



2023-24 Design, Build, Fly Q&A #5



FAA Remote ID:

The DBF Contest Director in coordination with AMA applied for an event specific Remote ID Exemption Authorization and it has been approved by the FAA. There is no requirement for airplanes to implement RID devices during the DBF competition fly-off.

Update to Tech Inspection Configuration:

The rules under Technical Inspection currently require that “the Airplane will enter Tech Inspection in the parking configuration with no payload items or propulsion batteries installed”. In order to expedite tech inspection, teams are now directed to bring the airplane to Tech Inspection in the **flight** configuration with no payload items or propulsion batteries installed. This will also be announced at the fly-off.

General Questions

1. My team was wondering if ballast is allowed in the airplane while in the "parking configuration", then removed when ready for flight? The rules state on page 11:

"The airplane will be brought to the staging box in the parking configuration with gurney, Medical Supply Cabinet, floor insert (if used) and propulsion battery pack(s) removed from the airplane".

We wanted to ensure that ballast is an acceptable part of the "parking configuration" to keep our plane upright on it's main gear.

Answer: As clearly stated in the rules and Q&A, no components may be removed from the airplane when changing between parking and flight configurations other than the temporary removal of items defined therein. If a ballast is required to balance the airplane in the parking configuration, it must remain in the airplane in the flight configuration.

2. For securing permanent fasteners as listed in the pre-tech form, is it acceptable to use superglue on a nylon nut and nylon bolt as a form of thread locker? Alternatively, can a metal nut be used on a nylon bolt as a form of mechanical interference fit?

Answer: Superglue (cyanoacrylate adhesive (CA)) is an acceptable method of securing permanent fasteners. Mixing metal and nylon nuts and bolts alone does not create a mechanical interference fit and if implemented, a locking feature must be implemented as defined in the rules.

3. The rules state the crew members must be on a planar floor and must be “side-by-side”. As long as the crew are on the same floor, and only touch the floor and the restraints, are there permitted to be components between them, such as wiring or electronics?

Answer: Yes.

4. Can the floor insert be touching the internal walls of the aircraft, or can it only touch the floor?

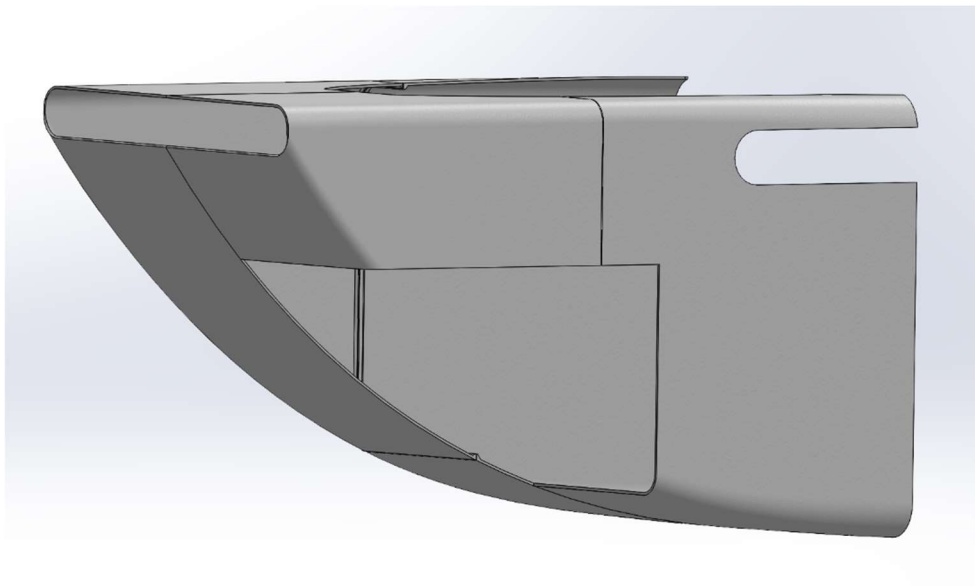
Answer: The insert must be on the floor so that the payloads are on the floor. Any additional features to secure, locate, or mount the insert inside the airplane are at each team's discretion including touching or attaching to the inner walls or other features of the airplane.

5. May an onboard flight data recorder be used to collect data such as: receiver input command, ESC telemetry, and potentially GPS data and an engineering camera, if it can be verified during tech inspection that the flight data recorder unit does not have any servos or ESC signal wires connected to it?

Answer: On-board data collection systems are allowed. However, these sub-systems must be approved in Tech Inspection to demonstrate that they will not interfere with safety systems on the airplane and will therefore become a permanent part of the airplane configuration. Since the rules do not allow a change in configuration between missions, these sub-systems must remain in the airplane for ALL missions. As clearly stated in the FAQ, no on-board GPS systems are allowed.

6. If a hatch opening and hatch cover have significant curvature, and part of hatch is not 'primarily vertical' (the local angle at a certain point has an angle to the ground plane of less than 45 degrees), how can rule-compliance be established? For example, Q&A #2, question 4 has an example of the hatch and hatch opening with a partially horizontal element. What if a similar configuration existed, but with significant blending? If this hatch were placed at the aft of the aircraft, on the rear of the empennage, but did not extend past the fuselage centerline plane, would this satisfy the rule requirements?

Proposed design:



Answer. As stated in Q&A#1, Question #8, the hatch opening is measured in the longitudinal direction. If the hatch is placed in a location on the fuselage with significant curvature or blending, it may not be able to be fully verified in tech inspection and therefore would be deemed non-compliant by the tech inspector. It is up to each team to locate the hatch such that it can be easily verified for full compliance in tech inspection. In the example provided above, the curvature creates a hatch that is open on one end in the longitudinal direction and cannot be verified in tech inspection, and therefore is non-compliant.