

SPECIFICATIONS

Model Size	40	55/60	70	110/115	155	165	200
Output Rating (Btu/Hr)	40,000	55,000 and 60,000	70,000	110,000 and 115,000	155,000	165,000	200,000
Fuel	Use only kerosene, #1/#2 diesel/fuel oil, JET A or JP-8 fuels*						
Fuel Tank Capacity (U.S. Gal./Liters)	3/11.3	5/18.9	5/18.9	9/34	13.5/51	13.5/51	13.5/51
Fuel Consumption (Gal. Per Hr/Liters Per Hr)	.3/1.14	.44/1.67	.52/1.97	.85/3.00	1.14/4.31	1.2/4.54	1.4/5.3
Pump Pressure (psi)	3.0	3.4	4.7	5.1	5.2	5.6	6.2
Electric Requirements	120 V/60 HZ (Same All Models)						
Amperage (Normal Run)	2.0	2.0	2.8	3.6	3.6	3.6	3.6
Motor RPM	1725	1725	3440	3400	3400	3400	3400
Hot Air Output (CFM)	170	180	360	490	550	575	600
Motor HP	1/15	1/15	1/8	1/5	1/5	1/5	1/4
Shipping Weight (Approximate Pounds/Kilograms)	32/14.5	33/15	35/15.9	54/24.5	63/28.6	65/29.5	77/35
Heater Weight without Fuel (Approximate Pounds/Kilograms)	28/12.7	29/13.1	31/14	46/21	54/24.5	55/25	66/30

* Use of #2 diesel & fuel oil will result in noticeable odor and could require additional fuel filter maintenance. Use in extreme cold temperatures may require nontoxic anti-icer additives.

WIRING DIAGRAMS

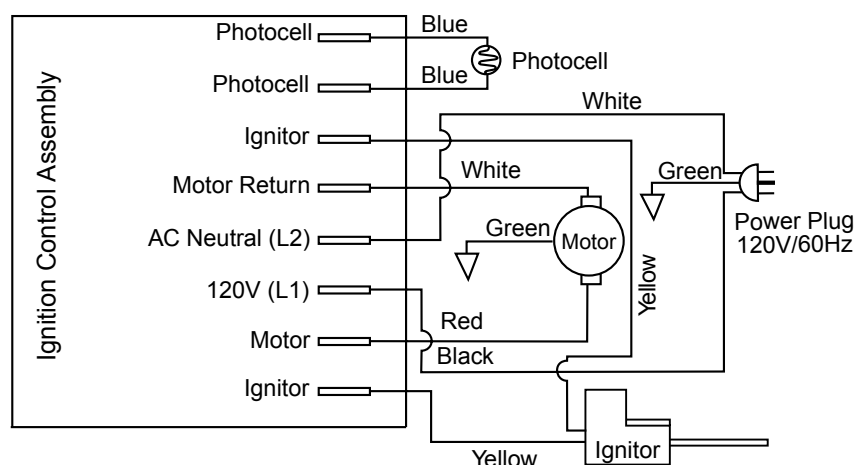
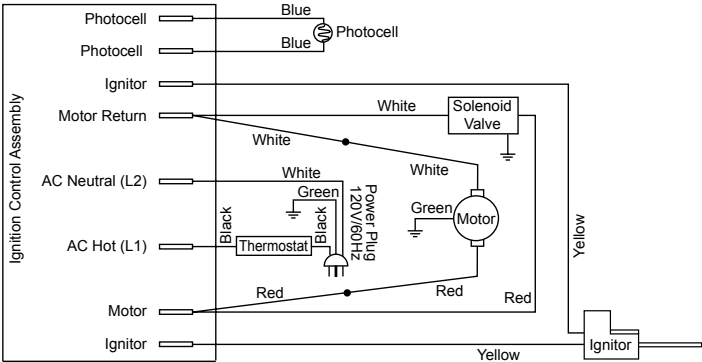


Figure 34 - Wiring Diagram without Thermostat (40/55/60/70/110/115/155/165 Models)

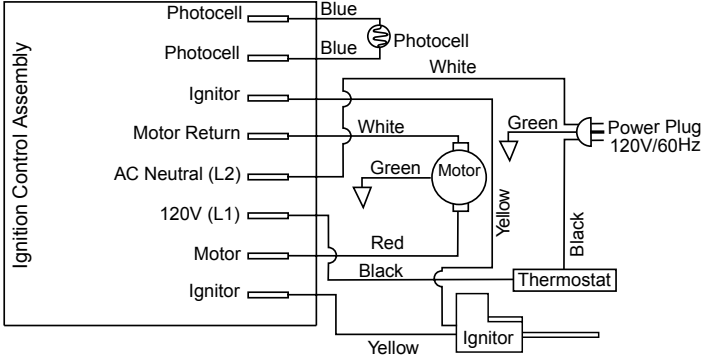
WIRING DIAGRAMS

Continued

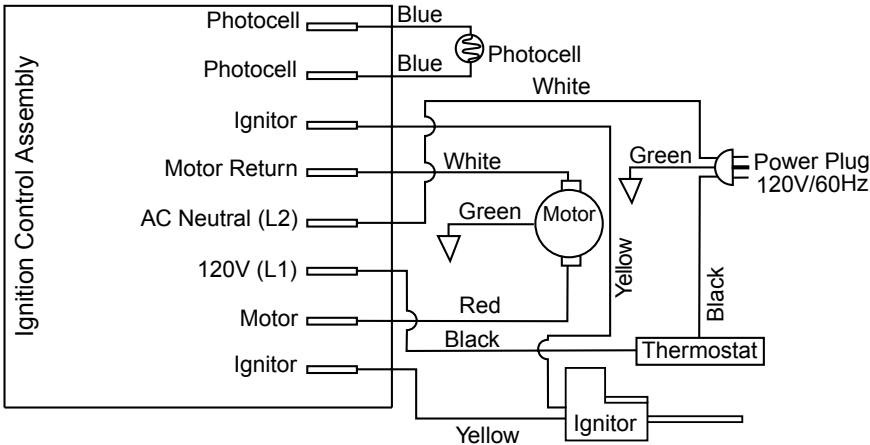


(Heater with Fuel Valve Assembly)

Figure 35 - Wiring Diagram with Thermostat for 200 Model

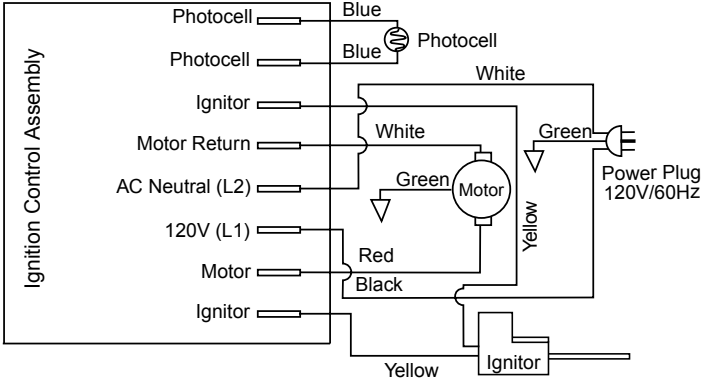


(Heater without Fuel Valve Assembly)



(Heater with Fuel Valve Assembly)

Figure 37 - Wiring Diagram without Thermostat for 200 Model



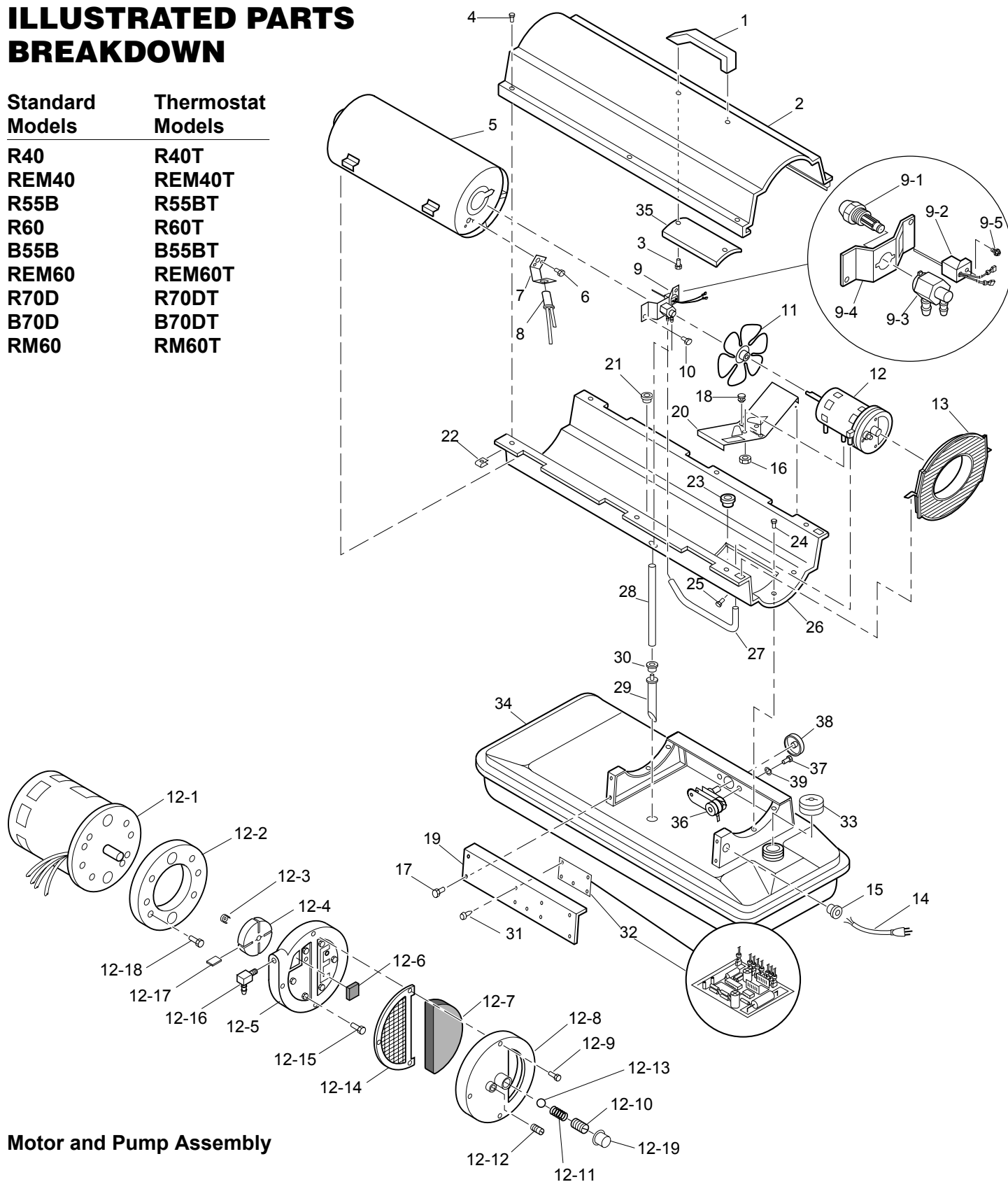
(Heater without Fuel Valve Assembly)

**ILLUSTRATED PARTS
BREAKDOWN****Standard
Models**

R40
REM40
R55B
R60
B55B
REM60
R70D
B70D
RM60

**Thermostat
Models**

R40T
REM40T
R55BT
R60T
B55BT
REM60T
R70DT
B70DT
RM60T

**Motor and Pump Assembly****To order call M&S Service Co. Inc. 1-800-475-5660**

PARTS LIST

40/55/60/70 MODELS

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	DESCRIPTION	QTY.	KEY NO.	PART NUMBER	DESCRIPTION	QTY.
1	M51104-01	Handle	1	12-18	FHPF3-6C	Screw, #10-32 x 3/4" (55/60)	2
2	098511-67	Upper Shell (Service Part Will Be Black)	1		FHPF3-5C	Screw, #10-32 x 5/8" (40/70)	2
3	M11084-29	Screw, #10-16 x 3/4"	2	12-19	105780-01	Plastic Cap	1
4	M15823-27	Screw, #10-16 x 1 1/2"	6	13	M51105-01	Fan Guard	1
5	098512-58	Combustion Chamber (40)	1	14	098219-38	Power Cord	1
	098512-50	Combustion Chamber (55/60)	1	15	M11143-1	Strain Relief Bushing	1
	098512-51	Combustion Chamber (70)	1	16	NTC-4C	Hex Lock Nut, 1/4-20	2
6	M10908-2	Screw, #6-32 x 3/8"	2	17	M11084-26	Screw, #10-16 x 3/8"	8
7	103154-03	Photocell Bracket	1	18	M50631	Rubber Bumper	2
8	M16656-24	Photocell Assembly	1	19	097461-16	Side Cover	2
9	Δ	Burner Head Assembly		20	101205-01	Motor Bracket	1
9-1	HA3006	Nozzle Assembly (40)	1	21	M50104-06	Bushing	1
	HA3024	Nozzle Assembly (55/60)	1	22	M11271-8	Clip Nut	6
	HA3026	Nozzle Assembly (70)	1	23	M50104-02	Bushing	1
9-2	102548-03	Ignitor Kit	1	24	M11084-26	Screw, #10-16 x 3/8"	6
9-3	104056-01	Nozzle Adapter	1	25	M10908-14	Screw, #8-32 x 3/8"	1
9-4	102336-01	Nozzle Adapter Bracket	1	26	098511-234	Lower Shell (Service Part Will Be Black)	1
9-5	M10908-75	Screw, Hex Head, Tapping	1	27	M50814-06	Rubber Airline	1
9-6	103347-01	Belleville Washer	1	28	079973-01	Fuel Line	1
10	M11084-26	Screw, #10-16 x 3/8"	2	29	M50876-04	Fuel Filter with bushing (40)	1
11	103684-01	Fan (40/55/60)	1		M50876-05	Fuel Filter with bushing (55/60/70)	1
	M29678	Fan (70)	1	30	M10990-3	Rubber Bushing	1
12	Δ	Motor and Pump Assembly		31	102349-01	PCB Support	5
12-1	102001-28	Motor (40/55/60)	1	32	104068-02	Ignition Control Assembly	1
	102001-29	Motor (70)	1	33	097702-01	Fuel Cap (Includes Gasket)	1
12-2	079975-03	Pump Body (55/60)	1		097663-04	Fuel Gauge (Includes Gasket)	1
	079975-02	Pump Body (40/70)	1			RM60 Only, If Equipped)	1
12-3	M22009**, ***	Insert	1	34	108088-01	Fuel Tank (40)	1
12-4	M22456-2**	Rotor (55/60)	1		108088-03	Fuel Tank (55/60/70)	1
	M22456-1***	Rotor (40/70)	1		108088-16	Fuel Tank (RM60 Only, if Equipped with Fuel Gauge)	1
12-5	M29608	Pump End Cover	1	35	M51108-01	Shell Heat-Shield	1
12-6	M29632 ?	Lint Filter	1	36	104458-01	Thermostat	1
12-7	M29633 ?	Intake Filter	1	37	M12461-18	Screw, #8-32 x 7/8"	1
12-8	M29609	Filter End Cover	1	38	104460-01	Thermostat Knob	1
12-9	M12461-31	Screw, #10-32 x 1"	3	39	WLE-2	Lock Washer, EXT #8	1
12-10	M27694 ∞	Adjusting Screw	1	PARTS AVAILABLE - NOT SHOWN			
12-11	M10993-1 ∞	Pressure Relief Spring	1		103814-01	Wire Tie (For Ignition Control Assembly)	1
12-12	M22997 ∞	Plug	1		M9900-170	Wire Assembly (Thermostat to Ignition Control Assembly)	1
12-13	M8940 ∞	Steel Ball, 1/4" Diameter	1				
12-14	M29612-01 ?	Output Filter	1				
12-15	M12461-32	Screw, #10-32 x 1 1/8" (55/60)	6				
	M12461-31	Screw, #10-32 x 1" (40/70)	6				
12-16	103676-01	Nylon Elbow, 90°	1				
12-17	M8643-2**	Blade (55/60)	4				
	M8643***	Blade (40/70)	4				

Δ Not available as an assembly

? Included in Filter Kit (Part No. HA3014)

** Included in Rotor Kit (Part No. HA3005)

∞ Included in Pump Adjustment Kit (Part No. HA3020)

*** Included in Rotor Kit (Part No. HA3004)

To order call M&S Service Co. Inc 1-800-475-5660

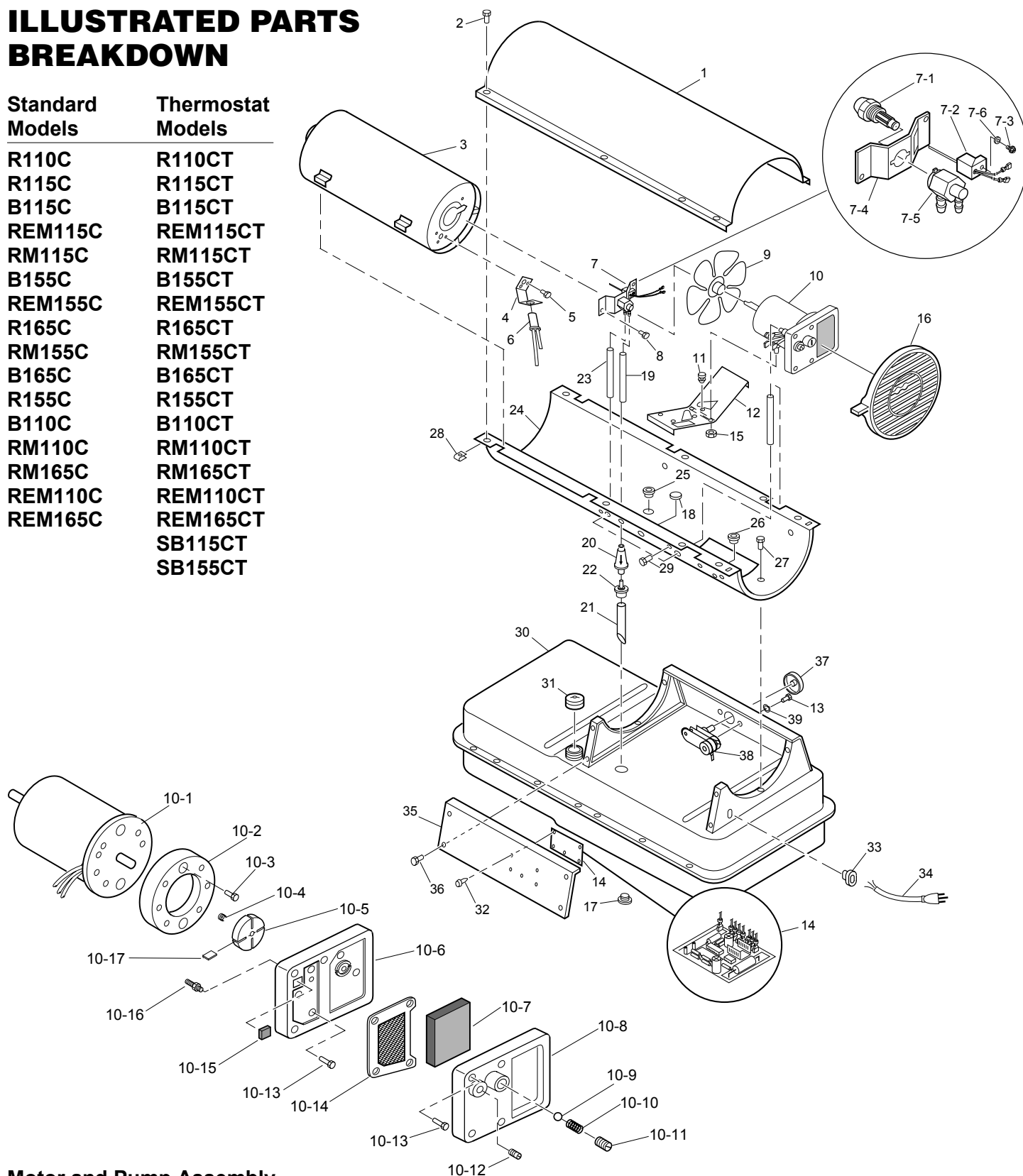
ILLUSTRATED PARTS BREAKDOWN

Standard Models

R110C
 R115C
 B115C
 REM115C
 RM115C
 B155C
 REM155C
 R165C
 RM155C
 B165C
 R155C
 B110C
 RM110C
 RM165C
 REM110C
 REM165C

Thermostat Models

R110CT
 R115CT
 B115CT
 REM115CT
 RM115CT
 B155CT
 REM155CT
 R165CT
 RM155CT
 B165CT
 R155CT
 B110CT
 RM110CT
 RM165CT
 REM110CT
 REM165CT
 SB115CT
 SB155CT


Motor and Pump Assembly

To order call M&S Service Co. Inc. 1-800-475-5660

PARTS LIST

110/115/155/165 MODELS

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	DESCRIPTION	QTY.	KEY NO.	PART NUMBER	DESCRIPTION	QTY.
1	098511-292	Upper Shell (Service Part Will Be Black)	1	12	101206-01	Motor Mounting Bracket	1
2	M15823-27	Screw, #10-16 x 1/2"	8	13	M12461-18	Screw, #8-32 x 7/8"	1
3	098512-71	Combustion Chamber (110/115)	1	14	104068-02	Ignition Control Assembly	1
	098512-74	Combustion Chamber (155)	1	15	NTC-4C	Hex Lock Nut, 1/4-20	2
	098512-75	Combustion Chamber (165)	1	16	111037-01	Fan Guard	1
4	103154-05	Photocell Bracket (110/115)	1	17	M27417	Drain Plug (Includes "o" Ring)	1
	M16660-02	Photocell Bracket (155/165)	1	18	107878-02	Button Plug	1
5	M10908-2	Screw, #6-32 x 3/8"	2	19	M51345-06	Fuel Line	1
6	M16656-24	Photocell Assembly	1	20	106896-01***	Fuel Filter	1
7	Δ	Burner Head Assembly	1	21	M51151-01	Fuel Line Tube (110/115)	1
7-1	HA3027	Nozzle Assembly (110/115)	1		M51151-02	Fuel Line Tube (155/165)	1
	HA3028	Nozzle Assembly (155/165)	1	22	M10990-3	Rubber Bushing	1
7-2	102548-03	Ignitor Kit	1	23	M50814-03	Airline	1
7-3	M10908-75	Screw, #6-32 x 7/8"	1	24	098511-293	Lower Shell (Service Part Will Be Black)	1
7-4	102336-01	Nozzle Adapter Bracket	1	25	M50104-06	Bushing	1
7-5	104054-01	Nozzle Adapter	1	26	M50104-01	Bushing	1
7-6	103347-01	Washer	1	27	M11084-26	Screw, #10-16 x 3/8"	6
8	M11084-26	Screw, #10-16 x 3/8"	2	28	M11271-8	Clip Nut	8
9	097293-01	Fan (110/115/155)	1	29	M10908-14	Screw, #8-32 x 3/8"	1
	102042-01	Fan (165)	1	30	108088-04	Fuel Tank (110/115)	1
10	Δ	Motor and Pump Assembly	1		108088-11	Fuel Tank (RM115CT Only)	1
10-1	102001-30	Motor	1		108088-05	Fuel Tank (155/165)	1
10-2	079975-02	Pump Body	1	31	097702-01	Fuel Cap (Includes Gasket)	1
10-3	FHPF3-5C	Screw, #10-32 x 5/8"	2		097663-02	Fuel Gauge (Includes Gasket, RM115CT Only)	1
10-4	M22009**	Rotor Insert	1	32	102349-01	P.C. Board Support	5
10-5	M22456-1**	Pump Rotor	1	33	M11143-1	Strain Relief Bushing	1
10-6	M50545	Pump End Cover	1	34	098219-38	Power Cord	1
10-7	M12179***	Intake Filter	1	35	M51077-18	Side Cover	2
10-8	M16545	Filter End Cover	1	36	M11084-26	Screw, #10-16 x 3/8"	8
10-9	M8940∞	Steel Ball, 1/4" Diameter	1	37	104460-01	Thermostat Knob	1
10-10	M10993-1∞	Relief Spring	1	38	104458-01	Thermostat	1
10-11	M27694∞	Adjusting Screw	1	39	WLE-2	Lock Washer, EXT #8	1
10-12	M22997∞	Plug	1		103814-01	Wire Tie (Not Shown) - Groups wires connected to Ignition Control Assembly	1
10-13	M12461-31	Screw, #10-32 x 1"	10		M9900-77	Wire (Connects thermostat to Ignition Control Assembly) (Not Shown)	1
10-14	M12244-1***	Output Filter	1				
10-15	M11637***	Lint Filter	1				
10-16	104096-01	Fitting, Straight Nylon Barb	1				
10-17	M8643**	Blade	4				
11	M50631	Rubber Bumper	2				

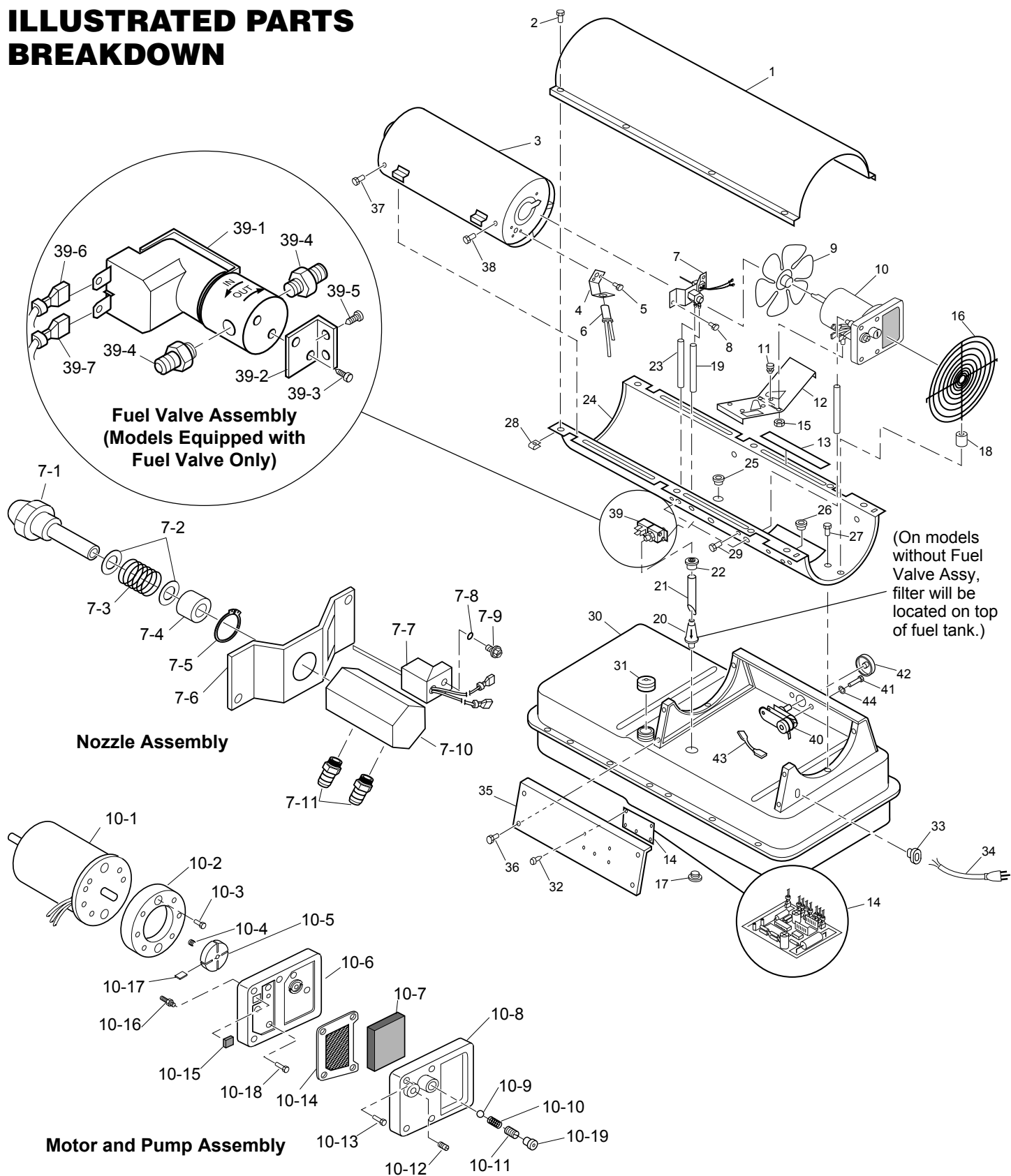
Δ Not available as an assembly

** Included in Rotor Kit (Part No. HA3004)

*** Included in Filter Kit (Part No. HA3017)

∞ Included in Pump Adjustment Kit (Part No. HA3020)

To order call M&S Service Co. Inc. 1-800-475-5660

**ILLUSTRATED PARTS
BREAKDOWN****To order call M&S Service Co. Inc. 1-800-475-5660**

PARTS LIST

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.

200 MODELS

KEY NO.	PART NUMBER	DESCRIPTION	QTY.	KEY NO.	PART NUMBER	DESCRIPTION	QTY.
1	107353-10	Upper Shell (Service Part Will Be Black)	1	17	M27417	Drain Plug (Includes "o" Ring)	1
2	M15823-27	Screw, #10-16 x 1/2"	8	18	103523-01	Rubber Bushing	1
3	098512-69	Combustion Chamber	1	19	M51345-03	Fuel Line (Models with Fuel Valve Assy)	1
4	103154-05	Photocell Bracket	1		M51345-04	Fuel Line (Models without Fuel Valve Assy)	1
5	M10908-2	Screw, #6-32 x 3/8"	2	20	M51150-01***	Fuel Filter	1
6	M16656-24	Photocell Assembly	1	21	M51345-04	Fuel Line Tube (Models with Fuel Valve Assy)	1
7	Δ	Burner Head Assembly	1		M51151-02	Fuel Line Tube (Models without Fuel Valve Assy)	1
7-1	100735-13	Nozzle Assembly	1	22	M10990-3	Rubber Bushing	1
7-2	M10659-1	Nozzle Washer	2	23	M50814-03	Airline	1
7-3	M10809-1	Nozzle Spring	1	24	107353-11	Lower Shell (Service Part Will Be Black)	1
7-4	M8882	Nozzle Sleeve	1	25	M50104-06	Bushing	2
7-5	107272-01	Retaining Ring	1	26	M50104-01	Bushing	1
7-6	102336-03	Nozzle Adapter Bracket	1	27	M11084-26	Screw, #10-16 x 3/8"	6
7-7	102548-03	Ignitor Kit	1	28	M11271-8	Clip Nut	8
7-8	103347-01	Belleville Washer	1	29	M10908-14	Screw, #8-32 x 3/8"	1
7-9	M10908-75	Screw, #6-32 x .88	1	30	108088-06	Fuel Tank	1
7-10	107273-01	Nozzle Adapter	1	31	097702-01	Fuel Cap (Includes Gasket)	1
7-11	M50820-02	Barb Fitting	1	32	102349-01	P.C. Board Support	5
8	M11084-26	Screw, #10-16 x 3/8"	2	33	M11143-1	Strain Relief Bushing	1
9	102042-01	Fan	1	34	098219-38	Power Cord	1
10		Motor and Pump Assembly	1	35	107333-04AA	Side Cover	1
10-1	102001-27	Motor	1	36	M11084-26	Screw, #10-16 x 3/8"	8
10-2	079975-03	Pump Body	1	37	099230-01	Screw, Special	2
10-3	FHPF3-6C	Screw, #10-32 x 5/8"	2	38	M11084-27	Screw, #10-16 x 1/2"	2
10-4	M22009**	Rotor Insert	1	39		Fuel Valve Assembly	1
10-5	M22456-2**	Pump Rotor	1		(MODELS EQUIPPED WITH FUEL VALVE ONLY)		
10-6	M50545	Pump End Cover	1	39-1	107643-01	Fuel Valve	1
10-7	M12179***	Intake Filter	1	39-2	107336-01	Fuel Valve Bracket	1
10-8	M16545	Filter End Cover	1	39-3	M12461-13	Hex Head Screw, #8-32 x 1/4"	2
10-9	M8940∞	Steel Ball, 1/4" Diameter	1	39-4	M50820-02	Fitting Barb	2
10-10	M10993-1∞	Relief Spring	1	39-5	102432-01	Screw Hex Hd Sems Ext "B" #10-16 x 1/2"	2
10-11	M27694∞	Adjusting Screw	1	39-6	107274-01	Wire Assembly, Red	1
10-12	M22997∞	Plug	1	39-7	107274-02	Wire Assembly, White	1
10-13	M12461-31	Screw, #10-32 x 1"	4	40	104458-01	Thermostat	1
10-14	M12244-1***	Output Filter	1	41	M12461-18	Screw, #8-32 x 7/8"	1
10-15	M11637***	Lint Filter	1	42	104460-01	Thermostat Knob	1
10-16	M50820-02	Barb Fitting	1	43	079010-35	Wire Assembly	1
10-17	M8643-2**	Blade	4	44	WLE-2	Lock Washer, EXT #8	1
10-18	M12461-32	Screw, #10-32 x 1.12"	6		103814-01	Wire Tie (Not Shown)	1
10-19	105780-01	Plastic Cap	1			(For Ignition Control Assembly)	
11	M50631	Rubber Bumper	2		100621-06	Thermostat Decal (Not Shown)	1
12	101206-01	Motor Mounting Bracket	1				
13	097785-04	Foam Gasket	2				
14	104068-02	Ignition Control Assembly	1				
15	NTC-4C	Hex Lock Nut, 1/4-20	2				
16	102756-01	Fan Guard	1				

Δ Not available as an assembly

*** Included in Filter Kit (Part No. HA3017)

** Included in Rotor Kit (Part No. HA3005)

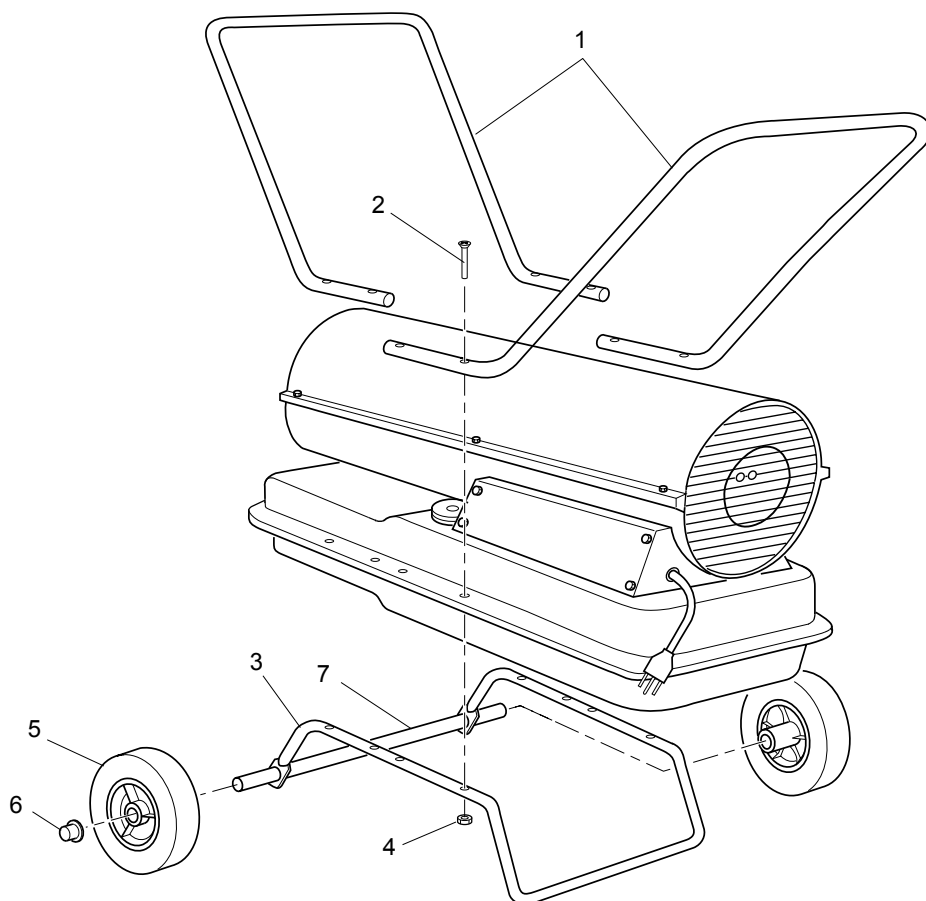
∞ Included in Pump Adjustment Kit (Part No. HA3020)

To order call M&S Service Co. Inc. 1-800-475-5660

WHEELS AND HANDLES

WHEELS AND HANDLE PARTS LIST

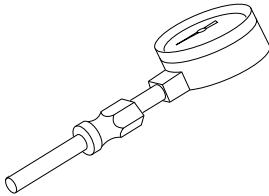
KEY NO.	PART NUMBER	PART DESCRIPTION	QTY.
1	HA2203	Handle (110/115)	2 (If Equipped)
	HA2204	Handle (155/165/200)	2 (If Equipped)
2	M12345-33	Screw, #10-24 x 1 3/4"	6 or 8
3	M12342-3	Wheel Support Frame (110/115)	1
	M12831-3	Wheel Support Frame (155/165/200)	1
4	NTC-3BZ	Hex Nut, #10-24	6 or 8
5	107426-01	Wheel Kit (Contains 2 Wheels and Cap Nuts)	—
6	M28526	Cap Nut	2
7	M51015-01	Axle (110/115)	1
	M16801-2	Axle (155/165/200)	1



To order call M&S Service Co. Inc. 1-800-475-5660

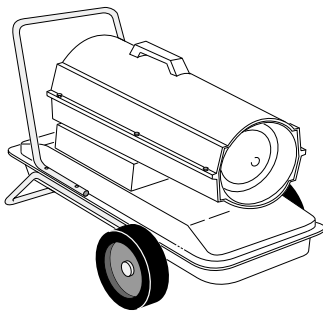
ACCESSORIES

Purchase accessories and parts from your nearest dealer or service center. If they can not supply these accessories or parts, either contact your nearest parts dealer or DESA Heating Products at 1-866-672-6040 for referral information. Parts Centrals are listed in the Authorized Service Center booklet supplied with heater.



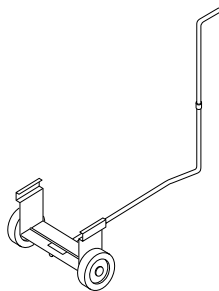
AIR GAUGE KIT - HA1180

For all models. Special tool to check pump pressure.



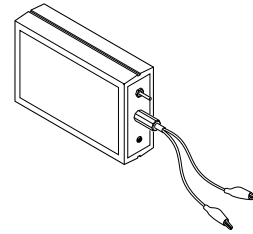
HEAVY DUTY WHEELS AND HANDLE KIT HA1202

For 40/55/60/70,000 Btu Models. For heavy duty applications. Makes your heater even more portable and convenient.



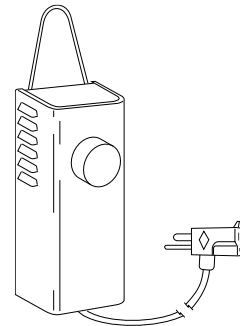
STANDARD WHEELS AND HANDLE KIT HA1206

For 40/55/60/70,000 Btu Models. Makes heater even more portable and convenient. Easy to assemble.



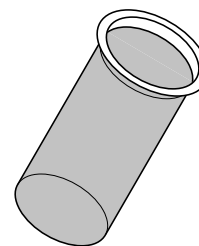
IGNITION CONTROL ASSEMBLY/PHOTOCELL TESTER - HA1170

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



THERMOSTAT KIT - HA1210

Keeps your building at the temperature you select day and night. Helps economize on fuel.



FUEL TANK FILLER NECK SCREEN - HA2210

This screen/filter drops in fuel tank filler neck. This prefilter allows for easy cleaning and provides two-stage filtering advantage.