

# How to make you own scintillator trigger

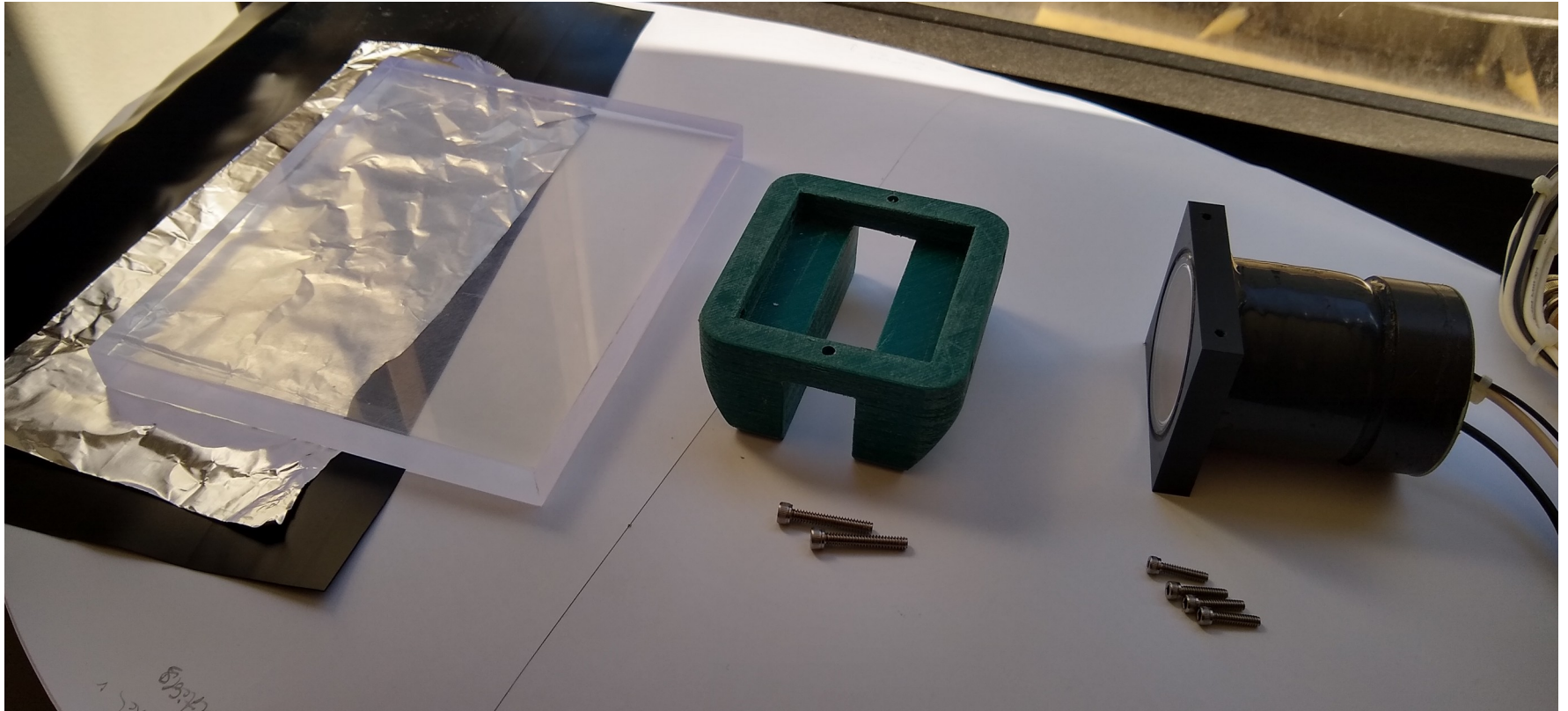
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# Materials

- Polished slab of plastic scintillator
  - 2pcs: 6.5"x5.5"x(0.6", 0.7")
- Aluminium foil
- Black vinyl foil
- Black PVC tape
- Scintillator-to-PMT adapter (3D printed)
  - Will upload to github
- Fine-mesh PMT
- X-Acto knife, some screws...

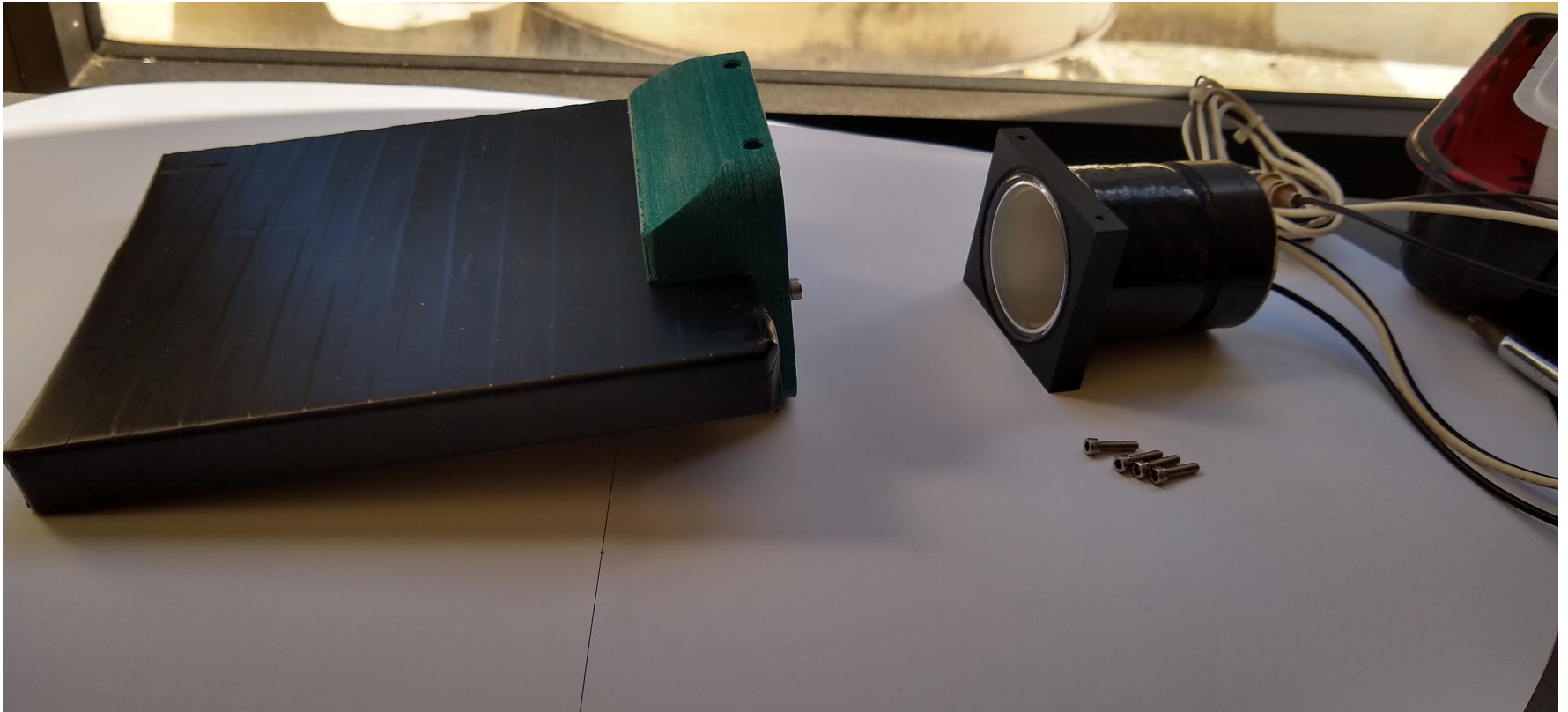
# Step I: Lay Out Materials



## Step II: Wrap Scintillator



# Step III: Attach PMT Adapter





## Step III: Attach PMT



# To be continued...

- Where to find silicone cookie material? (Chris?)
- Need to find actually working PMTs
  - Available PMTs show 20M $\Omega$  (close to datasheet), but no signals
  - Same type is integrated in TOP test bars on top of clean room, will try to test in-situ
- Try new triggers together with existing ones
  - Might need to find positive threshold NIM discriminator
- Second iteration of PMT adapter: Can reduce overall material
  - Reduce gap between scintillator and PMT
  - Include scintillator mounting screw holes
  - Order black PLA
- Ask Roy to machine more slabs: 2pcs 6.5" x 5.5" x 8mm
- Did not yet find SHV or BNC/Lemo feedthroughs