

MASA

Sponsorship Packet

Fall 2025

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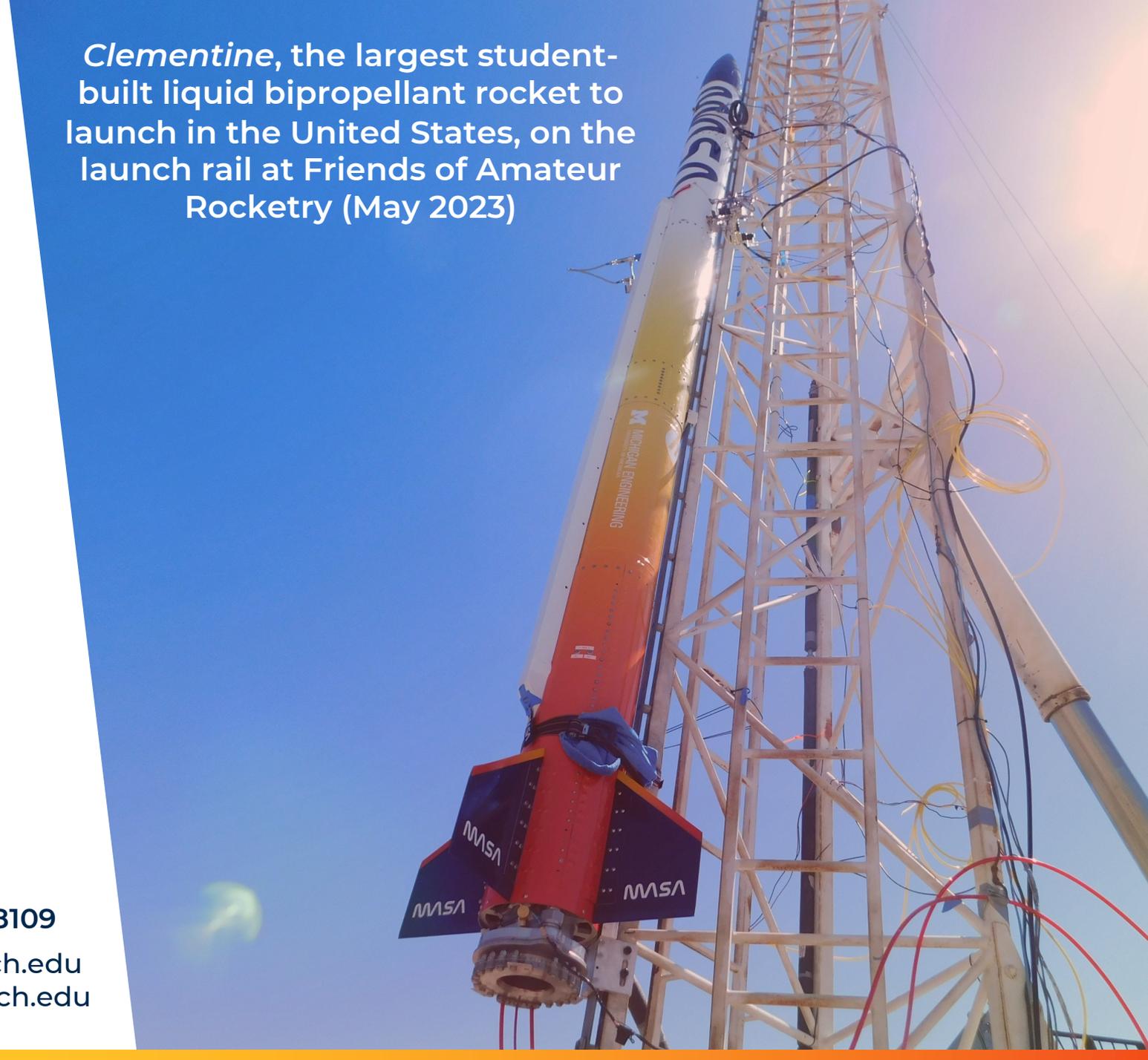
Clementine, the largest student-built liquid bipropellant rocket to launch in the United States, on the launch rail at Friends of Amateur Rocketry (May 2023)



MASA Rockets

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MASA is pushing the boundaries of collegiate rocketry!

We are the student-run liquid bi-propellant rocketry team at the University of Michigan.

Our current project, *Limelight*, will utilize state-of-the-art avionics, aerostructures, and propulsion systems to work towards the goal of **breaking student rocketry records**.



2018



2021



2023



2026





Mission

MASA's mission is to design, build, and fly liquid rockets, while **teaching students the industry-standard skills of rocketry**. We provide valuable hands-on engineering experience to students at the University of Michigan and to aspiring engineers through our outreach projects.

◀ MASA's *Laika*, the first-ever liquid bi-propellant rocket to be launched by students at Spaceport America Cup in 2018, undergoes final checks.

Team

MASA is the student-run rocketry team at the University of Michigan. We take a multidisciplinary approach to engineering, bringing students together to **design, build, and launch pioneering liquid-fueled rockets.** MASA is composed of 7 subteams, allowing team members to grow in all aspects of engineering, business, outreach, and leadership. Together, MASA works to take Michigan to new heights!

MASA remains one of the **only teams in the world to have launched and recovered** a liquid-propellant rocket and was the first to do so at the Spaceport America Cup in 2018. Most recently, we launched, *Clementine*, a liquid bi-propellant rocket which holds the record for **the largest liquid rocket to be launched by a student team in the United States.**



Sponsoring MASA

MASA's sustained innovation is made possible by our corporate and private sponsors. Join us and become part of a growing legacy of partners that help keep MASA at the forefront of collegiate rocketry, year after year.

Social Media & Online Exposure

With thousands of followers across our social media pages and partnerships with University pages, you will gain exposure for your company and products when you sponsor our team!

Access To Top-Tier Engineering Students

Gain access to MASA's hardworking, diverse, and talented workforce with team resume books and networking events.

Press & Industry Coverage

In 2019, MASA was featured on-stage at the Dassault Systèmes 3DExperience Forum in Las Vegas, and in 2022, we participated in the launch of the Academic Rocket Launch Alliance at AIAA SciTech. MASA constantly receives recognition, and your company can be front and center with us!

Tax Benefits

MASA has 501(c)(3) non-profit tax-exempt status, and donations to the team may be tax-deductible.



Benefits by sponsorship tier:

	Stratosphere (Up to \$5k)	Mesosphere (Above \$5k)	Thermosphere (Above \$10k)	Kármán Line* (Above \$35k)
Exposure on social media, livestreams, & newsletter	•	•	•	•
Potential tax benefits	•	•	•	•
Logo or name on website	•	•	•	•
Logo on team t-shirt and banner	•	•	•	•
Access to member resume book and networking events	•	•	•	•
Access to rocket & test footage, filming events†		•	•	•
Logo on rocket		•	•	•
Invitation to witness engine static fire, rocket launch‡		•	•	•
Priority logo placement & branding			•	•
Co-branding of next project, custom statement on website				•

Sponsorships span 12 months. The duration of Kármán Line partnerships is determined individually.

Design review considered equivalent to \$500 in funding. Value of donated materials and gift-in-kind agreements is included in sponsorship level values.

* Kármán Line tier: At least \$20k of sponsorship value must be a monetary contribution

† Footage use & filming events: Each request must individually be reviewed and approved by the University

‡ Invitation to events granted as permitted by safety policies and range safety considerations





How to Help

MASA benefits from:

- **Monetary donations** for rocket & engine development and manufacturing.
- **Material donations**, including metal stock, tooling, avionics connectors, PCB printing, engine propellant, pressure transducers, and sensors for engine plumbing, etc. These are incorporated directly into rocket and test equipment.
- **Design reviews** from industry experts to guide us during the development phase.

◀ MASA's successful static test of the *Phoenix* engine in May 2025.

Team & Technical Updates

Summer 2025

Phoenix Successfully Tested

Phoenix is MASA's newest fully regeneratively cooled engine designed by our Propulsion subteam to produce 3000 lbf of thrust. Nearly every component for *Phoenix* was manufactured in house by students!



Completed *Phoenix* Engine

Hotfire GSE Design & Assembly

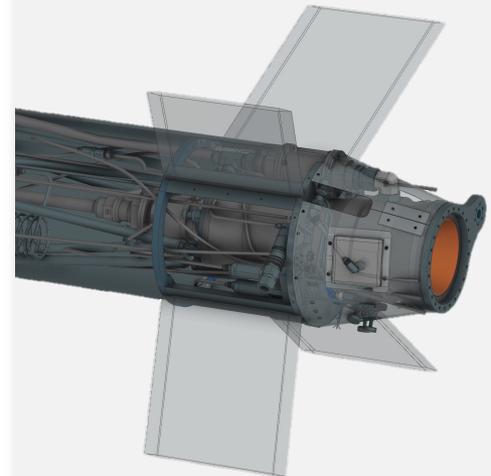
Our mobile ground support equipment (GSE) trailer, designed by our Assembly, Test, and Launch Operations (ATLO) subteam, provided necessary propellant and pressurization for *Phoenix* engine testing.



Ground Support Equipment Trailer

Integrating *Limelight*

Our technical subteams are currently manufacturing components for *Limelight* and assembling the rocket to prepare for testing on the path to a 2026 launch.



Limelight Boat Tail CAD



2025-26 Goals

Technical Goals

- Fully integrate *Limelight's* main structure, aerodynamics, and propulsion hardware.
- Prepare *Limelight* and our team for a launch in 2026.
- Begin the design and development of MASA's successor engine to *Phoenix*.

Team Goals

- Train members in design, analysis, manufacturing, assembly, and testing.
- Improve member professional development through industry networking and recruitment events.
- Continue to develop members' soft skills such as teamwork, communication, and technical presentation.

Team History

2003: MASA is founded as an amateur rocketry club at the University of Michigan, Ann Arbor.

IREC 2013: MASA successfully launches *Helios*, its first rocket with a composite airframe.

2013-2015: MASA develops its first hybrid rocket engine, *Alpha Centauri*, alongside its new solid rocket, *Young Hickory*.

IREC 2016: MASA successfully launches *The Great Emancipator* with the *Alpha Centauri* engine to 13,800 ft. It places 2nd in the Advanced Category.

2016-17: MASA improves on its proven hybrid engine and unveils *Gamma Centauri*, designed to propel a rocket to 30,000 ft.

Spaceport America Cup 2017: MASA is awarded 1st place in the Hybrid/Liquid Category for the flight of *Tortas 8* with the *Gamma Centauri* engine and is declared the overall winner of the competition.

Spaceport America Cup 2018: MASA is the first team to launch and recover a liquid bi-propellant rocket, *Laika*, at the competition. It receives the highest score in the hybrid/liquid category and the sportsmanship award.



◀ Partially assembled rocket, *Laika*, with *Spitfire* Engine, 2018

2018-2021: MASA participated in the Base 11 Space Challenge, placing 1st in Phase 1 (PDR) and 2nd in Phase 2 (CDR) in one of the most ambitious student rocket competitions to date.

2021-2023: MASA successfully launched *Clementine*, a liquid bi-propellant rocket, which holds the record for the largest liquid rocket in collegiate rocketry in the United States.



Clementine Prior to Launch In May 2023

2024: MASA successfully validates *Limelight* GSE system but experiences engine issues leading to the inception of the new *Phoenix* Engine.

2025: MASA successfully tests the *Phoenix* engine, producing 3000 lbf of sustained thrust, making it the most powerful regeneratively cooled, liquid bi-propellant engine in collegiate rocketry.



MASA Test Crew after Successful Static Fire of *Phoenix* in May 2025



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