

# Tripoli Research Launches – FAQ

The purpose of this document is to summarize and highlight the special rules that govern the operation and participation of Tripoli members at a Tripoli Research Launch (TRL). This document does not replace the actual Tripoli Research Safety Code; it is only provided as a guide.

## 1. What is a Tripoli Research Launch (TRL)

The Tripoli Research Program's purpose is to foster the research and development of payloads, electronics, recovery devices, air frame design, construction materials and to provide members of TRA with a venue in which they can static test and use their own composite or hybrid motors.

It is the purpose of this code to provide a means to introduce new technology or to include currently prohibited technology into Tripoli Research activities as the ability and expertise of TRA to include these technologies becomes available.

## 2. How is a TRL approved/authorized?

No extra approval is needed to hold a Research launch.

## 3. What is a Tripoli Research flight?

Simply put, all flights that occur at a sanctioned/insured TRL are research flights.

## 4. Who may participate in a Tripoli Research Launch?

Members of Tripoli in good standing and 18 years of age or older may access and conduct flights from the Research / High Power Launch Area and/or Model Rocket Launch Area.

Members of the National Association of Rocketry in good standing and 18 years of age or older may access and conduct flights from the Research / High Power Launch Area and/or Model Rocket Launch Area in the US or Canada. However, they are limited to their certification level and the use of only Certified Motors. NAR Member's flights shall comply with all requirements of NAR Safety Code. NAR Members shall comply with the safe distances established by this code.

Non-Tripoli Members age 18 and over that are students of an accredited educational institution may participate in joint projects with Tripoli members. These individuals are allowed in the High Power Launch Area if escorted by an HPR Flier or Model Rocket Launch Area if escorted by an Adult Flier. The maximum number of non-member participants shall not exceed five (5) per supervising flier.

Tripoli Junior Members that have successfully completed the Tripoli Mentoring Program training may access and conduct flights from the Research / High Power Launch Area and/or Model Rocket Launch Area in accordance with the rules of the Tripoli Mentoring Program under the direct supervision of a Tripoli Senior Member. The Tripoli Senior member may provide supervision for up to five(5) individuals that have successfully completed the Tripoli Mentoring Program Training at a time.

Children younger than 18 years of age that have not completed the Tripoli Mentoring Program may access and conduct flights from the Model Rocket Launch Area under the direction of an Adult Flier. These individuals are not allowed in the Research / High Power Launch Areas except for recovery of rockets launched from the Model Rocket Launch Area and only then if the Research / High Power Launch Area is open and no rockets are being launched from there.

## Tripoli Research Launches – FAQ

Named Insured individuals approved by Tripoli Insurance may access and conduct flights from the Model Rocket Launch Area under the direction of a Senior Tripoli Member.

These individuals are not allowed in the Research / High Power Launch Areas except for recovery of rockets launched from the Model Rocket Launch Area and only then if the Research / High Power Launch Area is open and no rockets are being launched from there.

**5. Can children fly rockets at a TRL?**

YES, non-members under 18 years of age may fly model rockets from the Model Rocket Launch area under the direction of an adult flier.

**6. Are Research motors required in order to fly at a TRL?**

No. Commercial motors can be flown at TRLs.

**7. Are there any limits on flying motors at a TRL?**

Yes, all flights and static tests conducted by the member shall be within the member's certification level.

Only TRA L2 and L3 may fly research motors.

**8. Are there restrictions on spectators and/or invited guests?**

Non-Tripoli members are either invited guests or spectators.

An invited guest (including non-Tripoli members of a group project) may be permitted in the Model Rocket Launch Area and preparation areas upon approval of the RSO but shall not be present at the High Power / Research launch area

Spectators, who are neither TRA members nor invited guests, are confined to the spectator areas as designated by the RSO and shall not be present in the motor/rocket preparation areas nor at the pad areas or flying range site.

Invited guests or spectators who meet all the other requirements of this code may have access to these restricted areas if they join TRA and have the permission of the RSO and the person or group personnel involved in a project.

**9. What is the 90% rule and how can it be waived?**

The 90% rule limits flights that use research motors to 90% of the FAA waiver in force at the time of the flight. This is done to be conservative with flights that may over-perform their expected flight profile.

The maximum launch altitude of a flight using a research motor shall be 90% of the waiver altitude established for the launch.

The BOD may waive this requirement when it can be demonstrated (by past performance, actual thrust curves, etc.) that the performance of the motor(s) to be used shall not exceed the limits of the waiver.

## Tripoli Research Launches – FAQ

Computer simulations without actual thrust data derived from one or more actual test stand firings shall not be considered for waiver.

You can apply for a waiver of this rule if you have consistent history of making motors that performed as predicted. A commercial manufacturer also has a consistent history of motors performing as predicted, and is therefore granted the waiver.

**10. I want to 'kit-bash' some commercial motor parts to create a 'custom' motor. Is this allowed at a TRL?**

Yes, this is considered a Research motor. However, this is not allowed at non- TRLs since the motor is not certified.

**11. Is a motor with a PVC casing allowed at a TRL?**

No. PVC is frangible and thus not allowed.

**12. May I fly a motor with a steel nozzle or steel case or closures?**

No steel cases or nozzles or closures are allowed. Steel snap rings, screws, and washers are minor parts and are permitted.

**13. May I buy or sell a research motor at a TRL?**

No, a TRL is not a venue for sales of research motors. Research motors cannot be sold for profit at a TRL.

**14. I want to fly a commercial motor that has an expired certification. May I do this at a TRL?**

Yes. This is allowed at a TRL as long as the motor was not decertified for cause.