

WIRING DIAGRAMS

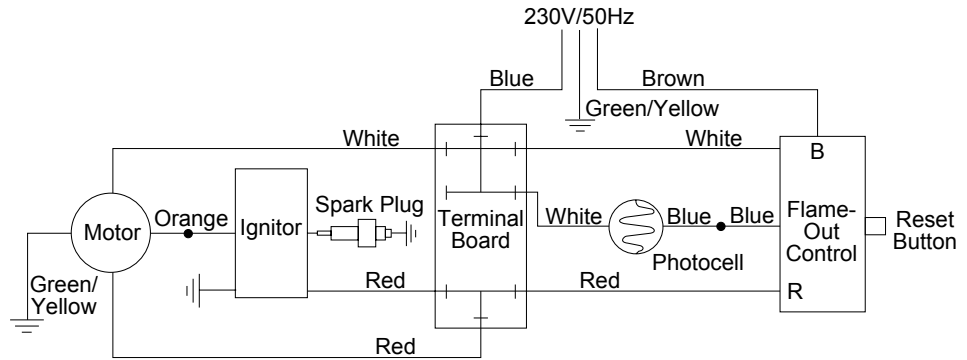


Figure 37 - Wiring Diagram, 8,8 kW (30,000 Btu/Hr) Model

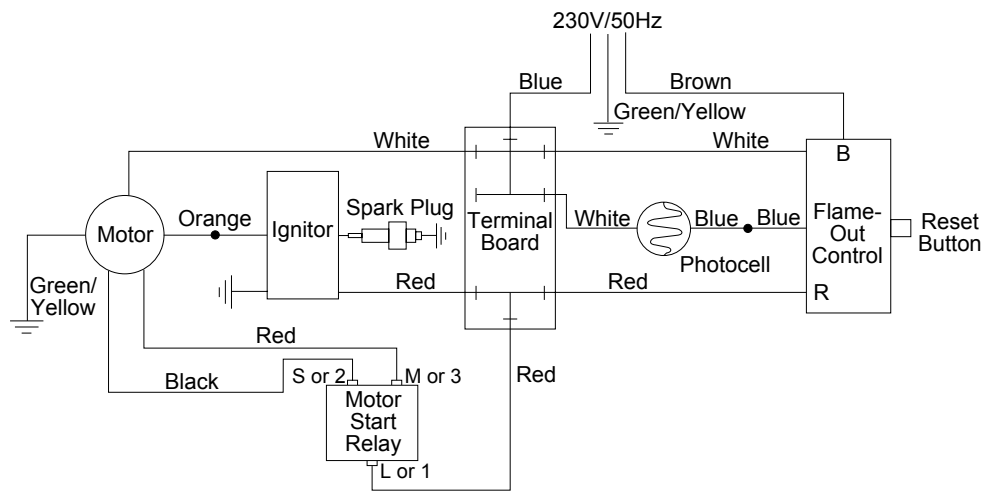


Figure 38 - Wiring Diagram, 20,5/26,4 kW (70/90,000 Btu/Hr) Models

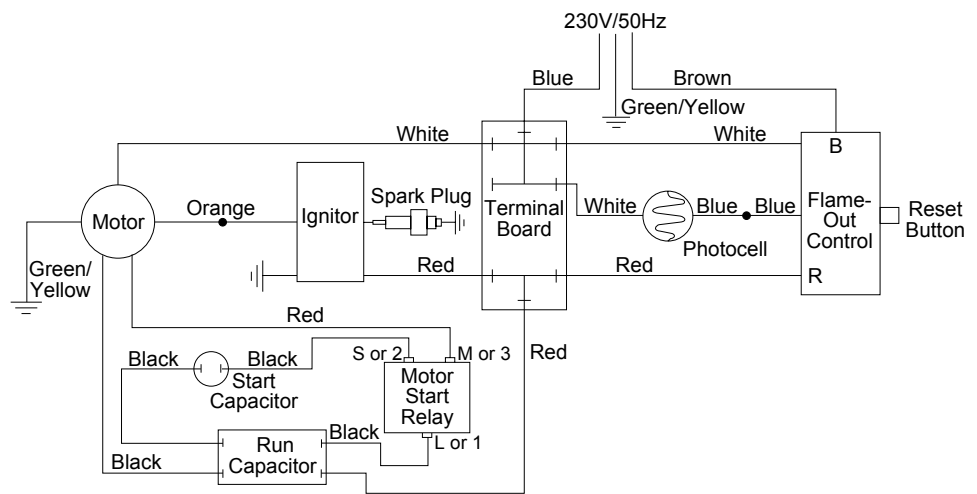
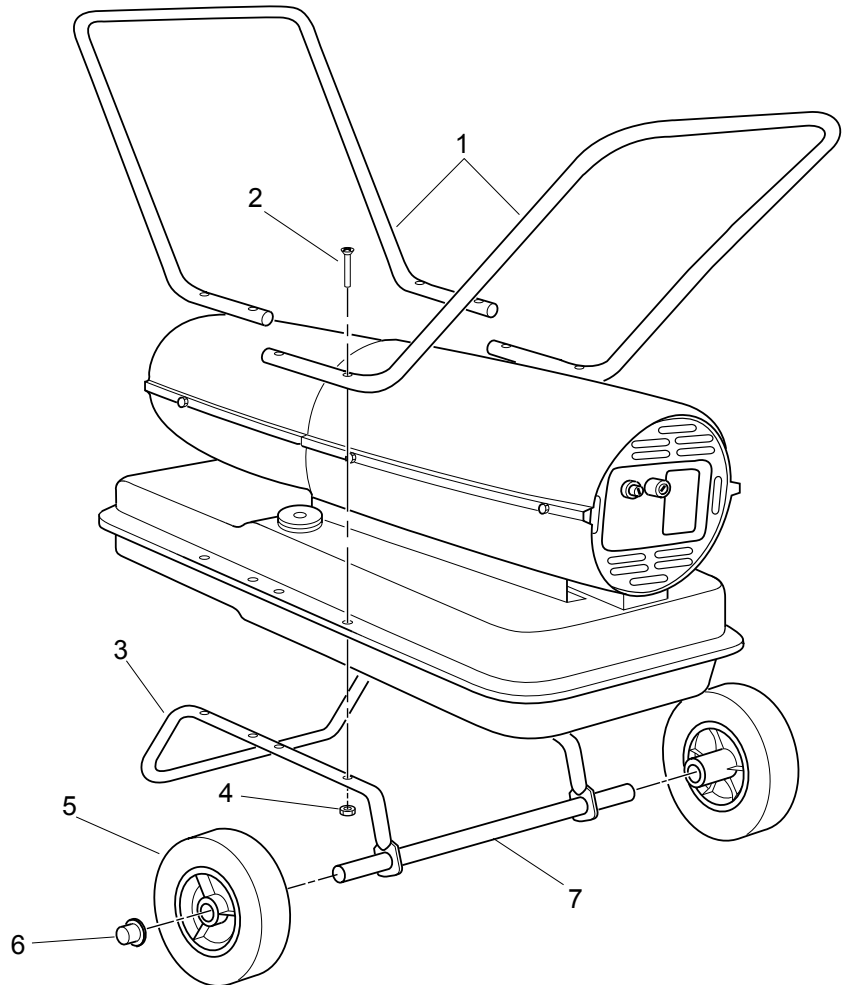


Figure 39 - Wiring Diagram, 44 kW (150,000 Btu/Hr) Model

ILLUSTRATED PARTS BREAKDOWN AND PARTS LIST

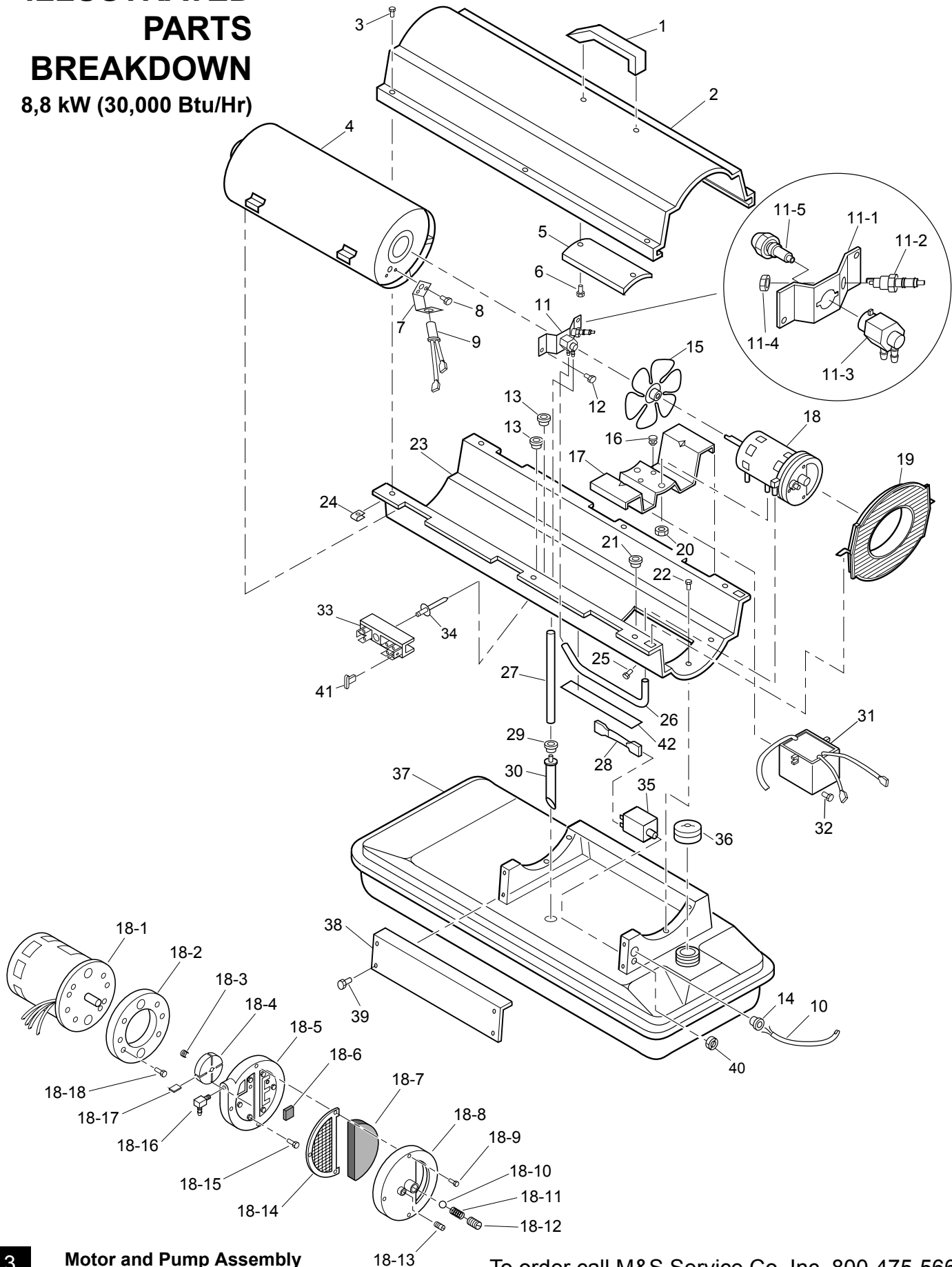
WHEELS AND HANDLES FOR 26,4 and 44 kW (90,000 AND 150,000 Btu/Hr) MODELS

KEY NO.	PART NUMBER	PART DESCRIPTION	26,4 90,000 QTY.	44 150,000 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	Hex Nut, #10-24	8	8
5	097896-01	Wheel	2	2
6	M28526	Cap Nut	2	2
7	M51015-01	Axle	1	—
	M16801-2	Axle	—	1



ILLUSTRATED PARTS BREAKDOWN

8,8 kW (30,000 Btu/Hr)



PARTS LIST

8,8 kW (30,000 Btu/Hr)

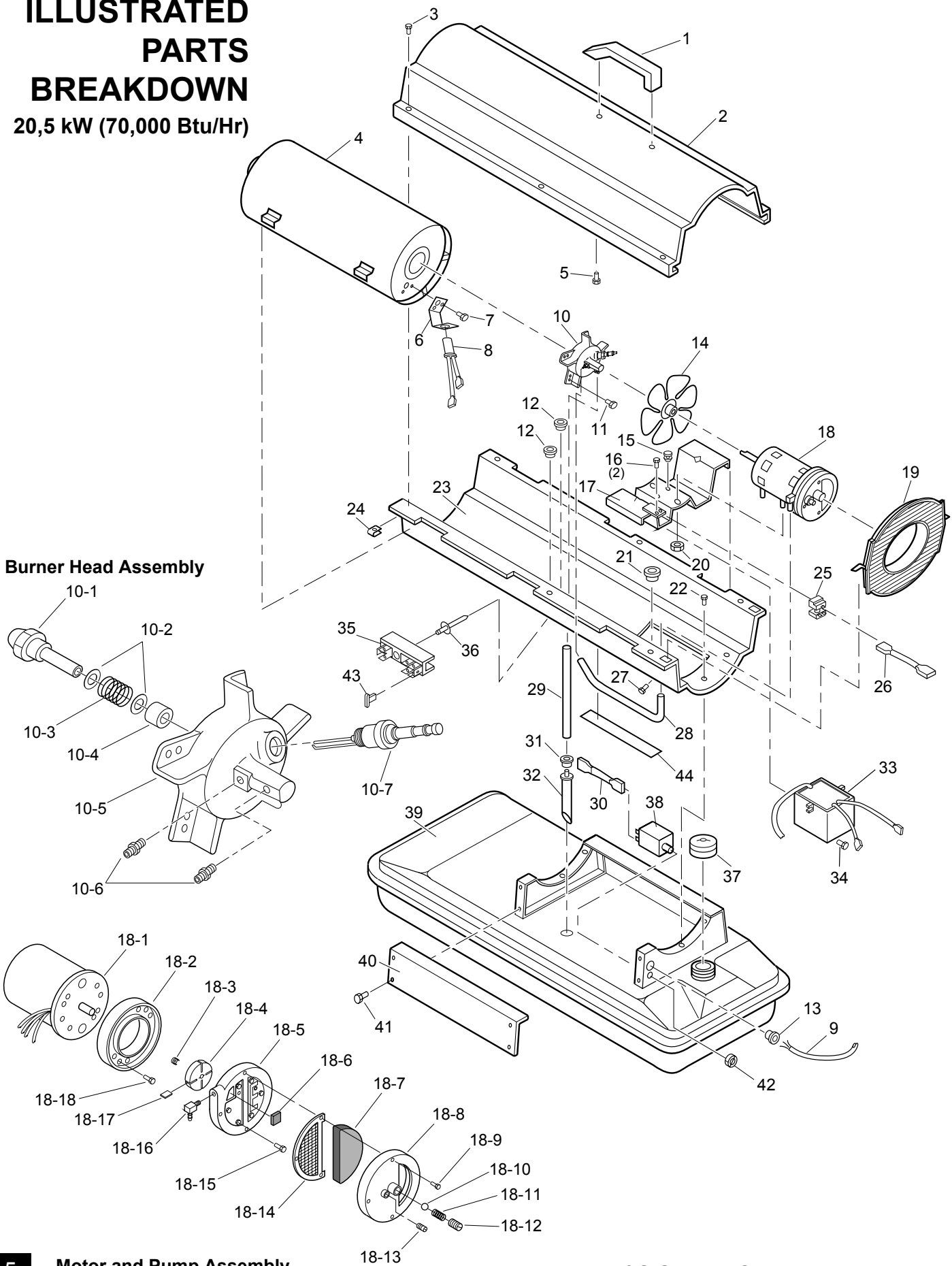
This list contains replaceable parts used in your heater. When ordering parts, be sure to provide the correct model and serial numbers (from the model plate), then the part number and description of the desired part.

KEY NO.	PART NUMBER	PART DESCRIPTION	QTY.	KEY NO.	PART NUMBER	PART DESCRIPTION	QTY.
1	M51104-01	Handle	1	19	M51105-01	Fan Guard	1
2	098511-67	Upper Shell (Black)	1	20	NTC-4C	Hex locknut	2
	098511-54	Upper Shell (Yellow)	1	21	M50104-02	Bushing (wires)	1
3	M15823-27	Screw, #10-16 x 1/2"	6	22	M11084-26	Screw, #10-16 x 3/8"	6
4	098512-05	Combustion Chamber	1	23	098511-81	Lower Shell (Black)	1
5	M51108-01	Heat Shield	1		098511-12	Lower Shell (Yellow)	1
6	M11084-29	Screw, #10-16 x 3/4"	2	24	M11271-8	Clip Nut	6
7	M16660	Photocell Bracket	1	25	M15823-37	Screw, #8-18 x 1/4"	1
8	M10908-2	Screw, #6-32 x 3/8"	2	26	M29652-04	Rubber Airline	1
9	HA3019	Photocell Assembly	1	27	M29652-05	Fuel Line	1
10	079673-03	Power Cord	1	28	M16841-57	Wire Assembly (red 8 1/2")	1
11	**	Burner Strap Assembly	1	29	M10990-3	Rubber Bushing	1
11-1	097124-01	Bracket	1	30	M50876-04	Fuel Filter Assembly (Includes bushing)	1
11-2	M29835-2	Spark Plug	1				
11-3	079980-01	Nozzle Adapter	1	31	098557-07	Electronic Ignitor	1
11-4	M29824	Nut, 14mm	1	32	M11084-29	Screw, #10-16 x 3/4"	2
11-5	M29681	Nozzle	1	33	099125-02	Terminal Board	1
12	M11084-26	Screw, #10-16 x 3/8"	2	34	099157-01	Rivet	1
13	M30865-02	Bushing	2	35	097630-02	Flame-Out Control	1
14	M11143-1	Strain Relief Bushing	1	36	097702-01	Fuel Tank Cap	1
15	M30884	Fan	1	37	098513-23	Fuel Tank	1
16	M50631	Rubber Bumper	2	38	M50899-03AA	Side Cover	1
17	098138-01	Motor Bracket	1	39	M11084-26	Screw, #10-16 x 3/8"	2
18	**	Motor and Pump Assembly	1	40	099177-01	Hex Nut	1
18-1	098642-02	Motor (230V/50Hz)	1	41	078918-01	Terminal Board Tab Cap	1
18-2	M8645-2	Pump Body	1	42	097785-01	Vinyl Foam Gasket	1
18-3	M22009	Insert	1	PARTS AVAILABLE - NOT SHOWN			
18-4	M22456-2	Rotor	1				
18-5	M29608	End Pump Cover	1		M18053	Filler Neck Screen	1
18-6	M29632	Lint Filter	1		097764-04	Tradename Decal (Black Shell)	2
18-7	M29633	Intake Filter	1		097649-01	Tradename Decal (Yellow Shell)	1
18-8	M29609	End Filter Cover	1		098234-31	General Info. Decal (English, Black Shell)	1
18-9	M12461-31	Screw, #10-32 x 1"	3		100941-01	General Info. Decal (Spanish, Black Shell)	1
18-10	M8940	Steel Ball (1/4" Dia.)	1		098234-48	General Info. Decal (English, Yellow Shell)	1
18-11	M10993-1	Pressure Relief Spring	1		100941-04	General Info. Decal (Spanish, Yellow Shell)	1
18-12	M27694	Adjusting Screw	1				
18-13	M22997	Plug	1				
18-14	M29612-01	Output Filter	1				
18-15	M12461-32	Screw, #10-32 x 1 1/8"	6				
18-16	M50016	Elbow, 90° (Barb Fitting)	1				
18-17	M8643-2	Blade	4				
18-18	FHPF3-6C	Screw, #10-32 x 3/4"	2				

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

ILLUSTRATED PARTS BREAKDOWN

20,5 kW (70,000 Btu/Hr)



Burner Head Assembly

5 Motor and Pump Assembly

To order call M&S Service Co. Inc. 800-475-5660

PARTS LIST

20,5 kW (70,000 Btu/Hr)

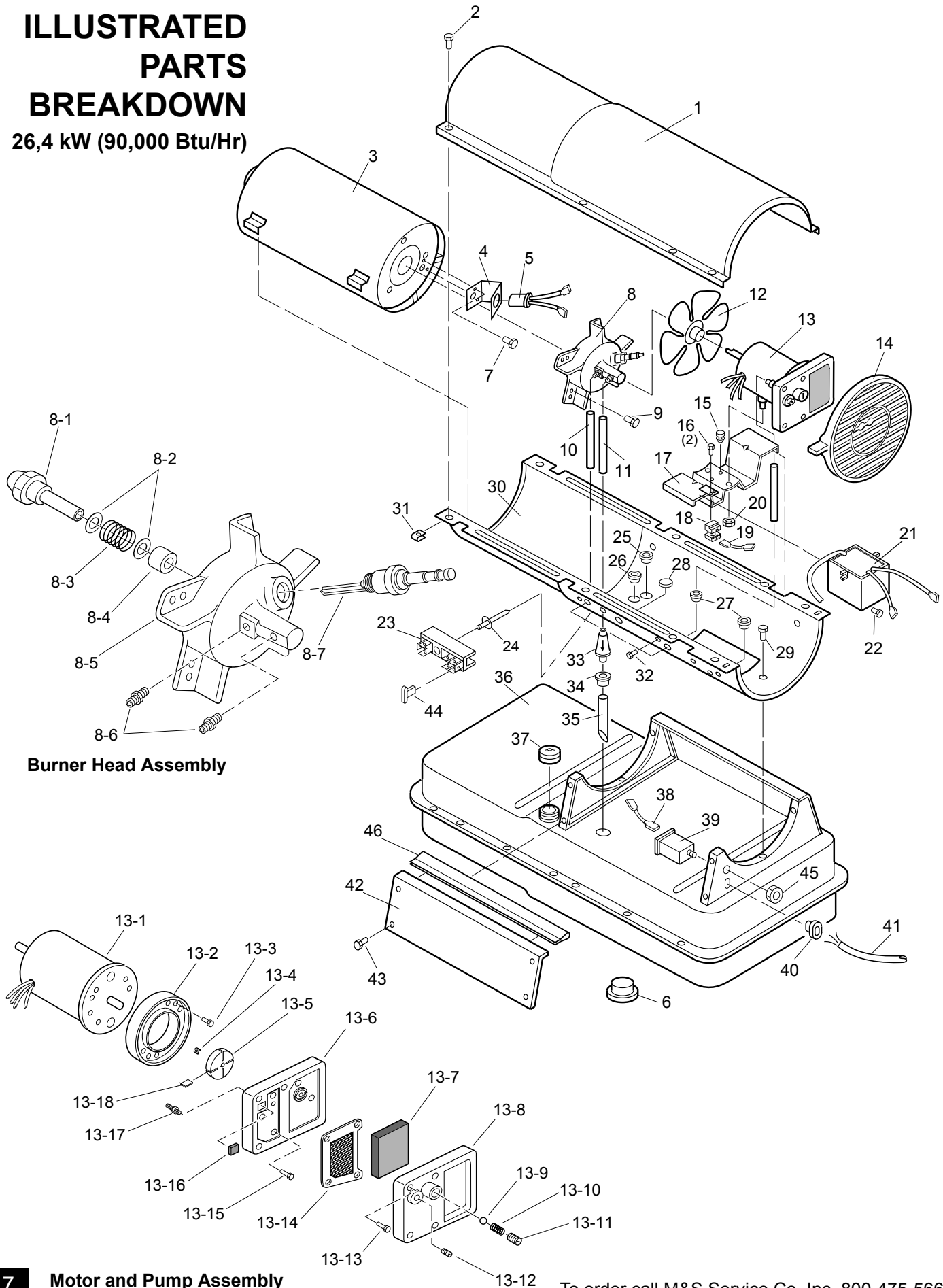
This list contains replaceable parts used in your heater. When ordering parts, be sure to provide the correct model and serial numbers (from the model plate), then the part number and description of the desired part.

KEY NO.	PART NUMBER	PART DESCRIPTION	QTY.	KEY NO.	PART NUMBER	PART DESCRIPTION	QTY.
1	M51104-01	Handle	1	19	M51105-01	Fan Guard	1
2	098511-67	Upper Shell (Black)	1	20	NTC-4C	Hex locknut	2
	098511-54	Upper Shell (Yellow)	1	21	M50104-02	Bushing (wires)	1
3	M15823-27	Screw, #10-16 x 1/2"	6	22	M11084-26	Screw, #10-16 x 3/8"	6
4	098512-12	Combustion Chamber	1	23	098511-81	Lower Shell (Black)	1
5	M11084-29	Screw, #10-16 x 3/4"	2		098511-12	Lower Shell (Yellow)	1
6	M16660	Photocell Bracket	1	24	M11271-8	Clip Nut	6
7	M10908-2	Screw, #6-32 x 3/8"	2	25	098136-02	Relay (motor start)	1
8	HA3019	Photocell Assembly	1	26	M16841-58	Wire Assembly (red 9 1/2")	1
9	079673-03	Power Cord	1	27	M15823-37	Screw, #8-18 x 1/4"	1
10	**	Burner Head Assembly	1	28	M29652-04	Rubber Airline	1
10-1	M50880-01	Nozzle	1	29	079973-01	Fuel Line	1
10-2	M10659-1	Nozzle Seal Washer	2	30	M16841-57	Wire Assembly (red 8 1/2")	1
10-3	M10809-1	Nozzle Seal Spring	1	31	M10990-3	Rubber Bushing	1
10-4	M8882	Nozzle Seal Sleeve	1	32	M50876-05	Fuel Filter Assembly (Includes bushing)	1
10-5	M51098-02	Burner Head Body	1				
10-6	M50820-01	Barb Fitting	2	33	098557-07	Electronic Ignitor	1
10-7	M10962-2	Spark Plug	1	34	M11084-29	Screw, #10-16 x 3/4"	2
11	M11084-27	Screw, #10-16 x 1/2"	3	35	099125-02	Terminal Board	1
12	M30865-02	Bushing	2	36	099157-01	Rivet	1
13	M11143-1	Strain Relief Bushing	1	37	097702-01	Fuel Tank Cap	1
14	097026-01	Fan	1	38	097630-02	Flame-Out Control	1
15	M50631	Rubber Bumper	2	39	098513-24	Fuel Tank	1
16	M12461-13	Screw, #8-32 x 1/4" (holds relay in position)	2	40	M50899-03AA	Side Cover	1
				41	M11084-26	Screw, #10-16 x 3/8"	2
17	098138-01	Motor and Relay Bracket Assembly	1	42	099177-01	Hex Nut	1
				43	078918-01	Terminal Board Tab Cap	1
18	**	Motor and Pump Assembly	1	44	097785-01	Vinyl Foam Gasket	1
18-1	098782-02	Motor (230V/50Hz)	1	PARTS AVAILABLE - NOT SHOWN			
18-2	079975-01	Pump Body	1				
18-3	M22009	Insert	1				
18-4	M22456-1	Rotor	1		M18053	Filler Neck Screen	1
18-5	M29608	End Pump Cover	1		097764-03	Tradename Decal (Black Shell)	2
18-6	M29632	Lint Filter	1		097649-01	Tradename Decal (Yellow Shell)	1
18-7	M29633	Intake Filter	1		098234-43	General Info. Decal (English, Black Shell)	1
18-8	M29609	End Filter Cover	1		100941-02	General Info. Decal (Spanish, Black Shell)	1
18-9	M12461-31	Screw, #10-32 x 1"	3		098234-49	General Info. Decal (English, Yellow Shell)	1
18-10	M8940	Steel Ball (1/4" Dia.)	1		100941-05	General Info. Decal (Spanish, Yellow Shell)	1
18-11	M10993-1	Pressure Relief Spring	1				
18-12	M27694	Adjusting Screw	1				
18-13	M22997	Plug	1				
18-14	M29612-01	Output Filter	1				
18-15	M12461-31	Screw, #10-32 x 1"	6				
18-16	M50016	Elbow, 90° (Barb Fitting)	1				
18-17	M8643	Blade	4				
18-18	FHPF3-2C	Screw, #10-32 x 1/4"	2				

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

ILLUSTRATED PARTS BREAKDOWN

26,4 kW (90,000 Btu/Hr)



Burner Head Assembly

7 Motor and Pump Assembly

To order call M&S Service Co. Inc. 800-475-5660

PARTS LIST

26,4 kW (90,000 Btu/Hr)

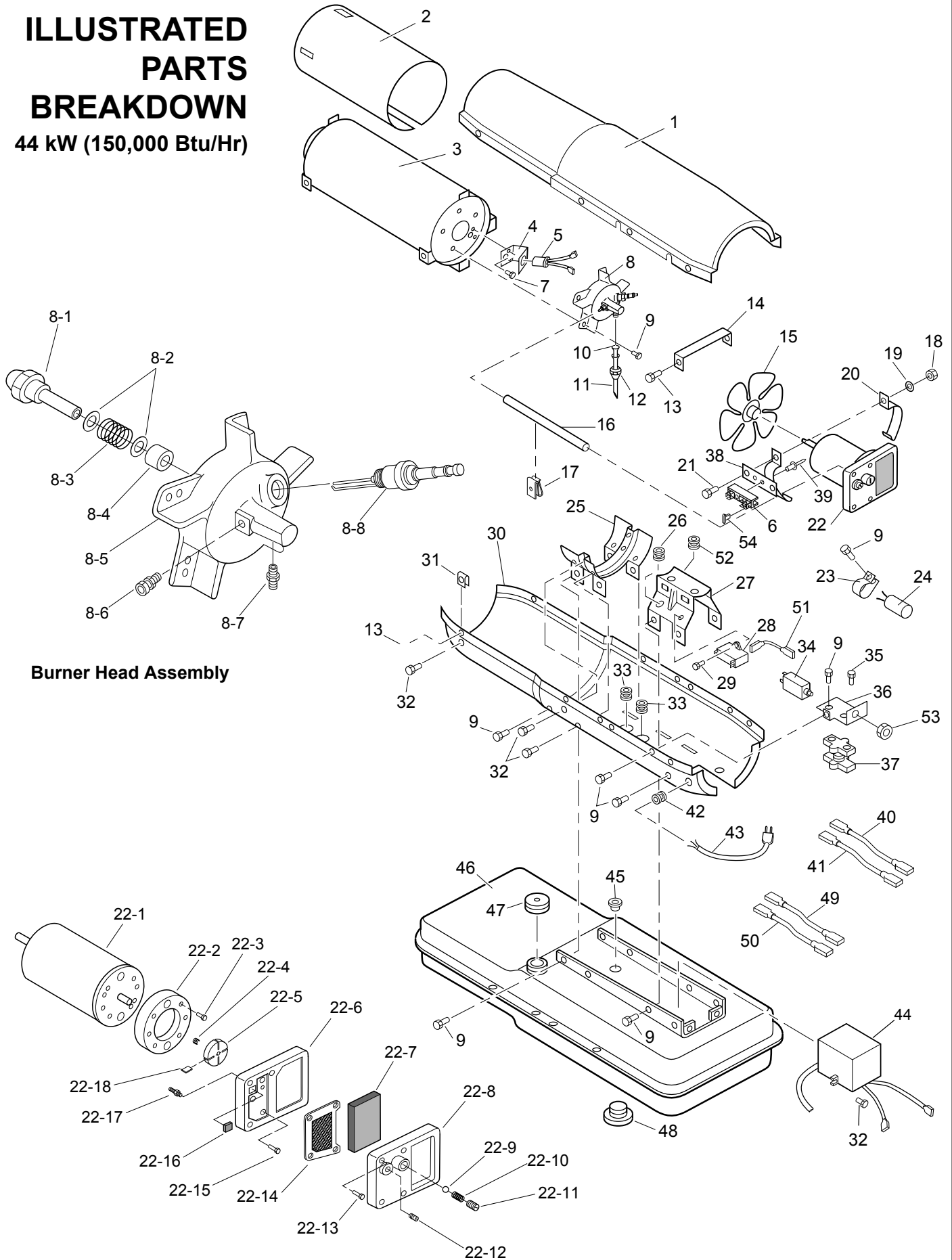
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KEY NO.	PART NUMBER	PART DESCRIPTION	QTY.	KEY NO.	PART NUMBER	PART DESCRIPTION	QTY.
1	098511-66	Upper Shell (Black)	1	19	M16841-59	Wire Assembly (red 13 1/2")	1
	098511-138	Upper Shell (Yellow)	1	20	NTC-4C	Hex locknut	2
2	M15823-27	Screw, #10-16 x 1/2"	6	21	098557-07	Electronic Ignitor	1
3	098512-07	Combustion Chamber	1	22	M11084-29	Screw, #10-16 x 3/4"	2
4	M16660	Photocell Bracket	1	23	099125-02	Terminal Board	1
5	HA3019	Photocell Assembly	1	24	099157-01	Rivet	1
6	M27417	Drain Plug	1	25	M30865-02	Bushing	1
7	M10908-2	Screw, #6-32 x 3/8"	2	26	M30865-02	Bushing	1
8	**	Burner Head Assembly	1	27	M50104-01	Bushing	2
8-1	M23103	Nozzle	1	28	099213-01	Button Plug	1
8-2	M10659-1	Nozzle Seal Washer	2	29	M11084-27	Screw, #10-16 x 1/2"	6
8-3	M10809-1	Nozzle Seal Spring	1	30	098511-82	Lower Shell (Black)	1
8-4	M8882	Nozzle Seal Sleeve	1		098511-140	Lower Shell (Yellow)	1
8-5	M50924-03	Burner Head Body	1	31	M11271-8	Clip Nut	6
8-6	M50820-02	Barb Fitting	2	32	M15823-37	Screw, #8-18 x 1/4"	1
8-7	M10962-2	Spark Plug	1	33	M51150-01	Fuel filter	1
9	M11084-27	Screw, #10-16 x 1/2"	3	34	M10990-3	Rubber Bushing	1
10	M50814-06	Air Line	1	35	M51151-01	Fuel Line	1
11	M51345-01	Fuel Line	1	36	098513-21	Fuel Tank	1
12	097293-01	Fan	1	37	097702-01	Fuel Tank Cap	1
13	**	Motor and Pump Assembly	1	38	M16841-57	Wire Assembly (red 8 1/2")	1
13-1	098783-02	Motor (230V/50Hz)	1	39	097630-02	Flame-Out Control	1
13-2	079975-01	Pump Body	1	40	M11143-1	Strain Relief Bushing	1
13-3	FHPF3-2C	Screw, #10-32 x 1/4"	2	41	079673-03	Power Cord	1
13-4	M22009	Insert	1	42	M51077-01AA	Side Cover	1
13-5	M22456-1	Rotor	1	43	M11084-27	Screw, #10-16 x 1/2"	4
13-6	M50545	End Pump Cover	1	44	078918-01	Terminal Board Tab Cap	1
13-7	M12179	Intake Filter	1	45	099177-01	Hex Nut	1
13-8	M16545	End Filter Cover	1	46	097468-01	Edge Liner	1
13-9	M8940	Steel Ball (1/4" Dia.)	1	PARTS AVAILABLE - NOT SHOWN			
13-10	M10993-1	Pressure Relief Spring	1		M18053	Filler Neck Screen	1
13-11	M27694	Adjusting Screw	1		097773-01	Tradename Decal (Black Shell)	2
13-12	M22997	Plug	1		097650-01	Tradename Decal (Yellow Shell)	1
13-13	M12461-31	Screw, #10-32 x 1"	4		098234-44	General Info. Decal (English, Black Shell)	1
13-14	M12244-1	Output Filter	1		100941-03	General Info. Decal (Spanish, Black Shell)	1
13-15	M12461-31	Screw, #10-32 x 1"	6		098234-50	General Info. Decal (English, Yellow Shell)	1
13-16	M11637	Lint Filter	1		100941-06	General Info. Decal (Spanish, Yellow Shell)	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	M12461-13	Screw, #8-32 x 1/4"	2				
17	098138-02	Motor and Relay Bracket Assembly	1				
18	098136-04	Relay (motor start)	1				

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

ILLUSTRATED PARTS BREAKDOWN

44 kW (150,000 Btu/Hr)



Burner Head Assembly

PARTS LIST

44 kW (150,000 Btu/Hr)

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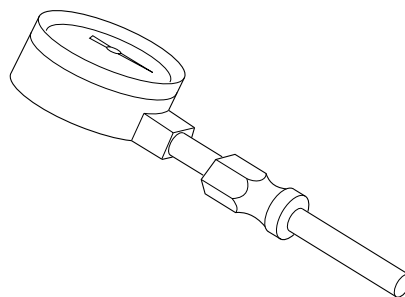
KEY NO.	PART NUMBER	PART DESCRIPTION	QTY.	KEY NO.	PART NUMBER	PART DESCRIPTION	QTY.
1	098511-68	Upper Shell (Black)	1	23	M12651-1	Capacitor Clamp	1
	098511-58	Upper Shell (Yellow)	1	24	M12650-3	Capacitor	1
2	098068-01	Heat Deflector	1	25	M12828	Shell Support Bracket	1
3	098512-02	Combustion Chamber	1	26	M30865-04	Open/Closed Bushing	1
4	M16660	Photocell Bracket	1	27	M16645	Motor Support Bracket	1
5	HA3019	Photocell Assembly	1	28	M51357-01	Capacitor (Run)	1
6	099125-02	Terminal Board	1	29	M15823-39	Screw, #8-18 x 1/2"	1
7	M10908-2	Screw, #6-32 x 3/8"	2	30	098511-80	Lower Shell (Black)	1
8	**	Burner Head Assembly	1		098511-101	Lower Shell (Yellow)	1
8-1	M18022	Nozzle	1	31	M11271-8	Nut Clip	9
8-2	M10659-1	Nozzle Seal Washer	2	32	M11084-29	Screw, #10-16 x 3/4"	8
8-3	M10809-1	Nozzle Seal Spring	1	33	M50104-03	Shorty Bushing	2
8-4	M8882	Nozzle Seal Sleeve	1	34	097630-02	Flame-Out Control	1
8-5	M50924-01	Burner Head Body	1	35	M12461-13	Screw, #8-32 x 1/4"	2
8-6	M50820-02	Barb Fitting	1	36	097060-01	Mounting Bracket	1
8-7	079685-01	Male Connector	1	37	M12462-13	Relay-Motor Start	1
8-8	M10962-2	Spark Plug	1	38	099607-01	Terminal Board Bracket	1
9	M11084-27	Screw, #10-16 x 1/2"	18	39	099157-01	Rivet	1
10	M19630	Fuel Filter	1	40	M9900-183	Wire Assembly (black 6")	1
11	M16790-12	Fuel Tube	1	41	M9900-184	Wire Assembly (black 15")	1
12	M50660-05	Flared 45° Nut	1	42	M11143-1	Strain Relief Bushing	1
13	M15823-27	Screw, #10-16 x 1/2"	10	43	079673-03	Power Cord	1
14	M16871	Retainer Strap	1	44	098557-07	Electronic Ignitor	1
15	M17920	Fan	1	45	M10990-3	Rubber Bushing	1
16	M50814-03	Air Line	1	46	098513-08	Fuel Tank	1
17	M50873-01	Clip	9	47	097702-01	Fuel Tank Cap	1
18	NPC-4C	Hex Nut, 1/4-20	2	48	M27417	Drain Plug	1
19	WLM-4C	Lockwasher, 1/4"	2	49	079010-14	Wire Assembly (red 8 7/8")	1
20	M16661	Motor Clamp	4	50	M9900-77	Wire Assembly (black 15")	1
21	M51043-01	Bolt, 1/4-20 x 1 1/2"	2	51	M16841-57	Wire Assembly (red 8 1/2")	1
22	**	Motor and Pump Assembly	1	52	M30865-02	Open/Closed Bushing	1
22-1	098784-02	Motor (230V/50Hz)	1	53	099177-01	Hex Nut, 3/8-27	1
22-2	M8645-3	Pump Body	1	54	078918-01	Terminal Board Tab Cap	1
22-3	FHPF3-7C	Screw, #10-32 x 7/8"	2	PARTS AVAILABLE - NOT SHOWN			
22-4	M22009	Insert	1				
22-5	M22456-3	Rotor	1				
22-6	M50545	End Pump Cover	1		M50140	Fan Guard	1
22-7	M12179	Intake Filter	1		097773-02	Tradename Decal (Black Shell)	2
22-8	M16545	End Filter Cover	1		097650-01	Tradename Decal (Yellow Shell)	1
22-9	M8940	Steel Ball (1/4" Dia.)	1		M18053	Filler Neck Screen	1
22-10	M10993-1	Pressure Relief Spring	1		098235-21	General Info. Decal (English, Black Shell)	1
22-11	M27694	Adjusting Screw	1		100942-01	General Info. Decal (Spanish, Black Shell)	1
22-12	M22997	Plug	1		098235-24	General Info. Decal (English, Yellow Shell)	1
22-13	M12461-31	Screw, #10-32 x 1"	4		100942-02	General Info. Decal (Spanish, Yellow Shell)	1
22-14	M12244-1	Output Filter	1				
22-15	M12461-34	Screw, #10-32 x 1 1/2"	6				
22-16	M11637	Lint Filter	1				
22-17	M50820-02	Barb Fitting	1				
22-18	M8643-3	Blade	4				

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

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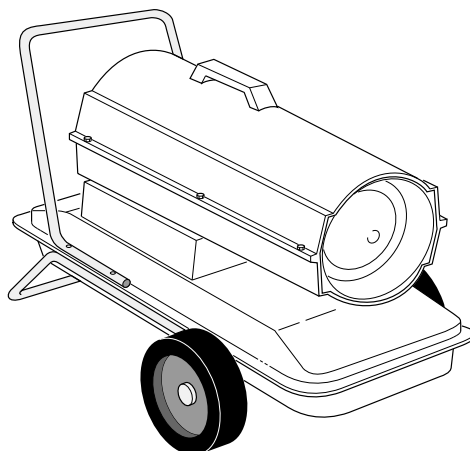
ACCESSORIES

Purchase accessories from your local dealer.



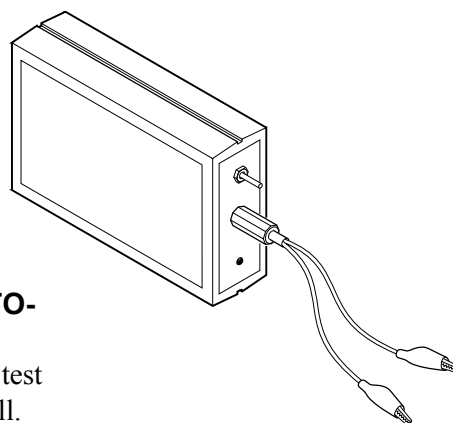
AIR GAUGE KIT - HA1180

For all models. Special tool to check pump pressure.



HEAVY DUTY WHEELS AND HANDLE KIT - HA1202

For heavy duty applications. Makes your heater even more portable and convenient. For 8,8/20,5 kW (30/70,000 Btu/Hr) models.



FLAME-OUT CONTROL/PHOTO-CELL TESTER - HA1170

For all models. Special tool used to test the flame-out control and photocell.