

PART 15: MAINTENANCE (CONTINUED)

⚠ WARNING

The combustion chamber insulation in this product contains ceramic fiber material. Ceramic fibers can be converted to cristobalite in very high temperature applications. The International Agency for Research on Cancer (IARC) has concluded, "Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group1).":

- Avoid breathing dust and contact with skin and eyes.
 - Use NIOSH certified dust respirator (N95). This type of respirator is based on the OSHA requirements for cristobalite at the time this document was written. Other types of respirators may be needed depending on the job site conditions. Current NIOSH recommendations can be found on the NIOSH website at <http://www.cdc.gov/niosh/homepage.html>. NIOSH approved respirators, manufacturers, and phone numbers are also listed on this website.
 - Wear long-sleeved, loose fitting clothing, gloves, and eye protection.
- Apply enough water to the combustion chamber lining to prevent dust
- Wash potentially contaminated clothes separately from other clothing. Rinse clothes washer thoroughly.

NIOSH stated First Aid.

- Eye: Irrigate immediately
- Breathing: Fresh air.

B. COMBUSTION CHAMBER COIL CLEANING INSTRUCTIONS

*Before beginning this procedure, you must have on hand the following items:

- a nylon, stainless or brass brush (not steel)
 - "Rydlyme" (recommended for best results) (available on line www.rydlyme.com) or "CLR" (available at most hardware stores)
 - Gloves, eye protection
1. Shut down the Munchkin Boiler by using the following steps:
 - a. Close the gas valve, shut down the unit and wait for the unit to be cool to the touch
 - b. Disconnect the condensate hose from the **outside** connection, (**not from the**

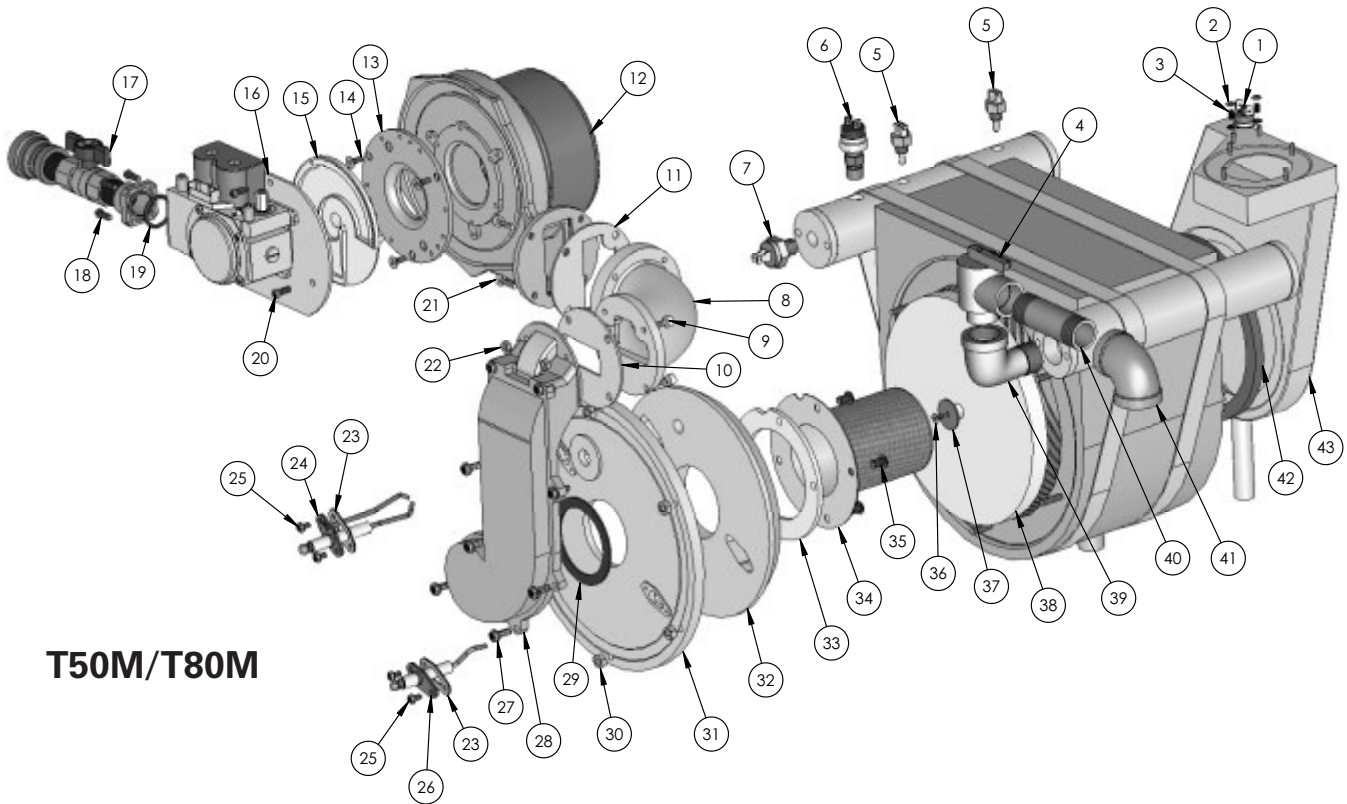
Munchkin Boiler side), so the flow can be observed.

- c. Disconnect connections from the gas valve, spark electrode and flame rectification probe and combustion blower.
 - d. Remove the (4) screws on the aluminum ½" NPT connector on the gas valve.
 - e. Disconnect the wiring connected to the combustion blower motor.
 - f. Remove the (6) 10MM nuts from the burner plate assembly to access the coils.
 - g. Pull the entire burner plate assembly with blower still attached towards you, while removing or pushing aside any wiring to allow the removal of the assembly.
2. Using a spray bottle filled with the recommended product "RYDLYME" or "CLR", spray liberally on the coils, making sure the solution penetrates and funnels down through the condensate hose. If the condensate hose is blocked, let the chemical penetrate for at least 15 minutes or until it drains.
 3. Use the nylon, stainless or brass brush (do not use steel) and scrub coils to remove any buildup, then vacuum the debris from the coils. **WARNING:** Follow precautions above
 4. Spray the coils with clear water, making sure to confine the spray to the area being cleaned (Try to avoid getting the back ceramic wall of the unit wet). Flush the combustion chamber with fresh water. At this point, the Munchkin should be ready to power back up.

Before powering up the Munchkin Boiler follow the steps below

- a. Re-install the burner assembly
- b. Tighten the (6) 10MM nuts to the burner plate
- c. Re-connect all wiring connections
- e. Replace the (4) screws on the aluminum ½" NPT connector on the gas valve. Turn the gas back on. (**IMPORTANT: CHECK FOR GAS LEAKS**)
- f. Re-set thermostats (**IMPORTANT: MAKE SURE EXHAUST VENT IS NO LONGER BLOCKED!**)
- g. Turn the Munchkin Boiler back on and observe condensate flow.
- h. Re-connect the condensate hose to the outside connection.

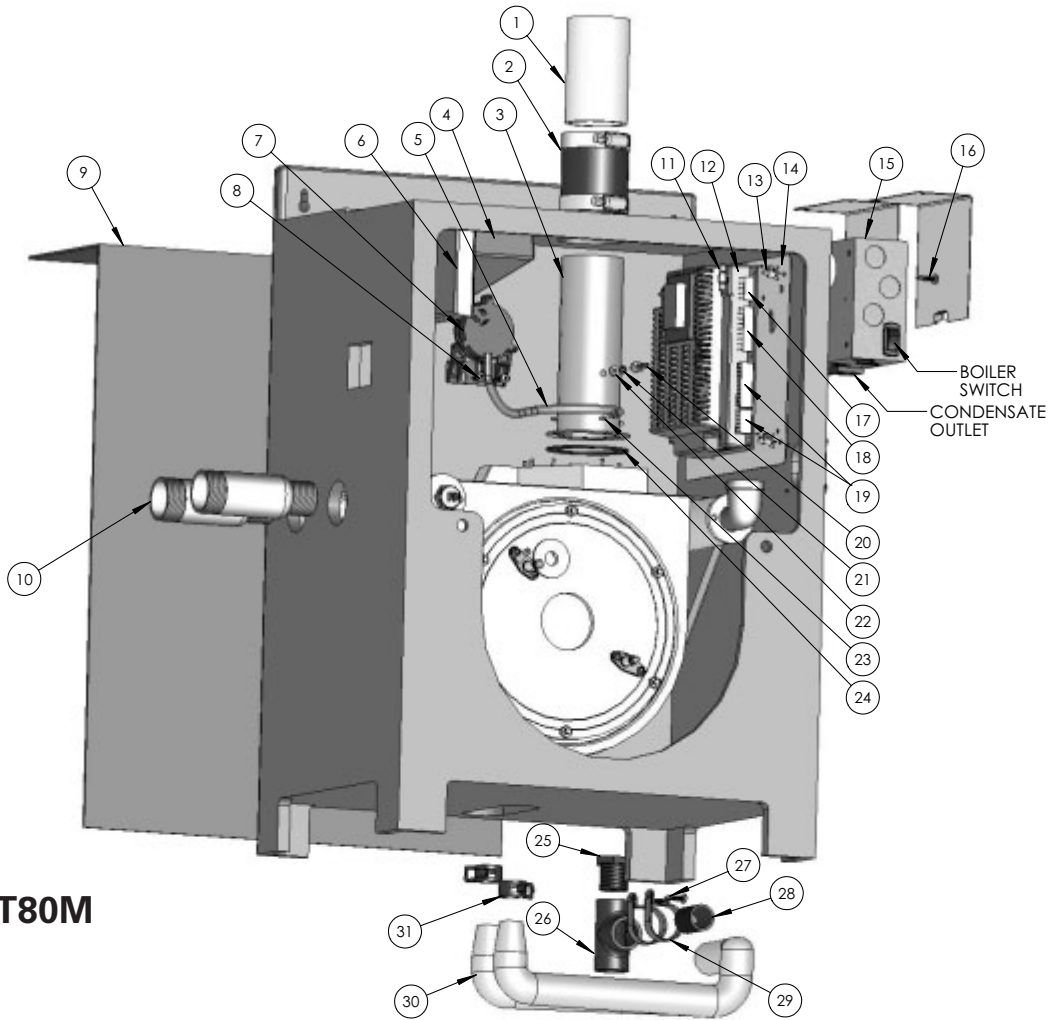
PART 15: MAINTENANCE (CONTINUED)



T50M/T80M

REPLACEMENT PARTS					
Item #	Description	Part #	Item #	Description	Part #
1	Thermodisc Flue ECO 210 °F	7250P-089	22	Nut M5 (Aluminum Elbow to Air Channel)	7250P-063
2	Steel Push Retainer (Thermodisc Flue ECO)	7250P-151	23	Gasket (Flame Rec./Spark Electrode)	7250P-005
3	PVC Black Tubing 1/8 ID (Thermodisc Flue ECO)	7250P-311	24	Spark Electrode (w/Gasket)	7250P-421 (T50M)
4	Relief Valve	7250P-080			7250P-058 (T80M)
5	Thermistor	7250P-059	25	Screws M4 x 8MM (Probe/Electrode)	7250P-069
6	Water Pressure Switch	7250P-081	26	Flame Rectification Probe (w/Gasket)	7250P-049
7	ECO High Limit Sensor	7250P-019	27	Screws Torx M5 X 22MM (Air Channel to Burner Door)	7250P-206
8	Aluminum Elbow	7250P-445	28	Air Channel	7250P-178
9	Screws M5 X 25MM (Aluminum Elbow to Air Channel)	7250P-061	29	Gasket (Burner Door to Air Channel)	7250P-170
10	Gasket (Aluminum Elbow to Air Channel)	7250P-003	30	Nuts M6 (Burner Door)	7500P-067
11	Gasket (Aluminum Elbow to Combustion Blower)	7250P-144	31	Burner Door	7250P-169
12	Combustion Blower	7250P-085	32	Burner Door Ceramic Refractory	7250P-161
13	Gas Valve Adapter Plate (w/Screws)	7250P-644	33	Gasket (Burner)	7250P-070
14	Screws M5 x 12MM (Gas Valve Adapter Plate)	7250P-484	34	Burner (w/ Gasket)	7250P-216 (T50M)
15	Swirl Plate	7500P-091 (T50M)			7250P-248 (T80M)
		7500P-092 (T80M)	35	Screws (Burner)	7250P-204
16	Dungs Gas Valve	7250P-448 (T50M)	36	Screw M4 x 8MM (Ceramic Target Wall)	7250P-704
		7250P-449 (T80M)	37	Washer M4 (Ceramic Target Wall)	7500P-109
17	Gas Piping Assembly (w/Shut-off Valve, Screws)	N/A	38	Ceramic Target Wall	7250P-160
18	Screws M4 x 12MM (Gas Valve Piping Assy)	7500P-099	39	Brass 90° Street Elbow 3/4 NPT	7250P-212
19	O-Ring (Gas Valve Piping Assy)	7500P-094	40	Brass Nipple 3/4 NPT x 3"	SN1018
20	Screws M4 x 18MM (Gas Valve)	7250P-716 (T50M)	41	Brass 90° Elbow 3/4 NPT	7250P-313
	Screws M4 x 20MM (Gas Valve)	7250P-717 (T80M)	42	Gasket (Top Flue Exhaust to Module)	7250P-428
21	Screw M5 x 20MM (Combustion Blower)	7250P-060	43	Top Flue Exhaust	7250P-394

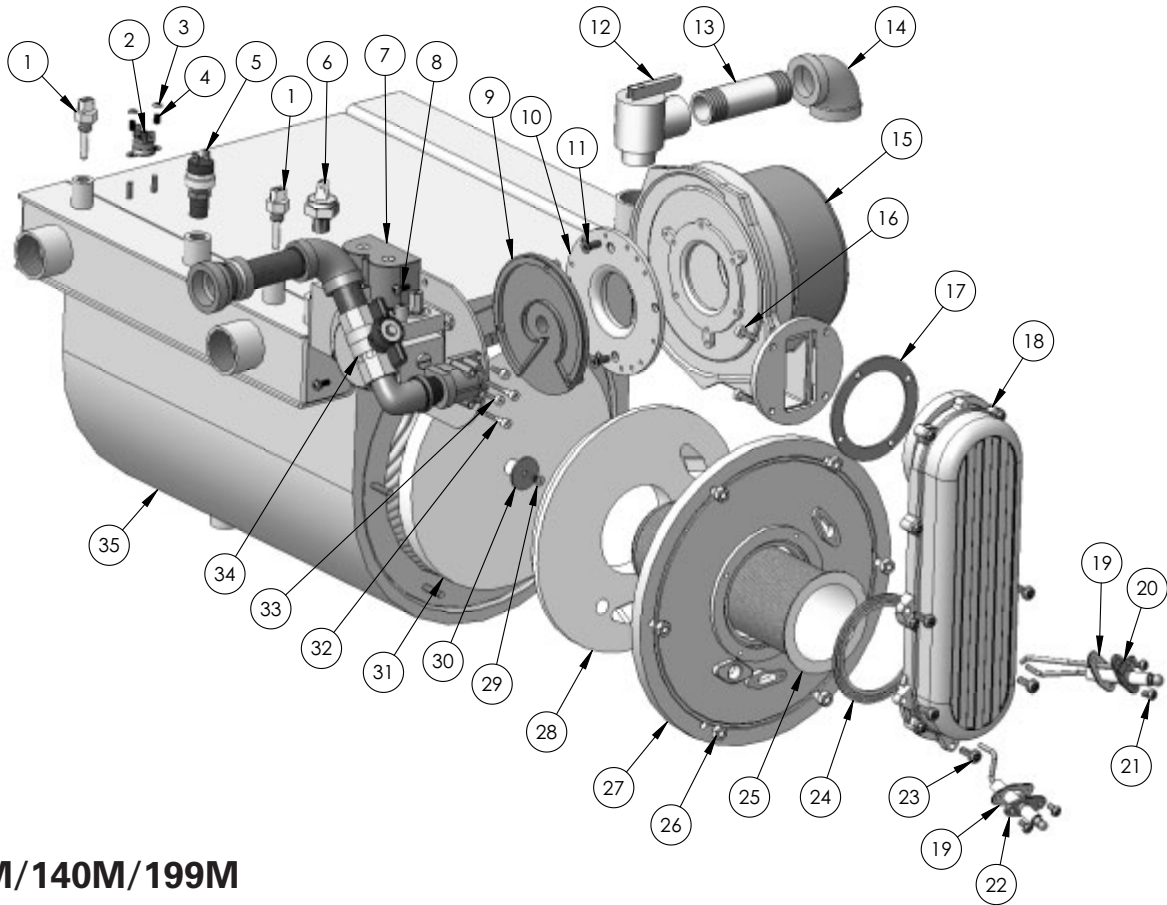
PART 15: MAINTENANCE (CONTINUED)



T50M/T80M

REPLACEMENT PARTS					
Item #	Description	Part #	Item #	Description	Part #
1	Exhaust Vent Pipe - 2' PVC	N/A	17	5 Pin Wiring Harness (location)	7250P-696
2	Pipe Coupling	F3001	18	9 Pin Wiring Harness (location)	7250P-697
3	Exhaust Manifold Tube	7250P-444	19	Low Voltage Wiring Harness (location)	7250P-700
4	Air Inlet Baffle	7250P-145	20	Hose Barb 1/4 x 10-32 (Blocked Vent Pressure Switch)	7250P-154
5	Plastic Tubing 3/16" ID (Blocked Vent Pressure Switch)	7000P-805	21	O-Ring 007 (Blocked Vent Pressure Switch)	7250P-152
6	Control Board Display (w/Ribbon Cable)	7250P-091	22	S.S. Hex Nut 10-32 (Blocked Vent Pressure Switch)	7250P-153
7	Blocked Vent Pressure Switch	7250P-150	23	S.S. Hex Nuts	7250P-559
8	Screws #8 x 1/2" (Blocked Vent Pressure Switch)	7250P-133	24	Gasket (Top Flue Exhaust Pipe)	7250P-427
9	Cover	N/A	25	Poly Plug 3/4 NPT (Condensate Assy)	7250P-647
10	Brass Nipple 1 x 1-1/4 x 4-5/8"	7250P-008	26	PVC Tee Sch. 40 3/4 NPT (Condensate Assy)	7250P-646
11	Fuse (Control Board)	7250P-378	27	Screw #8 x 1/2" (Condensate Assy)	7250P-133
12	Control Board (w/Fuse)	7350P-008	28	PVC Nipple Sch. 80 3/4 NPT (Condensate Assy)	7250P-648
13	Control Board Hold Down Clips	7250P-352	29	Cable Clamp (Condensate Assy)	7250P-649
14	Control Board Mounting Panel (w/Screws)	7250P-651	30	Condensate Hose Assy	7250P-460
15	Electrical Box (w/Screws, Covers)	7250P-114	31	Hose Clamp (Condensate Assy)	7250P-215
16	Screws #8 x 1/2" (Electrical Box)	7250P-133			

PART 15: MAINTENANCE (CONTINUED)



80M/140M/199M

REPLACEMENT PARTS					
Item #	Description	Part #	Item #	Description	Part #
1	Thermistor	7250P-667	18	Air/Gas Channel	7250P-685 (80M)
2	Thermodisc Flue ECO 210°F	7250P-089			7250P-687 (140M/199M)
3	Steel Push Retainer (Thermodisc Flue ECO)	7250P-151	19	Gasket (Flame Rec./Spark Electrode)	7250P-005
4	PVC Black Tubing 1/8 ID (Thermodisc Flue ECO)	7250P-311	20	Spark Electrode (w/Gasket)	7350P-020
5	Water Pressure Switch	7250P-096	21	Screws M4 x 8MM (Probe/Electrode)	7250P-069
6	Eco/High Limit Sensor	7250P-019	22	Flame Rectification Probe (w/Gasket)	7500P-039
7	Dungs Gas Valve	7250P-450 (80M)	23	Screws Torx M5 x 22M (Air/Gas Channel to Burner Door)	7250P-206
		7250P-451 (140M)	24	Gasket (Air/Gas Channel to Burner)	7500P-074
		7250P-452 (199M)	25	NIT Burner	7500P-016 (80M)
8	Screws M4 x 20MM (Gas Valve)	7250P-717 (80M)			7250P-102 (140M)
	Screws M4 x 25 MM (Gas Valve)	7250P-718 (140M/199M)			7250P-117 (199M)
9	Swirl Plate	7500P-092 (80M)	26	Nut M6 (Burner Door)	7500P-067
		7500P-093 (140M/199M)	27	Burner Door	7250P-684
10	Gas Valve Adapter Plate (w/Screws)	7250P-644	28	Burner Door Ceramic Refractory	7250P-702
11	Screws M5 x 12MM (Gas Valve Adapter Plate)	7500P-105	29	Screw M4 x 8MM (Ceramic Target Wall)	7250P-704
12	Relief Valve	7250P-080	30	Washer M4 (Ceramic Target Wall)	7500P-109
13	Brass Nipple 3/4 NPT x 3"	SN1018	31	Ceramic Target Wall	7250P-160
14	Brass 90° Elbow - 3/4 NPT	7250P-313	32	Screws M4 x 30MM Allen Head (Gas Piping Assy)	N/A
15	Combustion Blower (w/Gasket)	7250P-085 (80M)	33	Screws M4 x 12MM Allen Head (Gas Piping Assy)	N/A
		7250P-086 (140M)	34	Gas Piping Assembly (w/Shut-off Valve, Screws)	7250P-705
		7250P-087 (199M)	35	Welded Module	7250P-298 (80M)
16	Screws M5 x 14MM (Combustion Blower)	7250P-478			7250P-299 (140M)
17	Gasket (Air/Gas Channel to Combustion Blower)	7500P-075			7250P-300 (199M)

Fig. 15-1