

Homework Problem 3.C

Given: A homogenous plate, having weight of W and its center of mass at point O , is supported by three cables: AB , AC and AD . The plate center of mass O is directly below the support ring A . Each cable is capable of carrying a maximum tensile load of T_{\max} without failure.

Find:

- Determine the tension in each cable in terms of the plate weight W .
- Which cable carries the largest tension?
- Determine the numerical value of the maximum plate weight that can be supported without failure. Express your answer in terms of T_{\max} .

