September 3, 2019 M2 Update

Success! First Pre-preg Carbon-Fiber Rudder!

More robust than Aluminum!

All Sport Copter M2 pre-preg carbon-fiber tail pieces incorporate our new revolutionary V-Spar™ technology for unsurpassed strength, but also lighter than our competitors' common wet layup and foam-filled parts.

Much stronger for flight, and say good-bye to hangar rash! Here's a 213 pound (97 kilo) man standing on an unsupported rudder. Try *that* on any standard aluminum tail part.

Our carbon-fiber tail parts will be more efficient to produce with quality control than the aluminum, and we're now composing our manufacturing manual for the production line.

The yellow rudder is from the old M912 to compare with a new M2 rudder.

Weight is comparable per equal surface area.

Attachment points are nicely concealed top and bottom by external caps. No exposed bolts!

The Sport Copter M2 large Panel (optional)

The first large panel has been made, and placed (but not mounted) for position. It's quite large but doesn't much interfere with visibility. It will accept a 10.6" (270mm) glass screen and two airplane sized 1.65" (42mm) high stackable instruments, such as radio and transponder.

The smaller M912 panel is of course standard for those who needn't all that nav/comm.

The man in the right seat is of average height and build. The cabin glass doors will be blown with sufficient bubble for the occupant comfort.

The first Sport Copter M2 Tail Boom

Other gyros compromise with stainless steel stock, but the Sport Copter M2 will have a massively strong 2.5" round tail boom made of 4130 chrome-moly. (Vs. mild steel, this structural steel required special dies and technique to form to our specs.)

This boom and its carbon-fiber tail is fit for hard flying in gusty conditions, probably much more than most pilots could handle. Our goal for the M2 is to supply you the world's most rugged gyro — up to any difficult task.

Misc. News

We'd tried to time this Update for photos of our flying M2, but had a few development snags to solve and forks-in-the-road to navigate since July. (For example, nobody offered the fuel tank fittings we needed, so we had to design and make our own.) Please keep in mind that the M2 now incorporates new innovative technology never seen before in gyros (or in aviation to our knowledge).

From here on, we expect mere fabrication and assembly this month, and first flight. We'll tweak the Rotax M2 airframe as necessary, and then test the first M2-AM.

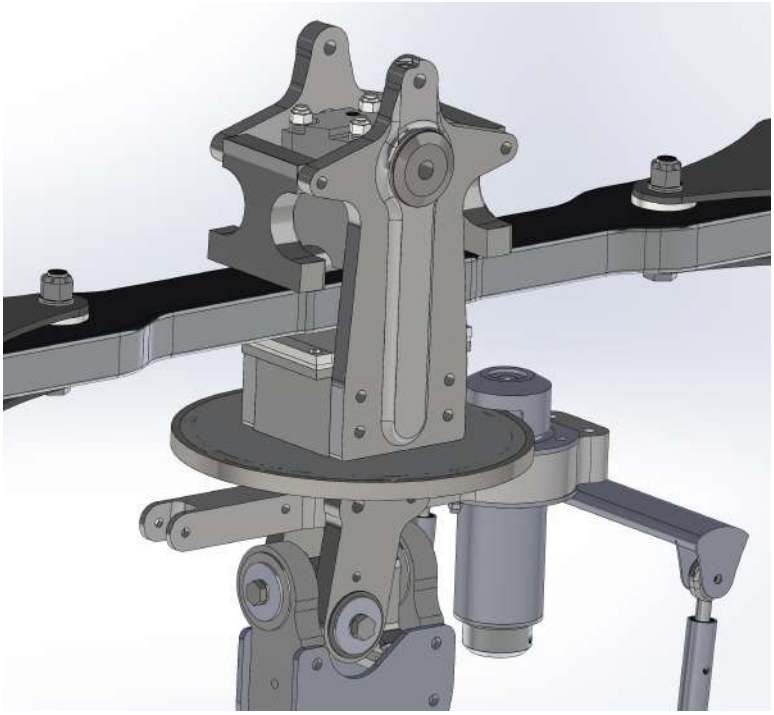
Rotax 915iS

We've serviced its three ADs (exhaust valve, turbo inspection, oil pump), so the engine is finally ready to run. It took months to get the necessary tools from the Rotax distributor, and I had to arrange for a Rotax Heavy Maintenance Technician to oversee our work and sign off on it for the warranty.

But, as you probably know, we'll fly the Rotax M2 first as our overall test gyro as it was much further along before we decided to also offer the AM-15HP.

M2 "sunroof"

We've laid up the mold for this acrylic part, and will soon test our procedure for forming plexiglass. Next will be the chin bubbles, and then the doors (but we'll meanwhile first fly the M2 without doors).



M2 rotorhead

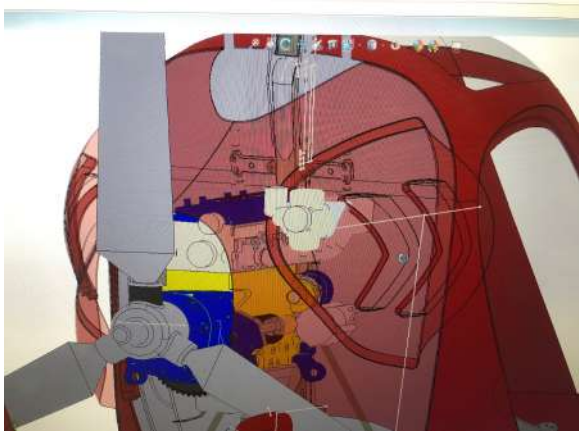
Since the M2 is the world's first rough-field 2-place gyro, we decided to beef up the rotorhead *everywhere*: with ½" teeter bolt, ¾" gimbal bolt, larger torque tube, massive teeter needle bearings. This rotorhead is more robust than what well serves the SC2!

M2 mast and torque tube

We're very excited about our new design here, with the Bendix unit at 6 o'clock and the pitch air trim cylinder at 12 o'clock. This really cleans up the rotorhead, and allows for a nice upper mast fairing. The new gimbal arm has a original sleek shape.

M2-AM engine mount

Evan and Jim have designed a very simple but strong bed mount. It's so strong, one could hang a Lycoming on it. We're already making the first one. We're also now building up the first M2-AM mast for the engine mount.



AM15-HP thrust)

If the M2 empty weight is as much as, say, 700 lbs, then we'll still have at least a 1:1 thrust-to-empty weight ratio (*i.e.,* exceeding that of our Vortex M912).

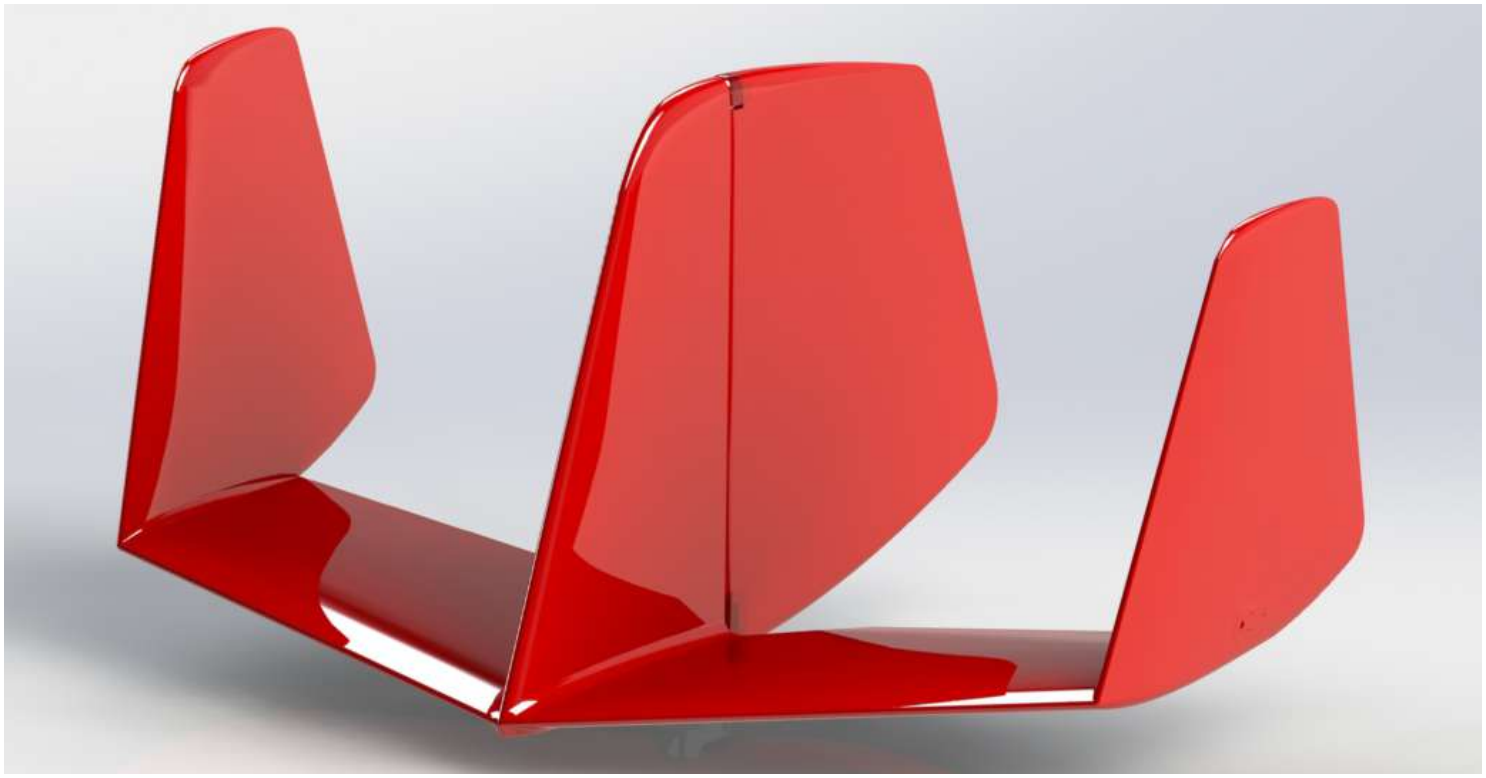
I personally estimate: 713 lbs @ 5800rpm
800 lbs @ 6500rpm

closing thoughts

The M2 as displayed at 2018 Oshkosh would have been a very good machine for your needs with an M912 tail, boom, and 2-bearing rotorhead (as in our RAF upgrade). We could have delivered that, but as we got more into the project we repeatedly saw how to make the M2 even better take paddock and pasture for thousands of hours.

I first began with Sport Copter as a customer. Having been with the company for a year now, and deeply involved in the M2's final development, I've a greater appreciation for what's gone into this gyro. Nothing could have compared with the 2018 M2, and now not even the 2018 M2 will compare with what you're going to get at the same price.

I can assure everyone of being *blown away* with the M2s we'll soon begin to ship you. Rough fields, hard flying — day after day, year after year. Your M2 will take it. The wait has been long, but we'll rejoice that it's been worth it. From all of us at Sport Copter, we thank you for your patience as we deliver you the world's most rugged gyroplane.



Safe flying!

Off. 503.543.7000 Fax 503.543.7041 www.sportcopter.com

"REMEMBER: WE BUILD THE BEST BECAUSE WE WILL ONLY FLY THE BEST!"