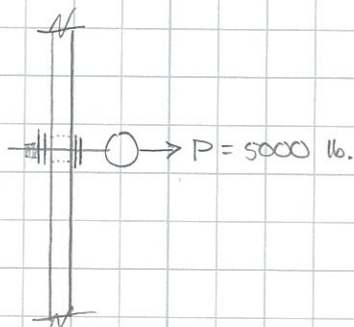
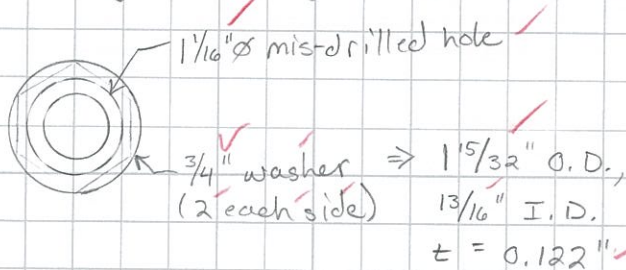


RFI 00278 ✓

→ Two connection plates were mis-drilled to have 1 1/16" ∅ holes instead of 1 3/16" ∅ holes for 3/4" shoulder eye bolts for safety cable ✓

→ Contractor would like to add extra 3/4" washer on each side of the stiffener ✓

→ check if this solution will hold the required 5000# force of the safety cable system ✓



3/4" A325 Nuts: W = 1 1/4"

→ Previous bearing Area of washer on stiffener

$$A = 1.694 \text{ in}^2 - 0.544 \text{ in}^2$$

$$A = 1.15 \text{ in}^2$$

→ Area of washer on stiffener for 1 1/16" ∅ hole

$$A = 1.694 \text{ in}^2 - 0.899 \text{ in}^2$$

$$A = 0.795 \text{ in}^2 \text{ say OK}$$

Bearing Force on steel for 1 1/16" ∅ hole

$$\text{Pressure} = \frac{5k \times 1.75}{0.795 \text{ in}^2} = 11 \text{ ksi} \Rightarrow \text{OK}$$

→ Check Shear

Perimeter of 1 1/16" ∅ hole

$$= \pi (1 1/16") = 3.34 \text{ in}$$

Shear capacity:

$$\phi V_n = \phi (0.6 F_u A_w)$$

$$\phi V_n = (0.9)(0.6)(105 \text{ ksi})(3.34 \text{ in})(0.122 \text{ in})$$

$$\phi V_n = 23.1 \text{ k} > V_u = 8.75 \text{ k} \Rightarrow \text{OK}$$

$$V_u = 5k \times 1.75$$

$$V_u = 8.75 \text{ k}$$

→ Washer is OK for bearing and shear. ✓ Say OK to contractor solution of using an extra 3/4" washer (2 - 3/4" washers on each side) for mis-drilled 1 1/16" ∅ holes. ✓