Gauges output: V

V correlates to strain e

F = eEA (E and A are known - bolt properties)

Avg force = integral(F.dt)

Torque = Fr, where r is the distance between the bolt centerlines divided by 2

r = (1.853-.375)/2 = 0.739 in

Area: pi\*dsq/4

D = (0.375+0.3006)/2 = .3378 in = (major diam + minor diam)/2

Area = 0.0896208734 inches squared

[3/8 - 16 UNC : Thread Dimensions (Machining Doctor)](https://www.machiningdoctor.com/threadinfo/?tid=38) - bolt data (size 83 s92 actuator)

