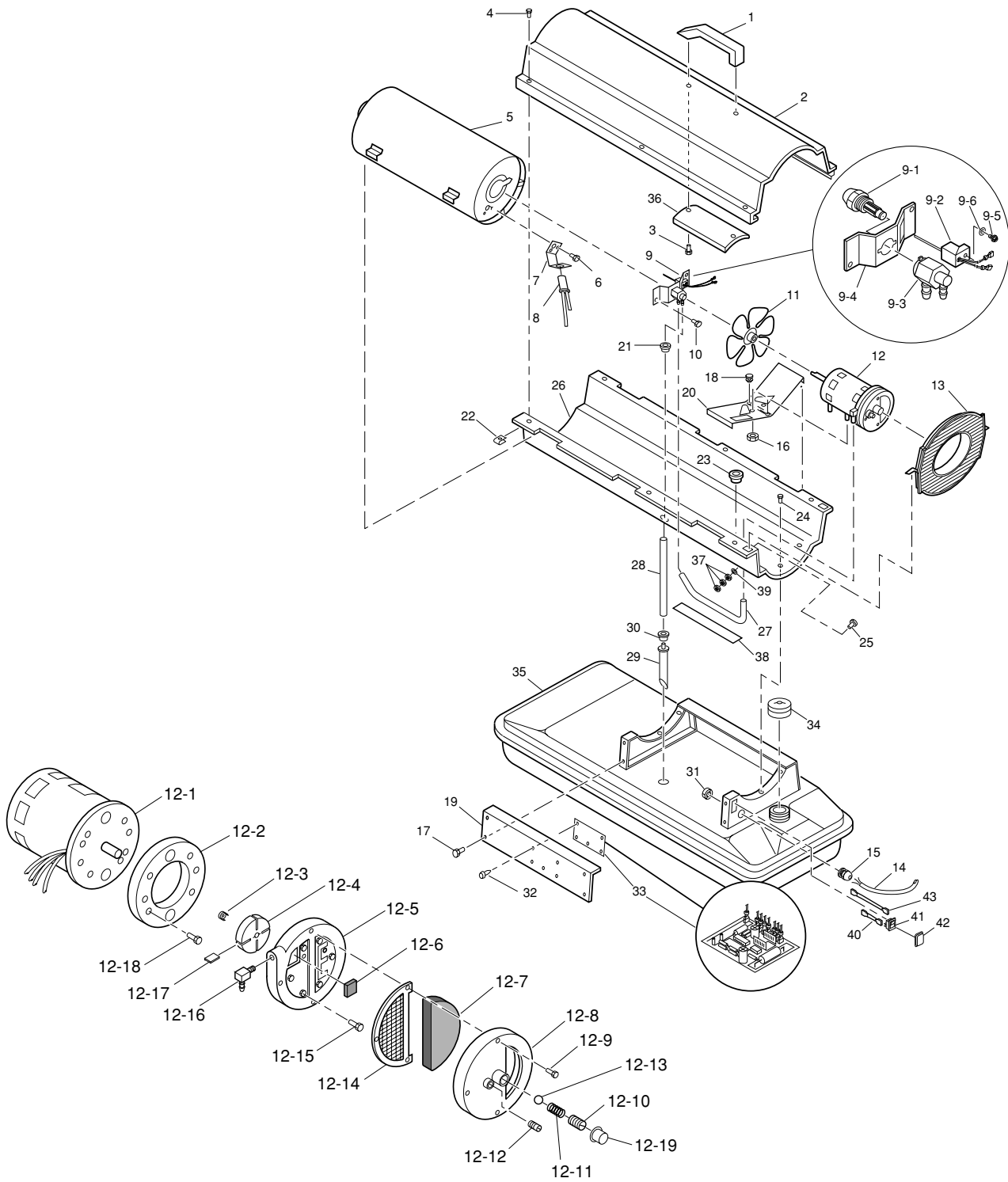


MASTER DIRECT OIL HEATERS

MODEL 35 CEL10 kW Model

ILLUSTRATED PARTS BREAKDOWN



Motor and Pump Assembly

MASTER DIRECT OIL HEATERS

MODEL 35 CEL 10 kW

PARTS LIST

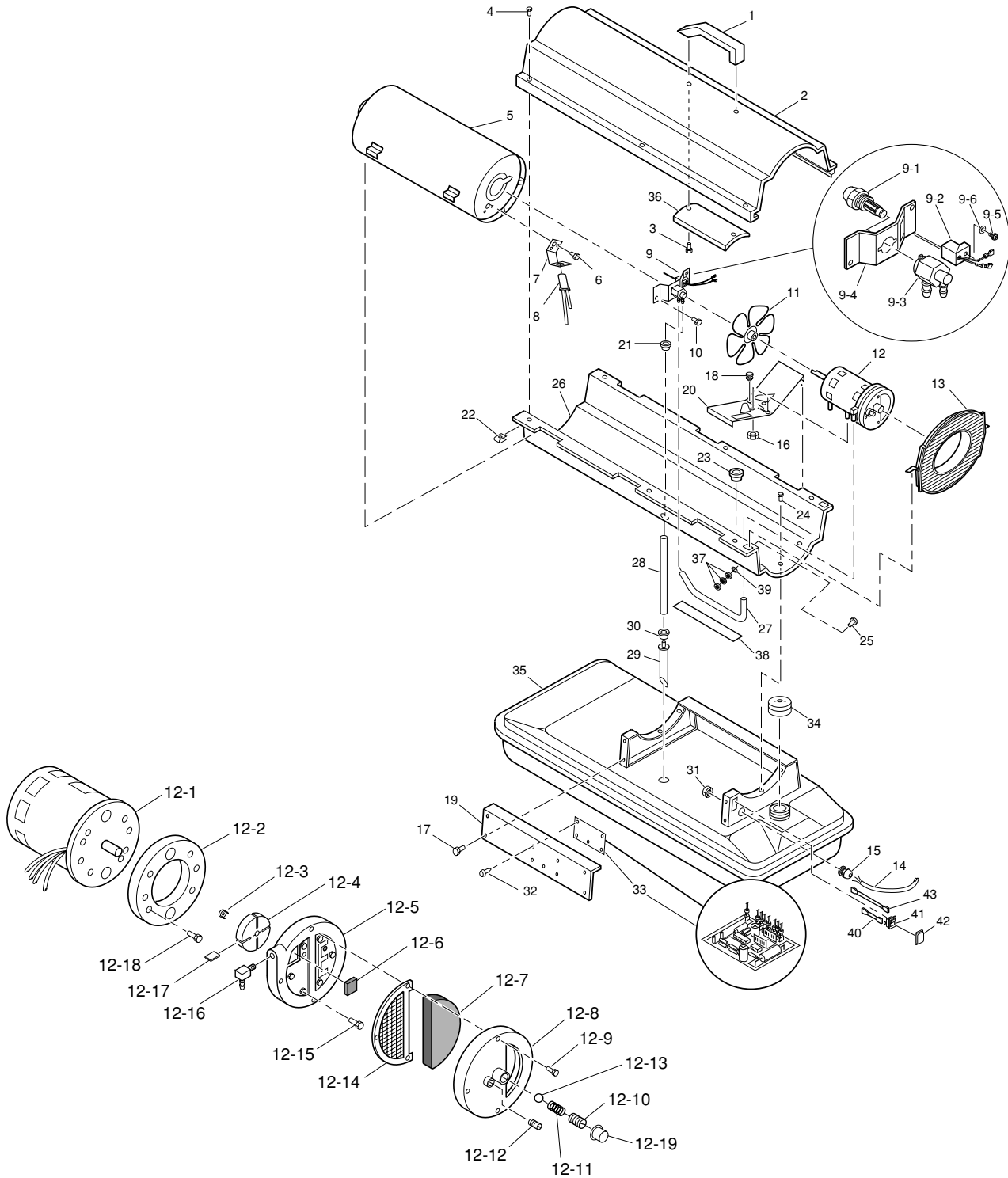
| Key No. | Part Number | Description | Qty. | Key No. | Part Number | Description | Qty. |
|---------|-------------|---------------------------|------|------------------------------------|-------------|----------------------------|------|
| 1 | 4160.715 | Handle | 1 | 16 | 4108.486 | Hex Lock Nut, 1/4-20 | 2 |
| 2 | 4110.064 | Upper Shell | 1 | 17 | 4110.124 | Screw/Lockwasher, 1/2" | 4 |
| 3 | 4160.602 | Screw | 2 | 18 | 4150.553 | Rubber Bumper | 2 |
| 4 | 4109.590 | Screw/Lockwasher | 6 | 19 | 4100.635 | Side Cover | 1 |
| 5 | 4110.050 | Combustion Chamber | 1 | 20 | 4110.187 | Motor Bracket | 1 |
| 6 | 4103.529 | Screw, #6-32 x 3/8" | 2 | 21 | 4101.151 | Bushing | 1 |
| 7 | 4100.657 | Photocell Bracket | 1 | 22 | 4104.170 | Clip Nut | 6 |
| 8 | 4103.590 | Photocell Assembly | 1 | 23 | 4101.152 | Bushing | 1 |
| 9 | ** | Burner Strap Assembly | 1 | 24 | 4110.124 | Screw/Lockwasher, 1/2" | 6 |
| 9-1 | 4100.648 | Nozzle Assembly | 1 | 25 | 4110.133 | Screw | 1 |
| 9-2 | 4110.132 | Ignitor | 1 | 26 | 4100.636 | Lower Shell | 1 |
| 9-3 | 4100.664 | Nozzle Adapter | 1 | 27 | 4104.147 | Rubber Airline | 1 |
| 9-4 | 4100.653 | Nozzle Adapter Bracket | 1 | 28 | 4109.567 | Fuel Line | 1 |
| 9-5 | 4100.669 | Screw, #6-32 x 7/8" | 1 | 29 | 4110.135 | Fuel Filter | 1 |
| 9-6 | 4100.660 | Belleville Washer | 1 | 30 | 4100.541 | Rubber Bushing | 1 |
| 10 | 4110.124 | Screw/Lockwasherr | 2 | 31 | 4100.656 | Nylon Locknut | 1 |
| 11 | 4100.662 | Fan | 1 | 32 | 4100.654 | PCB Support | 5 |
| 12 | ** | Motor and Pump Assembly | 1 | 33 | 4110.142 | PC Board | 1 |
| 12-1 | 4110.042 | Motor | 1 | 34 | 4103.891 | Fuel Cap (Includes Gasket) | 1 |
| 12-2 | 4101.532 | Pump Body | 1 | 35 | 4110.136 | Fuel Tank | 1 |
| 12-3 | 4108.635 | Insert | 1 | 36 | 4100.671 | Shell Heat-Shield | 1 |
| 12-4 | 4103.441 | Rotor | 1 | 37 | 4110.134 | Nut | 3 |
| 12-5 | 4109.724 | Pump End Cover | 1 | 38 | 4110.075 | Vinyl Foam Gasket | 1 |
| 12-6 | 4109.716 | Lint Filter | 1 | 39 | 4160.613 | Lockwasher | 1 |
| 12-7 | 4109.690 | Intake Filter | 1 | 40 | 4110.036 | Wire Assembly (Brown) | 1 |
| 12-8 | 4109.674 | End Cover | 1 | 41 | 4100.667 | ON/OFF Switch | 1 |
| 12-9 | 4108.528 | Screw, #10-32 x 1" | 3 | 42 | 4104.336 | Switch Cover | 1 |
| 12-10 | 4102.133 | Adjusting Screw | 1 | 43 | 4110.037 | Wire Assembly (White) | 1 |
| 12-11 | 4102.141 | Pressure Relief Spring | 1 | PARTS AVAILABLE - NOT SHOWN | | | |
| 12-12 | 4102.125 | Plug | 1 | | | | |
| 12-13 | 4108.379 | Steel Ball, 1/4" Diameter | 1 | | 4105.292 | Filler Neck Screen | 1 |
| 12-14 | 4109.708 | Output Filter | 1 | | 4161.829 | PC Board Fuse | 1 |
| 12-15 | 4108.536 | Screw #10-32 x 1 1/8" | 6 | | | | |
| 12-16 | 4100.661 | Nylon Elbow, 90 | 1 | | | | |
| 12-17 | 4101.666 | Blade | 4 | | | | |
| 12-18 | 4108.590 | Screw, #10-32 x 3/4" | 2 | | | | |
| 12-19 | 4100.666 | Plastic Cap | 1 | | | | |
| 13 | 4103.685 | Fan Guard | 1 | | | | |
| 14 | 4110.038 | Power Cord | 1 | | | | |
| 15 | 4150.528 | Strain Relief Bushing | 1 | | | | |

** Parts not available as an assembly, order parts separately.

MASTER DIRECT OIL HEATERS

MODEL 70 CEL 20 kW Model

ILLUSTRATED PARTS BREAKDOWN



Motor and Pump Assembly

MASTER DIRECT OIL HEATERS

MODEL 70 CEL 20 kW

PARTS LIST

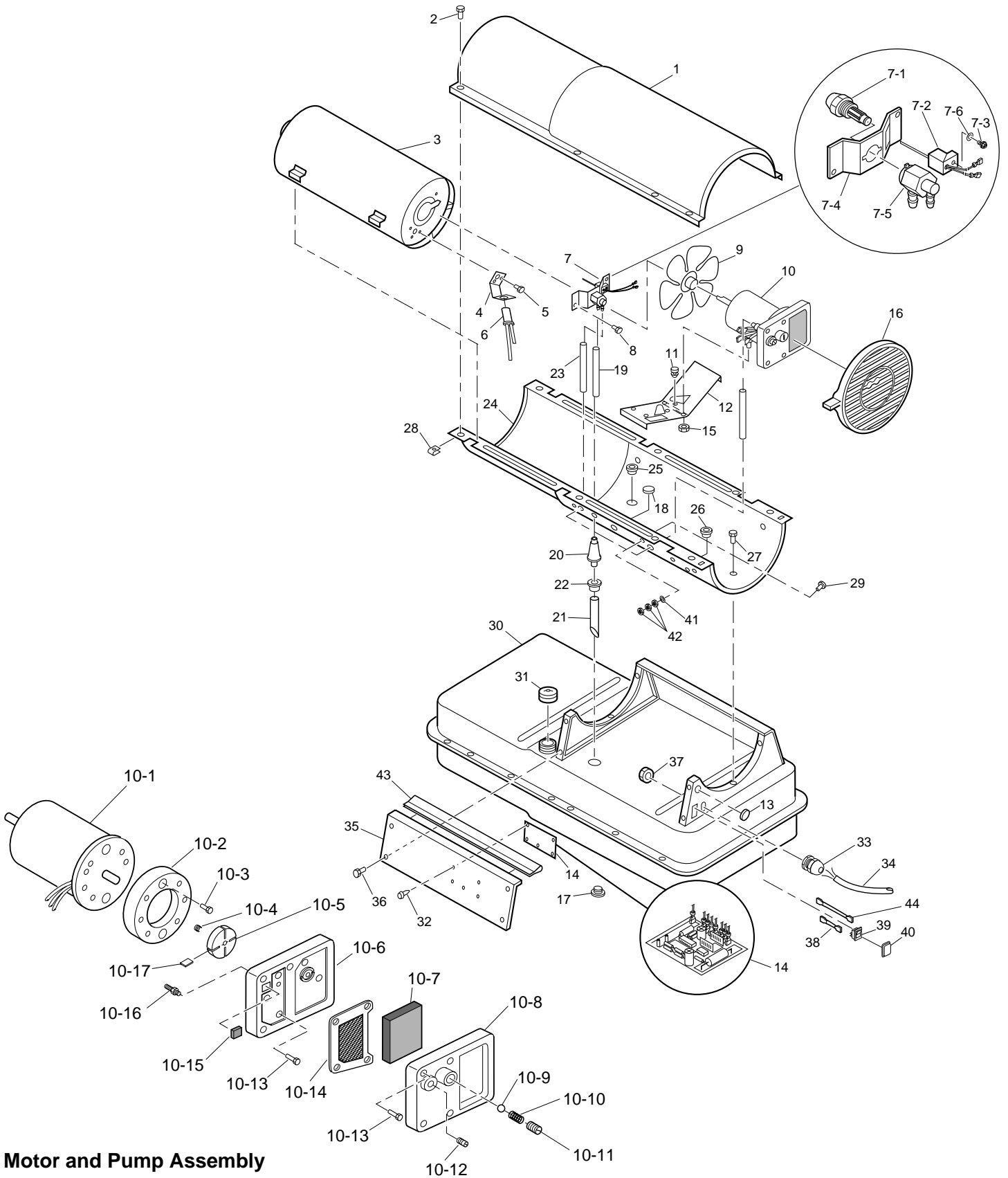
| Key No. | Part Number | Description | Qty. | Key No. | Part Number | Description | Qty. |
|---------|-------------|---------------------------|------|------------------------------------|-------------|----------------------------|------|
| 1 | 4110.130 | Handle | 1 | 16 | 4108.486 | Hex Lock Nut, 1/4-20 | 2 |
| 2 | 4110.064 | Upper Shell | 1 | 17 | 4110.124 | Screw/Lockwasher, 1/2" | 4 |
| 3 | 4160.602 | Screw | 2 | 18 | 4150.553 | Rubber Bumper | 2 |
| 4 | 4109.590 | Screw/Lockwasher | 6 | 19 | 4100.635 | Side Cover | 1 |
| 5 | 4110.050 | Combustion Chamber | 1 | 20 | 4110.187 | Motor Bracket | 1 |
| 6 | 4103.529 | Screw, #6-32 x 3/8" | 2 | 21 | 4101.151 | Bushing | 1 |
| 7 | 4100.658 | Photocell Bracket | 1 | 22 | 4104.170 | Clip Nut | 6 |
| 8 | 4103.590 | Photocell Assembly | 1 | 23 | 4101.152 | Bushing | 1 |
| 9 | ** | Burner Strap Assembly | 1 | 24 | 4110.124 | Screw/Lockwasher, 1/2" | 6 |
| 9-1 | 4100.647 | Nozzle Assembly | 1 | 25 | 4110.133 | Screw | 1 |
| 9-2 | 4110.132 | Ignitor | 1 | 26 | 4110.535 | Lower Shell | 1 |
| 9-3 | 4100.664 | Nozzle Adapter | 1 | 27 | 4104.147 | Rubber Airline | 1 |
| 9-4 | 4100.653 | Nozzle Adapter Bracket | 1 | 28 | 4109.567 | Fuel Line | 1 |
| 9-5 | 4100.669 | Screw, #6-32 x 7/8" | 1 | 29 | 4103.875 | Fuel Filter | 1 |
| 9-6 | 4100.660 | Belleville Washer | 1 | 30 | 4100.541 | Rubber Bushing | 1 |
| 10 | 4110.124 | Screw/Lockwasherr | 2 | 31 | 4100.656 | Nylon Locknut | 1 |
| 11 | 4100.662 | Fan | 1 | 32 | 4100.654 | PCB Support | 5 |
| 12 | ** | Motor and Pump Assembly | 1 | 33 | 4110.142 | PC Board | 1 |
| 12-1 | 4110.079 | Motor | 1 | 34 | 4103.891 | Fuel Cap (Includes Gasket) | |
| 12-2 | 4101.317 | Pump Body | 1 | 35 | 4110.140 | Fuel Tank | 1 |
| 12-3 | 4108.635 | Insert | 1 | 36 | 4100.671 | Shell Heat-Shield | 1 |
| 12-4 | 4108.627 | Rotor | 1 | 37 | 4110.134 | Nut | 3 |
| 12-5 | 4109.724 | Pump End Cover | 1 | 38 | 4110.075 | Vinyl Foam Gasket | 1 |
| 12-6 | 4109.716 | Lint Filter | 1 | 39 | 4160.613 | Lockwasher | 1 |
| 12-7 | 4109.690 | Intake Filter | 1 | 40 | 4110.036 | Wire Assembly (Brown) | 1 |
| 12-8 | 4109.674 | End Cover | 1 | 41 | 4100.667 | ON/OFF Switch | 1 |
| 12-9 | 4108.528 | Screw, #10-32 x 1" | 3 | 42 | 4104.336 | Switch Cover | 1 |
| 12-10 | 4102.133 | Adjusting Screw | 1 | 43 | 4110.037 | Wire Assembly (White) | 1 |
| 12-11 | 4102.141 | Pressure Relief Spring | 1 | PARTS AVAILABLE - NOT SHOWN | | | |
| 12-12 | 4102.125 | Plug | 1 | | | | |
| 12-13 | 4108.379 | Steel Ball, 1/4" Diameter | 1 | | 4105.292 | Filler Neck Screen | 1 |
| 12-14 | 4109.708 | Output Filter | 1 | | 4161.829 | PC Board Fuse | 1 |
| 12-15 | 4108.528 | Screw #10-32 x 1" | 6 | | | | |
| 12-16 | 4100.661 | Nylon Elbow, 90 | 1 | | | | |
| 12-17 | 4101.200 | Blade | 4 | | | | |
| 12-18 | 4108.588 | Screw, #10-32 x 5/8" | 2 | | | | |
| 12-19 | 4100.666 | Plastic Cap | 1 | | | | |
| 13 | 4103.685 | Fan Guard | 1 | | | | |
| 14 | 4110.038 | Power Cord | 1 | | | | |
| 15 | 4150.528 | Strain Relief Bushing | 1 | | | | |

** Parts not available as an assembly, order parts separately.

MASTER DIRECT OIL HEATERS

MODEL 100 CEL 29 kW Model

ILLUSTRATED PARTS BREAKDOWN



Motor and Pump Assembly

MASTER DIRECT OIL HEATERS

MODEL 100 CEL 29 kW

PARTS LIST

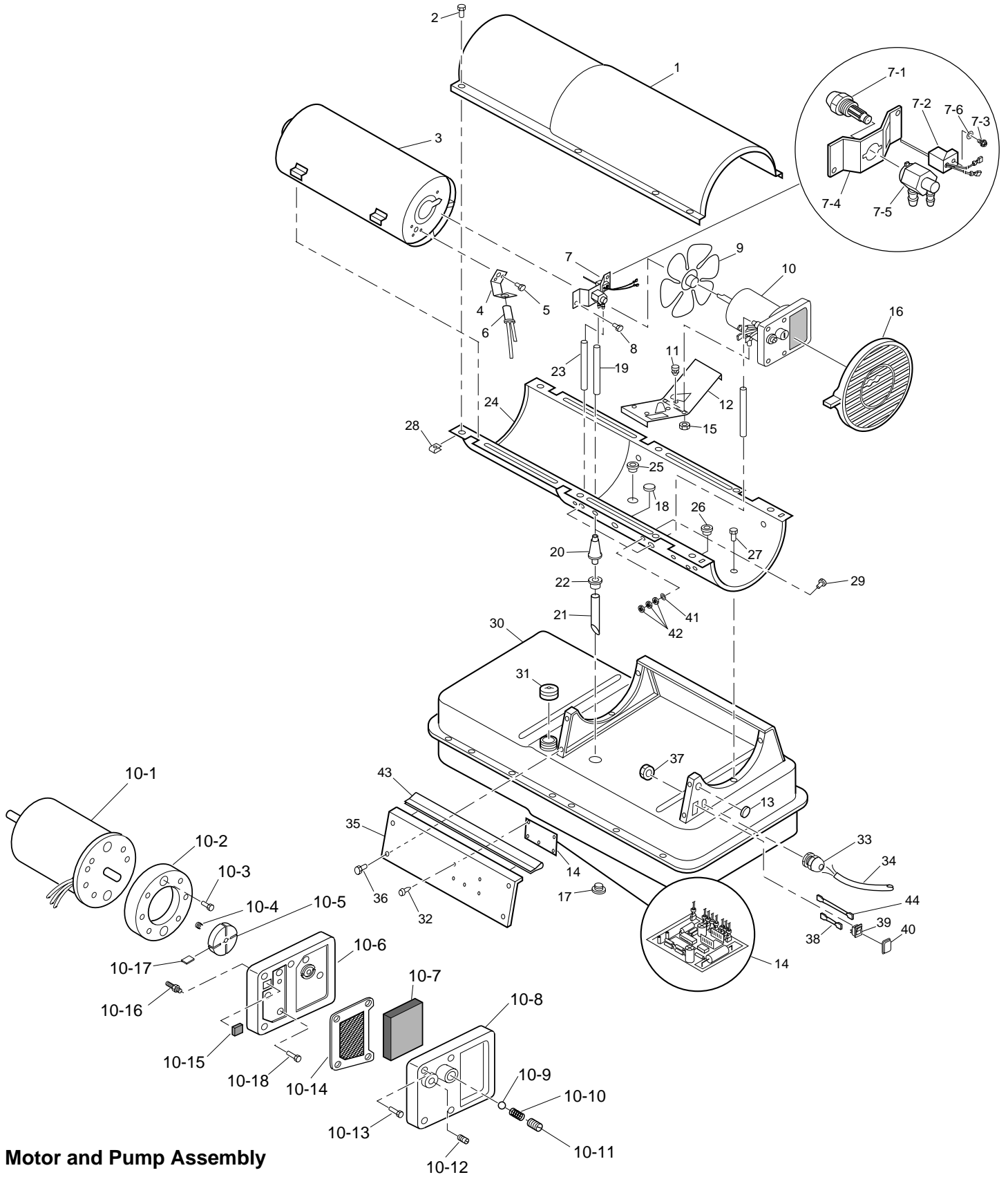
| Key No. | Part Number | Description | Qty. | Key No. | Part Number | Description | Qty. |
|---------|-------------|---------------------------|------|------------------------------------|--------------------|--------------------------------|------|
| 1 | 4104.006 | Upper Shell | 1 | 17 | 4100.632 | Drain Plug (Includes "o" Ring) | 1 |
| 2 | 4109.590 | Screw/Lockwasher, 1/2" | 8 | 18 | 4110.070 | Button Plug | 1 |
| 3 | 4110.050 | Combustion Chamber | 1 | 19 | 4110.032 | Fuel Line | 1 |
| 4 | 4100.658 | Photocell Bracket | 1 | 20 | 4100.630 | Fuel Filter | 1 |
| 5 | 4103.529 | Screw | 2 | 21 | 4110.147 | Fuel Line Tube | 1 |
| 6 | 4103.590 | Photocell Assembly | 1 | 22 | 4100.541 | Rubber Bushing | 1 |
| 7 | ** | Burner Strap Assembly | 1 | 23 | 4104.156 | Airline | 1 |
| 7-1 | 4100.645 | Nozzle Assembly | 1 | 24 | 4110.063 | Lower Shell | 1 |
| 7-2 | 4110.132 | Ignitor | 1 | 25 | 4101.112 | Bushing | 1 |
| 7-3 | 4100.669 | Screw, #6-32 x 7/8" | 1 | 26 | 4160.646 | Bushing | 1 |
| 7-4 | 4100.653 | Nozzle Adapter Bracket | 1 | 27 | 4110.124 | Screw/Lockwasher, 1/2" | 6 |
| 7-5 | 4100.663 | Nozzle Adapter | 1 | 28 | 4104.170 | Clip Nut | 8 |
| 7-6 | 4100.660 | Belleville Washer | 1 | 29 | 4110.133 | Screw, | 1 |
| 8 | 4110.124 | Screw/Lockwasher, 1/2" | 2 | 30 | 4110.149 | Fuel Tank | 1 |
| 9 | 4105.062 | Fan | 1 | 31 | 4103.891 | Fuel Cap (Includes Gasket) | 1 |
| 10 | ** | Motor and Pump Assembly | 1 | 32 | 4100.654 | P.C. Board Support | 5 |
| 10-1 | 4110.080 | Motor | 1 | 33 | 4150.528 | Strain Relief Bushing | 1 |
| 10-2 | 4101.317 | Pump Body | 1 | 34 | 4110.038 | Power Cord | 1 |
| 10-3 | 4108.590 | Screw, #10-32 x 5/8" | 2 | 35 | 4100.670 | Side Cover | 1 |
| 10-4 | 4108.635 | Rotor Insert | 1 | 36 | 4110.124 | Screw/Lockwasher, 1/2" | 4 |
| 10-5 | 4108.627 | Pump Rotor | 1 | 37 | 4100.656 | Nylon Locknut | 1 |
| 10-6 | 4101.325 | Pump End Cover | 1 | 38 | 4110.036 | Wire Assembly (Brown) | 1 |
| 10-7 | 4101.358 | Intake Filter | 1 | 39 | 4100.667 | ON/OFF Switch | 1 |
| 10-8 | 4108.643 | End Cover | 1 | 40 | 4104.336 | Switch Cover | 1 |
| 10-9 | 4108.379 | Steel Ball, 1/4" Diameter | 1 | 41 | 4100.527 | Lockwasher, #10 | 1 |
| 10-10 | 4102.141 | Relief Spring | 1 | 42 | 4110.134 | Nut | 3 |
| 10-11 | 4102.133 | Adjusting Screw | 1 | 43 | 4103.850 | Edge Liner | 1 |
| 10-12 | 4102.125 | Plug | 1 | 44 | 4110.037 | Wire Assembly (White) | 1 |
| 10-13 | 4108.528 | Screw, #10-32 x 1" | 10 | PARTS AVAILABLE - NOT SHOWN | | | |
| 10-14 | 4101.341 | Output Filter | 1 | | | | |
| 10-15 | 4101.333 | Lint Filter | 1 | 4105.292 | Filler Neck Screen | 1 | |
| 10-16 | 4104.118 | Barb Fitting | 1 | 4161.829 | PC Board Fuse | 1 | |
| 10-17 | 4101.200 | Blade | 4 | | | | |
| 11 | 4150.553 | Rubber Bumper | 2 | | | | |
| 12 | 4110.186 | Motor Mounting Bracket | 1 | | | | |
| 12 | 4100.649 | Button Plug | 1 | | | | |
| 14 | 4110.142 | PC Board | 1 | | | | |
| 15 | 4108.486 | Hex Lock Nut, 1/4-20 | 2 | | | | |
| 16 | 4103.695 | Fan Guard | 1 | | | | |

** Parts not available as an assembly, order parts separately.

MASTER DIRECT OIL HEATERS

MODEL 150 CEL 44 kW Model

ILLUSTRATED PARTS BREAKDOWN



Motor and Pump Assembly

MASTER DIRECT OIL HEATERS

MODEL 150 CEL 44 kW

PARTS LIST

| Key No. | Part Number | Description | Qty. | Key No. | Part Number | Description | Qty. |
|---------|-------------|---------------------------|------|------------------------------------|-------------|--------------------------------|------|
| 1 | 4104.006 | Upper Shell | 1 | 17 | 4100.632 | Drain Plug (Includes "o" Ring) | 1 |
| 2 | 4109.590 | Screw/Lockwasher, 1/2" | 8 | 18 | 4110.070 | Button Plug | 1 |
| 3 | 4110.182 | Combustion Chamber | 1 | 19 | 4110.032 | Fuel Line | 1 |
| 4 | 4100.659 | Photocell Bracket | 1 | 20 | 4100.630 | Fuel Filter | 1 |
| 5 | 4103.529 | Screw | 2 | 21 | 4110.147 | Fuel Line Tube | 1 |
| 6 | 4103.590 | Photocell Assembly | 1 | 22 | 4100.541 | Rubber Bushing | 1 |
| 7 | ** | Burner Strap Assembly | 1 | 23 | 4104.156 | Airline | 1 |
| 7-1 | 4100.646 | Nozzle Assembly | 1 | 24 | 4110.063 | Lower Shell | 1 |
| 7-2 | 4110.132 | Ignitor | 1 | 25 | 4101.112 | Bushing | 1 |
| 7-3 | 4100.669 | Screw, #6-32 x 7/8" | 1 | 26 | 4160.646 | Bushing | 1 |
| 7-4 | 4100.653 | Nozzle Adapter Bracket | 1 | 27 | 4110.124 | Screw/Lockwasher, 1/2" | 6 |
| 7-5 | 4100.663 | Nozzle Adapter | 1 | 28 | 4104.170 | Clip Nut | 8 |
| 7-6 | 4100.660 | Belleville Washer | 1 | 29 | 4110.133 | Screw, | 1 |
| 8 | 4110.124 | Screw/Lockwasher, 1/2" | 2 | 30 | 4110.149 | Fuel Tank | 1 |
| 9 | 4105.062 | Fan | 1 | 31 | 4103.891 | Fuel Cap (Includes Gasket) | 1 |
| 10 | ** | Motor and Pump Assembly | 1 | 32 | 4100.654 | P.C. Board Support | 5 |
| 10-1 | 4110.080 | Motor | 1 | 33 | 4150.528 | Strain Relief Bushing | 1 |
| 10-2 | 4101.532 | Pump Body | 1 | 34 | 4110.038 | Power Cord | 1 |
| 10-3 | 4108.590 | Screw, #10-32 x 3/4" | 2 | 35 | 4100.670 | Side Cover | 1 |
| 10-4 | 4108.635 | Rotor Insert | 1 | 36 | 4110.124 | Screw/Lockwasher, 1/2" | 4 |
| 10-5 | 4103.441 | Pump Rotor | 1 | 37 | 4100.656 | Nylon Locknut | 1 |
| 10-6 | 4101.325 | Pump End Cover | 1 | 38 | 4110.036 | Wire Assembly (Brown) | 1 |
| 10-7 | 4101.358 | Intake Filter | 1 | 39 | 4100.667 | ON/OFF Switch | 1 |
| 10-8 | 4108.643 | End Cover | 1 | 40 | 4104.336 | Switch Cover | 1 |
| 10-9 | 4108.379 | Steel Ball, 1/4" Diameter | 1 | 41 | 4100.527 | Lockwasher, #10 | 1 |
| 10-10 | 4102.141 | Relief Spring | 1 | 42 | 4110.134 | Nut | 3 |
| 10-11 | 4102.133 | Adjusting Screw | 1 | 43 | 4103.850 | Edge Liner | 1 |
| 10-12 | 4102.125 | Plug | 1 | 44 | 4110.037 | Wire Assembly (White) | 1 |
| 10-13 | 4108.528 | Screw, #10-32 x 1" | 4 | PARTS AVAILABLE - NOT SHOWN | | | |
| 10-14 | 4101.341 | Output Filter | 1 | | 4105.292 | Filler Neck Screen | 1 |
| 10-15 | 4101.333 | Lint Filter | 1 | | 4161.829 | PC Board Fuse | 1 |
| 10-16 | 4104.118 | Barb Fitting | 1 | | | | |
| 10-17 | 4101.666 | Blade | 4 | | | | |
| 10-18 | 4108.536 | Screw, #10-32 x 1 1/8" | 6 | | | | |
| 11 | 4150.553 | Rubber Bumper | 2 | | | | |
| 12 | 4110.186 | Motor Mounting Bracket | 1 | | | | |
| 13 | 4100.649 | Button Plug | 1 | | | | |
| 14 | 4110.142 | PC Board | 1 | | | | |
| 15 | 4108.486 | Hex Lock Nut, 1/4-20 | 2 | | | | |
| 16 | 4103.695 | Fan Guard | 1 | | | | |

** Parts not available as an assembly, order parts separately.