

Additional FAQ's about the 2016-2017 Midwest High-Power Rocket Competition

Written following the (repeat) Intro. Telecon of Jan. 2017, to follow the FAQ's from December 2016.

27. If we use a chute release for our main parachute, is it OK to monitor/log just one separation of the body tube?
- A. Yes. That monitoring, coupled with your up and down video footage, should suffice to document whether your parachutes came out and opened fully when you said they would, rather than depending on back-up charges.
28. Does using flyaway rail guides violate the rule that the rocket must be recovered "in one piece"?
- A: No. Such guides are intended to be ejected when the rocket clears the tower so using them as intended is fine. Just be sure to bring spares, in case you are unable to find the ones ejected after the first flight.
29. Are internal parts (related to the electronics) subject to the rule about using pre-qualified components?
- A: Not directly. The judges may examine your avionics bay (and other parts of the rocket too) looking for evidence of overall structural soundness, but the pre-qualified components rule basically applies to airframe parts, not internal electronic parts. On the other hand, if you know the rocket will pull 20 g's on launch do your best to select (and mount) electronics to handle that acceleration.
30. May a wide-angle camera (e.g. 175 degree field of view) looking out the side of the rocket serve to provide both up and down video?
- A: No, though a single "360 degree" camera might be allowed for that purpose. Try to have the straight up and the straight down directions NOT be on the periphery of the camera views.
31. How long are the launch rails and what sizes are they?
- A: Tripoli MN will provide 10-10 and 15-15 launch rails, all 8 feet long.
- Aside 1: Do NOT plan to use launch lugs (tubes, like on model rockets) that require a launch rod instead of a launch rail – rods just aren't stiff enough for rockets of this size.
- Aside 2: If you want a shorter rail, you may use spacers to elevate your rocket so it doesn't start at the bottom of an 8-foot rail. The rocket must be travelling at an appropriate safe speed (see handbook) before it reaches the end of the rail or 8 feet, whichever comes first. To keep the playing field level, safety will be evaluated at 8 feet even if the rail or launch tower (see next question) happens to be longer than 8 feet.
- Aside 3: Tripoli has more 10-10 rails than 15-15 rails so unless your rocket is exceptionally heavy (i.e. more than 20 lb), plan to use 10-10 rail buttons or 10-10 rail guides.
32. May we use a launch tower if we bring it ourselves?
- A: Yes, though it will require inspection by Tripoli MN. If your launch tower is longer than 8 feet your analysis must show that your rocket still reaches a safe launch velocity within 8 feet.
33. May we use a different rocket for our demonstration flight in March (not our pre-competition practice flights) and the competition?
- A: Yes. The demonstration flight could also be done with a model rocket or a non-competition high-power rocket. However don't switch rockets between your test flights (probably in April) and the competition (unless you inadvertently destroy your competition rocket and need to

rebuild/replace it). Having a “spare” rocket along to the competition is OK, but make sure the Tripoli MN safety officer knows whether any given rocket has actually flown before, or not.

34. May we fly “research” (i.e. home-built) motors at the competition?

A: No. The motor announcement posted in early January relaxes the requirement that you use Cesaroni motors, but the new list still only includes licensed motor manufacturers.

35. May we modify standard rocketry components, like adding layers of fiberglass to phenolic to strengthen it?

A: Yes, but make sure any modifications leave the parts well-suited for this use. Fiberglassing airframe parts to make them stronger is typically a good idea. Cutting holes in airframe parts (for things like air brakes to stick out) can compromise their integrity, so accompany any such move with appropriate analysis to ensure structural safety.