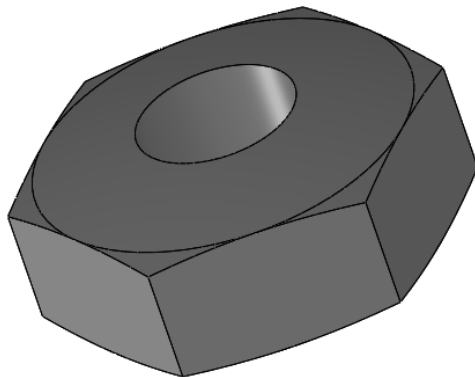


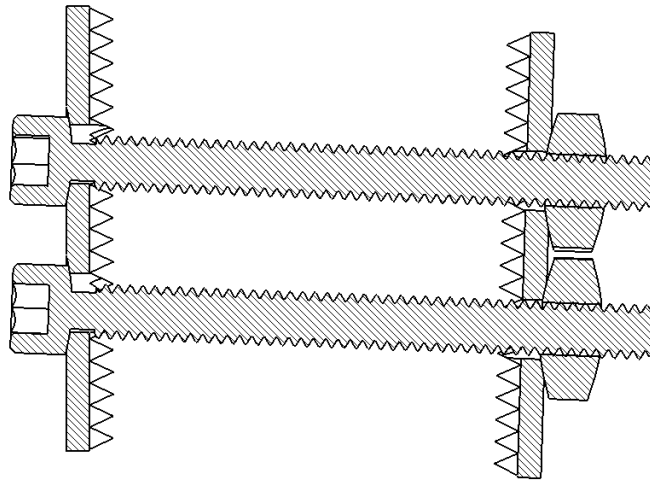
Design of Cross locking Nuts



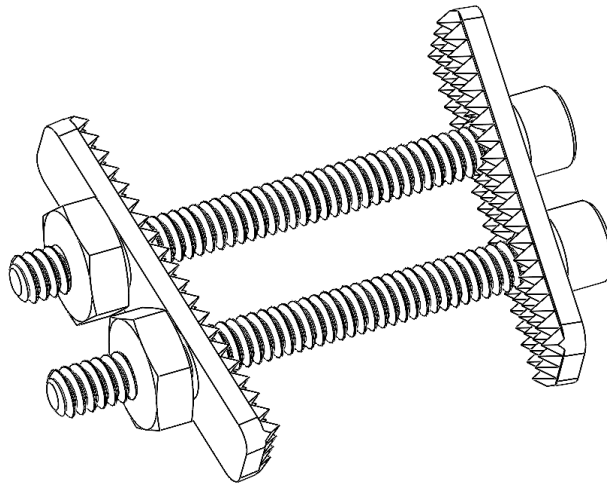
The splined nut design originated as a regular hex headed approach as seen below.

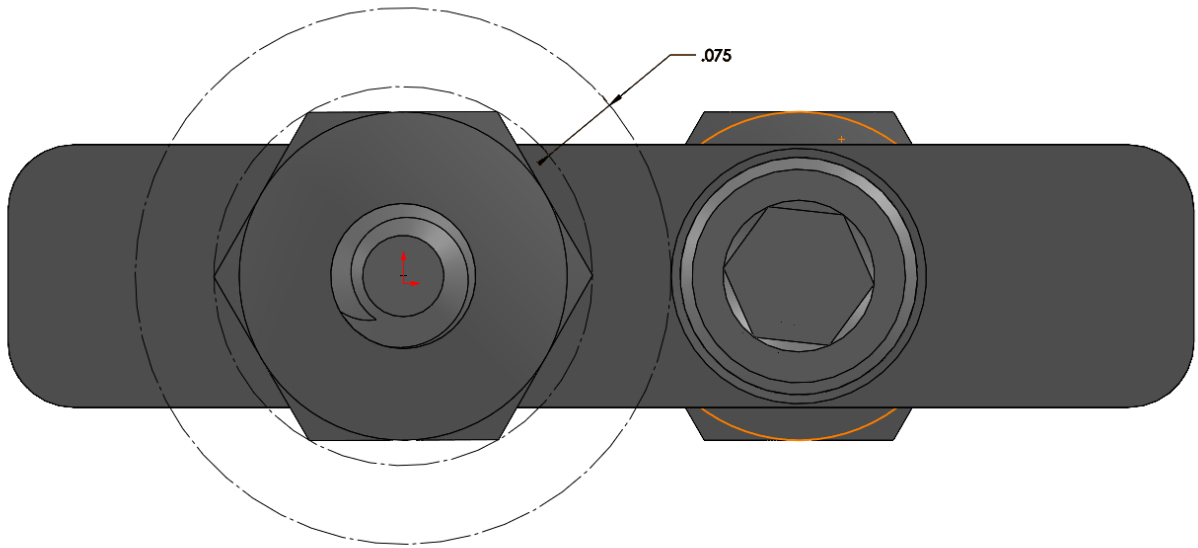


Both designs incorporate a convex appearance on the undersurface that mates with the concave portion of the cross locking plate.

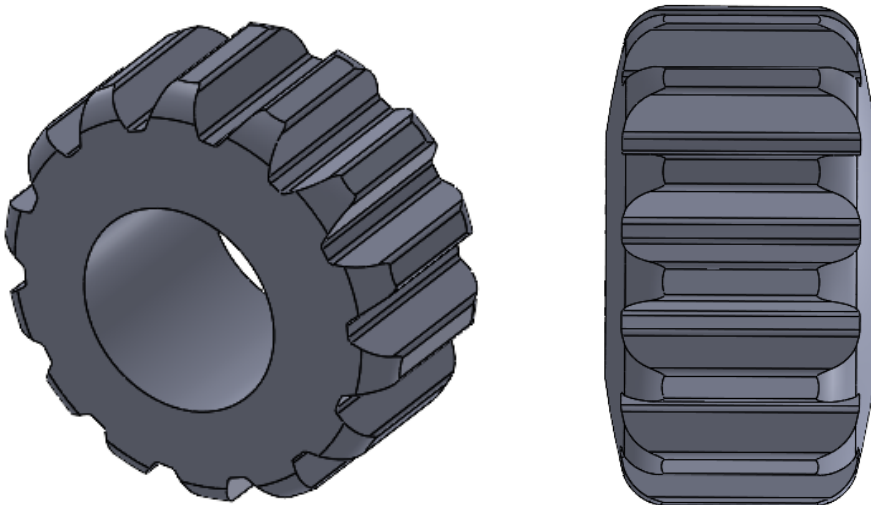


The bony surfaces of the ulna may not be parallel to the ulnar body component resulting in off axis loading. In order to maximize the contact between both the screw heads and the nuts against the cross locking plates, the mating surfaces were designed to allow for the nuts and bolts to evenly distribute forces during the tightening process.





During the implantation stages of testing we realized that a new nut would be required, one whose dimensions do not project beyond the plate. We also needed to make the nuts smaller so that both nuts could be on the same side during tightening.



A splined nut was engineered that would maximize the pressure created against the plate while still maintaining the convex undersurface that would maximize contact area with the Aggressively Toothed Plates.