



2022-23 Design, Build, Fly Q&A #4



General Questions

1. What are the limitations regarding the weight distributor used for GM? Does the entire weight distributor have to be within the bounds of the wing attachments? Or could we build a large flat surface that covers part of the wing, as long as it connects inbound of the wing attachments and not outbound the wing attachments?

Answer: The physical configuration for the method of applying weight does not have to remain inbound of the wing section but as described in the question above, must attach to the fuselage inbound of the wing section attachment joint.

2. Are "Jamming Antenna" attachments for M3 allowed to have significant aerodynamic properties?

Answer: Refer to Q&A#1, question #7 and Q&A#2, question #28 for the answer to this question.

3. To satisfy "the left and right wing sections together must make up at least 80% of the total wingspan," say the fuselage makes up 20% of the total wingspan. If the landing gear is attached to the fuselage and stretches outward beyond the width of the fuselage, does this still satisfy the rule?

Answer: The landing gear are not limited by this requirement for the wing sections.

4. Can the wingtip adapter or the tip of the wing be structurally supported by the ground test fixture through more than the two fasteners? Or do all loads have to be transferred from the aircraft to the ground test fixture via the two fasteners on each wingtip? Example, can the wingtip rest on a ledge in the ground test fixture?

Answer: Refer to Q&A#2, question #17 for the answer to this question.

5. During GM, "there will be a 30 second hold with the final test weight applied." Is this part of the 10 minute mission window?

Answer: If the final weight is applied prior to the end of the 10 minute window, the 30 second hold does not have to be within the 10 minute window.

6. During GM, can the test weights be loaded below the fuselage, through some sort of mechanism that hangs below the fuselage?

Answer: Yes.

7. Are flight controllers such as Pixhawks allowed on the aircraft for data collection purposes?

Answer: Refer to the FAQ for the answer to this question.

8. Is software stabilization, to any extent, allowed during flight missions?

Answer: Refer to the FAQ for what is allowed for flight stabilization.

9. If different propulsion systems (specifically propellers and batteries) are expected to be used for different flight missions, should they all be fitted in the shipping box? Similarly, should backup batteries also be fitted in the shipping box?

Answer: Batteries and propellers can be changed for each mission, if desired. Only batteries and propellers to be used for a specific mission, including back-ups, are required to be in the shipping box when entering the staging area for the mission.

10. We would like to confirm whether the shipping container had to be a wooden box-type container or if we could use a suitcase within the dimensional regulations for this purpose?

Answer: Refer to Q&A#1, question #5.

11. Are BOTH an Arming Plug AND fuse required? Or can we use either an Arming Plug or a fuse?

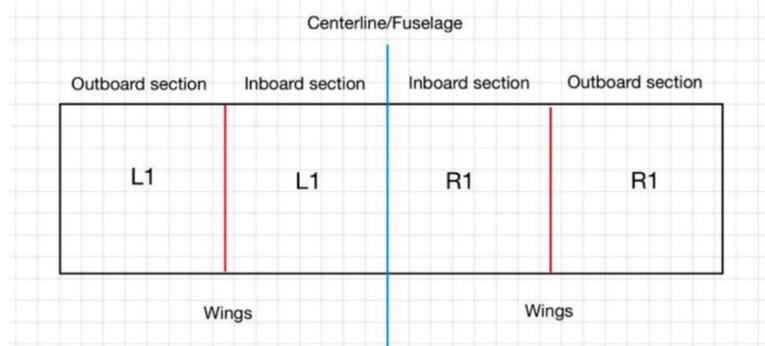
If we are required to use both an arming plug and fuse, we are planning to have an externally accessible arming plug. Hence, must our fuse still be externally accessible

Answer: An Arming Fuse is required as specified in the rules, which require it to be externally accessible.

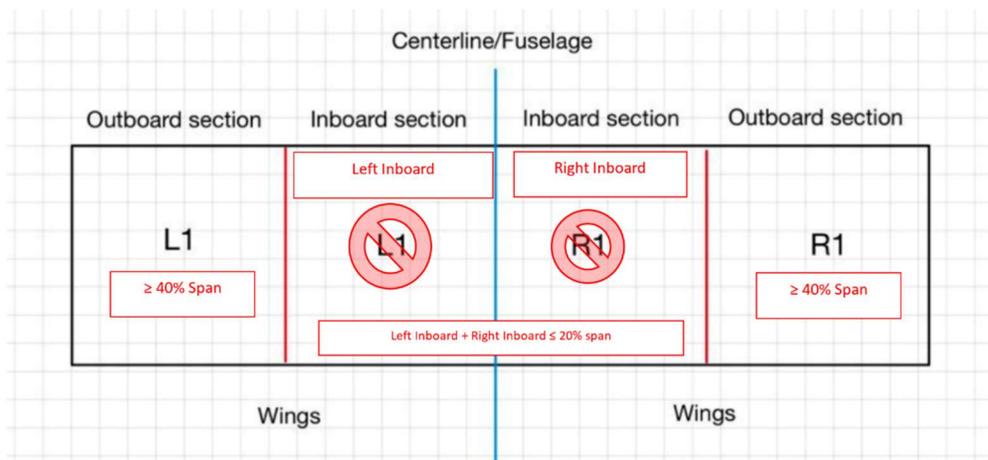
12. We are using a 2S 400mAh LiPo to power the receiver and controls, will this battery be considered under the 100Wh propulsion battery limit?

Answer: Receiver and controls batteries do not count towards the 100 Wh propulsion battery limit. But all LiPo batteries, regardless of how they are used, are limited to the FAA 100 Wh carry on limit.

13. Can our plane design have 2 separate wing sections on each side? As illustrated below?



Answer: All outboard removable wing sections, according to the rules, must be at least 80% of the total wingspan. Therefore, the inboard L1 and R1 sections shown above cannot be part of the 80%. They are inappropriately labeled and together must be less than 20% of the span. See figure below for clarification.



14. The payload needs to be 3.00"x3.00"x6.00", but does this need to be formed by a single body? For example, can our payload be made up of two 3.00" cubes placed together? Or six 1.00"x3.00"x3.00" bodies? For clarification, once installed into the plane, they would take up at least a 3.00"x3.00"x6.00" space?

Answer: The Mission 2 Electronics Package payload must be a single component.

15. Are rivets allowed in the competition? If so, is there any other additive or caveat that would be necessary (along the same lines as Loctite for screws)?

Answer: Rivets are allowed and should be installed using the manufacturer's instructions.