Envelope Sizing

Length [m] 3.5

Fineness Ratio (L/D) 3

Calculate

Diameter [m] 1.1667

1

Section Length: 1.3198m

Main Parameters

Required Weight

300 g

Required Speed

8 m/s

Required Flight Time

18 mins

Generate

2

Important Values

Carrying Mass: 361.7g

Max Speed: 8.7m/s

Flight Time: 18.1mins

3

Max Pitch Up: 64.7°

Max Pitch Down: -96.7°

Log

```
***Envelope***
Using a FR of 3 and L of 3.5m gives a D of 1.1667m.
This corresponds to a CD of 0.018505.
With a volume of 2.8139m^3 which is 468.2g of helium.
Approximately 363.1g of plastic.
Centre of mass at -93.9mm (in x) from the centre of the thrusters

***Thruster Selection***
Propeller - APC E 11x7
 Weight: 23 g
Motor - iFlight iPower Multimate MT4114-400
 Weight: 158 g
 Volts:  14.6 V
 KV:   415 RPM/V
 Power:  87 W
 Thrust: 6.1782 N
Battery - ZIPPY Compact 1800mAh 4S 35C Lipo Pack
 Weight:  205 g
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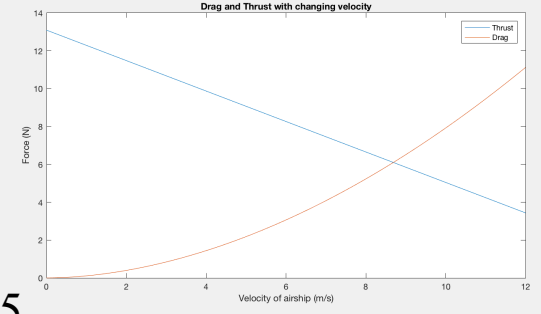
4

/Users/alex/Documents/git/cad/Log/groupRE3_Log.txt



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