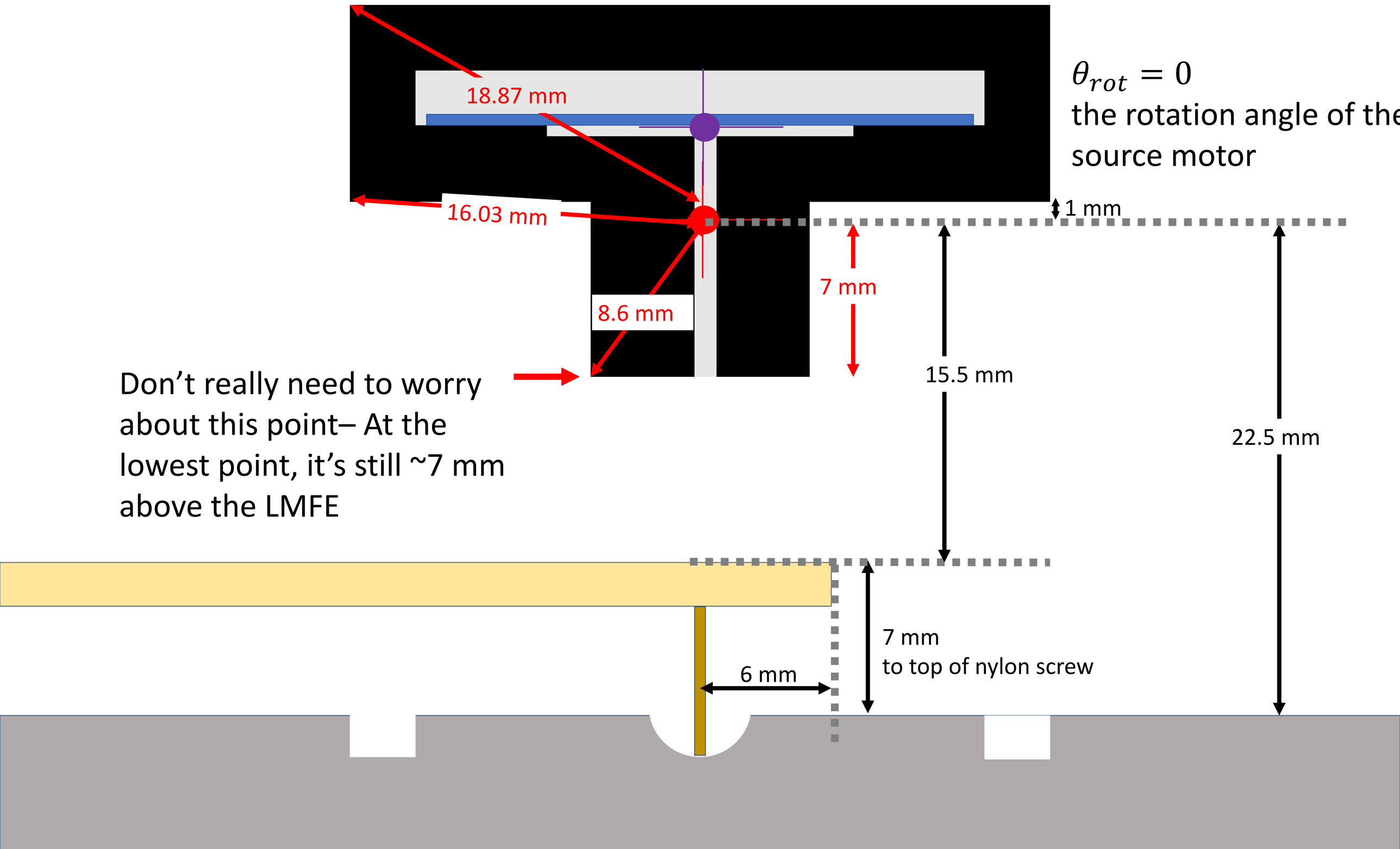
Collimator clearances and rotation



$\theta_{rot} = 0$
the rotation angle of the source motor

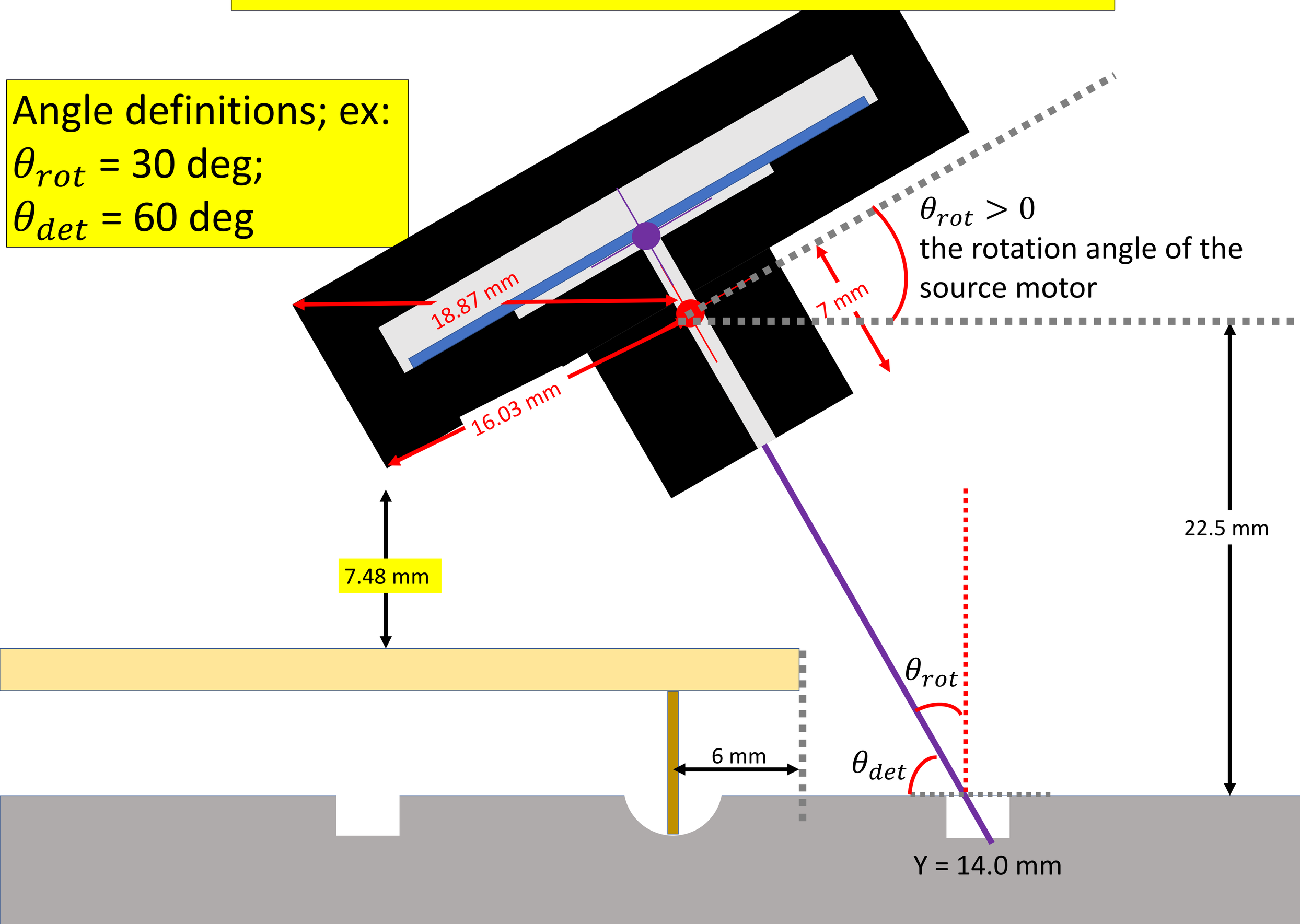
Don’t really need to worry about this point– At the lowest point, it’s still ~7 mm above the LMFE

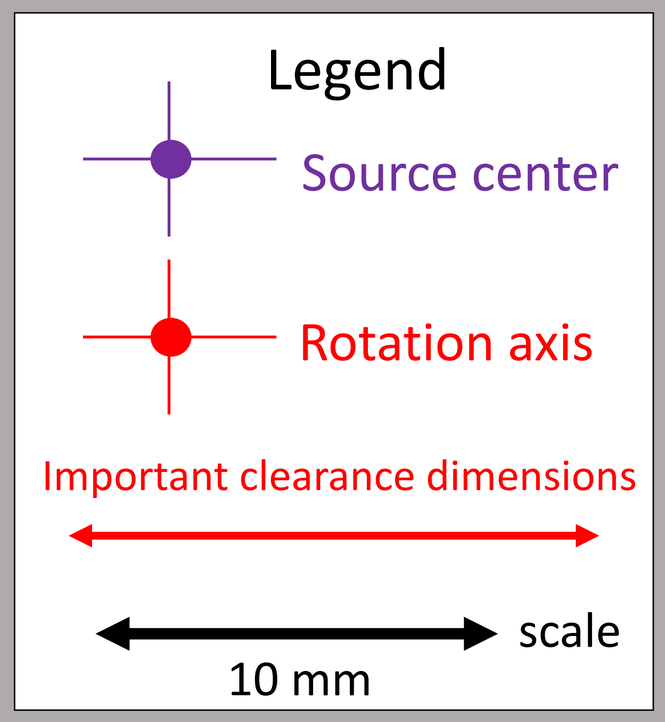
Scale: 1 mm real life = 1 cm in drawing

Legend
Source center
Rotation axis
Important clearance dimensions
scale
10 mm

Collimator clearances and rotation

Angle definitions; ex:
θ_{rot} = 30 deg;
θ_{det} = 60 deg

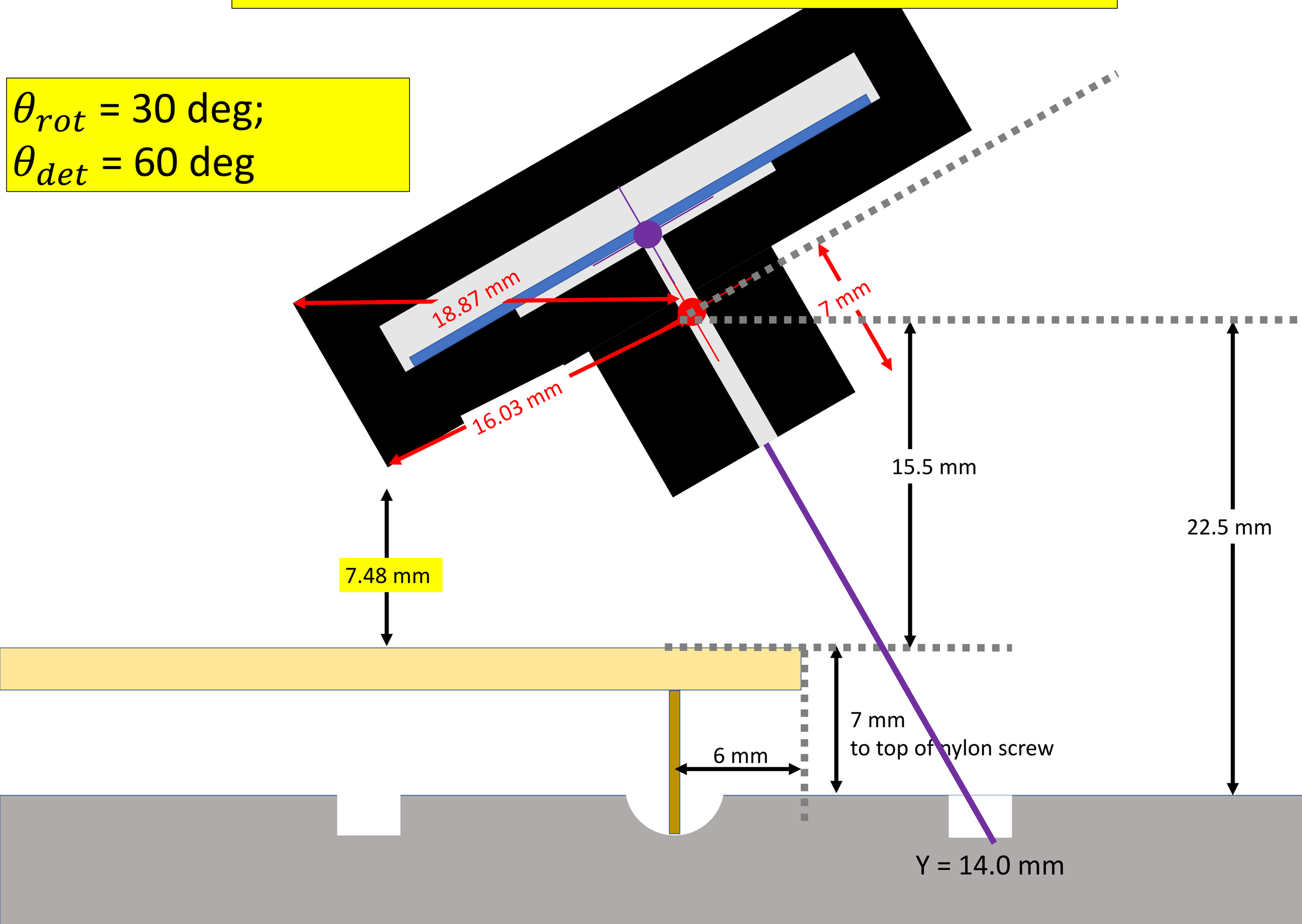




Scale: 1 mm real life = 1 cm in drawing

Collimator clearances and rotation

θ_{rot} = 30 deg;
θ_{det} = 60 deg



Legend

Source center

Rotation axis

Important clearance dimensions

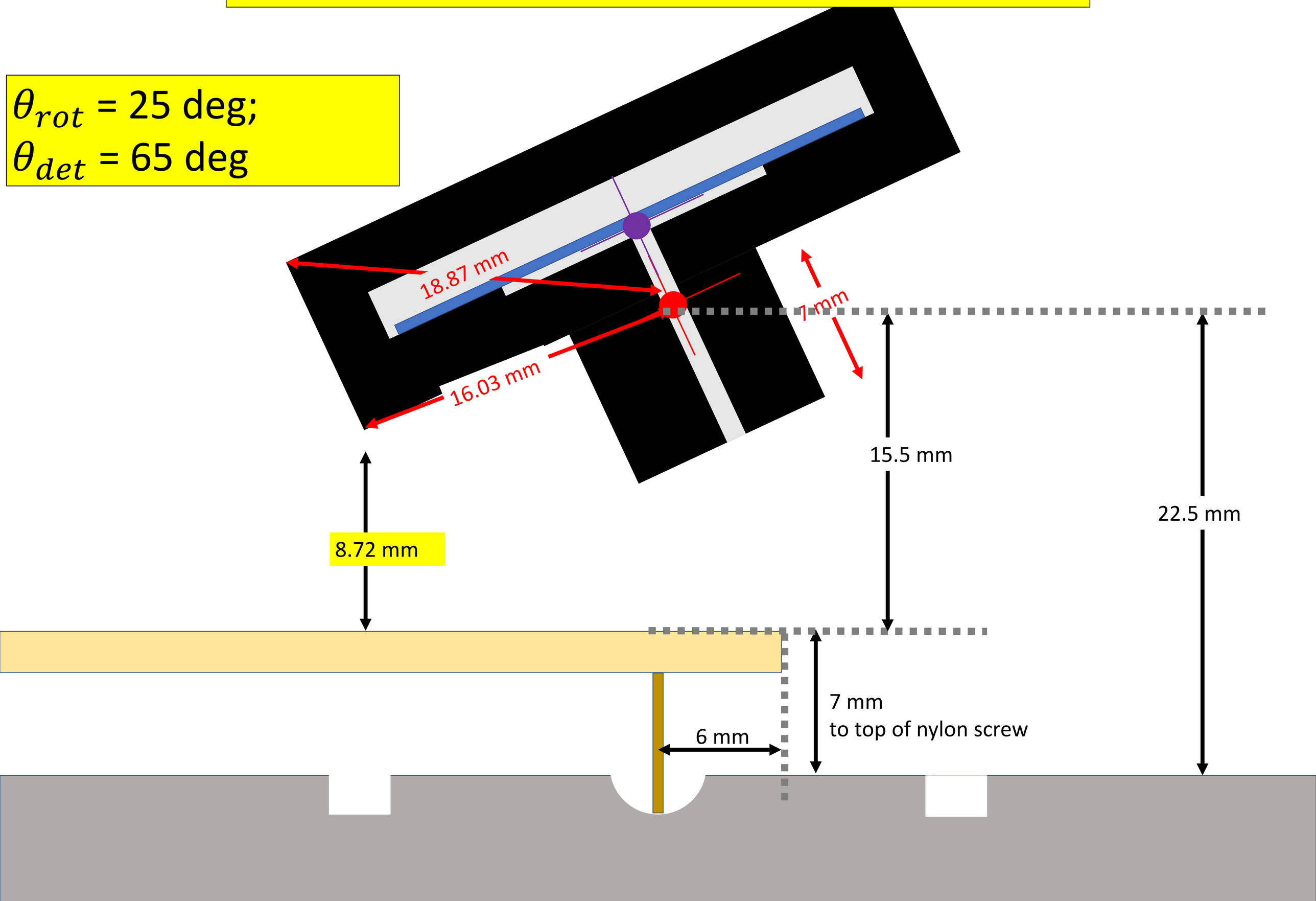
scale

10 mm

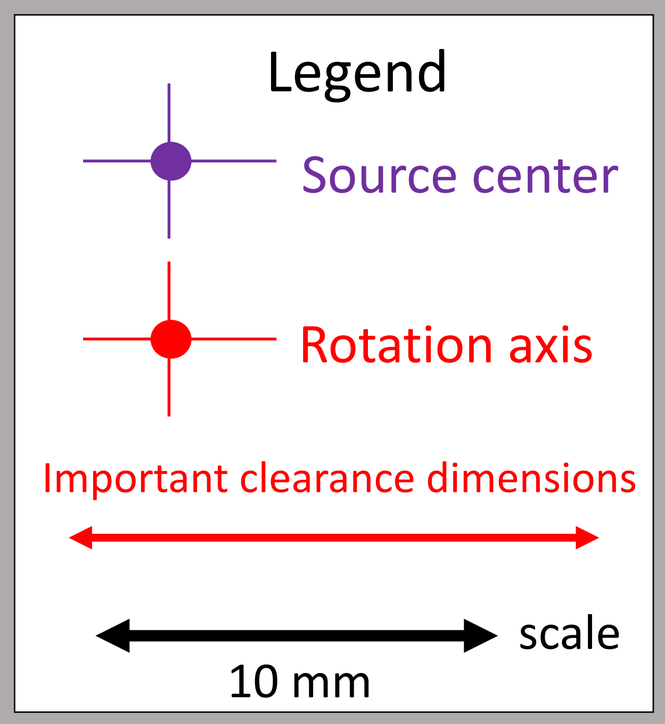
Scale: 1 mm real life = 1 cm in drawing

Collimator clearances and rotation

θ_{rot} = 25 deg;
θ_{det} = 65 deg

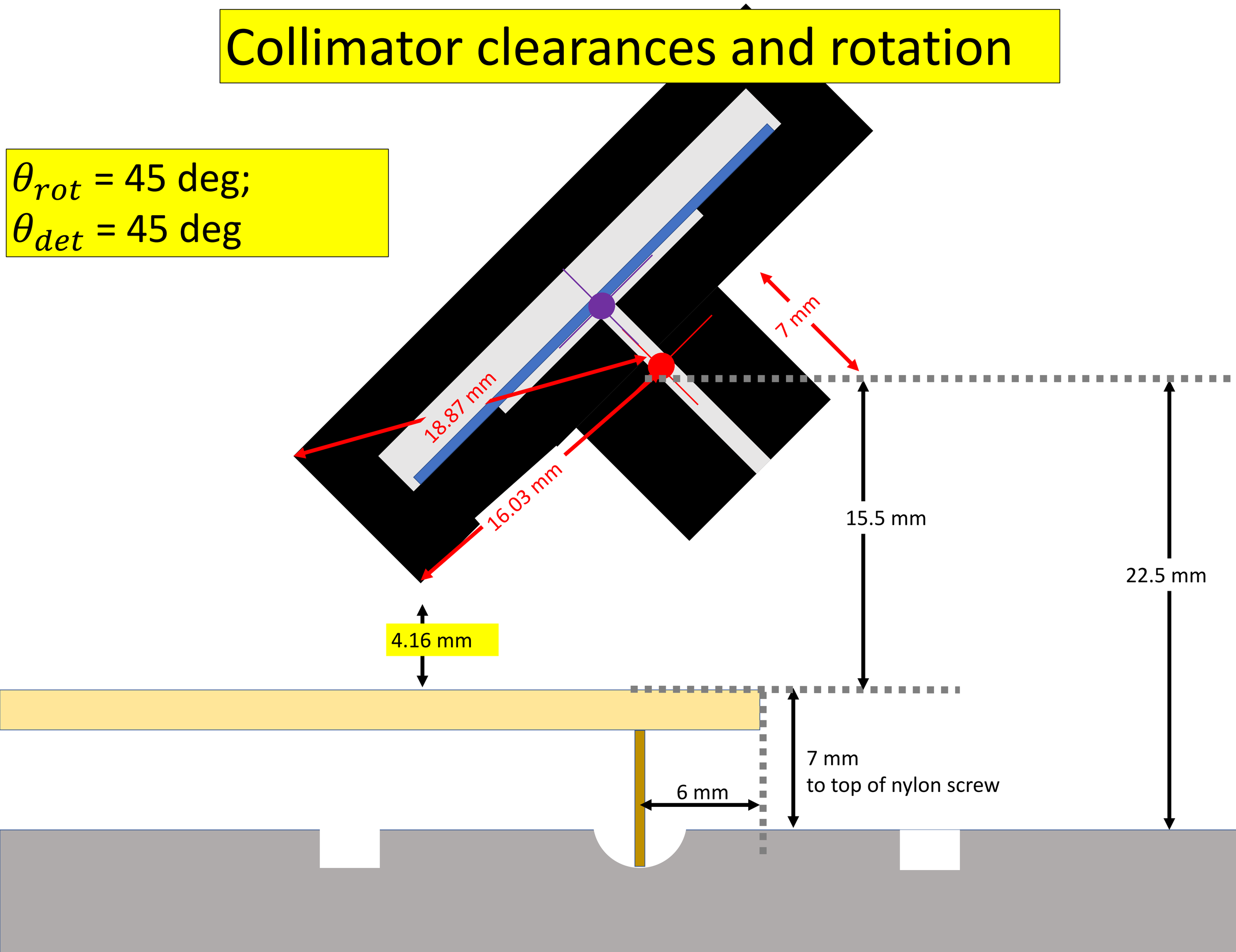


Scale: 1 mm real life = 1 cm in drawing



Collimator clearances and rotation

θ_{rot} = 45 deg;
θ_{det} = 45 deg



Legend

Source center

Rotation axis

Important clearance dimensions

scale

10 mm

Scale: 1 mm real life = 1 cm in drawing

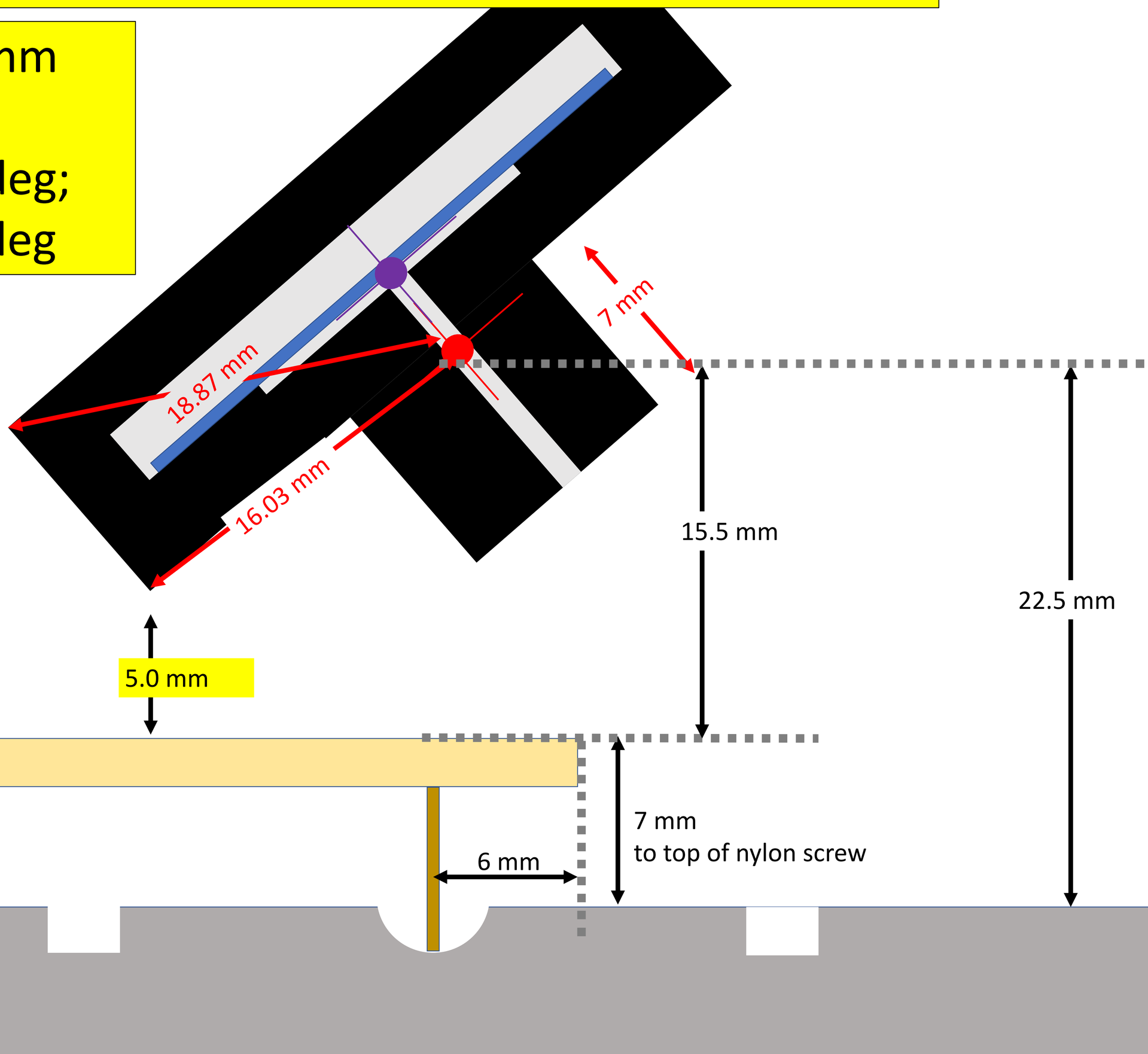
Collimator clearances and rotation

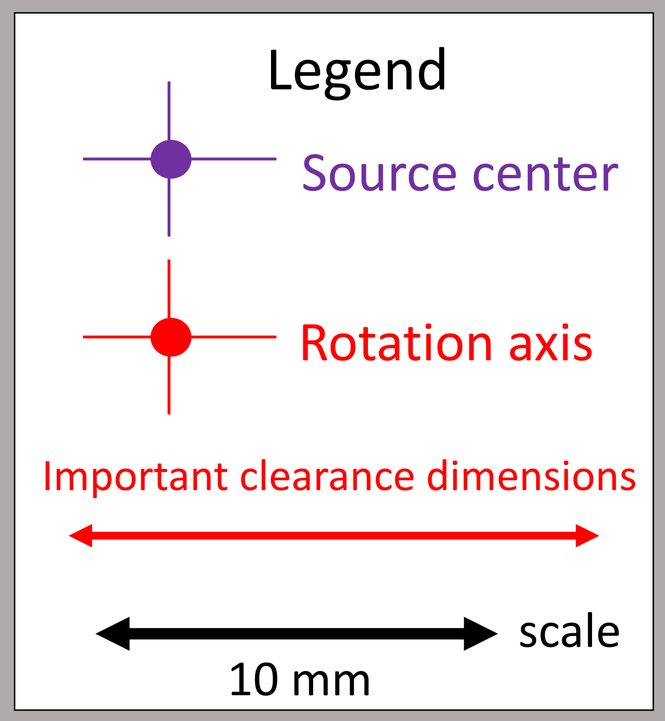
To maintain 5 mm clearance:

θ_{rot_max} = 41 deg;

$\theta_{\mathrm{det}\_min}$ = 49 deg

Calculated using checkRotation() function within ~/CAGE/sims/source_placement.py





Scale: 1 mm real life = 1 cm in drawing