

# CAMBRIDGE

E L E V A T I N G

## RESIDENTIAL ELEVATOR SERVICE GUIDE

### TECHNICAL SUPPORT:

Call or Text: 866-209-3421

Technical information website:

[cambridgeelevating.com/technicians/](http://cambridgeelevating.com/technicians/)

Email: [partsorders@cambridgeelevating.com](mailto:partsorders@cambridgeelevating.com)

### 1XX Communications Module Codes

- 121 - Remote Monitoring Module Reset
- 123 - Started Communicating
- 123\_3\_# - System Start-up
- 1234567 - Service Mode On At Start-up
- 124 - Module Software Update
- 125 - Module Self-Reset Timer
- 126 - Module Self-Reset
- 127 - Remote Module Reset
- 131 - Drop In Communications
- 132 - Remote Report Request
- 134 - Multiple Self-Reset
- 135 - Module Self-Reset Timer
- 141 - System Voltage < 24Vdc
- 142 - Relevelled >=5 Times A Day
- 143 - Calls Were Over 30 For Day
- 145 - Communications Failure
- 147 - Landing Door Left Open
- 150 - MCP 5-Day Point
- 151 - MCP 6-Month Point
- 152 - MCP 12-Month Point
- 153 - MCP 60-Month Point
- 171,172 - R&D Test

### 2XX E50 Fault Codes

- 213 - VFD Not Ready No 240VAC (Check inverter, batteries, VFD)
- 231 - No Communication from COP (Check the communication cable on the TC)
- 232 - Diagnostic Tool In Use (Remove tool when complete)
- 234 - Service Mode Active (Turn off service mode)
- 241 - VFD Not Ready Fault (Fix VFD fault and reset)
- 242 - Care Weight over 500lbs (Reduce weight)
- 243 - VFD Not Ready (Verify VFD is powered)
- \*\*245 - VFD Fault Line Tripped (Fix VFD fault and reset)
- 251 - Motor Orientation Wrong (Check motor wiring, upper/lower sensor)
- 261 - Electric Motor Brake Issue (Brakes need checking)

- 262 - Motor Brake Circuit Failure (Check GO, GA, brake voltage)
- 263 - Moved Wrong Direction (Check motor wiring, upper/lower sensor)

### 3XX System Will Not Take A Call Due To...

- 312 - Light Curtain Blocked (Alignment, unplugged, failed)
- 313 - No 120VAC or 240VAC (Check incoming power)
- 314 - Main Controller Safety (Install mode on, Pit stop, Low-pressure, or F3)
- 315 - Cartop Safety Activated (Estops, Light curtain, or Slack rope)
- 316 - COP E-stop Is Open (COP e-stop)
- 317 - System In Service Mode (Turn off service mode)
- 321 - System Voltage Low (Charger, batteries)
- 323 - Battery Capacity Low (Charger, batteries)
- 325 - Battery Faulty (Charger, batteries)
- 326 - DC Power Fault (Charger, batteries)
- 327 - DC Power Low (Charger, batteries)
- 341 - Run Timer Fault (Overweight, PRV, Low oil, Pump adjustment)
- 342 - Cartop Relay Monitor (CMR, CLR, and CHR relay issues)
- 343 - Gate Safety Monitor (Landing opened, Gate didn't, COP call placed)
- 345 - Contactor Monitor (Contactor or VFD issue)
- 346 - Light Curtain Not Working (Light curtains not installed or not working)
- 347 - Landing Door Contact Failed (Placed a call without lock opened)
- 351 - Floor Relay Monitor (Check relay F1, F2, F4, or fuse F4)
- 352 - Landing Door Cancelled Call (Check landing doors)
- 353 - Cab Gate Canceled Call (Check gates)
- 354 - Positioning System error (Dirty, damaged, or misalignment)
- 356 - Light Curtain Blocked (Check light curtain)
- 357 - Floor Relay Monitor (Check relay F1, F2, F4, or fuse F4)
- 361 - Cab Gate Left Open (Check gate)
- \*\*362 - Elevator Training (Turn off dip switch and reset)
- 364 - System Failed To Find A Floor (Sensor, fault in safety chain)
- \*\*365 - Landing Door Safety Fault (Check elevator shaft and reset)
- 367 - Install Mode (Turn off install mode)
- 371 - MCU Chip Failed (MCU chip needs to be replaced)
- 373 - Gate Safety Monitor (Landing door opened, gate didn't call placed from another floor)
- 375 - Door Contact Issue (Check landing contacts)
- 376 - Gate Contact Issue (Check gate contacts)

### 4XX MCU Fault Codes

- 412 - MCU Data Invalid
- 423 - MCU External Oscillator Failure

### 5XX Startup Cannot Proceed Due To...

- 512 - A Landing Door Open (Check landing doors)
- 513 - A Cab Gate Open (Check gates)
- 514 - Main Controller Safety (Install mode on, Pit stop, Low-pressure, or F3)
- 515 - Cartop Safety Activated (Estops, Light curtain, or Slack rope)
- 516 - Light Curtain Blocked (Alignment, unplugged, failed)

- 517 - No 120 Or 240VAC (Check incoming power)
- 521 - Low DC Voltage (Charger, batteries)
- 523 - DC Power System failure (Charger, batteries)
- 524 - Battery Recharging (Charger, batteries)
- 525 - Very Low Battery Capacity (Charger, batteries)
- 531 - MCU Chip Internal Failure (Replace MCU chip)
- 532 - Cartop Relay Fault Monitor (CMR, CLR, and CHR relay issues)
- 535 - Software Version Error (Install proper MCU chip)
- 543 - Internal Fault Monitor (Cartop board needs to be replaced)
- \*\*545 - Contactor Monitor (Contactor or VFD issue)
- \*\*562 - Elevator Training (Turn off dip switch and reset)
- \*\*565 - Landing Door Safety Fault (Check elevator shaft and reset)
- 567 - Install mode (Turn off install mode)

### 7XX Startup Was Suspended Due To...

- 7 - Program Not Running (Check MCU chip)
- 721 - No Cab Movement (Valve/Coils, Overload, or Sensor)
- 723 - Low Up Speed (Valve/Coils, Overload, or Sensor)
- 724 - No Down Speed (Valve/Coils, Limit switch, or Sensor)
- 725 - Low UP/Down Leveling Speed (Valve/Coils, or Sensor)
- 727 - No Up Movement (Valve/Coils, Batteries/Charger, or Short on DPI circuit)
- 731 - Top Limit Or Coded Strip Setup (Check top limit, Coded strip, or Short on DPI circuit)
- 732 - Contactor Overload Tripped (Check overload)
- 734 - Positioning Sensor Fault (Test sensor head)
- 735 - Positioning Sensor Spacing (Test sensor head)
- 741 - Top Cam Too High Or Missing (Check top cam)
- 751 - Floor Relay Fault (Check relay F1, F2, F4, or fuse F4)

\*\* A hard reset is required, see service manual section K.  
Customers should never be instructed on how to do a hard reset.

### Setting Floor Levels

Note: The system must be in automatic mode and able to take calls.

1. Restart the elevator so the cab is on the top floor.
2. Gain access to inside the cab by placing a call.
3. Take the screws holding the COP panel on out so you can get access to the board inside.
4. Place a call to the floor needing the floor adjusted.
5. Press and hold the 2 enable buttons.
6. While holding the 2 enable buttons, use the up and down buttons on the COP board till your floor is level.
7. Let go of the buttons and the new position will be saved.
8. Travel to the next floor and repeat steps 5 to 7 till all are complete.
9. Once all floors have been set, travel back to each floor to confirm the level is correct.

## **Setting the Number of Stops**

Note: The system must be in automatic and able to take calls.

1. Restart the elevator so the cab is on the top floor.
2. Gain access to inside the cab by manually opening the landing door and gate.
3. Take the screws holding the COP panel on out so you can get access to the board inside.
4. Press and hold the 2 enable buttons.
5. While holding the 2 enable buttons, reach around immediately and hold the top floor button.
6. The COP call buttons will flash for 15 seconds and then stop when finished.
7. The DPI should change to the top floor # or symbol.
8. Let go of the enable and call button.

## **Audio Notifications and Warnings**

- Landing Door Unlocked
  - 2-3 fast bursts for 1.2 a second
- Gate Left Open (code 361)
  - Once a second for 15 seconds
- Moving Feature
  - 1 long burst for 1 to 2 seconds
- Battery is weak
  - Once a second during travel
- Gate Monitor (code 343)
  - Steady burst for 8 seconds
  - (3 short bursts when cleared)
- Service Mode (code 317)
  - 3 steady bursts for 1 second

## **Setup and Adjustment of the Cambridge Elevating Hydraulic Power Unit**

### Adjustment #1 (BP) – Up Delay

FUNCTION- Determines the length of the delay from pump start to car movement.

PRESET- Adjust so that screw is flush with the casing.

OPERATION- Turn in for less delay.

SETTING- Adjust so that the delay is approximately 1 second.

### Adjustment #2 (UA) – Up Acceleration

FUNCTION- Determines how long it takes the elevator to reach full speed from a stop.

PRESET- Gently turn in until stop then turn out one and a half turns.

OPERATION- Turning in (will cause the elevator to take longer to reach full speed).

SETTING- Adjust so that the car takes 2 seconds to reach full speed.

### Adjustment #3 (UD) – Up Full Speed Deceleration.

FUNCTION- Determines how quickly the car slows down to leveling speed.

PRESET- Gently turn in until stop then turn out one and a half turns.

OPERATION- Turning in will increase the time it takes to slow down to leveling speed from full speed.

SETTING- Adjust so that the transition to leveling speed is quick but not uncomfortable (1 to 2 seconds).

### Adjustment #4 (UL) – Up Leveling Speed.

FUNCTION- Determines leveling speed in the up direction.

PRESET- Adjust until the screw is flush with the casing.

OPERATION- Turning in will decrease the leveling speed.

SETTING- Adjust so that the leveling speed is approximately 8-10 feet per minute (1.5 to 2 inches per second). The best way to set this is to turn off the high-speed switch located on the main controller board.

### Adjustment #5 (US) – Up Leveling Speed Deceleration

FUNCTION- Determines how quickly the elevator stops when at leveling speed.

PRESET- Gently turn in till stop then turn out one and a half turns.

OPERATION- Turning in will make the stop softer and turning out will make the stop harder.

SETTING- Adjust so that the pump does not do a relevel start when reaches the floor.

### Adjustment #6 (DA) – Down Acceleration

**Note:** Adjustment #6 can be affected by adjustment #8.

FUNCTION- Determines how long it takes the elevator to reach full speed from a stop.

PRESET- Gently turn in until stop then turn out one and a half turns.

OPERATION- Turning in will cause the elevator to take longer to reach full speed.

SETTING- The car should take 2 seconds to reach full speed.

### Adjustment #7 (DF) – Down full speed

FUNCTION- Determines the car's speed in the down direction.

PRESET- Adjust until the screw is 3mm in from flush with the casing.

OPERATION- Turn in to reduce the down speed.

SETTING- Adjust so that the car travels up and down at the same speed.

### Adjustment #8 (DD) – Down deceleration

**Note:** Adjustment #8 can affect adjustment #6

FUNCTION- Determines how quickly the elevator transitions from full speed to leveling speed and from leveling speed to a stop.

PRESET- Gently turn in until stop then turn out one turn.

OPERATION- Turn in to increase the time it takes to slow

SETTING- Adjust for a smooth stop but no coasting

### Adjustment #9 (DL) – Down Leveling speed

FUNCTION- Determines the speed of the car when traveling down in leveling speed.

PRESET- Adjust until the screw is flush with the casing.

OPERATION- Turn in to reduce the leveling speed.

SETTING- Adjust so that the leveling speed is approximately 10 feet per minute (2 inches per second).

## **How to Get the Elevator Out of the Pit**

Turn the "INSTALLATION" switch "ON" and short the top 2 pins of the REMOTE plugin for hydraulics or the bottom 2 pins of the REMOTE plugin for E50.

## **Victory Door Operator**

### **Programming the Door Width Settings**

This can resolve many issues related to opening and closing speeds and ensures the standby current draw is low.

- Locate the door operator circuit board
- Power down the operator board by removing JP1 (L1-L2)
- Locate the JP2 jumper (near JP4)
- Install the JP2 jumper across the two pins
- Power up the board by reinstalling JP1 (L1-L2)
- The door should open fully and then close fully, if it does not do this check the following
- The gate closed contact is connected to the F1, and F2 connector at the board and the FC led is on when the door is closed.
- The gate open sensor is connected to CPA terminals and the FA light is on when the operator is fully open.
- The encoder cable must be installed at ENC.M.
- Power down by removing JP1 (L1-L2)
- Return the JP2 jumper to one pin
- Power up by reinstalling JP1 (L1-L2)
- Test the door operator