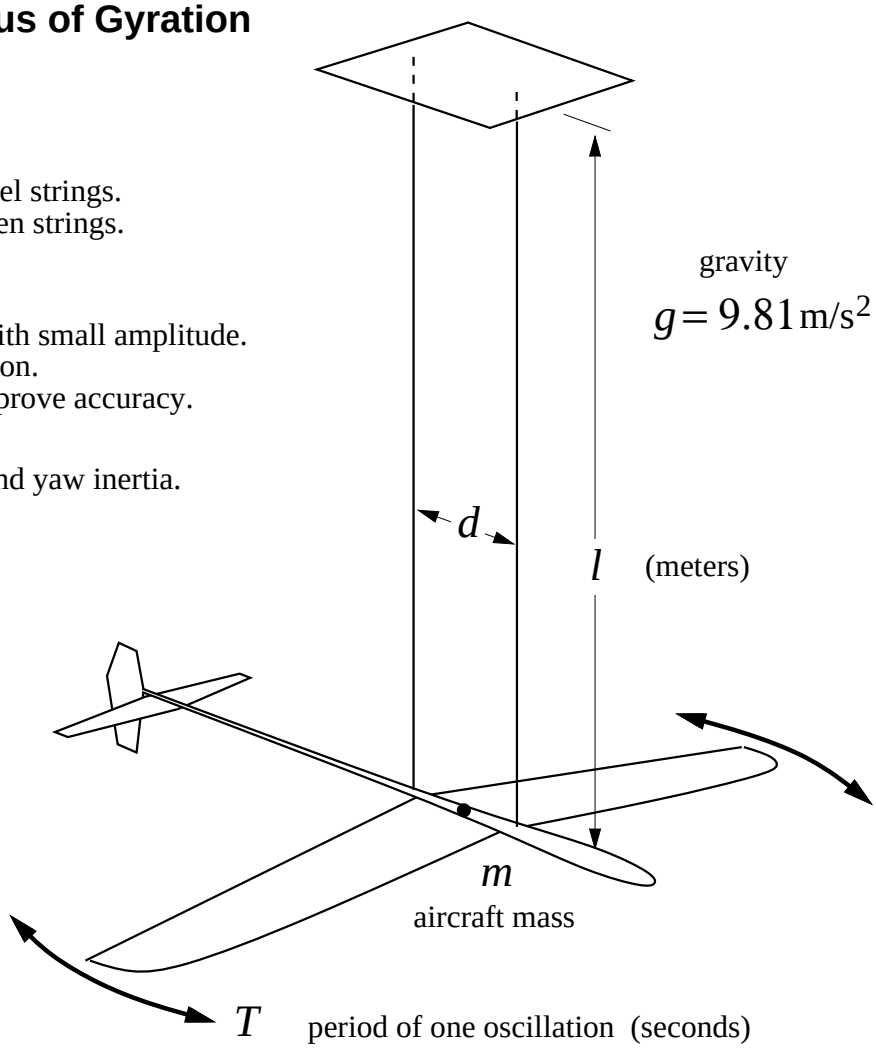
Measurement of Yaw Radius of Gyration

1) Suspend aircraft on two long parallel strings.
   CG must be exactly midway bewteen strings.

2) Let glider freely oscillate in yaw with small amplitude.
   Measure the period of one oscillation.
   Time over many oscillations to improve accuracy.

3) Compute yaw radius of gyration, and yaw inertia.



gravity

$g = 9.81 \text{ m/s}^2$

l (meters)

m aircraft mass

T period of one oscillation (seconds)

$$r_{\text{yaw}} = \frac{T}{4\pi}\sqrt{\frac{g}{l}}\, d$$ yaw radius of gyration

$$I_{\text{yaw}} = m\, r_{\text{yaw}}^2$$ yaw inertia

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