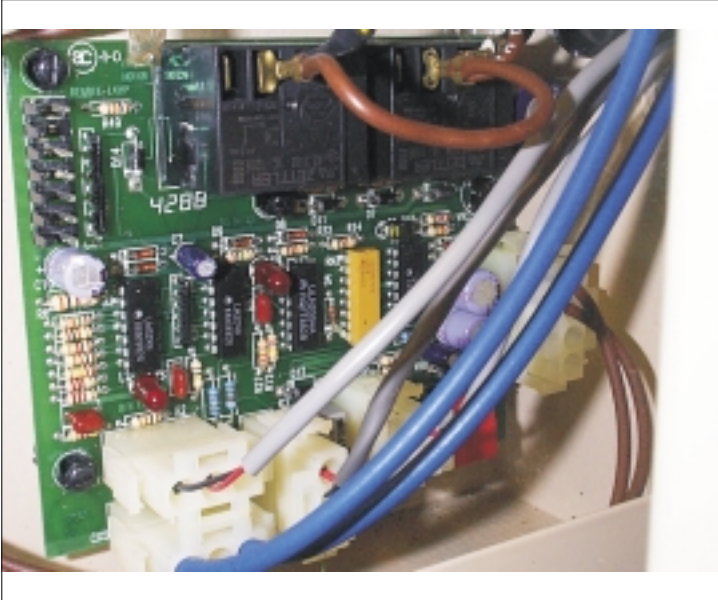
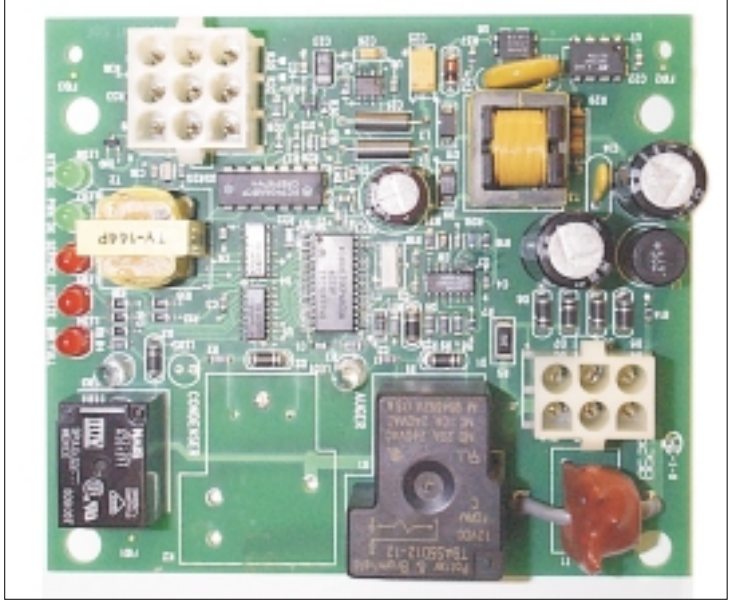


For changing the control board from its original configuration to the AutoSentry system.



**Prior Control Board**



**AutoSentry Board**

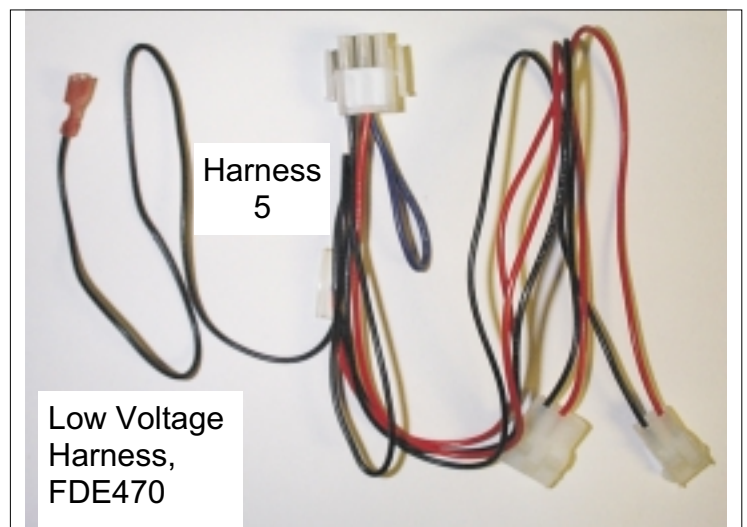
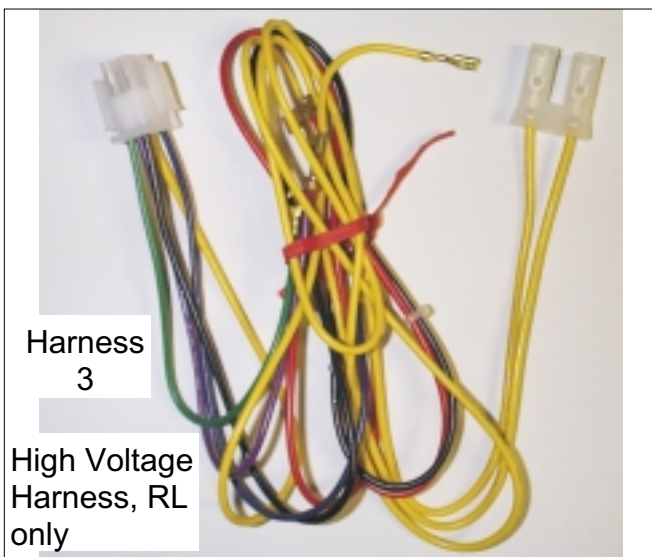
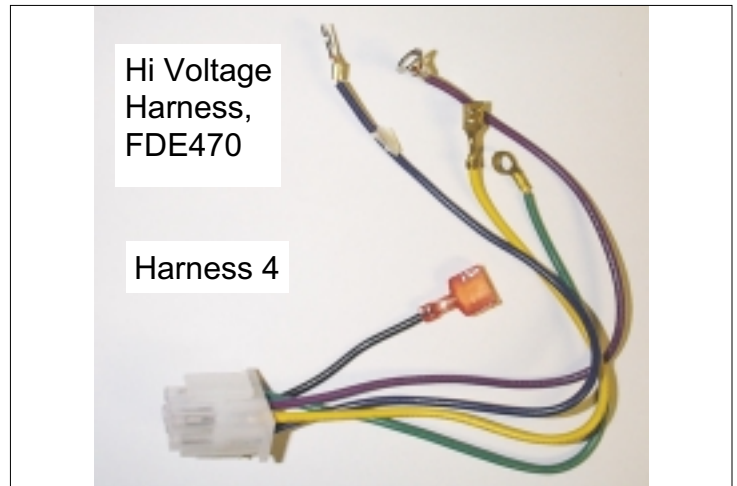
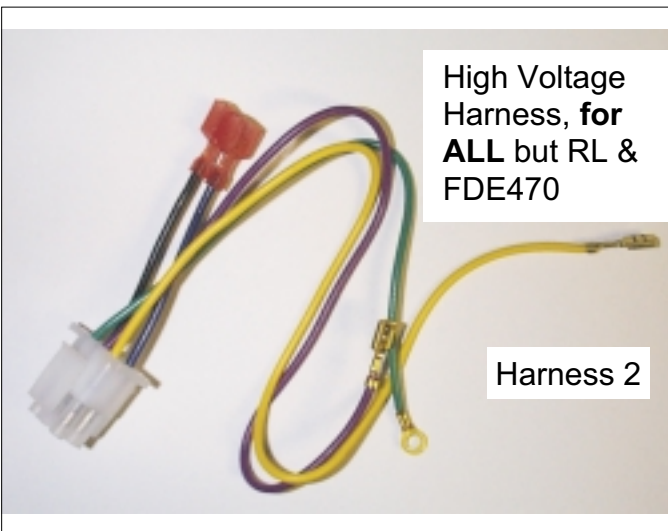
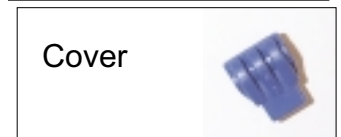
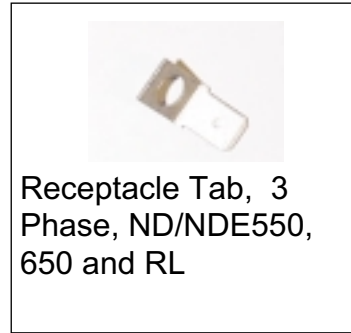
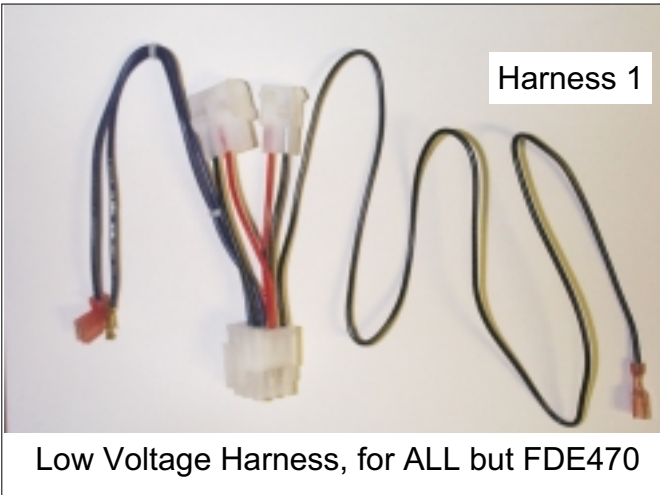
**Note:** If the unit has already been modified with the new board, simply replace the board. Do **NOT** follow these instructions.

The instructions and procedures change depending upon which model is being worked on. See the **next page for parts selection**, then select the model from the list below and go to that page.

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## Illustrated List of Parts



# NM/FM or NME/FME air or water cooled modular units.

## CONVERSION KIT


### Use These Included Parts (see page 2)

- Conductivity Probe
- Board
- Trouble Shooting Label
- Wiring Diagram (17-2807-01)
- Low Voltage Adapter Harness (harness 1)
- High Voltage Adapter Harness (harness 2)
- Receptacle Tab for 3 phase
- Terminal Cover

### Line Voltage Wiring - Remove Front Panel and Control Box Cover



**Original Control System**

	<b>⚠ WARNING</b>
	<b>Electrical Shock Hazard</b>  Disconnect Electrical Power Before Beginning

Note: When connected to an older machine with a PSC auger motor, the AutoSentry motor sensor feature will not function. However, all other controls work and the machine will perform normally.

1. Disconnect and remove brown transformer wire from old board
2. Disconnect and remove yellow wire from transformer to on/off switch
3. Disconnect and remove brown wire from both relays on board & on/off switch
4. Disconnect and remove blue harness connecting board to LPC, HPC and, if used, spout switch.
5. Move black wire from on/off switch terminal to LPC terminal
6. Disconnect and remove violet wire from transformer to contactor (L2). Note location of connection.
7. Remove transformer
8. Connect violet wire from new line voltage harness to L2. 3 Phase units: Install receptacle tab to contactor where violet wire was removed in step 6, and then connect the violet wire from the harness to that tab.

9. **Units with Spout Switch Only:** Disconnect blue wire from spout switch and route it through a snap bushing into the control box. Leave spout switch in place but without electrical connection.
10. Disconnect and remove yellow wire from board & contactor coil
11. Disconnect black gear motor wire from original board relay and connect it to black wire on new line voltage harness. Cover connection with terminal cover from kit and electrical tape.
12. Unplug all sensors from the board.
13. Remove old control board from the machine.
14. Remove the center and lower left stand-off; remove the plastic screw first then pull standoff from control box
15. Connect yellow wire from new line voltage harness to contactor coil
16. Place Green wire from new line voltage harness under a contactor mounting screw in control box
17. Connect blue high pressure switch wire or spout switch wire (when used) to the blue wire on new line voltage harness. Cover connection with electrical tape.
18. Place new control board in control box with LEDs towards the front of the unit
19. Connect the 6 pin mate-n-lock connector from the new line voltage harness to the control board

#### **Low Voltage Wiring**

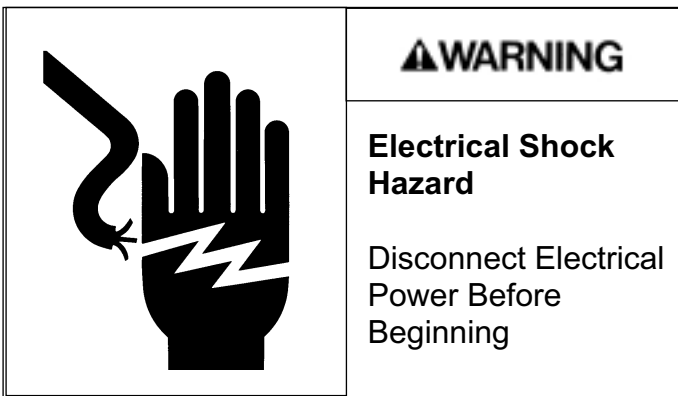
20. Connect blue wires from new low voltage harness to on/off switch
21. Remove and discard original water sensor.
22. Install new conductivity probe into water reservoir
23. Run black wire from new low voltage harness to new conductivity probe.
24. Connect ice sensors to new low voltage harness
25. Connect 9 pin connector from low voltage harness to new control board
26. Reconnect electrical power and test unit operation.
27. Place wiring diagram label and trouble shooting label on control box cover.
28. Return all panels to their original positions.

# NS/NSE650

## CONVERSION KIT

Use These Included Parts\_(see page 2)

- Conductivity Probe
- Board
- Trouble Shooting Label
- Wiring Diagram (17-2807-01)
- Low Voltage Adapter Harness (harness 1)
- High Voltage Adapter Harness (harness 2)
- Terminal Cover



### Line Voltage Wiring

1. Disconnect and remove violet wire from transformer and L2 on contactor.
2. Disconnect and remove yellow wire from transformer to on/off switch.
3. Disconnect and remove brown transformer wiring harness from old board.
4. Remove transformer.
5. Disconnect and remove brown wire from relays on old board to on/off switch.
6. Units without spout switch: Disconnect and remove black wire from on/off switch to L1 on contactor.
7. Units without spout switch: Disconnect blue low pressure switch wire from old board harness and connect it to L1.

**Units with spout switch:** Disconnect & remove blue wire harness from old board, LPC and spout switch, then unplug black wire from on/off switch and connect it to empty post on LPC.

Note: If the unit has a spout switch the spout switch will remain in place but be electrically disconnected

8. Disconnect and remove yellow wire from compressor relay on board and contactor coil.
9. Disconnect blue high pressure switch wire from old board harness (or spout switch when used) and connect it to the blue wire on new line voltage harness.
10. Disconnect black gear motor wire from board relay and add it to black wire on new line voltage harness. Cover connection with terminal cover from kit and electrical tape.
11. Disconnect eyes and water probe harnesses from old board and remove board.
12. Remove the center and upper left stand-off; remove the plastic screw first then pull standoff from control box.
13. Place new control board in control box with LEDs towards the top of the control box.
14. Connect the 6 pin mate-n-lock connector from the new line voltage harness to the control board.
15. Connect violet wire from new line voltage harness to L2.
16. Connect yellow wire from new line voltage harness to contactor coil.
17. Place ring terminal of Green wire from new line voltage harness under contactor mounting screw in control box.

### **Low Voltage Wiring**

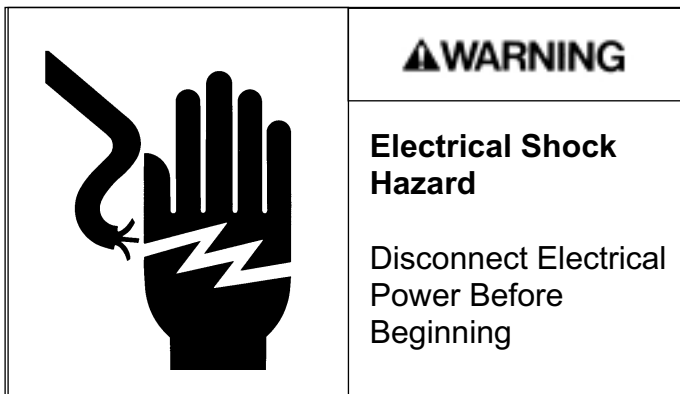
18. Connect blue wires from new low voltage harness to on/off switch
19. Install new conductivity probe into water reservoir
20. Run black wire from new low voltage harness to new conductivity probe
21. Disconnect bin full sensors from board and connect to new low voltage harness
22. Connect 9 pin connector from low voltage harness to new control board
23. Reconnect electrical power and test unit operation.
24. Place wiring diagram label and trouble shooting label on control box cover.
25. Return all panels to their original positions.

# NM/FM and NME/FME REMOTE CONDENSER UNITS

## CONVERSION KIT

### Use These Included Parts (see page 2)

- Conductivity Probe
- Board
- Trouble Shooting Label
- Wiring Diagram (17-2808-01)
- Low Voltage Adapter Harness (harness 1)
- High Voltage Adapter Harness (harness 2)
- Splice connector
- Receptacle Tab for 3 Phase
- Terminal Cover



### Line Voltage Wiring

1. Disconnect and remove violet wire from between transformer and contactor.
2. Disconnect and remove yellow wire from transformer, pump down control, and on/off switch.
3. Disconnect and remove brown transformer harness from old board.
4. Remove transformer.
5. Disconnect and remove brown wire from relay on old board and at on/off switch.
6. Disconnect black wire from on/off switch (connected to contactor). Reconnect this same wire to the pump down control.
7. Disconnect blue wire from L2 on contactor (wire connected to relay on old board).
8. Disconnect black wire (from liquid line solenoid) at left relay on old board and reconnect to L2 on contactor.
9. Disconnect red wire from relay on old board and reconnect to L2 - leave other end of wire as is – to contactor coil.

10. Disconnect black gear motor wire from old board relay and connect it to black wire on new line voltage harness. Cover connection with terminal cover from kit and electrical tape.
  11. Disconnect eyes, water probe and HPC blue wire harnesses from old board and remove board.  
Note: Some wires will still be attached.
  12. Remove the center and lower left stand-off; remove the plastic screw first then pull standoff from control box.
  13. Place new control board in control box with LEDs towards the front of the unit.
  14. Disconnect and remove yellow wire from contactor coil and auger motor.
  15. Connect the 6 pin mate-n-lock connector from the new line voltage harness to the control board.
  16. Disconnect black wire (connects to liquid line solenoid) from On-Off switch terminal.
  17. Connect yellow wire from new line voltage harness to black wire from liquid line solenoid using a splice connector provided in kit.
  18. Place ring terminal of Green wire from new line voltage harness under contactor mounting screw in control box.
  19. Disconnect blue high pressure switch wires from old board harness and connect one to the blue wire on new line voltage harness. The other blue HPC wire connects to L1 on the contactor.
- Note: If the machine has a spout switch, disconnect both wires at the spout switch, the spout switch will remain in position but will be electrically disconnected. Connect one wire from the HPC to L1, and the other to the blue wire on the new line voltage harness.
20. Connect violet wire from new line voltage harness to L2 on contactor. Three Phase: Install receptacle tab onto contactor L2 and connect violet wire to the tab.

### **Low Voltage Wiring**

21. Connect blue wires from new low voltage harness to on/off switch.
22. Install new conductivity probe into water reservoir.
23. Run black wire from new low voltage harness to new conductivity probe.
24. Disconnect bin full sensors from board and connect to new low voltage harness.
25. Connect 9 pin connector from low voltage harness to new control board
26. Reconnect electrical power and test unit operation.
27. Place wiring diagram label and trouble shooting label on control box cover.
28. Return all panels to their original positions.

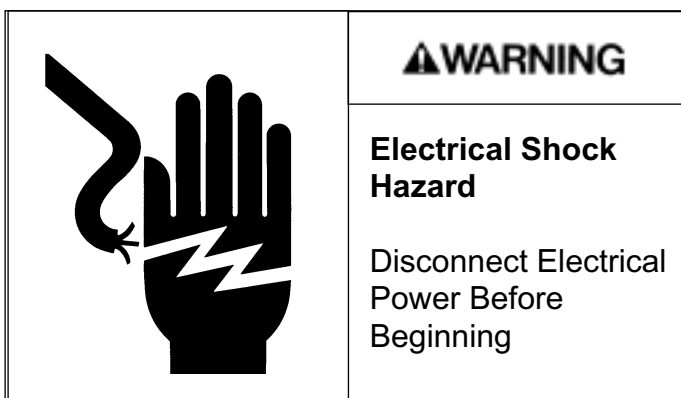


# ND/NDE650/550

## CONVERSION KIT

### Use These Included Parts (see page 2)

- Conductivity Probe
- Board
- Trouble Shooting Label
- Wiring Diagram (17-2810-01)
- Low Voltage Adapter Harness (harness 1)
- High Voltage Adapter Harness (harness 2)
- Receptacle tab
- Terminal Cover



### Line Voltage Wiring

1. Disconnect and remove violet wire from transformer and terminal strip.
2. Disconnect and remove yellow wire from transformer to terminal strip.
3. Disconnect and remove brown transformer wiring harness from old board.
4. Remove transformer.
5. Disconnect and remove brown wire from N.O. on compressor relay at old board, blue wire from N.O. on auger relay at old board, and blue wire from on/off switch to terminal strip.
6. Disconnect black wire from on/off switch and connect to receptacle tab (provided in kit) on terminal strip (where blue wire was).
7. Disconnect blue low pressure switch wire from old board harness and connect it to L1.

Note: Units with a spout switch. The spout switch will remain in place but be electrically disconnected. Unplug blue wire harness from control board. Trace wire to the spout switch and remove it. Cut board's white plastic connector off the end of both blue wires. Strip wire ends and connect the two blue wires together with a wire nut (not included) and connect it the blue wire to L1. This connects the LPC to the contactor's power supply.

8. Disconnect and remove yellow wire from compressor relay on board and contactor coil.
9. Disconnect blue high pressure switch wire from old board harness (or spout switch if so equipped) and connect it to the blue wire on new line voltage harness.
10. Disconnect black gear motor wire from board relay and add it to black wire on new line voltage harness. Cover connection with terminal cover from kit and electrical tape.
11. Disconnect eyes and water probe harnesses from old board and remove board and water probe.
12. Remove the center and lower right stand-off; remove the plastic screw first then pull standoff from control box.
13. Place new control board in control box with LEDs at the bottom of the control box.
14. Connect the 6 pin mate-n-lock connector from the new line voltage harness to the control board.
15. Connect violet wire from new line voltage harness to L2.
16. Connect yellow wire from new line voltage harness to contactor coil.
17. Place Green wire from new line voltage harness under a contactor mounting screw in control box.

#### **Low Voltage Wiring**

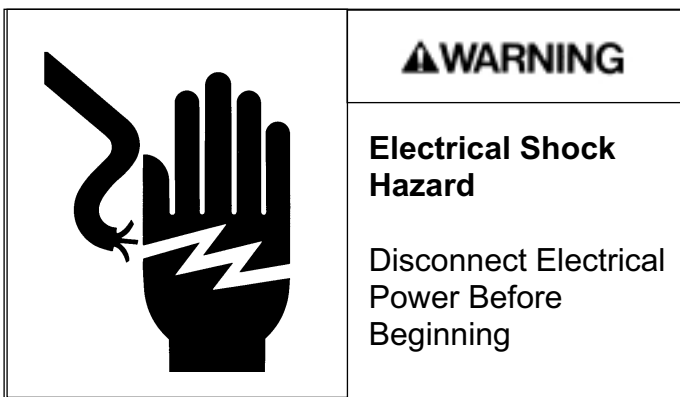
18. Connect blue wires from new low voltage harness to on/off switch.
19. Install new conductivity probe into water reservoir.
20. Run black wire from new low voltage harness to new conductivity probe.
21. Connect bin full sensor harnesses to new low voltage harness.
22. Connect 9 pin connector from low voltage harness to new control board.
23. Reconnect electrical power and test unit operation.
24. Place wiring diagram label and troubleshooting label on control box cover.
25. Return all panels to their original positions.

# ND/NDE750

## CONVERSION KIT

### Use These Included Parts (see page 2)

- Conductivity Probe
- Board
- Trouble Shooting Label
- Wiring Diagram (17-2811-01)
- Low Voltage Adapter Harness (harness 1)
- High Voltage Adapter Harness (harness 2)
- Terminal Cover



### Line Voltage Wiring

1. Disconnect and remove violet wire from transformer and L2 on contactor.
2. Disconnect and remove yellow wire from transformer to on/off switch.
3. Disconnect and remove brown transformer wiring harness from old board.
4. Remove transformer.
5. Disconnect and remove brown wire from relays on old board to L1 on contactor.
6. Disconnect and remove black wire from on/off switch to L1 on contactor.
7. Disconnect blue low pressure switch wire from old board harness and connect it to L1.

Note: Units with a spout switch. The spout switch will remain in place but be electrically disconnected. Unplug blue wire harness from control board. Trace wire to the spout switch and remove it. Cut board's white plastic connector off the end of both blue wires. Strip wire ends and connect the two blue wires together with a wire nut (not included) and connect it the blue wire to L1. This connects the LPC to the contactor's power supply.

8. Disconnect and remove yellow wire from compressor relay on board and contactor coil.

9. Disconnect blue high pressure switch wire from old board harness (or spout switch for those units so equipped) and connect it to the blue wire on new line voltage harness.
10. Disconnect black gear motor wire from board relay and add it to black wire on new line voltage harness. Cover connection with terminal cover from kit and electrical tape.
11. Disconnect eyes and water probe harnesses from old board and remove board and water probe.
12. Remove the center and lower right stand-off; remove the plastic screw first then pull standoff from control box.
13. Place new control board in control box with LEDs at the bottom of the control box.
14. Connect the 6 pin mate-n-lock connector from the new line voltage harness to the control board..
15. Connect violet wire from new line voltage harness to L2.
16. Connect yellow wire from new line voltage harness to contactor coil.
17. Place Green wire from new line voltage harness under screw in control box.
18. Disconnect black wire from on/off switch and connect to L1 on contactor.

### **Low Voltage Wiring**

19. Connect blue wires from new low voltage harness to on/off switch.
20. Install new conductivity probe into water reservoir.
21. Run black wire from new low voltage harness to new conductivity probe.
22. Connect bin full sensor harnesses to new low voltage harness.
23. Connect 9 pin connector from low voltage harness to new control board.
24. Reconnect electrical power and test unit operation.
25. Place wiring diagram label and troubleshooting label on control box cover.
26. Return all panels to their original positions.

# RL models

## CONVERSION KIT

### Use These Included Parts (see page 2)

- Conductivity Probe
- Board
- Trouble Shooting Label
- Wiring Diagram (17-2809-01)
- Low Voltage Adapter Harness (harness 1)
- High Voltage Adapter Harness (harness 3)
- Receptacle Tab

### Line Voltage Wiring



1. Disconnect brown transformer wire harness from old board.
2. Disconnect and remove violet wires from on/off switch to auger relay on old board and transformer.
3. Disconnect and remove black wiring harness from liquid line solenoid valve to compressor relay on old board and to on/off switch.
4. Disconnect violet wire from transformer.
5. Remove transformer.
6. Disconnect black wire from auger relay on old board, yellow wire from compressor relay on old board, red wire from terminal block, and disconnect and remove red, yellow, and black wires from auger motor.
7. Disconnect bin controls and water probe harnesses from old board and remove water probe from reservoir.
8. Remove old circuit board.

9. Remove the center and lower left stand-off; remove the plastic screw first then pull standoff from control box.
10. Place new control board in control box with LEDs towards the front of the unit.
11. Connect the 6 pin mate-n-lock connector from the new line voltage harness to the control board.
12. Disconnect and remove black wire from terminal block and on/off switch.
13. Add receptacle tab to terminal block where you removed the black wire. (Receptacle tab supplied in kit.)
14. Disconnect and remove violet wire from terminal block.
15. Connect violet/red wire from new line voltage harness/auger motor to T2 (lower left spade) on terminal block.
16. Connect blue wire from new line voltage harness to T1 (lower right spade) on terminal block.
17. Remove and keep the bushing from the lower access hole (below the terminal block).
18. Route red wire, black wire and yellow wires from new line voltage harness through lower right access hole below terminal block to auger motor. Red wire will connect to No. 2 spade, black wire to No. 1 spade terminal on auger motor. Yellow wire harness connects to the liquid line solenoid.

### **Low Voltage Wiring**

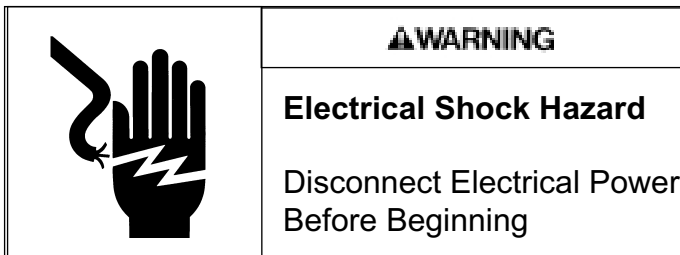
19. Connect blue wires from new low voltage harness to on/off switch
20. Install new conductivity probe into water reservoir
21. Run black wire from new low voltage harness to new conductivity probe
22. Connect bin full sensors to new low voltage harness
23. Connect 9 pin connector from low voltage harness to new control board.
24. Reconnect electrical power and test unit operation.
25. Place wiring diagram label and troubleshooting label on control box cover.
26. Return all panels to their original positions.

# FDE470

## CONVERSION KIT

### Use These Included Parts (see page 2)

- Conductivity Probe (Water Sensor)
- Board
- Control Box Label
- Wiring Diagrams (17-2812-01)
- Low Voltage Adapter Harness (harness 5)
- High Voltage Adapter Harness (harness 4)
- Relay, Relay bracket, two screws



### Line Voltage Wiring

1. Disconnect brown transformer wire harness from old board.
2. Remove all four screws from terminal block, disconnecting the wires from the terminal block (save the screws and wires).
3. Remove transformer
4. Disconnect all four black wires from old board two relays.
5. Disconnect bin full sensors from old board.
6. Disconnect and remove water probe from old board and from the water reservoir (need to remove black snap brushing to get probe out, keep the brushing).
7. Remove old board by turning plastic screws  $\frac{1}{4}$  turn counterclockwise.
8. Remove the center and lower right standoff; remove the plastic screw first then pull the stand-off from the control box.
9. Place new board from kit in the control box with LED's at the bottom of the box, turn plastic screws  $\frac{1}{4}$  turn clockwise to lock board in place.
10. Take the new relay from the kit and unsnap the relay from its bracket. Mount the bracket in the mounting hole for the old transformer closest to the terminal block using the screw that mounted the transformer. Using a 7/64drill bit drill the second mounting hole, then use the other screw to mount the bracket.

11. Snap the new relay into the bracket with terminals 4 and 6 at the bottom of the control box.
12. Connect line voltage harness (6 pin mate-n-lock) from the kit to the new board.
13. Place green wire from line voltage harness under green ground screw in the control box.
14. Connect yellow wire from new line voltage harness to terminal # 0 on the new relay.
15. On terminal block L1 (top left terminal) place black power wire, black wire from fan motor, black wire from water solenoid, and black wire from auger motor, under screw and tighten.
16. On terminal block L2 (top right terminal) places white power wire under screw and tighten.
17. On terminal block T1 (bottom left terminal) place violet wire from line voltage harness, white wire from dispenser motor, white wire from compressor start relay, and take one of the black wires that came off the relays on the old board, place them under screw then tighten the screw.
18. Connect black wire from T1 on terminal block to #1 terminal on the new relay.
19. Connect black wire from auger motor to black male wire on line voltage harness. Cover with electrical tape.
20. Connect black wire from centrifugal switch to #4 terminal on new relay.
21. On terminal block T2 (bottom right terminal) place blue wire from line voltage harness, orange wire from vend switch, and use the other black wire that came off relay on the old board, place them under the screw then tighten the screw.
22. Connect black wire from T2 on terminal block to #6 terminal on new relay.

### **Low Voltage Harness Wiring**

23. Connect new low voltage harness (9 pin mate-n-lock) from the kit to the new board.
24. Install new conductivity probe into water reservoir.
25. Route all wires from new low voltage harness thru slot in top of the control box, then snap bushing back in.
26. Connect bin full sensor harnesses to the new low voltage harnesses.
27. Route single black wire over to the new water probe and connect it.
28. Reconnect electrical power and test unit operation.
29. Place wiring diagram label and troubleshooting label on control box cover.
30. Return all panels to their original positions.