

I felt this project was so simple in its concept that I didn't document it all in pictures, and it's a bit hard to see details in the installed pictures below, but the concept is pretty simple, so here's some notes:

The slide itself is made from 1/8" thick x 3 1/2" wide aluminum ripped from the side of a piece of 4" x 4" square tubing. A hole saw was used to cut holes in it sized to fit the smaller diameter of Adorama Step-Down Adapter Ring 58mm Lens to 48mm Filter Size SKU: FLD5848 MFR: SDR5848 which were glued to the slide with 30 min. epoxy. I cut four holes, three for filters, one for no filter. The one for no filter does not have an adapter ring glued in it.

The thing the slide slides on started out as a solid rectangular block of aluminum, which I basically turned into a little table with a recessed top. I started by cutting the recessed top of the table on the mill. The bottom of the 'table', with its legs, I shaped by first roughing out all the material to be removed with the sliding miter saw with the blade depth stop set. I removed all the material close to the final depth, leaving the table legs. Next I cut the center hole with a hole saw, I then cleaned up the bottom of the table and the legs on the mill. Two 1/8" thick pieces of aluminum were used to capture the slide, the outer edges of the table top drilled and tapped for allen head bolts to hold the slide retainers in place.

One edge of the slide has small indentations centered on each filter hole, cut with a dremel cut off wheel and smoothed with a small diameter grind stone. An indexing pin made from 1/8" diameter delrin rod from McMaster Carr is held with tension against the edge of the slide with a piece of stainless steel feeler gauge. Maybe it's about .040 thick. There is a slot milled across the raised edge of the table, under the filter slide retainer, for the pin to slide in. To install or remove the slide, I pull down on the feeler gauge spring to remove tension (so the pin doesn't go flying out when the slide is removed).

The top of the slide has a 10-24 screw going through as a safety and finger grabber.

To install the filter slide assembly in the optical tube, I drilled and tapped the bottom of the legs for 8-32. I cut four little pieces of 8-32 screw material and sharpened one end of each to a point, and threaded them into the bottom of the legs. I racked the focuser all the way in, centered the table's central hole over the focuser, and pressed the pointed screws into the side of the optical tube to mark the drill locations. Then drilled the holes and mounted the slide table inside the tube.

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