

PORTABLE FORCED AIR HEATER KEROSENE/DIESEL HEATER WITH BUILT-IN THERMOSTAT OWNER'S MANUAL



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.

Never use heater in living or sleeping areas. Heater is suitable for outdoor use and for use on combustible floors.









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SAFETY

WARNING: This product contains and/or generates chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

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.

A DANGER: Carbon monoxide poisoning may lead to death!

Carbon Monoxide Poisoning: 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 are more affected by carbon monoxide than others. These include pregnant women, persons with heart or lung disease or anemia, those under the influence of alcohol and those at high altitudes. 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, #1/#2 diesel/fuel oil, JET A or JP-8 fuels to avoid risk of fire or explosion. Never use gasoline, oil from crank cases, naphtha, paint thinners, alcohol or other highly flammable fuels.

2. Fueling

- a) Personnel involved with fueling shall be qualified and thoroughly familiar with the manufacturer's instructions and applicable regulations regarding the safe fueling of heating units.
- b) Only the type of fuel specified on the heater's data plate shall be used.
- c) All flame shall be extinguished and the heater allowed to cool, prior to fueling.
- d) During fueling, all fuel lines and fuelline connections shall be inspected for leaks. Any leaks shall be repaired prior to returning the heater to service.
- e) At no time shall more than one day's supply of heater fuel be stored inside a building in the vicinity of the heater.
 Bulk fuel storage shall be outside the structure.
- f) All fuel storage shall be located a minimum of 25 feet (762 cm) from heaters, torches, welding equipment and similar sources of ignition (exception: fuel reservoir integral with heater unit or any authorized auxiliary tank connected to heater unit).
- g) Whenever possible, fuel storage shall be confined to areas where floor penetrations do not permit fuel to drip onto or be ignited by a fire at lower elevation.
- h) Fuel storage shall be in accordance with the authority having jurisdiction.
- 3. Use only the electrical voltage and frequency specified on model plate.
- Heater is suitable for outdoor use.
- Heater must be grounded. Use only a properly grounded three-wire extension cord. Plug into grounded outlet only.
- 6. Use only in areas free of flammable vapors or high dust content.

SAFETY

- Minimum clearance from any combustible materials: 8 feet (244 cm) from hot air outlet, 6 feet (183 cm) from top, and 4 feet (120 cm) from sides and inlet.
- Locate heater on a stable and level surface while hot or operating or a fire may occur.
- 9. Heater is acceptable for use on flooring such as wood (a combustible material).
- Use only in well vented areas. Before using heater, provide at least a 3 ft² (2800 cm²) opening of fresh, outside air for each 100,000 Btu/Hr (30 kw) of rating.
- 11. Keep children and animals away from heater at all times.
- Never start heater when combustion chamber is hot or if fuel has accumulated in combustion chamber.
- 13. This heater is equipped with a thermostat. Heater may start at anytime.
- Never leave a heater plugged in without adult supervision if children or animals are likely to be present.
- Use caution when moving or storing heater when fuel tank contains fuel. Fuel spillage can occur.
- 16. Use heater only in accordance with local ordinances and codes. Canadian residents should refer to CSA standard B139, Installation Code for Oil Burning Equipment for recommended installation practice.

- Never use gasoline, crankcase drainings, naphtha, paint thinners, alcohol or other highly flammable fuels.
- Never use heater where gasoline, paint thinner or other highly flammable vapors are present.
- 19. Never use heater in living or sleeping areas.
- 20. Never move, handle, refuel or service a hot, operating or plugged-in heater.
- 21. Never attach duct work to front or rear of heater.
- 22. Heaters used in the vicinity of tarpaulins, canvas or similar enclosure materials shall be located a safe distance from such materials. The recommended minimum safe distance is 10 feet (304.8 cm). It is further recommended that these enclosure materials be of a fire retardant nature. These enclosure materials shall be securely fastened to prevent them from igniting or from upsetting the heater due to wind action.
- 23. Unplug heater when not in use.
- 24. Never block air inlet (rear) or air outlet (front) of heater.
- Warning to New York City Residents
 For Use Only At Construction Sites in accordance with applicable NYC codes.
- Never use external fuel sources or tanks that are not specifically designed for use with this heater.

UNPACKING

- Remove all packing items applied to heater for shipment.
- 2. Remove all items from carton.
- Check items for any shipping damage. If heater is damaged call ProCom Heating, Inc. at 1-855-607-6557 for replacement parts before returning to dealer.

ASSEMBLY

WIRE GUARD

All Models

Grasp wire guard from top of shell and pull towards front of heater until it locks into place in slots on both sides of upper shell.

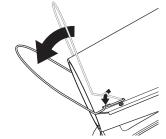


Figure 1 - Wire Guard Moved to Locked Position

PRODUCT IDENTIFICATION AND LABEL LOCATIONS

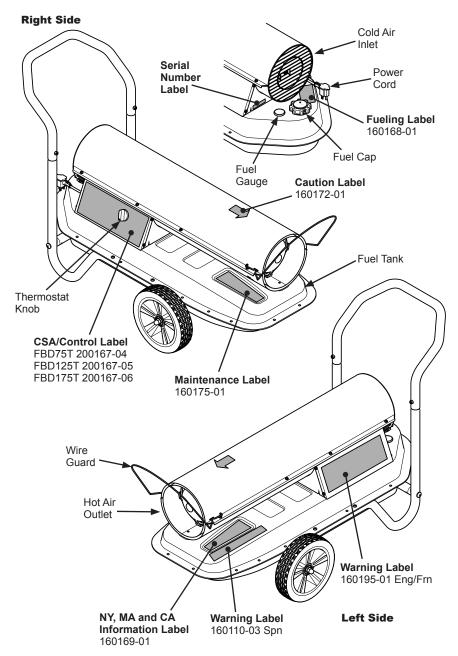


Figure 2 - Product Identification & Label Locations (FBD175T Shown)

SPECIFICATIONS

	FBD75T	FBD125T	FBD175T
Output Rating	75,000 Btu/Hr	125,000 Btu/Hr	175,000 Btu/Hr
Fuel	Use only kerosene, #1/#2 diesel*/fuel oil, JET A of JP-8 fuels		
Fuel Tank Capacity	5.5 gal/20.8 L	10 gal/37.9 L	10 gal/37.9 L
Fuel Consumption (per hr)	0.56 gal/2.2 L	0.93 gal/3.5 L	1.30 gal/4.9 L
Pump Pressure	3.6 PSI (hot)	6.8 PSI (hot)	6.8 PSI (hot)
Electric Requirements	120 V/60 HZ	120 V/60 HZ	120 V/60 HZ
Amperage (Normal Run)	3.0	3.5	3.5
Typical Motor Speed	3400 RPM	3400 RPM	3400 RPM
Motor	1/4 hp	1/4 hp	1/4 hp
Shipping Weight	37 lbs/16.8 kg	72 lbs/32.6 kg	72 lbs/32.6 kg
Heater Weight without Fuel (approx)	32 lbs/14.5 kg	64 lbs/29 kg	64 lbs/29 kg

FUELS

▲ WARNING: Use only kerosene, #1/#2 diesel/fuel oil, JET A or JP-8 fuels to avoid risk of fire or explosion. Never use gasoline, oil drained from crankcases, naphtha, paint thinners, alcohol or other highly flammable fuels.

Use only kerosene, #1/#2 diesel*/fuel oil, JET A, JP-8 fuels. Heavier fuels such as No. 2 fuel oil, No. 2 diesel fuel may also be used but will result in:

- · noticeable odor
- · additional fuel filter maintenance
- * Use of #2 diesel/fuel oil in extreme cold temperatures may require nontoxic anti-icer additives.

Do not use fuels heavier than No. 2 grade or heavy oils such as oil drained from crank-cases. These heavy oils will not ignite properly and will contaminate the heater.

IMPORTANT: Use a KEROSENE ONLY (blue) or DIESEL ONLY (yellow) storage container. Be sure storage container is clean. Foreign matter such as rust, dirt or water will cause the ignition control assembly to shut down heater. Foreign matter may also require heater's fuel system to be frequently cleaned.

VENTILATION

WARNING: Provide a fresh air opening of at least three square feet (2,800 square cm) for each 100,000 BTU/HR rating. Provide extra fresh air if more heaters are being used. The minimum ventilation requirements must be followed to avoid risks associated with carbon monoxide poisoning. Make certain these requirements are met prior to operating heater.

Example: A 80,000 Btu/Hr (23.4 kw) heater requires one of the following:

- a two-car garage door [16 feet (4.88 meter) opening] raised 2.2" (5.6 cm)
- a single-car garage door [9 feet (2.74 meter) opening] raised 3.3" (7.4 cm)
- two, 30" (76.2 cm) windows raised 6.2" (13.9 cm)

OPERATION

IMPORTANT: Review and understand the warnings in the <u>Safety</u> section, pages 2 and 3. They are needed to safely operate this heater. Follow all local ordinances and codes when using this heater.

TO START HEATER

- 1. Follow all ventilation and safety information.
- Locate heater to provide maximum circulation of the heated air. Follow all location requirements noted in <u>Safety</u>, pages 2 and 3.
- Fill fuel tank with fuel and attach fuel cap.
 Use only kerosene, #1/#2 diesel/fuel oil,
 JET A or JP-8 fuels to avoid risk of fire or
 explosion. Never use gasoline, oil drained
 from crank cases, naphtha, paint thinners,
 alcohol or other flammable fuels.
- Plug heater's power cord into approved, grounded, three-wire extension cord. Extension cord must be at least 6 feet (1.8 m) long.

Extension Cord Size Requirement

- 6 to 10 feet (1.8 to 3 m) long, use 18 AWG (0.75 mm²) rated cord
- 11 to 100 feet (3.3 to 30.5 m) long, use 16 AWG (1.0 mm²) rated cord
- 101 to 200 feet (30.8 to 61 m) long, use 14 AWG (1.5 mm²) rated cord
- 5. Plug extension cord into standard 120 volt/60 hertz, 3-prong grounded outlet.
- 6. Turn thermostat knob to the desired temperature setting.

If thermostat set temperature is higher than the surrounding air temperature, heater should ignite immediately. If heater thermostat set temperature is lower than surrounding air temperature, heater will not ignite. Exposure to direct sunlight or extreme cold may affect temperature reading and/or thermostat operation.

The LED will flash for 8 seconds before ignition. The LED will remain on during heater operation, even if the heater is cycled off by the thermostat. The LED will flash rapidly if the heater shuts down for any reason (*Example: If out of fuel*).

WARNING: This heater is equipped with a thermostat. Heater may start at any time.

TO STOP HEATER

- Turn thermostat knob counterclockwise to STANDBY.
- 2. Unplug heater when not in use.

TO RESET HEATER

- 1. Wait two minutes before restarting.
- 2. Turn thermostat knob to STANDBY for 10 seconds, then restart heater.

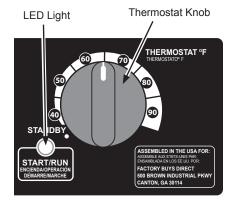


Figure 3 - Controls Display

OPERATION WITH PORTABLE GENERATOR

A WARNING: Before operating heater or any appliance from a portable generator, verify that generator has been properly connected to earth ground. Improper grounding or failure to ground generator can result in electrocution if a ground fault occurs. Refer to owner's manual supplied by generator manufacturer for proper grounding procedures.

Operating voltage range of heater is 95 to 135 Volts. Prior to plugging heater into generator output voltage should be verified (if generator is equipped with automatic idle feature, output voltage should be measured with generator running at full speed). If voltage does not

measure in this range heater should not be plugged into generator.

Refer to <u>Operation</u>, page 6, for starting, stopping and resetting heater procedures.

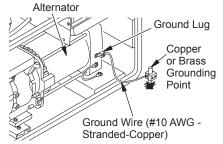


Figure 4 - Typical Generator Grounding Method (Generator construction may vary from that shown)

STORING, TRANSPORTING OR SHIPPING

Note: If shipping, transport companies require fuel tanks to be empty.

- Remove excess fuel from tank using a siphon pump. Drain remaining fuel through filler neck by tipping heater to the rear.
- If any debris is noted in old fuel, add 1 or 2 quarts of clean kerosene to tank, stir and drain again. This will prevent excess debris from clogging filters during future use.
- Properly dispose of old and dirty fuel. Check with local automotive service stations that recycle oil.
- If storing, 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	Clean every season or as needed.	See <u>Storing, Transporting, or Shipping</u> , above.
Air output and lint filters	Replace every 500 hours of operation or once a year.	See <u>Air Output, Air Intake and</u> <u>Lint Filters</u> , page 10.
Air intake filter	Wash and dry with soap and water every 500 hours of operation or as needed. $ \label{eq:washing}$	See <u>Air Output, Air Intake and</u> <u>Lint Filters</u> , page 10.
Fuel filter	Clean twice a heating season or as needed.	See <i>Fuel Filter</i> , page 11.
Fan blades	Clean every season or as needed.	See <i>Fan</i> , page 10.
Motor	Not required/permanently lubricated.	

TROUBLESHOOTING

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

A WARNING: High voltage! Unplug heater before servicing.

FAULT CONDITION	POSSIBLE CAUSE	REMEDY
Motor does not start eight seconds after heater is plugged in.	No power to heater.	Check circuit breaker in electrical panel.
. 55	2. Thermostat setting is too low.	Turn thermostat knob to a higher setting.
	Bad electrical connection between motor and ignition control assembly or igni- tion control assembly and power cord.	Check all electrical connections. See <u>Wiring Diagram</u> , page 15.
	4. Binding pump rotor.	4. If fan does not turn freely, see <i>Pump Rotor</i> , page 14.
	5. Defective ignition control assembly.	5. Replace ignition control assembly. See <u>Ignition Control</u> <u>Assembly</u> , page 13.
	6. Defective motor.	6. Replace motor.
Motor starts and runs but	1. No fuel in tank.	1. Fill tank with kerosene.
heater does not ignite.	2. Pump pressure incorrect.	2. See <u>Pump Pressure Ad-</u> <u>justment</u> , page 11.
	3. Dirty fuel filter.	3. See <i>Fuel Filter</i> , page 11.
	4. Obstruction in nozzle.	4. See <u>Nozzle Assembly</u> , page 13.
	5. Water in fuel tank.	5. Drain and flush fuel tank with clean kerosene. See Storing, Transporting, or Shipping, page 7.
	6. Bad electrical connection between ignitor and ignition	6. Check electrical connections. See <u>Wiring Diagram</u> ,
	control assembly. 7. Defective ignitor.	page 15. 7. Replace ignitor, see page 12.
	8. Defective ignition control	8. Replace ignition control as-
	assembly.	sembly. See <u>Ignition Control</u> <u>Assembly</u> , page 13.

TROUBLESHOOTING

MARNING: High voltage! Unplug heater before servicing.

FAULT CONDITION	POSSIBLE CAUSE	REMEDY
Heater ignites but ignition control assembly shuts heater	Pump pressure incorrect.	1. See <u>Pump Pressure Ad-</u> justment, page 11.
off after a short period of time.	2. Dirty air intake, air output, and/or lint filter.	2. See <u>Air Output, Air Intake</u> , and Lint Filters, page 10.
	3. Dirty fuel filter.	3. See <i>Fuel Filter</i> , page 11.
	4. Obstruction in nozzle.	4. See <u>Nozzle Assembly</u> , page 13.
	5. Photocell assembly not properly installed (not seeing the flame).	Make sure photocell boot is properly seated in bracket.
	6. Dirty photocell lens.	6. Clean photocell lens.
	 Bad electrical connection between photocell and ignition control assembly. 	7. Check electrical connections. See <u>Wiring Diagram</u> , page 15.
	8. Defective photocell.	Replace photocell.
	9. Defective ignition control	9. Replace ignition control as-
	assembly.	sembly. See <i>Ignition Control</i>
		Assembly, page 13.

SERVICE PROCEDURES

A WARNING: To avoid risk of burn and electrical shock, never attempt to service heater while it is plugged in, operating, or hot.

UPPER SHELL REMOVAL

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

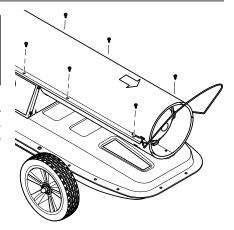


Figure 5 - Upper Shell Removal

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 (see Figure 6).

- 1. Remove upper shell (see Figure 5, page 9).
- The fan is located with the set screw in contact with the back of flat on motor as shown in Figure 7.
- Use 1/8" Allen wrench to loosen setscrew which holds fan to motor shaft (see Figure 6).
- 4. Slip fan off motor shaft.
- 5. Clean fan using a soft cloth moistened with kerosene or solvent.
- 6. Dry fan thoroughly.
- Place setscrew on flat of shaft. Tighten setscrew firmly (40-50 inchpounds/4.5-5.6 n-m).
- 8. Replace fan guard and upper shell.

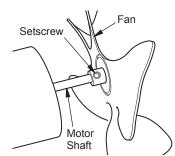


Figure 6 - Fan, Motor Shaft, and Setscrew Location

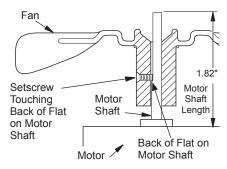


Figure 7 - Fan Cross Section

AIR OUTPUT, AIR INTAKE AND LINT FILTERS

- 1. Remove upper shell (see Figure 5, page 9).
- 2. Remove filter end cover screws using 5/16" nut-driver (see Figure 8).
- 3. Remove filter end cover.
- 4. Replace air output and lint filters.
- 5. Wash or replace air intake filter.
- 6. Replace filter end cover.
- 7. Replace fan guard and upper shell. *IMPORTANT*: Do not oil filters.

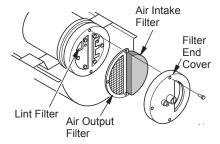


Figure 8 - Air Output, Air Intake, and Lint Filters

PUMP PRESSURE ADJUSTMENT

- 1. Remove pressure gauge plug from filter end cover (see Figure 9).
- 2. Install 0-15 PSI pressure gauge.
- 3. Start heater (see <u>Operation</u>, page 6). Allow heater to reach operating temperature (approx. 10 minutes).
- Adjust pressure. Turn relief valve to right to increase pressure. Turn relief valve to left to decrease pressure. See specifications in Figure 10 for correct pressure.
- Remove pressure gauge. Replace pressure gauge plug in filter end cover.

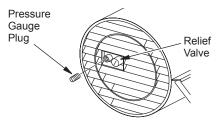


Figure 9 - Pressure Gauge Plug Removal

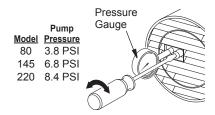


Figure 10 - Adjusting Pump Pressure

FUEL FILTER

- Remove side cover screws using 5/16" nut-driver.
- 2. Remove side cover.
- 3. Pull upper fuel line off fuel filter neck (see Figure 11).
- 4. Carefully pry bushing, fuel filter, and lower fuel line out of fuel tank (see Figure 11).
- Wash fuel filter with clean fuel and replace in tank.
- 6. Attach upper fuel line to fuel filter neck.
- 7. Replace side cover.

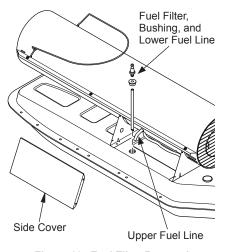


Figure 11 - Fuel Filter Removal

IGNITOR

- 1. Remove upper shell and fan guard (See *Upper Shell Removal*, page 9.
- 2. Remove fan (see page 10).
- 3. Remove the control side cover with a 5/16" nut driver. Remove side cover (see Figure 12).
- Disconnect ignitor wires from ignition control assembly (see Figure 12). Pull the ignitor wires up through the hole in the lower shell.
- Disconnect fuel line hose and air line hose. Remove photocell from photocell bracket (see Figure 12).
- Remove combustion chamber. Stand combustion chamber on end with nozzle adapter bracket on top (see Figure 13).
- Remove ignitor screw with a 1/4" nut driver. Carefully remove ignitor from nozzle adapter bracket.

A CAUTION: Do not bend or strike ignitor element. Handle with care.

- 8. Carefully remove replacement ignitor from packing.
- Carefully guide ignitor into opening in nozzle adapter bracket. Do not strike ignitor element. Attach ignitor to nozzle adapter bracket with screw using a 1/4" nut driver. Torque 0.90 to 1.69 N-m (8 to 15 in-lbs) Do not over torque.
- 10. Replace combustion chamber.
- Route the ignitor wires back down through the hole in the lower shell. Connect wires to the ignition control assembly (see Figure 12).
- 12. Replace control side cover.
- 13. Connect and route fuel line hose and air line hose to nozzle adapter assembly.
- 14. Replace photocell in photocell bracket.
- 15. Replace fan (see page 10).
- 16. Replace fan guard and upper shell (see pages 9 and 10).

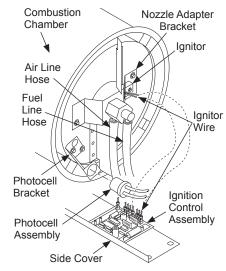


Figure 12 - Disconnecting Ignitor Wires from Ignition Control Assembly

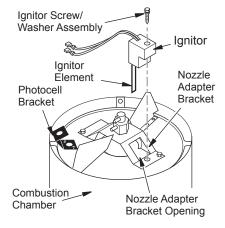


Figure 13 - Ignitor SP002-01 Replacement

NOZZLE ASSEMBLY

- 1. Remove upper shell (see <u>Upper Shell</u> <u>Removal</u>, page 9).
- 2. Remove fan (see Fan, page 10).
- 3. Remove fuel and air line hoses from nozzle assembly (see Figure 14).
- Turn nozzle assembly 1/4 turn to left and pull toward motor to remove (see Figure 15).
- 5. Place plastic hex-body into vise and lightly tighten.
- Carefully remove nozzle from the nozzle adapter using 5/8" socket wrench (see Figure 16).
- Blow compressed air through face of nozzle. This will free any dirt in nozzle area.
- 8. Inspect nozzle sleeve for damage.
- Replace nozzle into nozzle adapter until nozzle seats. Tighten 1/3 turn more using 5/8" socket wrench 4.5 to 5.1 N-m (40 to 45 in-lbs). See Figure 16.
- 10. Attach nozzle assembly to burner strap (see Figure 15).
- 11. Attach fuel and airline hoses to nozzle assembly.
- 12. Replace fan (see Fan, page 10).
- 13. Replace fan guard and upper shell (see *Upper Shell Removal*, page 9).

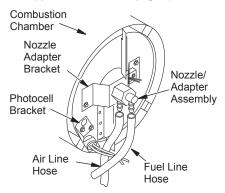


Figure 14 - Removing Air and Fuel Line Hoses

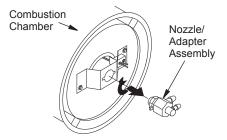


Figure 15 - Removing Nozzle/Adapter Assembly

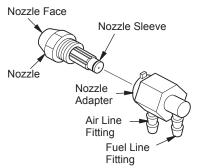


Figure 16 - Nozzle and Nozzle Adapter

IGNITION CONTROL ASSEMBLY

A WARNING: High voltage!

- Unplug heater.
- To expose the ignition control assembly, remove the control panel side cover screws using 5/16" nut-driver.
- Remove old ignition control assembly. Install new ignition control assembly (see Figure 12, page 12).
- 4. Replace control panel side cover.

PUMP ROTOR

(Procedure if Rotor is Binding)

- 1. Remove upper shell (see *Upper Shell Removal*, page 9).
- 2. Remove filter end cover screws using 5/16" nut driver (see Figure 17).
- 3. Remove filter end cover and air filters.
- Remove pump plate screws using 5/16" nut-driver.
- 5. Remove pump plate.
- 6. Remove rotor, insert, and blades (see Figure 18).
- Check for debris in pump. If debris is found, blow out with compressed air.
- 8. Install insert and rotor.
- Check gap on rotor. Adjust to 0.076/0.101 mm (0.003"/0.004") if needed (see Figure 18).
 - Note: Rotate rotor one full turn to ensure the gap is 0.076/0.101 mm (0.003"/0.004") at tightest position. Adjust if needed.
- 10. Install blades, pump plate, air filters, and filter end cover.
- 11. Replace fan guard and upper shell (see *Upper Shell Removal*, page 9).
- 12. Adjust pump pressure (see <u>Pump Pressure Adjustment</u>, page 11).
 - Note: If rotor is still binding, proceed as follows.
- 13. Perform steps 1 through 6.
- Place fine grade sandpaper (600 grit) on flat surface. Sand rotor lightly in "figure 8" motion four times (see Figure 19).
- 15. Reinstall insert and rotor.
- 16. Perform steps 10 through 12.

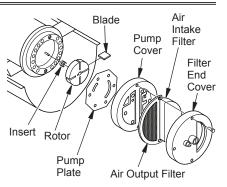


Figure 17 - Rotor Location

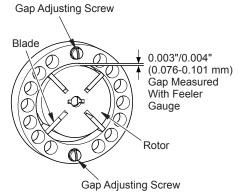


Figure 18 - Gap Adjusting Screw Locations

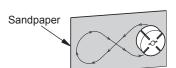
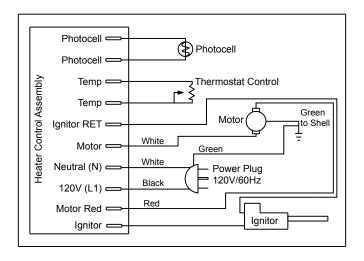


Figure 19 - Sanding Rotor

WIRING DIAGRAM



TECHNICAL SERVICE

You may have further questions about installation, operation, or troubleshooting. If so, contact Factory Buys Direct at 1-855-607-6557.

When calling, please have your model and serial numbers of your heater ready.

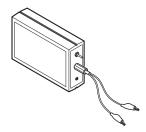
ACCESSORIES

To purchase heater accessories and parts call Factory Buys Direct at 1-855-607-6557.



ST002-01 AIR GAUGE KIT

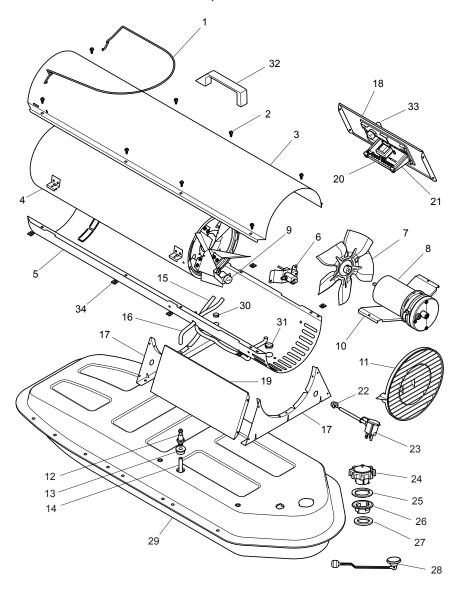
Special tool to check pump pressure. 0-15 PSI gauge. 3/8" NPT pipe thread.



ST001-01 IGNITION CONTROL ASSEMBLY/ PHOTOCELL TESTER

Special tool used to test the ignition control assembly and photocell.

MODELS FBD75T, FBD125T & FBD175T



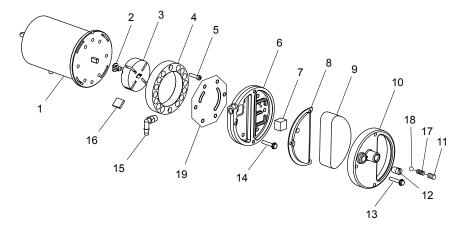
MODELS FBD75T, FBD125T & FBD175T

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

Key	FBD75T	FBD125T	FBD175T	Description	QTY
1	160075-01	160075-02	160075-02	Wire Guard	1
2	**	**	**	Shell Screw	8 or 10
3	**	**	**	Upper Shell	1
4	**	**	**	Combustion Chamber Assy	1
5	**	**	**	Lower Shell	1
6	S	ee detail, page 1	19	Nozzle Bracket Assembly	
7	160011-01	160058-01	160058-01	Fan	1
8	s	ee detail, page 1	18	Motor/Pump Assembly	
9	S	ee detail, page 1	19	Photocell/Bracket Assembly	
10	160043-01	160043-02	160043-02	Motor Mounting Bracket	1
11	160066-01	160066-02	160066-02	Fan Guard	1
12	160012-02	160012-01	160012-01	Fuel Filter	1
13	**	**	**	Fuel Tube Bushing	1
14	160038-01	160038-02	160038-02	Lower Fuel Line	1
15	160037-02	160037-02	160037-02	Airline Tubing	1
16	160039-01	160039-01	160039-01	Upper Fuel Line	1
17	**	**	**	Shell Bracket	2
18	160184-01	160184-02	160184-02	Right Side Cover	1
19	160183-01	160183-02	160183-02	Left Side Cover	1
20	113471-02	113471-02	113471-02	LED Thermostat Control	1
21	160190-01	160190-01	160190-01	Thermostat Control Bracket	1
22	160013-01	160013-01	160013-01	Strain Relief Bushing	1
23	160021-01	160021-01	160021-01	Power Supply Cord	1
24	160030-01	160030-01	160030-01	Vented Fuel Cap Assy.	1
25	160030-03	160030-03	160030-03	Vented Fuel Cap Gasket	1
26	160031-01	160031-01	160031-01	Plastic Filler Neck	1
27	160036-01	160036-01	160036-01	Filler Neck Gasket	1
28	160005-01	160005-02	160005-02	Fuel Gauge	1
29	160139-01BK	160140-01BK	160140-01BK	Fuel Tank Assembly	1
30	**	**	**	Shorty Bushing .512	1
31	**	**	**	Shorty Bushing .866	1
32	160185-01			Plastic Handle	1
	160186-01			Handle Bracket	1
33	160027-01	160027-01	160027-01	Control Knob	1
34	**	**	**	Clip, Nut, #10, .030 Wall	8 or 10

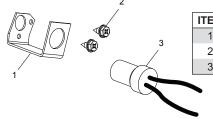
^{**} Not a field replaceable part.

MOTOR AND PUMP ASSEMBLY MODELS FBD75T, FBD125T & FBD175T



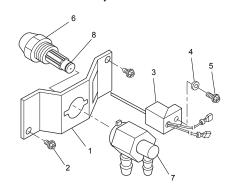
ITEM	PART#	DESCRIPTION	QTY
1	160001-01	Motor	1
2	160023-01	Rotor Insert	1
3	160003-02	Pump Rotor	1
4	160006-01	Pump Body	1
5	160088-01	Screw, 10-32 x .62	2
6	160007-01	Pump Cover	1
7	160009-01	Lint Filter	1
8	160008-01	Output Filter Assembly	1
9	160010-01	Intake Filter	1
10	160057-01	Filter End Cover	1
11	160025-01	Adjusting Screw	1
12	160024-01	Pipe Plug	1
13	160090-01	Screw, 10-32 x 1.0	3
14	160089-01	Screw, 10-32 x 1.12	6
15	160029-01	90° Nylon Elbow	1
16	160004-01	Pump Blade	4
17	160052-01	Pressure Relief Spring	1-2
18	160053-01	Steel Ball	1
19	160189-01	Pump Plate	1

PHOTOCELL ASSEMBLY MODELS FBD75T, FBD125T & FBD175T



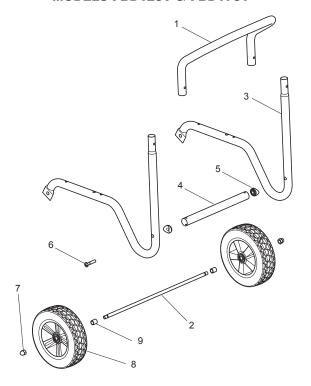
ITEM	PART#	DESCRIPTION	QTY
1	160041-03	Photocell Bracket	1
2	160092-02	Screw, 6-32 x .38	2
3	160016-01	Photocell Assembly	1

NOZZLE ASSEMBLY MODELS FBD75T, FBD125T & FBD175T



Item	FBD75T	FBD125T	FBD175T	Description	Qty
1	160042-01	160042-01	160042-01	Nozzle Adapter Bracket	1
2	160102-01	160102-01	160102-01	Screw, 10-16 x .38	1
3	160002-01	160002-01	160002-01	Ignitor	1
4	160093-01	160093-01	160093-01	Belleville Washer	1
5	160092-01	160092-01	160092-01	Screw, 6-32 X .88	1
6	160040-32	160040-38	160040-39	Nozzle Assembly	1
7	160028-01	160028-01	160028-01	Nozzle Adapter	1
8	160040-E	160040-E	160040-E	O-Ring	1

WHEEL AND HANDLES MODELS FBD125T & FBD175T



ITEM	PART#	DESCRIPTION	QTY
1	160074-01	Rear Handle	1
2	160079-01	Axle	1
3	160072-01	Wheel Support Frame	2
4	160158-01	Support Bushing	2
5	160072-12	Fuel Tank Support Assembly	1
6	160072-13	Screw, M10-1.5 x 60	2
7	160129-01	Acorn Nut	2
8	160080-01	Wheel	2
9	160130-01	Wheel Spacer	2

REPLACEMENT PARTS

Note: Use only original replacement parts. This will protect your warranty coverage for parts replaced under warranty.

PARTS UNDER WARRANTY

Contact authorized dealers of this product. If they can't supply original replacement parts, call Customer Service toll free at 1-855-607-6557 for referral information.

When calling Customer Service or your dealer, have ready:

- · Your name
- · Your address

- Model and serial number of your heater
- · How heater was malfunctioning
- Type of gas supply and Propane/LP tank size
- · Purchase date

Usually, we will ask you to return the defective part to the factory

PARTS NOT UNDER WARRANTY

Contact authorized dealers of this product. If they can't supply original replacement part(s) call Customer Service toll free at 1-855-607-6557 for referral information.

When calling Customer Service have ready:

- · Model number of your heater
- · The replacement part number

WARRANTY

KEEP THIS WARRANTY

Model	 	
Serial No.		
Date Purchased		

Keep receipt for warranty verification.

REGISTER YOUR PRODUCT AT WWW.FACTORYBUYSDIRECT.COM FACTORY BUYS DIRECT LIMITED WARRANTIES

New Products - Outdoor Heating

Standard Warranty: Factory Buys Direct warrants this new product and any parts thereof to be free from defects in material and workmanship for a period of one (1) year from the date of first purchase from an authorized dealer provided the product has been installed, maintained and operated in accordance with Factory Buys Direct's warnings and instructions.

For products purchased for commercial, industrial or rental usage, this warranty is limited to 90 days from the date of first purchase.

Factory Reconditioned Products

Limited Warranty: Factory Buys Direct warrants factory reconditioned products and any parts thereof to be free from defects in material and workmanship for a period 30 days from the date of first purchase from an authorized dealer provided the product has been installed, maintained and operated in accordance with Factory Buys Direct's warnings and instructions. No return will be authorized. Parts will be provided to repair the product.

Terms Common to All Warranties

The following terms apply to all of the above warranties:

Always specify model number and serial number when contacting the manufacturer. To make a claim under this warranty, the bill of sale or other proof of purchase must be presented.

This warranty is extended only to the original retail purchaser when purchased from an authorized dealer, and only when installed by a qualified installer in accordance with all local codes and instructions furnished with this product.

This warranty covers the cost of part(s) required to restore this product to proper operating condition and an allowance for labor when provided by a Factory Buys Direct Authorized Service Center or a provider approved by Factory Buys Direct. Warranty parts must be obtained through authorized dealers of this product and/or Factory Buys Direct who will provide original factory replacement parts. Failure to use original factory replacement parts will void this warranty.

Traveling, handling, transportation, diagnostic, material, labor and incidental costs associated with warranty repairs, unless expressly covered by this warranty, are not reimbursable under this warranty and are the responsibility of the owner.

Excluded from this warranty are products or parts that fail or become damaged due to misuse, accidents, improper installation, lack of proper maintenance, tampering or alteration(s).

This is Factory Buys Direct's exclusive warranty, and to the full extent allowed by law; this express warranty excludes any and all other warranties, express or implied, written or verbal and limits the duration of any and all implied warranties, including warranties of merchantability and fitness for a particular purpose to one (1) year on new products and 30 days on factory reconditioned products from the date of first purchase.

Factory Buys Direct makes no other warranties regarding this product.

Factory Buys Direct's liability is limited to the purchase price of the product and Factory Buys Direct shall not be liable for any other damages whatsoever under any circumstances including direct, indirect, incidental, or consequential damages.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



Factory Buys Direct 500 Brown Industrial Parkway Canton, GA 30114 1-855-607-6557