



**OWNER'S MANUAL**  
**With PARTS LIST**  
**MODELS B30ETM & B70ETM**

**IMPORTANT: Read and Understand Owner's Manual Before Starting or Servicing!**

**079879-01**  
**REV A**

# SPECIFICATIONS

<u>MODEL</u>	B30ETM	B70ETM
Output Rating BTU	30,000	70,000
Air Output		
Cubic feet/Cubic meters per minute	95/2.85	138/4.14
Pump Pressure - Air		
PSI/Bar	2.6/.18	3.8/.26
Electrical		
Voltage	230	230
Cycles	50	50
Amperage		
Start	5.2	6.0
Run	1.3	1.5
Motor RPM	1425	2820
Weight (Approx.)		
Shipping		
Pounds/Kilograms	42/18.9	44/19.8
Dry		
Pounds/Kilograms	35/15.75	37/16.65
Fuel	USE KEROSENE OR #1 FUEL OIL	
Fuel Tank Capacity		
US Gallons/Liters	3.00/11.40	5.00/19.00
Fuel Consumption		
US Gallons/Liters Per Hour	0.23/0.88	0.49/1.88

# OPERATION

## THEORY OF OPERATION

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

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

Additional air is supplied to the combustion chamber by a fan on the opposite end of the motor shaft. Ports around the burner head allow a portion of the air being moved by the fan to enter the combustion chamber to support combustion. The remaining air is directed around and over the combustion chamber. This air mixes with the heated air from the combustion chamber and is ejected as a jet of clean, heated air.

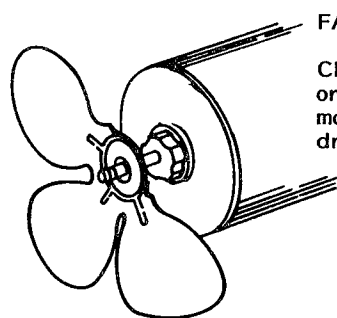
The ignition system consists of a transformer and a spark plug. The transformer creates a spark between the electrodes of the spark plug and ignites the fuel and air mixture within the combustion chamber. The spark plug fires constantly during operation.

## STARTING PROCEDURE

1. Fill fuel tank with correct fuel. See charts on fuel.
2. Insure that heater is equipped with an adequate, earthed plug prior to use.
3. Make sure the front, hot air outlet is at least eight (8) feet/two (2) meters from any flammable materials.
4. Heater will start when plugged in. Outlet must be grounded.

# MAINTENANCE

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

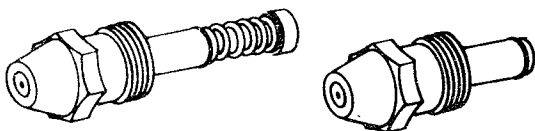


FAN BLADES

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

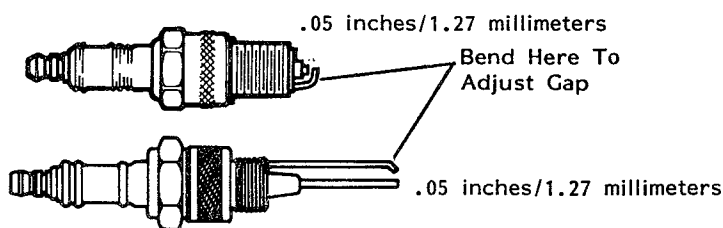
## NOZZLE

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



## SPARK PLUG

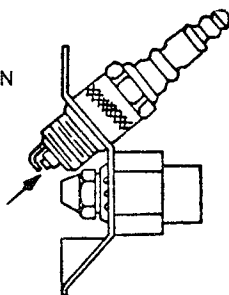
After every 300 hours of operation, clean and adjust spark plug electrodes. Adjust gap or replace spark plug as required.



## SPARK PLUG ORIENTATION

(B30ETM only)

Rotate spark plug to position electrodes as shown.



## ADJUSTMENT OF PUMP PRESSURE

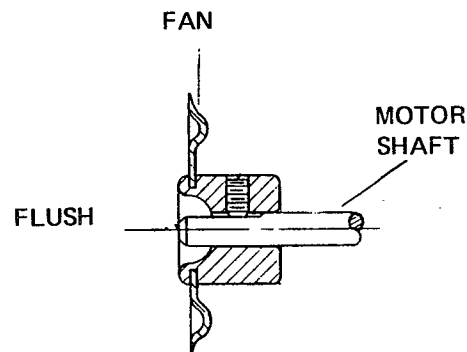
A) Remove the plug from the air filter housing and install the pressure gauge (HA1180).

- B) To adjust the pump pressure, turn the pressure relief valve in to raise, out to lower.
- C) After adjustment, remove the gauge and replace the plug.

## ⚠ CAUTION:

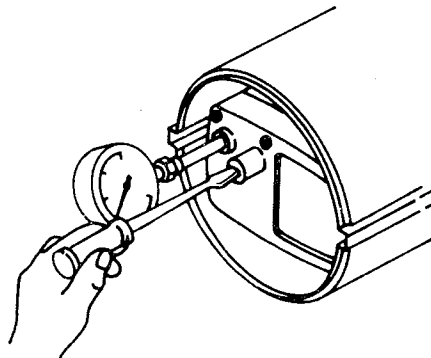
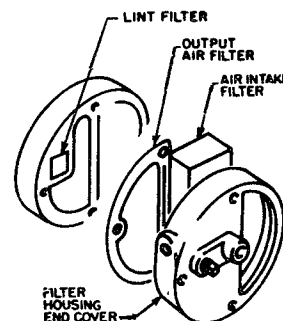
When removing the motor from the heater, always remove the fan first. The weight of the motor resting on the fan could damage the fan pitch.

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



## AIR FILTERS

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



# STORAGE

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

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

## FUEL TANK

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

## AIR FILTERS

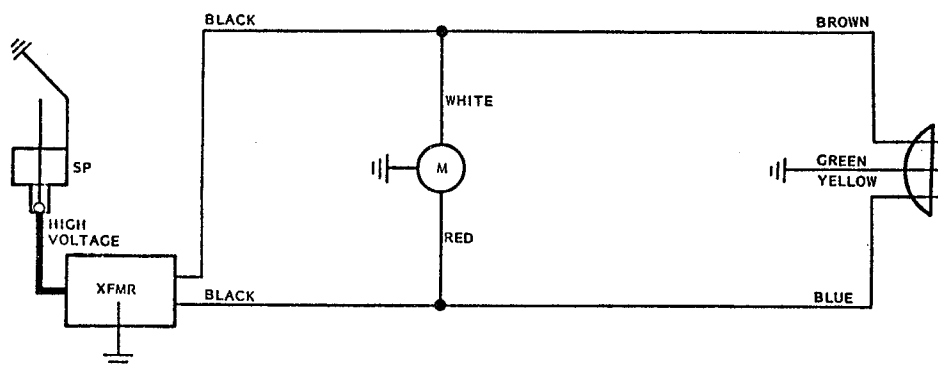
Remove and clean or replace filters if necessary.

## SPARK PLUG

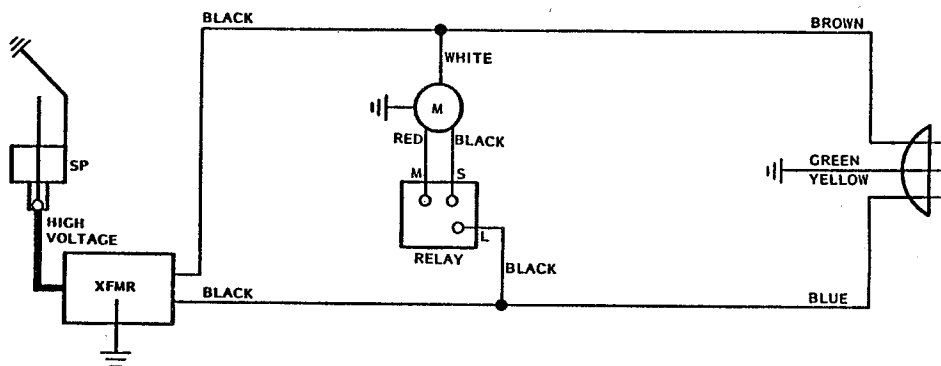
Clean and adjust spark plug, or replace if necessary.

# WIRING DIAGRAMS

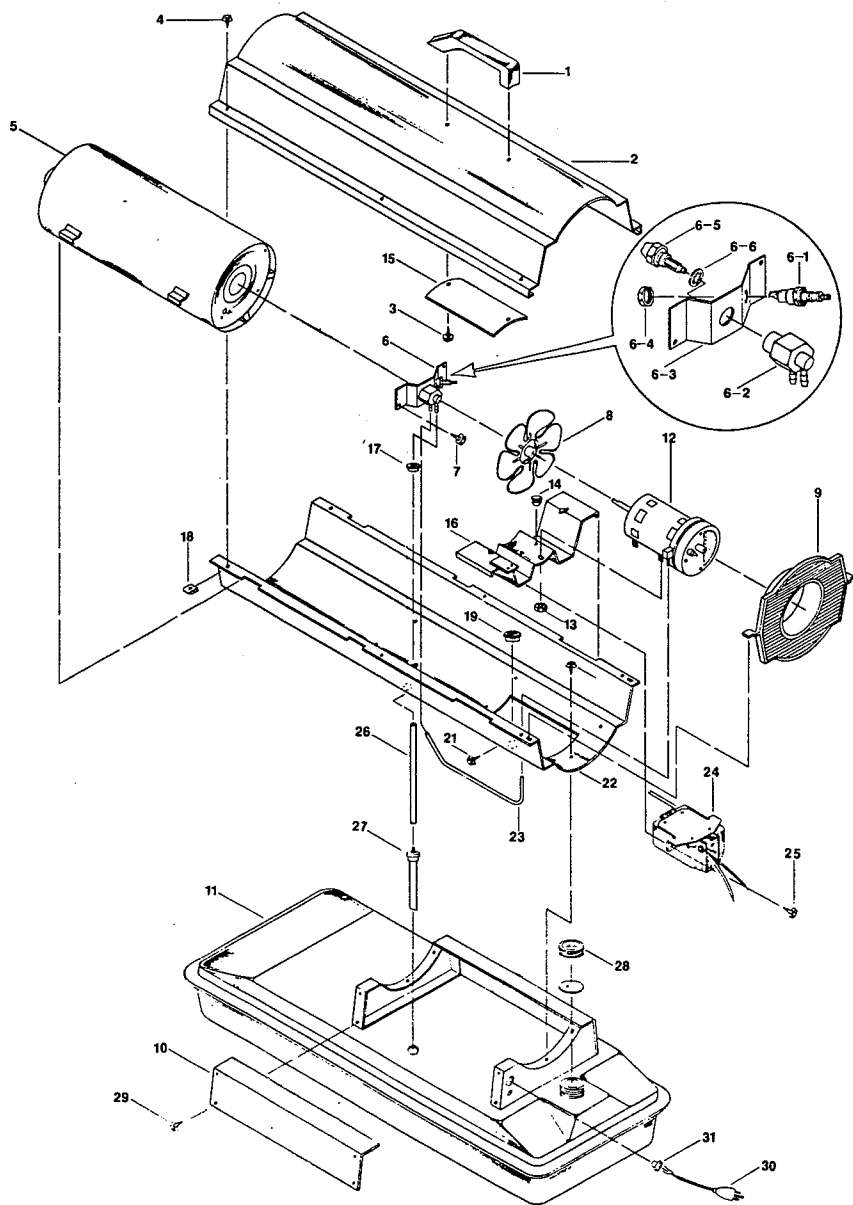
MODEL B30ETM



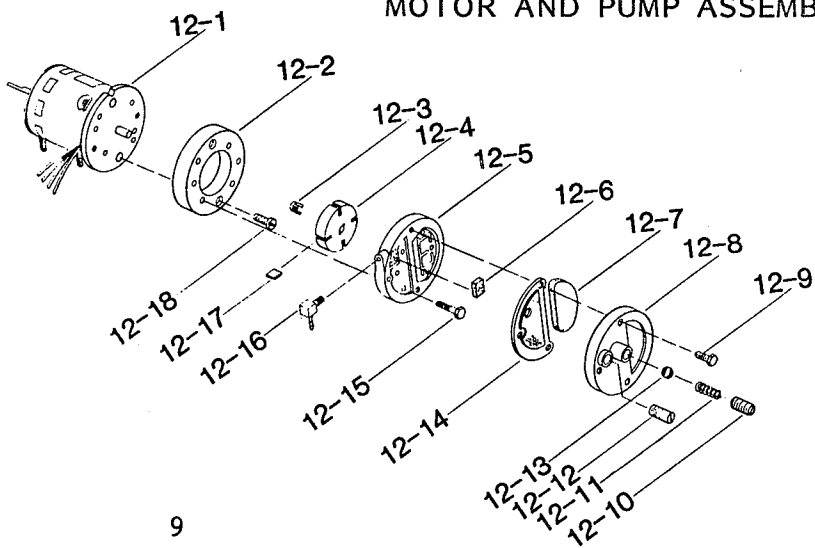
MODEL B70ETM



# PARTS – B30ETM



## MOTOR AND PUMP ASSEMBLY



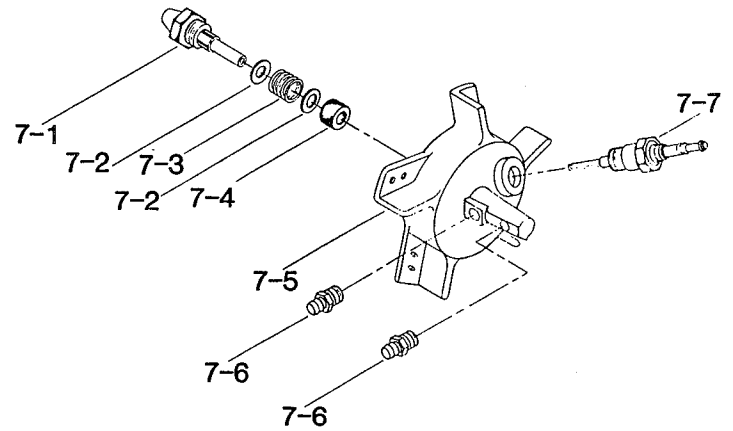
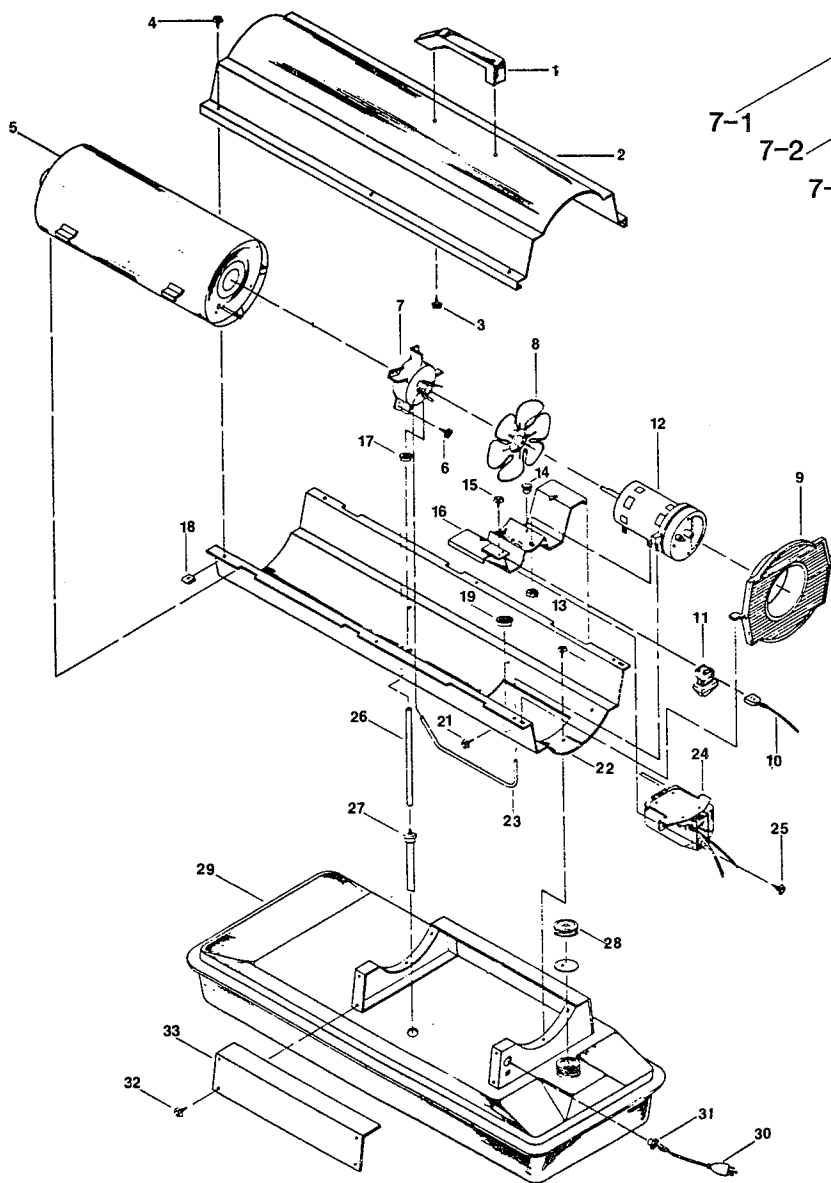
# PARTS - B30ETM

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

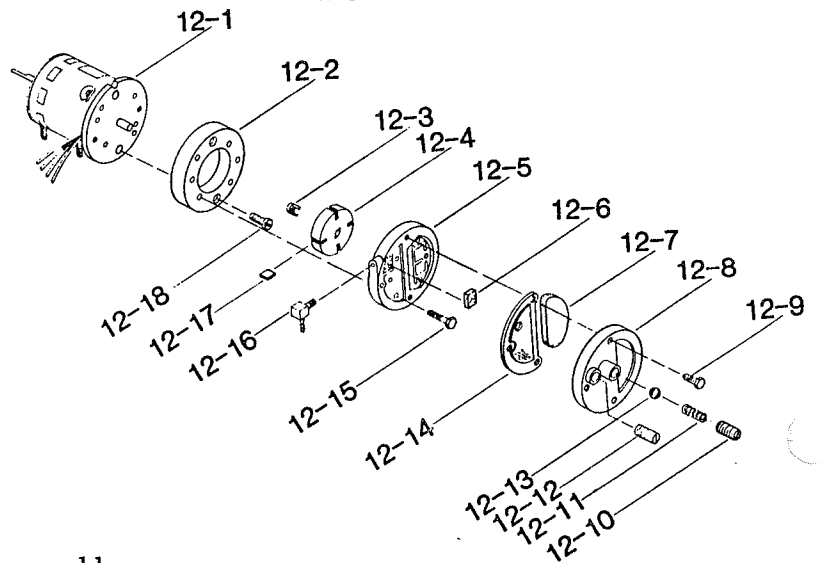
KEY NO.	Part Number	Part Description	Qty.
1	M51104-01	Handle	1
2	079873-01BL	Shell, Upper	1
3	M50589-01	Screw, Handle (10-14 x 9/16)	2
4	M11084-27	Screw, Hex Head (10-16 x 1/2)	6
5	M50785-06	Combustion Chamber	1
6	M29707-04	Burner Head Assembly	1
6-1	M29835-2	Spark Plug	1
6-2	M29805	Adapter, Nozzle	1
6-3	M51013-01	Bracket Assembly	1
6-4	M29824	Nut, 14mm	1
6-5	M29681	Nozzle	1
6-6	M16741-18	Ring, Retainer	1
7	M11084-26	Screw, Hex Head (10-16 x 3/8)	2
8	M30884	Fan (Includes 1/4-28 x 1/4)	1
9	M51571-01	Fan Guard	1
10	M50899-03AA	Cover, Side	1
11	079492-01AB	Tank, Fuel	1
12		Motor and Pump Assembly	1
12-1	078894-03	Motor (230 V. 50 Hz)	1
12-2	M8645	Pump Body	1
12-3	M22009	Insert	1
12-4	M22456-1	Rotor	1
12-5	M29608	Cover, End Pump	1
12-6	M29632	Filter, Lint	1
12-7	M29633	Filter, Intake	1
12-8	M29609	Filter, End Cover	1
12-9	M12461-31	Screw, Hex Head (10-32 x 1)	3
12-10	M27694	Screw, Adjusting	1
12-11	M10993-1	Spring, Pressure Relief	1
12-12	M22997	Plug	1
12-13	M8940	Ball, Steel (1/4 Dia.)	1
12-14	M29612-01	Filter, Output	1
12-15	M12461-31	Screw, Hex Head (10-32 x 1)	6
12-16	M50016	Elbow, 90° (Barb Fitting)	1
12-17	M8643	Blade	4
12-18	FHPF3-4C	Screw, Fillister Head	2
13	NTC-4C	Nut, Hex Lock	2
14	M50631	Bumper, Rubber	2
15	M51108-01	Shield, Heat-Shell	1
16	M51061-01	Bracket, Motor	1
17	M30865-02	Bushing (Wire from transformer to Spark Plug)	1
18	M11271-8	Nut, Clip	6
19	M50104-02	Bushing (Wires)	1
20	M11084-26	Screw, Hex Head (10-17 x 3/8)	6
21	M15823-37	Screw (Grounding, 8-18 x 1/4)	1
22	079874-01BL	Shell, Lower	1
23	M29652-04	Airline (Rubber Tubing)	1
24	M51540-01	Transformer (5000 Volt)	1
25	M11084-26	Screw, Hex Head (10-16 x 3/8)	2
26	M29652-05	Fuel Line (Rubber Tubing)	1
27	M50876-04	Assembly Fuel Filter	1
28	079664-01	Cap, Fuel Tank (Includes Gasket)	1
29	M11084-26	Screw, Hex Head (10-16 x 3/8)	2
30	M15779-20	Power, Cord	1
31	M11143-1	Bushing, Strain Relief	1

## PARTS AVAILABLE - NOT SHOWN

M18053	Screen, Filler Neck	1
079877-01	Decal, Tradename	1



## BURNER HEAD ASSEMBLY



## MOTOR AND PUMP ASSEMBLY

# PARTS - B70ETM

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

KEY No.	Part Number	Part Description	Qty.
1	M51104-01	Handle	1
2	079873-01BL	Upper Shell	1
3	M50589-01	Screw, Handle (10-14 x 9/16)	2
4	M11084-27	Screw, Hex Head (10-16 x 1/2)	6
5	M50785-05	Combustion Chamber	1
6	M11084-27	Screw, Hex Head (10-16 x 1/2)	3
7		Burner Head Assembly	1
7-1	M50880-01	Nozzle	1
7-2	M10659-1	Washer, Nozzle Seal	2
7-3	M10809-1	Spring, Nozzle Seal	1
7-4	M8882	Sleeve, Nozzle Seal	1
7-5	M51098-02	Body, Burner Head	1
7-6	M50820-01	Fitting Barb	2
7-7	M10962-2	Spark Plug	1
8	M51107-01	Fan (Includes 1/4-28 x 5/16 Set Screw)	1
9	M51571-01	Fan Guard	1
10	*	Wire, Black (Connects Line to Relay) 8"	1
11	M25061-7	Relay (Motor Start)	1
12		Motor and Pump Assembly	1
12-1	078894-04	Motor (230 V. 50 Hz)	1
12-2	M8645	Pump Body	1
12-3	M22009	Insert	1
12-4	M22456-1	Rotor	1
12-5	M29608	Pump, End Cover	1
12-6	M29632	Lint Filter	1
12-7	M29633	Intake Filter	1
12-8	M29609	End Cover, Filter	1
12-9	M12461-31	Screw, Hex Head (10-32 x 1)	3
12-10	M27694	Adjusting Screw	1
12-11	M10993-1	Pressure Relief Spring	1
12-12	M22997	Plug	1
12-13	M8940	Ball, Steel (1/4 Dia.)	1
12-14	M29612-01	Output Filter	1
12-15	M12461-32	Screw, Hex Head (10-32 x 1-1/8)	6
12-16	M50016	Elbow 90° (Barb Fitting)	1
12-17	M8643	Blade, Pump	4
12-18	FHPF3-4C	Screw, Fillister Head (10-32 x 1/2)	2
13	NTC-4C	Nut, Hex Lock	2
14	M50631	Bumper, Rubber	2
15	RC2-2C	Screw (8-32 x 1/4-Holds Relay in Position)	1
16	M51061-01	Bracket, Motor and Relay Support	1
17	M30865-02	Bushing (Wire from Transformer to Spark Plug)	1
18	M11271-8	Nut, Clip	6
19	M50104-02	Bushing	1
20	M11084-26	Screw, Hex Head (10-16 x 3/8)	6
21	M15823-37	Screw (Eathering 8-18 x 1/2)	1
22	079874-01BL	Lower Shell	1
23	M29652-04	Airline (Rubber Tubing)	1
24	M51540-01	Transformer (5000 Volt)	1
25	M11084-26	Screw, Hex Head (10-16 x 3/8)	2
26	M29652-05	Fuel Line (Rubber Tubing)	1
27	M50876-05	Filter, Fuel Assembly	1
28	079665-01	Cap, Fuel Tank (Includes Gasket)	1
29	079492-02AA	Fuel Tank	1
30	M15779-20	Power Cord	1
31	M11143-1	Bushing, Strain Relief	1
32	M11084-26	Screw, Hex Head (10-16 x 3/8)	2
33	M50899-03AA	Side Cover	1

## PARTS AVAILABLE - NOT SHOWN

M18053	Screen, Filler Neck	1
079877-01	Decal, Tradename	1

\*Standard hardware item, available locally