

Retrofit Kit

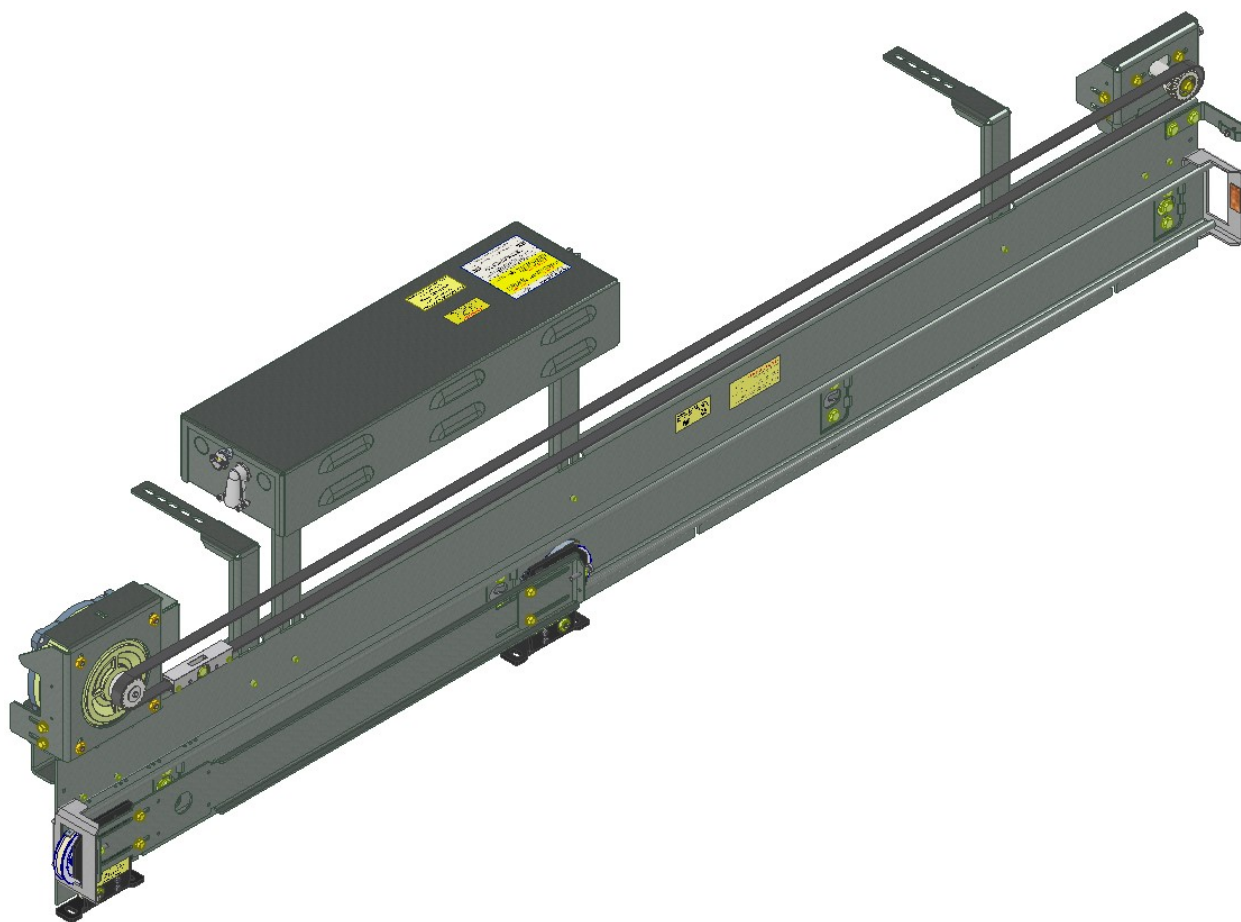


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A. Equipment

GAL will now be selling the MONXT Linear Operator with a Delta drive and motor. This retrofit kit has been created to swap the old equipment with the new equipment. Items and steps have been included below to modify your existing header and mount the new equipment.

Items you will need:

- (1) 5/16-18 tap
- (1) 1/2" socket head or 1/2" wrench
- (1) 7/16" socket head or 7/16" wrench
- (1) Socket wrench
- (1) Drill
- (1) "F" drill bit
- (1) Philips head screwdriver
- (1) Small flat head screwdriver
- (1) Wire stripper
- (1) Wire cutter

Items Provided:

- 1. (12) 5/16-18 SEMS Screws
- 2. (10) 1/4-20 SEMS Screws
- 3. (5Ft) Conduit
- 4. (5Ft) Interlock and ground wires

Table A - General Torque Requirements

General Torque Specifications for Screws & Bolts	
Bolt/Screw Type	Recommended Torque (ft-lbs)
#6	0.75
#8	1.53
#10	1.75
1/4-20 UNC	7
5/16-18 UNC	13
3/8-16 UNC	23
1/2-13 UNC	41

All bolt calculations use a torque coefficient between bolt and receptacle. It is a function of the materials' frictional characteristics, which are based on surface finish, coatings and so on. All bolt torques listed here were calculated with a K-Factor of 0.20 which is a typical dry steel bolt connection. No lubricants should be used on any bolt connection unless otherwise specified.

B. Overview

You currently have a similar setup to the operator shown below:

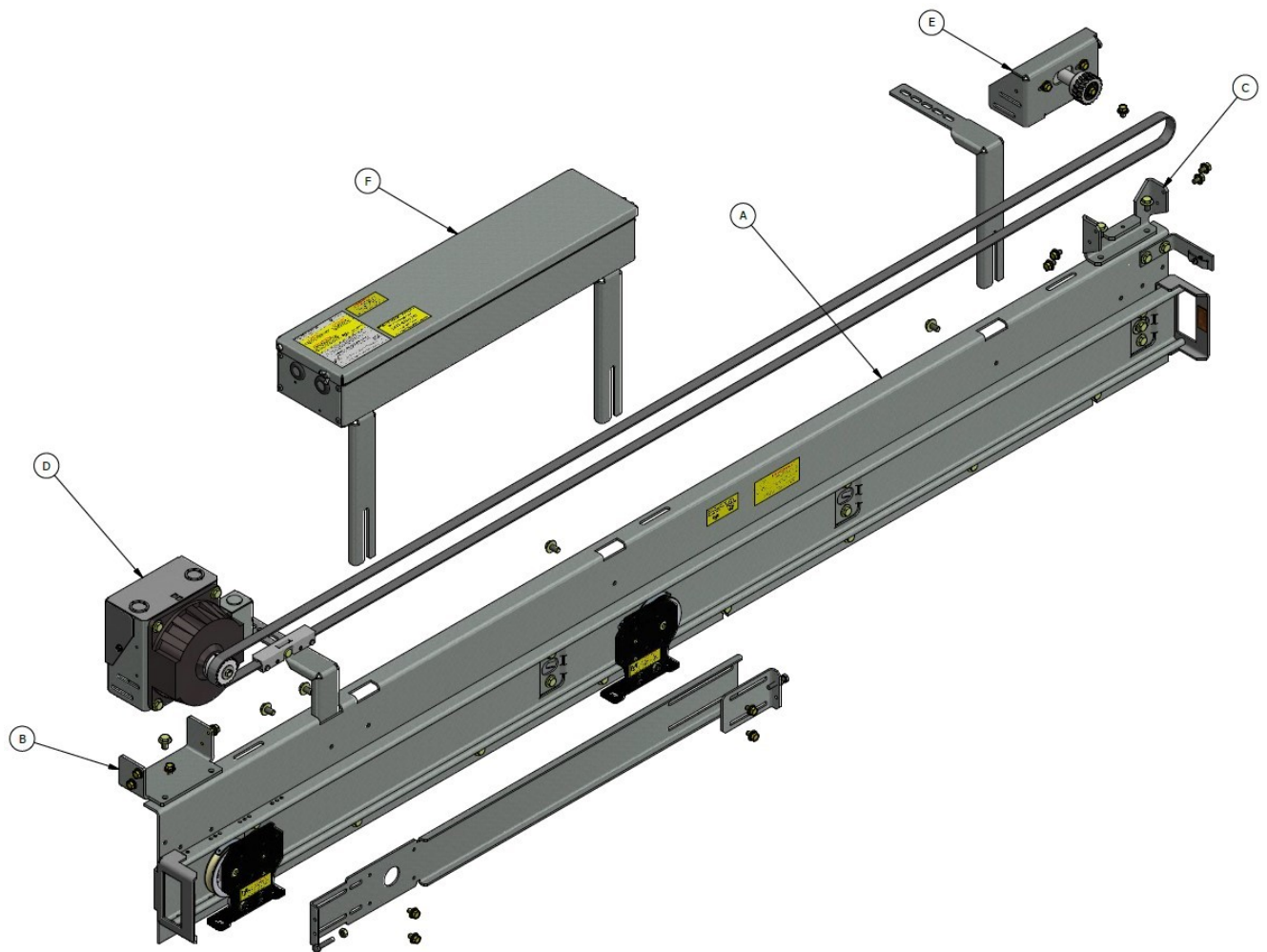


Figure 1 – Single speed left hand MONXT Operator

1. Equipment

Your operator will need to be modified/replaced with new equipment provided as shown on the tables below:

Table B - SS/CP Application

Item	Description	old part number	new part number
A	MONXT Header	No Change	
B	SS/CP Motor bracket	OPL-1007N	OPL-1078N
C	SS/CP Tensioner bracket	OPL-1006N	OPL-1077N
D	Motor assembly	OPL-0101N	OPL-0133N
E	Tensioner Assembly	OPL-0103N	OPL-0131N
F	Control box	OPL-0105N	OPL-0132N

Table C - 2S/2SCP Application

Item	Description	old part number	new part number
A	MONXT header	No Change	
B	2S/2SCP motor bracket	OPL-1009N	OPL-1082N
C	2S/2SCP tensioner bracket	OPL-1008N	OPL-1081N
D	Motor assembly	OPL-0101N	OPL-0133N
E	Tensioner assembly	OPL-0103N	OPL-0131N
F	Control box	OPL-0105N	OPL-0132N

For reference, the part numbers for the kits that include all necessary components are listed below:

OPL-0140N – For SS/CP operators

OPL-0141N – For 2S/2SCP operators

2. Hanger Assembly Locations

Table D, shown below, helps identify where each assembly is mounted based on the hand of the operator. For CP/2SCP operators, the motor assembly is always on the left side of the hanger and the tensioner on the right side of the hanger. Figures 2-4, depict the different job set ups for SS, 2S and CP operators. The orange arrow represents the motor assembly, whereas, the green arrow shows the tensioner assembly.

Table D - Motor and tensioner assembly locations on hanger

Hand	Left Side	Right Side
Left hand Operator	Motor	Tensioner
Right Hand Operator	Tensioner	Motor
CP/2SCP Operator	Motor	Tensioner

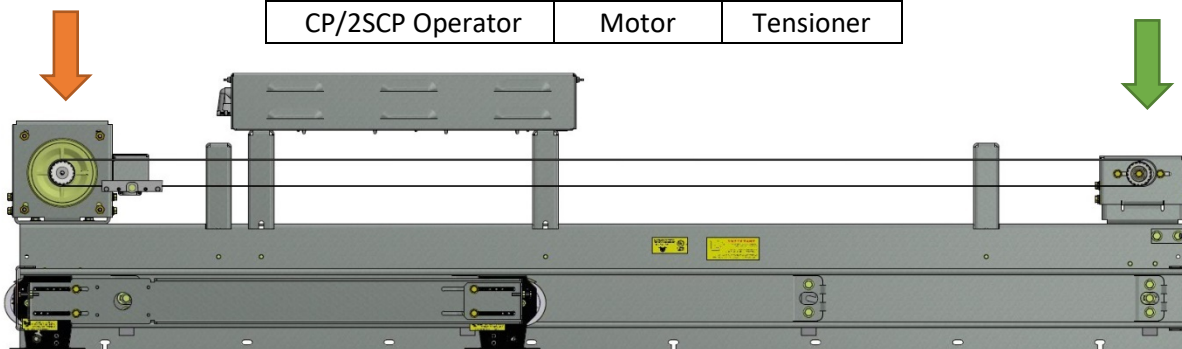


Figure 2 – Left hand SS Operator

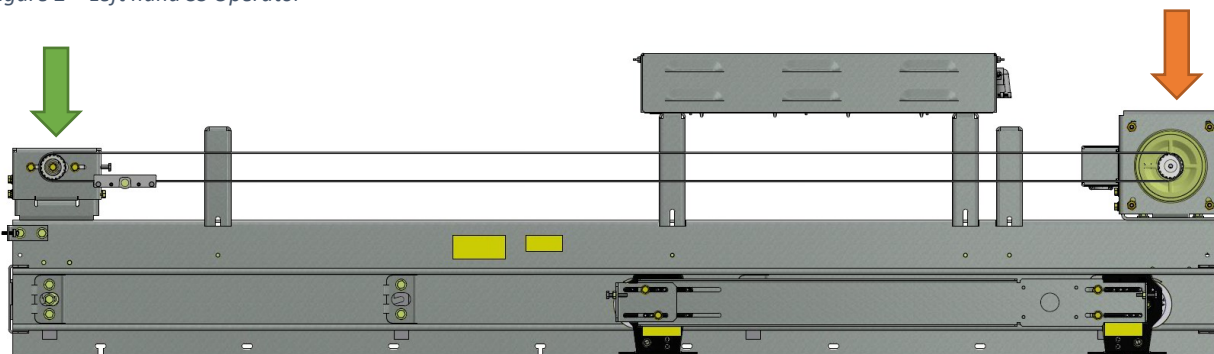


Figure 3 – Right Hand SS Operator

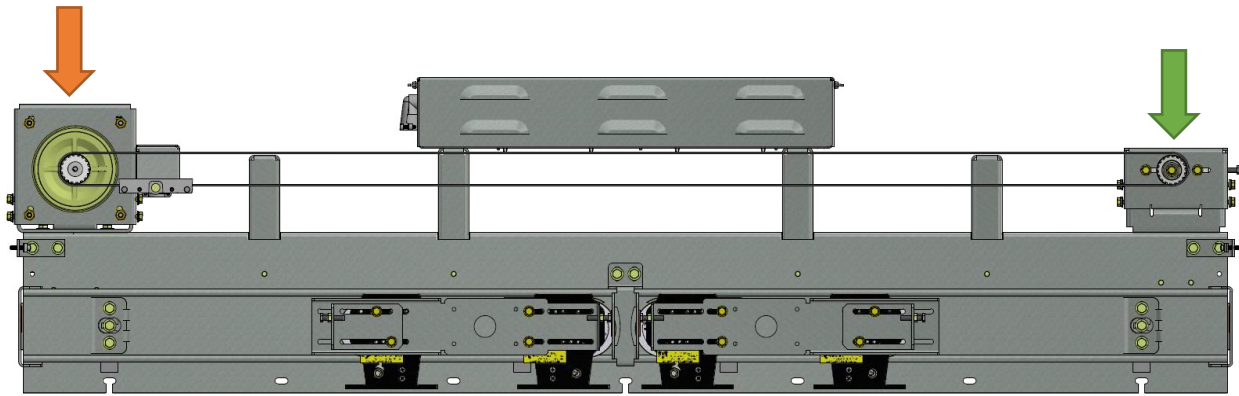


Figure 4 – CP Operator

3. Header Modifications

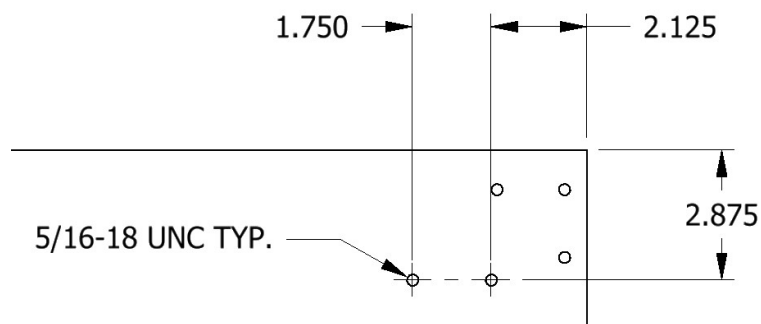


Figure 5 – Support mounting bracket hole pattern

The header will need to be modified to include the mounting hole pattern shown in Figure 5. This hole pattern can be used for both the motor and tensioner support brackets.

The flange at the top of the header will need to be modified as well. Figure 6 shows the hole pattern for the motor support bracket. You should already have this hole pattern on the header as no changes were made to the pattern to allow a feasible motor assembly swap. Figure 7 shows the hole pattern that is needed for the tensioner bracket. You will need to drill two additional 5/16-18 tapped holes towards the center of the hole pattern as shown.

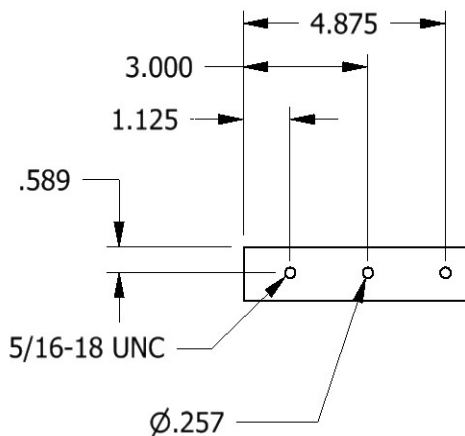


Figure 6 – Top of header flange motor support hole pattern

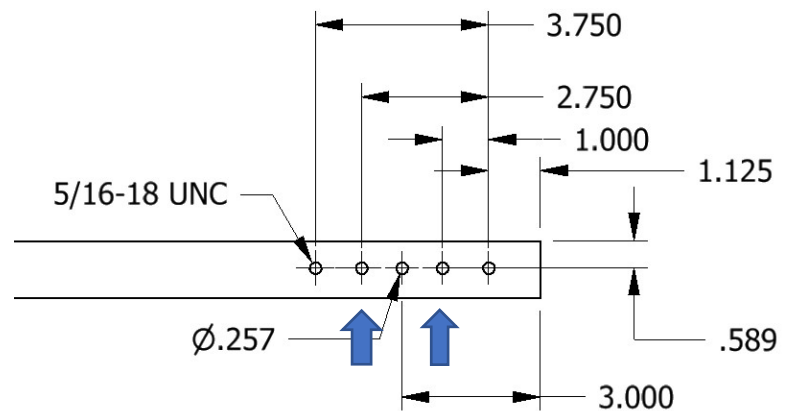


Figure 7 – Top of header flange tensioner support hole pattern

4. Bracket Mounting

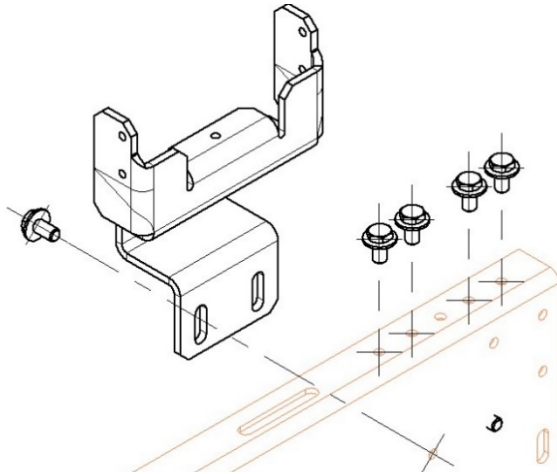


Figure 8 - Mounting the tensioner bracket

Figure 8 shows how to mount the tensioner bracket for both the single speed and two speed applications. Use (4) 5/16-18 screws to mount the tensioner bracket to the top of the header flange and proceed to tighten the bottom (2) 5/16-18 screws to secure the bracket to the back of the header. Tighten the screws at the top of the flange to fully secure the tensioner bracket.

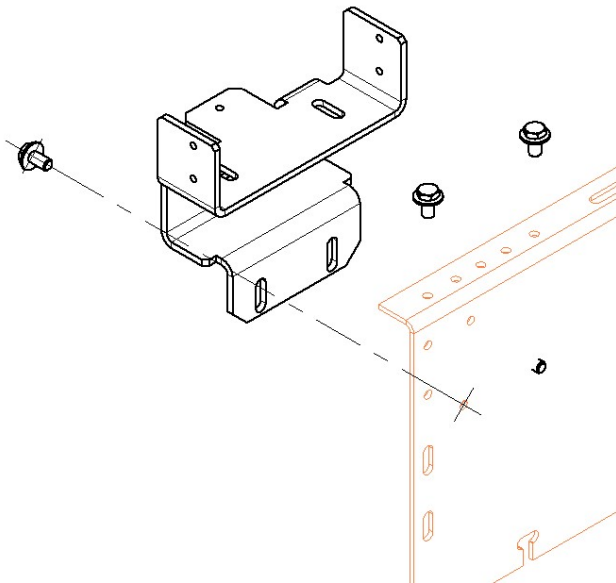


Figure 9 - Mounting the motor bracket

Using the same method described above, loosely screw (2) 5/16-18 screws to the top of the header flange. Secure the bottom end of the bracket to the back of the header using (2) 5/16-18 screws and then tighten the screws at the top of the flange to secure the motor bracket.

5. Mounting Assemblies

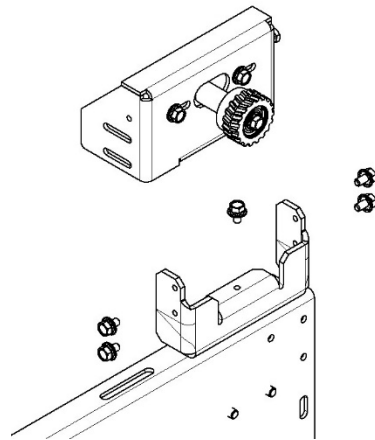


Figure 10 - Unmounted tensioner assembly

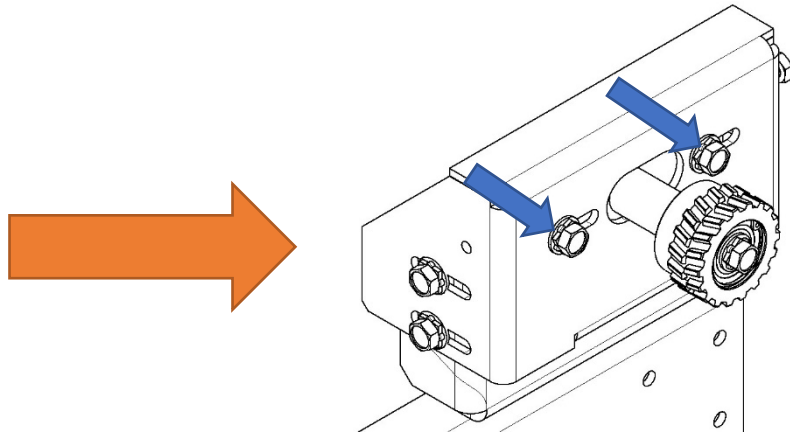


Figure 11 – Mounted tensioner assembly

Once the tensioner support bracket is secured to the hanger, place the tensioner assembly on top and secure the assembly using the (5) ¼-20 screws. As shown in Figure 10, hand tighten the two screws on each side and one screw on the back of the assembly. Figure 11 shows the final mounting position for the tensioner assembly, make sure to also loosen the two front screws on the tensioner assembly shown on Figure 11 as you will need to mount the belt, adjust your clutch and increase the tension on the belt.

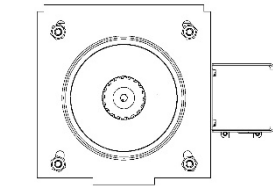


Figure 12 – Motor Assembly
Left Hand Orientation

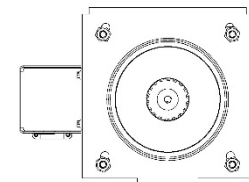


Figure 13 - Motor Assembly
Right Hand Orientation

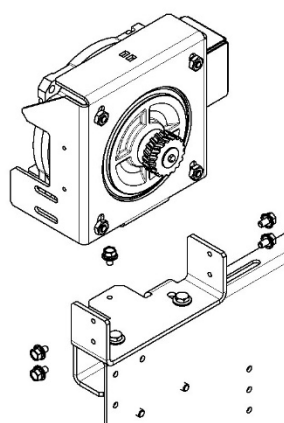


Figure 14 – Unmounted Motor Assembly

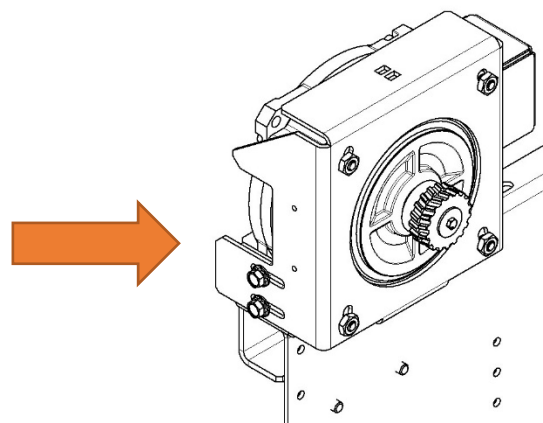


Figure 15 – Mounted Motor Assembly

Make sure you are mounting the correct handed assembly if you have a handed operator. Figure 12 represents a left-hand application and Figure 13 represents a right-hand application. Figure 14 shows how to mount the motor assembly on to the motor bracket, loosely tighten the two screws on the side and the one on the back as you will need to adjust your belt with the clutch after you put on the belt on the operator. Figure 15 displays the correct way to mount the motor assembly to the motor bracket.

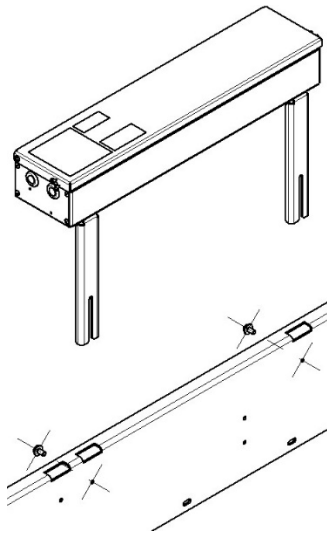


Figure 16 – Siemens Control Box

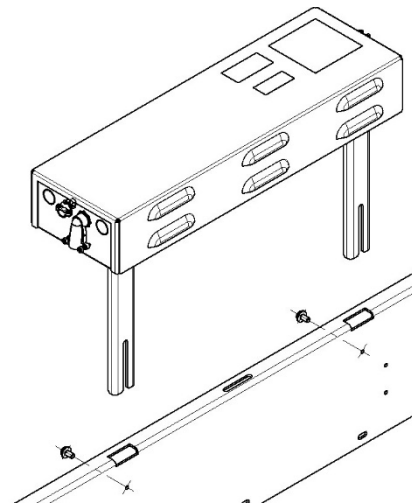


Figure 17 – Delta Control Box

To attach the new control box assembly, you are going to loosen the (2) 5/16-18 screws to slide out the Siemens control box as shown in Figure 16. Next, slide the Delta control box into the middle two windows located at the top of the header flange, shown in Figure 17. Tighten the screws once you are satisfied with the desired height. For reference, the difference between the Siemens and Delta control boxes is that the Delta control box has louvers on the front and back cover, this physical feature can easily help you distinguish the two control boxes.

6. Wiring

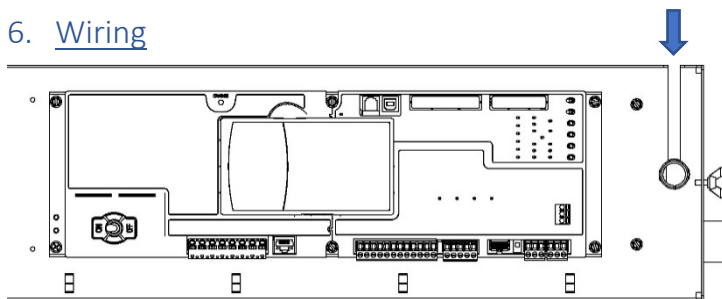


Figure 18 – Top view of Delta control box without cover

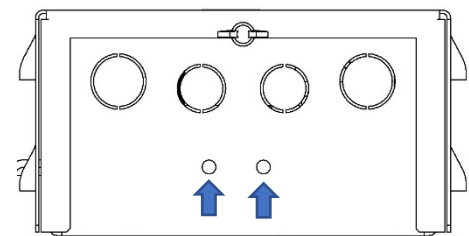


Figure 19 – Side view of control box

Once all the assemblies are mounted, we can start to wire the control box, the blue arrow in Figure 18 depicts a slot where you can slide the motor encoder cable into the control box. Figure 19 points out the two clearance holes that can be used to insert a screwdriver to tighten the encoder cable to the drive from the outside of the control box. The retrofit kit includes 3 pieces of 5 feet long wiring cables for the interlock/gate switch and two (5) feet long steel conduit for the wire. Note, the encoder cable is the ONLY cable that does not run through the conduit.

Using Figure 20 to guide you on the next page, rewire the interlock/gate switch, the motor, your light curtains and the controller to the MONXT Delta drive.

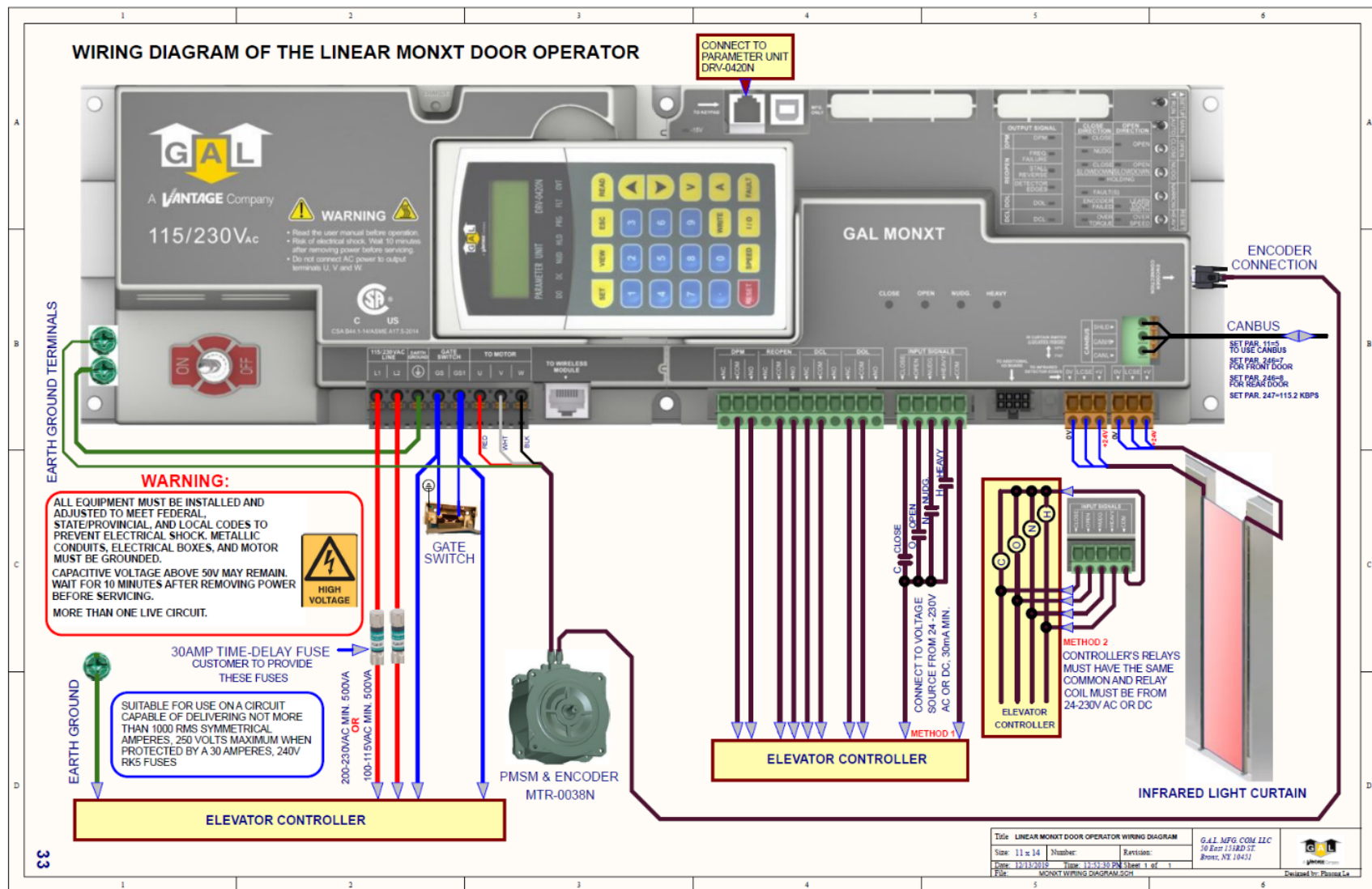


Figure 20 – Delta drive wiring diagram

7. Adjustments

From this point on, you can use the MONXT Manual to continue the setup to your operator. The Part number for the document is listed below:

MONXT Manual: DOC-0137N