



Light Duty Commercial Electric

Voltage and Wattage Conversion Instructions

Conversion to be performed by a Qualified Service Person only.

Underwriters Laboratories Inc. recognizes this procedure as herein presented and no deviation from these instructions are allowed.



| | |
|---------|---------|
| LD-20L | LE120L |
| LD-30L | LE130L |
| LD-30R | LE230S |
| LD-40L | LE140L |
| LD-40S | LE240S |
| LD-50L | LE150L |
| LD-50S | LE250S |
| LD-65R | LE265T |
| LD-80R | LE280T |
| LD-120R | LE2120T |



| | |
|----------|---------|
| LDWH-6U | LE16WV |
| LDWH-12U | LE112WV |
| LDWH-20L | LE120WV |
| LDWH-30L | |



| | |
|---------|--------|
| LD-6U | LE16U |
| LD-12U | LE110U |
| LD-12UT | LE112T |
| LD-20U | LE115U |
| LD-30U | LE120U |

The conversion procedure outlined in the instruction manual is to be executed only by Qualified Service Personnel.

Read these instructions first before proceeding with the conversion.

The purpose of this instruction manual is to instruct about the changing of wattage and voltage for Light Duty Commercial Electric water heaters manufactured by Bradford White Corporation. ETL recognizes this procedure as herein presented and no deviation from these instructions are allowed.

Special factory prepared kits must be used for these conversions. Below is a list of the kits that have been prepared for the various wattages and voltages.

These instructions do not allow for the modification that adds or deletes the number of heating elements originally supplied with the water heater; therefore, such a modification must not be attempted.

Voltage and Wattage conversion kit part numbers:

| Element Wattage | Non-Simultaneous Max Wattage | Simultaneous Max Wattage | Voltage | | | |
|-----------------|------------------------------|--------------------------|---------------|---------------|---------------|--------------|
| | | | 120 | 208 | 240 | 277 |
| 1500 | 1500 | 3000 | 415-46409-01 | 415-46409-05 | 415-46409-13 | 415-46409-16 |
| 2000 | 2000 | 4000 | 415-46409-02* | 415-46409-06 | 415-46409-05 | 415-46409-17 |
| 2500 | 2500 | 5000 | 415-46409-03* | 415-46409-07 | 415-46409-06 | 415-46409-18 |
| 3000 | 3000 | 6000 | 415-46409-04* | 415-46409-08 | 415-46409-14 | 415-46409-19 |
| 3500 | 3500 | 7000 | N/A | 415-46409-09 | 415-46409-07 | N/A |
| 4000 | 4000 | 8000 | N/A | 415-46409-49 | 415-46409-08 | 415-46409-20 |
| 4500 | 4500 | 9000 | N/A | 415-46409-11 | 415-46409-09 | 415-46409-51 |
| 5000 | 5000 | 10000 | N/A | 415-46409-50 | 415-46409-15 | 415-46409-52 |
| 5500 | 5500 | 11000 | N/A | 415-46409-65* | 415-46409-49 | 415-46409-61 |
| 6000 | 6000 | 12000 | N/A | 415-46409-66* | 415-46409-48* | 415-46409-53 |

* These kits contain only one (1) element. These are non-simultaneous kits only.

| Element Wattage | Non-Simultaneous Max Wattage | Simultaneous Max Wattage | Voltage | | |
|-----------------|------------------------------|--------------------------|--------------|--------------|--------------|
| | | | 380 | 415 | 480 |
| 1500 | 1500 | 3000 | 415-46409-24 | 415-46409-41 | 415-46409-32 |
| 2000 | 2000 | 4000 | 415-46409-43 | 415-46409-24 | 415-46409-33 |
| 2500 | 2500 | 5000 | 415-46409-25 | 415-46409-43 | 415-46409-34 |
| 3000 | 3000 | 6000 | 415-46409-26 | 415-46409-25 | 415-46409-35 |
| 3500 | 3500 | 7000 | 415-46409-54 | 415-46409-26 | N/A |
| 4000 | 4000 | 8000 | 415-46409-56 | 415-46409-54 | 415-46409-36 |
| 4500 | 4500 | 9000 | 415-46409-57 | 415-46409-55 | 415-46409-59 |
| 5000 | 5000 | 10000 | 415-46409-58 | 415-46409-56 | 415-46409-38 |
| 5500 | 5500 | 11000 | 415-46409-63 | 415-46409-57 | 415-46409-62 |
| 6000 | 6000 | 12000 | 415-46409-64 | 415-46409-58 | 415-46409-60 |

Tools required for conversion:

1. 1 ½" deep-well socket or wrench.
2. Phillips head screwdriver.
3. ¼" nut-driver or socket.
4. Thread lubricant.

⚠ WARNING

High voltage potential exposure. To avoid personal injury, be sure water heater is disconnected from power source prior to performing the procedure.

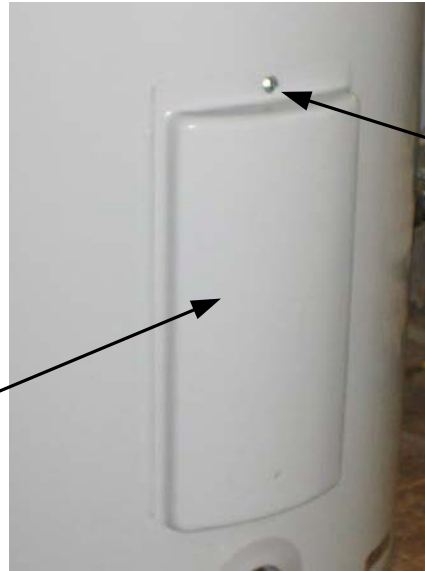
Element(s) Removal:

1. Turn off electrical power to water heater, DISCONNECT FROM POWER SOURCE.

2. Drain water heater.

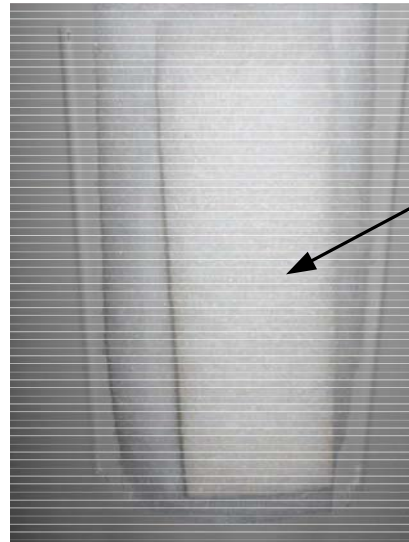
3. Remove element access cover(s).

Element access cover



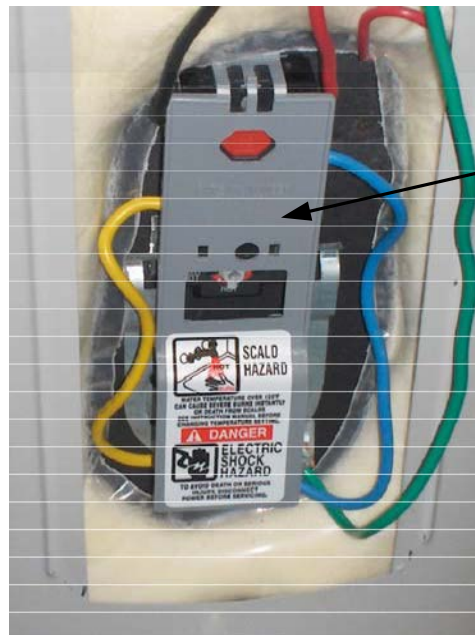
Remove screw

4. Remove Insulation.



Remove insulation

5. Remove thermostat(s) protector.

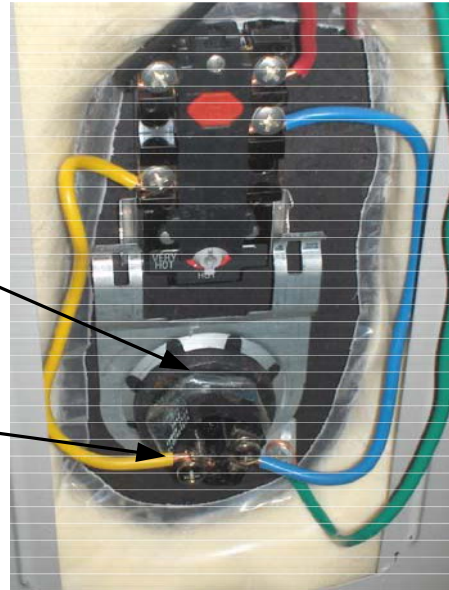


Remove thermostat protector

6. Disconnect wire leads from element(s) terminal block.

Element terminal block

Disconnect wire leads from element terminal block



7. Remove element(s) from tank using 1½" deep well socket or wrench. Unscrew element(s) counter-clockwise to remove from tank.

Unscrew element(s) counter-clockwise to remove from tank



Element(s) Installation:

8. Check element terminal block for proper electrical rating.

Note: Some elements have a dual rating, so be sure to check all surfaces on element terminal block.

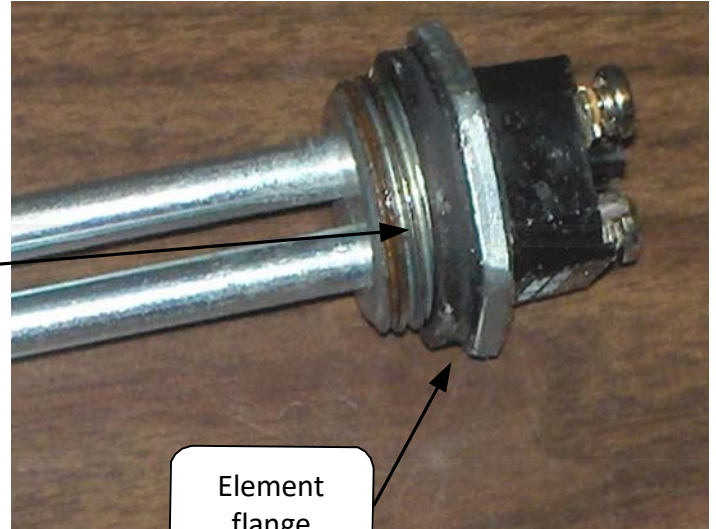
Check rating(s) on element



9. Apply new gasket(s) to new element(s) from conversion kit.

Note: Make sure gasket is seated flat against element flange without rolls or gaps.

Gasket



10. Thread new element(s) clockwise into tank. Tighten element(s) with a 1 1/2" deep well socket or wrench. Do not over tighten. Over-tightening may damage gasket.

Note: Clean any debris from element(s) fitting to tank. Lubricate element(s) threads as needed with thread lubricant.

Element flange

11. Be sure tank is filled with water and check for leaks.

12. Reconnect wire leads to element(s) terminal block.

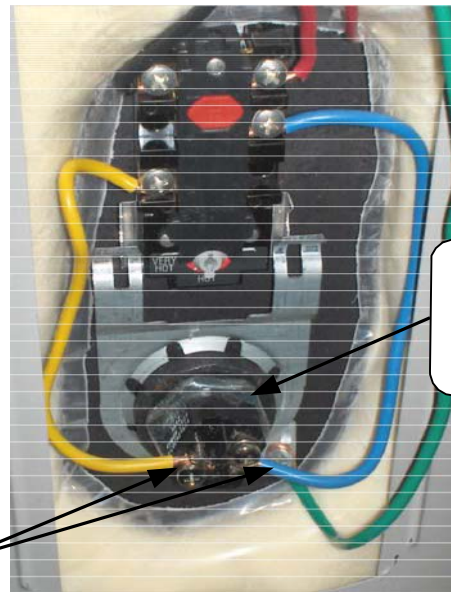
13. When converting from 208, 240, or 480 volt to 120 or 270 volt it is acceptable to tag the red wire with white electrical tape to identify wire. It is also acceptable to tag the white wire with red electrical tape when converting from 120 or 270 volt to 208, 240, or 480 volt.

14. Replace thermostat(s) protector and insulation.

15. Replace access cover(s).

16. Restore electrical power.

Reconnect wires leads to element(s) terminal block



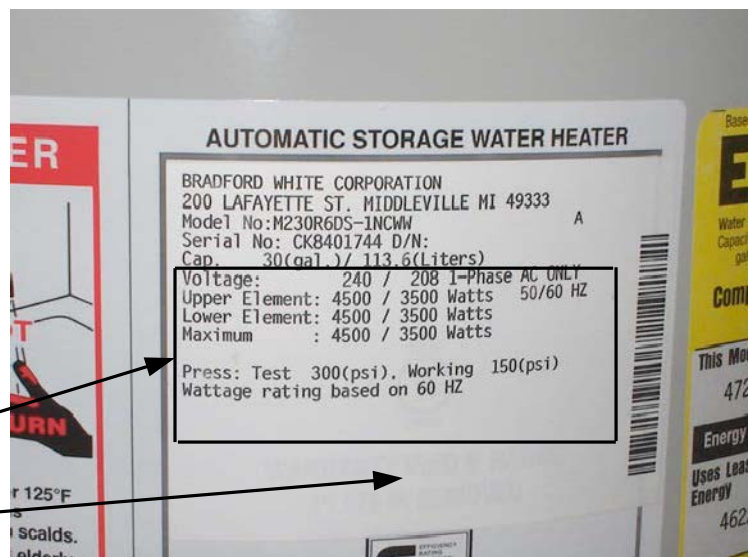
Thread element(s) clockwise into tank

17. Place appropriate label (supplied with kit) so it covers electrical information on water heater rating plate.

Note: Be certain not to cover model number, serial number and capacity information.

Cover electrical information only with appropriate overlay

Water heater rating plate





Ambler, PA

For U.S. and Canada field service,
Contact your professional installer or
local Bradford White representative.

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