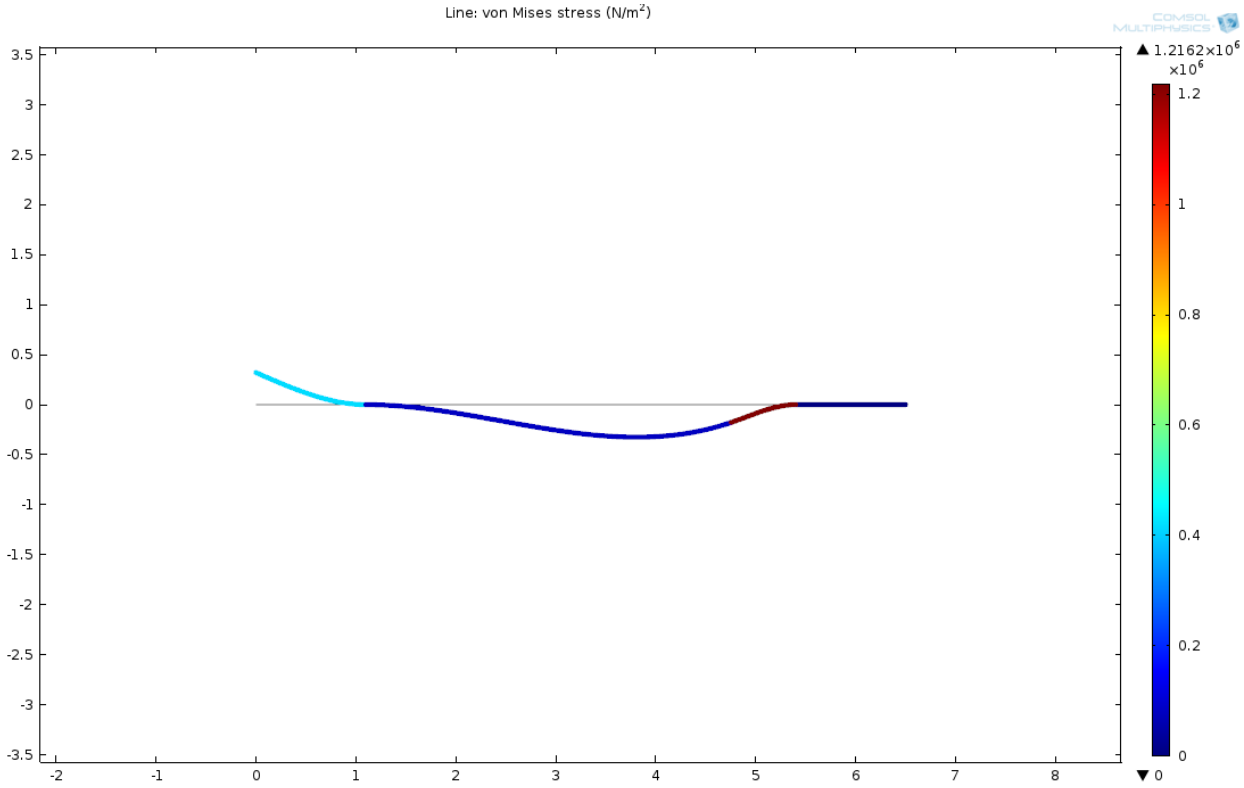
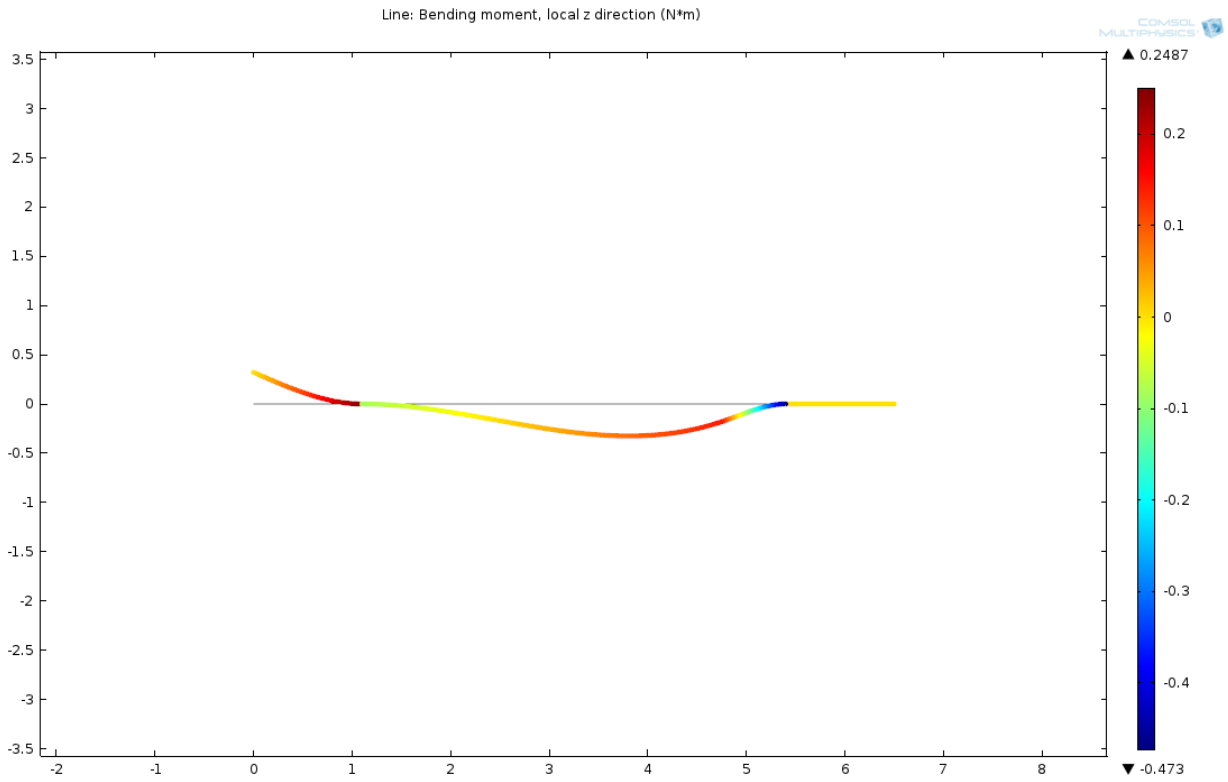
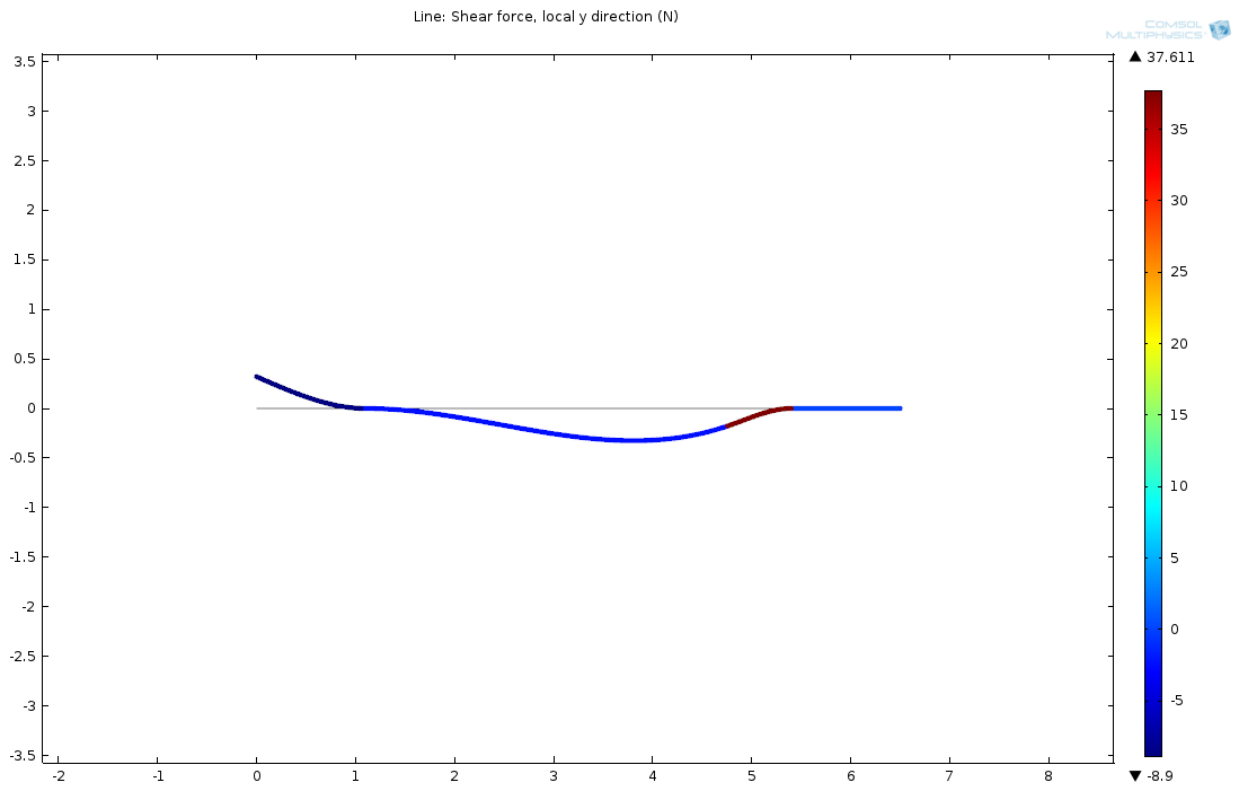
This analysis is to determine the stresses in shear, and bending along with deformation of the main drive shaft. I expect to find the shaft displacement to determine the angular deformation for the bearings, and bending deformation in the shaft.



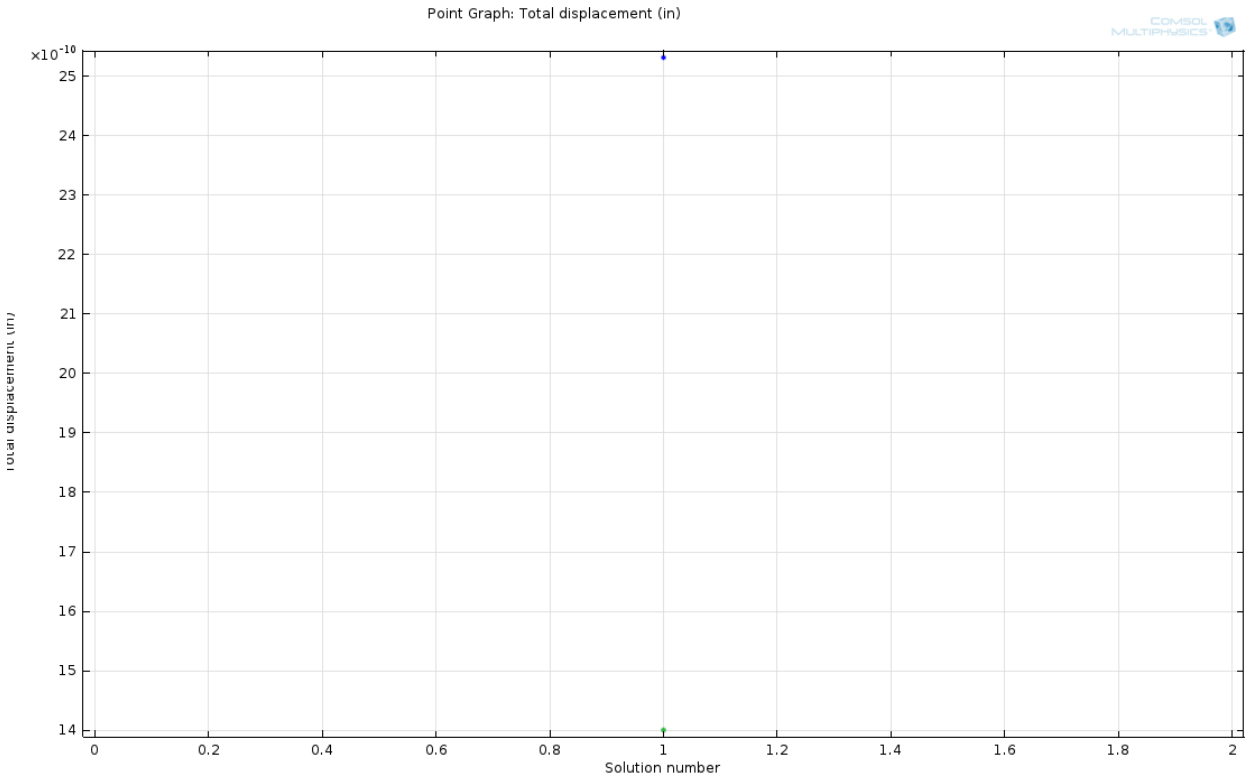
This von mises stress shows the normal stress on the shaft, with a maximum of less than 2 MPa, this falls under the 370 MPa Yield stress of mild 1018 steel.



This shows the bending moments and the contribution of what's causing the biggest bending moment in the shaft. (In this case it is the gear located at the right of the shaft).



The shear force diagram came out as expected with the highest shear stress located on the right of the gear between it and the simple support.



The max deflection on the shaft is around 25 x 10^-10 inches which is negligible in the project's specifications.