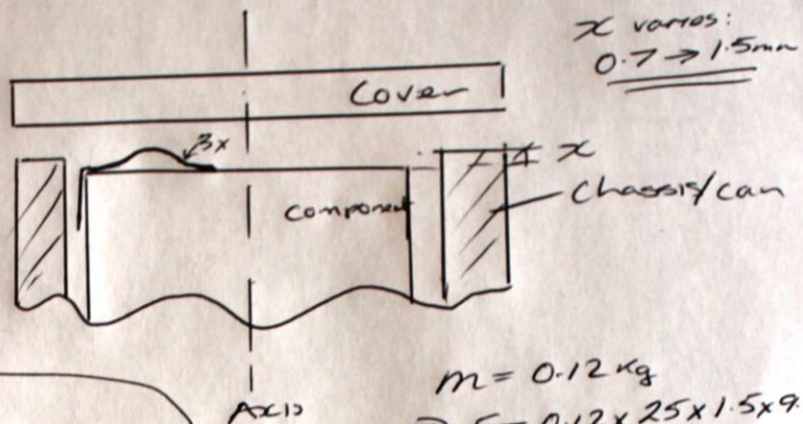
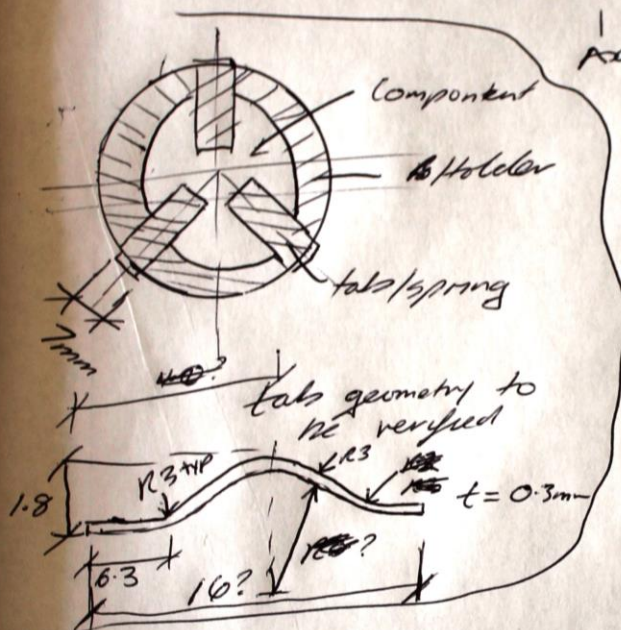


Design has 3 tabs/spring that are equispaced

Cover mates with can & compresses tabs



x varies:
 $0.7 \rightarrow 1.5 \text{ mm}$



$$m = 0.12 \text{ kg}$$

$$\Rightarrow F = 0.12 \times 25 \times 1.5 \times 9.81$$

$$= \underline{\underline{44.1 \text{ N}}}$$

Tolerance stack
 $\hookrightarrow 0.8 \text{ mm}$
(gap varies)

Min compression on spring: 0.3 mm

Max compression on spring: 1.1 mm

$$I = \frac{bd^3}{12}$$

$$= \frac{7 \times 0.3^3}{12}$$

$$= \text{mm}^4$$

Min force on each tabs ($d = 0.3 \text{ mm}$)
 $\hookrightarrow \underline{\underline{14.715 \text{ N}}}$

Min k : 49.05 N/mm

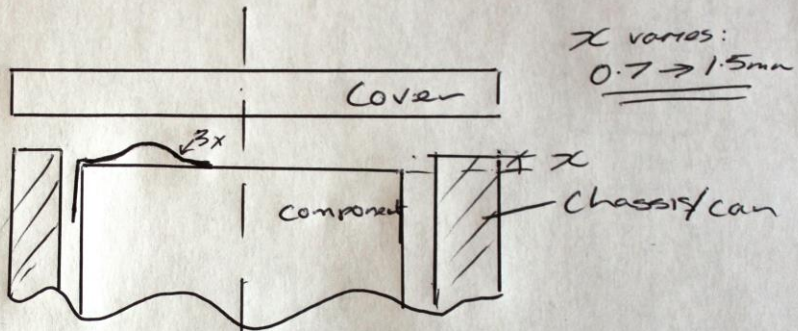
$$\sigma = \frac{MY}{I}$$

At max compression
 $F = 1.1 \times 49.05$
 $= \underline{\underline{53.96 \text{ N}}}$

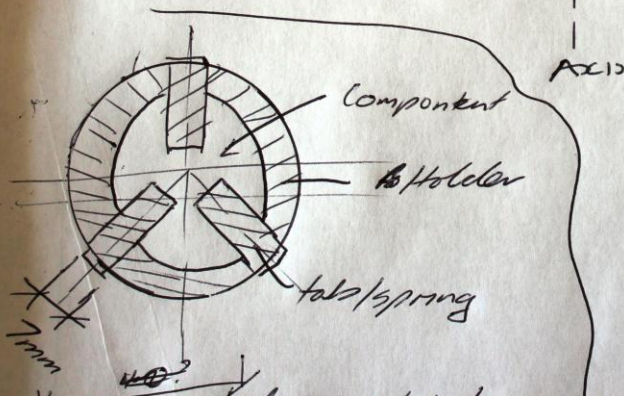
* At $F = 53.96 \text{ N}$, stress in tabs is?
Material yield is 190 MPa ($\text{Re}(u)$)
What shape/profile for tabs?

Design has 3 tabs/spring that are equispaced

Cover mates with can & compresses tabs



x varies:
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$$= \underline{\underline{44.1 \text{ N}}}$$

Tolerance stack
 $\hookrightarrow 0.8 \text{ mm}$
(gap varies)