

## Foreword

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Thank you for your service as a Prefect. As Prefect you represent the Tripoli Rocketry Association (TRA). You are authorized to certify high-power flyers in accordance with the procedures described in this document, you have a responsibility to represent TRA positively, and you have both the authority and responsibility to ensure that all applicable rules are being followed. More detailed explanations of your authority and responsibilities are contained within this document.

## Purpose for this document

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The purpose for document is to provide a comprehensive guide for you as Prefect, whether you are a first-time Prefect or an experienced one. If you are new to the role, you may find it beneficial to learn from the experiences of our more seasoned Prefects, who have shared their insights within these pages. On the other hand, if you are an experienced Prefect, this document allows you to contribute your knowledge and advice. Finally, it's important to note that this document is a dynamic resource that must be updated regularly to reflect current issues and developments. If at any time this document fails to make something clear or if you have a suggestion for how it could make something clearer, please immediately reach out to HQ or the Tripoli Board of Directors.

The three sections contained in this manual are:

- Prefecture Operations,
- Tripoli Launch Insurance, and
- Rules, Regulations, and Reference Documents.

Like a three-legged stool, these three sections provide the stable base for Tripoli Rocketry Association launch activities. Without insurance, it's almost impossible to find a launch site or obtain permission to launch rockets. Without a well-developed set of safety rules (the Tripoli Unified Safety Code) it's very difficult to obtain insurance. And finally, without Prefecture Operations at the local level, none of us have launch sites or launches to attend.

Local oversight by Prefects makes it possible to represent to the insurance company that the Tripoli Unified Safety Code is being followed. Prefects have the local authority and responsibility (delegated through Launch Directors, Launch Control Officers, and Range Safety Officers) to ensure that Prefecture activities are performed in compliance with the Tripoli Unified Safety Code and all other applicable rules and regulations, such as FAR 101, the set of Federal Aviation Regulations that govern amateur rocketry in the United States. Regulations will exist for almost every other country, and it is the Prefects' responsibility to learn their local regulations. Prefects also help prepare insurance claims when necessary and may be the point of contact for the insurance company.



# Prefecture Operations

## First, what is a Prefecture?

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A Prefecture is a self-governing community of Tripoli members serving a particular geographic region or event.

## Why form a Tripoli Prefecture?

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The fundamental purpose of forming a Prefecture is to aid, support, and provide resources to members who share a common interest in rocketry.

## What is required to start a Prefecture

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To form a new Prefecture requires a minimum of three active Tripoli members, a prospective launch site, and an annual \$10 Prefecture fee:

1. One required member is the Prefect. This member must meet the minimum requirements of a Prefect and will serve in that capacity.
  2. Another required member is the Prefecture Secretary who will be required to conduct an annual Prefect and Secretary election.
  3. A third required member may be any current Tripoli member.
- A prefecture also must be renewed every year, beginning in January, and is required to submit an annual \$10 fee.
  - Additionally, in most cases, the Prefecture serves a unique geographic area not served by an existing Prefecture. For instance, two prefectures would not generally be set up in the same city. The size of the geographic area may vary depending on many factors, such as the number of Tripoli members and the proximity of other Prefectures. Membership in prefectures is not restricted by geography or quantity. A member may belong to multiple prefectures with no regard to location.
  - Sometimes, when the Board of Directors recognizes a need, a Prefecture may be formed to support a particular need or event. An example is "Tripoli Gerlach," which was formed to provide consistent support for BALLS, the annual Tripoli Research launch which is held annually near Gerlach, NV. In this example the members live in many places but come together annually to hold the BALLS launch.
  - If all these requirements are met, an application to form a Prefecture must be made to Tripoli Headquarters for consideration by the Tripoli Board of directors.

## The process of forming a new Prefecture

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Applying to form a new Prefecture is simple. An online application is available on the Tripoli website at <https://www.tripoli.org/newprefecture>

If you have a launch site (either a prospective launch site or one that's already in use), you will be required to upload the following files:

- A Photograph of the launch site from the ground
- A Map image of the launch site
- A Layout diagram of your typical launch range setup
- A Copy of your Certificate of Authorization from the FAA (or equivalent for countries other than the United States). If not yet issued, please disregard until issued.

### Prefecture Name

You will be asked to choose a name for the Prefecture. This is not necessarily the same as your club's name, and the Tripoli Board of Directors may suggest something other than the name you've requested. The official Prefecture name will almost always include the name "Tripoli" plus some other reference, such as the name of a city, state, or province (or in some cases even countries).

### Reason for Starting a Prefecture

The application also asks for your reason for forming a Prefecture. This helps the Tripoli Board of Directors understand the motivation. The paragraph above about the [Purpose for Forming a Prefecture](#) should be a guide.

### Prefect Information

The application requires information about the proposed Prefect, such as name, Tripoli number, Certification level, membership history, and contact information. The Board will review this to make sure that the Prefect is at least L2, and that the Prefect has belonged to Tripoli for at least the last year. There are also questions about the level of rocketry experience and professional background. **The Prefect's contact information must always be kept up to date**, with emphasis on always having a means by which HQ or the Board of Directors may contact the officers of the Prefecture. The information provided will not be shared publicly.

### Secretary Information

The application requires information about the proposed Secretary, such as name, Tripoli number, certification level (certification is not required for this position), membership history, and contact information. There are also questions about the level of rocketry experience and professional background. **The Secretary's contact information must always be kept up to date**, with emphasis on always having way by which HQ or the Board of Directors may contact the officers of the Prefecture. The information provided will not be shared publicly.

## Third Member Information

During the initial Prefecture application, it's also necessary to provide information about a third member including their name, Tripoli number, certification level (certification is not required), membership history, and contact information.

## Public Contact Information

Finally, for the Prefecture, several questions are asked about the website address, mail address, and the nearest town. **This contact information must always be kept up to date, with particular emphasis on always having a valid email address by which HQ or the Board of Directors may contact the officers of the Prefecture and so members or prospective members may contact the Prefecture. This information will be shared publicly so people can contact the Prefecture.**

# Prefecture Administration

## The Prefect, Prerequisites, Role, and Responsibilities

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### What is a Prefect?

The head of a Prefecture is called a Prefect. The initial Prefect is frequently the person responsible for the formation of the Prefecture. The Prefect can be an officer in a larger club but that isn't required.

### Prerequisites

The prerequisites to be elected as Prefect are as follows:

1. The candidate must be a Senior member of the Tripoli Rocketry Association in good standing who has continuously held membership for at least one year at the time of application. For instance, a person whose membership has lapsed longer than two weeks may not rejoin and immediately become a Prefect. However, everyone makes an occasional mistake. Therefore, a brief lapse in membership, such as a few days, is not a reason to remove a Prefect.
2. The Prefect must be a responsible person,
3. A Prefect must be 21 or older, and
4. The Prefect must be Certified Level 2 or greater with the Tripoli Rocketry Association.

### Role

The Prefect is responsible for ensuring the Prefecture's compliance with the Tripoli Unified Safety Code as well as all existing rules and regulations in force at the Prefecture launch site. In addition, as a local representative of the Tripoli Rocketry Association, a Prefect is authorized to certify Tripoli Rocketry Association members to High-Power Levels 1 and 2 for purchasing and using motors in the applicable power ranges. Each Prefect is also responsible for keeping the Tripoli Rocketry Association posted regarding Prefecture activities or issues.

## Responsibilities

As the local representative of the Tripoli Rocketry Association, a Prefect is responsible for overseeing the Prefecture's activities to ensure that they reflect well on the reputation of Tripoli. That includes matters related to safety, public relations, and regulatory compliance. The following are some examples of the key responsibilities of a Prefect in this context:

### Safety

The Prefect has overall responsibility to ensure that Prefecture activities are conducted safely, and in accordance with the Tripoli Unified Safety Code and all other applicable rules and regulations. Note: Although the Prefect bears overall responsibility for compliance for the Prefecture, the RSO bears immediate responsibility for safety at a launch. It is not necessary for the Prefect to be the RSO.

### Launch Coordination:

The Prefect is responsible for leading the Prefecture as it organizes, and hosts launches. In many cases the Prefect leads the effort of securing a launch site, coordinating with vendors and other partners, and managing the launch schedule, but depending on the amount of work the Prefect is encouraged to delegate to others and accept help from volunteers.

### Membership Management

The Prefecture may wish to maintain accurate records of all current members, including their contact information and other relevant details.

### Education and Outreach

The Prefecture is responsible for promoting rocketry education and outreach activities, such as hosting workshops, training sessions, and public events.

### Administration

The Prefecture shall be responsible for various administrative tasks, such as maintaining financial records, managing equipment, and supplies, and reporting to the Tripoli Board of Directors. In the event of an accident that may be covered by Tripoli Insurance, the Prefect is responsible for completing and submitting the TRA Insurance Incident Report Form.

Prefects will automatically be subscribed to the Prefect Forum on the Tripoli Website. All Prefects are required to accept email notifications from the Prefect Forum.

Specific responsibilities may vary based on the size and location of the Prefecture, as well as the needs and interests of its members.

## Secretary role and responsibilities

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The primary role of the Prefecture Secretary is to maintain a list of current Tripoli members belonging to the Prefecture and conduct the election for the Prefect and Secretary and notify the Tripoli HQ of the results. In most cases the Secretary will also help the Prefect with Prefecture renewals and correspondence with the Tripoli members of the Prefecture.

## Prefecture Renewal

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On the first business day of November, Tripoli HQ will send out renewal forms to the Prefect and Secretary of each prefecture. This notification will state that prefecture dues are to be paid on or before January 1, in order to remain in good standing. Please note that prefectures that pay dues after January 1, will be ineligible for any Prefecture Improvement Plan (PIP) money for that year.

On the first business day in January, a statement will be sent out to the prefectures who have not yet paid stating their prefecture is no longer in good standing with the organization and that they are not eligible for any PIP money for that year. Additionally, prefectures that have not paid their dues will be removed from the Tripoli Prefecture list until payment has been received.

Finally, any prefecture which has not paid its dues by the first business day in April will be notified that their prefecture has been suspended and that they will have to go through the full new prefecture approval process for reinstatement.

## Incorporation (should your Prefecture incorporate?)

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Incorporating as a non-profit organization can provide important legal, financial, and organizational benefits to a rocket club, making it a wise choice for many groups.

1. **Liability protection:** Incorporating a Prefecture as a non-profit organization can protect the members and officers of the rocket club from personal liability in the event of accidents or injuries that may occur during rocket launches or club activities.
2. **Tax benefits:** Non-profit organizations can apply for tax-exempt status, which can provide significant financial benefits to the organization and its members.
3. **Credibility and legitimacy:** Incorporating as a non-profit organization can add credibility and legitimacy to the rocket club, making it more attractive to potential members, sponsors, and partners.
4. **Perpetual existence:** Once a non-profit organization is incorporated, it exists indefinitely, regardless of changes in leadership or membership. This can provide stability and continuity to the rocket club.
5. **Access to grants and funding:** Many grant programs and funding opportunities are only available to non-profit corporations, so incorporating can uncover additional sources of financial support for the rocket club.

## Safety

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Safety must be our highest priority as Prefectures. If we fail to keep rocketry reasonably safe, we risk losing our insurance and we leave an opening for government authorities to adopt regulations that limit our ability to enjoy our hobby. Fortunately, Tripoli has an outstanding safety record. We want to keep it that way.

## Tripoli Unified Safety Code

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To protect our safety record, Tripoli has developed the [about:blank](#) Tripoli Unified Safety Code which governs the behavior of all attendees at Tripoli launches. As Prefect, you should always have a copy of the most current Tripoli Unified Safety Code in the Rules, Regulations, and Reference Documents section of this manual.

## Flyer Certification Process

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In many places, High Power certification is required for any person who wishes to purchase a high-power rocket motor. The Tripoli Rocketry Association has a process of certification which helps ensure that only those who have demonstrated adequate construction skills, sufficient knowledge, and reasonable judgement receive High Power Rocketry Certification.

Although NFPA 1127 only requires "certification", Tripoli and other organizations have established progressive levels of certification allowing access to increasingly higher impulse motors. For Tripoli these levels and impulses are as follows:

L1: H and I motors,

L2: J, K, and L motors, and



L3: M, N, and O motors.

Other motors are considered High-Power Rocket motors because of average thrust, propellant weight, or inclusion of metal particles in the propellant even if their impulse levels are below the threshold of High-Power Rocket motors. Although these motors may not be used for certification flights, certification is required to purchase these motors. These motors must be flown from the high-power range! For more information, see the definitions of High-Power Rocket Motors and Model Rocket Motors in the Tripoli Unified Safety Code.

## Level One Certification

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Level 1 certification is open to all students and senior members 18 years and older. The candidate must build, launch and safely recover a rocket using a certified HPR motor in the H to I impulse range. In addition, high Power Level 1 Certification allows a member to purchase and use H, and I impulse class commercial manufactured hobby motors.

### Level 1 Certification Procedure

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Level 1 Certification allows Tripoli members to fly High Power Rockets with a total installed impulse up to 640 Newton-seconds.

**Airframe** - The rocket must be built by the flyer. The rocket shall display on the exterior identifying the calculated center of pressure. The rocket must be of "conventional rocket design." "Odd Rockets," including flying pyramids, saucers, and flying spoons, will not be allowed for any certification flight. The rocket may be either a kit or scratch built. Scratch-built rockets may contain commercially built components. The Certification Authority has the authority to refuse the use of premanufactured assemblies or rockets that do not reflect a candidate's ability to build a rocket.

Although 3D printed fin cans are allowed, rockets that are entirely 3D printed are not.

**Recovery** - Parachute recovery is required. Non-parachute recovery methods, such as tumble, helicopter, gliding, or others, are not permitted for certification flights. If the rocket uses dual deployment, the first recovery event is not required to use a parachute. It may be either drogueless or streamer if the main event uses a parachute to decelerate the rocket to no more than the landing velocity allowed by the Tripoli Unified Safety Code.

**Motor** – The certification flight must be powered by a single certified H or I motor (total tested impulse between 160.01 and 640.00 n-sec). Staged or Clustered rockets may not be used for certification flights. The certifying authority is not required to witness the candidate build or prepare the motor but will make themselves available to answer questions about building or preparing the motor.

**Electronics** – Electronics are neither required nor prohibited for level 1 certification flights.

**Certification Flight** – A Level 1 Certification flight may occur at any insured launch. The certifying authority (i.e., Prefect, TRA Director, or TAP Member) must be present and witness the certification flight. The certifying authority must observe enough of the flight to know that the rocket ascended in a stable manner and descended in a safe manner controlled by the recovery system. The certifying authority is not required to see the entire flight.

Post-Flight Inspection – The rocket must be presented to the certifying authority for inspection as recovered (all parts included). If the rocket cannot be recovered but can be safely visually inspected in place (power lines, tree, etc.), this is acceptable. The certifying authority shall inspect the rocket for excessive damage. Excessive damage shall be considered damage to the point that if the flyer were handed another motor, the rocket could not be placed on the pad and flown again safely. Damage caused by wind dragging will not cause a disqualification.

Non-certification – Any of the following will result in the failure of a certification flight:

- Motor Cato
- Excessive Damage during flight or recovery
  1. Excessive damage is defined as damage to the rocket which would prevent flying it again safely.
  2. A zipper of a quarter caliber or less is acceptable.
  3. Cosmetic damage to fillets is acceptable, but a fin tab that is no longer securely bonded to either the motor mount tube or body tube is not.
- Failed recovery system deployment, including failure to eject deployment system, tangled recovery system, failure of chute release to release, or other failure that allows the rocket to descend faster than designed even if there is no damage to the rocket.
- Rocket exceeding the waived altitude, the expected altitude as limited by FAR 101.25(G), or drifting outside the specified launch range.
- Components coming down that are not attached to the recovery system.
- Landing in excess of 35 feet per second.
- Any other violation of the Tripoli Unified Safety Code associated with this particular flight.

## Level 2 Certification

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The Level 2 high-power certification is open to all students and senior members who hold a current Level 1 certification. The candidate needs to pass the Level 2 written examination and then build, fly and successfully recover a rocket using a certified HPR motor in the J to L impulse range.

Written Test – Only L1 certified members may take the L2 written examination. The candidate must pass the Level 2 written test before attempting a Level 2 certification flight.

### Level 2 Certification Procedure

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Level 2 Certification allows flyers to fly High-Power Rockets with a total installed impulse between 640.01 and 5120.00 n-sec.

Written Test – The candidate must be certified for Level 1 before taking the written examination for Level 2. The written examination for level 2 must be passed before flying the Level 2 certification flight.

Airframe – The rocket must be built entirely by the flyer. The calculated center of pressure must be marked on the rocket. The rocket must be of conventional rocket design, meaning stabilized by fins and recovered under parachute. "Odd Rockets" such as flying pyramids, saucers, and flying spools, will not be allowed for any certification flight. The rocket may be either a kit or scratch-built. Level 2 certification rockets may contain

Recovery - Parachute recovery is required. Non-parachute recovery methods (e.g., tumble, helicopter, gliding, etc.) are not permitted for certification flights. If the rocket uses dual deployment, the first recovery event is not required to use a parachute. It may be either drogueless or streamer if the main event uses a parachute to decelerate the rocket to no more than the landing velocity allowed by the Tripoli Unified Safety Code

Motor – The certification flight must be powered by a single, certified J, K, or L motor (total impulse between 640.01 and 5120.00 n-secs). Staged or Clustered rockets may not be used for certification flights. The flyer shall be observed by the certifying authority

Electronics – Electronics are not required for level 2 certification flights.

Certification Flight – Level 2 Certification flight may take place at any insured launch. The certifying authority (i.e. Prefect, TRA Director, or TAP Member) must be present and witness the certification flight. The certifying authority must observe enough of the flight to know that the rocket ascended in a stable manner and

descended in a safe manner controlled by the recovery system. The certifying authority is not required to see the entire flight.

Post-Flight Inspection – The rocket must be presented to the certifying authority for inspection as recovered (all parts included). If the rocket cannot be recovered but can be inspected in place (power lines, tree, etc.) that may be acceptable at the discretion of the certifying authority. The certifying authority shall inspect the rocket for excessive damage. Excessive damage shall be considered damage to the point that if the flyer were handed another motor, the rocket could not be put on the pad and flown again safely. Damage caused by wind dragging after a safe landing

Non-certification – Any of the following will result in non-certification for a certification flight:

- Motor Cato
- Excessive Damage
  1. Excessive damage is defined as damage to the rocket which would prevent flying it again safely.
  2. A zipper of a quarter caliber or less is acceptable.
  3. Cosmetic damage to fillets is acceptable, but a fin tab that is no longer securely bonded to either the motor mount tube or body tube is not.
- Rocket exceeding the waived altitude, the expected altitude as limited by FAR 101.25(G), or drifting outside the specified launch range.
- Failed recovery system deployment, including failure to eject deployment system, tangled recovery system, failure of chute release to release, or other failure that allows the rocket to descend faster than designed even if there is no damage to the rocket.
- Rocket exceeding the waived altitude, the expected altitude as limited by FAR 101.25(G), or drifting outside the specified launch range.
- Components which descend separately from a recovery system.
- Any other violation of the TRA safety code associated with this particular flight.

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## Community Outreach (coordinating outreach requests)

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By including the neighboring communities in news regarding launch days a Prefecture can reduce negative reactions. Most local newspapers, radio stations, and television stations have a way to inform them of events. More frequently there are community groups that are active on social media. By widely announcing launches a Prefecture has an opportunity to attract new members.

Other opportunities abound. The local schools, Civil Air Patrol, 4H, Scouts, and other youth groups may also provide opportunities to interface with the community. A Prefecture that is very active in their community is less apt to lose a flying field.

One way to remain in touch with the community is to identify a member of the Prefecture who is very active in the community. **That person is sometimes easy to recognize. It's the person who walks up to you when your arms are full of pad boxes, cables, and batteries and asks if you let the local news organization know. That's a perfect time to ask if they would be your Public Relations Officer.**

## Annual renewal and updates

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The procedure and deadlines for Prefecture renewal is as follows:

Before January 1:

1. On November 1 of each year, HQ sends an email notification, including a link to the electronic Prefecture Renewal portal, to the Prefect and Secretary of each Prefecture. This notification should state that Prefecture dues for the upcoming year are to be paid by January 1 of the renewal year in order to remain in good standing. Any Prefectures whose dues are unpaid as of January 1, will be ineligible for Prefecture Improvement Plan (PIP) grants for the upcoming year if available. Simultaneously, this message should be posted in the Prefects' section of the Tripoli forum.
2. Near the end of the second week in December, a reminder will be sent to all Prefectures who have not paid the Prefecture dues for the upcoming year. At the same time, the message should also be posted in the Prefects' section of the Tripoli forum.

After January 1:

3. On the first business day of the new year, a statement will be sent out to the Prefects and Secretaries of the Prefectures which haven't paid, stating that their Prefectures are no longer in good

standing with the organization and are ineligible for any PIP money for that year. Important: Those Prefectures are still required to pay their dues to remain a Prefecture. At this time, the Prefectures will be removed from the website until payment has been received.

4. Finally, any Prefecture which has not paid its dues by the first business day in April will be notified that the Prefecture has been suspended and that it will be required to go through the full new Prefecture approval process for reinstatement.

## Prefecture Communication

### Internet and Social Media

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It's extremely important to have an online presence so that people interested in rocketry can find your Prefecture. Here are some reasons a rocket club should have an internet presence, including a website and email.

1. Reach a wider audience - A rocket club website can serve as a hub for all information about the club, including upcoming events, rocket launches, and membership information. By having a website, the club can reach a wider audience, including those who may not be local to the area. This is particularly important if the club wants to attract new members or raise awareness about rocketry.
2. Communicate more effectively - Email is essential for any organization looking to communicate effectively with its members. Members can stay up-to-date on the latest news and events by having a dedicated email address for the club. This email address should not go to a particular individual (johnsmith@rocketclub.org) but rather a role (president@rocketclub.org). This email address can be used by each person that takes on the part of prefect or president, etc. In addition, that mailbox can provide continuity between regime changes.
3. Build a community - A rocket club website can also serve as a platform for building a community around the club. By including features such as a forum or blog, members can share their experiences and connect with one another. This can help build camaraderie and encourage members to become more involved with the club.

### Getting Started

If you've never been involved with setting up email or a website, the first thing to know is that it's not as challenging as it sounds. Below are some general steps that you will take in the process. Also, remember that resources are always available to help you with this process.

The first thing you'll want to do is set up a domain name for your organization. There are different domain name types because they serve different purposes and audiences. The most common types are .com (for commercial websites), .org (for non-profit organizations), and .net (for network-related websites). For example, .org should be used when the website represents a non-profit organization, as it indicates the site is intended for a charitable or non-commercial purpose.

Here are the steps needed to set up a domain name for a website and email:

1. Choose a domain registrar: A domain registrar is a company that manages the reservation of domain names. Some popular options include GoDaddy, Namecheap, and Google Domains.
2. Check availability: Use the domain registrar's search tool to check if your desired domain name is available. If it's not available, try some variations.
3. Purchase the domain name: Follow the registrar's instructions once you've found an available domain name. You'll typically need to provide your personal and payment information.
4. Choose a hosting provider: A hosting provider is a company that stores your website files and makes them accessible on the internet. Some popular options include Bluehost, SiteGround, and HostGator.
5. Connect domain to hosting: For your domain name to point to your website files on the hosting provider, you'll need to connect them. This typically involves updating the DNS (Domain Name System) settings in your domain registrar's control panel to point to the hosting provider's name servers. Again, your hosting provider can provide you with instructions.
6. Set up email hosting: If you want to use your domain name for email, you'll need to set up email hosting with a provider such as Google Workspace, Microsoft 365, or Zoho Mail. Follow their instructions to create email accounts and configure your email client (e.g., Gmail, Outlook).
7. Configure email DNS: Similar to connecting your domain to hosting, you'll need to update your DNS settings to configure your email provider. This typically involves adding MX (Mail Exchange) records to your domain's DNS settings.

Once you've completed these steps, you can access your website and email using your domain name. Remember that additional steps or variations may vary depending on your domain registrar and hosting/email providers.

## Setting Up Email

Setting up emails and websites may seem daunting, but it can be pretty straightforward. Here are some basic steps for getting started:

1. Assuming you have already procured a domain name
2. Choose an email hosting provider: Many email hosting providers exist. Some popular options include Google Workspace, Microsoft 365, and Zoho Mail.
3. Set up your email account: Once you've chosen a provider, you must set up your email account. This typically involves choosing a username and password and configuring your email client (e.g., Gmail, Outlook) to access your email.



## Setting Up a Website

1. Choose a website builder: There are many website builders, including Wix, Squarespace, Clubexpress, Joomla, and WordPress. Choose a builder that fits your needs and budget and matches your skill.
2. Build your website: Once you've chosen a builder and hosting provider, it's time to start building your website. This typically involves choosing a template or theme, adding content (such as text, images, and videos), and customizing the design to fit your club's branding.

Here are some important rules to remember when designing a website for your Prefecture:

1. Keep it simple: The website should be easy to navigate and understand. Avoid cluttering the site with too much text, images, or animations.
2. Highlight key information: Ensure important information such as meeting times, launch dates, and membership details are easily and prominently displayed.
3. Use high-quality images: Rocketry is a visually stunning hobby, so make sure to include high-quality images and videos of rockets, launches, and club activities.
4. Make sure the story reflects positively on the Prefecture activities. Don't give in to the temptation to publish a disproportionate number of CATO pictures and do not include pictures that demonstrate non-compliance with the Tripoli Unified Safety Code.
5. Make it mobile-friendly: Many people access websites on their phones or tablets, so make sure the site is optimized for mobile devices.
6. Include social media links: Social media is a great way to connect with potential members and share information about the club, so include links to the club's social media accounts on the website.
7. Make it easy to contact the club: Include a straightforward contact form or email address so people can easily contact the club.
8. Provide resources for beginners: Rocketry can be a complex hobby, so include resources and information for beginners, such as tutorials, safety guidelines, and recommended rocket kits.
9. Keep the website up-to-date: Regularly update the website with the latest club news, events, and launches to keep visitors engaged and informed.

## Media Exposure

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Develop a list of media contacts. Most local news organizations have a "local events" contact. Make sure they receive your launch notices each month. Do not rely upon sending them a single schedule of your launches each year. As personnel change at news organizations interest in your events also changes.

## Social Media

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No News is Good News! We have all seen that saying, but when it comes to staying in contact with your members, it's exactly wrong. Even if all you do is remind your members of the treasury level and repeating costs for porta-potties, keeping your Prefecture in their consciousness will result in better attendance at launches, more generous donations, and it's a great way to inform them what happened at the last Members' Meeting. However, a newsletter, like almost everything except the launch site, COA, and bookkeeping is not required. Nor is it something you, the Prefect, should do all by yourself. Solicit volunteers.

Second, if you do a newsletter, don't try to make every issue fit a certain length. Some issues you'll have only a page or two. Other issues will write themselves with all that's going on. Social media is easier because you just add things when they arise.

## Launch Site

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The most important local service a Prefecture provides is a safe rocket launch, which requires an appropriate launch site. FAA has established requirements for a launch site as follows:

### FAA Requirements<sup>1</sup>

#### *No Certificate*

Amateur Rockets are classified as Class 1, Class 2, and Class 3, with Class 1 rockets typically referring to model rockets and a few rockets which are small high power rockets, Class 2 rockets including most high power rockets, and Class 3 rockets those which are propelled by more impulse than an O motor. The distinction is defined in the Tripoli Unified Safety Code which is based on FAR 101. The entire Rocket section of FAR 101 is in the Rules, Regulations, and Reference Documents section at the end of this document.

Class 1 rockets are defined in FAR 101.22 as follows:

- (a) Class 1 - Model Rocket means an amateur rocket that:
  - (1) Uses no more than 125 grams (4.4 ounces) of propellant;
  - (2) Uses a slow-burning propellant;
  - (3) Is made of paper, wood, or breakable plastic;
  - (4) Contains no substantial metal parts; and
  - (5) Weighs no more than 1,500 grams (53 ounces), including the propellant.

Although Class 1 rockets do not require a Certificate of Authorization in the United States, Class 2 and Class 3 rockets do. Additionally, Class 3 rockets must be approved by the Tripoli Class 3 Review Committee and typically (but not always) require an individual COA from the FAA.

The FAA requirements which address Class 2 rocket launch sites are FAR 101.25(E) and 101.25(G):

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<sup>1</sup> Because most Prefectures are in the United States, this manual has been written to include US references. Please feel free to refer to your local regulatory information. TRA will be happy to provide the Word file used for this manual to those who would be willing to customize it for local regulations. Of course the terms of the Tripoli Unified Safety Code must still apply, even if more conservative than local regulations.

The first is 101.25(E) which prohibits launching from within 9.26 kilometers (5 nautical miles) of any airport boundary without prior authorization from the FAA;

The second is 101.25(G) which establishes minimum distances by prohibiting operation of Class 2 or Class 3 rockets unless you observe the greater of the following separation distances from any person or property that is not associated with the operations:

1. Not less than one-quarter the maximum expected altitude;
2. 457 meters (1,500 ft.);

## Site Requirements

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So, based on 101.25(G), a site intended to support flight operations for up to 20,000 feet AGL must have a separation distance from the launch pad, to any unassociated person or property, of at least 5,000 feet. For 40,000 feet AGL it would be at least 10,000 feet.

## Range Layout

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Generally speaking, a range will be organized into several separate functional sections, although depending on the size of the launch some sections may be combined. The orientation of the sections should take into consideration factors such as prevailing wind direction and the ability to safely manage foot or motor vehicle traffic. The sections are:

1. Parking area
2. Initial preparation area
3. Flight Safety Inspection area
4. Range Entry
5. Model rocket launch area
6. High power rocket launch area
7. Special Preparation Area\* - The flyer proceeds directly from this area to the pad.
8. Recovery area

\*Number 7, Special preparation areas out on the high power launch area should be established to make it easier to safely finish prepping clusters or staged flights by inserting igniters away from spectators or other participants. This complies with requirement 13-7 of the Tripoli Unified Safety Code which says:

**Igniters shall not be installed in High Power Rocket Motors except at the pad or at special preparation areas away from all uninvolved people.**

## Site Landowner Permissions

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Landowner permission is required for a launch to be considered a Tripoli Sanctioned Launch. A blank Landowner Permission Form is included in the final section of this document.

## Airspace Permissions

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Airspace permissions are reflected in a government document called a Certificate of Authorization (COA) formerly referred to by the FAA as a "Waiver", this document allows us to waive certain requirements in FAR 101.21-29. Most typically, it allows us to fly into controlled airspace and within 5 NM of an airport.

Any person can apply for a COA. The COA is issued to an individual, listing that individual as the responsible person and point of contact.

The actual form the COA is issued on is 7711-1. A sample appears in the reference section.

The application to obtain a COA is form 7711-2. An actual sample for the application is also in the reference section. The instructions included with form 7711-2 say that the form should be submitted at least 45 days before the COA is needed, but experience has shown that lots of factors can affect that. It's a good idea to submit the form two or three months in advance.

### Applying for a Certificate of Authorization

To obtain a COA, download the application form (7711-2) from the FAA website here:

[https://www.faa.gov/documentlibrary/media/form/faa\\_form\\_7711-2.pdf](https://www.faa.gov/documentlibrary/media/form/faa_form_7711-2.pdf)

This form was designed to be used for several uses including air shows. Fortunately, for Amateur Rocketry most of the form isn't applicable and can be left blank. In fact, the only fields that must be completed for a rocket launch are 1-9 and 17. An actual recent application is included in the reference documents. The fields are as follows:

1. **Name of Organization** – This is the name of your club or Prefecture.
2. **Name of Responsible Person** – This is typically the name of the person who will be responsible for coordinating the launch event.
3. **Permanent Mailing Address** – This is the snail mail address for the person named in field #2.
4. **State whether the applicant or any of its principal officers/owners has an application for waiver pending at any other office of the FAA.** – In most cases this would be answered "I have no other applications pending at any other office of the FAA," but if there are other applications pending, give the FAA as much information as it requires so they can look up your other applications. This may require an additional sheet of paper.
5. **State whether the applicant or any of its principal officers or owners has ever had its application for waiver denied, or whether the FAA has ever withdrawn a waiver from the applicant or any of its principal officers/owners.** – In most cases this would be answered "I have never had a waiver denied and the FAA has never withdrawn a waiver from me," but if you have, answer honestly and offer to discuss the matter.

6. **FAR Section and number to be waived** – This is where you would ask for the FAA to waive one or more of the requirements in FAR 101.21- FAR 101.29. In most cases, nothing should be entered here; the field should remain blank. However, in certain instances asking the FAA might make sense. Prefects must realize that obtaining a waiver to a requirement could result in a violation of the Tripoli Unified Safety Code. Examples include flying into clouds or exceeding permissible altitudes given unassociated people or property.
7. **Detailed description of proposed operation (Attach supplement if needed).** – This will probably be the most detailed answer you have to provide. Still, it doesn't have to be overly long. Here's how one Tripoli Prefecture answers it: **Launching up to 50 unmanned Class 2 rockets using solid or hybrid rocket motors. All operations in accordance with Tripoli Safety Codes. Flights will fly during daylight hours, from surface up to FL260 with occasional higher clearances up to FL520 as authorized by Air Traffic Control at Salt Lake Center. All flights will be nearly vertical at takeoff and no flights shall be launched when winds exceed 20 mph.**
8. **Area of operation (Location, altitudes, etc.)** – This is very straightforward. Here's the answer as provided in the sample application in the reference documents. Of course, you should provide your own latitude, longitude, and radius. **Lat: 45°32'50" N x Long: 112°30'37" W. FRD: DLN 347 18. Radius 5 NM from launch site. Sfc to FL260 typical, windows up to FL520.**

You will notice that the example above includes the following phrase: **FRD: DLN 348 18**. This is the angle and distance from the nearest navigational aid, which in this case is the Dillon (DLN) VOR at 348° and a distance of 18 nautical miles along that radial. I still provide it because the FAA still provides it on my COA.

9. **Beginning and End of Operation** – There are two fields, 9a and 9b. Both fields require a date and time. 9a has the beginning time and date of the COA. I enter 8:00:00, but it probably doesn't matter because it truly only refers to a time on the first day of the COA, which is not necessarily the first day of launching. No time zone appears. The COA this example displays, runs from May 1, 2022 at 08:00 (no time zone given) to April 30, 2024 at 21:30. It could just as easily be 00:00:00 to 24:00:00. The important thing is that there be no dates on which you wish to launch, which have no COA assigned.

**Fields 10-16 receive no information for rocket launches. They are fields for air shows.**

17. **Certification** – This is where the person applying for the COA signs and dates the application, certifying that the information provided above is true. By signing, that person is certifying this statement:

***The undersigned applicant accepts full responsibility for the strict observance of the terms of the Certificate Please Read of Waiver or Authorization, and understands that the authorization contained in such certificate will be strictly limited to the above described operation***

## Maintaining the Site (landowner relations)

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The single most important element related to a launch site is maintaining high quality landowner relations. In a nutshell, that means making sure the landowner, whether it's an individual, a corporation, or a government agency, believes that allowing a Prefecture to use the land that they are responsible for provides a benefit and does not place them at risk. The most important aspect of that is a relationship based on honesty from the very beginning.

### When Bad Things Happen on Their Land

Landowners typically understand that things don't always go perfectly. Letting a Prefecture launch rockets is no different. Fires happen, rockets sometimes land in the wrong places, and idiots will litter. It's important that a landowner understands before the very first launch that such things will happen, but the landowner must also be reassured that the Prefecture will be forthright and make things as right as possible. A Prefecture **must** always work to eliminate (not just minimize) damage to a landowner's trust.

To that end a Prefect must always be proactive in the following responsibilities:

- Get permission before doing anything that hasn't already been clearly allowed, no matter how small!
- Report any property damage or human injuries immediately,
- Work quickly to repair any damage,
- Communicate with the landowner how the damage happened, and
- Come up with a plan to avoid a repeat of whatever led to the damage. This is especially important. Landowners might seem pretty understanding, but their patience understandably wears thin if a Prefecture repeats the same mistakes. For instance, a landowner might say "Stay on the road. Don't cut across my fields." A flyer might not think that one set of tracks across a field will be noticed and that rocket is uncommonly heavy, but to a landowner those tracks stand out like fluorescent paint. If they have to talk to you about that once, it had better never happen again. Just ask one of the many clubs who have lost launch sites for that very reason.
- Find ways to show your appreciation. These don't have to be large gifts that deplete the Prefecture's treasury, but they need to represent a meaningful gesture. Help with branding, offer to teach their grandkids how to fly rockets, buy them a gift certificate to a nice restaurant, or drop off cookies during the holidays. Always leave the field cleaner than when you arrived. Landowners notice this! Anything you do is better than nothing.

## Prefecture Equipment

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### Trailer (plus logistics surrounding – insurance, etc.)

One of the primary reasons to form a Prefecture is to share in the cost and responsibilities involved in hosting launches. Many small clubs start with an overstuffed vehicle with a couple of launch pads and a launch system, owned by one of the members and carried back and forth to the launch site faithfully for years. A launch trailer owned by the club, with every member of the club helping maintain equipment, charge batteries, and clean launch rails, is a great way to help share in some of the responsibility and lessen that one person's burden.

### Launch System

The most common launch system seen on Tripoli ranges is the Wilson F/X wireless system, but it is not the only system. Many small clubs started out with wired systems built using automotive relays in pad boxes controlled by long lengths of modular telephone cable. Other companies, such as Altus Metrum also make a wireless system and often times a club has a person who knows how to buy commercial wireless controls to build a system.

### Pads and other GSE

Over the years several different designs of launch pads have been used by rocket clubs. More recently, many pads have been built around a design that John Coker published on his website. Commonly called the Coker pad, it is made of either 2 inch or 3 inch square aluminum tubing. Depending on who assembles it the pad can be built using welded components or simply bolted together. Here's a link to the page on John Coker's website describing the original (with a few modernizations to work with 1010 rails).  
<http://jcrocket.com/prorailbase.shtml>

A few people have taken that basic design and improved on it one way or another. There are links to their work at the bottom of the page on John Coker's page. The Coker pad is very durable and can be sized to launch nearly any size of rocket.

Of course, there are several other styles of commercial pads available as well. Apogee Rockets sells large pads for high power rocketry: [https://www.apogeerockets.com/Launch\\_Pads](https://www.apogeerockets.com/Launch_Pads)

Knight Mfg. in South Carolina makes a line of folding metal launch pads: [https://knight-mfg.com/folding\\_launch\\_pads](https://knight-mfg.com/folding_launch_pads)

Several other companies have built pads for clubs over the years. Many of them have shared their designs. The design of a launch pad doesn't need to be too complex. It needs to be able to tilt away from the crowd so a rocket can be loaded on it. It's best if it lies flat and is supported while the rocket is being loaded and it's helpful if an individual can do all the loading and raising. Of course it must be safe. A launch pad that clearly represents a hazard to those who use it should not be allowed on the range because sooner or later a mistake will be made.

## Transportation and Security

Sooner or later every launch site has to deal with the question of whether a person can bring their camper or RV there and stay overnight. Not all landowners allow that and those that do have reasonable concerns about litter, waste removal, campfires, etc. Early on you must discover what your landowner will or will not allow and make those expectations very clear to the people who come to your launches.

## First Aid Equipment

Accidents happen and when they happen on a rocket range they happen very fast and have the potential to be highly dangerous. Every Prefecture should equip themselves with a good first aid kit and even more importantly, learn how to respond to common medical emergencies. See the section below about Medical Emergency Procedures. Also, make sure you know how to summon help if necessary and direct them to the location where help is needed.

## Fire Prevention Equipment

Of course the best practice is to prevent a fire from ever starting, such as by clearing your launch pads of all combustible material, such as dry grass, leaves, dry manure, etc. This should be done before every launch, but even the most careful Prefecture must deal with the potential of a fire. Therefore, every Prefecture should accumulate the equipment needed to extinguish a small to medium fire caused because of launch activities. For each Prefecture that might be different. A launch site situated on grasslands needs different equipment than one situated on a dry lake bed or on a sod farm. Introducing yourself to a local fire department or fire dispatch is a good way to demonstrate that you are serious about safety and a good way to learn what kind of procedures are best to prevent and extinguish a fire.

## Communication Equipment

Safe range operations require a level of coordination. Such coordination requires constant communication. Communication can be accomplished in multiple ways, but it must be clear and reliable to increase the safety of launch operations. Except for the smallest launches, most ranges should have a public address system so the Launch Director, Launch Control Officer, or Range Safety Officer can make announcements to the participants and spectators. Also, range personnel need to be able to communicate amongst each other. That can be done using non-licensed radios such as MURS or FRS or using licensed services such as GMRS or Amateur Radio. A large club might even obtain a commercial license. Unfortunately, this document cannot possibly do this subject justice, but most Prefectures have at least one member who has some level of expertise.



## Launch Procedures

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### Range Access defined in Tripoli Unified Safety Code

Every Prefecture needs to be aware of people on the range at all times, whether they are range personnel or spectators who walked somewhere they shouldn't because they want to get a better picture. If necessary, shut down the launch control equipment until you get control of the range. The single most expensive accident in Tripoli's history happened as a result of someone wandering where they shouldn't have been and getting burned when a motor unexpectedly ignited.

The Tripoli Unified Safety Code clearly stipulates whom is allowed on the range. The Safe Distance Tables are gospel when it comes to how far personnel must remain away from launch pads and preparation areas. Never violate the rules in the Tripoli Unified Safety Code.

### Heads-Up Procedure

All ranges must have a "Heads-Up Procedure." This is a procedure that is required whenever a higher than normal risk of injury from a falling or flying rocket is present. This may be because an unknown design is being flown or a complex rocket is being flown or it may be because a rocket has failed to deploy its recovery system and a chance exists for the rocket to land where there are people.

Heads-Up Procedures share these common characteristics:

1. When "Heads-Up" is called before launching a rocket, everyone who is physically capable, must stand. Everyone must watch the rocket that is the subject of the Heads Up command.
2. When "Heads-Up" is called as a result of a failed recovery system, everyone who is able to see the rocket should point at it so that others have some idea where it is coming down.
3. Everyone must pay attention until the cause of the Heads-Up is no longer a valid cause to worry.

### When to call it?

Call "Heads Up" if the stability of a rocket is in question. Call "Heads Up" if a rocket is flying erratically or unstably. Call "Heads Up" if a rocket is falling near people or into the spectator or parking area, whether the recovery system has deployed or not. A rocket under chute is still capable of causing serious injury.

### Don't Overuse your Heads Up Procedure!!!

Only call "Heads Up" for real threats. A rocket falling without a parachute out on the range, or even coming down ballistically out on the range, is NOT a cause to call "Heads Up." Nor should an LCO ever call "Heads Up" simply to call attention to a special project. Calling "Heads Up" for anything that is not a threat reduces the likelihood that people will pay attention when "Heads Up" is truly needed.

## Required Roles and personnel

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### *Launch Director (LD)(one)*

The Launch Director is defined by the Tripoli Unified Safety Code as: **The person who has overall administrative responsibility for the launch.** This would typically be the person who performs (or the person who delegates) the following tasks:

1. Activate the COA
2. Notify Landowners
3. Notify vendors (if applicable), and
4. Coordinate with local fire dispatch if necessary.

### *Range Safety Officer (RSO)(one)*

The Range Safety Officer is defined in the Tripoli Unified Safety Code as follows: **The person who has overall authority to ensure range safety. This person shall be currently certified at least to Level 2.** The RSO and the LD may be the same person. Just as the LCO relies on Spotters to ensure rockets are not launched at unsafe times, the RSO relies on everyone at a launch to inform them that an unsafe condition is present. The RSO has the ability, even the responsibility to shut down a launch rather than allowing it to continue unsafely. The RSO must be aware of what's happening out on the range, in the parking area, and at the LCO station. An RSO must be very familiar with the all the applicable rules that govern the launching of rockets at their launch site.

### *Launch Control Officer (LCO) (one at a time)*

The Launch Control Officer is defined as: **A Certified flier who operates the launch control system and has immediate responsibility for launch safety. The LCO reports to the Launch Director.**

The LCO is the person who pushes the launch button, but only after ensuring that it is safe to do so. For that information the LCO relies upon Spotters.

## Optional Roles and Personnel

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### *Spotter (hopefully more than one)*

Spotters are not defined or required in the Tripoli Unified Safety Code, but their function is important. They serve as eyes and ears for the LCO, constantly observing to make sure there are no planes overhead or people at places they shouldn't be and notifying the LCO when it's safe to start the five second countdown.

### *Pad Managers or Pad Assistants (depends on the number of pads)*

Pad Managers and Pad Assistants are also not defined or required in the Tripoli Unified Safety Code, but they serve an important function to a well-run range also. Pad Managers/Assistants help people get assigned to a particular pad and make sure that the person can safely place their rocket on the assigned pad.

### *Flight Safety Officers (Rocket Check-in)*

Flight Safety Officers are designated by the RSO to inspect rockets before they are allowed out on the pads as defined in 7-1.5 of the Tripoli Unified Safety Code:

7-1.5 Range Personnel designated by the RSO shall inspect all rockets flown at Tripoli Launches. Only rockets approved for flight as a result of this inspection process shall be allowed to fly. The inspection shall minimally consist of verification of the following:

1. Adequate construction methods
2. Positive stability or acceptable glider trim.
3. Appropriate recovery system
4. Sufficient Thrust to Weight ratio (see requirement above 7-1.4).

## Range Operations and Safety Procedures

### Medical Emergency procedure

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For most Prefectures, knowing how to get help is the most important thing. Keeping a list of medical personnel in attendance at a launch can be helpful for some injuries, but every Prefecture must be ready and able to summon an ambulance or a life flight. Make sure that every person responsible for a launch has all the necessary numbers for local numbers for fire, EMT, and sheriff's department. When reaching out to those entities, invite them to observe a launch so they have a feel for your operations.

Publish this information on your website/other readily available location as well and include a copy in this manual.

### Fire procedure

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Separate from any Medical Emergency Procedure, every Prefecture must develop a Fire Response Plan. Publish this information on your website/other readily available location. Safety stand-down between shifts. Have a plan. The plan should include, at a bare minimum, programming fire dispatch numbers into every leader's cell phone and designating one person with firefighting training to take charge if a fire occurs. It's a good plan to annually contact your local fire department, EMS services provider and law enforcement and make sure they understand where your launch site is located. Trying to convey that information is difficult while an emergency is occurring.

## General Club Member Meetings

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In many cases, Prefectures form so members can launch rockets, but there may be real benefits to holding regular member meetings where the leaders of the club can interact with the club members to elect officers or discuss any other business items, such as landowner relations or regulatory and Safety Code changes. Member meetings are also a good way to request volunteers to help with launches. Emails can be lost or ignored, but an in person (or virtual) member meeting, conducted without the distraction of rocket preparation, can be a great way to make your Prefecture more cohesive.

If you do have member meetings, look for ways to make them attractive to the members, such as having door prizes or combining the member meeting with a social gathering, such as a lunch or dinner.

# Insurance

Tripoli Launch Insurance provides different types of coverage for rocketry related activities by members of the Tripoli Rocketry Association *if those activities are fully compliant with the Tripoli Unified Safety Code*. Activities which deviate from the Tripoli Unified Safety Code are not insured.

The information provided below outlines some of the provisions of the insurance coverage provided to the members of the Tripoli Rocketry Association and is for reference only; this is not a legal representation in any sense. Only the insurance carrier can make a final coverage determination.

The Tripoli Rocketry Association carries General Liability Insurance covering launch events, meetings, classes, seminars and other Tripoli Sanctioned Events. This policy covers events hosted by a Tripoli Prefecture and the rocketry activities of a member. The policy runs for each calendar year, (Jan 1 through Dec 31).

The policy covers injury and property damage to spectators, innocent bystanders, and Tripoli Members. Medical payments are also a feature of the policy. There is no coverage for a Tripoli Member whose rocketry activities have caused bodily injury or property damage to themselves.

**Commented [SS1]:** I need to know whether this is true. I was under the impression that our insurance only covers launch activities.

## Tripoli Unified Safety Code must be obeyed

All flyers at a Tripoli Launch must obey the most current version of the Tripoli Unified Safety Code for insurance coverage. Violations to the Tripoli Rocketry Association's Safety Code can result in denial of insurance coverage for an incident.

## FAA requirements must be met.

Violations to the FAA regulations can cost a Prefecture its launch site and its FAA Certificate of Authorization and can potentially result in denial of insurance coverage for an incident.

## What are the coverage limits and deductibles of the insurance?

### Description of each type of Coverage

**Premises Liability** – Coverage for the landowner against injury claims submitted by people who are injured while on their property. This is the coverage that most launch site landowners need.

**Products and Completed Operations** – financial protection against lawsuits that arise because of a faulty product or poor construction. For example, a launch pad fails and drops a rail onto a person. This might cover the club that owns the launch pad.

Personal Injury & Advertising – financial protection against claims that your business caused harm to reputation through slander, libel, or copyright infringement. Also covers legal fees. I’m unsure how this benefits us.

Fire Damage – coverage for a tenant’s liability for damage by fire for rented buildings. This typically would not apply to a launch site, but might help cover costs if launch equipment burst into flames while stored in a landowner’s barn.

Medical Payments – coverage for injuries to another that result in medical bills. This protects the average rocketeer from financial liability if that rocketeer’s rocket injures another person, but not himself or herself.

Property Damage – coverage for damage to another’s property. This protects the average rocketeer from financial liability (beyond the initial \$2500 deductible) for damage caused if that rocketeer’s rocket damages another person’s property, but not his or her own.

## Frequently Asked Insurance Questions

*What are the coverage limits and deductibles of the insurance?*

• Premises Liability Each Occurrence - No Aggregate	\$3,000,000
• Products & Completed Operations Each Occurrence and Aggregate	\$3,000,000
• Personal Injury & Advertising Each Occurrence and Aggregate	\$3,000,000
• Fire Damage - Any One Fire	\$1,000,000
• Medical Payments - Each Person	\$25,000
• Medical Payments - Each Occurrence	\$25,000
• Property Damage - Per Claim Member Responsibility	\$2,500

*What activities does TRA insurance cover?*

TRA insurance is general liability and property damage coverage included as part of your membership benefits. Member insurance helps protect members from liabilities arising out of TRA rocketry activities held at approved launch locations. This includes model rockets, high power rockets powered by certified motors, and research high power rockets, in the event the Member’s rocket causes damage or injury to another person or property owned by someone else. Location coverage is limited to premises necessary and incidental to the insured's operations within a 10-mile radius of the launch pad or the limits of the FAA Certificate of Authorization (COA aka "waiver"), whichever is less.

*Who is covered by TRA insurance?*

Tripoli members, its Prefectures, landowners, other named insureds requested by TRA and approved by our insurance provider, and all supervised minors under 18 years old flying model rockets. The coverage is effective worldwide. NOTE, TRA Associate Members have no insurance coverage and must upgrade their membership to fly at TRA Insured launch.

### *What is a Sanctioned Launch?*

Also called an Insured Launch. Any flight of a rocket that meets ALL the following constraints:

- The Flyer of Record shall be a Member of Tripoli in good standing.
- The construction, preparation, and flight of the rocket follows the Tripoli Unified Safety Code.
- Legal: All AHJ (e.g. FAA waiver) requirements/regulations have been met and any required permits have been obtained.
- Landowner permission and constraints have been followed

### *What about my children? If they have an accident flying model rockets at a Tripoli Sanctioned launch, are they covered?*

Here is the exact response received from the underwriter:

"At a Tripoli sanctioned event where a minor causes Bodily Injury or Physical Damage and Tripoli is sued as a result of their negligence or in the event of an accident, there is coverage."

### *What about youths under 18 who are not members of any organization nor have legal guardians present not belong to any organization, will they be allowed to fly at a Tripoli event?*

All supervised minors flying model rockets under direct supervision of an Adult Flyer are covered. For example, if any youth causes an accident in his/her model rocket activities, the Youth, Tripoli, its members and Prefectures, the landowners, and other named insureds are protected from third party liability.

**Adult Flier:** An insured TRA member or an insured member, who is 18 years old or older, of an approved, insured rocketry organization.

**Approved insured Rocketry Organization:** Any rocketry organization that TRA has insurance reciprocity with. At this writing this includes NAR only.

From time-to-time TRA, in accordance with our bylaws and as a 501(c)(3) not for profit corporation, assists certain organizations and academia in the educational aspect of rocketry. For instance, we allow minors to fly model rockets at our launches under supervision of an Adult Flyer or an adult designated as Range Personnel by the Launch Director. These activities must comply with the Tripoli Unified Safety Code as well as CPSC (Consumer Product Safety Commission) requirements regarding children's use of consumer Model Rocket Motors.

We have in the past asked for, and been granted, adding "Named Insureds" to our Policy. These Named Insureds now include volunteers helping with range duties and minors flying model rockets.

### *Who is liable if an uninsured adult causes an incident?*

Uninsured adults are not allowed to fly at Tripoli launches. The launch organizers may be held liable if they chose to allow uninsured adults to participate. This includes both model rocket fliers and high-power rocket fliers.

### *What if our Prefecture has adult non-members attending our launch? Are their actions covered by TRA insurance if they fly with us?*

No. Adult Non-members are not covered by TRA insurance. To be covered by Tripoli insurance, they must join TRA, regardless of impulse flown.

NAR, CAR, and UKRA members may fly at TRA launches, but only if they are covered by their respective organizations' insurance. **Tripoli insurance does not cover members of other organizations who are not Tripoli members.**

**Important: According to the Tripoli Unified Safety Code, uninsured adults may not fly at Tripoli launches, not even model rockets.**

### *When am I or my children covered?*

TRA members flying at any launch that meets the definition of Sanctioned Launch are covered by TRA Insurance. You must check with the individual non-TRA organization to see if they accept Tripoli insurance at their launch.

### *Is TRA insurance secondary or primary coverage?*

TRA insurance is primary coverage, meaning it applies for all your rocketry activity covered under the TRA Unified Safety Code.

### *What is the difference between primary and secondary insurance?*

Primary insurance is property or liability coverage that provides benefits (usually after a deductible has been paid by an insured) up to the limits of a policy, regardless of other insurance policies in effect. Tripoli insurance is primary.

Secondary insurance is property or liability coverage that pays claims covered by the policy after primary insurance limits have been exhausted.

### *What if my Prefecture has a large event and enlists the aide of non TRA member volunteers, are they covered?*

Yes. Volunteers under TRA member direction are "additional named insureds" in the policy.



*Does Tripoli insurance cover damage to another person's property caused by a Tripoli member's rocket? Is the member/Prefecture covered if a rocket hits a house and causes damage?*

Yes, property damage to another person's property is covered. Property damage to "third parties" is covered. For this kind of coverage, **the flyer of record is responsible for the first \$2,500.**

*If a family member or I are injured at a TRA sponsored activity and the injury is due to another member's actions, does TRA insurance cover our medical expenses? And if so, is there a deductible?*

Yes, medical expenses for an injury caused by the actions of a member to another person, whether that second person is a Tripoli member or not, are covered. There is no deductible for medical payments. The TRA policy has a medical payments provision for accidents during TRA approved operations. Although there is no deductible, the limit per occurrence for this coverage is \$25,000.

*What happens if a member's rocket damages someone's car?*

That Member is covered, the same as property damage in the previous question. **Please note that the Flyer of Record will be responsible for the first \$2500.** It may be more economical to use the car owner's auto insurance to cover this.

*If a flyer's rocket damages their own car or a car that they have rented, is that covered?*

No, damage to the Flyer of Record's own property (which would include a rental car) is not covered by Tripoli insurance.

*How do I convince a Landowner that our rocket activities are covered by real insurance backed by a reputable provider, so that he'll let me launch on his land?*

*What benefits can I show him?*

TRA HQ can get you and your landowner an Insurance Certificate listing your landowner as "also covered". If your landowner has additional questions or concerns, the Chair of the Insurance Committee can directly answer those questions or concerns.

*Why do we need to list launch sites in order for them to be covered by the insurance?*

Tripoli requires this to properly assess the risk associated with insurance coverage. Risk assessment Tripoli performs is recognized by our insurance providers and helps control the cost of our premiums. Controlling the cost of premiums helps us control the cost of membership dues. Landowner Authorization forms can be found here: **Landowner Authorization Form**

*When should a TRA insurance claim be filed?*

File the claim as soon as possible after the incident. The more recent the accident, the more complete the details will be.

*If a claim must be filed, how do I file it?*

Contact TRA HQ immediately after any accident for which you believe you might have to file a claim. They'll have complete information available for you to file a claim. You can also file a preliminary report of your claim by using the Insurance Incident Report Form

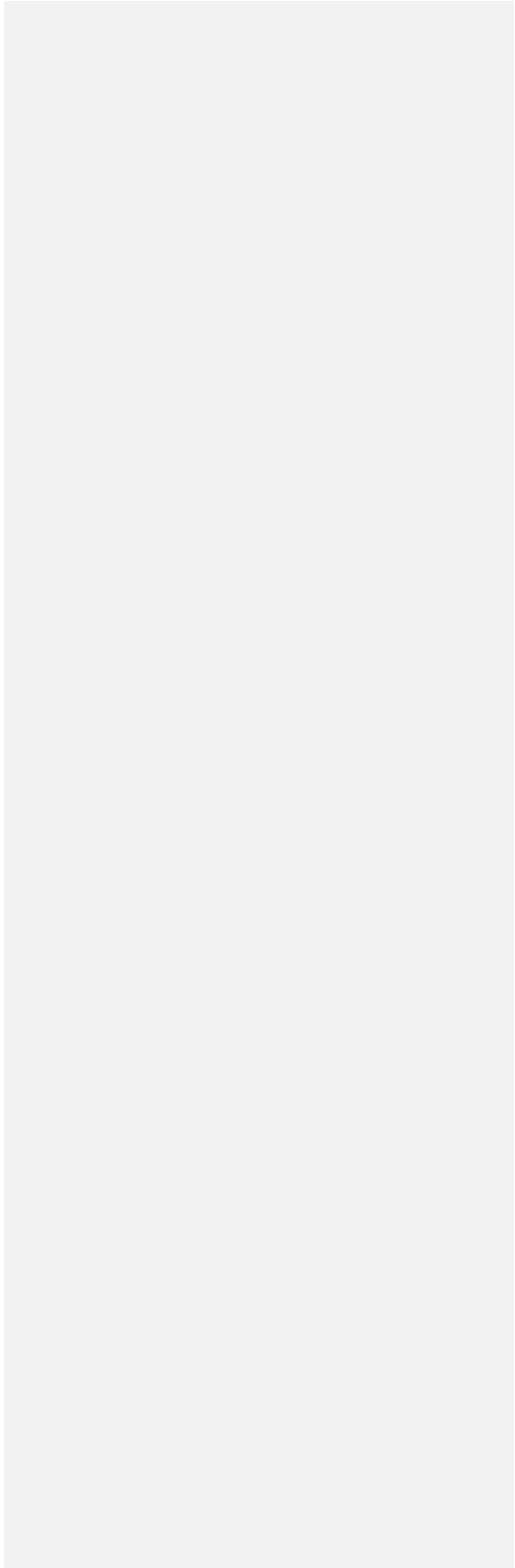
*Can I contact someone if I have questions about insurance?*

Yes. Contact TRA HQ and they can direct a representative to answer your questions.

## Rules, Regulations, and Reference Documents

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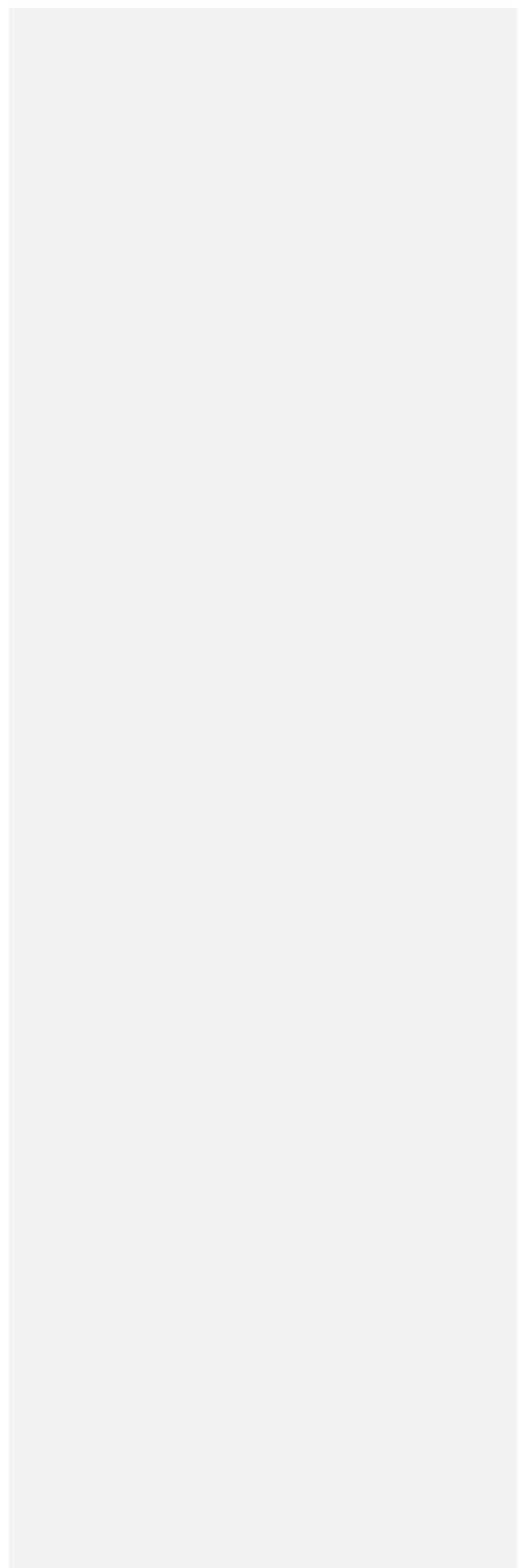
It is the responsibility of every Prefect to keep the following sections in this handbook current by printing and inserting the applicable reference documents. In addition, the Prefect may want to include other useful documents here.



## Tripoli Unified Safety Code

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Prefect: Please maintain this handbook by printing and inserting the most current version of the Tripoli Unified Safety Code after this page.





## Safety Code

### Introduction

This document combines and revises the Tripoli High Power Safety Code, the Tripoli Research Safety Code, rules for Model Rockets, and Radio-Controlled Rocket Boost Gliders when used at Tripoli Launches.

This document either meets or exceeds NFPA 1122 and 1127 with respect to commercial motors without forcing our members or Prefects to have a current copy of the NFPA codes.

As needed, the Tripoli Board of Directors (BoD) will announce updates that shall be considered official even before a new version is published.

### 1 General Conditions

#### 1-1 Scope

- 1-1.1 This code shall govern the actions of Tripoli members at any launch.
- 1-1.2 This code shall govern the actions of all people at a Tripoli Launch.
- 1-1.3 This code does not relieve a member or a Prefecture of any legal obligations established by stricter regulations adopted by an AHJ.

#### 1-2 Purpose

- 1-2.1 The purpose of this code is to establish guidelines for the reasonably safe operation of rockets at Tripoli Launches.

### 2 Legality

- 2-1 The Tripoli Rocketry Association does not represent that rocketry is legal everywhere and urges its members to become familiar with local regulations.

### 3 Operating Clearances

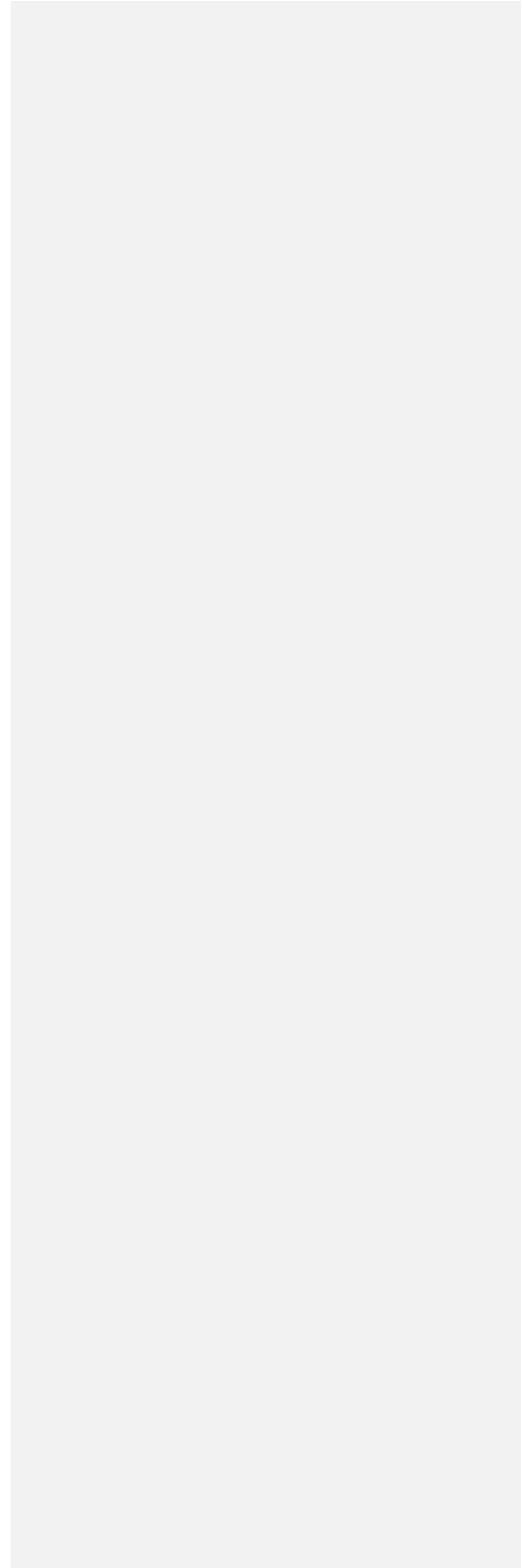
- 3-1 A Tripoli member shall fly a rocket only in compliance with the more restrictive of the following:

- 3-1.1 Tripoli Safety Code (this document);
- 3-1.2 The regulations controlling airspace for the country where the launch is held. For example, in the United States airspace use must comply with Federal Aviation Administration Regulations, Part 101 (Section 307, 72 Statute 749, Title 49 United

## FAR 101.21-101.29

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Prefect: Please maintain this handbook by printing and inserting the most current version of FAR 101.21 – 101.29 here:



This content is from the eCFR and is authoritative but unofficial.

**Title 14 – Aeronautics and Space**  
**Chapter I – Federal Aviation Administration, Department of Transportation**  
**Subchapter F – Air Traffic and General Operating Rules**

**Part 101 – Moored Balloons, Kites, Amateur Rockets, and Unmanned Free Balloons**

Authority: 49 U.S.C. 106(f), 106(g), 40101 note, 40103, 40113–40114, 45302, 44502, 44514, 44701–44702, 44721, 46308.

**Subpart C Amateur Rockets**

- § 101.21 Applicability.
- § 101.22 Definitions.
- § 101.23 General operating limitations.
- § 101.25 Operating limitations for Class 2-High Power Rockets and Class 3-Advanced High Power Rockets.
- § 101.27 ATC notification for all launches.
- § 101.29 Information requirements.

**Subpart C – Amateur Rockets**

**§ 101.21 Applicability.**

- (a) This subpart applies to operating unmanned rockets. However, a person operating an unmanned rocket within a restricted area must comply with § 101.25(g)(2) and with any additional limitations imposed by the using or controlling agency.
- (b) A person operating an unmanned rocket other than an amateur rocket as defined in § 1.1 of this chapter must comply with 14 CFR Chapter III.

[Doc. No. FAA–2007–27390, 73 FR 73781, Dec. 4, 2008, as amended by Docket No. FAA–2022–1355, Amdt. No. 101–11, 87 FR 75846, Dec. 9, 2022]

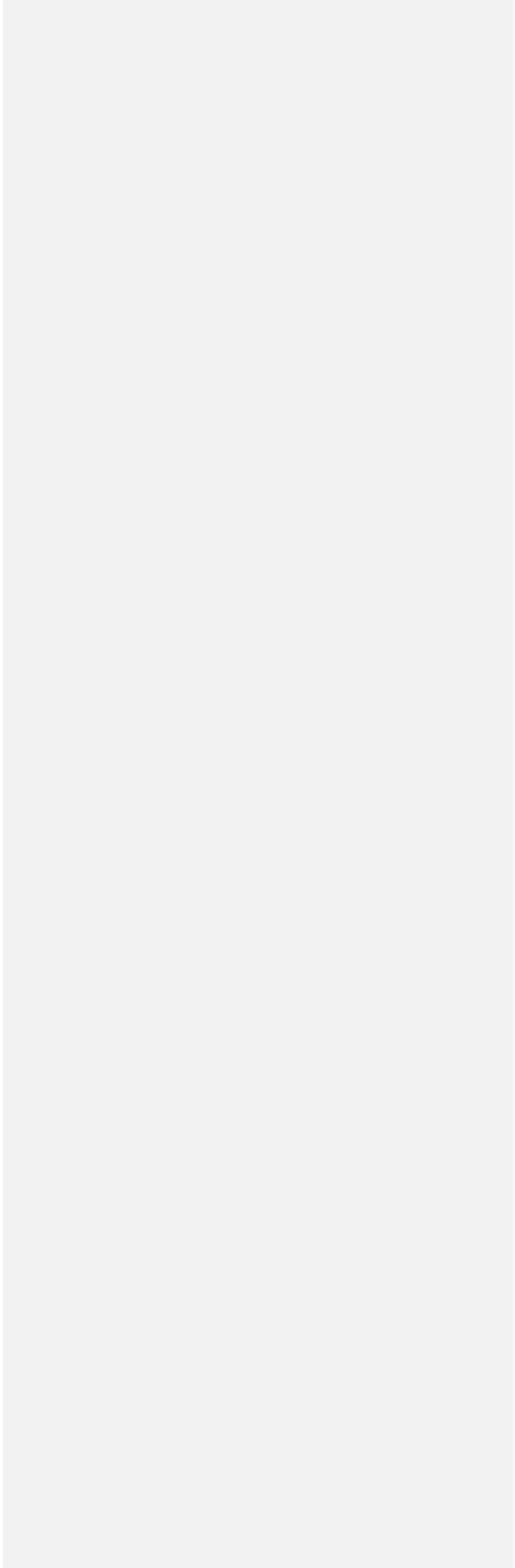
**§ 101.22 Definitions.**

The following definitions apply to this subpart:

- (a) **Class 1 – Model Rocket** means an amateur rocket that:
  - (1) Uses no more than 125 grams (4.4 ounces) of propellant;
  - (2) Uses a slow-burning propellant;
  - (3) Is made of paper, wood, or breakable plastic;
  - (4) Contains no substantial metal parts; and
  - (5) Weighs no more than 1,500 grams (53 ounces), including the propellant.

Application for Certificate of Authorization

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TEAR OFF  
BEFORE USING

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

SUPPLEMENTAL  
INFORMATION

**CERTIFICATION OF WAIVER OR AUTHORIZATION APPLICATION - PRIVACY ACT**

The information on the accompanying form is solicited under authority of Federal Aviation Regulations Parts 91, 101, and 105.

Submission of the information is mandatory.

The purpose of this information is to establish eligibility for certificate of waiver or authorization

The data will be used for recordkeeping and statistical purposes.

Incomplete submission may result in delay or denial of your request.

FAA Form 7711-2 (8/00) Supersedes Previous Edition

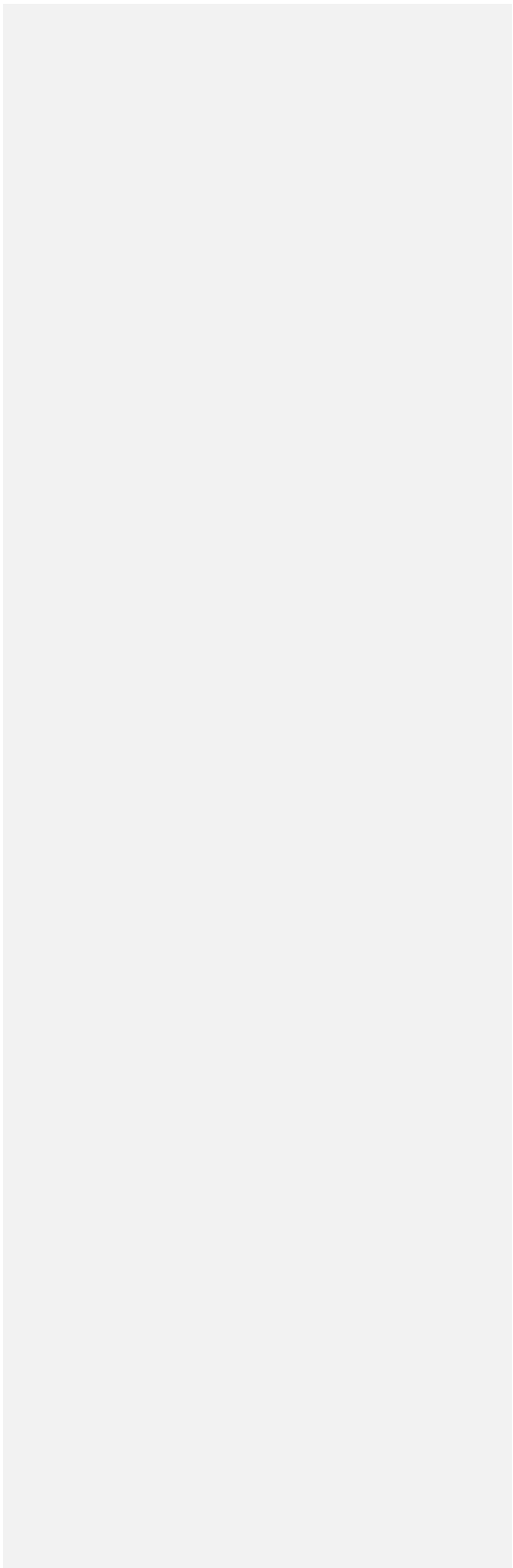
DETACH THIS PART BEFORE USING

# Actual Certificate of Authorization

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION	
<b>CERTIFICATE OF WAIVER OR AUTHORIZATION</b>	
<b>ISSUED TO</b> Big Sky Rocketry Association / Certificate of Waiver / Steven M. Shannon	
<b>ADDRESS</b> 3427 Hannibal St., Butte, MT, 59701 / Phone: 406-460-7855 / Email: sshannon@bresnan.net	
This certificate is issued for the operations specifically described hereinafter. No person shall conduct an operation pursuant to the authority of this certificate except in accordance with the standard and special provisions contained in this certificate, and such other requirements of the Federal Aviation Regulations not specifically waived by this certificate.	
<b>OPERATIONS AUTHORIZED</b>	
Activity:	Launch and recovery of Class 2 High Power Rockets within controlled airspace in compliance with 14 CFR Part 101, this Certificate, and enclosed Special Provisions.
Altitude:	Surface to 26,000 feet Mean Sea Level (MSL) / 20,570 feet Above Ground Level (AGL) with occasional launches to 52,000 feet MSL / 46,570 feet AGL as authorized by ZLC.
Location:	A point located at Latitude 45°32'50"N/Longitude 112°30'37"W; Fix Radial Distance: Dillon VOR/DME 347° radial at approximately 18 nautical miles (FRD: DLN 347 018).
Hazard Area:	Five (5) nautical mile radius from launch point location.
Times:	0600-2130 local (applicable to launch site) **During official daylight hours only**
Date/s:	05/01/2022 - 04/30/2024 **as authorized by Air Traffic Control**
COA: WSA-2222-RKT	(cc: ZLC, AST)
<b>LIST OF WAIVED REGULATIONS BY SECTION AND TITLE</b> CFR 101.25 (f)	
<b>STANDARD PROVISIONS</b>	
<ol style="list-style-type: none"> <li>A copy of the application made for this certificate shall be attached to and become a part hereof.</li> <li>This certificate shall be presented for inspection upon the request of any authorized representative of the Administrator of the Federal Aviation Administration, or of any State or municipal official charged with the duty of enforcing local laws or regulations.</li> <li>The holder of this certificate shall be responsible for the strict observance of the terms and provisions contained herein.</li> <li>This certificate is nontransferable.</li> </ol>	
NOTE - This certificate constitutes a waiver of those Federal rules or regulations specifically referred to above. It does not constitute a waiver of any State law or local ordinance.	
<b>SPECIAL PROVISIONS</b>	
Special Provisions Nos. <u>1</u> to <u>11</u> , inclusive, are set forth on the reverse side hereof.	
This certificate is effective from <u>May 01, 2022</u> to <u>April 30, 2024</u> , inclusive, and is subject to cancellation at any time upon notice by the Administrator or his authorized representative.	
BY DIRECTION OF THE ADMINISTRATOR	
<u>Western Service Area</u> <small>(Region)</small>	<hr style="width: 100%;"/> <small>(Signature)</small>
<hr style="width: 100%;"/> <small>(Date)</small>	<u>B. G. Chew, Group Manager (A)</u> Operations Support Group, WSC <small>(Title)</small>

Landowner Permission Form

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Tripoli Rocketry Association, Inc.  
PO Box 87  
Bellevue, NE 68005

I hereby give permission to the members of the Tripoli Rocketry Association to hold a launch on the property listed below. Please add the below as a certificate holder and issue a certificate of liability insurance.

Landowner Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Launch Location: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

Landowner/Manager Signature: \_\_\_\_\_

Dated: \_\_\_\_\_

TRA Member Name: \_\_\_\_\_

Member Number: \_\_\_\_\_ Prefecture Number \_\_\_\_\_

Address: \_\_\_\_\_

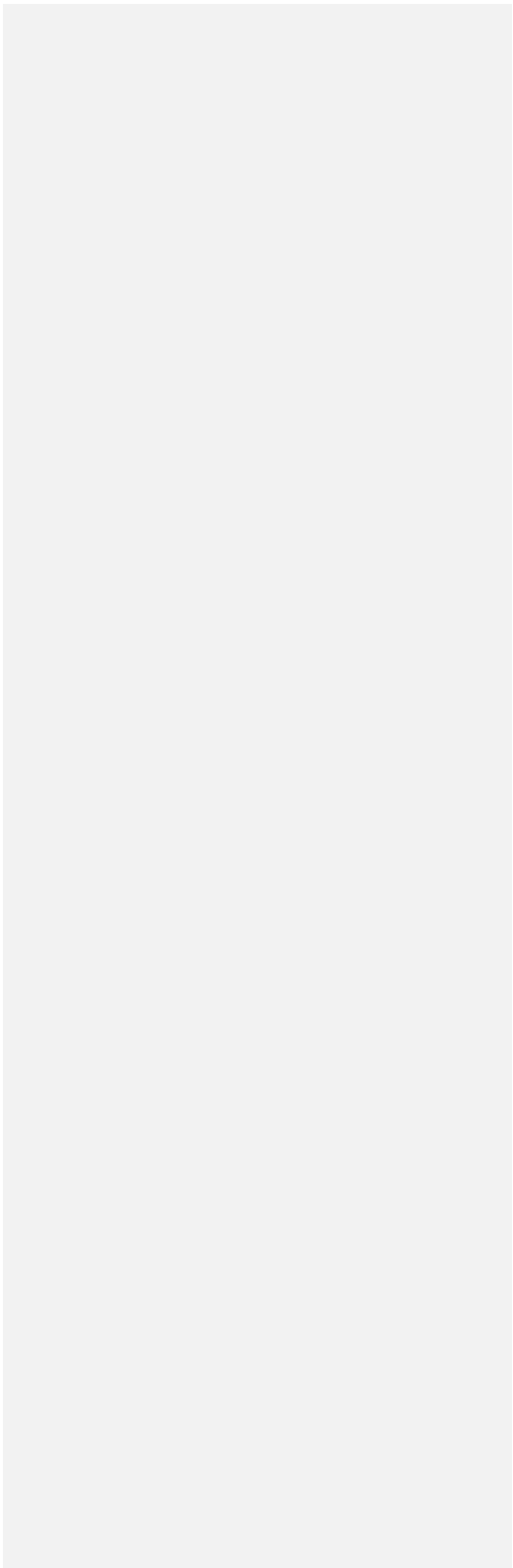
City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_

Email Address: \_\_\_\_\_

Waiver of Liability Form

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## TRA Launch Liability Waiver Form

**TO FLY AT THIS LAUNCH YOU MUST READ THE FOLLOWING, AND  
SIGN AT THE BOTTOM OF THE PAGE!**

**I THE UNDERSIGNED:**

- By signing this waiver, I agree that I have read and understood the Tripoli Rocketry Association Safety Code, and rules that will apply to this launch.
- I understand that launching rockets and related activities can be dangerous with potential risks of bodily injury or death from impact or, burns
- I also agree to report any violations of the Tripoli Rocketry Association's safety code or any unsafe condition to the launch officials.
- I acknowledge that I have the necessary experience and training to operate high-power rockets at my current level of certification.
- I agree to hold harmless the Tripoli Rocketry Association Inc. and the launch site landowner for any liability resulting from my participation and actions of others at this rocket launch including any bodily injury.

**I THE UNDERSIGNED:**

- (1) Expressly assume all the risks of participating or spectating in this launch, including risk of damage, personal injury, or death.
- (2) Agree to exercise the utmost care in pursuit of my activities at this launch.
- (3) Will make no claim(s) against the landowner or Tripoli Rocketry Association.

PRINT NAME \_\_\_\_\_

SIGNATURE \_\_\_\_\_

MEMBERSHIP NUMBER \_\_\_\_\_ CERTIFICATION LEVEL \_\_\_\_\_

LAUNCH SITE \_\_\_\_\_ DATE \_\_\_\_\_

Adult/parent name and signature is required for flyers under eighteen years of age.

ADULT/PARENT NAME \_\_\_\_\_

ADULT/PARENT SIGNATURE \_\_\_\_\_

## Emergency Numbers

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FIRE

AMBULANCE/EMT

LAW ENFORCEMENT

AIR AMBULANCE

LANDOWNER NOTIFICATION