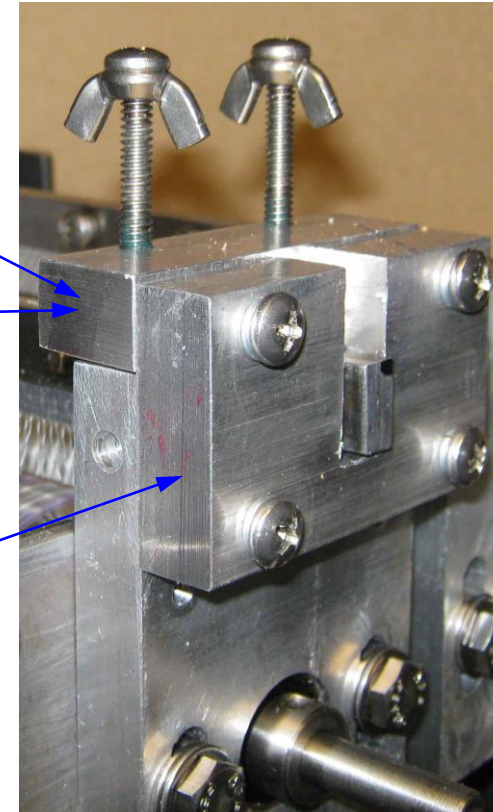
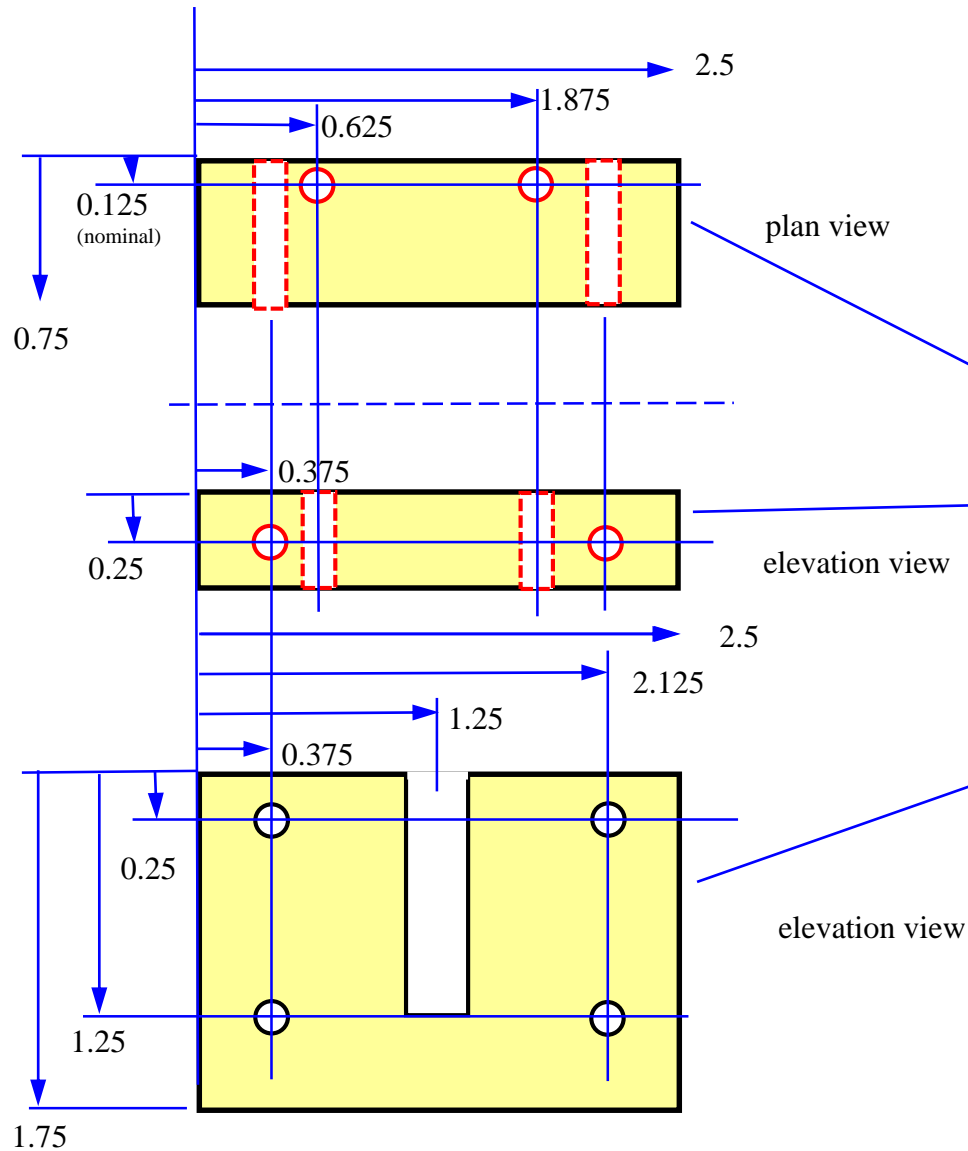
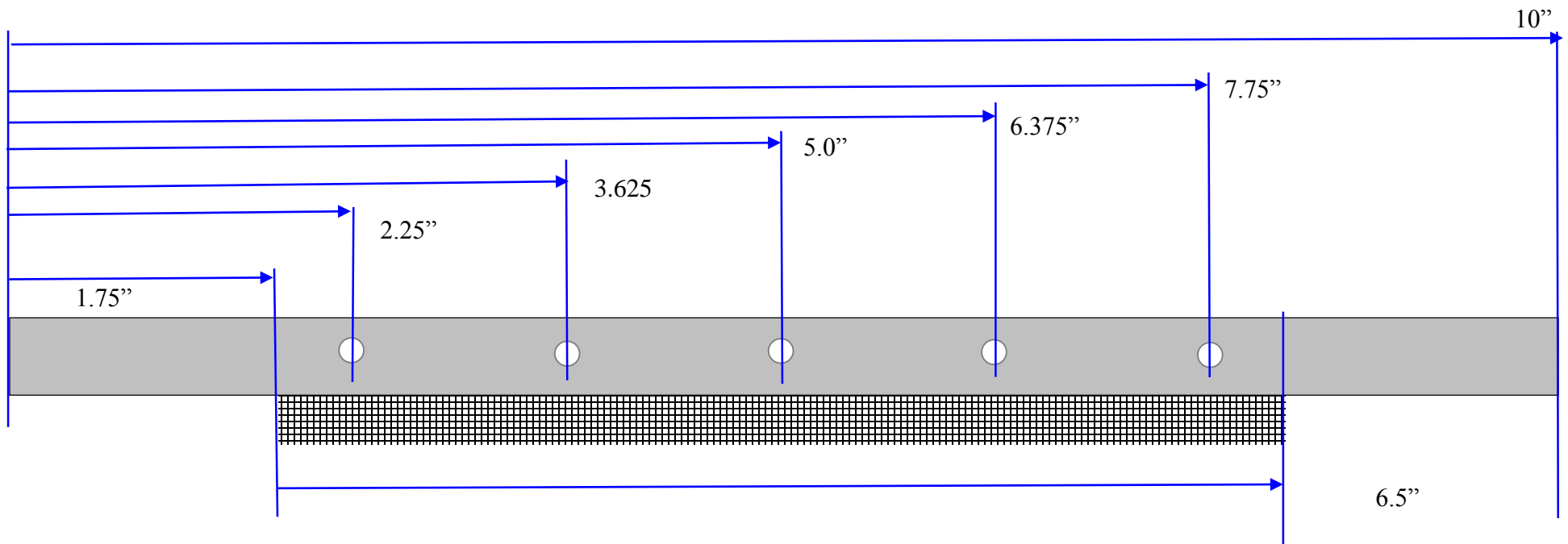


Fine adjustment yoke (2 pieces + fasteners; top bearing holder)



Red holes are tapped for 10-24 screws. Blue holes are 3/16" pass-thru. Upside down wing nuts are secured with high strength thread locker (red). Adjusting screws are treated with a small drop of medium strength thread locker (blue) to prevent rattling.

Upper Brush Assembly (actual size)

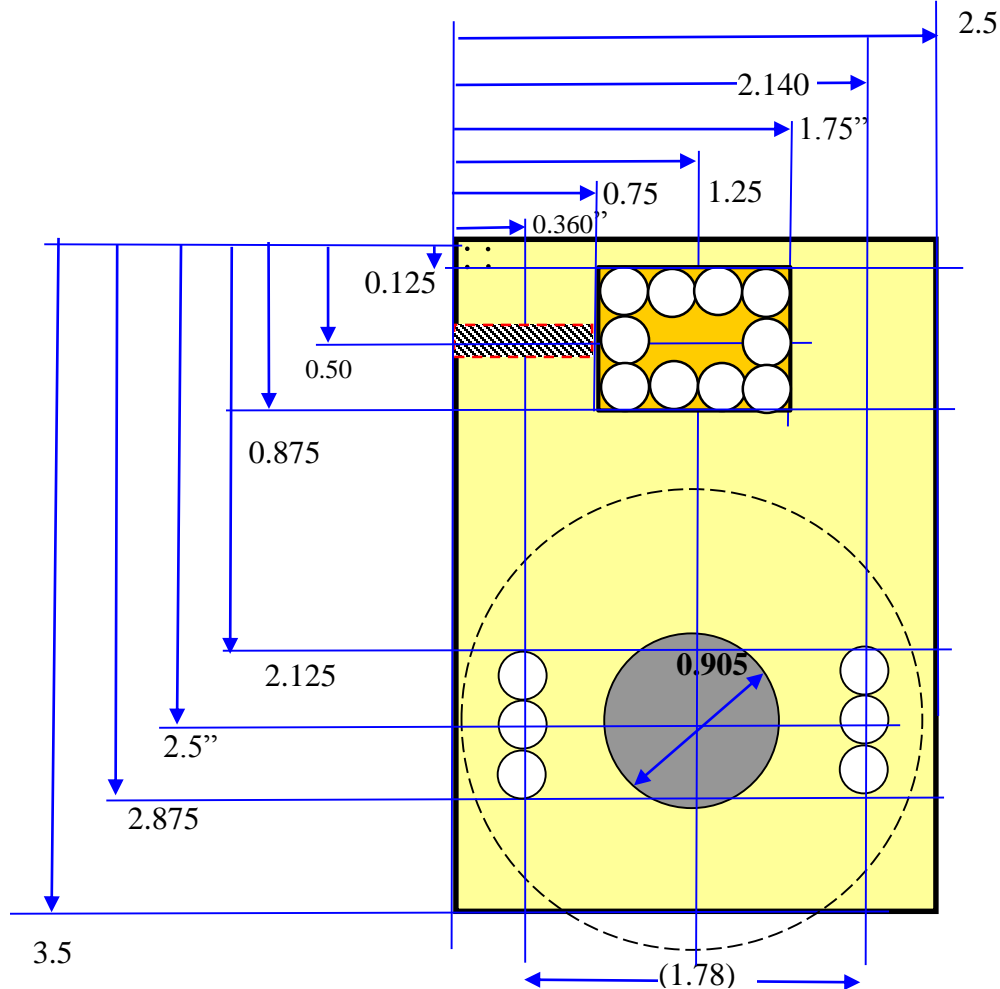


screen clamp is 1/2 x 1/8 flat stock

Clamp the two strips together (so holes will match exactly) and drill with #25 tap drill.
Separate the strips and tap one strip for 10-24 screws; drill clearance holes in the other

screen is ordinary aluminum window screen (6.5 x 1)
screen protrudes 0.5"

Combined bearing holder and brush support for power (lower) section (3.5" x 2.5" x 0.5" Al 6061-t6511)



Screw holes (slots) are to pass 1/4-20 Allen screw Use 19/64 drill for holes and webs to emulate a milled slot. File smooth.

Fasteners used in each slot are 1/4-20 stainless Allen head screw with one wave washer (1/4") and two #12 stainless flat washers.

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See [..\BrushPowerSupply\BrushPowerSupply.pdf](#) for more information about the lower brush.

Brush support slot is about 1.0 wide, 0.75 deep. Use 0.25 drill for holes and webs. File smooth.

For set screw holes (one shown) use #25 drill bit, 10-24 tap. Use 7/32 for pass-thru portion. Only one set screw hole is actually used; two are provided because a rim in the bearing hole is used to hold the bearing in place and this would otherwise require a right and left handed plate.

The 0.125 margin at the top is a safety feature.

overall blank is 3.5" x 2.5" x 0.5"

bearing hole is about 0.905" diameter (or to make a snug fit to bearing OD). At the back of the hole there is a 0.31 rim that prevents the bearing from sliding out and contacting the steel frame. A taper on the hole prevents the inner bearing race from contacting the aluminum.

The following is for the current machining environment:

1. Center the blank with the bearing center punch on a lathe faceplate using a pointer rod and a dial indicator.
2. Bore a 1/2" hole with a drill.
3. Open up the hole with a 57/64 drill, to a depth of about 0.46 deep. The taper at the bottom due to the included angle of the drill is intended.
4. With a boring bar, open up the hole a few more thousandths so that the bearing just slips in, and is flush with the front surface.

Each support uses a 1605-2RS Miniature Sealed Ball Bearing 5/16" x 29/32" x 5/16" inch electric motor quality (not available in a flanged version.)

<http://www.vxb.com/page/bearings/PROD/Kit7623>

and 5/16 ID 5/8 OD 5/16 wide SS shaft collars (ENCO)