



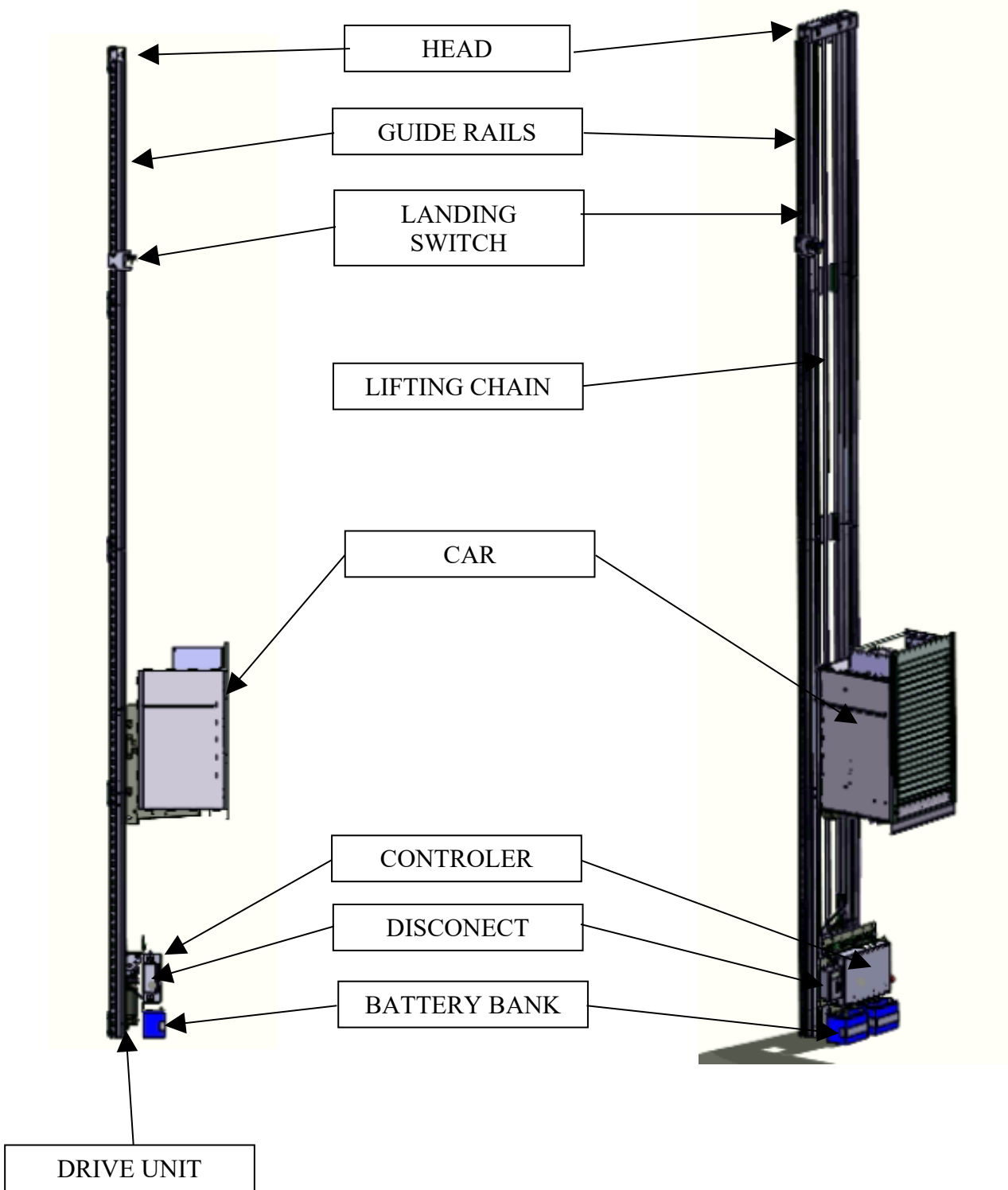
PRO DUMBWAITER

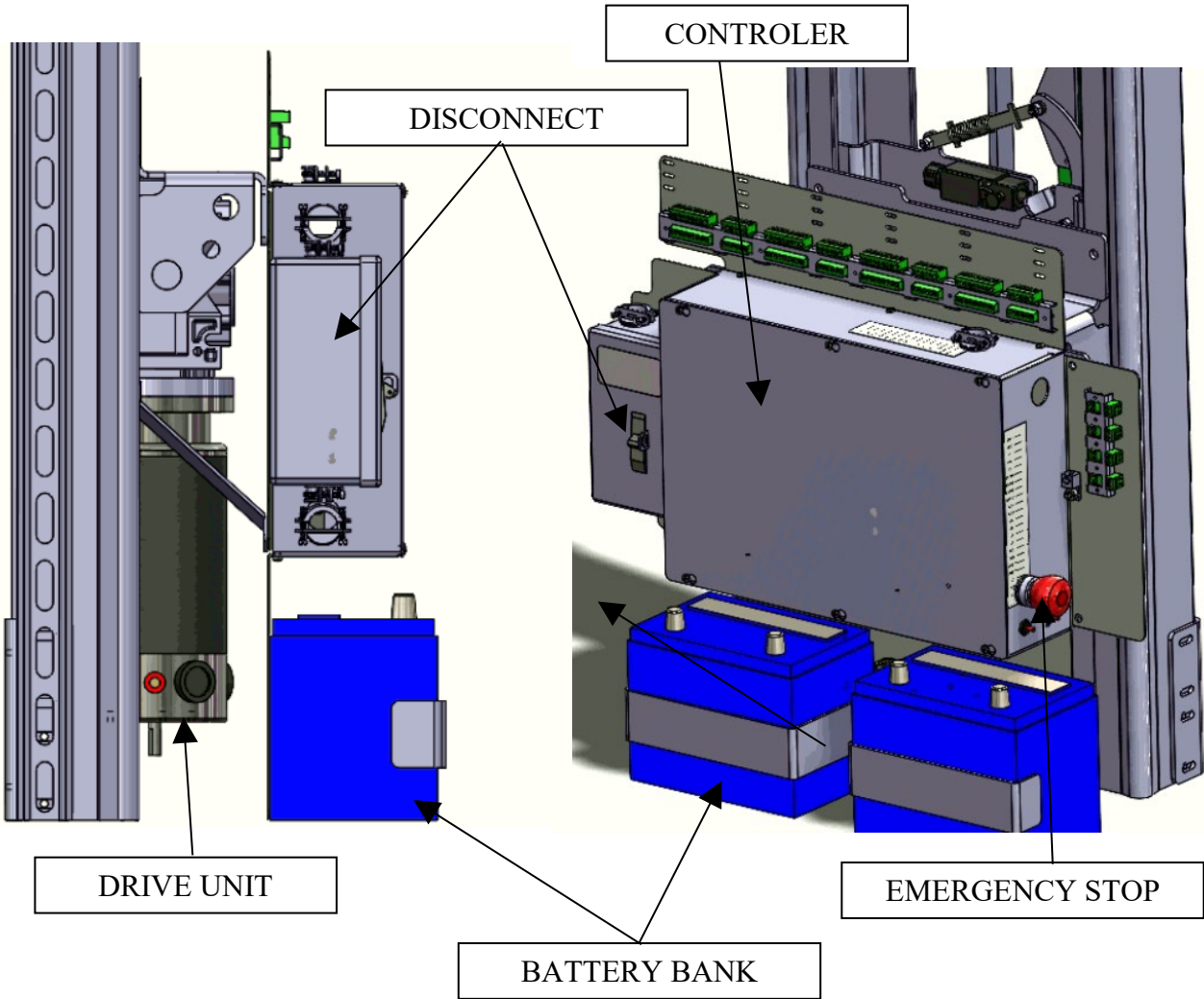


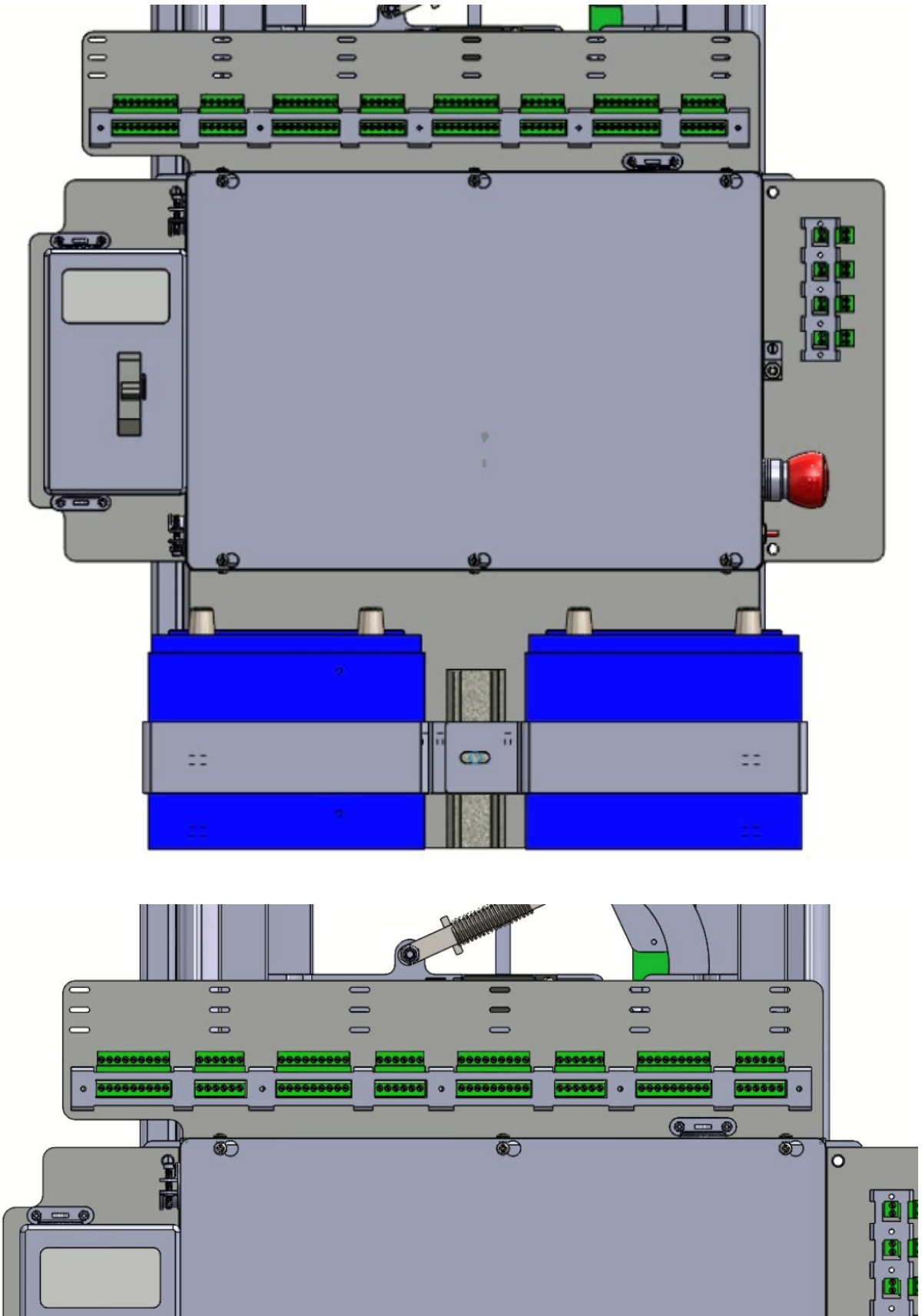
General Notes

1. These instructions are intended for trained personnel for elevating device installations.
2. Install the in accordance with all applicable regulation in your jurisdiction.
3. The following manual state the major steps to install successfully the dumbwaiter in a building, use all personal protective equipment and state of the art work methods to prevents injury, electrical choc and all other danger for yourself and peoples surrounding the installation.
4. Failure to comply with these procedures may compromise the conformity of the final product
5. Consult a structural engineer for load calculation and transfer to your building structure.

MAJOR COMPONENTS







GLOSSARY

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STEP 1: Required Tools

- Impact driver
- Drill
- Sawzall/Miter Saw (to cut aluminum track to length)
- Rubber mallet • Ratchets, sockets, wrenches- ½", 7/16", 9/16", ¾"
- Screw drivers- small wiring screwdriver, standard #2 phillips head
- Adapters for impact
- Ladder

STEP 2: GENERAL NOTES

- This is not a passenger elevator
- This lifting device is intended for vertical transport of nonliving cargo only
- Do not sell, install or use for any other intended uses
- Train the user for a safe use and explain to user what is the intended use of the dumbwaiter.
- Refer to approved project drawing for actual dimension and location of components.
- This manual is a reference to the product series, some options might differ from your configuration, not all instructions are susceptible to be applicable to your installation.
- Load capacity is 300 lbs
- Nominal speed is 24 Feet by minute
- Call and send landing operating devices
- Dumbwaiter provided with elevator door interlock for enhanced safety.
- Press call station to unlock door while cab is at landing
- Pro Serve dumbwaiter is designer in accordance with ASME A17.1 and CSA B44 (section 7)
- Equipped with PLC controler, protection in case of failure, safety brake , slack chain switch, door interlock, electrical disconnect.
- Car guide rails are Aluminium for made
- Car is 100% made of Stainless Steel
- Dumbwaiter provided with a DC battery disconnect equipped with a auxiliary contact to shut off 120V to the charger, only a outlet is required for all jurisdiction.
- Consider closing the front part of the shaft once dumbwaiter is fully installed
- The supporting wall shall be strongly reinforced with 2x ¾” plywood over doubled 2X4 stud. Alternate construction may be used if approved by the building engineer
- A hatch shall be present at the lower landing to access controller, disconnect and drive machine. The hatch shall have a separation between runway and machine space otherwise the hatch shall be locked or screwed in place.

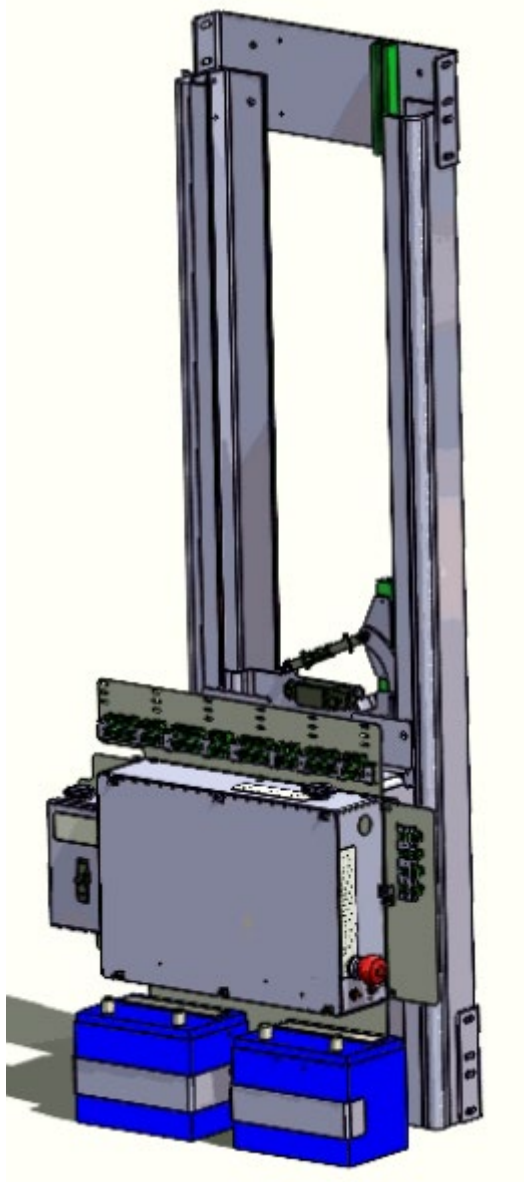
STEP 3: Quick Start

- Assemble first section of rail structure outside of shaft.
- Install first section of rail in the runway
- Install sling on the first set of rail
- Place the next assembled section of rails one over the other into the shaft up to the last.
- Route chain through idler sprocket and attach to car to lifting point, (brake)
- Verify safeties are working properly by lifting sling, allowing chain to go slack, and confirm the brake are engaged.
- Adjust as necessary for smooth operation, brake test at 125% load is required before commissioning
- Install floor switches and final limit switch.
- Mount floor switches on the LH side of the rail structure.
- Run carriage to each floor level and adjust switch

- Carefully route wires into wireway down to control and plug into appropriate receptacles
- Install cab
- Install the car doors
- Ensure alignment with hallway door
- Install landing door with Door locks
- Route wires to controller and plug into appropriate receptacle
- Install Hall stations & route wires to controller and plug into appropriate receptacle
- Run complete acceptance test before servicing

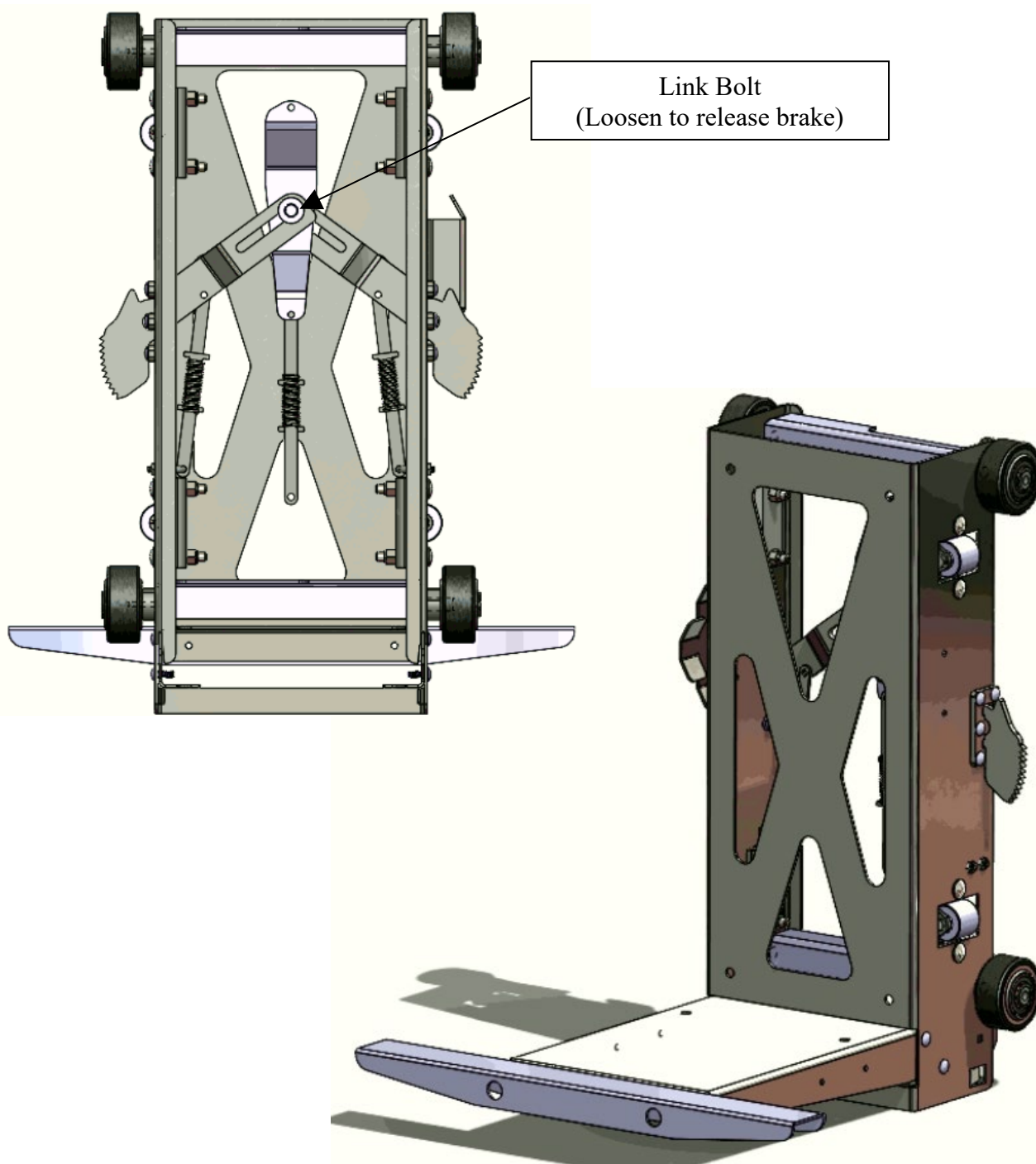
STEP 4: LOWER RAIL INSTALLATION

- Establish the centerline of the track based on the layout drawings.
- Snap a chalk line for centerline reference during later steps.
- Locate the bottom guide rails and brace to fit inside the shaft, and loosely anchor it to the wall. It is not recommended to fully secure it to the wall at this time.



STEP 5: CARRIAGE INSTALLATION

- The carriage comes already assembled from the factory
- The lifting link bolt is screwed tight to keep the brake unengaged for handling
- Ensure the mechanical endstop are installed on the bottom rail section
- Lower the carriage in the first rail section until it sits on the mechanical endstop.
- Loosen link bolt to release the brake
- Carriage can now be lifted manually to confirm the brake are functional until a load test is being performed at acceptance test before commissioning

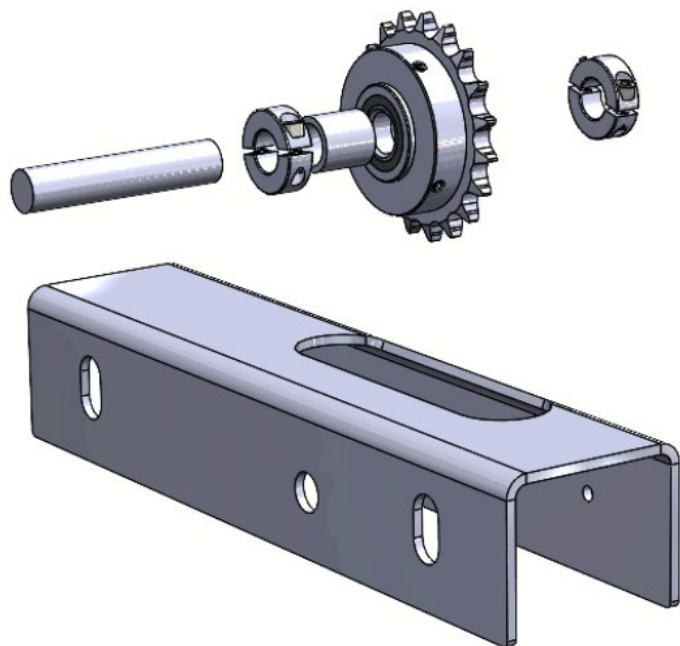
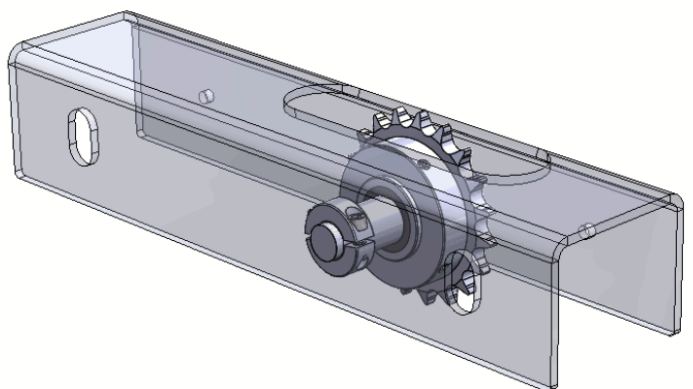


STEP 5: ANCHORING RAILS

- Once you have the rail/track structure fully stacked and tightened to brace with carriage installed in the guide rail, level the entire track/rail structure and secure it to the wall using (4) 3/8" dia. lag bolts per brace plate at rail joint and head . Use 2 for joints (4) 3/8" dia. lag bolts per brace plate for the lower brace.
- Install the upper mechanical endstop at this point to protect the head from any undesired move above the upper landing during install.

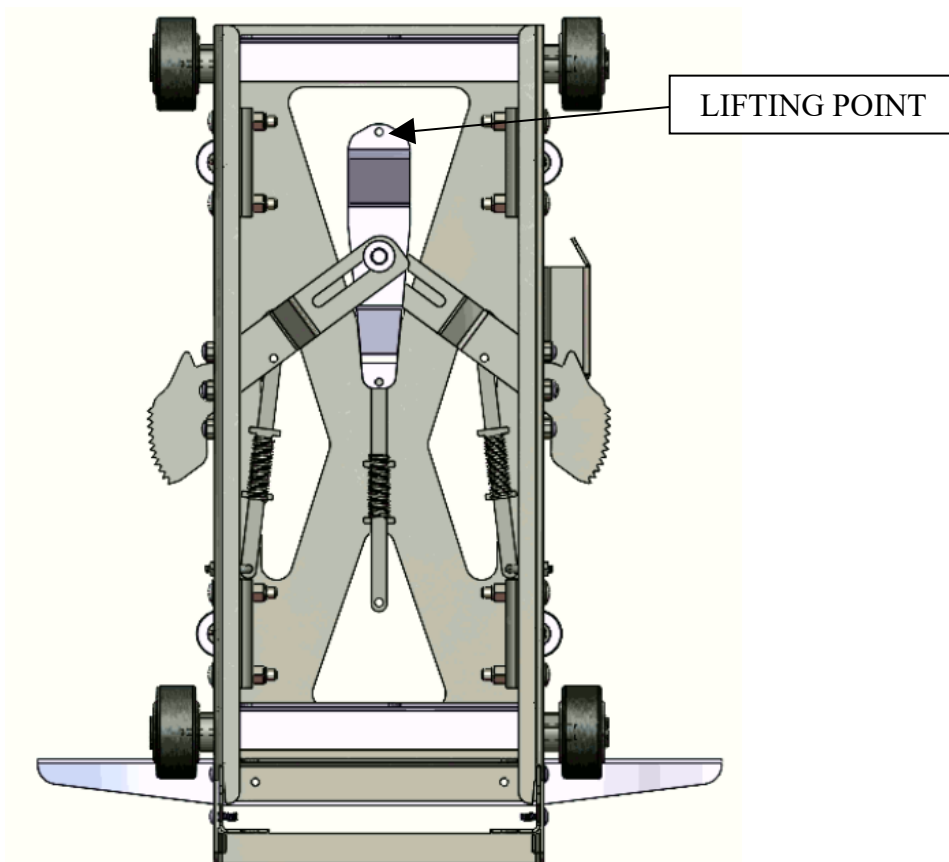
STEP 6: HEAD

- The idler sprocket comes already assembled from the factory,
- Head must be installed directly over the last section of rail,
- Anchor the head to the supporting wall

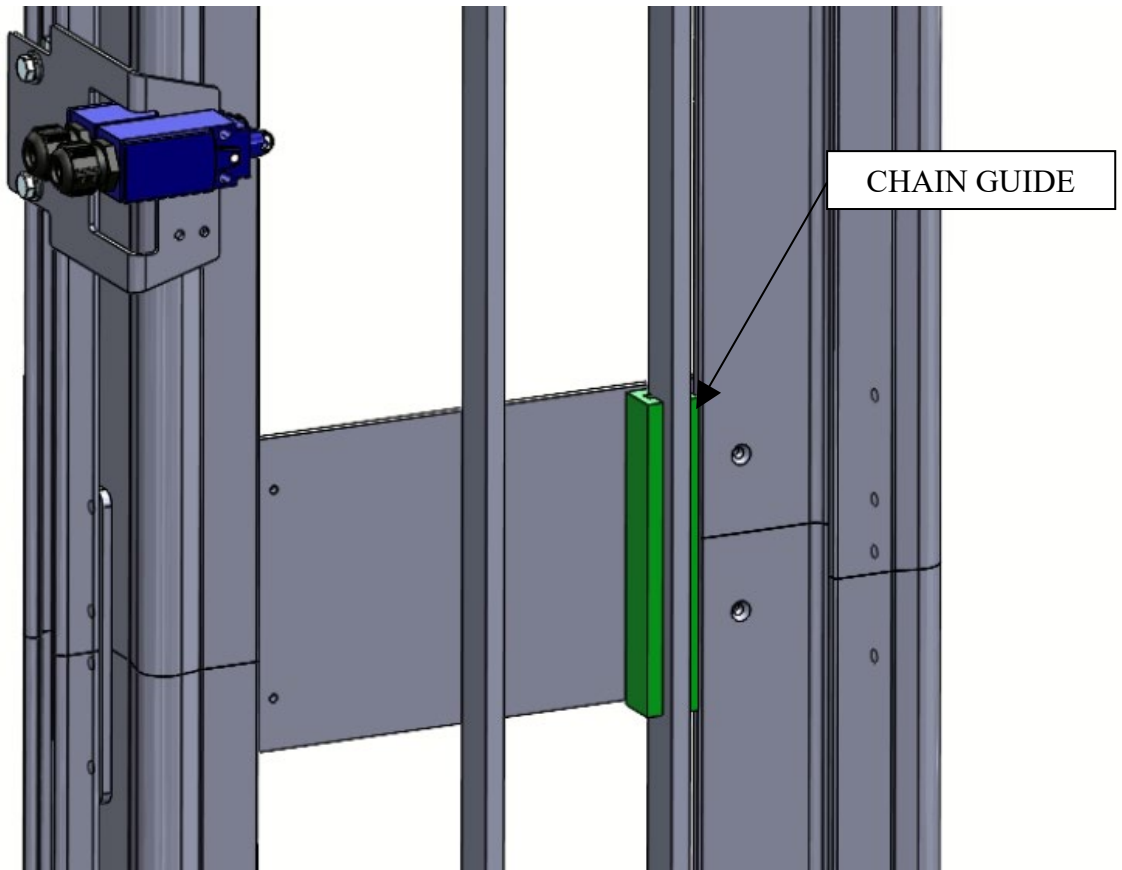


STEP 6: LIFTING CHAIN

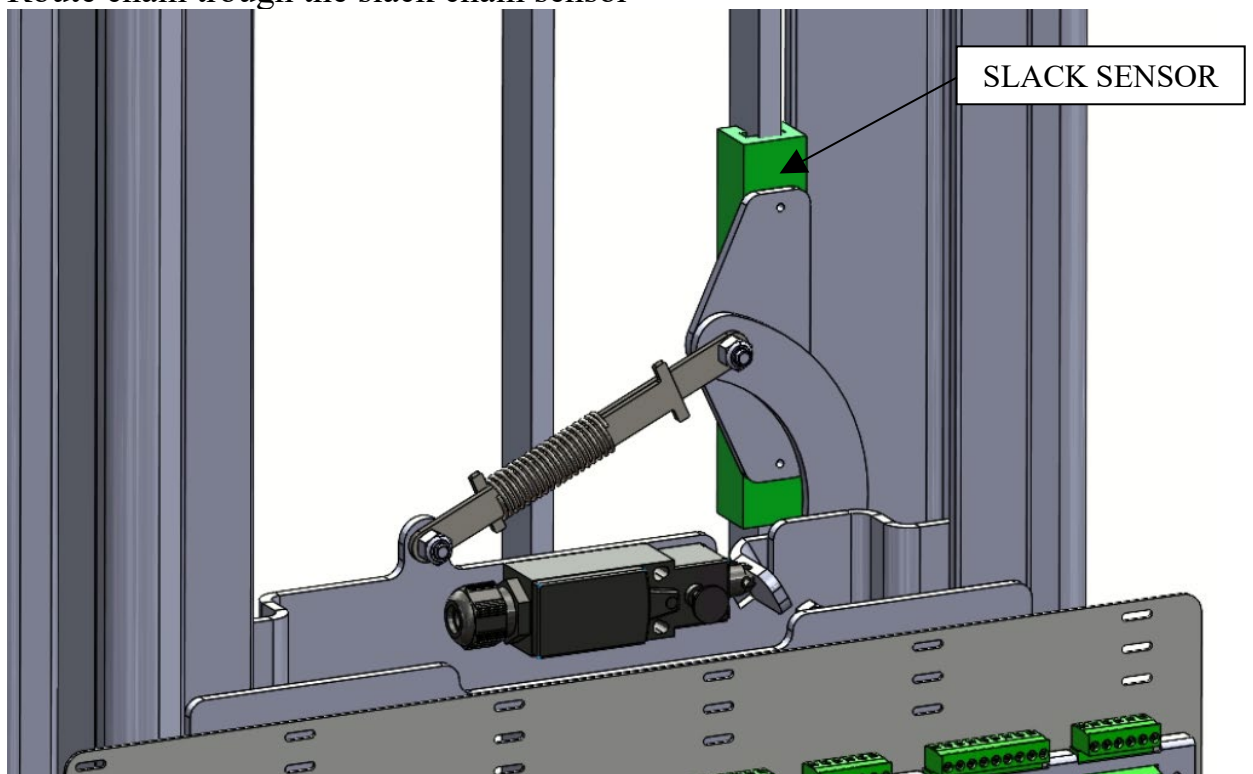
- The chain comes in separate length, one per section of rail
- Once the rail system with gear motor, and head assembly in place, rail system anchored to the wall with carriage in place, consider installing the lifting chain
- Never drop the chain on the floor or onto any surface since the grease on it would catch any debris or dust and stick to the chain until properly cleaned and relubricated. Use rubber gloves to prevent staining your hand for the rest of the install.
- Master Link is provided for each chain joint, use only the provided link to joint the lifting chain, master link are also load rated and part of the lifting system.
- Place entire chain length on the carriage
- Attach one chain end to lifting point of the brake assembly using master link provided



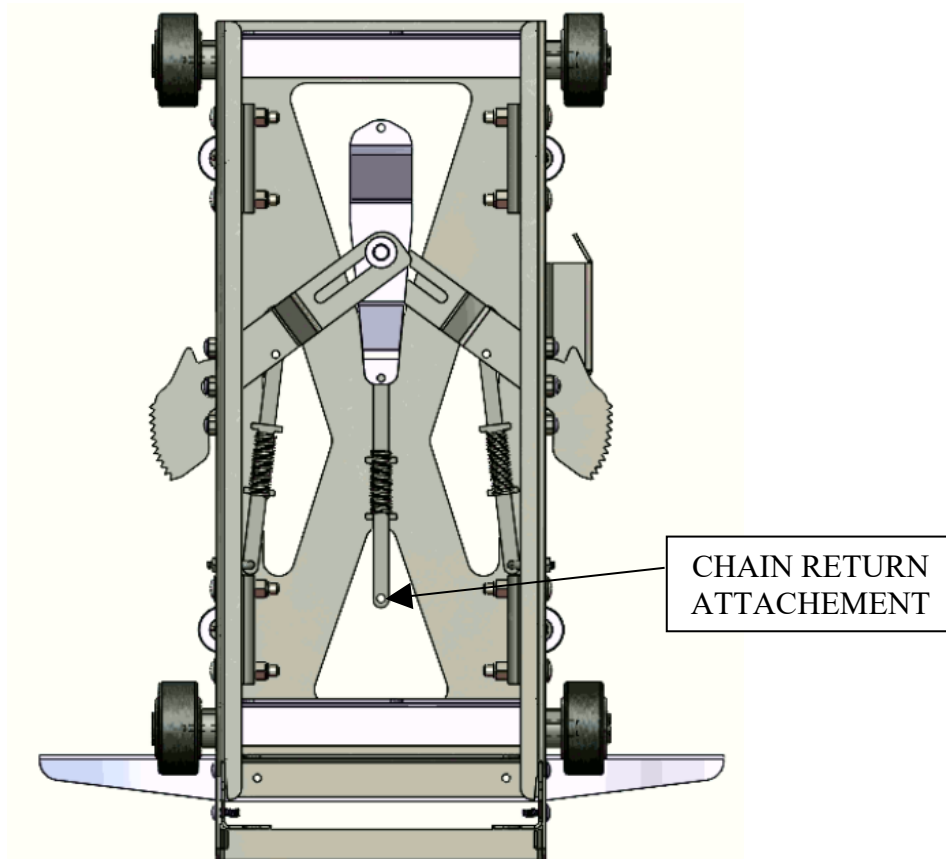
- Route chain over head idler sprocket
- Drop chain down the runway trough chain guide at each brace



- Route chain trough the slack chain sensor



- Wrap chain around drive sprocket back to chain return attachment point on the carriage using master link provided. **DO NOT ADJUST CHAIN TENSION NOW**



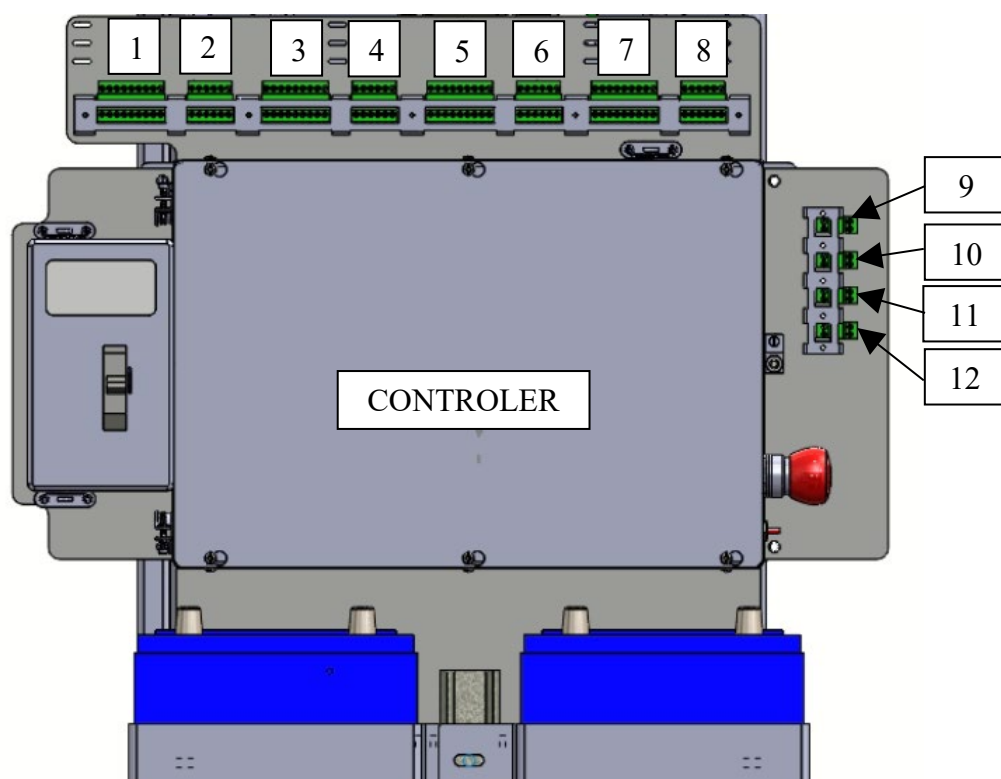
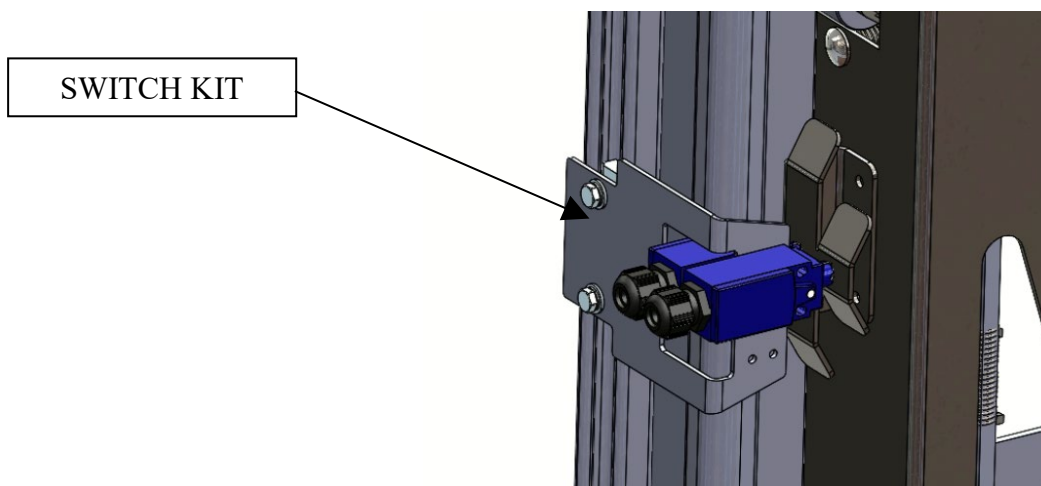
STEP 7: SUSPENDING CARRIAGE

- The contrôler comes with jumper for landing and safety,
- POWER ON controll
- Turn to servicing mode with key
- Lift carriage untill this mean you can actualy move carefully the carriage in the upper direction untill the carriage lift and chain become under load.
- Turn off controller
- Adjust chain tension to limit the vibration of the chain under the carriage.

STEP 7: LANDING SWITCHES

- Install one set of switches per landing on the cantruss installed on left side of rail system
- Route the wire back to the controller in the provided wireway
- Wireway should be firmly screwed to the supporting wall, do not rely on 2 face tape provided behind the wireway
- Connect the landing switch kit to the proper connector at the controller

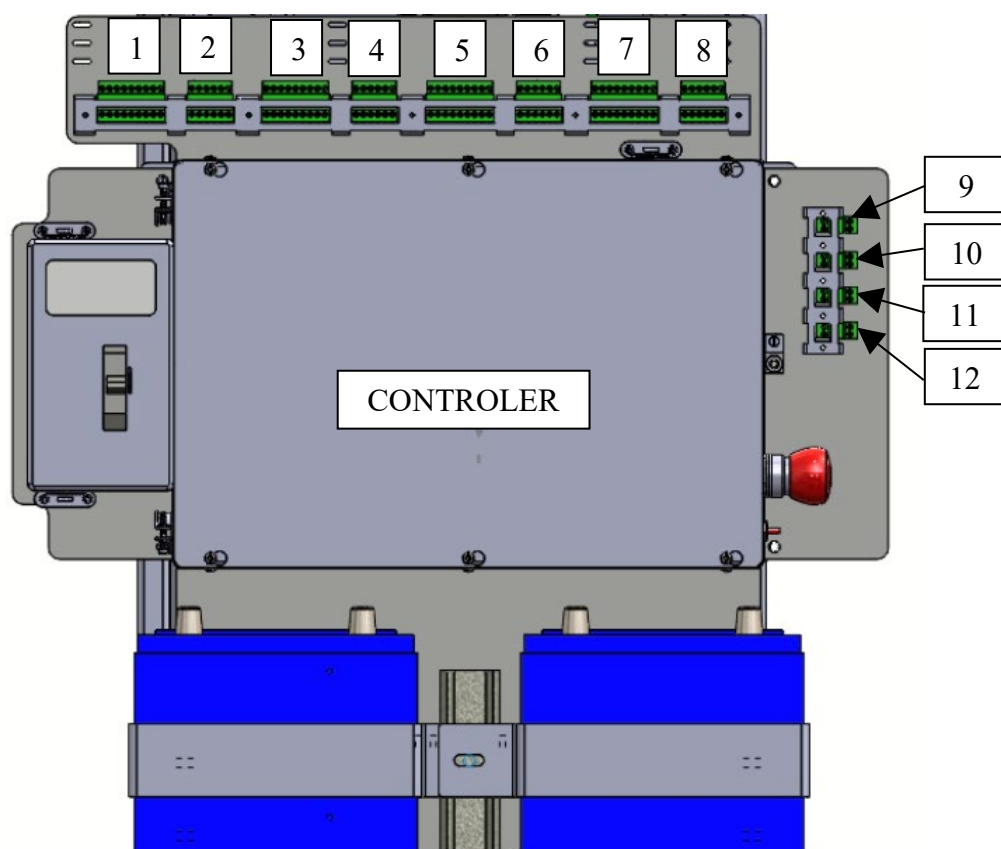
SWITCH KIT	TERMINAL
1st landing	2
2nd landing	4
3rd landing	6
4th landing	8



STEP 8: LANDING KIT

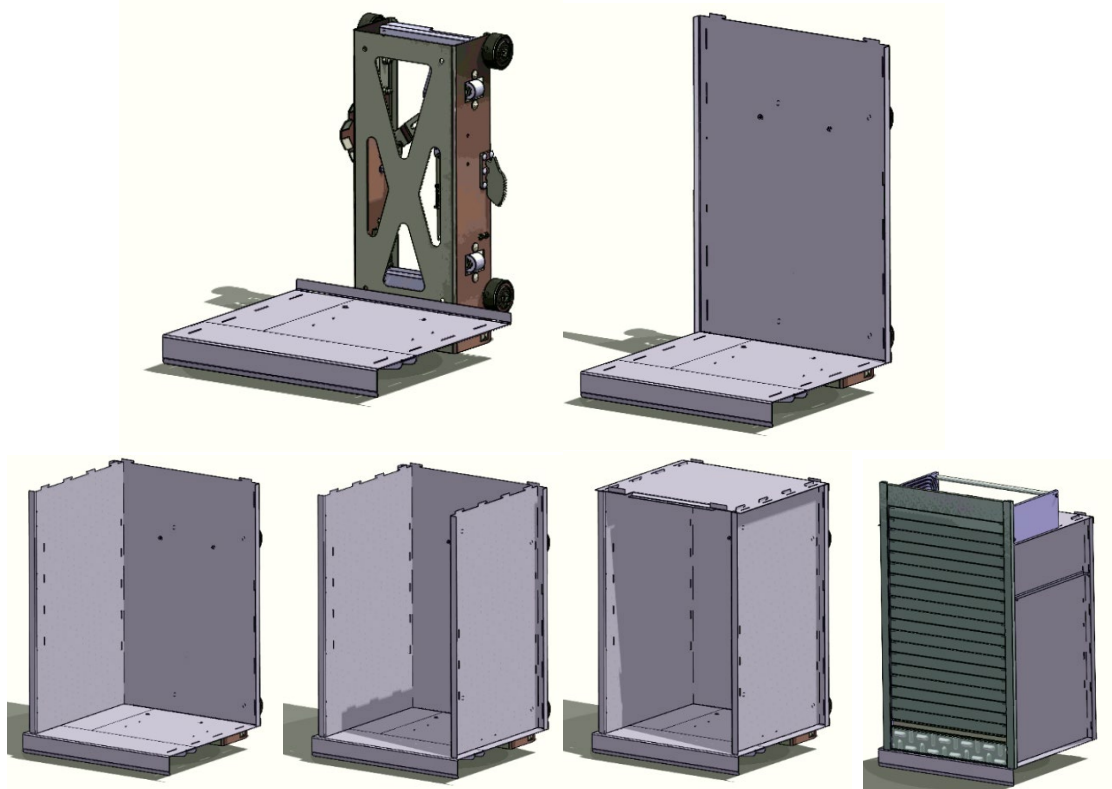
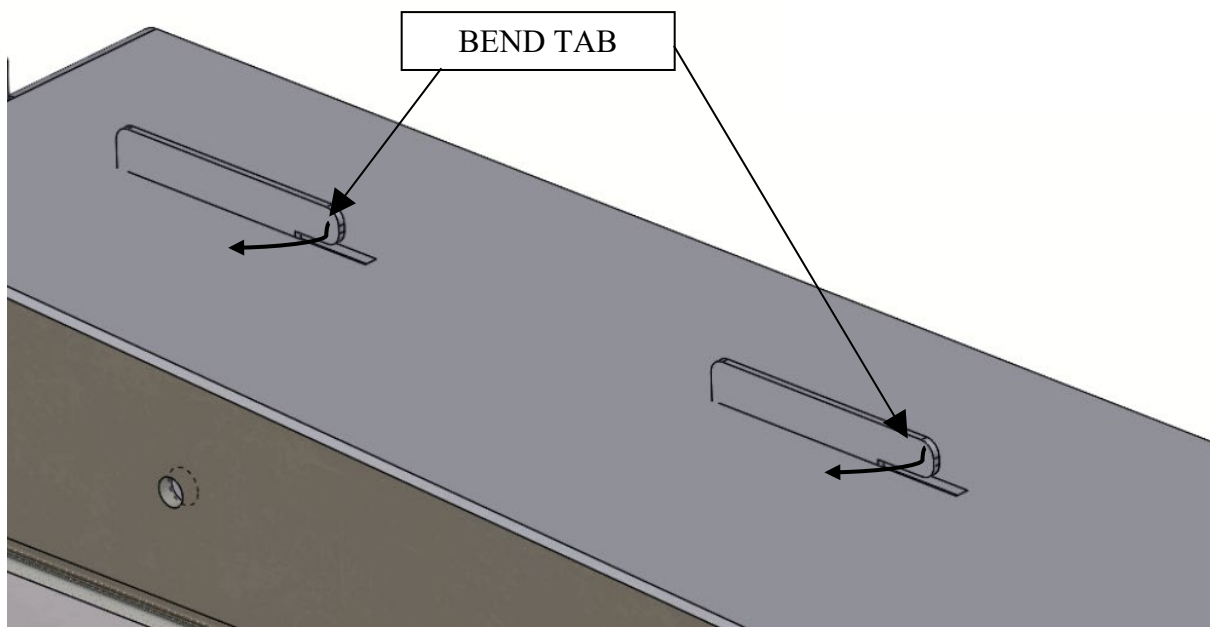
- Each landing shall be equipped with :
 - ✓ Access door
 - ✓ Interlock
 - ✓ Hall station
- Access door shall be install as per project drawing
- Access door are provided with interlock
- Route wire down to controller in the wireway

LANDING KIT	TERMINAL
1st landing	1
2nd landing	3
3rd landing	5
4th landing	7



STEP 8: CAB ASSEMBLY

- Cab is made out of stainless steel
- Most part does not require hardware to be assembled, this is a bended tab construction, each tab shall be bended using a pair of plier to lock in place

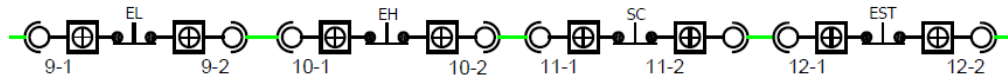


STEP 9: ACCEPTANCE TESTS

- Consult local authority for applicable codes and regulations such as, and not limited to :
 - ✓ National electrical code
 - ✓ National building code
 - ✓ Federal codes
 - ✓ Elevator code
 - ✓ Municipal law and work construction permit
 - ✓ Work permit for elevator contractor
 - ✓ Local Fire Department
 - ✓ Consider hiring Architects, engineer, electrician and elevator mechanic to ensure a fully compliant installation.
- Adjust the landing switches for the cab to align at less than 1/2" from the landing level
- Confirm the interlocks are working properly
 - ✓ Dumbwaiter will not work with any door opened
 - ✓ Dumbwaiter will not work with any door unlocked and closed
 - ✓ Interlock must keep door locked until cab is at the adjacent landing. (4" door zone)
- Confirm the Estop is functional
- Confirm the final limit switches are working properly (Top and bottom)
- Confirm the car gate switch is functional (if installed)
- Confirm the car lights are working properly
- Confirm the call stations are working properly
- Perform a load test on the brake :
 - ✓ Loosen the chain of 4 "
 - ✓ Load cab with 125% of the rated load
 - ✓ Lower cab on a piece of wood stud (Vertically placed in the pit)
 - ✓ Drive the stud away
 - ✓ Car should drop on brake (chain still loose)
 - ✓ Drive unit up to release brake, (install jumper on slack chain circuit
 - ✓ Remove all jumper
- Disconnect one landing kit at the time, unit shall code a fault, reset
- Dumbwaiter can now be commissioned to the customer

ELECTRICAL PROTECTIVE DEVICES

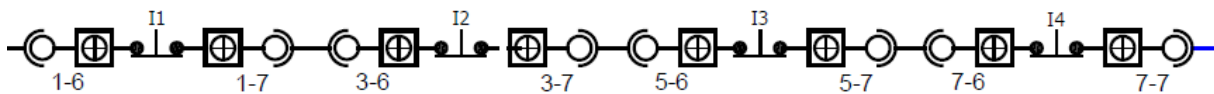
NAME	FUNCTION	LOCATION	TERMINAL	
			(24Vdc)	
EL	EXTREME LOW	BOTTOM OF LH RAIL	9-1	9-2
EH	EXTREME HIGH	TOP OF LH RAIL	10-1	10-2
SC	CAR GATE	CAR	11-1	11-2
EST	E-STOP TOP	TOP OF RUNWAY	12-1	12-2
ESP	E-STOP PIT	RH SIDE OF CONTROLER	12-2	1-6



The ELECTRICAL PROTECTIVES DEVICES are positively opened devices that will shut power to the controll if any EPD is actuated.

INTERLOCK CONTACT (DOOR LOCKED AND CLOSED)

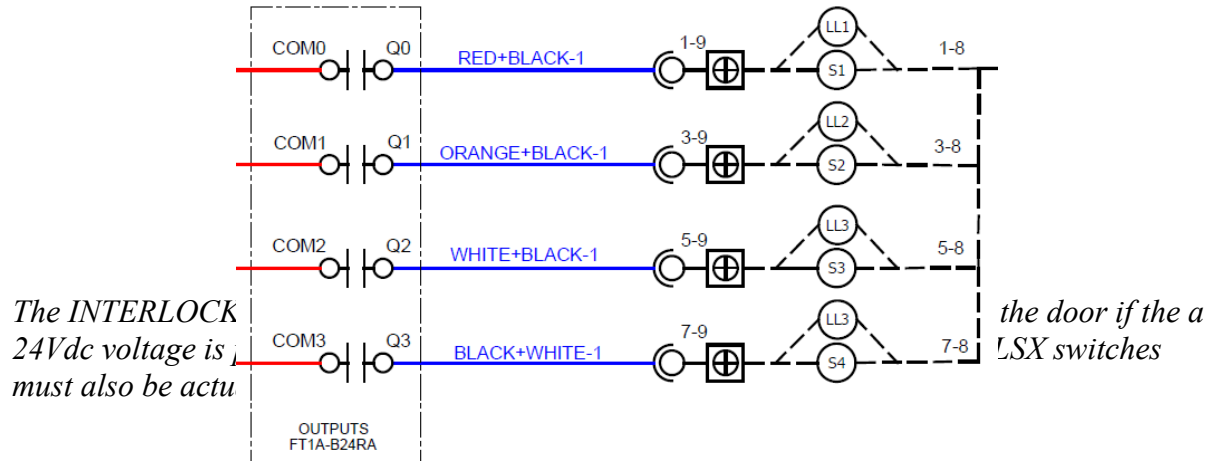
NAME	FUNCTION	LOCATION	TERMINAL (24Vdc)	
			I1	1St interlock contact
I2	2nd interlock contact	2nd landing door	3-6	3-7
sI3	3rd interlock contact	3rd landing door	5-6	5-7
I4	4th interlock contact	4th landing door	7-6	7-7



The INTERLOCK CONTACTS are positively opened devices that will prevent actuation of the drive machine if actuated (any door opened or unlocked)

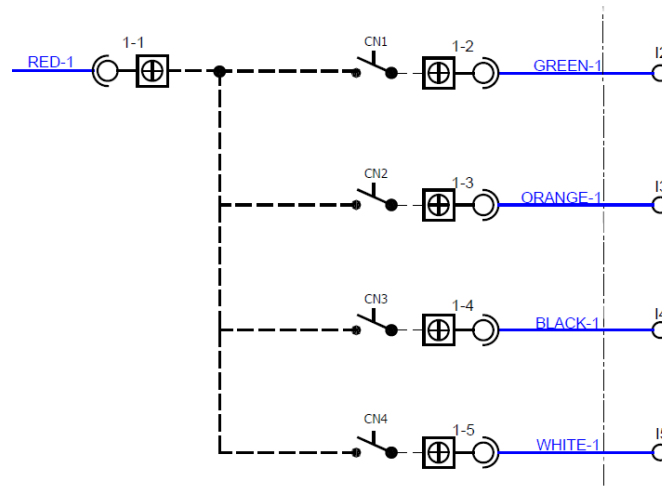
INTERLOCK SOLENOID (UNLOCKING COIL)

NAME	FUNCTION	LOCATION	TERMINAL (24Vdc)	
S1	1St interlock solenoid	1St landing door	1-6	1-7
S2	2nd interlock solenoid	2nd landing door	3-6	3-7
S3	3rd interlock solenoid	3rd landing door	5-6	5-7
S4	4th interlock solenoid	4th landing door	7-6	7-7



CALL STATION (LANDING OPERATING DEVICE)

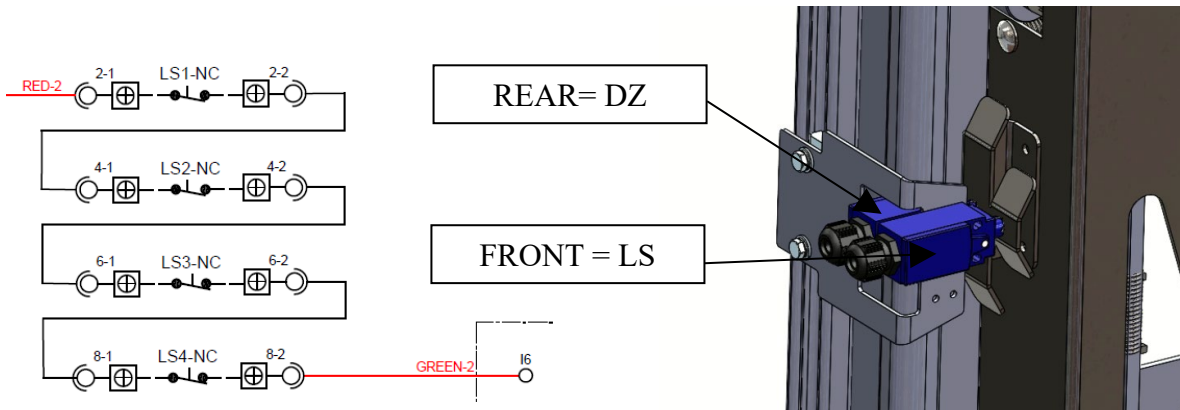
NAME	LOCATION	FUNCTION	LOCATION	TERMINAL	
				(24Vdc)	
N1	1St landing	Call to 1St landing	1St landing door	1-1	1-2
	2nd landing	Call to 2nd landing	2nd landing door	3-1	3-3
	3rd landing	Call to 3rd landing	3rd landing door	5-1	5-4
	4th landing	Call to 4th landing	4th landing door	7-1	7-5
N2	1St landing	Call to 1St landing	1St landing door	1-1	1-2
	2nd landing	Call to 2nd landing	2nd landing door	3-1	3-3
	3rd landing	Call to 3rd landing	3rd landing door	5-1	5-4
	4th landing	Call to 4th landing	4th landing door	7-1	7-5
N3	1St landing	Call to 1St landing	1St landing door	1-1	1-2
	2nd landing	Call to 2nd landing	2nd landing door	3-1	3-3
	3rd landing	Call to 3rd landing	3rd landing door	5-1	5-4
	4th landing	Call to 4th landing	4th landing door	7-1	7-5
N4	1St landing	Call to 1St landing	1St landing door	1-1	1-2
	2nd landing	Call to 2nd landing	2nd landing door	3-1	3-3
	3rd landing	Call to 3rd landing	3rd landing door	5-1	5-4
	4th landing	Call to 4th landing	4th landing door	7-1	7-5



The CALL STATION are normally opened switches that will call the elevator to the selected landing. Please consider that most call station are provided with a keyed switch to cut supply to call station.

LANDING SWITCHES

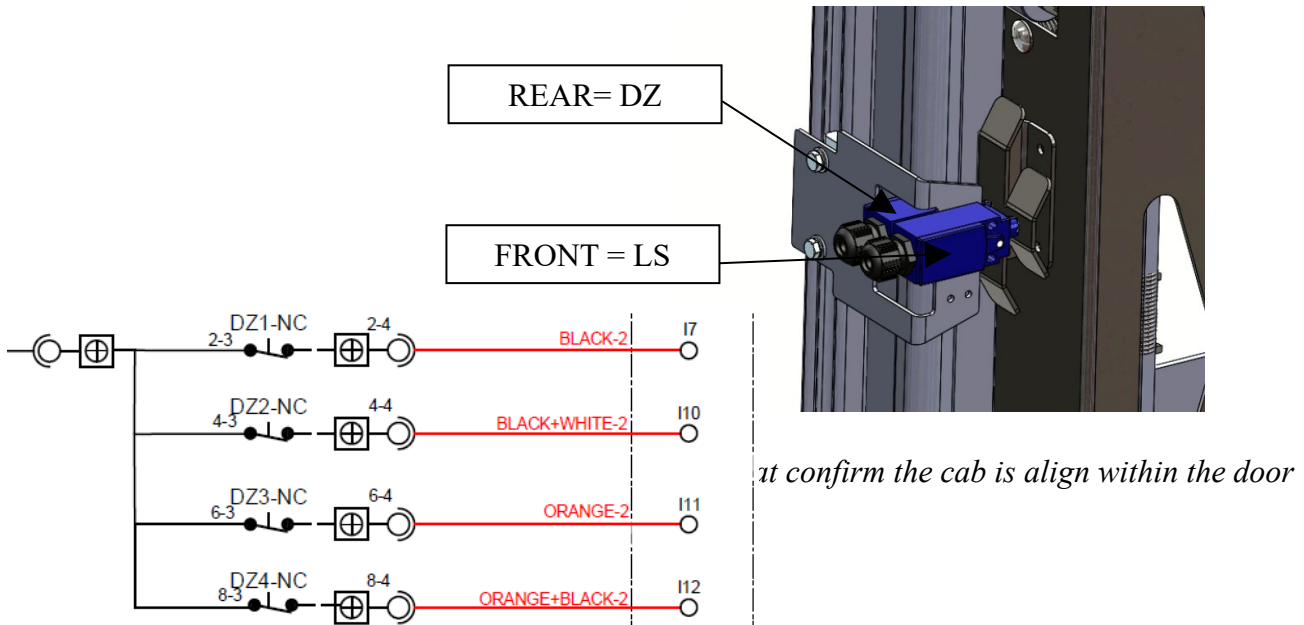
NAME	FUNCTION	LOCATION	TERMINAL	
			(24Vdc)	
LS1	1St Landing switch	1St landing switch kit front	2-1	2-2
LS2	2nd Landing switch	2nd landing switch kit front	4-1	4-2
LS3	3rd Landing switch	3rd landing switch kit front	6-1	6-2
LS4	4th Landing switch	4th landing switch kit front	8-1	8-2



The LANDING SWITCHES are normally closed (NC) positively opened device that confirm the cab align with the adjacent landing.

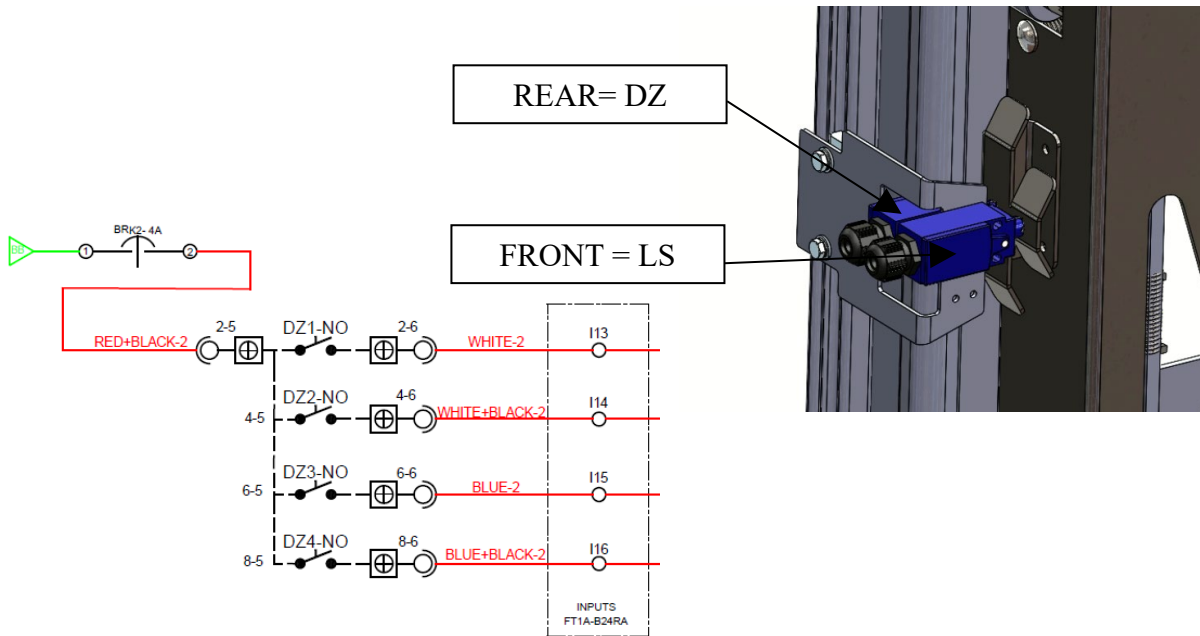
DOOR ZONE SWITCHES (NC circuit)

NAME	FUNCTION	LOCATION	TERMINAL	
			(24Vdc)	
DZ1-NC	1St Door Zone switch	1St landing switch kit rear	2-3	2-4
DZ2-NC	2nd Door Zone switch	2nd landing switch kit rear	4-3	4-4
DZ3-NC	3rd Door Zone switch	3rd landing switch kit rear	6-3	6-4
DZ4-NC	4th Door Zone switch	4th landing switch kit rear	8-3	8-4



DOOR ZONE SWITCHES (NO circuit)

NAME	FUNCTION	LOCATION	TERMINAL	
			(24Vdc)	
DZ1-NO	1St Door Zone switch	1St landing switch kit rear	2-5	2-6
DZ2- NO	2nd Door Zone switch	2nd landing switch kit rear	4-5	4-6
DZ3- NO	3rd Door Zone switch	3rd landing switch kit rear	6-5	6-6
DZ4- NO	4th Door Zone switch	4th landing switch kit rear	8-5	8-6



The door zones NO are normally opened device that confirm the cab is align within the door zone of the adjacent landing.