



# Eagle Flight

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## From the Editor

As I was browsing through my stash of model kits, I came across an old Comet P-38 kit and a Guillow PT-17, the old-fashioned stick-and-paper rubber-powered versions. These particular kits are really old-school, stripwood packs joined at each end, fuselage formers and wing ribs printed on balsa sheets (no laser cutting here). Talk about living in the dark ages, but, you know what, there was something special about those kits. I was about to insert a brand-new #11 blade in my Xacto handle and get to work carefully cutting along the printed outlines. I could hardly wait to start cutting the notches for the longerons and wing stringers (yeah I agree, I am strange). Sanity did return, although slowly, and I returned the kits to their decades-long storage locations. I have to get back to flying RC before I charge off in a new(?) direction. But, for me, there remains a strong attraction to return to the simpler days of model aviation when all you needed was a kit, a sharp knife, a tube of Ambroid cement, a few rubber bands, straight pins "borrowed" from your Mom's sewing basket, a bottle of Banana Liquid (how many of you remember that? Ah, just recalling the name on that little Testor's bottle brings back the smell) and, most of all, an active imagination. I suspect that those kits will be re-visited in the near future.

As you will read in the Meeting Minutes, I recommended a TV series, "Steve Canyon", for aerial shots of a wide range of 1950's era USAF aircraft. Since the meeting, I have continued to watch the episodes and am sad to report that the aerial shots have declined markedly and the stories have become, well, less than stimulating, much less. Still may be worth a look, though, just in case they got the word to get back to the good stuff.

Your Newsletter Editor

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# Meeting Minutes

As you all know, we were scheduled to meet at the field this month for some flying, camaraderie and, oh yeah, a business meeting. The whims of weather were against us with thunderstorms in the forecast and fog in the air. One of our newest members, Roger Price, generously offered us the use of a conference room at his place of business in Bohemia, which is where we convened. In spite of the weather reports and the last-minute change of venue, 11 members were in place when President Andre Perez called the meeting to order at 7:58pm with the Pledge of Allegiance. Kudos to Roger and the hearty members who made the trek.

**Treasurer's Report:** Joe Tito reported that the Club is solvent. Contingent on unforeseen operating expenses, we can continue operations through the end of the year ... but, just.

**Field Report:** With the farmhouse vacant, there is no electric power at the field. Anyone needing electrons for flight should load up before setting out for the field.

Also, be mindful that the picnic table is slowly settling into the soft ground making final approach to a sitting position a rather lengthy, and sometimes surprising, one. That maneuver has already claimed one victim. A fix is in the works, but in the meantime, you have been warned.

Apparently, the compost business continues to be profitable if activity around the field is any indication. Grinding and re-grinding of the piles behind the pit area are our biggest concern what with noise and dust, neither of which make flying particularly enjoyable. When the prevailing wind is anywhere from WNW to ENE, the environment is acceptable, but when the wind is anywhere from the south and the composters are working things are not too pleasant. It would be workable if the composters had some sort of schedule, but it appears that their presence is pretty much a random thing from dawn to dusk. It does appear that they do not work Sundays so if you are a weekend flyer and have some flexibility you may have a better time if you do Sundays. We are trying to work the situation with our landlord, but it has been difficult making contact with him lately. We will continue trying to resolve our situation and will keep the membership informed of any changes.

As previously reported, we are constantly looking for an alternate flying site in case things do not work out here. There are several prospects, but nothing definitive as yet. Limiting control systems to 2.4 GHz will give us greater flexibility in considering places to fly but finding suitable and available sites remains a daunting task.

Both mowers were on the Injured Reserve list. Mower # 2 had a loose blade that terminally damaged the mounting shaft. Tony Simonetti has that mower at his house, thanks to transportation provided by Bubba Formhals, for repair. Mower # 1 runs but the blades are severely, very severely, worn to the point of being unsafe to use. The extreme wear is the result of the decks not being cleaned after each use. The buildup of grass and dirt acts like a grinding wheel on the tips and upper surfaces of the blades, wearing them down rapidly.

Overflight on the adjacent farm is an ongoing concern. Because of our financial situation, the Club can no longer pay the overflight fee as it has in past years. Consequently, any incidents are the responsibility of the pilot, including financial consequences should there be any. Stu Chale pointed out that the white lines painted on the paved runway project an acceptable flight envelope for any size aircraft. Planes using the grass runway for takeoff and landing should be particularly mindful of the area boundaries during climb-out and approach and constrain all flight maneuvers to the airspace defined by the white lines.

### **Old Business:**

Sunken Meadow Air Show – A permit application for our September airshow has been submitted requesting either Sunday September 9<sup>th</sup> or 16<sup>th</sup>, the 9<sup>th</sup> being our first choice. We now wait for the process to work.

### **New Business:**

The subject of allowable flight hours was brought up. In light of the empty houses around the field and the racket (excuse me, rather loud acoustic emanations) from composting activities, it does not seem warranted to prohibit flying, particularly electrics, before 9:00am. After a brief discussion, Jim Corrado moved and Stu Chale seconded that we issue an executive order that the flight window be expanded to DAWN to DUSK. The motion was approved unanimously and the current restrictions are hereby suspended. Obviously we will have to be alert to any complaints from local residents, but none are anticipated.

As previously reported, the July and August meetings will be held at the field, weather and field conditions permitting. Roger Price has gallantly offered his conference room as a backup should either or both adverse conditions beyond our control occur. Please keep an eye out for notice of a change of location via eMail and/or the club website. We will endeavor to make the decision known no later than midafternoon of the meeting day.

With the recent change in secretarial staff, it is important that they (the “they” is just wishful thinking; real world is just “he”) has the latest contact information. Bottom line, if you are not receiving the newsletter, getting eMails or phone calls, then how the heck are you reading this? Seriously, if any of your compatriots are complaining to you that they are being left out of the loop, please assure them that they are not on anybody’s S(hort) List, at least not ours, and tell them to contact Bruno with any updates.

The Long Island Skyhawks will be hosting “Warbirds Over Long Island” at their Eastport field June 22 - 23 and “Dawn Patrol” August 2-4. Check out their website at [rcflightdeck.com](http://rcflightdeck.com).

**Show & Tell:** While technically not showing anything, Bruno did that if you are interested in warbirds of the 50’s, real ones, and you can get a TV channel called “Decades” (Channel 112 on Optimum), look for a show called “Steve Canyon”. It airs at 0500 hours (that’s 5:00am to you landlubbers). Bruno allowed as how the acting is pretty bad, but the in-flight shots of warbirds of that era are pretty interesting. So far, he’s seen a C-47, C-82, C-124, T-33, B-29, B-36, B-47, B-57, B-66, F-101, and F-102 and probably a few more that slipped his mind (as many things do).

Pres Perez officially closed the meeting at 8:58pm.

Fickle Finger of Flight: It is a wonderment just how proficient out pilots have become. Nary a unintended landing reported yet

After returning the conference room to its initial state, Roger Price treated the members to a guided tour of his machining floor. Much of the equipment, some of it extremely impressive in size and capability, is numerically controlled, capable of turning out some very intricate pieces, much more delicate than could be produced manually by even a very talented machinist. Certainly ,a very interesting way to close out the evening. Thanks, again, Roger.

Respectfully submitted,

Bruno Sidor, Secretary

## Continuing Modeling Education

### How to flight trim an airplane

A plane that's correctly trimmed is a pleasure to fly, but if you don't know how to do it the process can be a bit of a mystery because there are several factors that influence the flight trim of a model plane. These factors also influence each other, so it's important to work them out in the proper order.

#### **STEP ONE: CHOOSE YOUR PROPELLER**

Your first goal is to choose the right propeller. Install the propeller you think you want to use, but remember that this may change. If your plane is slow and draggy, no amount of propeller is going to make it go fast, so don't try. A slow, draggy plane such as a biplane needs a long, low pitch propeller so it will at least have good acceleration. A racing plane will need a short, high pitch propeller for speed, which will come at the expense of acceleration. But this won't be a great loss because the sleekness of the plane will allow it to accelerate faster than a draggy one anyway.

You will also need to make sure your total propeller load is right for the engine. For instance, if both the length and pitch are too much, the engine won't be able to run fast enough and will not produce its full power. Likewise, an inadequate propeller load will have your engine spinning at full power with nothing to show for it.

Here's an example for the inexperienced. Conventional wisdom says that a .40 size engine runs best with a 10x6 propeller, and most of the time you can just throw one on and go. Let's say you've built two planes with high-powered .46 engines. One of them is a biplane and the other is a slick pattern plane. 10x6 is not enough load for a hot .46, so your engine will be racing but your plane won't be doing much. Engines such as these can handle 10x7, 10x8, 11x6, 11x7, 12x6, etc. For the biplane you'll probably want to start with the 12x6. Maybe you'll end up with a 12x5, depending on the exact characteristics of the plane. At any rate, this kind of propeller will get the plane up to speed immediately, and you won't miss the high-speed performance because the drag of this plane won't allow it anyway. For the pattern plane, you'll probably start with a 10x8, which will produce more

speed. Acceleration isn't such a problem with this plane anyway because of the low drag, so the high pitch isn't much of a handicap.

I can't stress this point enough because propeller selection is a topic that a lot of guys don't even think about. Most of the time when performance is unsatisfying a larger engine will be installed, which adds more weight, which makes a plane not fly as well. So always be willing to try different propellers. For instance, a few years back a lot of planes were equipped with the 40 FP engine made by OS. This engine has been out of production for a while, but I have a lot of them, as do a lot of other guys, and you can still get some comparable engines, so this is a good example. Let's say you have one of these lower powered engines, and you fit it with a 10x6. Usually this will be a pretty good match for an average plane such as a 40-size trainer. But I put one on a biplane once and I found that it had better acceleration with a 10x5. Top speed didn't change a bit one way or the other. I found that an 11x4 was the same load as the 10x5, producing similar engine performance, but the plane had more acceleration with the 11x4 and greater speed with the 10x5. I stuck with the 10x5.

After you build your airplane, propeller choice is the greatest factor in your flying satisfaction, so do what it takes to get it right. The reason why you get this out of the way first is because your choice will influence the side thrust angle setting.

### **STEP TWO: VERTICAL THRUST ANGLE**

This is the easiest step in the trimming process. Most planes have a vertical thrust angle specified on the plans, but usually a bit of fine tuning is required. Fly your plane at full speed, trim for level flight, then cut the throttle. If the plane drops severely when you cut the throttle, try adjusting the thrust angle downward. Of course, the plane should be expected to drop off a bit when you cut power, but it shouldn't be severe. On the other hand, if the plane seems to float up a bit when you cut power, you have too much down thrust and should shim the engine upwards a bit.

### **STEP THREE: EVERYTHING ELSE**

The next step is to find the correct side thrust angle. Set the throttle at full speed and trim the controls for level flight. Then cut the engine to idle. If the plane turns left when you cut the power, you have too much right thrust. If it turns right when you cut the power, you need more right thrust. Shim the engine mount accordingly, re-trim the plane in flight, conduct the test again, adjust shims again, test again, etc, until your plane doesn't turn when you cut the throttle.

Your next step is to find the correct balance between rudder and aileron trim. Let's say the plane was always turning left, so you want to trim to the right. Should you trim rudder or ailerons? If you trim the wrong one, you'll notice unusual performance whenever you do anything other than fly straight and level. Get your plane at a comfortable altitude at medium-high speed. Cut the throttle to idle and pull the elevator back to make the nose of the plane go straight up. If your plane goes up and yaws to one side, you need to trim the rudder the other way. Trim your rudder accordingly and return to straight and level flight. You will now probably need to trim the ailerons to compensate for your rudder trim change. Repeat this test until the plane goes straight when you cut the throttle and pull the nose vertical.

The reason for this maneuver is to remove the engine torque, P-factor, and spiral slipstream from the equation as much as possible. Once you get the rudder straightened out and the ailerons trimmed for level flight, it's a good idea to try step one again to make sure you have it right. Fly fast and cut the throttle, and see if your plane turns. If it still acts funny, go through the complete process from the beginning, always proceeding in the correct order, until your plane will fly straight at any throttle setting from idle to maximum, and will fly straight and level as well as straight up.

Now that you have all of that worked out, the only thing left is throttle and elevator trim. The throttle is easy enough. Set it so it idles with the stick down and the trim up, and it dies when you move the trim tab down. The elevator is simply a matter of taste. Maybe you like to just cruise around. Whether you cruise at low speeds or high, you'll probably want to trim for level flight at your preferred speed. If you like to do constant loops, rolls, stalls and spins so your little pilot loses his lunch, you'll probably want to set the elevator for a very slight nose-up attitude so you'll automatically climb a bit when you come out of a maneuver. If you like to fly inverted a lot, this gets a bit more complicated. You'll want to set the center of gravity in just the right place so that with the correct trim the plane will fly level while upright or inverted without an elevator trim change.

Landing is another maneuver that involves elevator trim. I always try to emulate the planes I see at small airports. I set my trim tab so I can adjust a few clicks for cruising, then simply reduce throttle for a slightly nose-down descent, and use the stick to flare. With a no-throttle engine such as a Cox 049, on some planes you trim down a few clicks when the engine is running, then trim up a few clicks when it runs out of fuel.

### **NEXT MEETING**

Friday, July 6th

**At the Field, Conditions Permitting**

Field opens at 9:00am if you want to come *really* early

Business Meeting Starts at 6:00pm

Flying before and after meeting, **BUT** not during