



# Closed Loop Door Operator Tool Instruction:

*when purchased from KONE Spares (Part # US520982)*

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# CLOSED LOOP DOOR OPERATOR TOOL INSTRUCTION

*when purchased from KONE Spares*  
*(Part # US520982)*

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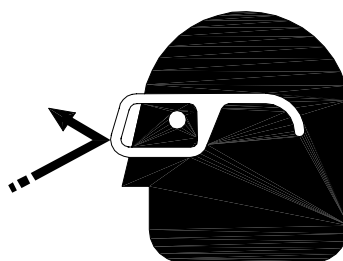
## Safety

Participate in the success of the installation of the closed loop door operator - know the safety hazards related to any procedure, know what equipment has been specified for each specific contract, and know what tools and materials you should plan to have available beforehand.

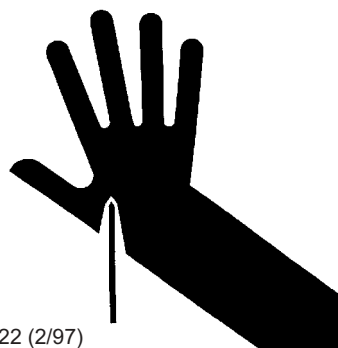
Before connecting electrical wiring, take precautions to prevent accidents from happening to yourself and other people around you. Always consider safety first.

- Wear safety glasses or goggles when using power tools.
- When working on the car canopy, always be aware of where the sides of the car are located.
- If step ladders are used, always support step ladder feet.
- Use properly grounded cords and power equipment (ground fault circuit interrupters).
- Make sure hoistways and work areas are adequately lighted.
- Make sure there are proper clearances in hoistway between the car and other devices.
- Always wear protective gloves when installing or removing access covers, conduits, wireway, or electrical devices.
- Before connecting wiring, cover sharp edges to keep hands and arms from being cut.
- Always disconnect power from all related circuits before proceeding with wiring-treat all circuits as if they are still live.
- Use insulated and grounded tools.
- Clear wiring sites of any unnecessary materials or equipment.
- Always know where other people are and how elevator wiring can affect their safety.

F608-031 (3/96)



019(6/01)



022 (2/97)

# Adjusting closed loop door control

Clear Error Log after making all set-up adjustments.

For Clear Error Log procedure, refer to section titled: Using Error Log.

Adjust Closed Loop door control with tool as follows.

- Login & logout
- Display door inputs/outputs
- Adjust door
- Run single door test
- Run continuous door test

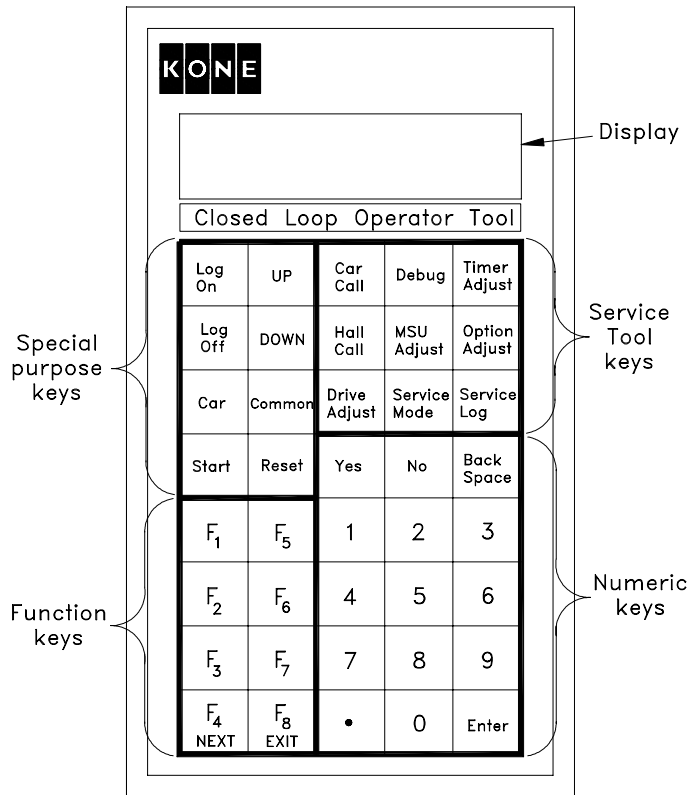
*6-001357 (2004-11)*

**Closed Loop Settings**

Distance — Value range = 1 to 255  
 Units = counts

Acceleration — Value range = 1 to 10  
 Units = units

*F608-S18 (9/98)*



F631-001(2004-11)  
 71K-102(2004-11)

*Closed Loop Door Operator Tool*

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## **LOGIN & LOGOUT (TOOL VERSION 6.06.2)**

### **Login**

1. To login, plug the coiled Tool cable into tool port on door operator PC board.
2. Turn ON the power switch on top of the Tool.
  - The first screen that appears is the Copyright screen displaying the copyright and proprietary statement.

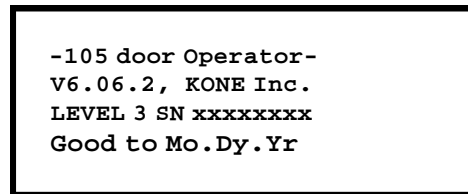


```
Copyright 2004 by:  
KONE Inc.  
All rights RESERVED  
and PROPRIETARY
```

F631-002 (2004-11)

#### **Copyright screen**

- The second screen that appears is the Tool Level & Serial Number screen displaying the Tool level and serial number.

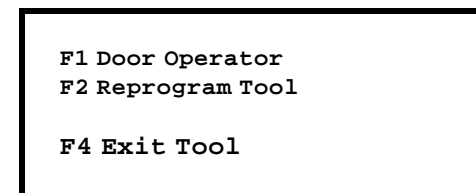


```
-105 door Operator-  
V6.06.2, KONE Inc.  
LEVEL 3 SN xxxxxxxxx  
Good to Mo.Dy.Yr
```

F631-003 (2004-11)

#### **Tool Level & Serial Number screen**

3. Press F1 to select DOOR OPERATOR when Target screen appears.
  - The screen displays: Please wait...

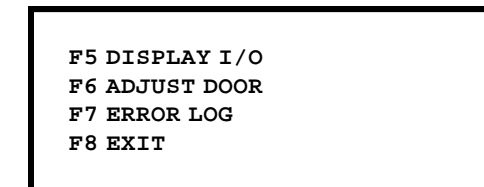


```
F1 Door Operator  
F2 Reprogram Tool  
  
F4 Exit Tool
```

F631-004 (2004-11)

#### **Target screen**

4. Next screen is Initial Menu screen.



```
F5 DISPLAY I/O  
F6 ADJUST DOOR  
F7 ERROR LOG  
F8 EXIT
```

F606-057 (9/95)


#### **Initial Menu screen**

### Logout

1. Press F8 - Exit until the screen displays the prompt, READY TO LOGOFF?.
2. IF READY TO LOGOUT, press the Yes key, and the display screen changes to show the Logout screen for about two seconds. The screen displays TURN ME OFF, and indicates the Tool is logged out.
3. Turn OFF the battery power switch, and unplug the Tool cable from the board.
4. IF NOT READY TO LOGOUT when the READY TO LOGOFF? prompt appears, press either the No key for no or the F8 - Exit key again.

**Make sure you logout as described above.**


6-001358 (2005-01)



READY TO LOGOFF?

S201-052 (11/94)

**Ready to Logoff screen**



TURN ME OFF

S201-053 (11/94)

**Turn Me Off screen**

## DISPLAY DOOR INPUTS/OUTPUTS

### Display outputs

1. After pressing F1, the "Initial menu " screen appears. Press F5 key, Display I/O.
2. Press F1 to display the door outputs. Cycle Cnt is the number of door operations since the board was installed.

3. \*The next screen displays the door outputs and dipswitch settings. Press F8 to Exit.

DO17 = Front door close limit

DO3 = Front door open limit

RO1 = Energized with door in open position

RC1 = Energized with door in closed position

Dipsw = Dipswitch settings

1 = closed 0 = open

```
F5 DISPLAY I/O
F6 ADJUST DOOR
F7 ERROR LOG
F8 EXIT
```

F606-057 (9/95)

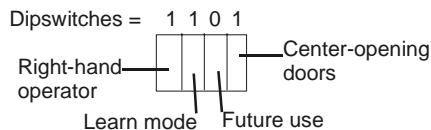
### Initial Menu screen

```
F1 DOOR OUTPUTS
F2 DOOR INPUTS
CYCLE CNT: 0
F3 CLR CNT F8 EXIT
```

F606-058 (6/97)

```
D017 1 D03 0
R01 0 RC1 0
Dipswitch: 1101
```

F606-043 (9/97)



F608-087 (9/97)

### Display inputs

1. Press F2 to display the door inputs. Cycle Cnt is the number of door operations since the board was installed.
2. The next screen displays the door inputs, encoder reading and heatsink temperatures.

DO4 = Nudging

DO7 = Door close pilot

DO10 = Front door open pilot

DO19 = Auxiliary door profile

DO18 = Future use

Encoder = Door position count

Hsinks = Degrees Centigrade

6-001359 (2004-11)

```
F1 DOOR OUTPUTS
F2 DOOR INPUTS
CYCLE CNT: 0
F3 CLR CNT F8 EXIT
```

F606-058 (6/97)

```
DO4 0 DO7 0 DO10 1
DO19 0 DO18 0
Encoder = 3129
Hsinks: 150 C
```

F606-043 (9/97)

## ADJUST DOOR

Run/Test switch must be in "Run" position to make adjustments.

1. After pressing F1, the "Initial menu" screen appears. Press F6 for Adjust Door.
2. Press F1 for Door Adj.

3. Next screens list door adjustments. Use F8 to Exit at anytime.

**At the end of the list, the menu choices wrap around and start from the top.**

6-001360 (2005-01)

F5 DISPLAY I/O  
F6 ADJUST DOOR  
F7 ERROR LOG  
F8 EXIT

F606-057 (9/95)

### Initial Menu screen

F1 DOOR ADJ  
  
F8 EXIT

F630-010 (2004-11)

F1 SINGLE DOOR TEST  
F2 CONT DOOR TEST  
F3 NORMAL DOOR ADJ  
F4 NEXT

F608-080 (5/97)

F1 CLOSE MAX SPEED  
F2 CLOSE MIN SPEED  
F3 CLOSE SLOW DOWN  
F4 NEXT

F608-074 (5/97)

F1 CLOSE FAULT SPEED  
F2 CLOSE CURR LIMIT  
F3 OPEN MAX SPEED  
F4 NEXT

F608-075 (5/97)

F1 OPEN MIN SPEED  
F2 OPEN SLOW DOWN  
F3 OPEN FAULT SPEED  
F4 NEXT

F608-076 (5/97)

F5 RELOAD DEFAULTS  
  
F8 EXIT

F608-078 (5/97)

F1 ACCELERATION  
F2 NUDGE SPEED  
F3 CLUTCH PICKUP  
F4 NEXT

F608-077 (5/97)

### Adjusting close max speed

**Run/Test switch must be in "Run" position to make adjustments.**

For information on selecting a door adjustment, refer to section titled: Adjust door.

1. From this adjustment screen, press F5 to adjust Close MAX Speed

**All door adjustment options have a screen that lists minimum, maximum and current settings.**

2. The next screen lists the minimum, maximum and current Max Close Speed. Press F1 to increase Max Close Speed of door.
3. Press F2 to decrease Max Close Speed of door.
4. Press F8 to exit the screen.

F606-031 (9/98)

```
F1 CLOSE MAX SPEED
F2 CLOSE MIN SPEED
F3 CLOSE SLOW DOWN
F4 NEXT
```

F608-074 (5/97)

```
CLOSE MAX SPEED
Min: 0.04 Max: 1.60
Cur: 0.80 ft/sec
F1-Inc F2-Dec F8-Ex
```

F608-088 (1/98)

# Closed Loop Door Operator Tool

## Instructions



### CLOSED LOOP DOOR OPERATOR - DEFAULT PARAMETER VALUES

<i>Parameter</i>	<i>Minimum Value</i>	<i>Maximum Value</i>	<i>Default Value</i>	<i>Remark</i>
Close max speed	0.04 ft/sec [0.012 m/sec]	1.60 ft/sec [0.49 m/sec]	0.80 ft/sec [.24 m/sec]	Speed during close
Close min speed	0.02 ft/sec [0.006 m/sec]	0.5 ft/sec [0.15 m/sec]	0.22 ft/sec [0.07 m/sec]	Speed at clutch pick up
<input type="checkbox"/> Close slow down	1.00 count	255.00 counts	110.00 counts	Location to begin slowing doors during close
Close fault speed	0.02 ft/sec [0.006 m/sec]	0.60 ft/sec [0.18 m/sec]	0.30 ft/sec [0.09 m/sec]	After detecting error, door speed during close
Close current limit	0.08 amps	20.4 amps	6.40 amps	Maximum current to motor while doors close at full speed
Open max speed	0.04 ft/sec [0.012 m/sec]	2.00 ft/sec [0.61 m/sec]	1.00 ft/sec [0.30 m/sec]	Speed during open
Open min speed	0.04 ft/sec [0.012 m/sec]	1.00 ft/sec [0.305 m/sec]	0.20 ft/sec [0.06 m/sec]	Speed during open slow down distance
Open slow down	1.00 count	255.00 counts	120.00 counts	Location to begin slowing doors during open
Open fault speed	0.02 ft/sec [0.006 m/sec]	0.60 ft/sec [0.18 m/sec]	0.30 ft/sec [0.09 m/sec]	After detecting error, door speed during open
Acceleration	1.00 unit	10.00 units	1.00 unit	Acceleration level
Nudge speed	0.04 ft/sec [0.012 m/sec]	1.60 ft/sec [0.49 m/sec]	.32 ft/sec [0.10 m/sec]	Speed during nudge mode
Clutch pick up	66.00 counts	255.00 counts	66.00 counts	Distance doors open at slow speed to ensure clutch is engaged before reaching high speed

F608-T22 (1/98)

## Reloading Defaults

**Run/Test switch must be in “Run” position to make adjustments.**

For information on selecting an option, refer to section titled: Adjust door.

The Reload Defaults option resets all door parameters to the original default values.

1. Press function key next to Restore Defaults.

---

**CAUTION:**  
Make sure no one operates the elevator while reset is running.

---

2. The next screen is a verification screen. Press Yes key on tool to continue.
3. After pressing Yes, door motion stops, door is disabled and Resetting screen appears.
4. After a short delay, this screen appears. The PC board reboots after another brief delay.
5. Turn off tool. After the reboot, the default parameter values are in effect.

F611-005 (2005-01)

F5 RELOAD DEFAULTS

F8 EXIT

F608-078 (5/97)

Reset should not  
be performed while  
door is in service.  
Cont? (Yes/No)

F606-095 (7/96)

Resetting...

F606-096 (7/96)

Defaults restored.  
The system will now  
reboot.  
Turn me off.

F606-097 (7/96)

### Adjust Close current limit

Run/Test switch must be in “Run” position to make adjustments.

For information on selecting a door adjustment, refer to section titled: Adjust door.

1. Log-in with tool. After pressing F1, “Initial menu” screen appears. Press F6 for Adjust Door.
2. Press F1 for Door Adj.

```
F5 DISPLAY I/O
F6 ADJUST DOOR
F7 ERROR LOG
F8 EXIT
```

F606-057 (9/95)

#### Initial Menu screen

3. Next screens list the door adjustments. Use F8 to Exit at anytime.

```
F1 DOOR ADJ

F8 EXIT
```

F630-010 (2004-11)

4. Press function key next to Close Curr Limit adjustment.

```
F1 SINGLE DOOR TEST
F2 CONT DOOR TEST
F3 NORMAL DOOR ADJ
F4 NEXT
```

F608-080 (5/97)

---

---

**CAUTION: Make sure no one operates elevator while Close current limit is being adjusted.**

---

---

```
F5 CLOSE FAULT SPEED
F6 CLOSE CURR. LIMIT
F7 OPEN MAX SPEED
F4 MORE
```

F608-073 (5/97)

5. Next screen is a “caution” screen. Adjust current only if door is not in service. Press Yes key to continue test and No key to stop.
6. Next screen asks you to wait while door opens.
7. After doors fully open, next screen appears.

```
Current should not
be adjusted while
door is in service.
Cont? (Yes/No)
```

F608-083 (5/97)

8. Move to position where you can block doors with

Please wait while  
door opens

F8 - Exit

F608-070 (5/97)

pressure gauge.

9. Press F4, doors should begin closing and next screen appears.
10. When doors are 1/3 closed, block doors with pressure gauge.
11. Press F1 or F2 until desired amps display.
12. Release doors, allow them to close completely and press F8 to exit and save current value.

Press F4 to begin  
closing doors

F8 - Exit

F608-071 (5/97)

**If doors close before you finish  
adjustment, press F8 to exit and repeat  
adjustment procedure.**

6-001362 (2005-01)

Close Curr. Limit  
Min: 0.08 Max: 20.4  
Curr: 5.0 amps  
F1-Inc F2-Dec F8-Exit

F608-072 (5/97)

### RUN SINGLE DOOR TEST

1. After pressing F1, the "Initial menu" screen appears. Press F6 key for Adjust Door screens.

```
F5 DISPLAY I/O
F6 ADJUST DOOR
F7 ERROR LOG
F8 EXIT
```

F606-057 (9/95)

#### *Initial Menu screen*

2. \*Press F1 for Single door test. The single door test opens and closes the door(s) once.

```
F1 SINGLE DOOR TEST
F2 CONT DOOR TEST
F3 NORMAL DOOR ADJ
F4 NEXT
```

F608-080 (5/97)

---

**CAUTION:**  
Make sure no one operates the elevator while the single door test is running.

---

```
This test should not
be performed while
door is in service.
Cont? (Yes/No)
```

F606-047 (9/95)

3. Next screen is a "caution" screen. Continue the test only if the door is not in service. Press Yes key to continue test and No key to stop.
4. After pressing the Yes key, the next screen tells you that the Single door test is in progress.

6-001364 (2004-11)

```
Single Test in
Progress
```

F606-048 (9/95)

## RUN CONTINUOUS DOOR TEST

1. After pressing F1, the "Initial menu" screen appears. Press F6 for Adjust Door.

```
F5 DISPLAY I/O
F6 ADJUST DOOR
F7 ERROR LOG
F8 EXIT
```

F606-057 (9/95)

### *Initial Menu screen*

2. \*Press F2 for Cont Door Test. The continuous door test opens and closes the door(s) until you exit the test.

```
F1 SINGLE DOOR TEST
F2 CONT DOOR TEST
F3 NORMAL DOOR ADJ
F4 NEXT
```

F608-080 (5/97)

---

---

**CAUTION:**  
**Make sure no one operates the elevator while the continuous door test is running.**

---

---

```
This test should not
be performed while
door is in service.
Cont? (Yes/No)
```

F606-047 (9/95)

3. Next screen is a "caution" screen. Continue the test only if the door is not in service. Press Yes key to continue test and No key to stop.
4. After pressing the Yes key, the next screen tells you that the Continuous door test is in progress. Test: Cycle Count is the number of times the door(s) opens and closes during the test.
5. Press F8 to Exit and end the Continuous door test.

```
Continuous Test
in Progress.
F8 EXIT
Cycle Count: 4
```

F606-049 (12/95)

F606-027 (2005-01)

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**NOTES**

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## *Version history*

Checked by: Mark Witkowski  
Approved by: John Brill

Date: 2005-01-05  
Date: 2005-01-05

Issue	Date	Description of Change	PCR	Approved by
R0	2005-01-05	Creation date		John Brill