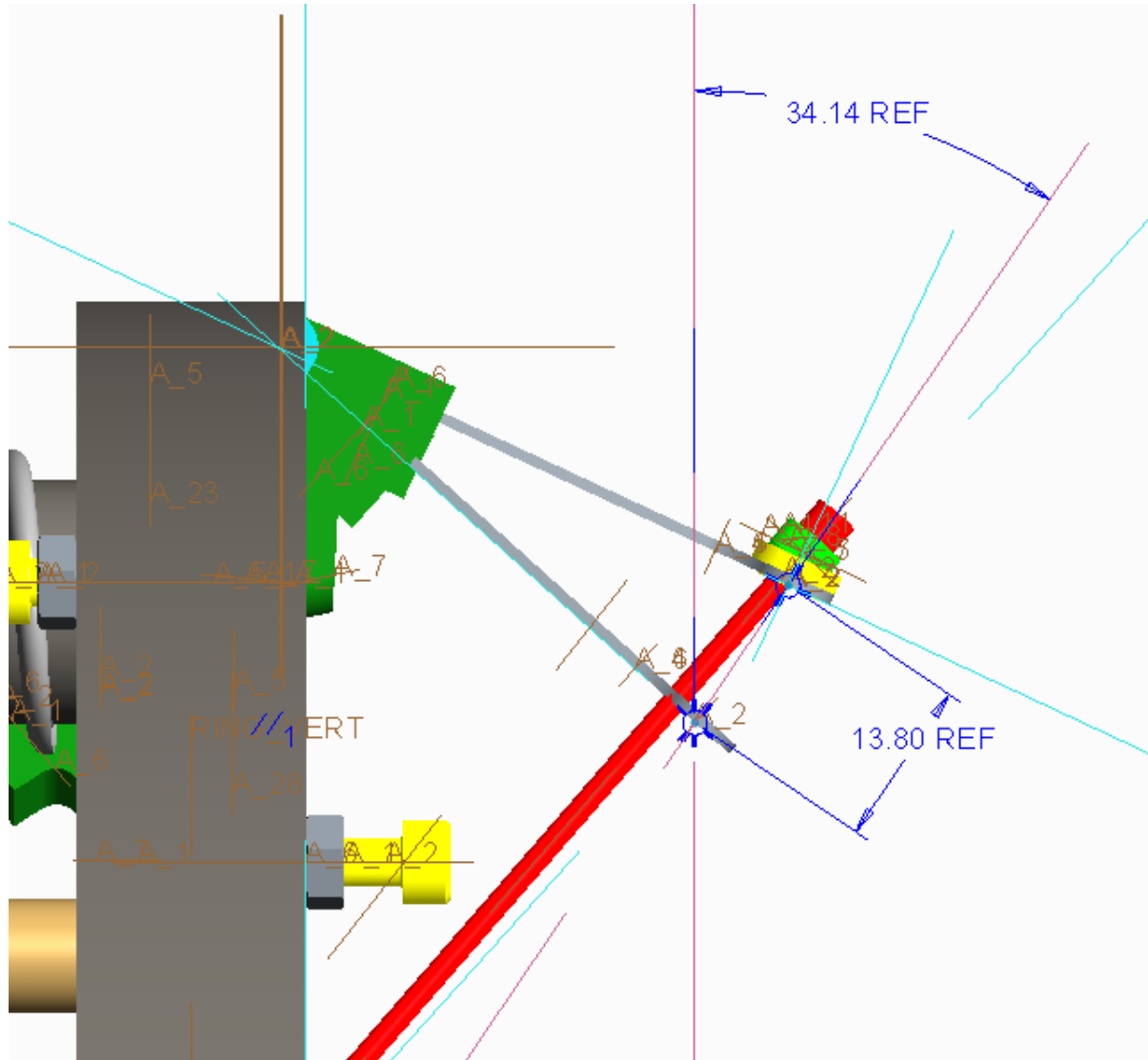


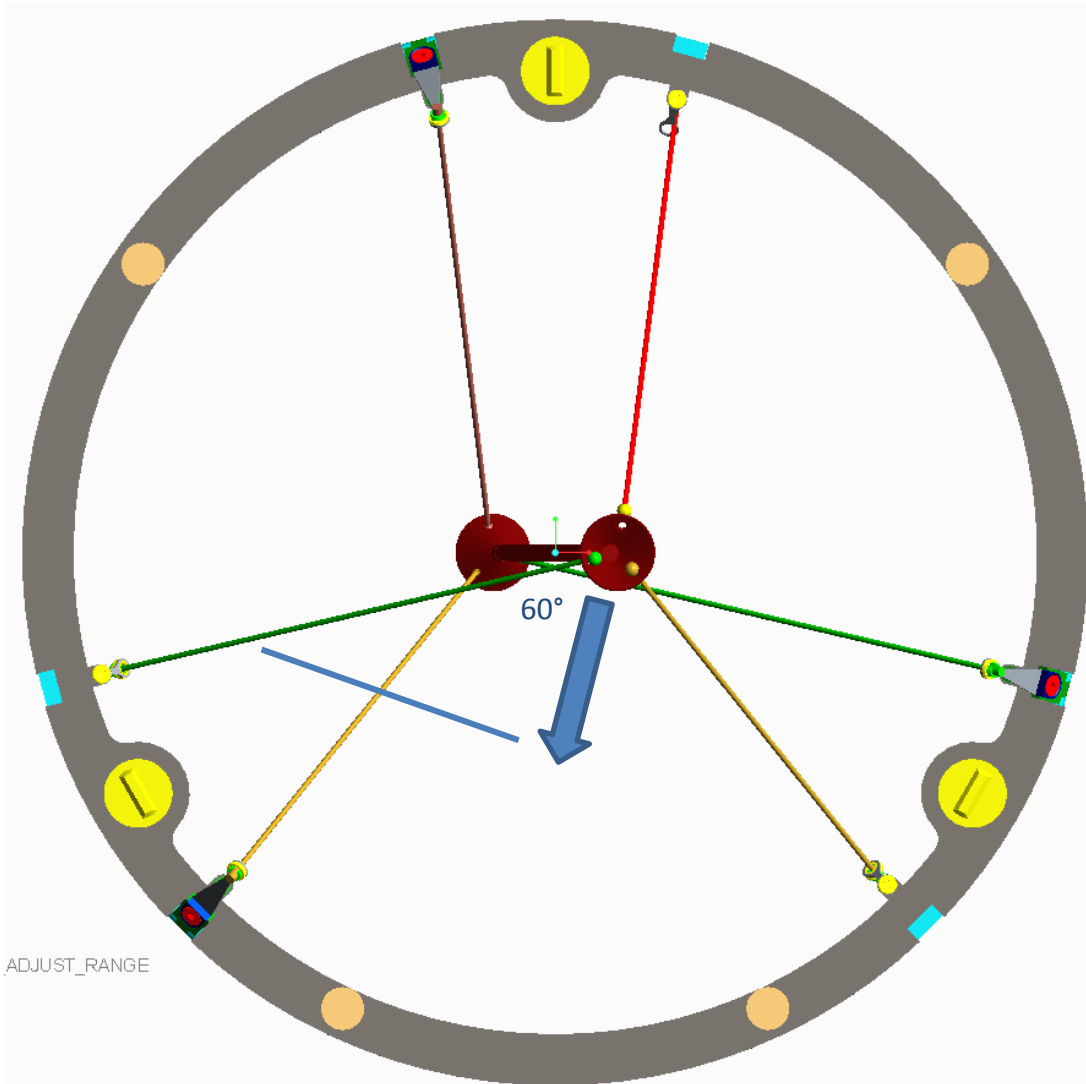
Range of Mu2e target adjuster (cantilever)



Note – adjustment range of 13.8mm is currently limited by washer geometry. Enlarging washer would allow us to double range

The adjust is angular with respect to “lateral” so the actual lateral adjustment is $\text{Cos } 34.14 \times 13.8 = 11.4\text{mm}$

For adjustment



For adjustment in the direction of the arrow (for the sake of clarity), the adjustment required is 60 degrees from the angle of the adjuster (because there are only 3 spokes). The actual lateral adjustment available therefore is $\text{Cos } 60 \times 11.4 = 5.7\text{mm}$

We can therefore say that the target has lateral adjustment of $\sim 2.8\text{mm}$ in any direction

We can increase this to 5-6mm with some design optimisation of the spherical washer, and we will increase it further when we optimise the ring geometry.

I note that all the above is based on the assumption that we are at the middle of our range to start with. We should probably subtract $\sim 1\text{mm}$ for potential tolerance stack up

It might be more accurate to say that we currently have **2mm** in every direction based on a very worst case. We can increase this to **5mm** with relative ease, and we can increase it still further by increasing the length of the cantilever springs.

The cost of the extra adjustment is the addition of material, so it would be helpful to know what we should be aiming for