



Vertical Platform Lift

Troubleshooting Guide

Version 2.04 - Residential

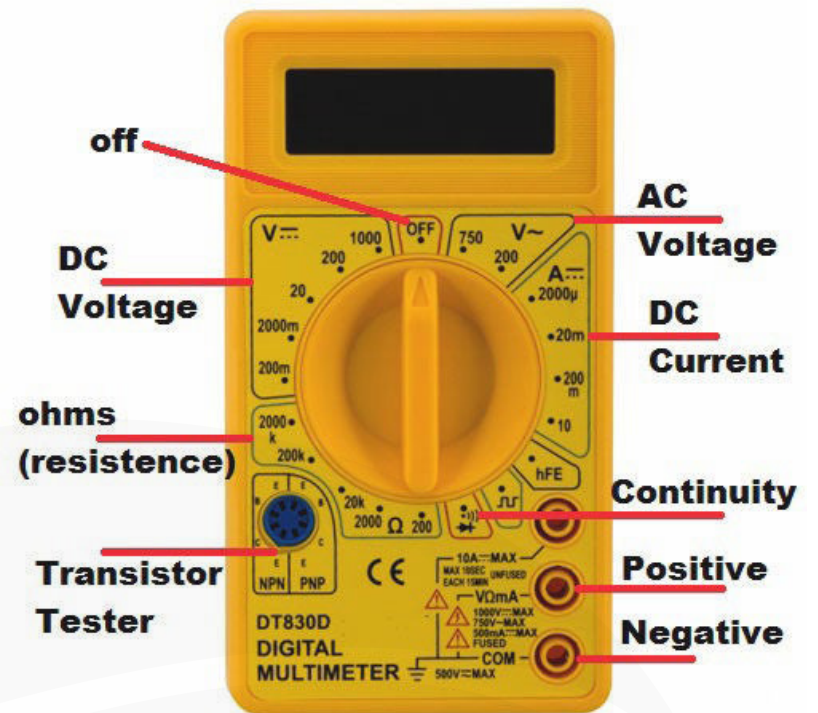

AmeriGlide
ACCESSIBILITY SOLUTIONS

- Start up conditions are needed every time the unit stops working.
- Perform testing with a test-light or A DC electrical tester
- Measure the startup condition to ensure the power flow through all safety devices
- Take time to investigate the cause of circuit aperture
- Take many measurement to ensure repeatability when a measurement is not as per spec
- Voltage should be stable along all safety line, if a noticeable voltage drop is found at a terminal, this may indicate a contact resistance in this device
- Voltage should be stable along all safety line during move, if voltage drop is found at a terminal, this can prevent any device such as the motor contactor from being energized properly.
- If an issue is found only during move, startup conditions may be measured during move

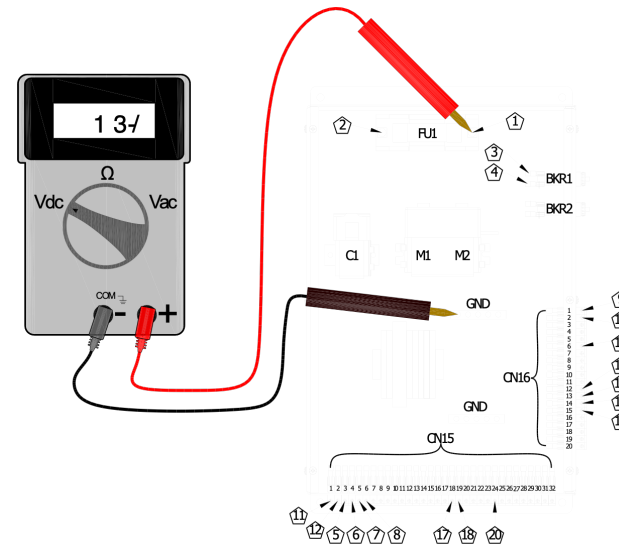
Test Light



Electrical Tester

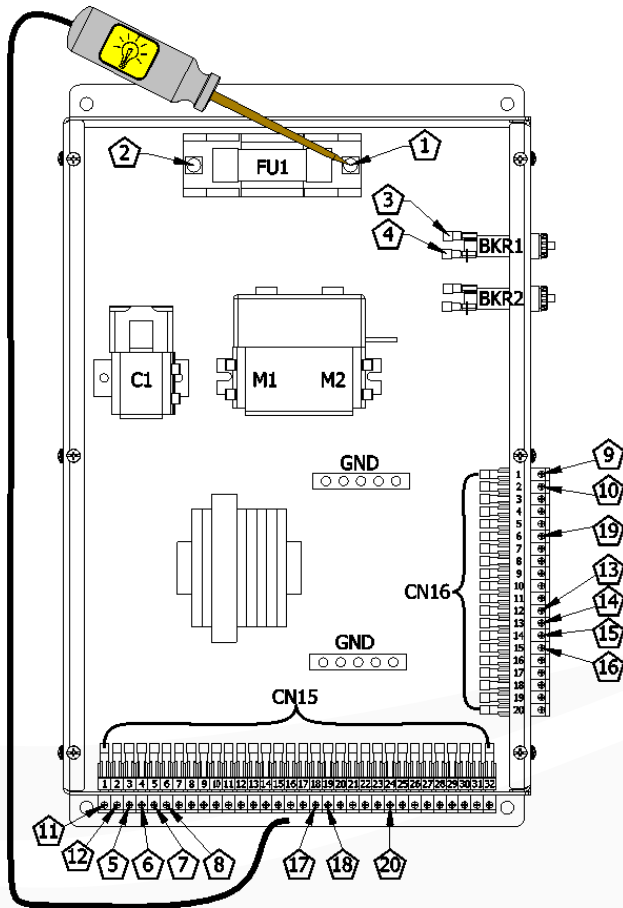


Startup Conditions - Using Electrical Tester



#	TERMINAL	V _{dc}	DIAGNOSTIC (IF-0V)
1	RIGHT SIDE FU1	24	CHECK SUPPLY (BATTERY BANK OR TRANSFORMER)
2	LEFT SIDE FU1	24	MAIN FUSE FU1 IS BLOW, CHECK OVERLOAD ON MOTOR BRANCH
3	BRK1-1	24	OPEN CIRCUIT (FU1 TO BRK1 INSIDE ENCLOSURE)
4	BRK1-2	24	SHORT OR OVERLOAD ON CONTROLL BRANCH
5	CN15-3	24	OPEN CIRCUIT (BRK2 TO CN15-3 INSIDE ENCLOSURE)
6	CN15-4	24	DISCONNECT MEAN IS OPEN (ENCLOSED SWITCH , OR KEY SWITCH ON SIDE OF TOWER)
7	CN16-1	24	OPEN CIRCUIT (CN15-4 TO CN16-1 INSIDE ENCLOSURE)
8	CN16-2	24	SAFETY NJT FAILURE OR EXTREME HIGH SWITCH (FO SWITCH OR EH SWITCH)
9	CN15-1	24	OPEN CIRCUIT (CN16-2 TO CN15-1 INSIDE ENCLOSURE)
10	CN15-2	24	EMERGENCY STOP BUTTON ENGAGED BOTTOM OF RUNWAY (ESP , LANDING SIDE OF TOWER)
11	CN16-12	24	OPEN CIRCUIT (CN15-2 TO CN16-12 INSIDE ENCLOSURE)
12	CN16-13	24	EMERGENCY STOP BUTTON ENGAGED CAR (ESC , NEAR CARRIAGE OPERATING DEVICE)
13	CN16-14	24	OPEN CIRCUIT (CN16-13 TO CN16-14 INSIDE ENCLOSURE)
14	CN16-15	24	LOWER LANDING INTERLOCK CONTACT OPEN (I1 , INTERLOCK CONTACT)
15	CN15-18	24	OPEN CIRCUIT (CN16-15 TO CN15-18 INSIDE ENCLOSURE)
16	CN15-19	24	UPPER LANDING INTERLOCK CONTACT OPEN (I2 , INTERLOCK CONTACT)
17	CN16-6	24	OPEN CIRCUIT (M2A-2 TO CN16-6 INSIDE ENCLOSURE)
18	CN15-24	24	OPEN CIRCUIT (CN16-6 TO CN15-24 INSIDE ENCLOSURE)
19			

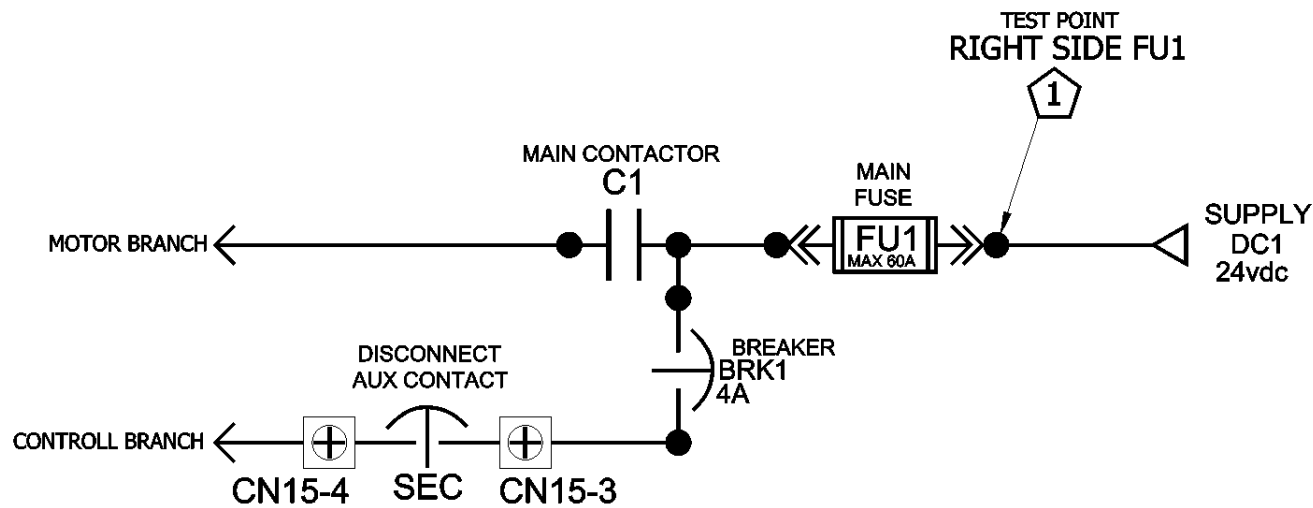
Startup Conditions - Using Electrical Tester



#	TERMINAL	ON	DIAGNOSTIC (IF LIGHT OFF)
1	RIGHT SIDE FU1	ON	CHECK SUPPLY (BATTERY BANK OR TRANSFORMER)
2	LEFT SIDE FU1	ON	MAIN FUSE FU1 IS BLOW, CHECK OVERLOAD ON MOTOR BRANCH
3	BRK1-1	ON	OPEN CIRCUIT (FU1 TO BKR1 INSIDE ENCLOSURE)
4	BRK1-2	ON	SHORT OR OVERLOAD ON CONTROLL BRANCH
5	CN15-3	ON	OPEN CIRCUIT (BRK2 TO CN15-3 INSIDE ENCLOSURE)
6	CN15-4	ON	DISCONNECT MEAN IS OPEN (ENCLOSED SWITCH , OR KEY SWITCH ON SIDE OF TOWER)
7	CN16-1	ON	OPEN CIRCUIT (CN15-4 TO CN16-1 INSIDE ENCLOSURE)
8	CN16-2	ON	SAFETY NUT FAILURE OR EXTREME HIGH SWITCH (FO SWITCH OR EH SWITCH)
9	CN15-1	ON	OPEN CIRCUIT (CN16-2 TO CN15-1 INSIDE ENCLOSURE)
10	CN15-2	ON	EMERGENCY STOP BUTTON ENGAGED BOTTOM OF RUNWAY (ESP , LANDING SIDE OF TOWER)
11	CN16-12	ON	OPEN CIRCUIT (CN15-2 TO CN16-12 INSIDE ENCLOSURE)
12	CN16-13	ON	EMERGENCY STOP BUTTON ENGAGED CAR (ESC , NEAR CARRIAGE OPERATING DEVICE)
13	CN16-14	ON	OPEN CIRCUIT (CN16-13 TO CN16-14 INSIDE ENCLOSURE)
14	CN16-15	ON	LOWER LANDING INTERLOCK CONTACT OPEN (I1 , INTERLOCK CONTACT)
15	CN15-18	ON	OPEN CIRCUIT (CN16-15 TO CN15-18 INSIDE ENCLOSURE)
16	CN15-19	ON	UPPER LANDING INTERLOCK CONTACT OPEN (I2 , INTERLOCK CONTACT)
17	CN16-6	ON	OPEN CIRCUIT (M2A-2 TO CN16-6 INSIDE ENCLOSURE)
18	CN15-24	ON	OPEN CIRCUIT (CN16-6 TO CN15-24 INSIDE ENCLOSURE)
19			

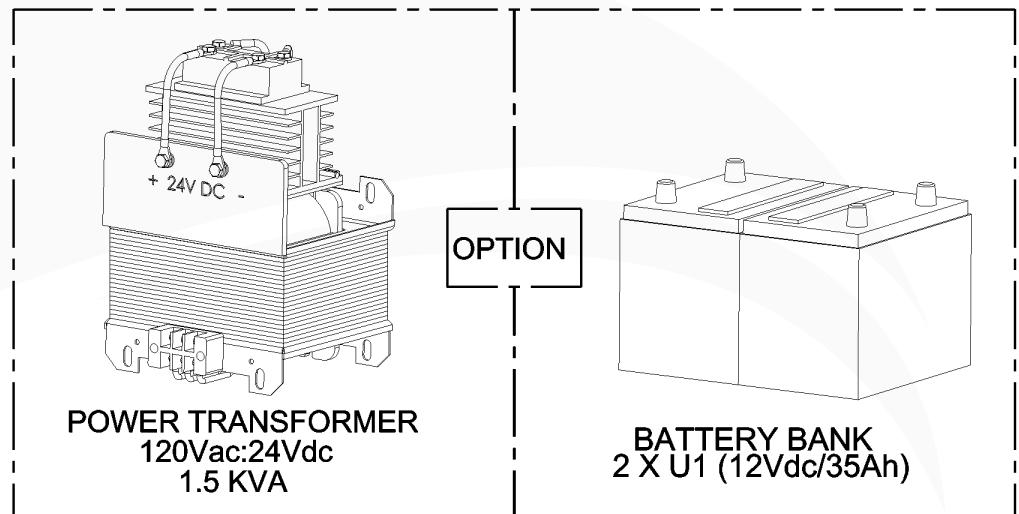
1

Unit is Missing Supply Power on Main Branch (DC1)



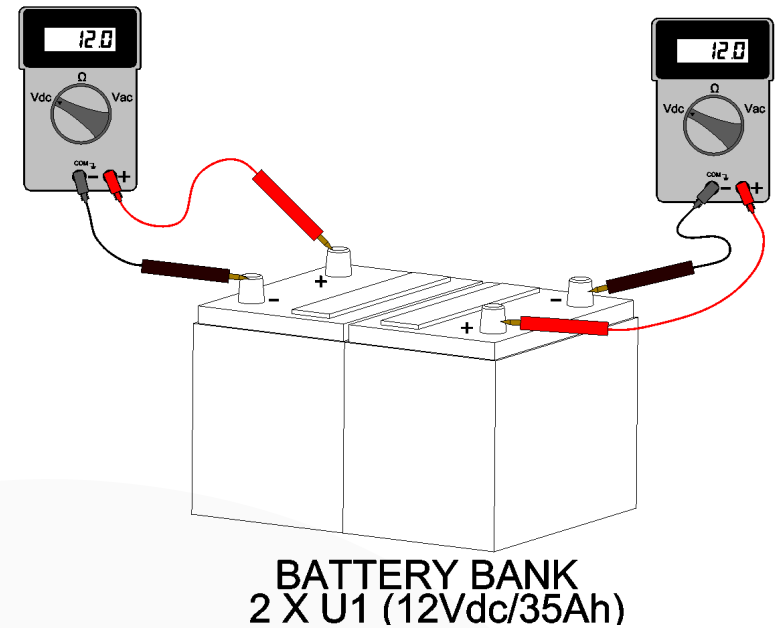
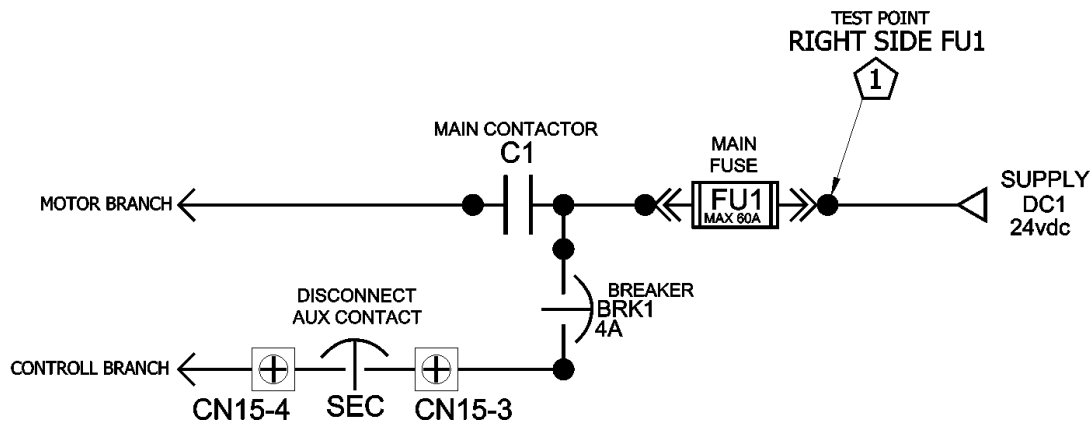
IF FU1 IS MISSING DC POWER, THE MAINS SUPPLY SOURCE IS NOT DELIVERING POWER TO THE ELEVATOR.

- Determine if the unit is equipped with a battery bank or power transformer
- If unit is equipped with a battery bank, check if the battery bank is provided with a single or dual charger
- Refer to the appropriate section for further troubleshooting





Unit is Missing Supply Power on Battery Bank (DC1)



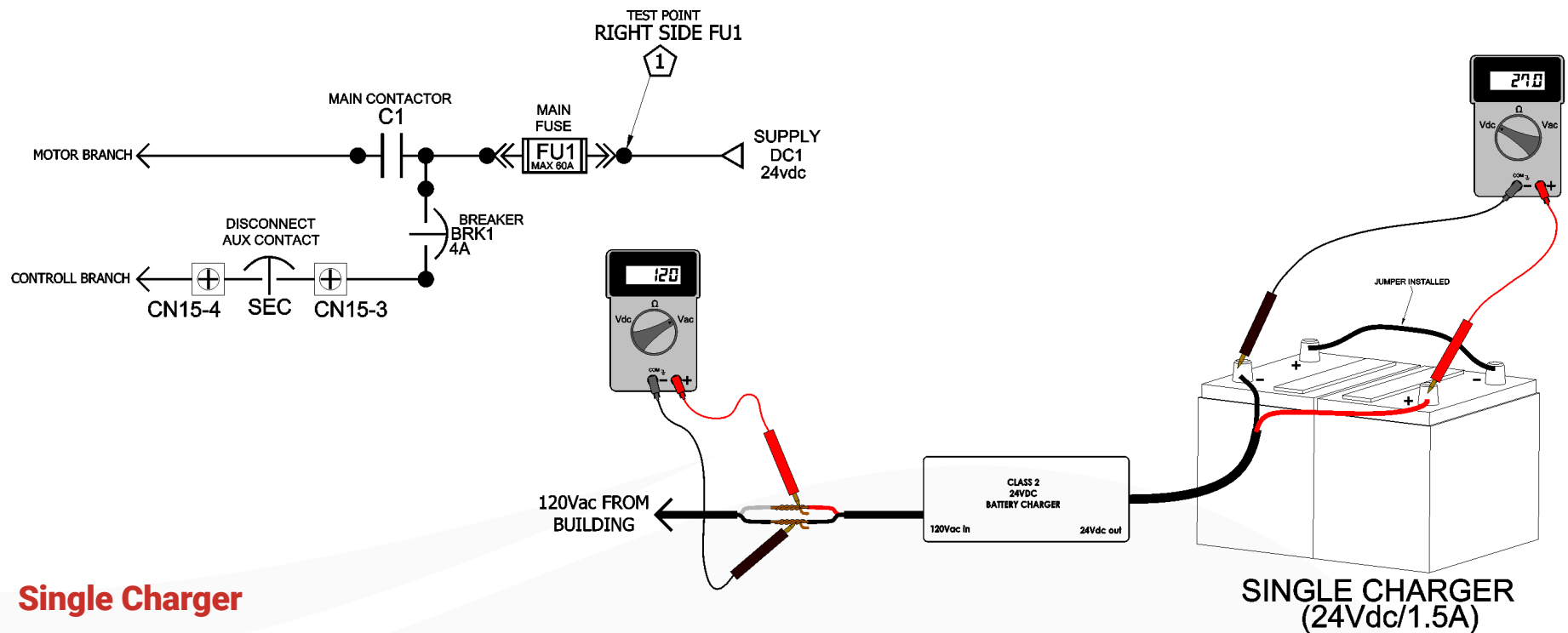
BATTERY BANK
2 X U1 (12Vdc/35Ah)

Battery Bank

- Unplug charger for Battery powered unit
- Confirm each battery hold a MIN of 12Vdc on each battery separately
- A dead battery may mean that the charger is not working properly
- A dead set of battery will need for a battery bank replacement (Typically 3 to 5 Years of service)

1

Unit is Missing Supply Power on Battery Bank (DC1)

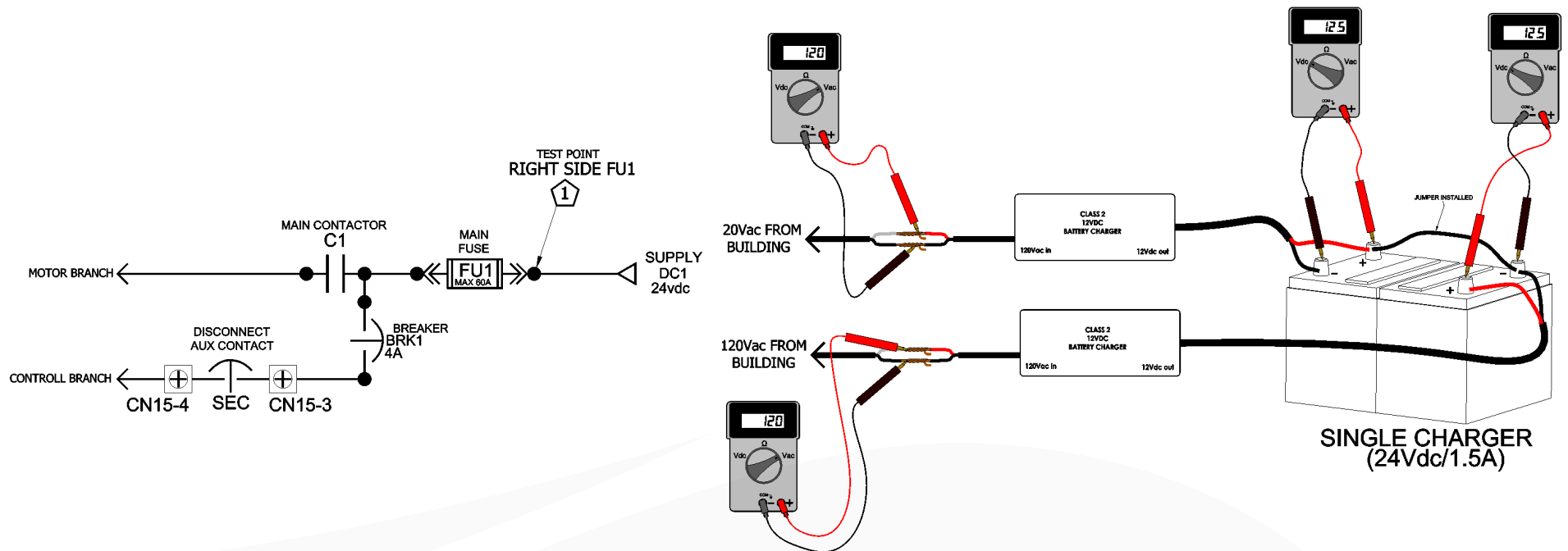


Single Charger

- Confirm charger is charging battery bank to a voltage of 27Vdc min
- Confirm charger is supplied with 120Vac
- A dead battery may mean that the charger is not working properly
- A dead set of battery will need for a battery bank replacement (Typically 3 to 5 Years of service)

1

Unit is Missing Supply Power on Battery Bank (DC1)

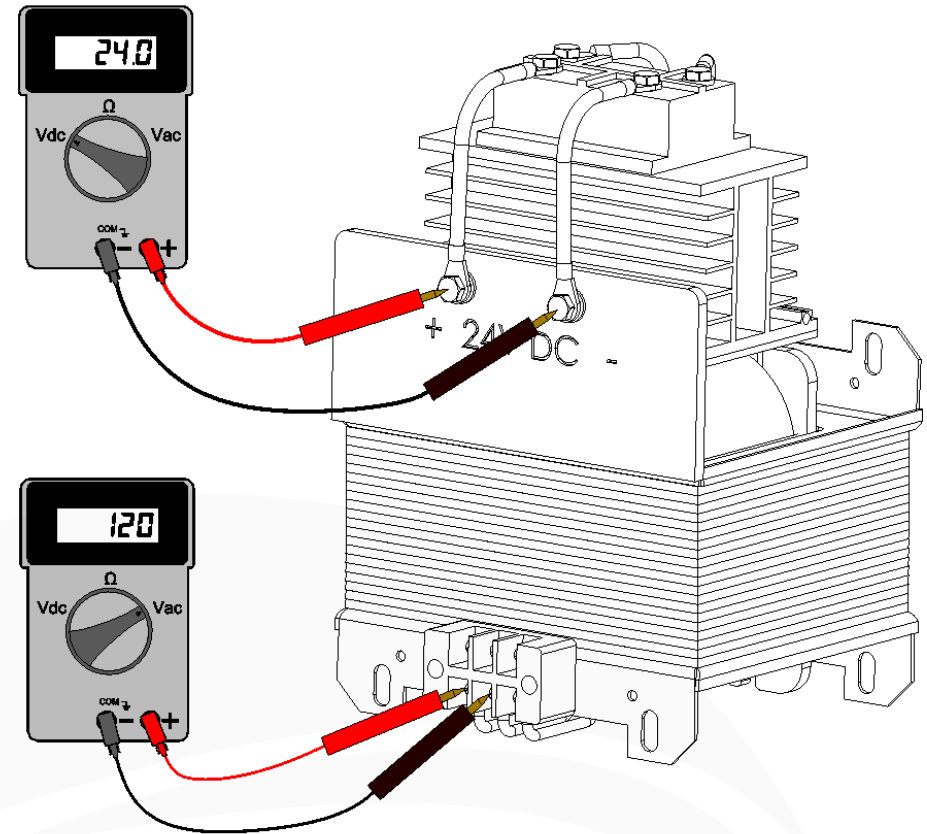
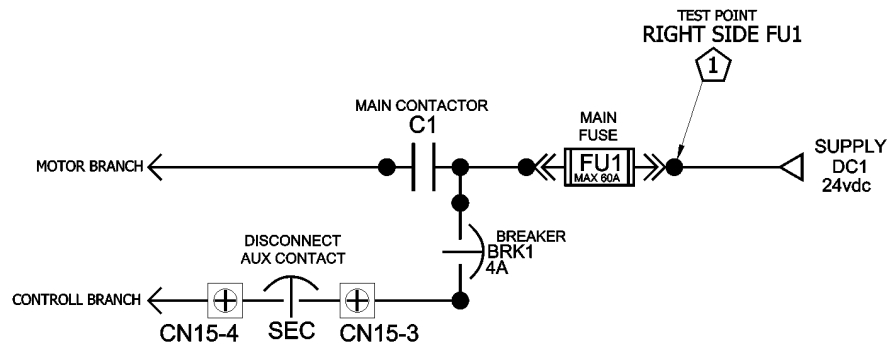


Dual Charger

- Confirm each charger is charging each battery to a voltage of 12.5 Vdc
- Confirm each charger is supplied with 120Va
- A dead battery may mean that the charger is not working properly
- A dead set of battery will need for a battery bank replacement (Typically 3 to 5 Years of service)

1

Unit is Missing Supply Power on Transformer (DC1)



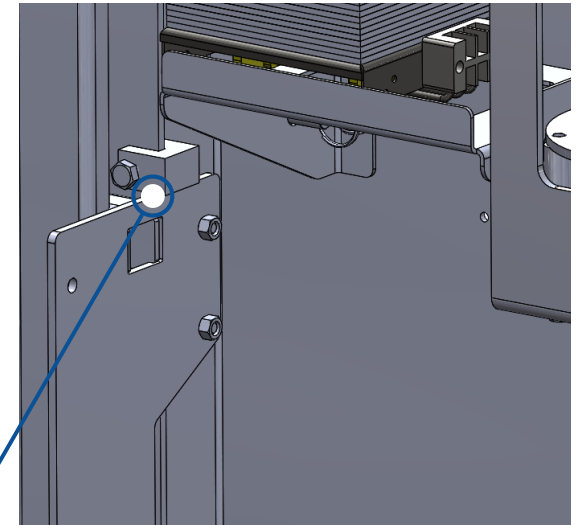
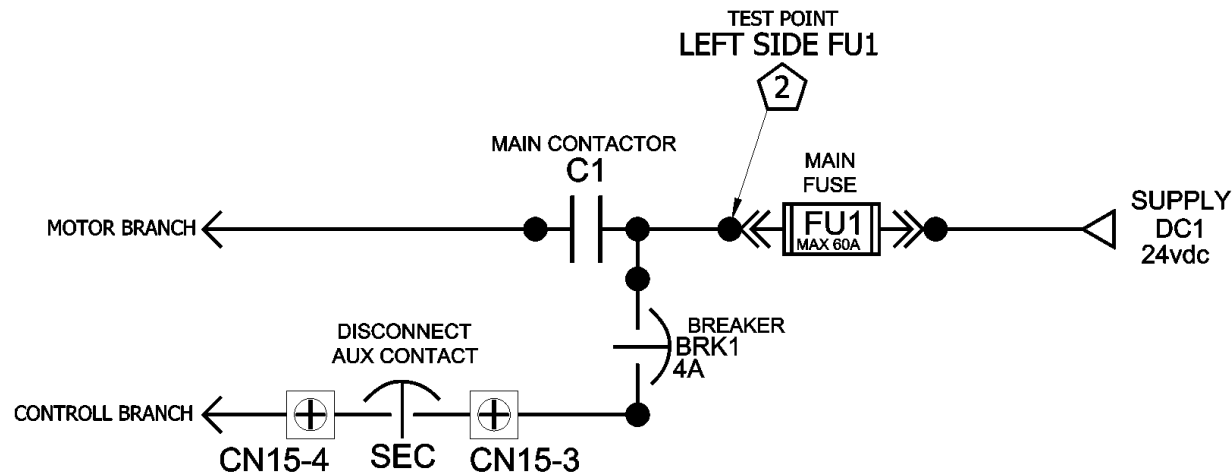
POWER TRANSFORMER
120Vac:24Vdc
1.5 KVA

Power Transformer

- Confirm the 120Vac is present at the transformer primary side
- Confirm the 24Vdc is present at the secondary side of transformer

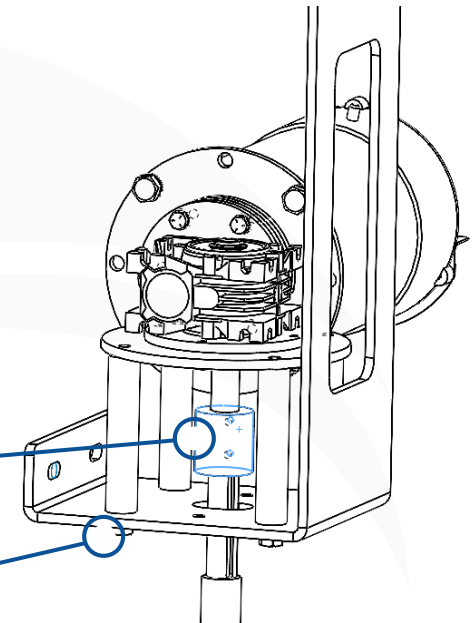
2

Main Fuse FU1 is Blown



Main fuse has blown under over current that can be caused by various reasons such as:

- Over loaded lift
- Improper greasing of the ACME rod (Lifting Screw)
- Car has move beyond a terminal landing and stopped by the mechanical end stop
- ACME Screw head coupler alignment issue
- Motor mounting screw too tight, excessive pressure on conical bearing



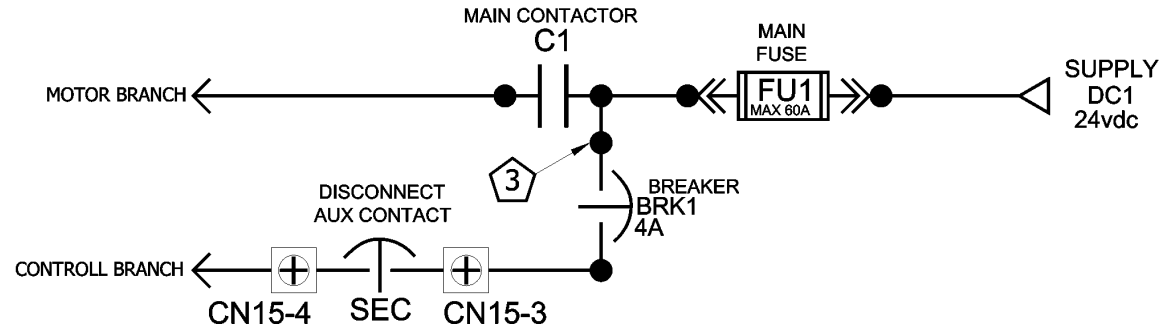
3

Open Circuit to BRK1-1

Battery Bank

No voltage at BRK1-1

- Verify factory wire between BK1-1 and C1-1 (Blue 18awg wire)

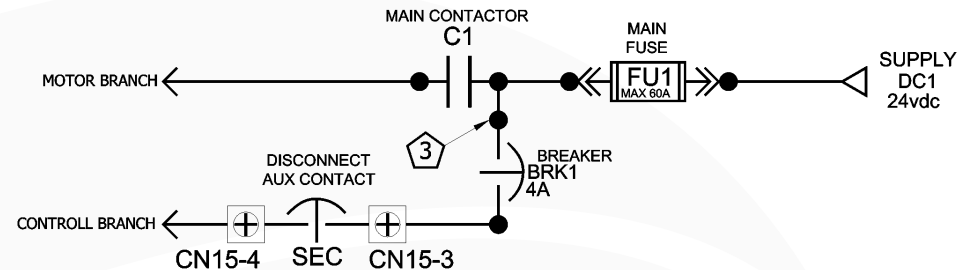


4

BRK1 is Tripped

No voltage at BRK1-1

- Excessive current flowing in the control branch of the controller, disconnect the different load from the scheme to discover which part is drawing the excessive current.
- Compare impedance of loads with nominal values to determine if the device must be replaced.



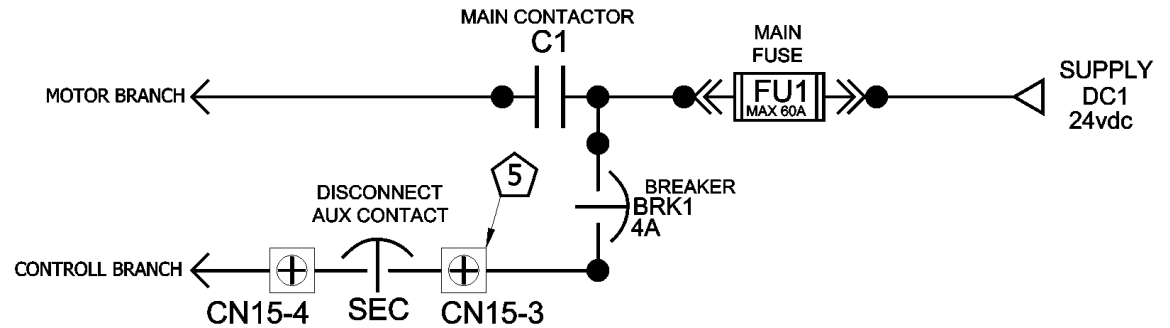
- Interlock Solenoid (S1 & S2)	(50Ω)	- DOWN contactor (C2)	(50Ω)
- Main contactor (M1)	(30Ω)	- Relay (R1 & R2)	(1000Ω)
- UP contactor (C1)	(30Ω)	- TIMER (R3)	(1000Ω)

5

Open Circuit to CN15-3

No voltage at CN15-3

- Verify factory wire between BK1-1 and CN15-3 (Blue 18awg wire)

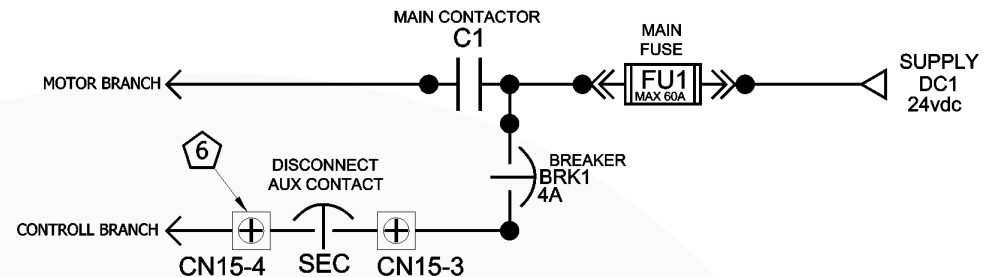


6

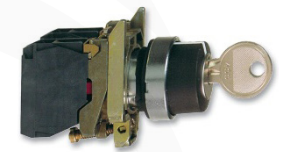
Disconnect Mean is Open

No voltage at CN15-3

- The disconnect mean is open, this can be either the breaker or key switch lower landing side of the tower
- If the disconnect is tripped, the 120Vac line has experienced an overload over the tripping capacity.
- Ensure no other load than the elevator is connector to the disconnect
- Verify the wiring to the key switch if in the proper working position
- You can confirm the disconnect is faulty by installing temporarily a jumper between (CN15-3 & CN15-4)



Breaker



Key Switch

7

No Voltage at CN16-1

No voltage at CN16-1

- Verify factory wire between CN15-6 and CN16-1 inside the panel (Blue 18 awg wire)

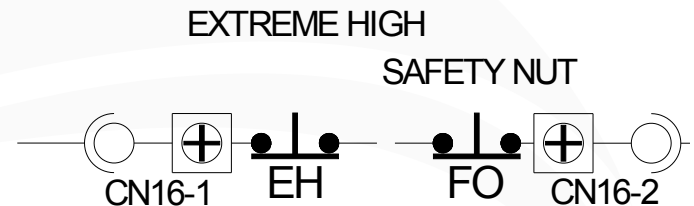
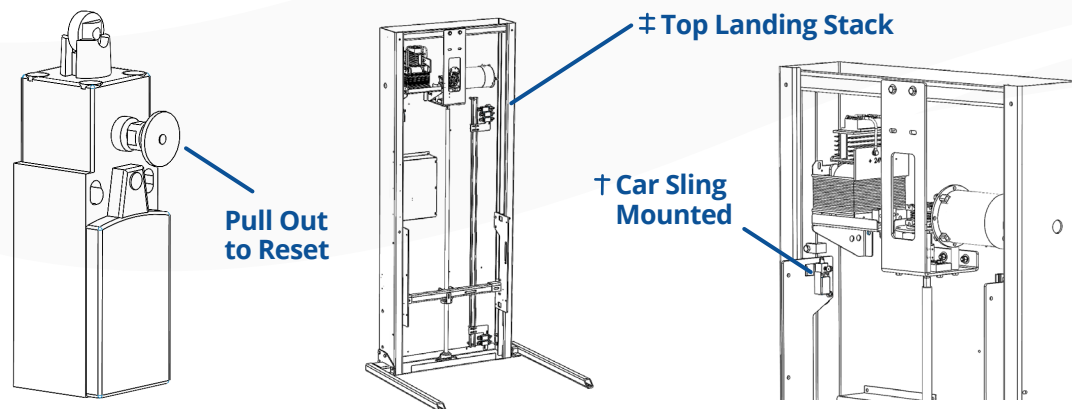
8

Extreme Landing Switch Engaged or Nut Failure

No voltage at CN16-1

- Locate the EH safety switch in your tower, either on car sling under the mechanical endstop or on the stack of switch† for upper landing.
- The extreme switch(EH) is activated. Need to move MANUALLY unit off switch and pull the blue circle pin OUT to reset the safety switch

- Confirm the switch is wired at the Normally closed terminals





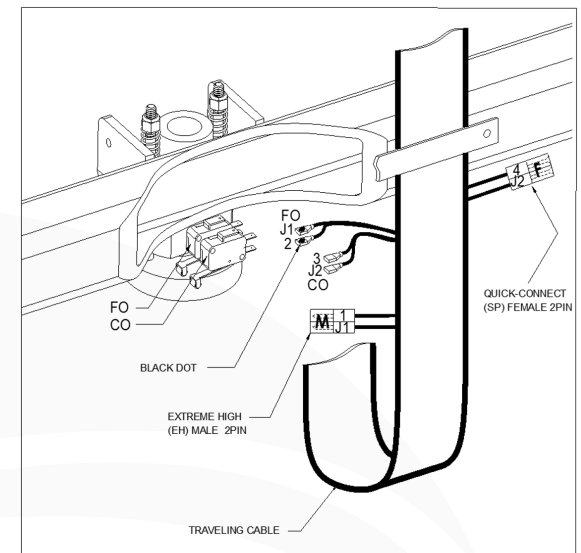
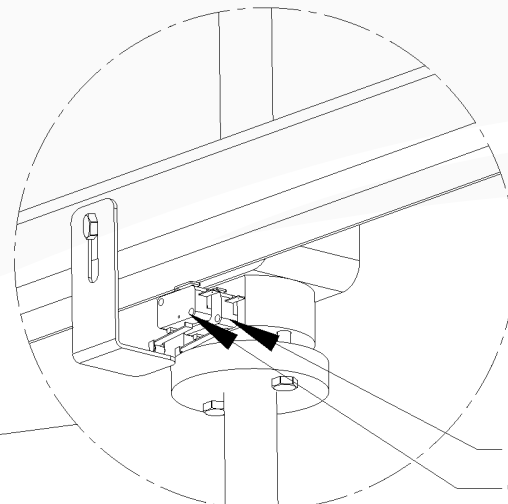
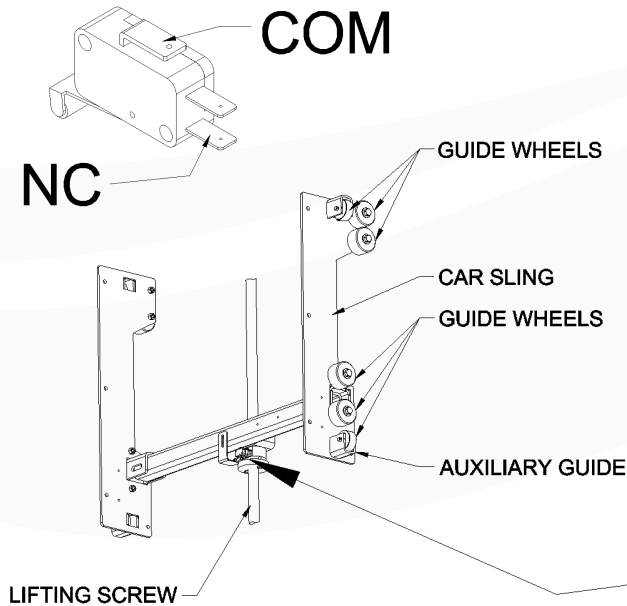
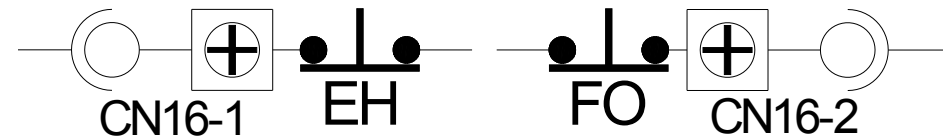
Main Nut Failure Safety Switch Engaged

No voltage at CN16-2

- Nut failure (FO) switch is activated, verify plastic nut for failure
- Nut failure (FO) switch is unplugged, needs to be plugged in NC
- Confirm the (FO) switch is wired at the Normally closed terminals

EXTREME HIGH

SAFETY NUT



FO (MAIN NUT FAILURE)
CO (SCREW JACK)

9

Open Circuit to CN15-1

No voltage at CN16-1

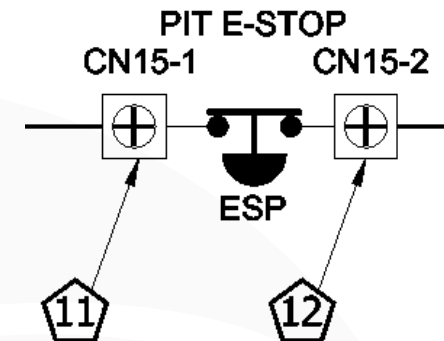
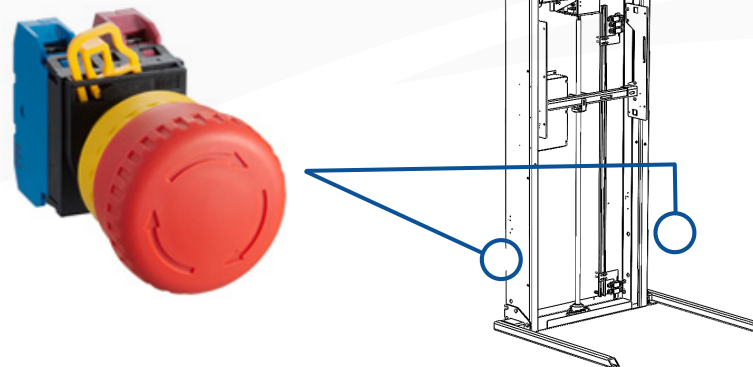
- Verify factory wire between CN16-2 and CN15-1 inside the panel (Blue 18 awg wire)

10

E-Stop Bottom of Runway Engaged

No voltage at CN15-2

- Emergency stop button on side of the tower is activated, pull out the switch
- Confirm the switch is wired at the Normally closed terminals



11

Open Circuit to CN16-12

No voltage at CN16-12

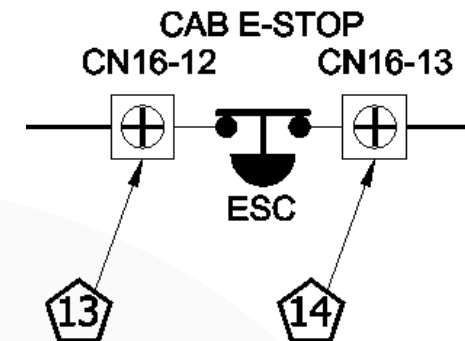
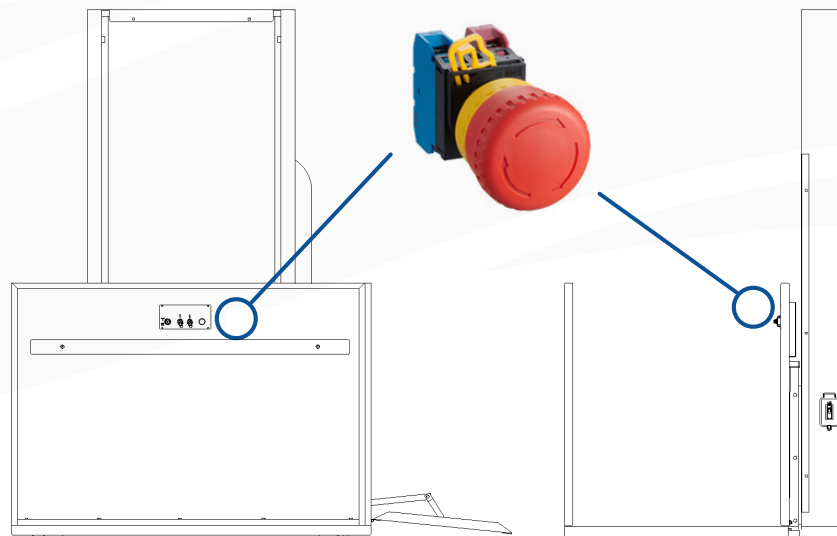
- Verify factory wire between CN15-2 and CN16-12 inside the panel (Blue 18 awg wire)

12

E-Stop in Car Engaged

No voltage at CN16-13

- Emergency stop button beside carriage operating device is activated, pull out the switch
- Confirm the switch is wired at the Normally closed terminals

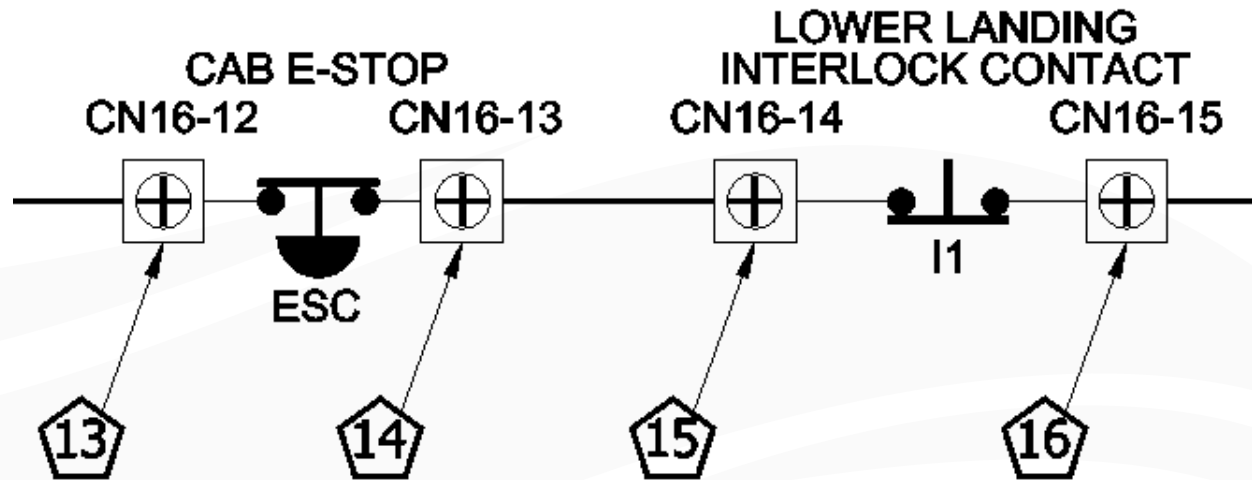


13

Open Circuit to CN16-14

No voltage at CN16-14

- Verify factory wire between CN16-13 and CN16-14 inside the panel (Blue 18 awg wire)

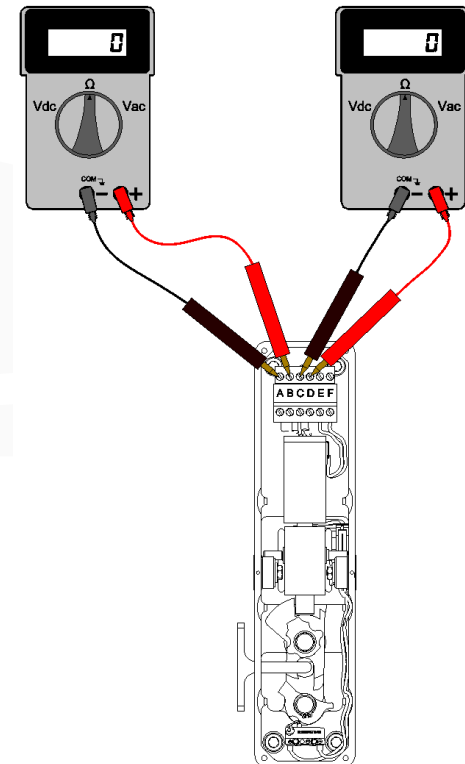
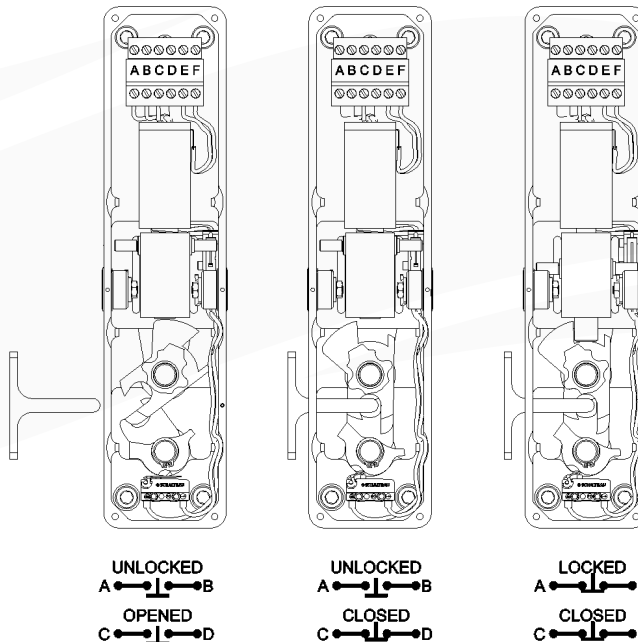
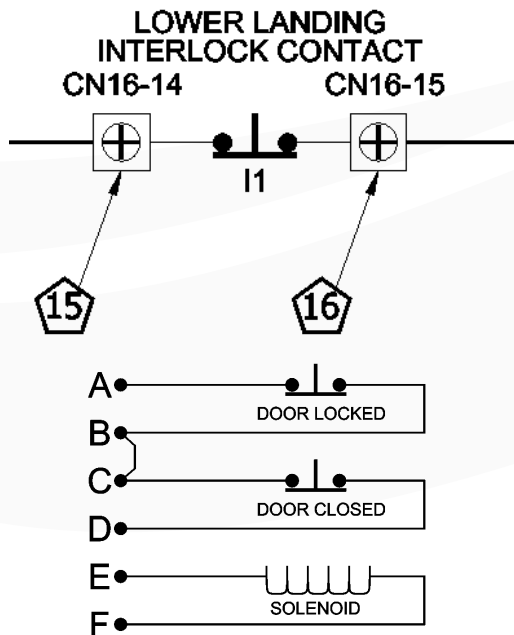


14

Open Interlock at Lower Landing

No voltage at CN16-15

- Ensure door is closed and locked at lower landing (I1)
- If door is closed and locked but yet there is no voltage at CN16-15, open the interlock and verify that both micro-switches are not activated
- If both switches are not activated but still no voltage. Do a continuity test on each switch inside the interlock at the green connector (A & B) then (C & D).
- If there is continuity between these 2 points, verify wiring to controller.





Open Circuit to CN15-18

No voltage at CN15-17

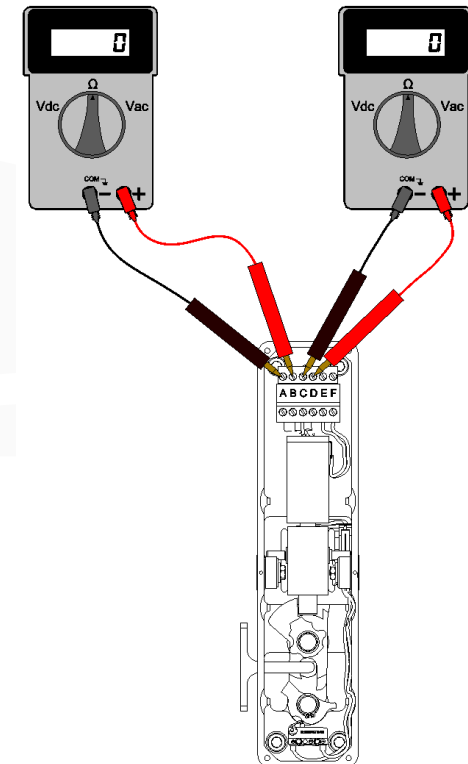
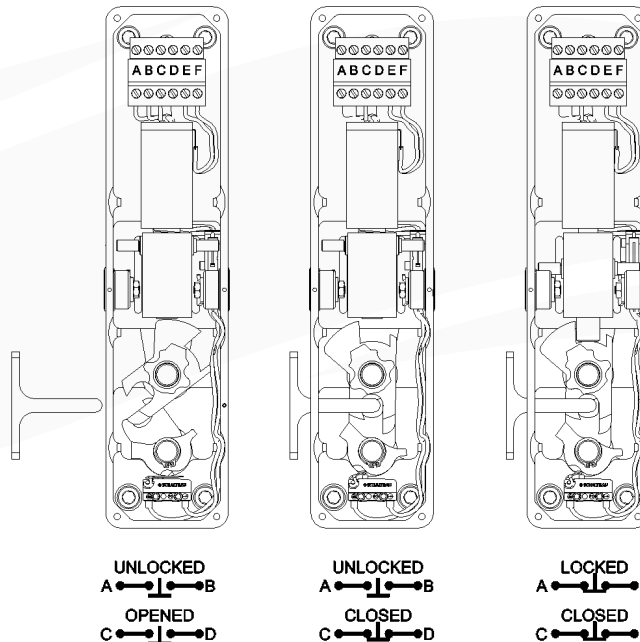
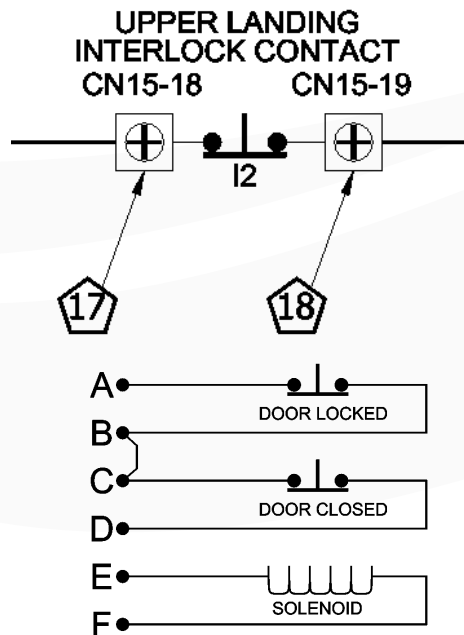
- Verify factory wire between CN16-15 and CN15-18 inside the panel (Blue 18 awg wire)

16

Open Interlock at Lower Landing

No voltage at CN16-15

- Ensure door is closed and locked at UPPER landing (I2)
- If door is closed and locked but yet there is no voltage at CN15-19, open the interlock and verify that both micro-switches are not activated
- If both switches are not activated but still no voltage. Do a continuity test on each switch inside the interlock at the green connector. (A & B) then (C & D).
- If there is continuity between these 2 points, verify wiring to controller.





Open Circuit to CN16-6

No voltage at CN16-6

- Verify factory wire between M2A-2 and CN16-6 inside the panel (Blue 18 awg wire)



Open Circuit to CN15-24

No voltage at CN15-24

- Verify factory wire between M2A-2 and CN16-6 inside the panel (Blue 18 awg wire)