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Q: Are boat tails allowed to be changed between flights, including tailcones with fins?

A: The rocket airframe, including all fins, must be the same between the two flights. However PLAIN boat tails are allowed, and may be changed between flights. NEW: Nosecones may also be changed between flights.

Q: May we use a chute release to accomplish dual deploy?

A: Yes, but we still expect both a drogue parachute and a main parachute – no broken-rocket-but-drogueless-descent allowed.

Q: Are VMAX motors allowed, if we can source our own?

A: Cesaroni VMAX motors are not currently in production (and might be out of production permanently). However we will allow teams to use them, if you can find a source for them. Note: VMAX motors are known to sometimes snuff out motor ejects, so if flying on a VMAX motor you MUST NOT count on your motor eject but instead MUST HAVE two independent commercial altimeter systems in place.

Q: May we add features to the rocket not required by the competition?

A: Yes, as long as they do not pose a safety hazard. Once you have details, please check them out in advance with Gary Stroick. Note: No dual-stage rockets will be allowed. No motor clusters will be allowed.

Q: Are we allowed to implement air brakes?

A: Yes – just realize that supersonic speeds will be very hard on air brakes. On the other hand, if you do use air brakes there is no requirement, as there has been in some prior competitions, that they be retractable. However still-deployed air brakes sometimes interfere with clean deployment of recovery devices, so beware.

Q: Can we at least get partial credit for implementing a camera system that does some, but not all, of the required tasks?

A: No. The challenge is to implement a “thorough” camera system. On the other hand, if you have a technically-thorough camera system but it happens to miss capturing some view – say the main parachute coincidentally happens to open up on the side of the rocket opposite the camera – then partial credit might be awarded.

Q: Can pressure-only altimeters, such as Stratologgers, accurately determine supersonic speeds?

A: No then cannot. NEW: We are now REQUIRING every team to fly an accelerometer-based altimeter, such as a Raven3, at least on their supersonic flight attempt. If you own a Raven3, or a comparable altimeter, plan to use it. If you do not, we will lend you a Raven (and will allow you to use its full functionality to fire ejection charges, rather than limiting its use to just data logging). Note that if you are not using a motor eject because the delay grain isn’t long enough to

last till apogee, you still need to fly a second, fully-independent altimeter. That can be a pressure-only altimeter, assuming it doesn't get fooled by the Mach pressure dip – essentially all current altimeters should be fine. We are also willing to lend out Altimeter Two units, which are just data loggers, for your first flight. But those won't work on a supersonic flight. Thanks in advance to the WI Space Grant for agreeing to lend us a set of Raven altimeters. Since we are borrowing the Ravens we will lend out, we ask that any team that damages or destroys one make a good-faith effort to repay us for it. Raven3 altimeters cost \$155 each but are currently between versions, so are temporarily unavailable.