IN THIS ISSUE

This has been a very busy month for M-Fly, with final construction work and the unveiling. The team is in full swing ahead of competition next month.

The unveiling was February 11th in the FXB atrium. It was a huge success with many members, students, and alumni coming to see the planes fully assembled for the first time. Now that the planes are completed, the team is preparing additional parts for competition.
Advanced class construction has been a tiring, complex, and lengthy adventure. Since this year is the first year working with composites and complex sensors, the team hit a lot of road bumps along the way but has worked through them all. Leads and team members alike have put innumerable hours into pioneering M-Fly’s advanced class aircraft. Our fuselage, spars, tail boom and leading edges are composed of carbon fiber. In order to build these, we made molds for these parts out of MDF as well as tooling board. The internal structure of the fuselage and the wings were constructed using the wood and UltraCote method that we have used on our aircraft in the past. Throughout the construction process, the sensors and systems subteam worked on preparing the electronics on board for assisting in flight and dropping the payloads by overseeing the construction of these components and completing ground testing. In the end, M-Fly produced our very first composite aircraft, gaining invaluable insight and unforgettable experiences in the process.
The hard work was demanded from the start. With so many composite components in the design and a limited number of routers, members had to pull some late nights before production could begin. Eventually, thanks to the dedication of Zach Meves, Randi Peterson, Chaaru Raghavan, Adam Licavoli, and Jacob Gersh, the molds were completed.

With a delay caused by the router bottleneck, the team had to come together to complete the plane by the deadline. There were many sunsets seen through the windows of the Wilson Center – and some sunrises – but there was one night of build that I will never forget:

I arrived at the work tables in the Wilson Center around 5:00 pm on Thursday, after my last class of the day. As I walked in, I saw Randi and Zach, already hard at work for some hours now. I sat down and began wet sanding leading edge molds beside Randi. My day up until then had been less-than-desirable, and in the tradition of M-Fly, she lent me a sympathetic ear. Build has a way of dulling one’s own issues and redirecting the mind towards the common goal.

As the grit numbers increased, so did the crowd. Members had poured in to meet our approaching deadline. The massive spar had been assembled and ribs were being attached to it. The cores of the trailing edges and control surfaces rolled in off the foam cutter. Steel rods that were to be static payloads were cut to size. Like a well-oiled machine, M-Fly worked as one bringing the massive aircraft to life. There was a certain atmosphere as we worked. We swapped jokes and barbs as tired laughter filled the high bay. But at the same time there was a solemnity: an understanding of what had to be done.
As the hours rolled by, task after task was completed. Finally, it was all hands on deck for the complex layup of the leading edges. The layup took well over two hours, but the only way you would know were from the sleepless eyes. In that time we were more of a team than I had ever seen. When the group needed help, no one stopped to think or thought the task too trivial. I saw people sprinting across the building, tearing up trash cans in search of more plastic sheeting. I saw people skimming epoxy together and bona-fide veterans holding core segments in place beside members I had never seen before. To me, this is what M-Fly is about.

As the sun rose that morning, some stayed behind finishing the ailerons as I headed off to class. Aaron Lu and I sat in our lecture hall waiting for structures class to start. We joked around about the minuscule shut-eye we were able to get, both of us knowing that we wouldn’t have it any other way.

Thanks to our amazing team members, we were able to complete the beautiful MX-1 in time for a ceremonious unveiling. Congratulations to M-Fly advanced for their incredible accomplishment!
This month, M-Fly had the opportunity to host its very first unveiling. An event like this has been a vision for the team for two years now, and it was so exciting to watch it become a reality. With the addition of the advanced class aircraft this year, the team wanted to share its new projects with the aerospace and U of M communities and have a chance to thank the sponsors, faculty, and alumni that got them there. Although the team had to really push to meet the deadline, this hard work was well rewarded as the result was two beautiful aircraft to show everyone.

M-Fly would like to thank all those that came out to support the team; seeing so much support from the community meant a lot. The alumni from the past few years made a strong presence and were extremely appreciated.

Contributors

**Emily Kusulas, Overview**

**Kathryn Shepherd, Construction**

**Jacob Tukel, Construction**

**Alex Jehle, Unvieling**