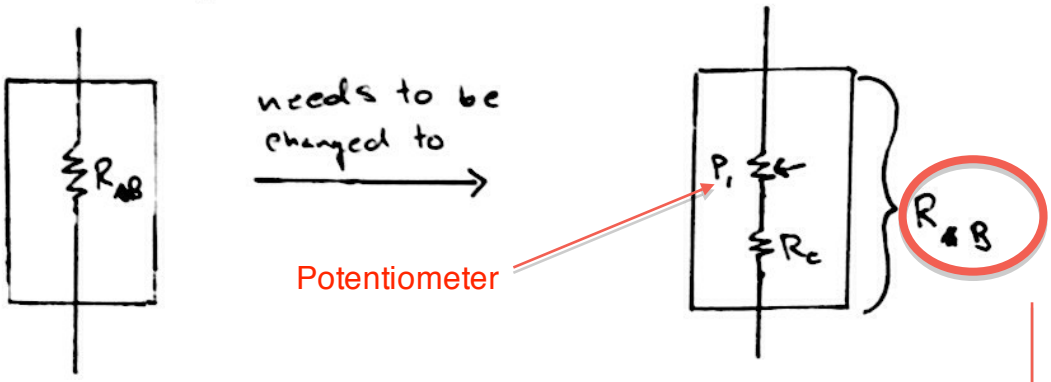
So that means if $R_B C \approx 1.44s$, C needs to be around $C \approx \frac{1.44\,s}{44.3E3\,\Omega} \approx 33\mu F$ (a standard value!)

Which I didn't have but that's okay

Because the potentiometer actually goes to zero resistance the duty cycle will be effected if there is no resistor in place of R_B. I now refer to box 1.



Where the order of P_1 and R_e don't actually matter.

Calculations with final resistor and Pot. Values

Values: $P_1 = 44.3K$, $R_e = 9.88K$, $R_A = 153.5$, $C = 47\mu F$

Values were measured using a multimeter

When P_1 is at full crank ($P_1 = 44.3K$) $R_B = P_1 + R_e$ (Box 1)

$R_B = 54.18K$

Pot. @ full crank

$$D_{Pon} = \frac{R_B}{R_A + (2R_B)} = \frac{54.18K}{153.5 + (2 \cdot 54.18K)} = 0.499 \approx 50\%$$

$t_{on}(\text{Calc}) = 0.693(153.5 + 54.18E3)33E-6F = 1.2s$ [w/ 47μF; 1.8s]

$t_{off}(\text{Calc}) = 0.693(54.18E3)33E-6 = 1.2s$ [w/ 47μF; 1.8s]

When $P_1 = 0$, $R_B = R_e = 9.88K$

Pot @ ~0Ω

$t_{on}(calc) = 0.693(153.5 + 9.88k)33E-6 = 0.229s$ [w/ 47μF; 0.3s]

$t_{off}(calc) = 0.693(9.88k)33E-6 = 0.226$ [w/ 47μF; 0.3s]

$D_{Poff} \approx 50\%$

Actual capacitance values were variable

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