DIY BT3000 FIXTURE BLOCK for Rip/Miter Fence extrusion

1. This is intended to fit the top T-track on the Rip and miter fence (uses the same extrusion) on the Ryobi BT3x00 / Craftsman 22811 family of saws
2. You must make the Block and Base parts; you can make them 1.5" or 3 inches long or modify to any other length.

Make the base from 1/8” aluminum bar, you can get 1.5”, 2”, and 3” at Lowes and other hardware stores cheaply ($12 for 3 feet); cut 1-1/8” long pieces; I do this on my miter or Table saw; aluminum cuts nicely with woodworking blades and no damage.

Make the block from a length of 1x 2; I said hardwood but pine is probably OK. Rip a foot piece to ~1.352”. Then you need two rabbets of .281 x .125; the .125 can be a little thicker. I raised the blade to 0.281” and set it just a hair away from the rip fence. Cut the groove and then just used my hand to break off the hairline piece. Cut to length.

Use a drill press to accurately drill, tap, and countersink the base and block. Hint-use the fence to drill all the centerline holes exactly on the same centerline. When using a tap, still with the piece lined up to the fence, I put the tap in the drill press chuck and remove the belt so that the chuck turns freely. Use the quill lever to press lightly the tap into the hole while spinning the chuck clockwise to enter the hole. You can keep spinning the chuck and the tape will enter on its own as long as you keep a light pressure on the quill.

1. The left face of the fixture block is designed to be flush with the left side of the Rip fence. The mounting holes are 5/8" and 2-1/8" apart for the short and long blocks respectively. As drawn the right side will be recessed from the right side fence because the T-track is not centered. If you wish to make the Right side of the block also flush with the right side of the rip fence, you need to add 0.225" to the far right side of center of the block making it asymmetrical.
2. To complete the assembly you need two FH wood screws, #8 x5/8” (or as small as #6 x 5/8”) to fasten the base to the block as show below. Then you need a ¼-28 UNF set screw set into the base with the point down and the hex drive side accessible from the hole in the top of the block. Initially set the tip of the set screw so it is retracted behind the bottom. The set screw will be used to lock the fixture block to the fence. I choose the ¼" set screw, UNF to have at least three and a half threads engagement. You can probably also use 10-32 UNF or 8-32 UNC set screws if you prefer if you drill and tap the hole accordingly.
3. Attach auxiliary fences and other items to the 1/8" pilot holes in the side of the fixture block, using wood screws. The center line of the holes will be approx. 2.25" above the BT3x00 table surface. I recommend leaving about 1/16th inch so your auxiliary fence does not drag when moving the fence.
4. If desired, you can add mounting holes to the top of the block
5. All dimensions are in inches; generally holding 0.01" is sufficient.
6. to mount something like a tall fence to the BT3x00 rip fence, you will need at least 2 of these blocks.
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