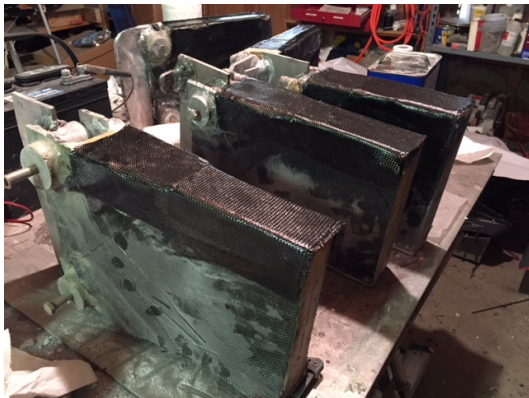


Jefferson Jyrodynes, Inc. Newsletter
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This newsletter covers the work on the Jefferson Jyrodynes prototype and 1/10th scale drones from July 2017 until the end of April, 2018. The next issue will be the last of the series. Further references may be found on website, jeffersonjyrodynes.com.

I do some blogging now on an irregular basis on the website about the state of VTOL technology. My latest is entitled, "The need for steerable ballistic parachutes." Tab is: Ruminations of the Inventor". It is salacious stuff.

Work during this period has continued on completing the full-sized jyrodynes's aileron wings and attaching the massively overbuilt aluminum/carbon fiber wing root fittings to the ends of the wings.



Three of the eight fittings undergoing carbon fiber layups.

Since there are eight of these, two for each wing, it takes quite awhile for me to get them the way I want them to be. I figure about 150 manhours of engineering and fabrication work for each one of them. I'm proud of the engineering, but fabrication is something somebody else can do better than

me. With the design effort on bushing and bolt sizes, doing aluminum TIG welding an aluminum frame, boxing it in with balsa and spruce plywood, and then covering each one with multiple layers of oriented carbon fiber, their optimum configuration takes a lot of time. It is probably closer to 1500 manhours to generate the eight finished wing roots for the cantilever wings. The payoff is that they look like they will take at least 4G's, and probably a lot more than that. The four front spars wing roots weigh approximately 10 pounds apiece, and the rear spar wing roots 6 pounds apiece. This weight includes both sides of the two bolt assemblies, and is about what they were expected to weigh to reach the design target gross weight of 2000 pounds for all four wings, at a 4G gross weight loading. Expected all up wing weights for the four wings is still projected to be less than 200 pounds!

Work has also continued on the ringspar attachment super teats which project out from the outside edges of the ringspar. These are big teat extensions needed due to the relocation of the flapped wing forward three feet from the original arrangement. Made up of foam, microballoons, plywood, carbon fiber and Graphlite, they transition the flapped wing wing bending loads to the forward ringspar assembly. Photos are classified.

Midrigger Strut

Both the flapped wing and the aileron wing are designed as cantilever wings, not needing struts. However, for classified reasons, there is a strut supplied for the aileron wing. The engineering calculations



indicate that the RockWest CF tubes procured years ago are suitable for the strut.

Ultralight Jyrodyne

This brand new February 1st 2018 concept is now being developed into a 1/6 scale RC model. Photos and details are classified until patents are filed. Let's just say that it appears very do-able. This is now called the Model 2019, with the informal name, The Gator.

The plan is to have full VTOL capability in a single seat aircraft whose empty weight is less than 254 pounds.

RC Models

This work had pretty much been put on hold with the older 2014 and 2016 models to focus on the full-sized aircraft wing attachment. This was the case until the work on the ultralight version started, which now has top priority!

First flight of the 1/6 sized Gator is expected in May or June.

Patents

Work continues on several new concepts, but with the Chinese now leading the way in manned drone technology and manufacturing, it is unlikely that any of these new ideas will be worth patenting, since they will be stolen if they are any good. The Chinese have been refining this technique for over a thousand years – they are unlikely to change their approach.

Defensive patents are still a good idea, but they have a different intent than a patent which focuses on safekeeping original ideas. They are to protect you from someone stealing your idea and product, and then

making you pay for it back to them. It appears our patent system may be too obsolete to protect American inventors from intellectual property theft. Patents cost a lot, and should be a rigorous method of defending ideas. My patent attorney wants to have lunch. Maybe he can come up with a better defense!

Flying cars will be available sooner than expected

Stealing patents may not be the only problem we have with the Chinese.

By the way, it was found out at the April 2018 Sun N Fun convention in Florida, that venture capitalists (Chinese?) have bought up most of the startup firms working on flying cars. Six companies in various states of startup have recently received around \$ 900 million dollars in seed money.

We've been following several of these for years. Terrafugia is probably the best known, an MIT alumni-funded startup which has produced a flying car that works for about \$ 300,000. They've spent about \$50 million, but got the most of any of the companies, receiving \$ 250 million in seed money. Another, called Switchblade, got \$ 140 million, and doesn't even have a flying prototype! Can I get in on this?

I suspect the Chinese, since they have already bought up Continental Aircraft Engines in Mobile, and Cirrus Aircraft in Minnesota. I'm thinking they're buying up everything they can before the Trump administration makes it much harder to buy them.

I wonder if anyone has trademarked the term, Jetson Car!