🚀 Rocketry Webinar Session 3--- Q&A Summary

❓ 1. Can rockets be flown before painting?

Yes. Rockets can be flown before painting. Paint adds only a tiny amount of weight, so performance changes are minimal.

❓ 2. Does the painting technique matter?

A little. Rough paint textures can slightly affect performance, but usually not enough to matter for hobby rockets.

❓ 3. What is your favorite part about building rockets?

- Designing and planning the rocket
- Watching small parts become a finished rocket
- Engineering and problem-solving
- Building motor retention systems
- Seeing the full process from start to finish

❓ 4. How does the second stage ignite in a two-stage rocket?

1. The booster motor launches the rocket.
2. A separation charge separates the stages.
3. A flight computer checks:
    - speed
    - altitude
    - rocket angle
4. If conditions are safe, the upper-stage igniter fires.

The rocket must be pointing upward before the second stage ignites.

❓ 5. What is your favorite part about launching rockets?

Answers included:

- Setting up at the launch pad
- Solving last-minute problems
- Teamwork during launches
- Watching the rocket lift off

❓ 6. What is your favorite rocket propellant?

Favorite propellant types mentioned:

- Super Thunder
- Redline
- White Lightning
- Sparky motors

Different propellants affect:

- flame color
- smoke color
- thrust characteristics

🚀 7. What is your favorite Estes rocket kit?

The team built a custom rocket from an Estes Designer Special kit.

One member said they used to choose kits mainly by color.

🚀 8. Do all two-stage rockets have two sets of fins?

Most do. Different fin styles include:

- standard fins
- tube fins
- ring fins

Multiple fins help stabilize the rocket.

🚀 9. Why do you like rocketry?

Reasons included:

- Interest in NASA and space exploration
- Engineering challenges
- Learning new skills
- Building rockets from scratch
- The rocketry community

🚀 10. How many launches do you do each year?

The team usually attends:

- 4–5 official launches yearly
- Additional personal launches

🚀 11. How do you handle failures or mistakes?

The team recommends:

- staying calm
- stepping back
- reviewing the issue carefully
- avoiding rushed decisions

Safety always comes first.

🚀 12. What rocket did you most enjoy building?

Examples included:

- Level 3 certification rocket
- Cluster rocket

- Argonia Cup competition rocket
- Personal Level 1 rockets

The Argonia Cup rocket reached about 26,000 feet.

🚀 13. Do you use Jolly Logic Chute Release?

Usually no.

The team prefers:

- flight computers
- electronic deployment systems

They consider these more reliable for high-power rockets.

🚀 14. Have team members worked in aerospace?

Yes. Alumni and members have worked at:

- NASA
- SpaceX
- Boeing
- Sandia

🚀 15. Why is launch documentation important?

The team documents:

- design decisions
- launch procedures
- simulations
- flight data
- recovery assignments

Benefits include:

- safer launches
- fewer mistakes
- easier troubleshooting

🚀 16. Can hobbyists build cluster rockets like Artemis?

Yes, but careful planning is required.

Main challenges:

- arranging multiple motors
- igniting all motors simultaneously
- maintaining stability

🚀 17. Would you consider becoming an astronaut?

Responses varied:

- Some said yes
- Some preferred engineering roles
- Some worried about isolation in space

🚀 18. What paint do you use?

The team commonly uses:

- spray paint
- Rust-Oleum products
- acrylic paint pens
- clear coat finishes

Clear coat is highly recommended.

🚀 19. How do you track rockets after launch?

The team uses:

- GPS trackers
- radio beacons
- tracking receivers
- phone apps
- visual tracking

Multiple backup trackers are often used.

🚀 20. What epoxy do you use?

Most commonly:

- 5-minute epoxy

Stronger epoxies are used for larger rockets.

🚀 21. One large parachute or several small parachutes?

The team prefers:

- one large parachute

Reasons:

- simpler deployment
- lower tangling risk

🚀 22. What grit sandpaper do you use?

Typically:

- 120 grit for regular sanding
- 220–500 grit for smoother finishes

🚀 23. Have you experienced parachute failures?

Yes.

Causes can include:

- incorrect charge placement
- tangled parachutes
- improper packing
- failed deployment charges

🚀 24. What size motor reaches Mach speed?

It depends on:

- rocket design
- aerodynamics
- weight
- motor performance

Usually:

- J, K, L, or M class motors may reach or exceed Mach speed.

Thank you, KSU Wildcat Rocketry Team!

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