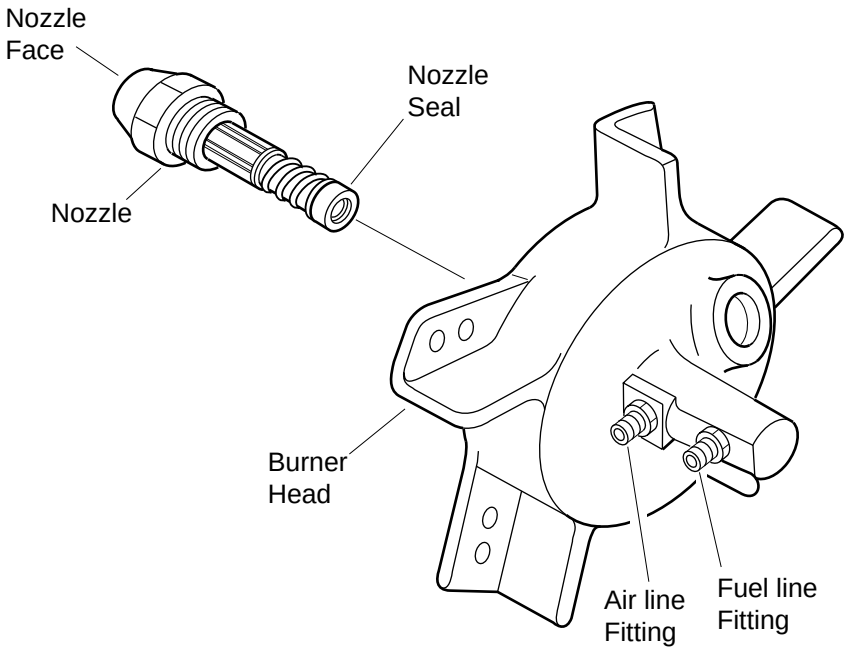


Figure 15 - Removing Nozzle, 100,000 BTU/Hr Model

Nozzle

(150,000 BTU/Hr Model)

1. Remove upper shell (see page 10).
2. Remove fan (see page 17).
3. Remove spark plug wire from spark plug.
4. Remove spark plug from burner head using 13/16" open-end wrench.
5. Loosen flare nut using 3/4" open-end wrench. Push fuel tube down.
6. Remove air line hose from burner head.
7. Remove three screws using 5/16" nut-driver and remove burner head from combustion chamber.
8. Place burner head into vise and lightly tighten.
9. Carefully remove nozzle from burner head using 5/8" socket wrench (see Figure 17).
10. Blow compressed air thru face of nozzle. This will free any dirt in nozzle area.
11. Inspect nozzle seal for damage.
12. Replace nozzle into burner head and tighten firmly (80-110 inch-pounds/9.1-12.4 n-m).
13. Attach burner head to combustion chamber.
14. Install spark plug in burner head.
15. Attach spark plug wire to spark plug.
16. Attach fuel tube and airline hose to burner head. Attach flare nut until nut seats against fuel tube and fitting. Tighten 1/4 turn more using 3/4" open-end wrench (100-130 inch-pounds/11.3-14.7 n-m).
17. Replace fan (see page 17).
18. Replace fan guard and upper shell.

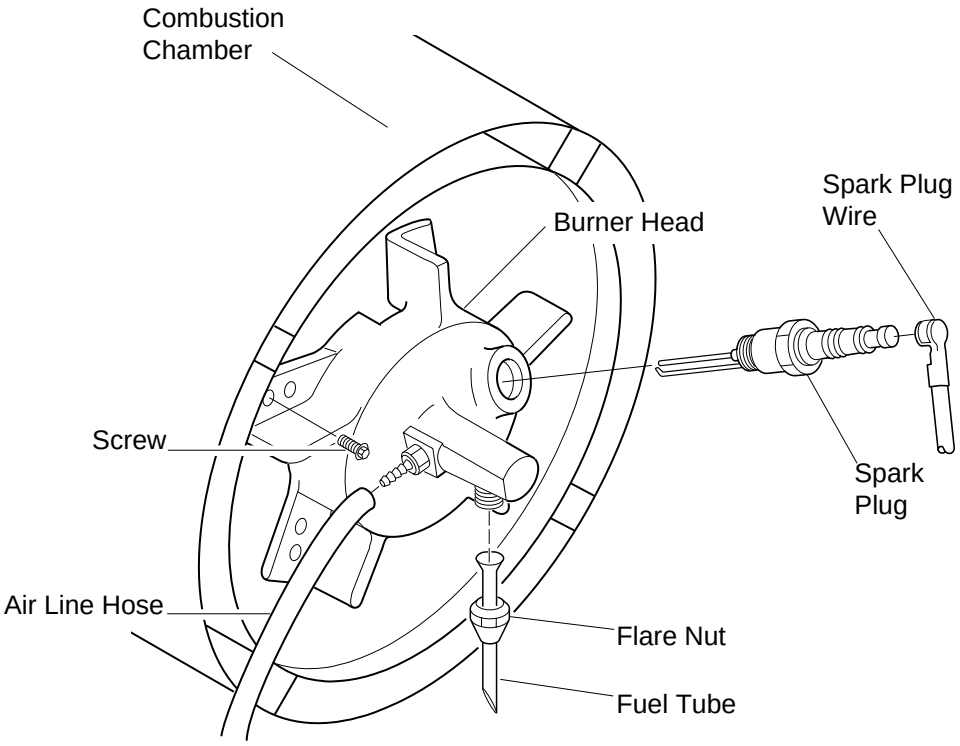


Figure 16 - Removing Burner Head, 150,000 BTU/Hr Model

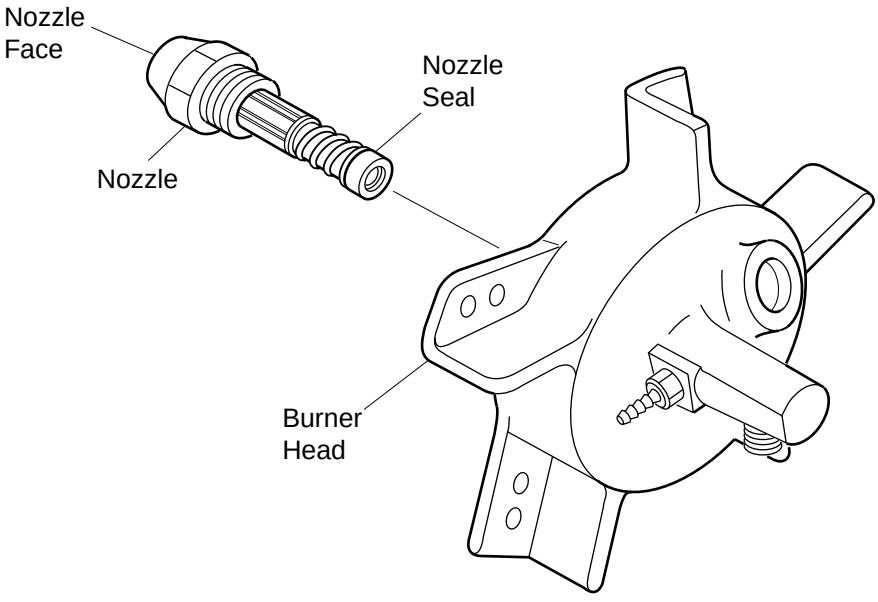


Figure 17 - Removing Nozzle, 150,000 BTU/Hr Model

Pump Rotor

(Procedure if rotor is binding)

1. Remove upper shell (see page 10).
2. Remove filter end cover screws using 5/16" nut-driver.
3. Remove filter end cover and air filters.
4. Remove pump plate screws using 5/16" nut-driver.
5. Remove pump plate.
6. Remove rotor, insert, and blades.
7. Check for debris in pump. If debris is found, blow out with compressed air.
8. Install insert and rotor.
9. Check gap on rotor. Adjust to .003"/.004" (.076/.101mm) if needed (see Figure 19).

Note: Rotate rotor one full turn to insure the gap is .003"/.004" (.076/.101mm) at tightest position. Adjust if needed.

10. Install blades, pump plate, air filters, and filter end cover.
11. Replace fan guard and upper shell.
12. Adjust pump pressure (see page 13).

Note: If rotor is still binding, proceed as follows.

13. Perform steps 1 thru 6 above.
14. Place fine grade sandpaper (600 grit) on flat surface. Sand rotor lightly in "figure 8" motion four times (see Figure 20).
15. Reinstall insert and rotor.
16. Perform steps 10 thru 12 above.

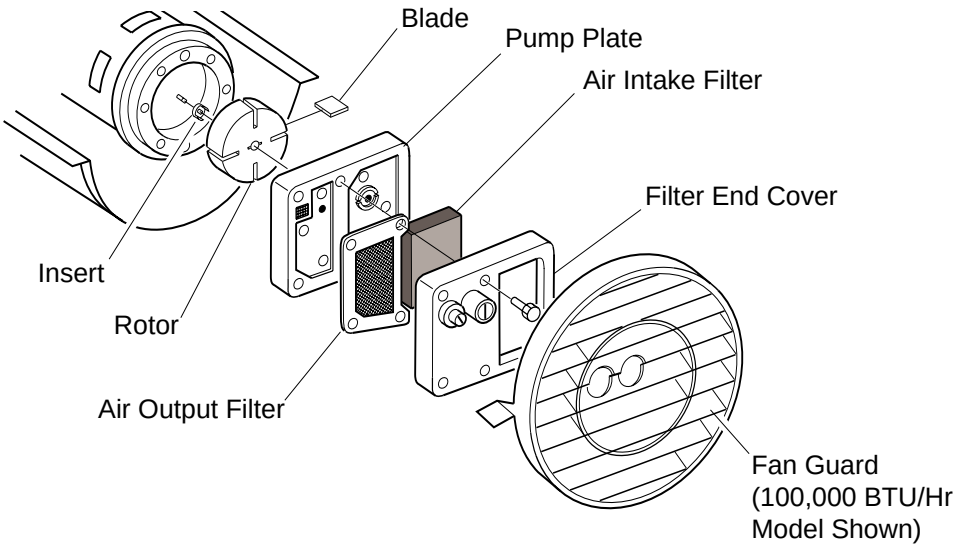


Figure 18 - Rotor Location

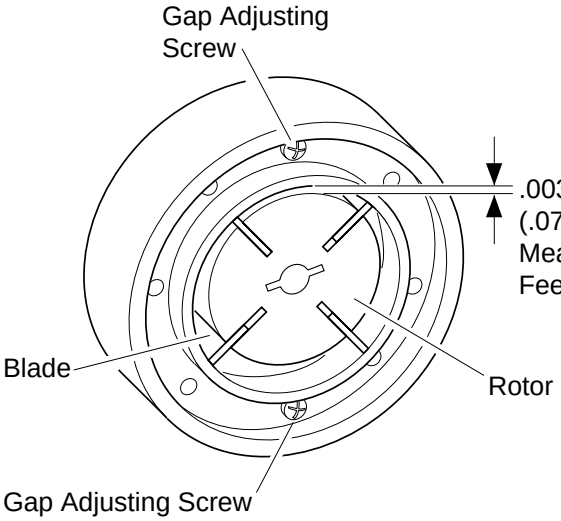


Figure 19 - Gap Adjusting Screw Locations

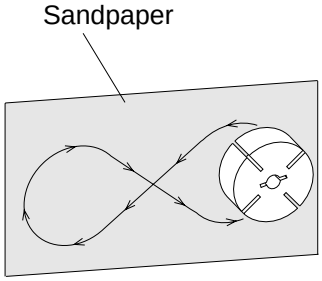


Figure 20 - Sanding Rotor

Fan

IMPORTANT: Remove fan from motor shaft before removing motor from heater. The weight of the motor resting on the fan could damage the fan pitch.

1. Remove upper shell (see page 10).
2. Use 1/8" Allen wrench to loosen setscrew which holds fan to motor shaft.
3. Slip fan off motor shaft.
4. Clean fan using a soft cloth moistened with kerosene or solvent.
5. Dry fan thoroughly.
6. Replace fan on motor shaft. Place fan hub flush with end of motor shaft (see Figure 22).
7. Place setscrew on flat of shaft. Tighten setscrew firmly (40-50 inch-pounds/ 4.5-5.6 n-m).
8. Replace fan guard and upper shell.

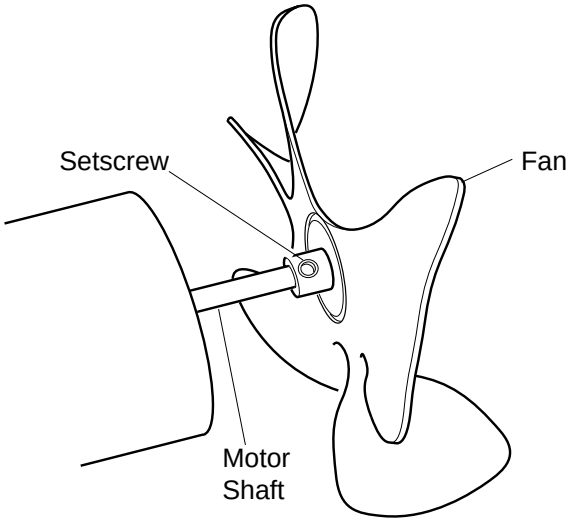


Figure 21 - Fan, Motor Shaft, and Setscrew Location

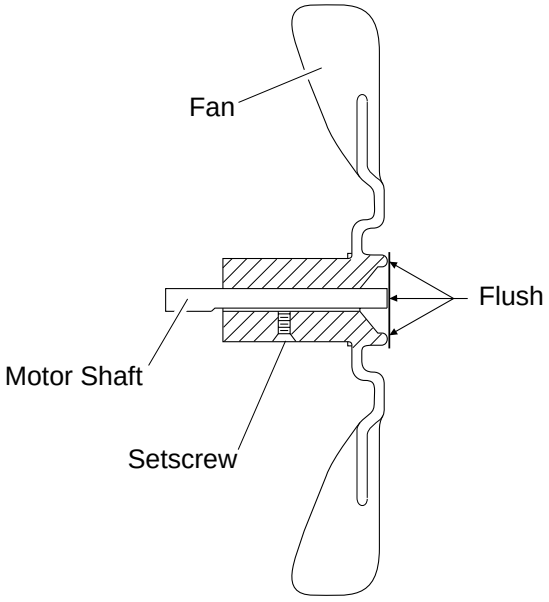
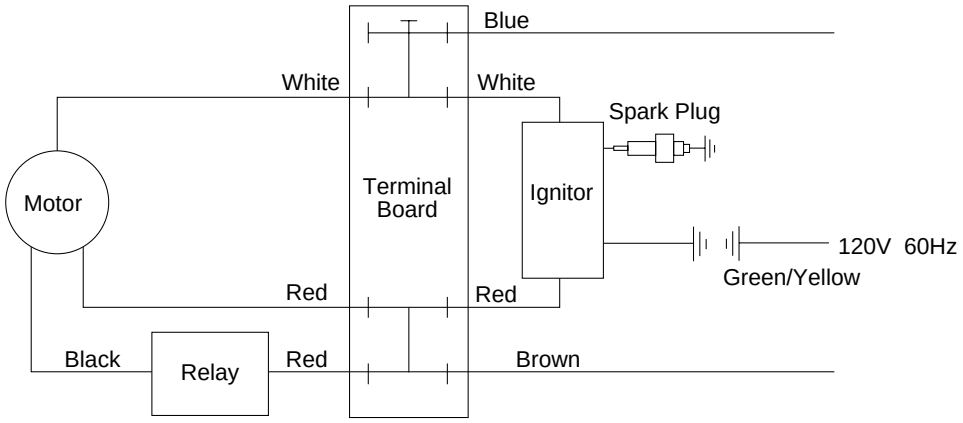


Figure 22 - Fan Cross Section

WIRING DIAGRAM

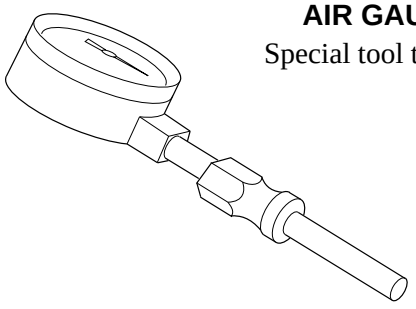


SPECIFICATIONS

Output Rating (BTU/Hr)	100,000	150,000
Fuel	Use Only Kerosene or No. 1 Fuel Oil	
Fuel Tank Capacity (U.S. Gal./Liters)	9/34	13.5/51
Fuel Consumption (Gal. Per Hr./Liters Per Hr.)	.74/2.8	1.10/4.16
Electric Requirements	120 volt/60 hertz	120 volt/60 hertz
Amperage (Normal Run)	4.5	4.5
Hot Air Output (CFM/CMM)	480/13.6	648/18.3
RPM	3450	3450

ACCESSORY

Purchase this accessory from your local dealer.

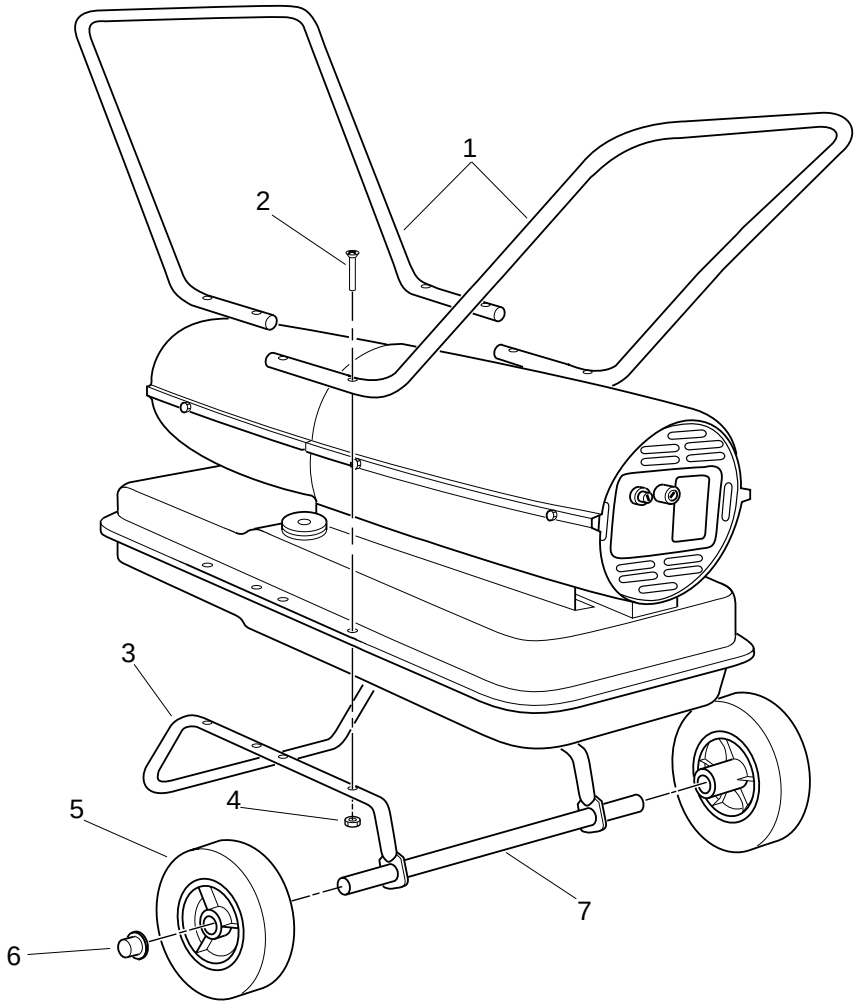


AIR GAUGE KIT - HA1180

Special tool to check pump pressure.

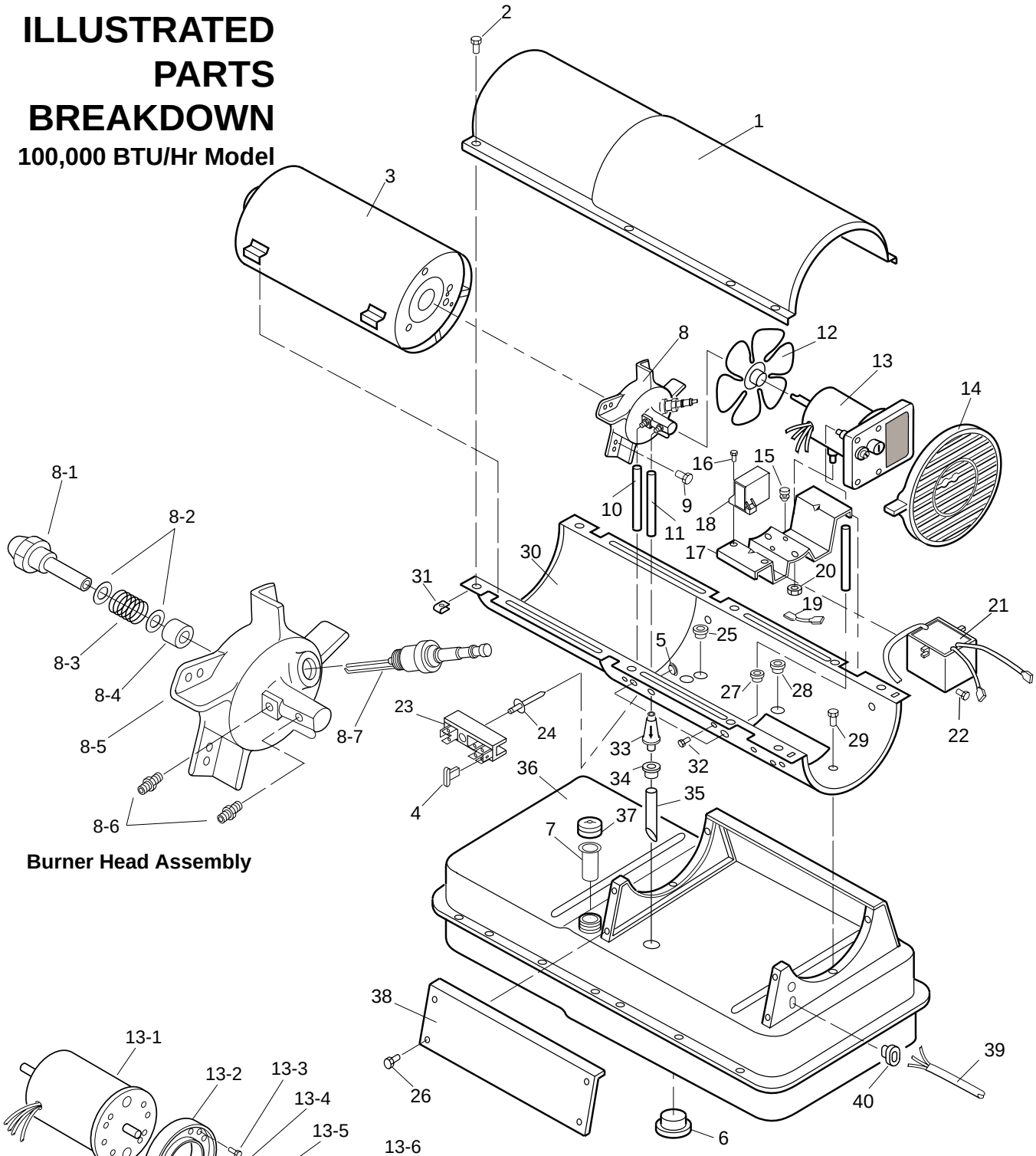
WHEELS AND HANDLES
FOR 100,000 AND 150,000 BTU/Hr MODELS

KEY NO.	PART NUMBER	PART DESCRIPTION	100,000 QTY.	150,000 QTY.
1	HA2203	Handles	2	—
	HA2205	Handles	—	2
2	M12345-33	Screw, #10-24 x 1 3/4"	8	8
3	M12342-3	Wheel Support Frame	1	—
	M12831-3	Wheel Support Frame	—	1
4	NTC-3C	Nut Torque, #10-24	8	8
5	097896-03	Wheel	2	2
6	M28526	Cap Nut	2	2
7	M51015-01	Axle	1	—
	M16801-2	Axle	—	1

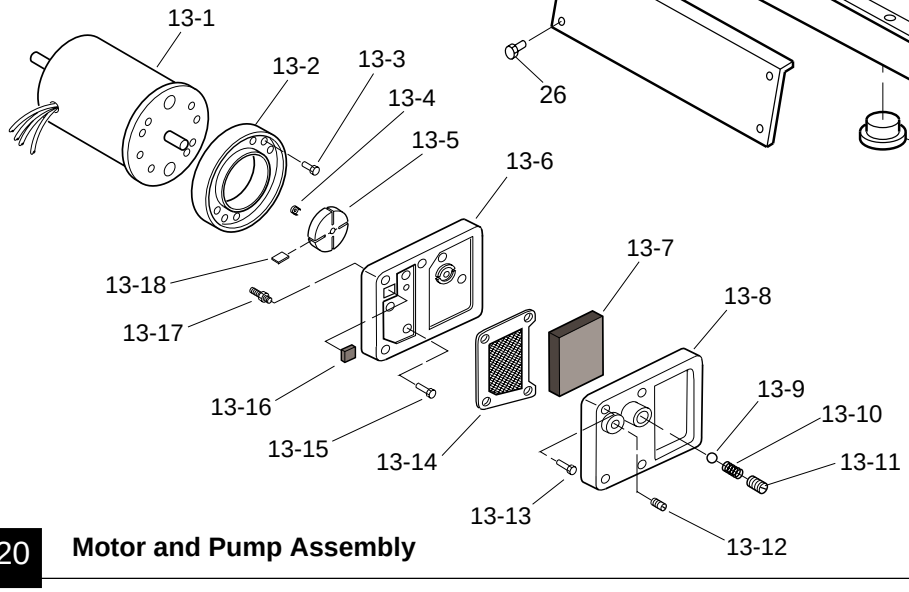


ILLUSTRATED PARTS BREAKDOWN

100,000 BTU/Hr Model



Burner Head Assembly



Motor and Pump Assembly

PARTS LIST
100,000 BTU/Hr Model

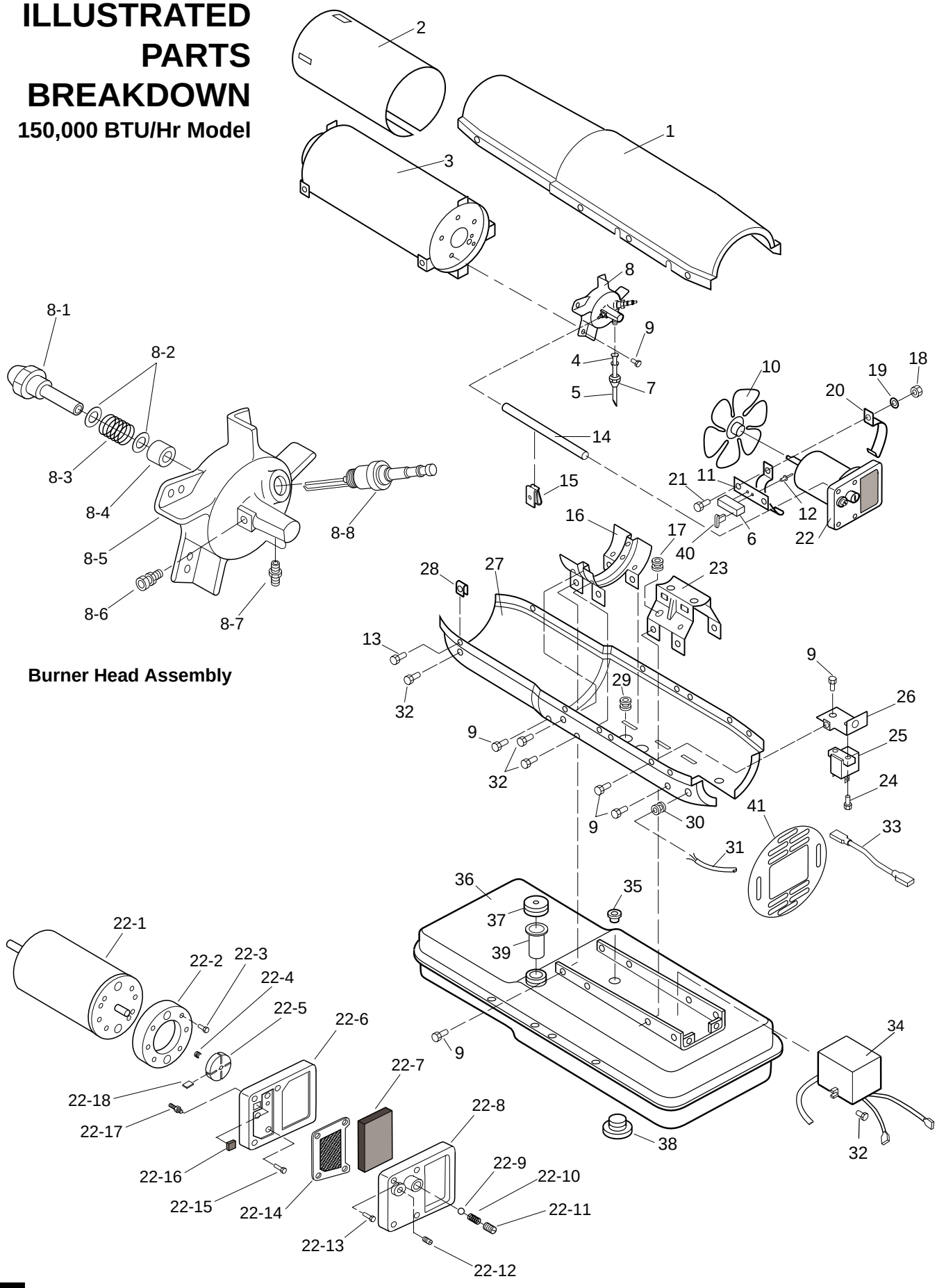
This list contains replaceable parts used in your heater. When ordering parts, be sure to provide the correct model and serial numbers (from the model plate), then the part number and description of the desired part.

KEY NO.	PART NUMBER	PART DESCRIPTION	QTY.
1	098511-30	Upper Shell	1
2	M15823-27	Screw, #10-16 x 1/2"	8
3	098512-07	Combustion Chamber	1
4	078918-01	Tab Cap	2
5	099213-01	Button Plug	1
6	M27417	Drain Plug	1
7	HA2210	Filler Neck Screen	1
8	**	Burner Head Assembly	1
8-1	M51120-01	Nozzle	1
8-2	M10659-1	Nozzle Seal Washer	2
8-3	M10809-1	Nozzle Seal Spring	1
8-4	M8882	Nozzle Seal Sleeve	1
8-5	M50924-03	Burner Head Body	1
8-6	M50820-02	Barb Fitting	2
8-7	M10962-2	Spark Plug	1
9	M11084-27	Screw, #10-16 x 1/2"	3
10	M50814-03	Air Line	1
11	M51345-01	Fuel Line	1
12	M51153-01	Fan	1
13	**	Motor and Pump Assembly	1
13-1	079505-02	Motor	1
13-2	079975-01	Pump Body	1
13-3	FHPF3-2C	Screw, #10-32 x 1/4"	2
13-4	M22009	Insert	1
13-5	M22456-1	Rotor	1
13-6	M50545	End Pump Cover	1
13-7	M12179	Intake Filter	1
13-8	M16545	End Filter Cover	1
13-9	M8940	Steel Ball (1/4" Diameter)	1
13-10	M10993-1	Pressure Relief Spring	1
13-11	M27694	Adjusting Screw	1
13-12	M22997	Plug	1
13-13	M12461-31	Screw, #10-32 x 1"	4
13-14	M12244-1	Output Filter	1
13-15	M12461-31	Screw, #10-32 x 1"	6
13-16	M11637	Lint Filter	1
13-17	M50820-02	Barb Fitting	1
13-18	M8643	Blade	4
14	M51114-01	Fan Guard	1
15	M50631	Rubber Bumper	2
16	M15823-39	Screw, #8-18 x 1/2"	2
17	098138-02	Motor and Relay Bracket Assembly	1
18	097061-01	Relay (Motor Start)	1
19	079010-18	Wire Assembly (Red 14 1/2")	1
20	NTC-4C	Hex locknut	2
21	098557-06	Electronic Ignitor	1
22	M11084-29	Screw, #10-16 x 3/4"	2
23	099125-03	Terminal Board	1
24	099157-01	Rivet	1
25	M30865-02	Bushing	1
26	M11084-27	Screw, #10-16 x 1/2"	4
27	M50104-02	Bushing	1
28	M30865-02	Bushing	1
29	M11084-27	Screw, #10-16 x 1/2"	6
30	098511-149	Lower Shell	1
31	M11271-8	Clip Nut	8
32	M15823-37	Screw, #8-18 x 1/4"	1
33	M51150-01	Fuel Filter	1
34	M10990-3	Rubber Bushing	1
35	M51151-01	Fuel Line	1
36	098513-21	Fuel Tank	1
37	097702-01	Fuel Tank Cap	1
38	M51077-01AA	Side Cover	1
39	M15779-27	Power Cord	1
40	M11143-1	Strain Relief Bushing	1
		PARTS AVAILABLE - NOT SHOWN	
	099658-02	Tradename Decal	1
	098234-36	General Information Decal	1

**Not available as an assembly, order parts separately.

ILLUSTRATED PARTS BREAKDOWN

150,000 BTU/Hr Model



Burner Head Assembly

Motor and Pump Assembly

PARTS LIST

150,000 BTU/Hr Model

This list contains replaceable parts used in your heater. When ordering parts, be sure to provide the correct model and serial numbers (from the model plate), then the part number and description of the desired part.

KEY NO.	PART NUMBER	PART DESCRIPTION	QTY.
1	098511-50	Upper Shell	1
2	098068-01	Heat Deflector	1
3	098512-02	Combustion Chamber	1
4	M19630	Fuel Filter	1
5	M16790-12	Fuel Tube	1
6	099125-03	Terminal Board	1
7	M50660-05	Flared 45° Nut	1
8	**	Burner Head Assembly	1
8-1	M18022	Nozzle	1
8-2	M10659-1	Nozzle Seal Washer	2
8-3	M10809-1	Nozzle Seal Spring	1
8-4	M8882	Nozzle Seal Sleeve	1
8-5	M50924-01	Burner Head Body	1
8-6	M50820-02	Barb Fitting	1
8-7	079685-01	Male Connector	1
8-8	M10962-2	Spark Plug	1
9	M11084-27	Screw, #10-16 x 1/2"	17
10	M17058	Fan	1
11	099607-01	Terminal Board Bracket	1
12	099157-01	Rivet	1
13	M11084-27	Screw, #10-16 x 1/2"	6
14	M50814-03	Air Line	1
15	M50873-01	Clip	2
16	M12828	Shell Support Bracket	1
17	M30865-04	Open/Closed Bushing	1
18	NPC-4C	Hex Nut, 1/4-20	2
19	WLM-4	Lockwasher, 1/4"	2
20	M16661	Motor Clamp	4
21	M51043-01	Bolt, 1/4-20 x 1 1/2"	2
22	**	Motor and Pump Assembly	1
22-1	079994-02	Motor	1
22-2	079975-01	Pump Body	1
22-3	FHPF3-2C	Screw, #10-32 x 1/4"	2
22-4	M22009	Insert	1
22-5	M22456-1	Rotor	1
22-6	M50545	End Pump Cover	1
22-7	M12179	Intake Filter	1
22-8	M16545	End Filter Cover	1
22-9	M8940	Steel Ball (1/4" Diameter)	1
22-10	M10993-1	Pressure Relief Spring	1
22-11	M27694	Adjusting Screw	1
22-12	M22997	Plug	1
22-13	M12461-31	Screw, #10-32 x 1"	4
22-14	M12244-1	Output Filter	1
22-15	M12461-31	Screw, #10-32 x 1"	6
22-16	M11637	Lint Filter	1
22-17	M50820-02	Barb Fitting	1
22-18	M8643	Blade	4
23	M16645	Motor Support Bracket	1
24	M15823-39	Screw, #8-18 x 1/2"	2
25	097061-01	Relay-Motor Start	1
26	097060-01	Mounting Bracket	1
27	098511-25	Lower Shell	1
28	M11271-8	Nut Clip	7
29	M50104-03	Shorty Bushing	1
30	M11143-1	Strain Relief Bushing	1
31	M15779-27	Power Cord	1
32	M11084-29	Screw, #10-16 x 3/4"	8
33	M16841-57	Wire Assembly (Red 8 1/2")	1
34	098557-06	Electronic Ignitor	1
35	M10990-3	Rubber Bushing	1
36	098513-08	Fuel Tank	1
37	097702-01	Fuel Tank Cap	1
38	M27417	Drain Plug	1
39	HA2210	Filler Neck Screen	1
40	078918-01	Terminal Board Tab Cap	2
41	M50140	Fan Guard	1
PARTS AVAILABLE - NOT SHOWN			
	099658-02	Tradename Decal	1
	098235-16	General Information Decal	1

**Not available as an assembly, order parts separately.

WARRANTY AND REPAIR SERVICE

Contact the Spares and Service Division of:

Ludlow Road, Knighton, Powys LD7 1LP
Telephone: Knighton (0547) 528534 Telex: 35323

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