Recommended “Homework” for Rocketry Lesson 4 10/3/2017

Reading

* read Chapters 5, 6, & 7 in the High-Power Rocketry book
* read Chapter 21 in the Model Rocketry book (since the High-Power book doesn’t talk about simulations very much) – note that we’ll be using OpenRocket rather than RockSim

Tote

* nothing new here – I might wait until I see you at the launch to hand out the 3-grain motor cases (along with the motors) – you don’t need those cases for the actual build
* if your camera mount is red, we will replace it with a better one later (so don’t epoxy the external camera mount in place)

Exercise

* look through the “rocket motion” slides, to better-appreciate the challenge of using basic physics equations to predict rocket motion in this non-constant-acceleration situation
* download OpenRocket 15.03 and assign some people to learn to use it – practice by “flying” existing models (to better understand the graphs it generates and the options it provides) then go on to editing existing models and, ultimately, to generating models from scratch
* remember that we’ll be flying this fall using a Cesaroni “I-170 Classic” motor

Building

* continue to work on the airframe build, following the written build schedule – this week you should probably be gluing in the fins (one at a time) and also building the piston (and modifying the nose cone, if you didn’t get that done already)
* perhaps hold off on gluing in the bottom centering ring followed by the motor retainer until after you have finished all other tasks that need epoxy (including the wood blocks for rail buttons and camera mount and also the av-bay, which will be discussed in detail next week)
* if you run low on DP420 for internal fillets (and don’t want to purchase more) you could use J-B Weld instead – just be sure to keep some J-B Weld for the motor retainer itself, which is the last part to go on

Document repository: [*http://www.aem.umn.edu/people/faculty/flaten/Rocketry\_Remote\_Lessons\_Fall\_2017/*](http://www.aem.umn.edu/people/faculty/flaten/Rocketry_Remote_Lessons_Fall_2017/)

Danny’s evolving photo-build instructions – check back regularly: [*https://docs.google.com/presentation/d/14IxzFs65U64-Dv\_CV8lyb0TSgxyj1ti4kJh6mG2wQh8/edit?usp=sharing*](https://docs.google.com/presentation/d/14IxzFs65U64-Dv_CV8lyb0TSgxyj1ti4kJh6mG2wQh8/edit?usp=sharing)