



2023-24 Design, Build, Fly Q&A #3

Boechcraft

Cesana

Zawker

TEXTRON AVIATION

Raytheon
Missiles & Defense

AIAA
FOUNDATION

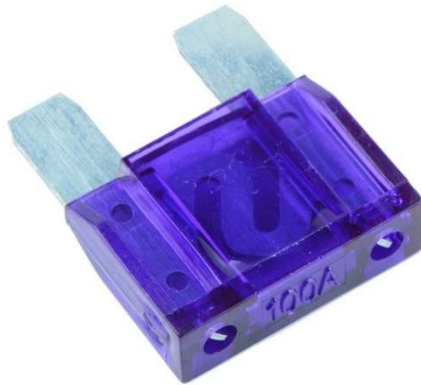
General Questions

1. Would the receiver battery capacity be included in the 100Wh battery capacity limit which is currently defined in the rules to encompass propulsion batteries?

Answer: The receiver battery capacity is not included in the propulsion battery capacity limit of 100 W-h but as also stated in the rules, no individual battery can exceed 100 W-h FAA limits.

2. Within the competition rules it is stated that "All airplane must have a mechanical motor arming fuse separate from the onboard radio Rx switch. This MUST be the contest specified "blade" style fuse". Could you help provide an example of this "blade" style of fuse as an example? In addition, could you help provide an example of the fuse holder?

Answer: An example is shown below. The implementation of a fuse holder is up to each team to determine.



3. Is the following gyro within the realm of the rules? It is a CORTEX (3-AXIS FIXED-WING GYRO): <https://www.bavariandemon.com/en/products/fixed-wing-gyro-systems/cortex/>?

Answer: This is acceptable as a stabilization device.

4. Are obstructions permitted between the medicine cabinet and the patient/emt crew?

Answer: Components can be included in the passenger compartment as long as all rule requirements are satisfied.

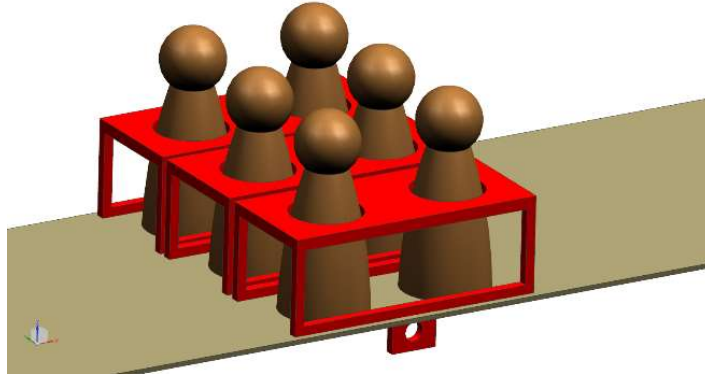
5. Can teams consider various approaches in their Final Report, with the flexibility to finalize a solution at a later time, e.g. a motor-propellor combination or manufacturing method?

Answer: The requirements are clearly defined in the rules and FAQ. Since the configuration cannot change substantially from the report AND the configuration drawing, multiple approaches are not feasible.

6. Is there a minimum score a Team must achieve on the Final Report to be able to participate at the Competition?

Answer: No.

7. To shorten the assembly time at GM, we grouped the passengers in pairs and the passengers do not touch each other. We want to make sure that this is acceptable according to the rules, is there anything against the rules?



Answer: Specific designs can only be approved at tech inspection. If the rules are satisfied for configuration of the passengers inside the passenger compartment and are properly restrained, this would be acceptable if approved in tech inspection. For the GM and in the staging box, the passengers must be separate from the inserts (if used), restraint system(s) and assembly tooling/aids prior to starting time for each mission.

8. Can one hatch cover be used for multiple hatch openings?

Answer: Yes.

9. Does the medical cabinet have to be a rectangular prism, or simply enclose a 3"x3"x3.5" rectangular prism with any shape?

Answer: It must be a rectangular prism.

10. Can the cabinet have gaps/holes or does it need to be completely closed to air?

Answer: The specific design of the medical supply cabinet is up to each team to determine, including internal and external configurations and features.

11. Can the floor [have/be] separate pieces as long as all pieces constitute a single horizontal plane?

Answer: The single horizontal plane can be made up of multiple components and may contain gaps and joints.

12. Are the pilots allowed to touch the ceiling?

Answer: The ceiling is part of the airplane, so no.

13. Can a removable support device be used to hold the wings steady while in the parking configuration? Or does any support have to come from the flight configuration of the plane?

Answer: No loose parts are allowed during the transition between configurations other than temporarily removing a component as defined in the rules and Q&A.

14. We are wondering if we can use rubber bands to secure the patient and the gurney only. We are unsure if the patient counts as a "plane component"?

Answer: The patient is a payload component, not an airplane component. Generally speaking, rubber bands are acceptable restraint methods if approved during tech inspection.

15. Do all fasteners have to be fully fastened when the aircraft is in parking configuration prior to start of staging/ground mission (e.g. can bolts be fastened enough to secure but not fully screwed)?

Answer: Fasteners that are loosened and/or removed then replaced as part of changing from the parking to the flight configuration or for installation of payloads do not have to be fully installed and secured for flight prior to starting the GM or assembly in the staging box. It must be secured sufficiently to secure the airplane in the parking configuration and not be so loose it can fall out during handling and preparation before any mission begins.

16. Our aircraft may be a tricycle configuration with an additional wheel at the tail. If the aircraft will sit on the main gear and tail wheel (nose wheel lifted) during parking configuration, and complete take-offs as a tricycle, will that be allowed?

Answer: The rules require that the airplane be in the upright position on its landing gear at the start of the GM and prior to assembly in the staging box and remain in this position during assembly and preparation for flight. This applies to ALL landing gear components, so the above configuration would not be allowed.

17. The rules state that the doors must all be located on the same side of the aircraft. It is also stated that each of the two crew can be installed through different hatches. Is it acceptable for these hatches to be located on opposite sides of the aircraft?

Answer: There is no requirement that the crew hatch(es) must be on the same side as the passenger compartment hatch(es).

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19. How will the dolls for all missions be given to the assembly crew members? That is, in a box, lined up, on their sides, etc.?

Answer: TBD at the fly-off but most likely loose in some sort of container.