



Installing 10" Rail Extensions

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Overview

This document covers the installation of 10" rail extensions onto an existing PRS tool. These extensions can go on the front or back of the tool to lengthen the table and allow the mounting of additional accessories such as the ShopBot rotary indexer. If adding these extensions to mount a rotary indexer, put them on the back of the tool.

IMPORTANT: To get a full 10" of additional travel after installing these rail extensions, you will need to have at least 6" of slack in the cables that run to the gantry of your tool. Usually, this slack can be obtained by removing cable ties and re-routing wires, starting at the control box.

Installing the Rail Extensions

Refer to Rail Extensions Kit Drawing 004881-D1 on p. 10.

Temporarily remove stop blocks and proximity switch target. These will be added back later.



Use the provided t-nuts and gusset plate to attach the extrusion to the end of the table as shown. Make sure that the top of the extrusion is flush with the existing table sides. The gusset plate should go on the outside.

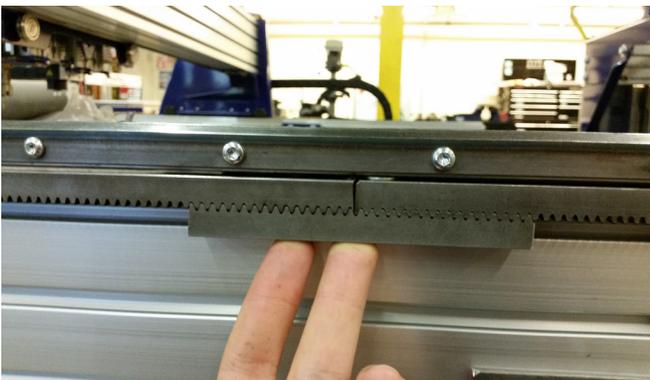


Add aluminum bar (004875) with steel track (004880).



Align the ends of the steel track as precisely as possible.

Loosely attach the rack with two screws as shown, and two washers on top of the rack. Place a third washer on top of the rack near the end that butts up against the existing rack; this washer acts as a spacer.



Use the short piece of rack provided to align the rack. Press it up over the joint to align the new rack to the old. There should not be a gap of more than one tooth width. Tighten the screws holding the rack in place.

If the spacing washer is loose, you may wish to add a drop of superglue or similar adhesive to it to make sure that it stays in place.

Extending the Cable Carrier

To get the full additional 10" of travel on the table extensions, it will be necessary to add (up to) three links to the x-axis cable carrier.

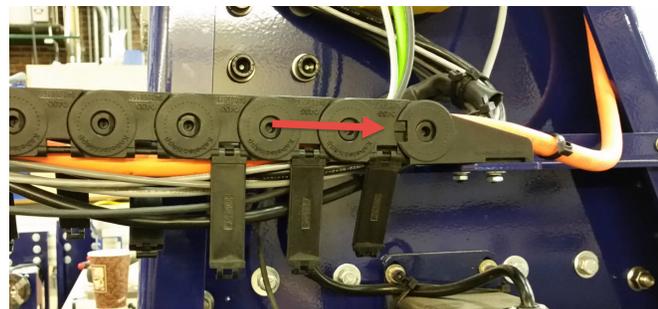
Use a screwdriver to separate the last link of the cable carrier from where it is mounted to the end of the gantry.



Create slack in the cables by clipping cable ties and pulling out slack, starting from the control box.

Open up the provided cable-carrier links, and attach them to the free end of the cable carrier.

Note: The rail extension kit comes with six cable carrier links. However, in many cases there will not be enough slack to insert all six links. As long as at least three of the links can be added to the cable carrier, there should be sufficient length added to the cable carrier for the gantry to move freely over the rail extensions.



Reinsert the end of the cable carrier into its mount on the end of the gantry.

Turn off the control box and push the gantry onto the rail extensions. There should be no binding. The last link of the cable carrier may rotate past 90 degrees where it is attached to the gantry; this is expected.



Replacing the Stop Blocks



Move the gantry to the end of the table as shown on left.

Insert the stop blocks, and push them up against the pinion on the x-axis motors.

Move the gantry back away. Use one hand to hold the stop block in place, and tighten the screws to secure it. Check that the stop blocks are aligned by moving the gantry back until it hits them. If it hits both stop blocks at the same time, then they are correctly placed. If it hits one before the other, then adjust one of them until they hit at the same time; this will keep the gantry from becoming skewed if it hits the stop blocks.



Replacing the Proximity Switch Target

Mount the proximity switch target so that it is aligned with the end of the stop block as shown on right.



Bring the gantry back, making sure that there is about 1/16" of clearance between the end of the proximity switch and the target. Adjust as needed.



Item Number	Quantity	Part Number	Description
1	2	001887	SHCS 10-32 X 5/8
2	3	002033	BHSCS 5/16-18 x 3/4
3	1	004875	Bar Rail Extension 10.5"
4	1	004880	Track PRS Extension 10.5"
5	4	001884	PH Torx 8-32 x 5/8
6	1	004879	Rack Extension 16" Reversible
7	15	002498	T-nut 5/16-18
8	1	004883	Extrusion 1.5" x 6" x 10.5"
9	12	000529	HCS 5/16-18 X 3/4 Z5
10	12	004487	Washer Schnorr 5/16
11	12	000848	Washer Flat 5/16 Z USS
12	1	004878	Gusset Plate 3" x 8", 12 Holes
13	6	001957	T-nut 2x 1/4-20 Hole
14	12	001566	SSS 1/4-20 x 3/8
15	3	000629-01	Washer Flat #10 SAE Z

