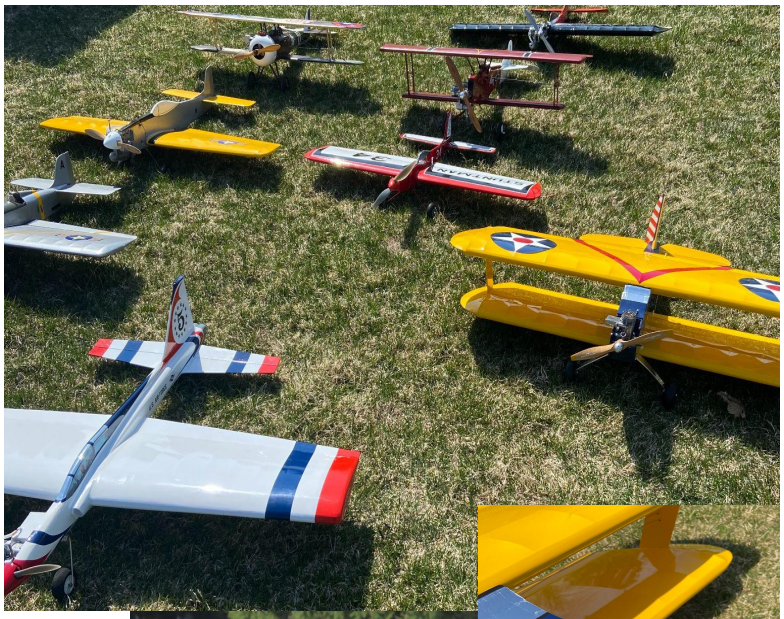
# Circle Flyer

Circle Masters Flying Club

**Volume 2 issue 5**



# Circle Masters Flying Club

## Wisconsin's control line club May 2021

## Announcements

Wednseday Night flights resume
SIG is back!  Investing in the company and getting good wood from south america.

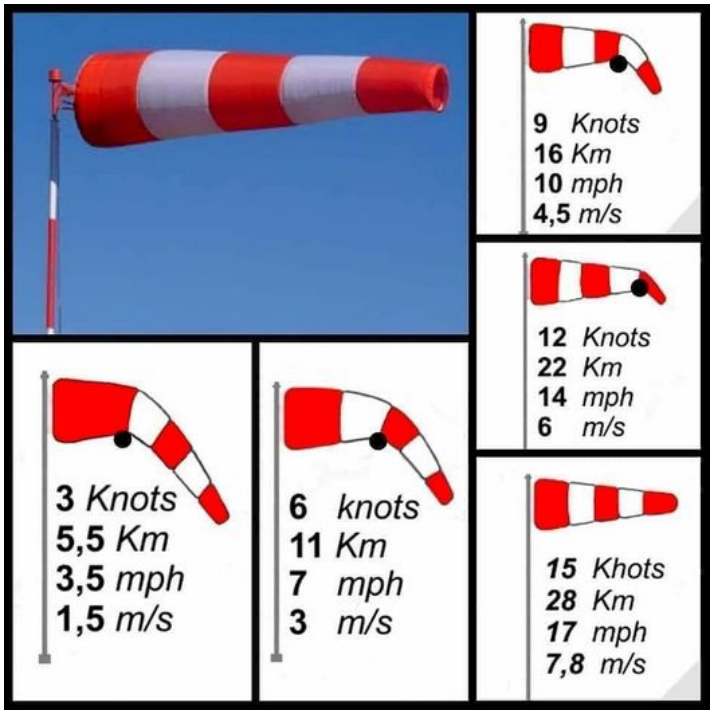
KidVenture is on Get your sign up in

## Inside This Issue

# Editor's Notes

Dave Siegler AMA 720731
circlemastersflyclub@gmail.com
**Title Pic-** At the field!
**Media** A good read about a classic airplane
**Picture:** What windsocks are telling us
**Plan** Big Iron combat national winner. From Carl Berryman
**SIG manufacturing** The CEO of SIG has published a series of weekly updates on how they are reviving the business. I pulled these from Facebook and will run them this month. This was too good not to use.
**How to make Carbon Fiber Pushrods.** New method

# Wind Sock




# Club Information

Web site www.circlemasters.com

Dues $20.00

Flying Location Sussex Village Park, Sussex. Wisconsin

Meeting First Saturday of the month 1pm

Location Summer (May- Oct) at the field

Location Winter Sussex Library

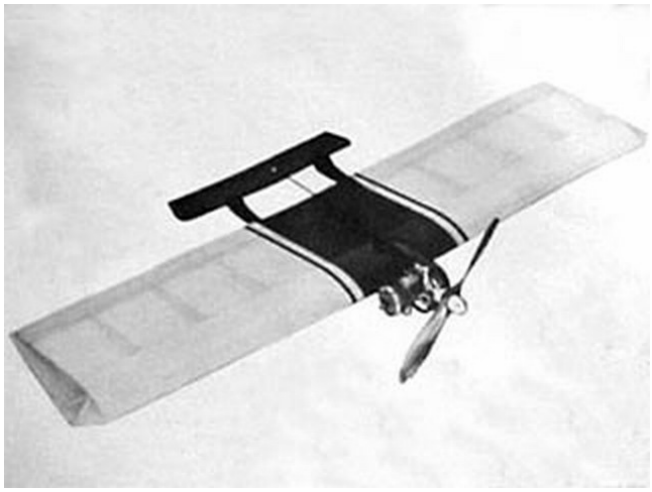
Comments to circlemastersflyclub@gmail.com

# Club Events

| | |
|---|---|
| 5/8/2021 | Club meeting |
| 6/12/2021 | Club meeting |
| 6/20/2021 | Nats Control Line (Navy Carrier, Precision Aerobatics, Racing, Combat, Speed) |
| 7/3/2021 | Club meeting |
| 7/26/2021 | Eaa Airventure |
| 8/8/2021 | Bob Gialdini Memorial contest |
| 8/14/2021 | Club meeting |
| 8/24/2021 | Sussex Engine show |
| 9/4/2021 | Club meeting |

# Big Iron

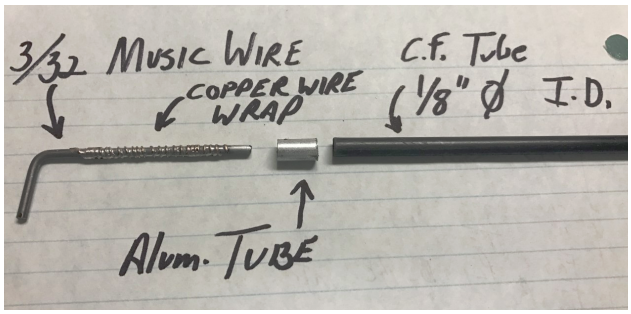
https://outerzone.co.uk/plan_details.asp?ID=3050



# Humor

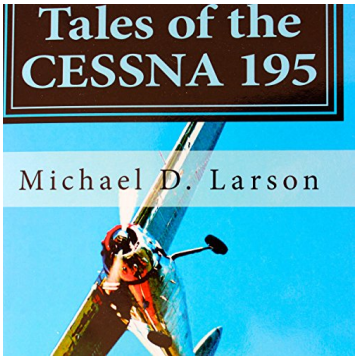

## Carbon Pushrods.

This is a different method for securing the end in the carbon tube. Spiral some small diameter copper wire in the pushrod end, solder it well. Now when you jb weld the pushrod end in it has something to grip on. The AL tube prevents the splitting of the carbon tube.




# Tales of the Cessna 195

Mike Larson's fascination with the Cessna airplane began at age 12 with a test flight at the Cessna Aircraft Company factory. Mike became a professional pilot, starting his 50 year career in aviation with a pilot's license, an old plane and a dream. From shuttling skydivers in a Twin Beech 18 to flying the Douglas DC-8, follow Mike's adventure-filled journey from plane to plane and around the world. When Mike and his wife, Charmian, decided to purchase a plane of their own, they choose the Cessna 195. They were quite unprepared for the onslaught of new experiences and friends this plane would bring them.



**CIRCLE MASTERS FLYING CLUB MEETING MINUTES for April 2021:**

The April meeting of the Circle Masters Flying Club was held April 3, 2021, at our flying field. The starting time was 12:58, and there were 10 members present.

**REPORTS &ANNOUNCEMENTS:**

Last month's minutes were received by all and approved.

Treasurer's Report: The treasurer's report was given and approved.

We will use Howard's speed pole as a removeable support pole for our flying circle.

Don brought his pivoting flying chair along to try out. John Strobel will be the caretaker of it.

Jason bought about 700 gliders for the Town of Lisbon Easter egg hunt last weekend. Because attendance was down this year, only around 200 were given out with our club information. So, we have plenty left for future events.

**OLD BUSINESS:**

Pete has everything setup for our contest on August 8th, 2021. A new flyer is being made, and everyone will receive an e-mail copy.

I volunteered to assist with the contest and will look into what training and tests are needed, in order to be a future CD.

The fun fly is scheduled for June 12th.

**NEW BUSINESS:**

EAA Airventure is on, and we will receive control line volunteer information soon.

The Sussex Steam Show will probably happen, so plan on it. There was a discussion on the airshow for this event. It is held the weekend before Labor Day.

We received our Charter Club and insurance paperwork.

**WEB SITE BUSINESS**:

The newsletter was changed around, and event calendar was updated.

Between 3 and 10 people a month ask to join our Facebook page.

At least 150 people view our newsletter.

**OTHER BUSINESS:**

The meeting ended at 1:17pm.

**SHOW & TELL:**

Joe Hauk talked about his full size Sopwith Pup he built, and how tight it is to sit in. It is located at the East Troy airport. He also brought along his scale Nieuport 28 that is modeled after Eddie Rickenbacker's WW1 machine.

A couple of people wanted to try the flying chair and did.

John Schram

Secretary

# What’s up with SIG

Good morning. My name is Tom Lagerhausen, COO & CFO of Sig Manufacturing.

**I have received many requests for info on how Sig is doing and saw a few comments that people think Sig is out of business. I can honestly say Sig is alive and attempting to get back to its glory days.**

**My business partner and I saw an opportunity in the industry and acquired Sig last spring. We believe Sig can grow within the foam and plastic airplane model industry and maintain the high quality products Hazel promoted when she started the company in 1951.**

**We came into the business knowing there were many issues to overcome (my current list has 27 issues on it), but the two most important issues were aging equipment and a difficult balsa supply chain.**

**When we acquired the company, most of the equipment was 25 to 50 years old, including our 200 watt laser cutting machines (for the old people like me, DOS is the operating system). We acquired a new Tannewitz band saw for our saw room and last week we acquired two SL6200 500 watt laser cutting machines in New York. The lasers should be in operation by the end of the month.**

**For the past year, worldwide balsa supply has been in turmoil. Major wind mill manufacturers have cornered the market to place balsa wood into their windmill blades, primarily in China. Reps have traveled to the farmers with cash in hand to circumvent supply.**

**In addition, the Covid pandemic closed many ports, especially in Ecuador, where the best balsa wood is grown. For years Sig was a bottom feeder, scrounging for whatever balsa brokers could find, which usually meant receiving balsa blocks supposedly that were 4" x 48" on paper, but after delivery we find they are 3.5" x 47" (not usable in our bigger kits).**

**I searched and found a Ecuadorian company willing to import balsa wood directly from their dedicated farms in Ecuador, processed in their own facilities & kilns, and ship directly to our dock. At this moment our first shipment of 26,000 board feet from this company is sitting in customs and should be here in the next few weeks. I also secured a long term contract with the company for three more shipments this year, so I believe the balsa block supply chain going forward is good. We are also buying 3" and 4" balsa sheets of various thickness from Indonesia and New Guinea to bypass our saw room operations and go directly to our lasers.**

**My apologies for the length of this post. Every week or two, I will provide updates of our progress, touching on different aspects of the business.**

**For those of you asking about tours, we can accommodate your visit.  With 66,000 square feet of space in 12 buildings (two city blocks), you will see some clutter we are working on to get rid of. I work every weekend here in Montezuma and can be available to give a tour on Saturday or Sunday, just let me know at tom@sigmfg.com and we can schedule something.**

**More updates to come. My team appreciates your support to help Sig provide the best quality model aircraft kit in the world.**

**Tom Lagerhausen**

# Weekly update from Sig Manufacturing 04/16/21 – Tom Lagerhausen, COO & CFO

**Thank you everyone for the comments and questions last weekend in response to the first Sig Post. I read every comment / question and started a file of requests and ideas for future thought and planning. Some of the comments were requests for the return of some vintage Sig kits, which I will definitely review with my team. Cost and manufacturing capability of the vintage kits will dictate progress.**

**Quick Updates-**

**Wood Shipment – The 26,000 board feet of Ecuadorian balsa was released from customs in Philadelphia on Friday and is on its way to Sig. Our saw room staff is eager to start cutting into it.**

**ARF Shipment – Cargo ship containing ARF shipment of 480 ARFs anchored at Los Angeles Port Thursday evening with estimated unloading next Saturday. We provided another purchase order to our Vietnamese facility for 600 more ARFs to be fabricated in July.**

**Laser Cutting Machines – 500 watt laser cutting machines we acquired a few weeks ago are being disassembled for shipment to Sig. We are currently preparing the area in Sig's main building for required power and ventilation.**

**Weekly Post – This week I will touch on the manufacturing of ARFs (Almost Ready to Fly) kits, a kit designed to allow customers to quickly build a kit and get it flying.**

**According to the AMA, ARFs were first introduced in 1964 by Len Purdy, who's company produced over 150,000 ARFs from 1964 to 1978. Sig joined the ARF parade in the early 2000's, first having our ARFs produced in China, then moving the operation to Seagull Manufacturing, located in Ho Chi Minh City, Vietnam. Seagull is one of the premier ARF fabricators with over 35 world-wide distributors marketing their products. I attached some photos of the Seagull factory building and shipping some of our ARFs.**

**The designs used by Seagull for our ARFs were created by Sig's own design team in our research & development area. Sig designed 44 different ARF kits in total, but we are only marketing 21 currently.**

**People have asked me, "Why don't you produce the ARFs in the USA?". The quick answer is USA labor costs versus labor costs in Vietnam. If you look at some of the attached photos, the manufacturing process to fabricate ARFs is very manual, with workers manufacturing fuselage after fuselage, wing after wing, etc. It would be difficult and expensive to bring that type of production to Iowa.**

**Sig sells both Sig branded ARFs and Seagull branded ARFs in the USA. About 75% of our sales currently are Sig ARFs. Seagull is introducing new models every year and we will evaluate each model for inclusion in our product mix. We are also reviewing additional Sig model kits as potential ARF products, but those ambitions will be at least a year out.**

**Unlike producing Sig kits in our factory here in Montezuma, manufacturing overseas has its moments. Beside relying solely on quality control efforts from the outsource company, lead times from initial purchase order to delivery can be long. Our current lead time for ARFs is about six months. Once a purchase order is submitted, it would take approximately three months to get into Seagull's production schedule, a month of actual manufacturing, and another two months for shipping via cargo ship over the Pacific Ocean to the west coast, and then a train to Sig. Due to the long lead time, for example, our Christmas inventory will need to be ordered mid-June.**

**In the past five years, Sig would receive two ARF shipments annually, about 1,100 planes. We are building stock**

**this year, looking to order three shipments in 2021 with a potential of four shipments next year. It is our hope to have ARFs coming into Sig every two months by 2024.**

**Another item to consider when manufacturing overseas is obtaining ARF repair parts after a crash occurs. I do not know why, but some of our products we work so hard to create end up as ground fodder. Sometimes it is a wing or landing gear hitting the ground too hard, or sometimes a pilot wants to see if he can strike oil by embedding the propeller six inches into the earth.**

**Because the long lead time to get into Seagull's production schedule, it could be six to nine months for a repair part to arrive. To build up our stock of ARF parts so they are available when requested, we are reviewing the more common repair parts that are requested for the 84 different ARFs we sell.**

**I have also been researching a potential answer to the repair part, using 3D printing technology at Sig to produce the part onsite. (Please, no comments from the build-from-scratch modelers saying using 3D technology is sacrilege). Today there exists various wood fiber filaments that can mimic balsa wood in weight and strength quite well using the 3D printing process.**

**When manufacturing overseas, it is a little difficult because we cannot see the daily operations like we can at our own facility here in Montezuma. But keeping a good working relationship with the international partner will resolve that. I plan to visit Seagull later this year to keep that relationship going and see if Sig can assist in their production process to reduce the lead time required to produce our ARFs.**

**Next week Sig Post (4/23/21) – Sig's Wood Warehouse and Saw Room Operations**

## Weekly update from Sig Manufacturing 04/24/21

**– Tom Lagerhausen, COO & CFO**

**Thank you again everyone for all the comments and questions this past week to last week's post on ARF manufacturing.**

**Quick Updates-**

**Wood Shipment – The 26,000 board feet of Ecuadorian balsa wood we need to increase production is on a train to Chicago. After arriving there, it is just a quick morning jaunt on a truck to Sig. I attached some photos of our 6,000 sq ft wood warehouse ready to receive the shipment.**

**ARF Shipment – The container ship (CMA CGM Brazil) containing the ARF shipment of 480 ARFs docked at Los Angeles Port Saturday morning. I attached some screen shots of a website I use to track our international shipments via satellite. It is interesting watching the ship being**

**pulled by tugboats in real time (the system updates every minute).**

**Laser Cutting Machines – The 500-watt laser cutting machines we acquired arrived Friday afternoon. After a few hours of professional riggers working their magic to move the two main components, weighing 3,000 lb. each, through very narrow corridors and doorways, they were placed in their final resting place. We still must move the X/Y tables in the next few weeks when the technicians come to set the machines up and give the team training on how to operate them. (Photos attached)**

**Weekly Post – This week I will touch on the Wood Inventory warehouse on site and our balsa wood supply.**

**The Wood warehouse is 6,000 square feet and contains the raw wood inventory for our kits and for our wholesale / retail wood sales operations. Besides our balsa inventory, we also have inventories of basswood, maple, plywood, and foam. There is a photo of our basswood (ends painted in Red) attached.**

**The balsa is delivered and stored in large bales or bundles of 2" to 4" blocks. We sort them by length (24" to over 48") and by weight. I attached a photo of the various density classifications by weight and color the industry uses for balsa. Contest wood (Yellow – under 7 lb./ft3) is the most expensive and rare to find. It comes from younger trees, which the farmers would prefer not to cut. They prefer the tree to grow a little longer, so their yields are greater.**

**Our balsa wood supplies tend to be all under 16 lb./ft3. I attached a photo of some contest (yellow) and Mid-weight (Red) bales in our current inventory. You can see the weight of each block has been stamped on the end and the bale has a color line painted on it, indicating the classification.**

**We sort the wood according to our needs. Contest wood is primarily cut into sheets and sold individually to hobby crafters. The mid weight wood (Red and Green) is cut into sheets for our laser cutting and silk screening. And the heavier wood is cut into sheets for our die cutting operations plus into sticks.**

**Currently the sorting of wood is done by our saw room manager in the saw room. Our future plan for the warehouse is to build an 800 sq ft wood sorting room inside, weatherize it for heat / AC and conduct the sorting there as well as performing prep work and cut plywood in advance. This will create extra space in the saw room for other things.**

**Our previous balsa shipments were obtained by wood brokers who reach out looking for wood that has been already processed and ready to be shipped. This process creates issues because the buyer (Sig) is trusting the broker and the processor, who you do not know anything about, to deliver what you asked for. Sig has been burned many times with deliveries poor quality blocks, smaller than announced dimensions, and once Sig received a supply of reported 4" blocks that were actually 1" and 2" blocks glued together to make 4" blocks.**

**We have changed the supply process, and we now work directly with a company in Ecuador that owns the farms and five processing centers. They produce and ship around 50 containers of balsa monthly. I order the exact dimensions I need with zero tolerance on width and lengths. The order is processed and delivered within a month, compared to the two to three months timeframe using brokers searching for wood. I attached some photos of their operations and a video of balsa bales (separate post) before shipping. They are particularly good at communicating with me on their progress of the order.**

**For those who do not know, balsa (Spanish for "Raft" – in Ecuador they call it Boya or "Buoy") grows naturally in the humid rain forests of Central and South America, from Mexico to Bolivia. There are also some forests in New Guinea and Indonesia. The best balsa for model airplane building comes from Ecuador. The country has a warm**

**climate with plenty of rainfall and good drainage, especially in the high ground between tropical rivers.**

**Balsa cannot be grown in rows like most pine and fruit trees can. The tree is closer to that of a weed. The seeds are not nut-like, but more like a dandelion. When the seeds are released, the wind takes them, and they land widely scattered in the jungle.**

**Like weeds, balsa trees grow extremely fast. Within six months of germination, they could be 10 to 12 feet high and about 1 ½ inches in diameter. In 6 to 10 years the tree is usually ready for harvesting, being 60 to 90 feet high and a diameter of 12 to 45 inches.**

**The various grains you see on produced balsa sheets are created depending on the cut made by the harvester on the log. A-Grain, which has a long grain and smooth creamy appearance, is known as a Tangent cut. The cut is made with the grain and the wood is very flexible but lacks stiffness.**

**C-Grain, which has shorter grains and mottled in appearance, is known as a Quarter cut. The cut is perpendicular to the grain causing the wood to be brittle and prone to splitting along the length of the sheet.**

**All other cuts are considered B-grain and are called Random or Mixed cuts. The appearance and attributes vary depending on the cut. I attached a photo of the various cuts.**