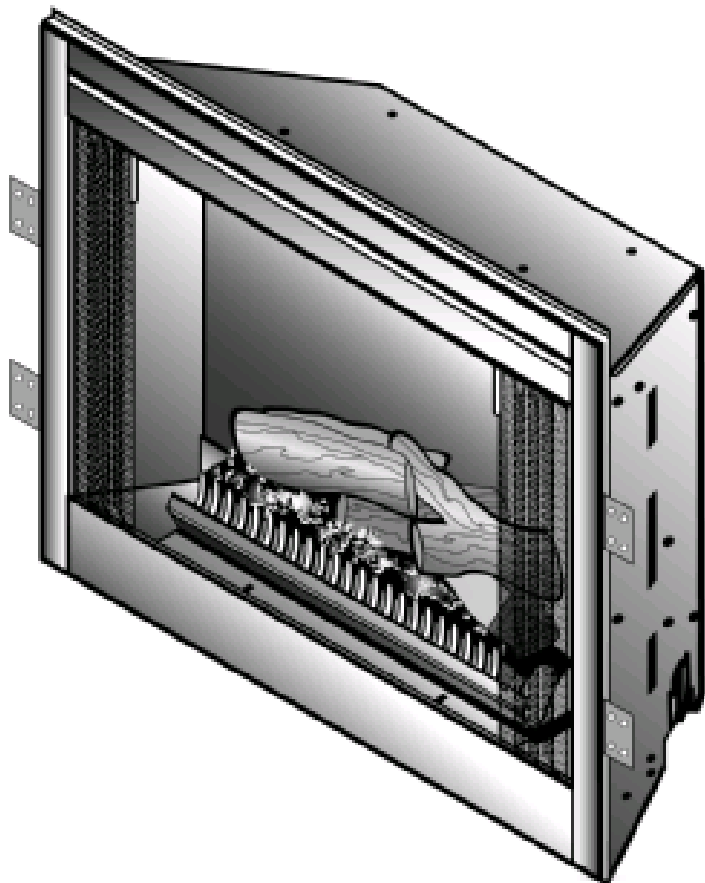




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## Service Manual

Model Numbers:

**BF36E/ST/DX**

**BF42ST/DX**

**HBI36**

**HBI42**

**Dimplex North America Limited**

1367 Industrial Road • Cambridge ON Canada N1R 7G8

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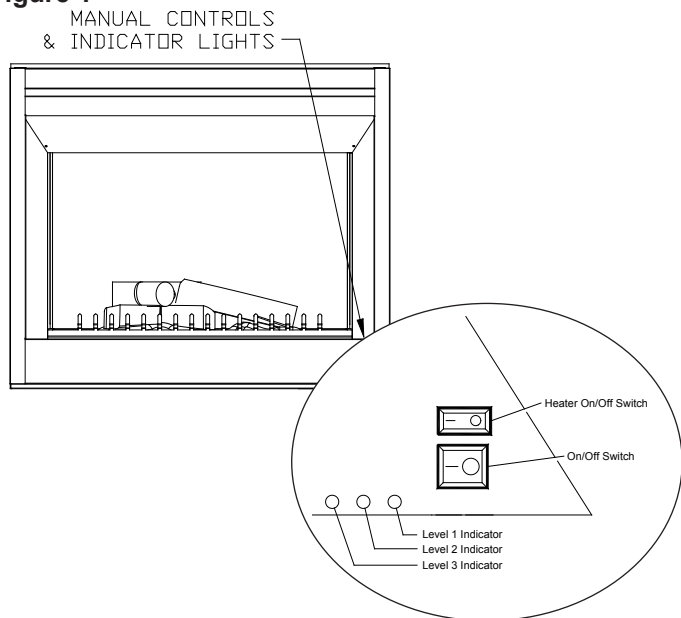
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# Operation

Figure 1



## Manual Controls

### Units without Remote Control

#### A. Main Power Switch

Main on/off switch, activates the flame effect.

#### B. Heater Control Switch

Heater ON/OFF switch, activates heater to high level.

### Units with Remote Control

#### A. Main Power Switch

Main on/off switch, supplies power to the remote control receiving unit. When placed in the on position level 1 indicator will flash.

#### B. Heater Control Switch

Pressing the left side of this switch will toggle through the three levels of the fireplace and the right side has the same effect as the OFF button. Pressing once to the left activates Level 1, twice activates Level 2, three times activates Level 3. Pressing to the right turns the fireplace off.

**Level 1:** The flame effect is turned on and the first red indicator light is activated.

**Level 2:** The flame effect remains on, the heater is activated to the low heat setting, and the first and second red indicator lights are activated.

**Level 3:** The flame effect remains on, the heater is set to the high heat setting, and all three red indicator lights are activated.

### Resetting the Temperature Cutout Switch

The heater on this fireplace is protected with a safety device to prevent overheating. Should the heater overheat, an automatic cut out will turn the heater off and it will not come back on without being reset. It can be reset by switching the Main Power switch (Figure 1) to OFF and waiting 5 minutes before switching it to ON. (The remote control will need to be re-initialized.)

## REMOTE CONTROL

The Optiflame fireplace is supplied with a radio frequency re-

mote control (all models except BF36E). This remote control has a range of approximately 50ft. (15.25m), it does not have to be pointed at the fireplace and can pass through most obstacles (including walls). It is supplied with one of 243 independent frequencies to prevent interference with other units. The frequency designation is indicated on the back of the remote control (Figure 1).

### Remote Control Initialization

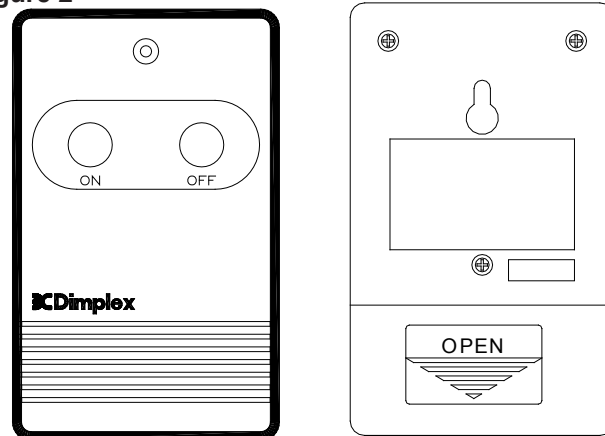
This procedure is required every time there is a loss of power to the remote control in the fireplace (i.e. power failure, breaker tripped, main power switch is turned off)

1. Ensure that power is supplied through main service panel.
2. Access the manual controls, (remove glass doors if applicable) pull right hand edge of right hand steel curtain towards the center of unit. (Figure 1)
3. Locate manual controls.
4. Activate main power switch, red indicator light 1 will flash.
5. Press ON button located on the remote control (Figure 2). This will synchronize the remote control and receiver.

### Remote Control Usage

The remote control operates the fireplace levels sequentially. The level is increased every time the ON button on the remote control is pressed. The fireplace can be turned off at any point by pressing the OFF button on the remote control.

Figure 2



### Wall Mounted Controls

The fireplace can be installed with wall-mounted controls in addition to the controls provided. These controls include wall switches and thermostats.

#### A. Wall Mounted Thermostats

! **NOTE:** Only for models with a remote control.

When the fireplace is set to Level 2, or Level 3 the wall mounted thermostat will control the heat output of the unit. When the fireplace is set to Level 2, or 3 the heater will not activate until the wall mounted thermostat senses an ambient temperature lower than the temperature to which it is set.

#### B. Wall Mounted Switches

! **NOTE:** For models without a remote control.

This model may be installed such that a wall-mounted switch activates the flame effect and a wall mounted thermostat activates the heater.

## Maintenance

**⚠ WARNING:** Disconnect power before attempting any maintenance or cleaning to reduce the risk of fire, electric shock or damage to persons.

### Light Bulb Replacement

**⚠ CAUTION:** Allow at least five (5) minutes for light bulbs to cool off before touching bulbs to avoid accidental burning of skin.

Light bulbs need to be replaced when you notice a dark section of the flame or when the clarity and detail of the log exterior disappears. There are two bulbs under the log set which generate the flames and embers.

**Tool Requirements:** Phillips screw driver

**Helpful Hints:** It is a good idea to replace all light bulbs at one time if they are close to the end of their rated life. Group replacement will reduce the number of times you need to open the unit to replace light bulbs.

**Light Bulb Requirements:** Quantity 4 clear chandelier or candelabra bulbs with an E-12 (small) socket base, 60 watt rating. Example GE 60BC or Philips 60CTC

**CAUTION DO NOT EXCEED 60 WATTS PER BULB**

### Light Bulb Replacement

1. Open the steel curtains (remove glass doors if applicable).
2. Remove the log grate retaining screws and remove the log grate.
3. Pull the rear edge of the log set forward by grasping the ember bed by the sides (handle the log set only by the ember bed and not the logs) and pulling firmly until the rear tab pops out from under the back ledge, then lift out.
4. Examine to determine which bulbs require replacement.
5. Unscrew bulb counter clockwise.
6. Insert new bulb screwing clockwise.
7. Replace the log set by inserting the front edge, pushing the back down until the rear tab snaps under the back ledge and the logs are resting against the partially reflective glass.

### Glass Cleaning

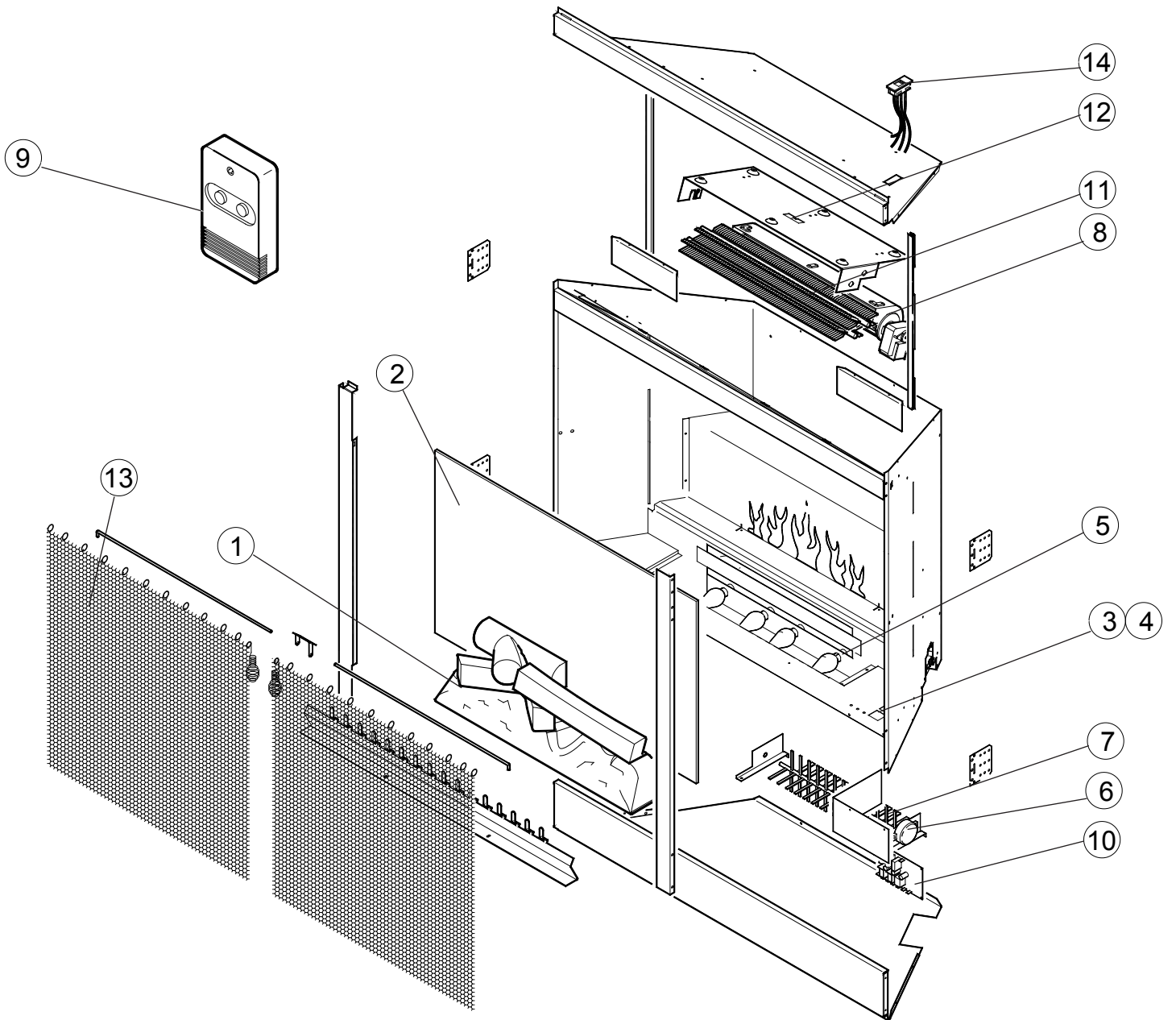
The clear door is cleaned in the factory during the assembly operation. During shipment, installation, handling, etc., the clear door may collect dust particles, these can be removed by dusting lightly with a clean dry cloth.

To remove fingerprints or other marks, the clear door can be cleaned with a damp cloth. The clear door should be completely dried with a lint free cloth to prevent water spots. To prevent scratching, do not use abrasive cleaners or spray liquids on the clear door surface.

### Servicing

**⚠ WARNING:** Except for light bulb replacement and cleaning described above, an authorized service representative should perform any other servicing.

# Exploded Parts Diagram



# Replacement Parts List

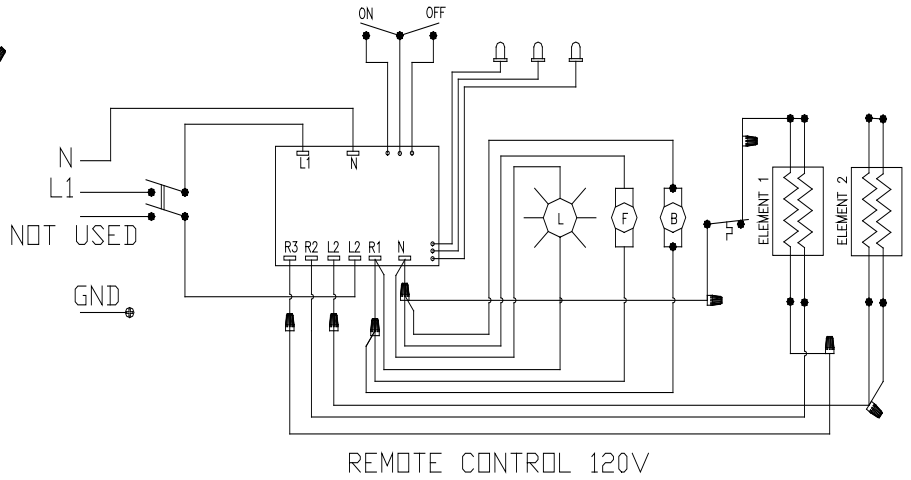
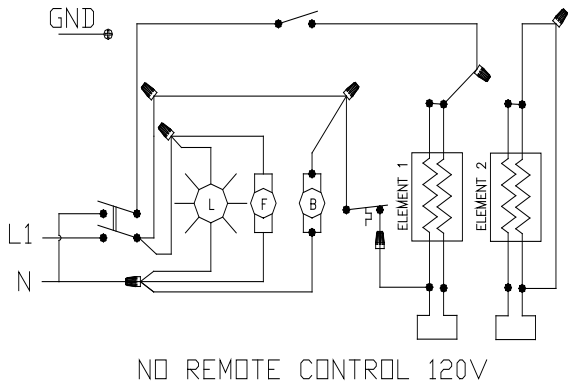
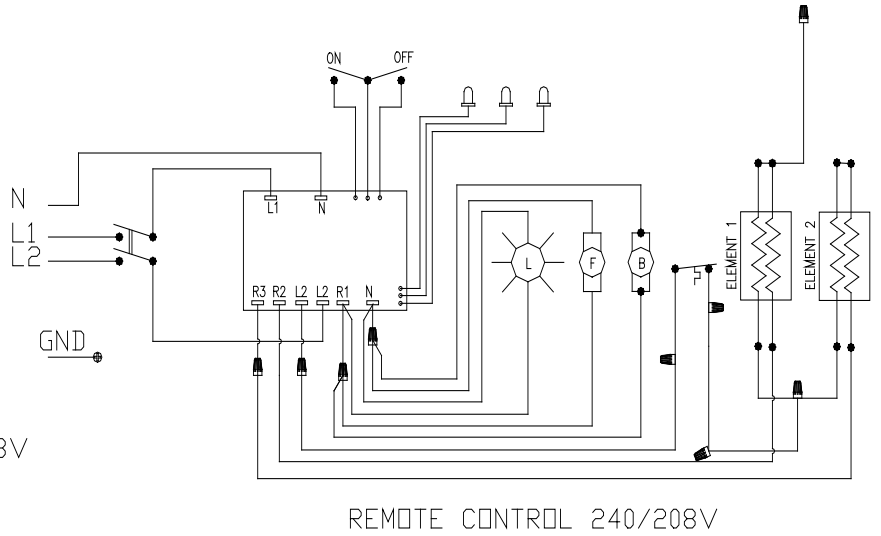
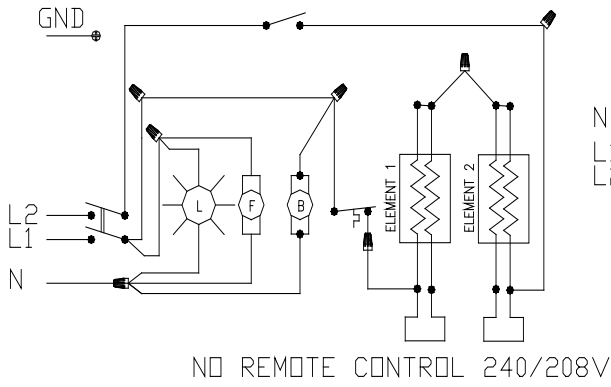
"Click" on the replacement part number to view price and availability. [www.moreelectricheating.com](http://www.moreelectricheating.com)

CATALOGUE NO.		BF36E	BF36ST/HBI36ST			BF36DX/HBI36DX		
PART NO.		6900640459	6900640559			6900640659		
MOD. LEVEL			MOD 0-B	MOD C,D	MOD E	0-B	MOD C,D	MOD E
1	Log Set	0438200300RP			0438550200RP	0438200300RP	0438550200RP	
2	Partially Reflective Glass	5900160100RP			5900160600RP	Not Available	5900160600RP	5900160700RP
3	Main On/Off Switch	2800070400RP						
4	Heater On/Off Switch	2800070200RP	2800070500RP					
5	Lower Light Harness	2500130100RP						
6	Flicker Motor	6900360100RP	6900360600RP			6900360100RP	6900360600RP	
7	Flicker Rod	6900190500RP						
8	Blower Assembly	N/A	5300160100RP Send 0438650100RP also			N/A	5300160100RP Send 0438650100RP also	
9	Remote Control	N/A	3000370600RP					
10	Remote Control Receiver	N/A	3000820500RP Send 8501580100RP also					
11	Heating Element	2200460100RP						
12	Cutout	2300200100RP	2300200800RP			2300200100RP	2300200800RP	
13	Mesh Curtain	8800240103RP						
14	Voltage Selector Switch	N/A	N/A	Not Available		N/A	Not Available	
15	Thermostat	TS521W						

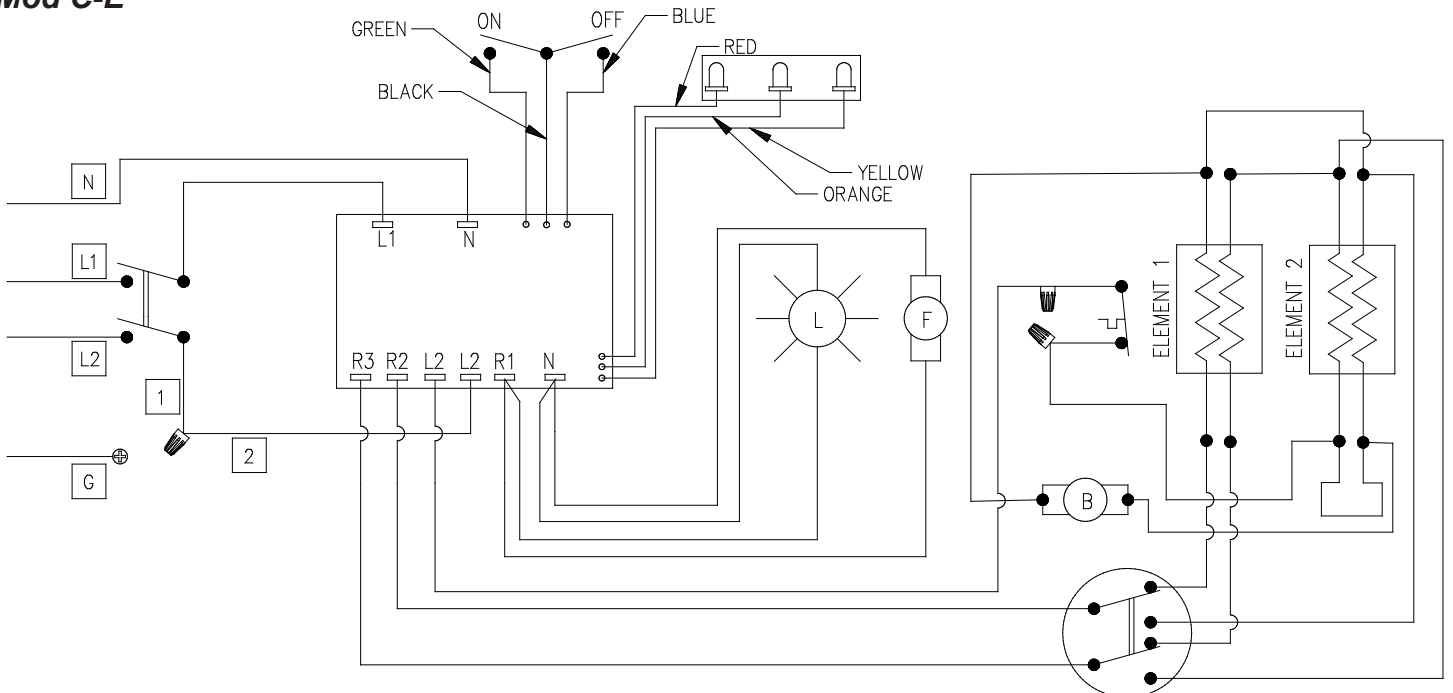
CATALOGUE NO.		BF42ST	BF42DX/HBI42DX			
PART NO.		6900640759	6900640859			
MOD. LEVEL		0-B	0-B	MOD C,D	MOD E	
1	Log Set	0438200300RP				0438550200RP
2	Partially Reflective Glass	5900160200RP	5900160400RP			
3	Main On/Off Switch	2800070400RP				
4	Heater On/Off Switch	2800070500RP				
5	Lower Light Harness	2500130100RP				
6	Flicker Motor	6900360100RP			6900360600RP	
7	Flicker Rod	6900190500RP				
8	Blower Assembly	N/A			5300110300RP Send 0438650100RP also	
9	Remote Control	3000370600RP				
10	Remote Control Receiver	3000820500RP Send 8501580100RP also				
11	Heating Element	2200460100RP				
12	Cutout	2300200100RP			2300200800RP	
13	Mesh Curtain	8800240203RP				8800240103RP
14	Voltage Selector Switch	N/A	N/A		Not Available	
15	Thermostat	TS521W				

# Wiring Diagram

## Mod 0-B



## Mod C-E





## Switch Replacement

**Tools Required:** Philips head screwdriver  
Flat head screwdriver

**⚠ WARNING:** If the fireplace was operating prior to servicing, allow at least 10 minutes for light bulbs and heating elements to cool off to avoid accidental burning of skin.

**⚠ WARNING:** Disconnect power before attempting any maintenance to reduce the risk of electric shock or damage to persons.

1. Open the steel curtains (remove glass doors if applicable).
  2. Remove the log grate retaining screws and remove the log grate.
  3. Pull the rear edge of the log set forward by grasping the ember bed by the sides (handle the log set only by the ember bed and not the logs) and pulling firmly until the rear tab pops out from under the back ledge, then lift out.
  4. Remove the light bulb closest to the switches for easier access.
  5. Locate the cover plate by the switches and remove the mounting screws.
  6. Remove the cover plate.
  7. Reach hand into the opening and locate the switch to be replaced.
  8. Depress the retainer clips on the rear of the switch and push the switch out of the bottom cover.
- ! NOTE:** It may be necessary to remove the heater on/off switch as well for easier access, if replacing the Main On/Off switch.
9. Disconnect the wiring connections noting their original locations.
- ! NOTE:** Use a flat head screwdriver to gently pry between the end of the connector and the switch to release the wires.
10. Properly orient the new switch and connect all of the wiring connections.
  11. Reassemble in the reverse order as above.

**! NOTE:** To replace the log set insert the front edge, pushing back down until the rear tab snaps under the back ledge and the logs are resting against the partially reflective glass.

## Flicker Motor/Flicker Rod Replacement

**Tools Required:** Philips head screwdriver  
Flat head screwdriver

**⚠ WARNING:** If the fireplace was operating prior to servicing, allow at least 10 minutes for light bulbs and heating elements to cool off to avoid accidental burning of skin.

**⚠ WARNING:** Disconnect power before attempting any maintenance to reduce the risk of electric shock or damage to persons.

1. Open the steel curtains (remove glass doors if applicable).
2. Remove the log grate retaining screws and remove the log grate.

3. Pull the rear edge of the log set forward by grasping the ember bed by the sides (handle the log set only by the ember bed and not the logs) and pulling firmly until the rear tab pops out from under the back ledge, then lift out.
  4. Remove the retaining screws on the light assembly retaining plate and remove being careful not to damage any of the wiring.
  5. Reach hand into the opening created by removing the light assembly. Locate the flicker motor/flicker rod assembly and remove the wire nuts and connections noting their original locations.
  6. Remove the flicker assembly mounting bracket screw using a ¼" hex head wrench or socket on the motor bracket closest to the switches. Remove and rotate the assembly down releasing the mounting tab from the rear panel.
- ! NOTE:** When removing the flicker motor some damage may occur to the flicker rod. If flicker rod is damaged replace to ensure proper operation.
7. To remove the flicker rod attach needle nose pliers to the spring on the motor shaft and pull while rotating in the same direction of the spring winding.
  8. To remove the flicker motor you must first remove the flicker rod (see above). Remove the motor mounting screws and remove motor from the mounting bracket.
  9. To replace the flicker rod attach needle nose pliers to the flicker rod spring and push onto the flicker motor shaft while rotating in the opposite direction of the spring winding.
  10. Properly orient the flicker motor and connect all of the wire nut connections in their original locations.
  11. Reassemble in the reverse order as above.
- ! NOTE:** To replace the log set, insert the front edge of the log set and pushing back down until the rear tab snaps under the back ledge and the logs are resting against the partially reflective glass.
12. If the fireplace was operating prior to servicing allow at least 10 minutes for light bulbs and heating elements to cool off to avoid accidental burning of skin.

## Heater Element Replacement

**Tools Required:** Philips head screwdriver  
Flat head screwdriver

**⚠ WARNING:** If the fireplace was operating prior to servicing, allow at least 10 minutes for light bulbs and heating elements to cool off to avoid accidental burning of skin.

**⚠ WARNING:** Disconnect power before attempting any maintenance to reduce the risk of electric shock or damage to persons.

**! NOTE:** The fireplace is equipped with two heating elements. The same removal & installation instructions apply to both elements.

1. Open the steel curtains (remove glass doors if applicable).
2. Remove the steel curtains by lifting up on the curtain mounting rod releasing it from the side mounting tab, and pulling out.
3. Remove the top cover mounting screws from inside the



firebox and remove the top cover by lifting it up from the back, bowing it slightly in the center and pulling out by one end.

4. Locate the elements mounted to the top cover and disconnect the connections noting their original locations.
5. Bend the open end of the element retaining bracket just enough so the element can be removed.
6. Remove the element by pulling down and out from the loose end of the retaining bracket.
7. Properly orient the replacement element and connect all of the wiring connections in their original locations.
8. Reassemble in the reverse order as above.

## Blower Motor/Blower Replacement

**Tools Required:** Philips head screwdriver  
Flat head screwdriver

**⚠ WARNING:** If the fireplace was operating prior to servicing, allow at least 10 minutes for light bulbs and heating elements to cool off to avoid accidental burning of skin.

**⚠ WARNING:** Disconnect power before attempting any maintenance to reduce the risk of electric shock or damage to persons.

1. Open the steel curtains (remove glass doors if applicable).
2. Remove the steel curtains by lifting up on the curtain mounting rod releasing it from the side mounting tab, and pulling out.
3. Remove the top cover mounting screws from inside the firebox and remove the top cover by lifting it up from the back, bowing it slightly in the center and pulling out by one end.
- ! NOTE:** A new rubber channel that holds the partially reflective glass in place is supplied with the new blower motor.
4. Hold the partially reflective glass and use a sharp utility knife to cut the lip off of the rubber channel (one side only) that holds in the partially reflective glass in place.
5. Remove partially reflective glass by pulling it out of the cut rubber channel being careful not to bump or drop it.
6. Remove the cut channel from the firebox.
7. Locate the motor/blower assembly at the top of the firebox; disconnect the motor wiring connections noting their original locations.
8. Grasp the motor and turn  $\frac{1}{4}$  of a turn up, towards the top of the firebox to release it from the blower assembly.
9. Hold the blower and pull the motor assembly drive shaft out of the blower.
10. Properly orient the replacement motor and connect all of the wiring connections in their original locations.
11. Reassemble in the reverse order as above.

**! NOTE:** To install the partially reflective glass after the factory installed rubber channel has been cut, use the channel that was supplied with the replacement motor / blower. Slide the channel onto the edge of the partially reflective

glass and push the other side of the partially reflective glass into the existing rubber channel in the firebox, carefully press partially reflective glass into the mounting slot on the firebox.

## Temperature Limit Switch Replacement

**Tools Required:** Philips head screwdriver  
Flat head screwdriver

**⚠ WARNING:** If the fireplace was operating prior to servicing, allow at least 10 minutes for light bulbs and heating elements to cool off to avoid accidental burning of skin.

**⚠ WARNING:** Disconnect power before attempting any maintenance to reduce the risk of electric shock or damage to persons.

**! NOTE:** The fireplace is equipped with two heating elements. The same removal & installation instructions apply to both elements.

1. Open the steel curtains (remove glass doors if applicable).
2. Remove the steel curtains by lifting up on the curtain mounting rod at the side releasing it from the mounting tab, and pulling out.
3. Remove the top cover mounting screws from inside the firebox and remove the top cover by lifting it up from the back, bowing it slightly in the center and pulling out by one end.
4. Locate the elements mounted to the top cover.
5. Bend the open end of the element retaining brackets just enough so the element can be removed.
6. Remove the element by pulling down and out from the loose end of the retaining bracket being careful not to damage any of the wiring.
7. Locate the temperature limit switch mounted to the roof plate under the elements.
8. While holding onto the switch with needle nose pliers, remove the mounting screw for the temperature limit switch and pull it out of the top cover.
9. Disconnect the wiring connections located behind the blower assembly and remove the switch.
10. Properly orient the replacement temperature limit switch and connect all of the wiring connections in their original locations.
11. Reassemble in the reverse order as above.

## Remote Control Receiver Replacement

**Tools Required:** Philips head screwdriver  
Flat head screwdriver

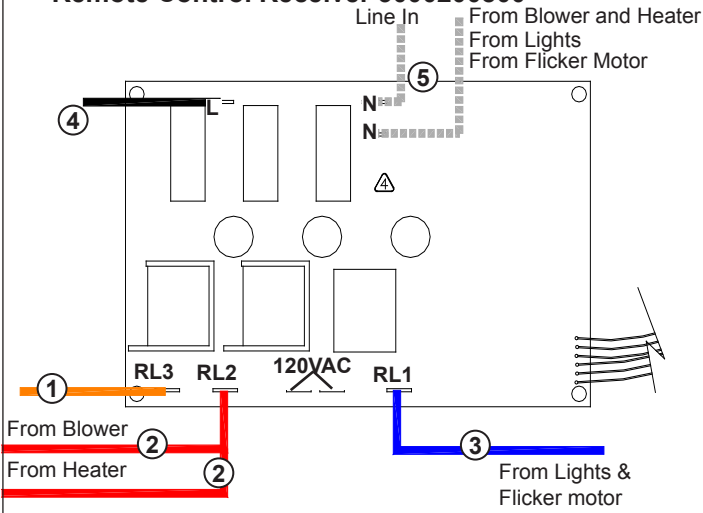
**⚠ WARNING:** If the fireplace was operating prior to servicing, allow at least 10 minutes for light bulbs and heating elements to cool off to avoid accidental burning of skin.

**⚠ WARNING:** Disconnect power before attempting any maintenance to reduce the risk of electric shock or damage to persons.

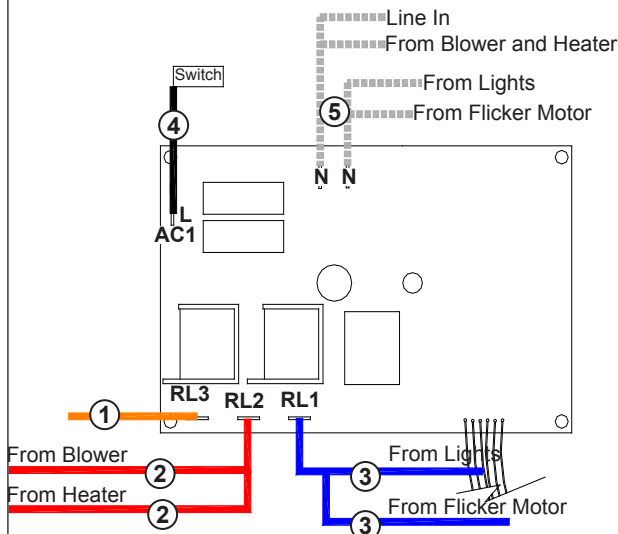
1. Open the steel curtains (remove glass doors if applicable).
2. Remove the log grate retaining screws and remove the log grate.

**Figure 3**

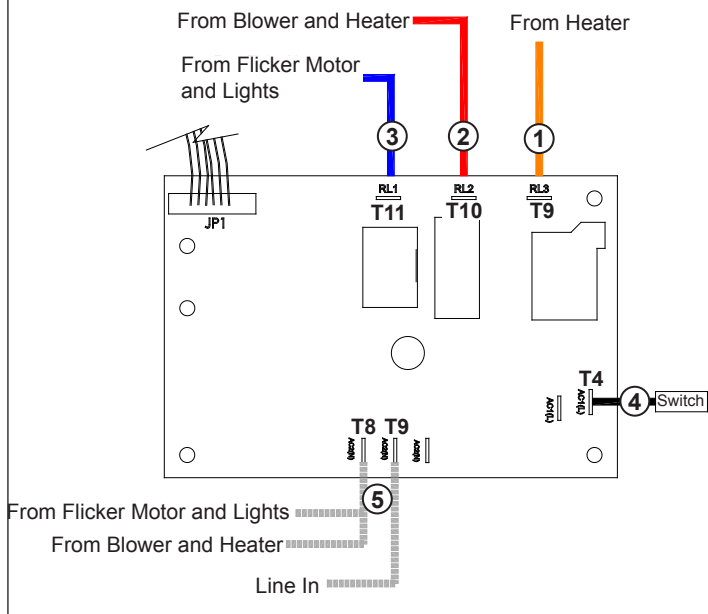
**Remote Control Receiver 3000200800**



**Remote Control Receiver 3000430800RP**



**Remote Control Receiver 3000820500RP**



3. Pull the rear edge of the log set forward by grasping the ember bed by the sides (handle the log set only by the ember bed and not the logs) and pulling firmly until the rear tab pops out from under the back ledge, then lift out.
4. Locate the cover plate by the switches and remove the mounting screws.
5. Remove the cover plate.
6. Reach hand into the opening and locate the wiring for the red heat indicator lights.
7. Pull the red heat indicator lights out through the bottom of the mounting plate noting their original locations.
8. Reach hand into the opening and locate the heater selection switch.
9. Depress the retainer clips on the rear of the switch and push the switch up to release it from the mounting plate.
10. Disconnect the wiring connections noting their original locations.
11. Remove the retaining screws on the light assembly retaining plate and remove being careful not to damage any of the wiring.
12. Reach hand into the opening created by removing the light assembly. Locate the remote control receiver mounted to the back of the unit and remove the wiring connections noting their original locations.
13. Depress the ends of the four plastic mounting posts with pliers.
14. Properly orient the replacement circuit board and connect all of the wiring connections in their original locations. See Figure 3 for new connections, if newer board is received.
15. Reassemble in the reverse order as above.

NOTE: When installing the replacement circuit board ensure the red heat indicator lights are installed into their original mounting locations.

NOTE: To replace the log set, insert the front edge of the log set and pushing back down until the rear tab snaps under the back ledge and the logs are resting against the partially reflective glass.

**Input Voltage Changing**

**Tools Required:** Philips head screwdriver  
Flat head screwdriver

**WARNING:** If the fireplace was operating prior to servicing, allow at least 10 minutes for light bulbs and heating elements to cool off to avoid accidental burning of skin.

**WARNING:** Disconnect power before attempting any maintenance to reduce the risk of electric shock or damage to persons.

The electric fireplace can be configured to operate on 120, 208 or 240 volt electrical service. The fireplace has been configured from the factory to be installed on 208/240 volt electrical service.

**RECOMMENDED POWER SUPPLY WIRE SPECIFICATIONS**

For 120 volt installations a two conductor, non-metallic sheath cable with ground wire is recommended for the incoming power supply on fireplace inserts. Use the appropriate

ate wire to meet local and national electrical codes for rated power consumption.

For 240 volt installations a three conductor, non-metallic sheath cable with ground wire is recommended for the incoming power supply on fireplace inserts. Use the appropriate wire to meet local and national electrical codes for rated power consumption.

### **REWIRE UNIT FROM 208/240 VOLT TO 120 VOLT WITH REMOTE CONTROLS**

**! NOTE:** Rewiring the unit from 208/240 volt to 120 volt configuration must be completed prior to installing the unit.

1. Loosen the screw securing the junction box cover and remove the cover.
2. Remove the knockouts (if necessary) or use the provided cable clamp.
3. Pull all of the wiring connections out of the fireplace junction box and reconfigure the labeled wires using the chart below.

#### **MODELS WITH REMOTE CONTROLS:**

<b>208/240V (from factory)</b>	<b>120V</b>
L1, L1, 1	L1, L1, 1
3, 5	F, F, F, 6
L2, 6	7, 8
B, C, 7	B, 3
F, F, F	C, 5, L2
8	

When the conversion is completed following the above chart there will be four wires remaining. A red wire that is not used and must have a wire nut installed, a black (L1) wire, a white (neutral) wire, and a green (ground) wire.

Connect the black (L1) wire from the unit to the (L1) wire from the power supply. Connect the white (neutral) wire to the (neutral) wire from the power supply. Connect the green (ground) wire to the (ground) wire from the power supply.

4. Once the wiring has been configured for the proper supply voltage replace wire bundle inside the unit leaving the connection lines and/or thermostat connections available for supply power connection.

### **REWIRE UNIT FROM 208/240 VOLT TO 120 VOLT WITHOUT REMOTE CONTROLS**

**! NOTE:** Rewiring the unit from 208/240 volt to 120 volt configuration must be completed prior to installing the unit.

1. Loosen the screw securing the junction box cover and remove the cover.
2. Remove the knockouts (if necessary) or use the provided cable clamp.
3. Pull all of the wiring connections out of the fireplace junction box and reconfigure the labeled wires using the chart below.

#### **MODELS WITHOUT REMOTE CONTROLS:**

<b>208/240V (from factory)</b>	<b>120V</b>
5, 6	2, 3
1, 2	1, 4
3, 4	F, L <sub>2</sub>
F	5, 6
L <sub>2</sub>	

When the conversion is completed following the chart above there should be two wires remaining. A black (L1) wire and green (ground) wire. Connect the black (L1) wire from the unit to the (L1) wire from the power supply. Connect the green (ground) wire to the (ground) wire from the power supply. Connect the neutral wire from the power supply to the wiring connection with wires marked F & L<sub>2</sub>.

4. Once the wiring has been configured for the proper supply voltage replace wire bundle inside the unit leaving the connection lines and/or thermostat connections available for supply power connection.

# Troubleshooting Guide

PROBLEM	CAUSE	SOLUTION
<b>General</b>		
Circuit breaker trips or fuse blows when unit is turned on	Short in unit wiring.	Trace wiring in unit.
	Improper circuit current rating	Verify unit is installed on a dedicated 15 amp circuit.
Unit turns on or off by itself	Remote Control has a similar frequency to other remotes in the area.	Replace Remote Control
	Radio frequency disturbance from outside sources.	Replace remote control and Remote Control Receiver Kit, where necessary.
	Defective Remote Control Receiver	Replace Remote Control Receiver
<b>Appearance</b>		
Fireplace does not turn on Manually	Improper operation	Refer to Operation Section
	No incoming voltage from the electrical wall socket/Breaker Panel	Check Fuse/Breaker Panel
	Loose wiring	Check wiring connections
	Defective On/Off Switch	Replace On/Off Switch
	Defective Heater Switch	Replace Heater Switch
	Defective Remote Control Receiver (If applicable)	Replace Remote Control Receiver
Fireplace does not turn on with remote control (if applicable)	Improper operation	Refer to Operation Section
	Remote control not initialized to fireplace	Initialize the remote control
	Defective remote control	Install new battery into the remote control. Reinitialize remote where necessary
		Replace Remote Control and reinitialize
Defective Remote Control Receiver	Replace Remote Control Receiver	
Flame Frozen	Defective flicker motor	Replace flicker motor
	Loose wiring	Check wiring connections
Flame not bright or flame not visible	Burnt light bulbs	Replace light bulbs
	Loose wiring	Check wiring connections
	Defective light harness	Replace light harness
Log set dim, ember bed not glowing	Burnt light bulbs	Replace light bulbs
Flame Shudder	Defective flicker motor	Replace flicker motor
Light leaking around the log set	Log set not positioned properly	Check log set for proper fit

PROBLEM	CAUSE	SOLUTION
<b>Heater</b>		
Heater is not turning On	Improper operation	Refer to Operation Section
	Loose wiring	Trace wiring in unit
	Defective Heater Switch	Replace Heater Switch
	Defective Remote Control Receiver (if applicable)	Replace Remote Control Receiver Kit
Heater is not turning Off	Improper operation of unit	Refer to Operation Section
	Improper operation of Thermostat/Wall Controls (if applicable)	Refer to Thermostat/Wall Control Operation Guide
	Defective heater on/off switch	Replace heater on/off switch
	Defective heater assembly	Replace heater assembly
Heater is turning off after a couple of minutes of operation	Build up of dirt/dust in heater assembly	Ensure that exterior intake louvers and firebox cavity are free of dirt/dust.
	Defective Heater Assembly	Replace Heater motor (if not running when heat is activated) or Heater Elements (if motor is running but heat is not coming out)
Heater emits an odor	Normal Operation	Normal operation is when the heater emits an odor for a brief period after the heater is initially turned on. The heater is burning off any dust accumulated during manufacturing or operation.
	Defective heater assembly	Replace heater assembly
Heater fan turns on but heater lacks heat	Improper operation	Refer to Operation Section
	Loose wiring	Trace wiring in unit
	Defective Blower Assembly	Replace Blower Assembly (if not running when heat is activated)
		Heater Elements (if motor is running but heat is not coming out)
Heating element is glowing red	Normal Operation	Small glowing sections of the element are considered normal.
	Defective heater element	If larger glowing sections are causing the heater to trip the thermal cutout, unplug unit, discontinue use and replace heater elements
Heater fan runs continuously	Defective heater on/off switch	Replace heater on/off switch
<b>Noise</b>		
Excessive noise with the heater on	Dirty blower assembly	Ensure that exterior intake louvers and firebox cavity are free of dirt/dust.
	Defective Heater motor	Replace heater motor
Grinding or excessive noise with the heater off	Moving flicker rod hitting or rubbing against internal components	Ensure rod is straight and mounted properly in the bracket, spinning freely away from other components. Replace if necessary.
	Defective flicker motor	Replace flicker motor