MODEL K29-FDCL-500CCB
REPLACEMENT KIT CHARGING CIRCUIT BOARD, FIRMWARE AND BATTERY FOR FDCL

This kit is compatible with all firmware versions, however, with firmware versions 100 or 101, the positioning of the limit switches may have to be changed. The firmware can be identified by a label on the chip (e.g., FDCL V. 100). With firmware 100 and 101, the #2 DIP switch selects the hand of operation (right hand or left hand mounted operators). With this new firmware, the #2 DIP switch will now be the means of selecting between "Fire Door Mode Type I or II." When "Fire Door Type I" is selected, the control station will be set for standard B2 wiring type – momentary contact open, close and stop. When "Fire Door Type II" is selected, the control station will be set for C2 wiring type – momentary contact to open and stop, constant pressure to close with open override. In addition, when "Fire Door Type II" is selected, the door will gravity close (governed controlled descent) upon alarm condition. This installation may not require "Type II."

REMOVE AC AND DC POWER

1. With the door in the closed position, disconnect AC power to the operator.
2. Open operator cover.
3. Remove DC power by disconnecting the battery connection at the 2-wire in-line connector.

PREPARATION

Remove the 2200uf capacitor (light or dark blue cylinder 3/4" in diameter and 1-1/2" long) by cutting both of the capacitor's leads as close to the resistor connectors as possible and discard (Figure 1).

Route the wires on the charging circuit board (Figure 2). The charging circuit board will be placed on the base of the frame next to the batteries.

REPLACE FIRMWARE CHIP ON LOGIC BOARD

1. Grasp the firmware chip lengthwise with the chip puller (provided) and carefully remove the chip from the socket U7 on the logic board (Figure 3). **NOTE:** *Only use the chip puller provided. Screwdrivers and other tools can damage the logic board and/or the socket.*
2. Remove the new firmware chip from its packaging.
3. Inspect the chip's electrical pins. If any of the pins have been bent in transit, adjust pins so all pins are straight before connecting to logic board.
4. Identify the notch on the top edge of the new chip, there is a similar notch in the socket, align the two and gently set the chip into the socket (Figure 3).
5. Align all pins with slot on the socket before firmly pressing the chip into the socket. No pins should extend beyond the socket.
6. Firmly press the v. 500 chip into the socket U7, using even pressure at both ends of the chip (Figure 3). Be extremely careful not to bend any pins.

REPLACE BATTERIES

1. Remove battery clamp screws (2) from the electrical box.
2. Carefully remove all connections to the batteries.
3. Remove the batteries and install the new batteries. Dispose of old batteries properly per the MSDS shipped with the batteries.
4. Reconnect battery terminal wires.
5. Install the battery clamp and secure with screws.

⚡ WARNING

To prevent possible SERIOUS INJURY or DEATH from electrocution or fire, BEFORE proceeding:
• Disconnect AC power at the fuse box.
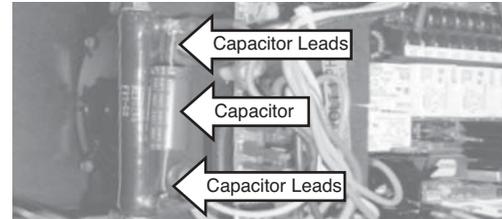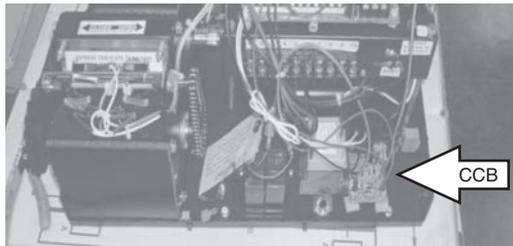• Disconnect DC power at the battery connection.

Figure 1

Capacitor Leads
Capacitor
Capacitor Leads

Figure 2

CCB

Figure 3

Chip Puller
Chip Key Marking
Logic Board
New Version Chip (V. 500)
Socket Key Marking
Socket U7

Figure 4

Resistor
CCB Location
Batteries
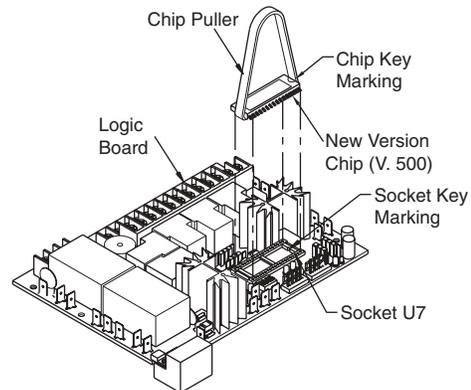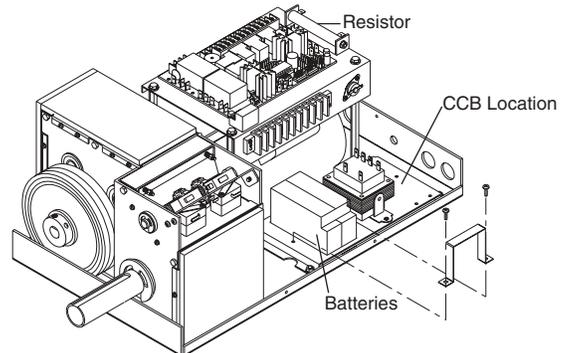
INSTALL AND WIRE CHARGING CIRCUIT BOARD (CCB)

1. Cut the plastic ties wraps from the wire harness (Figure 5).

2. Remove red wire from J19 on the existing logic board (Figure 6). Connect the red wire to J3 on the charging circuit board to the wire removed from J19 on the logic board (Figures 2 & 6).

3. Remove red wire from J13 on the existing logic board and connect red wire to J5 on the charging circuit board.

4. Connect blue wire from J7 on the charging circuit board to J19 on the existing logic board.

5. Connect red wire from J4 on the charging circuit board to J13 on the existing logic board.

6. Connect black wire from J6 on the charging circuit board to J15 on the existing logic board.

7. Connect white wire from J2 on the charging circuit board to #14 on the terminal block.

8. Connect white wire from J1 on the charging circuit board to #13 on the terminal block.

NOTE: *The white wires may be reversed at terminals 13 and 14 of the logic board terminal block.*

MOUNT CHARGING CIRCUIT BOARD

1. Clean the location of the charging board with alcohol prep pad (Figure 2). **NOTE:** *This area must be clean for the standoff adhesive pads to be firmly affixed.*

2. Remove the strips from the standoffs. Attach the charging circuit board to the location indicated (Figure 2). Apply pressure to the charging circuit board for 10 to 20 seconds to ensure that the adhesive bonds to the metal.

3. Tie wrap all loose wires.

4. Reconnect the battery power. The alarm should provide a 5 second notification. If alarm does not activate, disconnect power and check battery connections. Restore power. Allow 3 minutes for the system to stabilize. The alarm may sound for the first minute. The alarm should remain off after 3 minutes.

5. Place new diagram provided over diagram in the cover currently.

TEST CHARGING CIRCUIT BOARD

Test procedure should be conducted to verify charging circuit is properly installed.

1. With all power restored, pull red wire off of J13 of the logic board and meter for 27.3 - 27.8Vdc between J13 and terminal #15 of the logic board.

2. Replace the loose red wire on J13 of the logic board (Figure 6).

3. Conduct a battery load test by making contact from terminal #6 to #7 of the logic board six times within ten seconds (Key Test).

4. With the red J13 wire connected, meter again between J13 and terminal #15 of the logic board and look for a voltage dropping from the reading taken in step 1.

NOTE: *An example might be 27.5Vdc was read in the first step and a slow but steady decline from 27.5Vdc is observed under load.*

NOTE: *The duration of step 3 and 4 is only 10 seconds.*

5. If the #2 DIP switch is in the "ON" position, reconfigure the limit switched as follows:

   a) Reverse the purple and grey wires on the logic board at J6 and J7.

   b) Reverse the red and blue wires on the open and close limit switches making sure to replace the wires on the N.C. (normally closed) position on each switch.

   c) Move the yellow and white wires from the auxiliary close limit switch to the corresponding locations (Comm. & N.C.) on the spare auxiliary limit switch.

   d) Test control station to verify that an open command makes the open limit nut travel to the open (blue wire) limit switch.
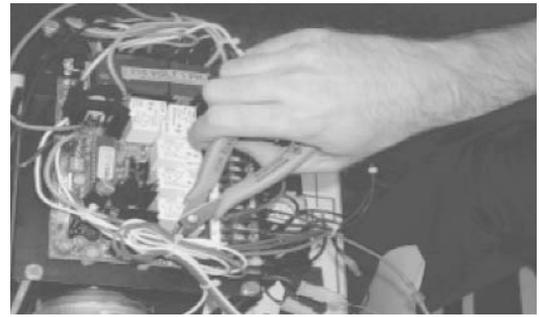
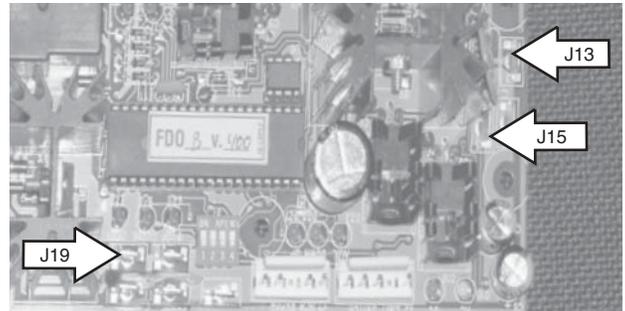6. Close and secure operator cover.

Figure 5

Figure 6

Figure 7