



TOTAL OF 6 BOLTS – 2 GROUPS OF 3

VERTICAL LOAD 1 KIP

MOMENT FROM ECCENTRIC LOAD – $10k \times 8.5' = 85 \text{ k-ft}$

MOMENT OF INERTIA OF BOLTS – $2 \times (2.5^2 + 3.0^2 + 3.5^2) = 55$

AXIAL LOAD IN A BOLT = $\pm (P/\text{TOTAL \# BOLTS}) \pm M_c/I$

BOLT #1 = $10k/6 + (85k\text{-ft} \times 3.5\text{ft})/55$
 $= 7.1k \text{ (COMPRESSION)}$

BOLT #2 = $10/6 + (85 \times 3)/55$
 $= 6.3k$

BOLT #4 = $-10k/6 - (85k\text{-ft} \times 2.5\text{ft})/55$
 $= -5.5k \text{ (TENSION)}$