

# TRIPOLI'S FIRST MAN INTO SPACE



*SpaceX Crew-6/ISS Expedition 69 Mission Badge*

Warren “Woody” Hoburg, Pittsburgh native, Tripoli Rocketry Association (TRA) member, and NASA astronaut has been named as the pilot of the SpaceX Crew-6/ISS Expedition 69 to the International Space Station. This mission is scheduled to take off on February 27, 2023 from Kennedy Space Center’s Launch Complex 39A, with a planned duration of 180 days.

Woody has many friends from the Pittsburgh region and also among members of TRA who have come to know him from his days as a promising young high-power rocket flyer. He began his space journey many years ago, flying model rockets with TRA’s Pittsburgh Prefecture when he was a young student.

As the Pittsburgh prefect at that time, I vividly recall his early interest in larger high power rockets when he and his brother Russ insisted on accompanying me in trudging through high weeds to help me retrieve one of mine that had drifted fairly far from launch point. He had many insightful questions about my rocket and that particular flight profile. He was inquiring about the right things, and it was clear he was filing away knowledge on how to proceed

with his own rocket projects well beyond the model rockets which he was initially flying.

Woody would really be ready for high power rockets and advanced flyer certification levels many years before he was the required age of 18. To ensure we didn’t inhibit his growth, we worked with Woody’s very supportive dad, Jim Hoburg (a professor at Carnegie Mellon University), having Jim become a high power flyer and gaining his high power flyer certification levels, thereby allowing him to partner on Woody’s projects as the official flyer. Jim and his wife Peggy would bring Woody to every launch they could attend, and we could see how his expertise was growing. He did it the right way, starting with simple high power rockets, and progressively adding complexity and size once he had proven a basic starting design. I often get a bit of a chuckle when I hear someone say, “I remember seeing Woody flying his Flag Rocket.” The reason it’s amusing is that he built several Flag Rockets, each one a progressive expansion in size and complexity of the initial design specification.

When Woody turned 18, it is my recollection that he gained his first two high power flyer levels on the same day, at the first launch he could attend after his birthday. He likely would have also gone for Level 3 if he hadn’t run out of time that day. He would of course get that certification too as soon as he could attend the next launch.



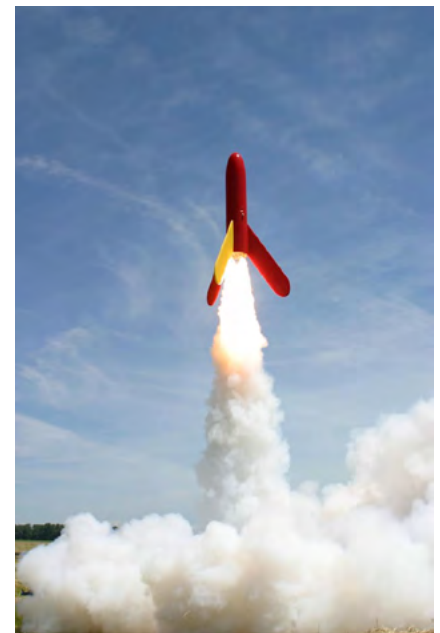
**Tripoli Pittsburgh launch, August 2002. Jim and Woody Hoburg with their first "Flag Rocket." Photos by Ken Good**



**LDRS 21, Wayside Texas, July 2002. The Pittsburgh group that attended the event (L-R): Jim, Russ, and Woody Hoburg, Paul Bixler, Ken Good. The rocket is a two-stage built by the not-yet-18 Woody, officially flown by Jim. Photo by Peggy Hoburg.**

He would go on to become well-known across TRA as he traveled to many of the organization's national "LDRS" (Large and Dangerous Rocket Ships) events, flying several extremely large and ambitious projects. In this period of time, LDRS events were held at places like Wayside Texas, Argonia Kansas, Geneseo New York, and as far away as Lethbridge Alberta, Canada. Thus, he networked with hundreds of TRA flyers, and was recognized as a rising star. At that time as a member of the TRA Board of Directors, I was at all of these launches as well, lending Woody a hand when I could, and witnessing how far he had progressed.

Inevitably, Woody had to leave this activity behind for some time while he pursued his college education, including a bachelor's degree in Aeronautics and Astronautics from MIT and a PhD in Electrical Engineering and Computer Science from UC Berkeley. In addition to (and often concurrent with) his academic pursuits, his interests continued to expand. He would become involved in skydiving, winter sports, rock climbing, mountaineering, and ultimately, becoming a pilot. He also served as a seasonal member of Yosemite Search and Rescue, as well as an Operations Leader for the Bay Area Mountain Rescue Unit.



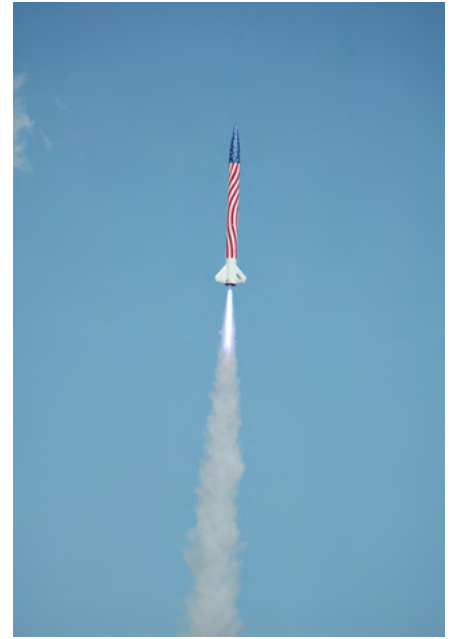
**LDRS 23, Geneseo New York, July 2004.**

**Left: Woody with his parents and two upscale Mosquito rockets. Peggy holds an original Estes version of the rocket.**

**Center: The giant Mosquito on the launch rail.**

**Right: The impressive take off of the Mosquito.**

**Photos by RocketShots!/Tsolo Dann**



**LDRS 25, Wayside Texas, June 2006.**

**Left: Woody, now a TRA Level 3 flyer, brought a far larger and more complex Flag Rocket to the event.**

**Center: Woody and assistants focus on preparation steps.**

**Right: The Flag Rocket powers skyward.**

**Photos by Neil McGilvray/Rockets Magazine.**

Embarking on his professional career, he began to compile an impressive resume. He was first employed by Boeing Commercial Aircraft in Product Development, working on software for composite manufacturing. Following that, he moved to an assistant professorship of Aeronautics and Astronautics with his undergraduate alma mater, MIT. In that role, Woody taught undergraduate courses on Dynamics and Flight Vehicle Engineering. He also ran a research team which focused on efficient methods for design of engineering systems. According to his NASA biography, “His group produced the open-source software tool GPkit, which is a Python package for geometric programming. His group’s tools were used to design a five-day endurance UAV for the US Air Force. “

It was at this point in his career, in June 2017, that Woody got a call from NASA, informing him that he had been selected as an astronaut candidate. He would report to NASA that August to begin a two year training course. Successfully completing the training, and thereby becoming one of NASA’s newest generation of astronauts, it was announced in December 2020 that he was selected as one of eighteen astronauts for the Artemis Program, targeting a Moon mission in 2024. In the interim, a more immediate space mission became reality, the SpaceX Crew-6/ISS Expedition 69. In 2022, Woody was selected to be the pilot for the four-man mission to the ISS.

As one may imagine, through Woody’s incredibly crowded academic/professional/NASA timeline, those of us who knew him from the beginning days

seldom saw him, although we occasionally kept in touch through Facebook. We also had an unexpected visit from Woody in July 2007, when he stopped by at the LDRS-26 event at Jean Dry Lake, Nevada. It was great to chat with him and catch up on where he was at that point. Things were going well for him and he was excited about his future prospects, but none of us knew he would join NASA as an astronaut within ten years, becoming TRA’s very first person to go to space. Now that this dream has come to fruition, we are all very proud of him, and happy for this wonderful, well-earned opportunity.

Those of us who were with Tripoli Rocketry from the very early days (1960’s) always hoped that we would someday leverage a path of civilian access to space. Through the years that have passed, this vision has undergone many changes, as has TRA itself. From one perspective, Woody’s SpaceX mission is an evolution of the original vision, being supported by a non-government enterprise, cooperating with NASA and other international space agencies. Perhaps even more important, we were there for Woody (and others of his generation) in his early days, providing the basis for his initial rocketry education and helping to fuel his desire to progress onward toward space science/exploration as his career focus. And it is very likely that he will be engaged in discoveries about which we can only speculate at this point.

Congratulations and good luck, Woody, on your first mission to space!

- Ken Good, former president, Tripoli Rocketry Association