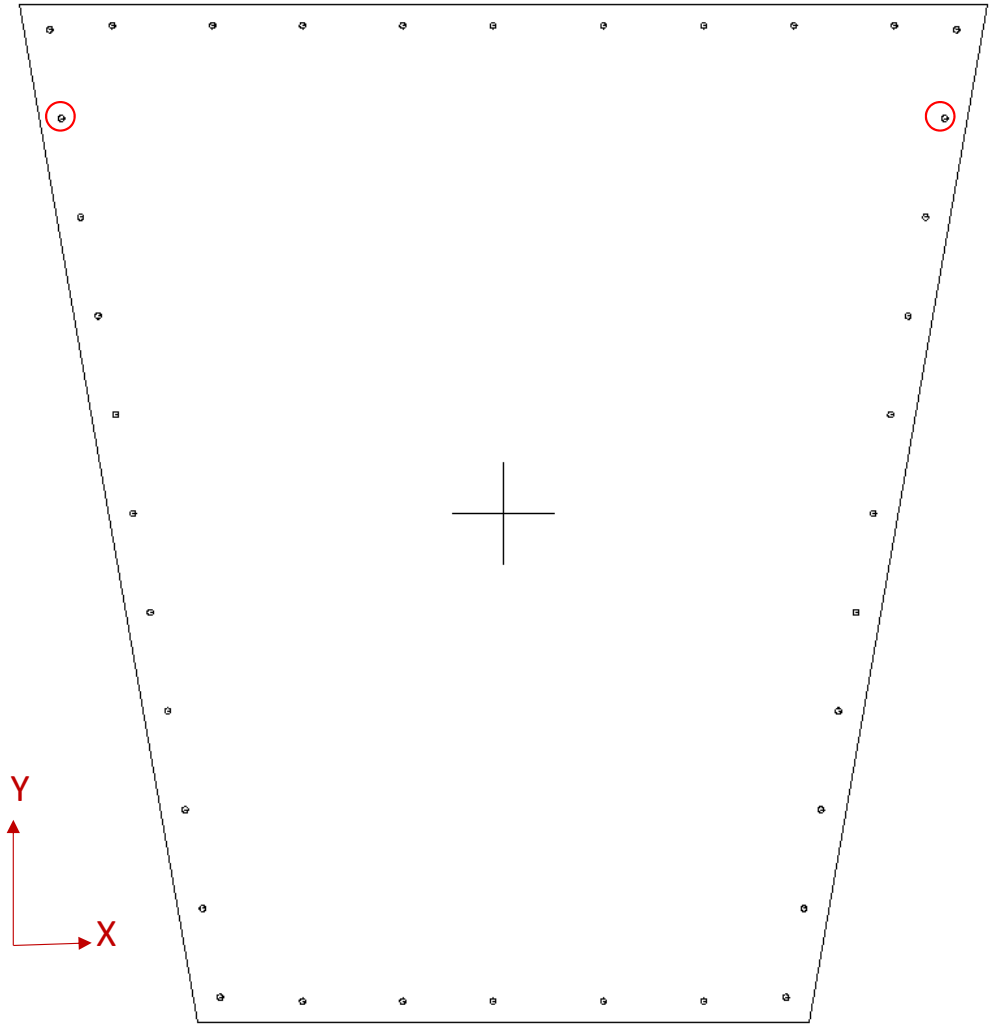
Discussion of GEM mounting studs – two proposals

R. Majka, 18-Aug-2016

"Final" (PRR) design GEM mounting hole positions

EDR design has two marked holes 1 mm closer in X to center.

I propose we ***make all chamber bodies with final design (PRR)***
For the EDR chamber we will leave out the studs in the two marked holes. If we later decide to use this body for a production chamber we can add the two studs.



Template fabricated with final hole pattern (PRR).

- M3 tapped holes
- M3 nylon screws threaded from back side
- Black screws stick up about the right height (20 – 6 = 14 mm)
- White screws are 10 mm longer – this is a big help in getting foil aligned and in place without sticking a screw into the active area.
- Verified that position of two marked holes with no screws differ by ~ 1 mm from EDR foils (what we have at Yale now) to holes for final design (PRR).
- Verified that it is possible to mount a framed GEM foil on the stud pattern.

Template for testing mounting of framed GEMs on chamber body

Propose using this template as a gluing fixture for gluing M3 studs into chamber body

- Thread in screws longer than needed (all the same length)
- Place a drop of epoxy (the “right amount”) in each hole on the chamber body
- Set template on chamber body with screws going into holes
- After epoxy is cured cut studs at plate and trim to correct length on chamber body
- Leave corner studs longer and carefully trim after chamber GEM stack is complete

Re: The right amount of epoxy in each hole – We should ***counter bore or counter sink all holes*** to give some relief for any excess epoxy.