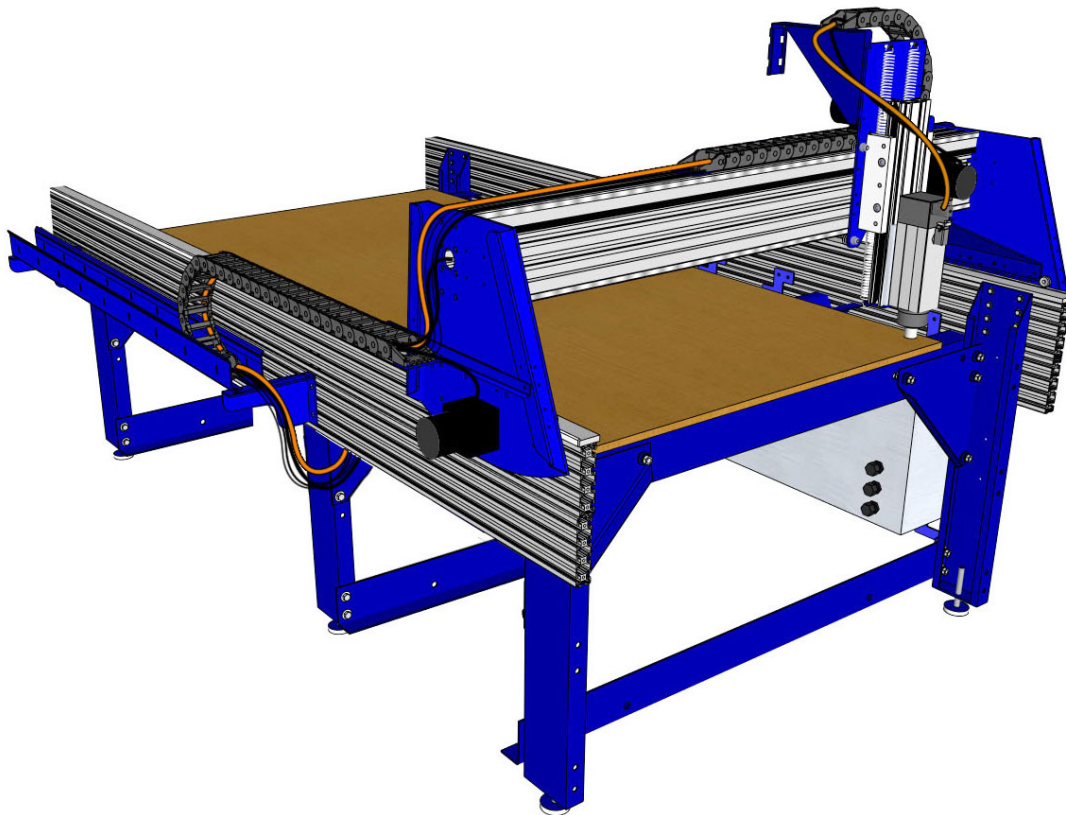




888-680-4466 • ShopBotTools.com

# PRS X-Axis E-Chain Installation

## For Tools with a 12" Z-Axis



This kit is compatible with PRS Shopbots that have an X-axis cutting area of 96" to 144". It is not immediately compatible with older PRT Shopbots, but can be modified to fit by drilling some additional holes in the trough and bracket parts. Please contact tech support for assistance in modifying these parts to fit an older machine.

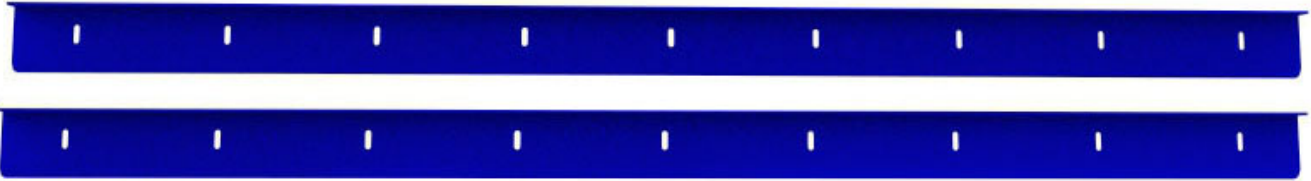


## Table of Contents

Hardware .....	5
Install Trough Brackets .....	6
Install Trough .....	7
Install Upper E-Chain Bracket .....	8
Install E-Chain .....	8
Open Chain and Install Wires .....	9
End Plate Drawing .....	10



## Hardware:



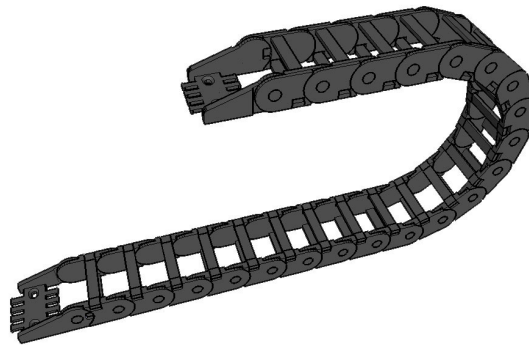
12" E-chain trough bracket  
(003293)



Upper E-chain bracket  
(002156)

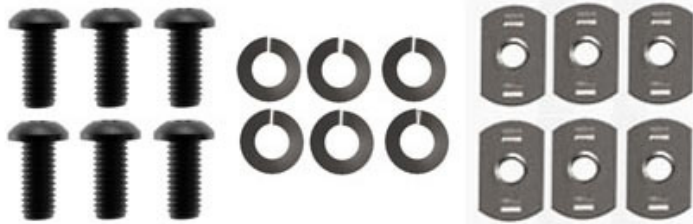
E-chain trough 64" (002158)  
or 74" (002159)

Note: Tables longer than 144"  
will require two or more pairs.

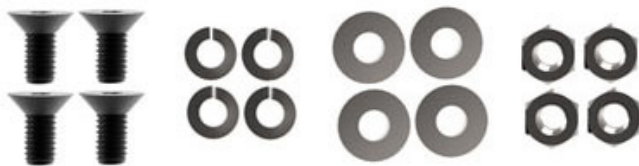


E-Chain (sized to match table)

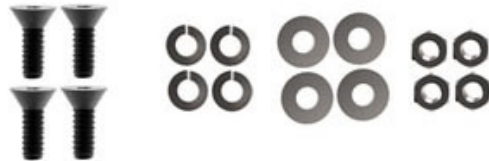
**Note:** The e-chain will be shorter than  
the actual length of the table.



5/16-18 x 3/4" Button Head Screws  
5/16" Lock washers  
5/16-18 T-nuts



1/4-20 x 3/4" Flat Head Screws  
1/4" Lock washers  
1/4" Flat washers  
1/4" Nylock hex nuts



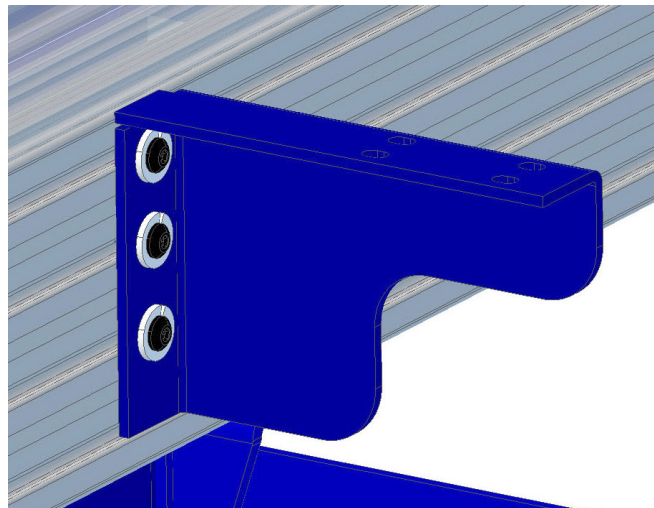
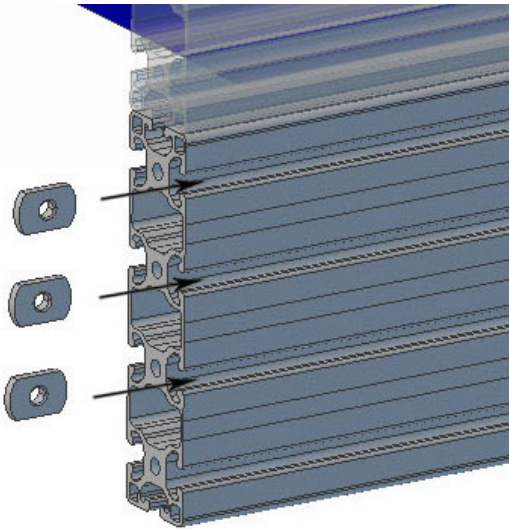
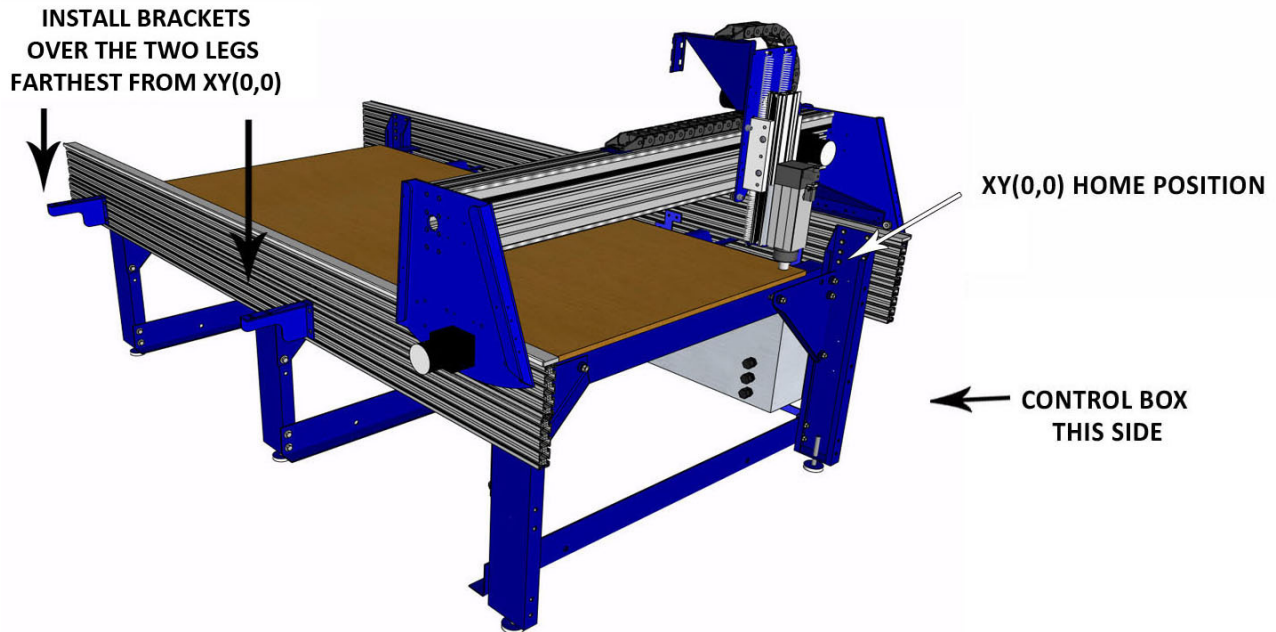
#10-32 Flat Head Screws  
#10 Lock washers  
#10 Flat washers  
#10-32 hex nuts



1/4-20 x 3/4" Button Head Screws  
1/4" Lock washers

## Install Trough Brackets

The chain should be mounted on the side of the tool where the Y-axis e-chain “exits” the gantry. When installed, the X-axis chain will carry the cables from the gantry to approximately the center of the ShopBot, where they will route underneath the table to the control box. The trough brackets should be positioned on the “far corner” of your table, as shown here:

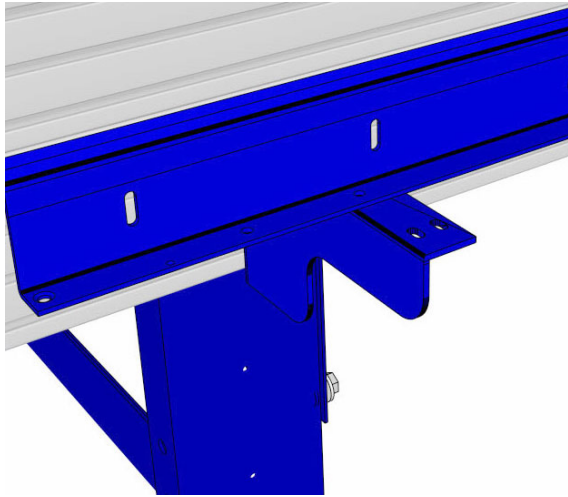
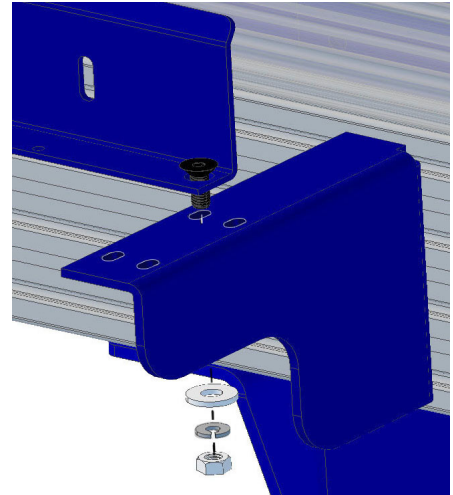


Slide one 5/16-18 T-nut into each of the top three grooves on the lower table side extrusion, with the flanged face of the nut facing towards the inside of the table. Loosely thread a 5/16-18 x 3/4 Button Head Screw and 5/16 Lock Washer through the Trough Bracket into each T-nut, as shown above. Repeat this step with the second bracket (use all brackets that came with the kit. Extended tables may have 3-4 brackets). Keep the mounting hardware loose to slide the brackets along the table side.



## Install Trough

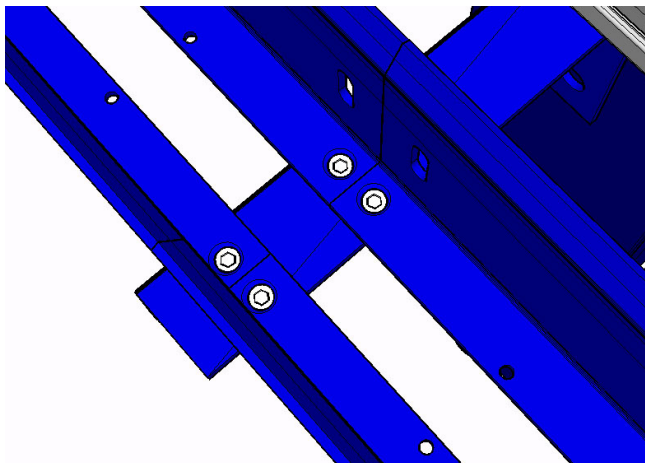
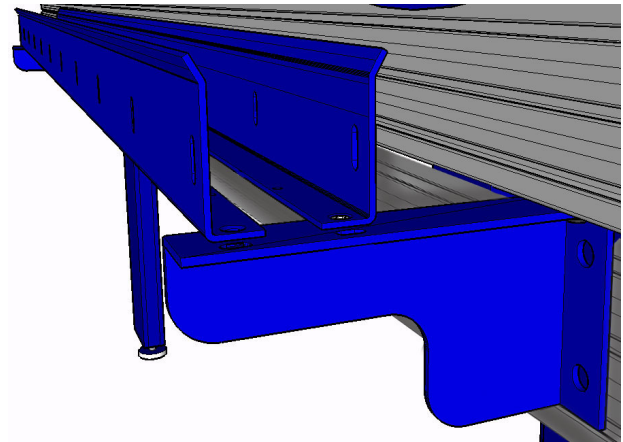
Place the first trough section onto the brackets as shown here. Secure each end of the trough using one 1/4-20 x 3/4" Flat head screw, flat washer, lock washer, and 1/4" nylock nut.



On the bracket located over the center table leg, use the mounting holes on the far edge of both the trough and the bracket.

Depending on the tool length, the trough may extend past the bracket. There are mounting holes at the end of the trough, and approx. 8-12" in from the edge. Reference the table drawing at the end of the assembly manual for details on which mounting hole to use.

Repeat with the second trough piece, creating a U-shaped channel for the E-chain to ride in.

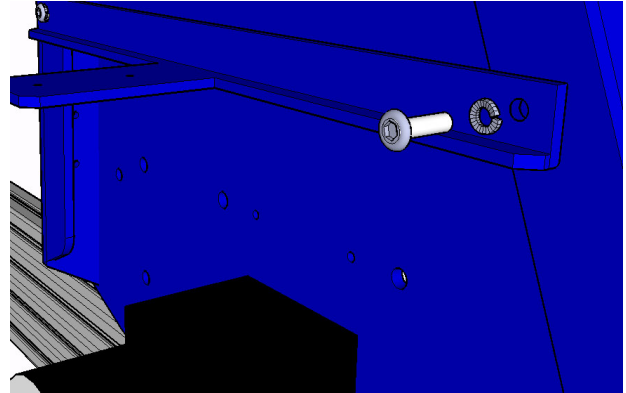


If setting this up on an extended table (longer than 144"), butt the second pair of trough pieces against the ones just installed. A third trough bracket will need to be added to support the end of the second pair.

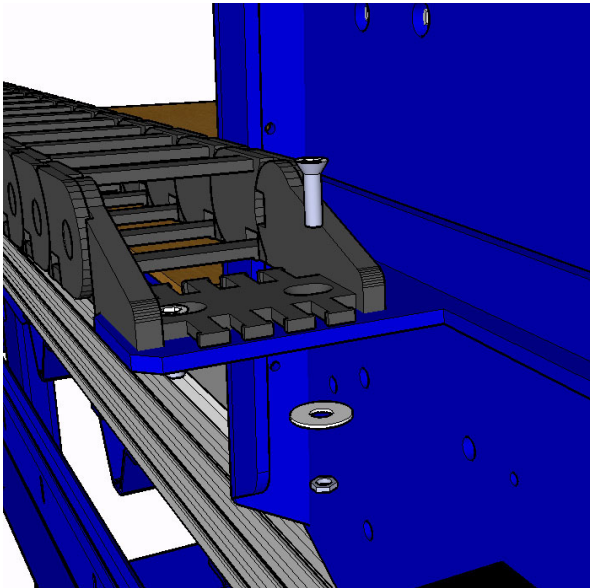
## Install Upper E-Chain Bracket

Mount the Upper E-chain Bracket to the 1/4-20 tapped holes located in the side of the endplate, using the 1/4-20 x 3/4" Button Head Screws and 1/4" lock washers.

**Note:** Some very early PRS models will not have these holes. If so, you may need to drill them and either tap the holes or secure the screws using a 1/4" hex nut. Please see the last page of this document for details.



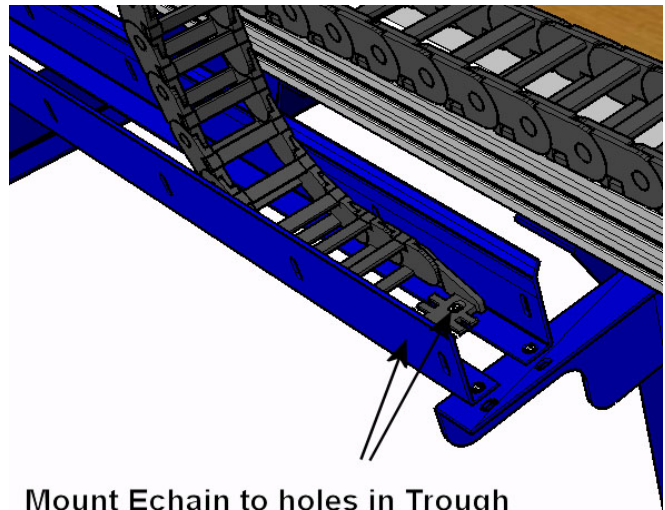
## Install E-Chain



Attach the E-chain to the tab that extends out from the Upper E-chain Bracket using two sets of #10-32 Flat Head Screws, #10 flat washers, #10 lock washers, and #10-32 hex nuts.

Attach the other end of the E-chain to the holes located 3 1/2" (64mm) from the end of the trough, closest to the center of the machine.

Use the same #10-32 hardware as in the previous step.



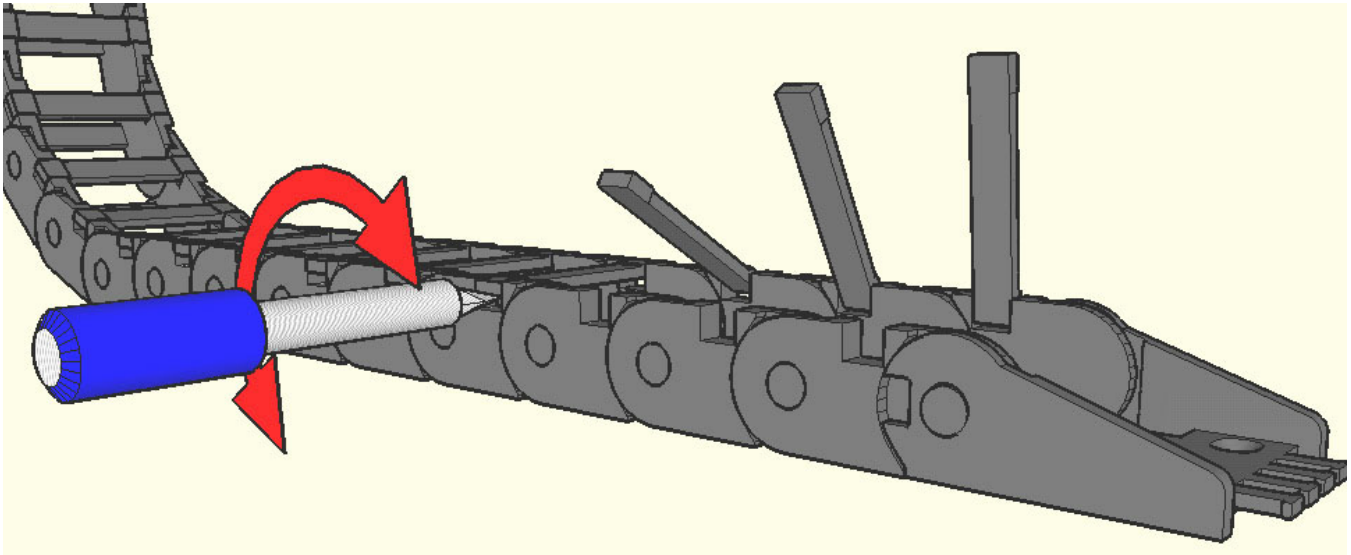
Mount Echain to holes in Trough



Before continuing, move the X-axis back and forth through its full extent of travel. The chain should never feel like it is binding or under tension. If it seems to be binding up, loosen the bolts holding the trough brackets onto the table sides and adjust the position of the trough until the chain can move freely.

## Open Chain and Install Wires

Insert the tip of a flathead screwdriver into either side of the hinged access bar. Turn the screw driver approximately ¼ turn in each direction until the bar opens. Continue this process until the entire chain is open.



All wires and cables coming off of the gantry will be carried in the X-axis chain. Inspect the following cables before closing up the chain:

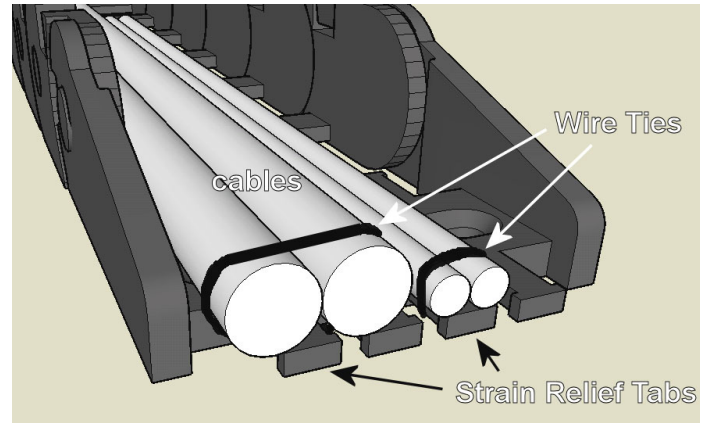
- X1 motor cable (coming through the hole in the center of the gantry beam)
- X2 motor cable (located right above the Upper E-chain Bracket)
- Y motor cable
- Z motor cable
- X-axis proximity switch (coming through the hole in the center of the gantry beam)
- Y-axis proximity switch
- Spindle or router power cord
- Spindle fan cable (if applicable)
- Z-axis proximity switch (for ATC tools only)
- Pneumatic air hoses (for ATC tools only)

**NOTE:** It is strongly recommended to keep the spindle power cord separated from the other cables. It should run parallel within the chain, without crossing over the other wires. This will help prevent electrical interference that may cause connection problems while running the machine.

Use wire ties to secure the cables to the strain relief tabs on the ends of the E-chain.

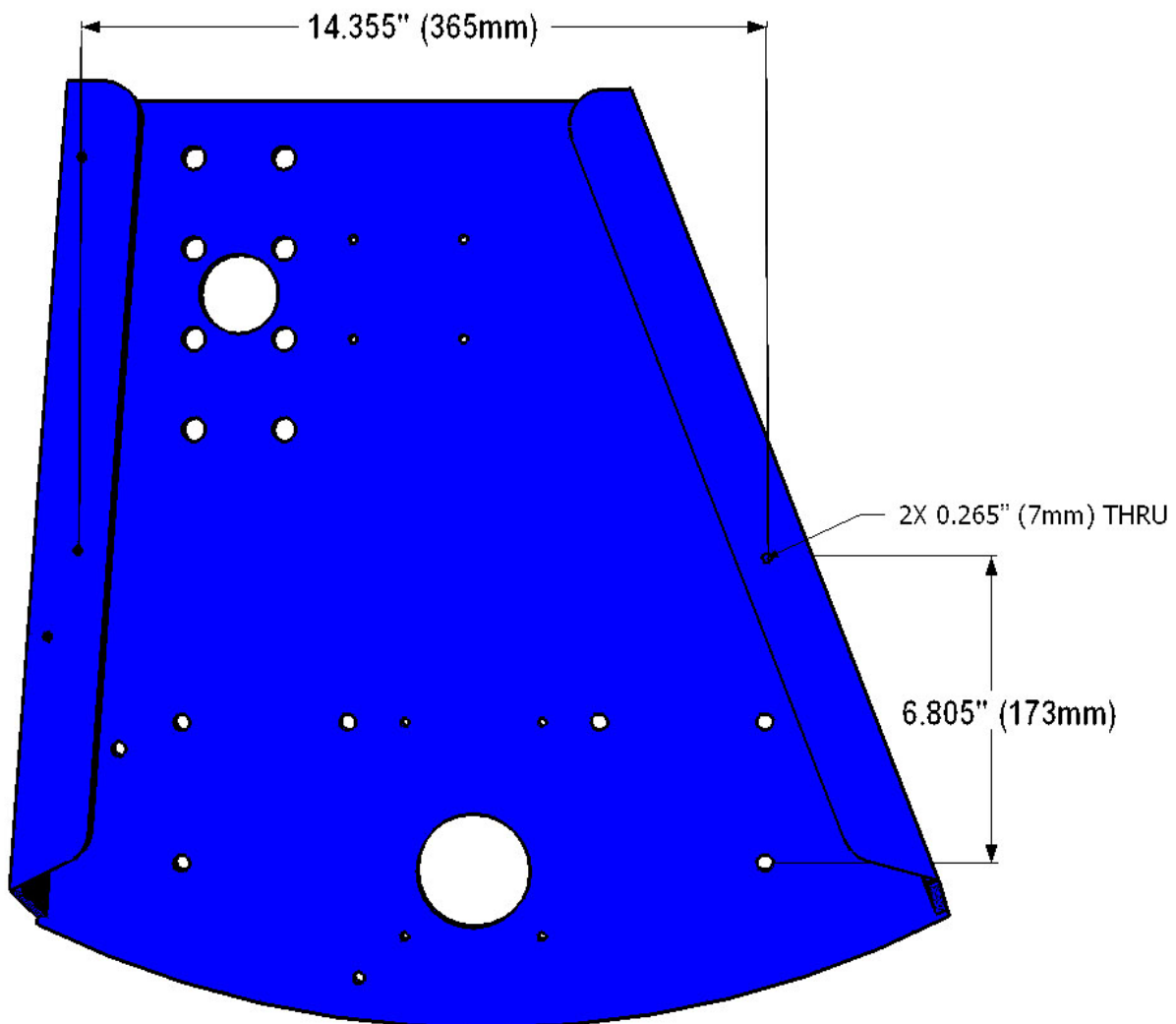
**Only use wire ties on the ends of the chain as shown here.** Using them inside the chain will likely cause binding during movement.

This completes the installation process. Continue the wiring to the control box. If long lengths of cable are leftover, **avoid coiling the wires into tight loops.** A single loose cable loop tucked under the table is the best method.



**End Plate Drawing** *For early PRS models only*

Use this drawing to drill 2 holes for the mounting of the X-upper E-chain Bracket. Instead of tapping these holes for a 1/4-20 thread, it will be easiest to drill through-holes and use a 1/4-20 hex nut behind the plate.



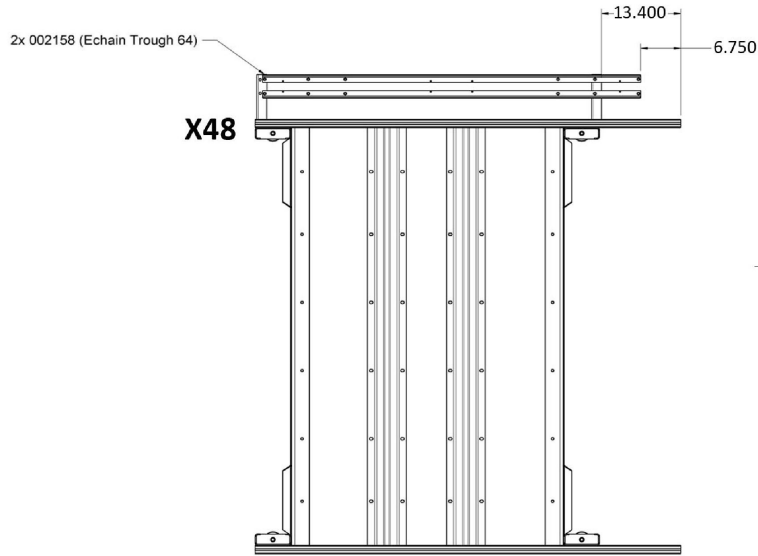


Table drawings for  
E-chain placement

NOT TO SCALE

