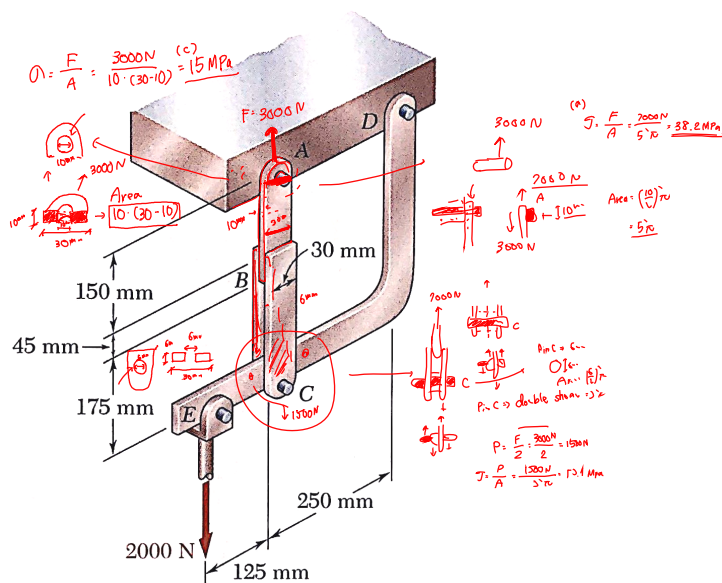


Q1: In the hanger shown, the upper portion of link ABC is 10 mm thick and the lower portions are each 6 mm thick. Epoxy resin is used to bond the upper and lower portions together at B. The pin at A is of 10 mm diameter while a 6-mm diameter pin is used at C.



Please determine

- The shearing stress in pin A
- The shearing stress in pin C.
- The largest normal stress in link ABC.
- The average shearing stress on the bonded surface at B.
- The bearing stress in the link at C.

Hints

- Please find vertical reaction at A (if you calculate moment around pin D, it is easy to find A_y).
- pin A is suffering by single shear force, while pin C is suffering under double shear condition.
- Largest normal stress would be occurred at the location where the cross-sectional area is minimum.
- Shearing stress around B is also suffering under double shear condition.