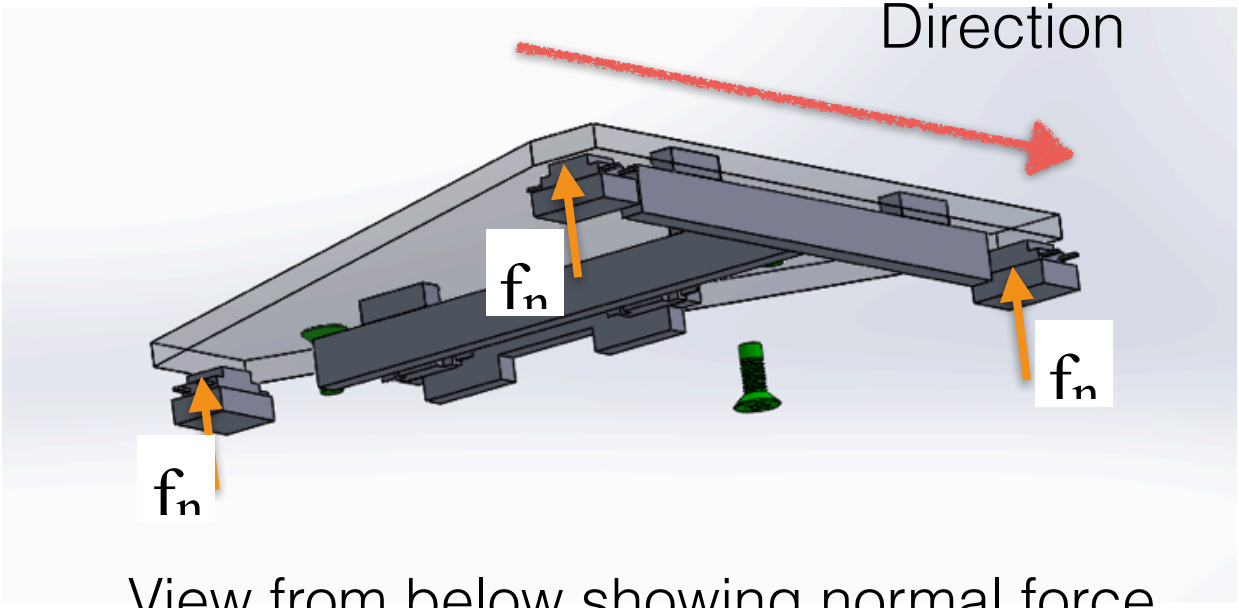
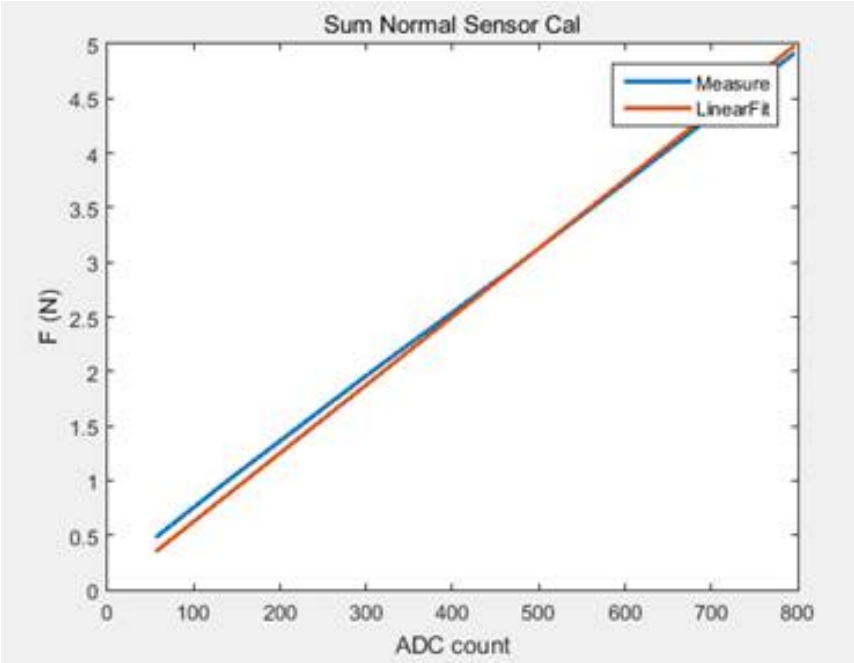


View from below showing normal force

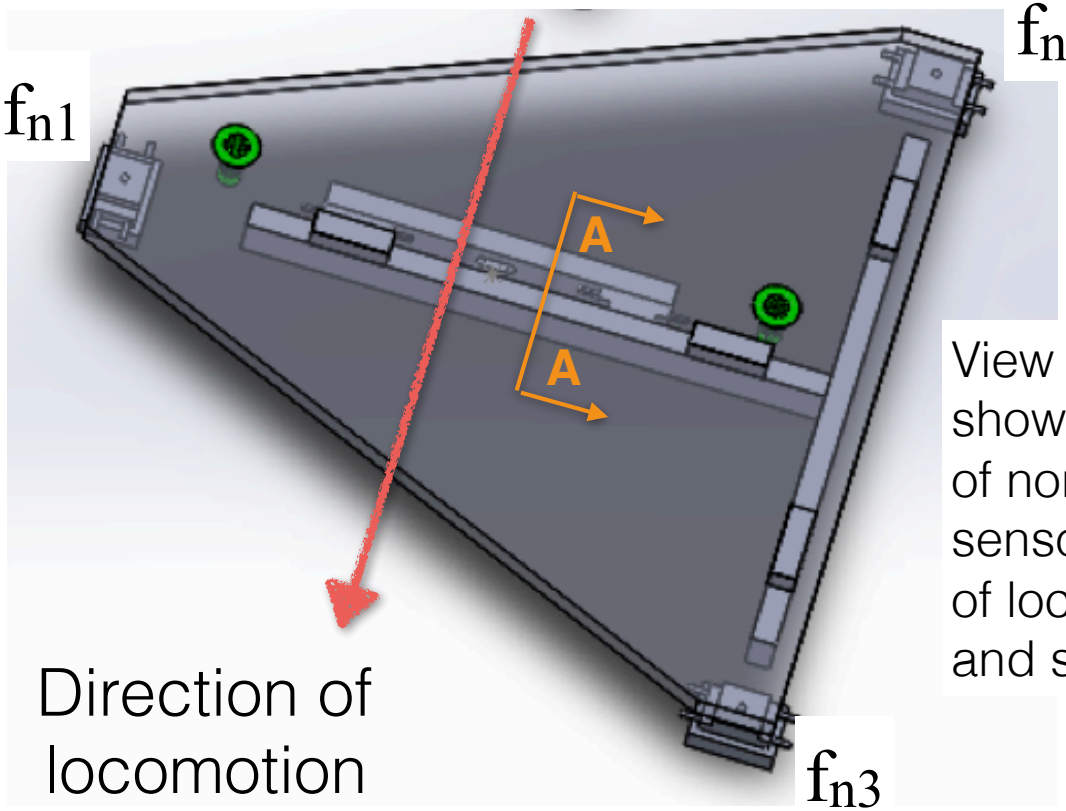


Amplifier gains:

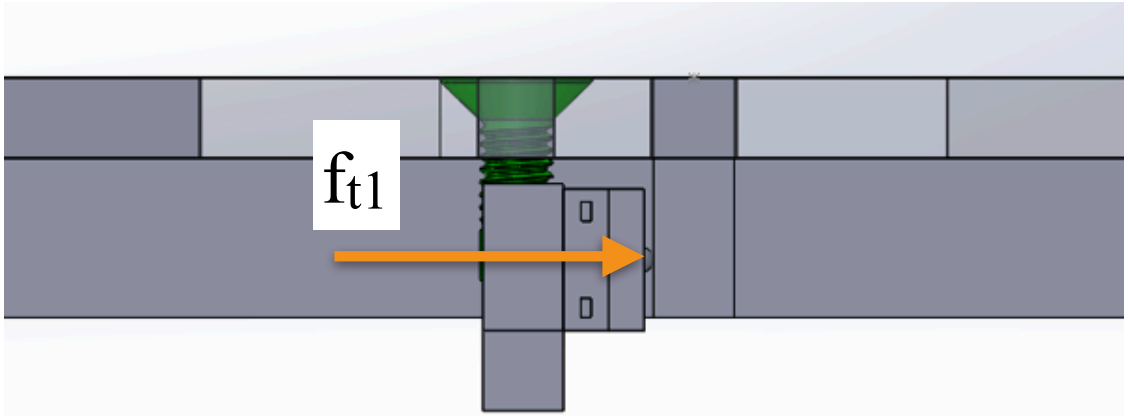
- Shear Gain : ~30.3 (= 100k / 3.3k, 5% resistor)
- Normal Gain : ~45.45 (=100k / 2.2k, 5% resistor)

Calibration - Linear Square Fit (zero intercept)

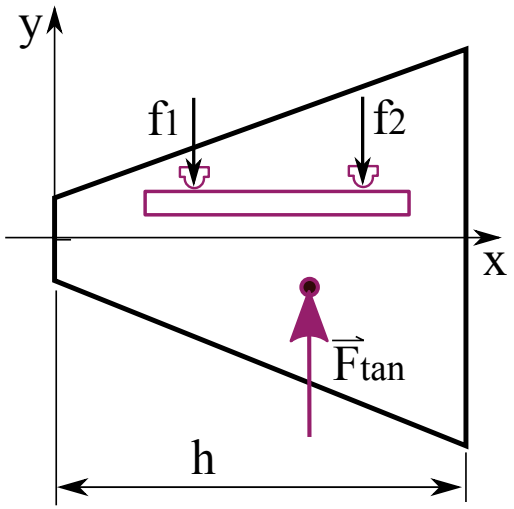
- Normal (N) = 0.0062577 * Normal Sensor Sum
- Shear (N) = 0.0052503 * Shear Sensor Sum

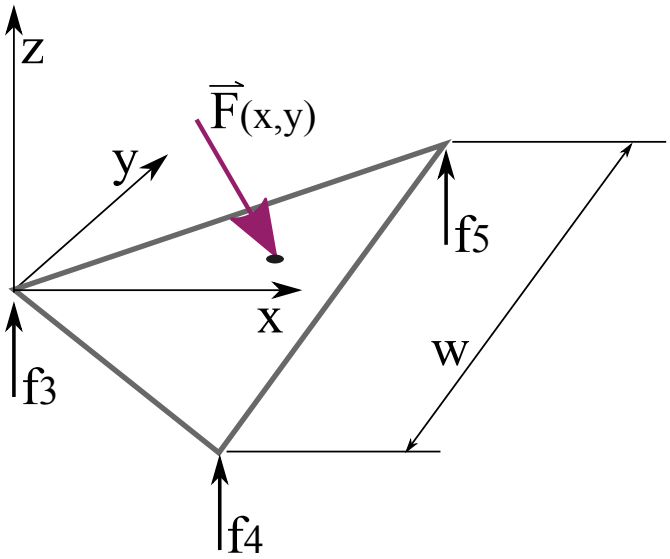


View from above showing locations of normal force sensors, direction of locomotion, and section A-A



Section A-A, and detail of tangential force sensor





$$\vec{F}(x,y) = \vec{F}_n + \vec{F}_{tan} \tag{1}$$

$$\sum F_y : f_1 + f_2 = F_{tany} \tag{2}$$

$$\sum F_z : f_3 + f_4 + f_5 = F_n \tag{3}$$

$$\sum M_x : -f_4 w/2 + f_5 w/2 - F_n y = 0 \tag{4}$$

$$\sum M_y : -(f_4 + f_5)h + F_n x = 0 \tag{5}$$

Questions: How can we tell if we got a good reading? What test can we do to confirm accuracy? How can we correlate measured forces with motions? How can we export data?
Your notes: