Lesson 4 Rocketry vocabulary/concepts 11/9/2021

* Avionics/Payload Bay (AKA “av-bay”)
* Utility of having a removable av-bay
* Coupler tube with collar (always exposed)
* Sled (may need to be notched due to eyebolt placement)
* Threaded rods and alignment tubes (not the only way to attach it)
* Screw switch (epoxy thoroughly, to deal with application of “wrench”)
* Orientation of battery holder (and reason for it) (holes for zip ties – later)
* Why we use a “CopperTop” Duracell 9-volt batteries for high-power rocketry
* Soldering vs terminal blocks
* Bleed holes (where and why)
* Venting the av-bay (calculation in later lesson)
* Ejection charge size (calculation in later lesson)
* Wiring for an ejection charge test (to be done just prior to flight)
* Making the av-bay “explosion-tight”

Three types of low-cost actual altimeters (which can fire ejection charges)

* PerfectFlite StratoLoggerCF Altimeter <https://www.perfectflitedirect.com/stratologgercf-altimeter/>

StratoLogger wiring diagram (2 channels), info sheet, user manual, programming options, Note: some functionality requires data kit (purchase separately)

* Entacore AIM USB Rocket Altimeter <http://entacore.com/electronics/aimusb>

AIM USB wiring diagram (2 channels), interfacing software (free download), programming options

* Featherweight Raven4 Altimeter <https://www.featherweightaltimeters.com/raven-altimeter.html>

Raven wiring diagram (4 channels), Featherweight Interface Program (free software download), programming options, flight simulation test (with LEDs (watch polarity!) and safety resistors (if not built in))

Link to document repository

http://www.aem.umn.edu/people/faculty/flaten/Rocketry\_Remote\_Lessons\_Fall\_2021/

Sophia’s evolving photo-build instructions – check back regularly:

<https://docs.google.com/presentation/d/1NritqFEBkQI95c4ex6SjiA-08uaoEcFUydgjlA6mtdY/edit#slide=id.p>