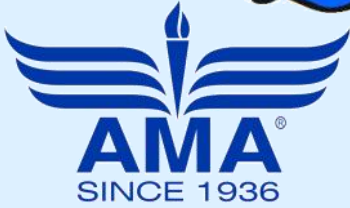


August

Skywriter

2015



SKYMASTERS RADIO CONTROL CLUB
OF MICHIGAN

AMA Chartered Club #970
16 Year Gold Leader Club

www.skymasters.org



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From the President...



Hi Skymasters,

Coming off a great Electric Fly In and Helicopter Air Show this past month, and by the time you read this edition of the Skywriter, our Warbirds and Scale event will be in the books. Thank

you, Pete Foss, Event Director for the Electric Event and Paul Goelz, ED for the Heli Event. We couldn't have asked for a better day for the annual helicopter event. We had great attendance and I enjoyed meeting and getting to know the guys from area clubs and we appre-

ciate their participation. A special shout out to the Whirlybirds Club! Special thanks again, to Skymaster, Ted Labbe for arranging to have a full scale Border Protection A-Star Heli land on our field. Although Ted spoiled us with the Blackhawk last year, it is nice to have this full-scale land for us and our many visitors and guests to enjoy. [Check out the fly over of the field on the club Facebook page, it was exciting.](#) I also heard that it is very possible we may have the Blackhawk back for next year. Yeah! Go Ted!

It has been a busy summer for our club and we are just in the midst of it. I cannot believe that our weekly

(Continued on page 2)

(Continued from page 1)

"student nights & potlucks" are weeks away from being officially over... with Labor Day a month away, although we will always keep up our student training program.

Thanks to our nearly 30 Skymasters Club Flight Instructors. We have really bolstered our Flight Instructors crew, getting them all nice red instructor t-shirts and we have also acquired several more club trainer aircraft so we can always have them available. I want to especially thank Dave and Jim Vigne who really work hard as Flight Instructors. From the boy scouts/cub scouts events and with all our students they really do a great job instructing and maintaining the club trainer in their care. I/we really appreciate them, and all our club instructors who continue to work with our many various students and turn them into competent safe pilots. Thanks also, Mike Dobies, Paul Zabawa and Russ Oliver!

Congratulations to our new pilots! Many of you have worked hard for some time to get signed off and get that pilot status. I think our newest pilot as of now, is Ben Thompson. Ben is so excited to gain his pilot's license before his driver's license. Oh yeah, it is great to see Andy Sutter back at the field... I've heard MANY express these sentiments!

I've gotten comments from many of our club members and received a lot of positive feedback about the field improvements and in general how the club is going. I appreciate that feedback. One of our past presidents said that it is very easy for someone to sit back and see all the work that is going on and criticize, thankfully, we don't have that. We've done a lot this year with our planned field improvements like adding the rainwater collection barrel which seems to be a great hit as more of you use it. We added two new slabs of cement at the ends of our pavilion which has ex-



panded our picnic area and the space is used well and I think we will now start to use that space more. I am happy to announce that we have a working solar panel charging system in place. We started out slow to see how it goes, but, with the one panel and our 12 volt storage cells I am told that the panel itself has enough output to charge two 2200ma 3 cell lipos. We are starting with two storage batteries that should meet all our needs. We will be announcing the official use policy in due time but for now it will power our amplifier/pa system and keep our club trainer batteries charged and the occasional member who needs to top off or charge a few (smaller-3 cell) lipos for now. We can grow into more and bigger capacity in time. I appreciate your cooperation and understanding as we get this all sorted out. Special thanks to John Billinger, your Vice President, whom by our club bylaws is responsible for the field maintenance and improvements. He continues to turn our club projects into reality. Oh yes, our front entrance looks great too!

Thanks to Dan Stolz for keeping the grass cut and weeds down.

As I settle into my 8th month as club President I've had the opportunity to get to know many of our neighboring clubs and club officers and the positive relationships continue. There is a great camaraderie and very positive relationship among the area clubs. I appreciate all the hard work of the many Skymas-

ters members and club officers that have come before me to get our club where it is now and realize the hard work and dedication that went into that. I notice that in Ken's president's message last August he was announcing his intent not to run for president for this year. ***I'm not going to make that announcement.*** I truly have been blessed by so many great members who make me look good. We have a great team for the EOC that works well

(Continued on page 3)

Front Cover:

Another incredible creation from the workshop of Skymaster Steve Kretschmer! This time it is a [Blohm and Voss BV-141](#). Also see his article this month about composite wing construction methods.

August 3rd.... Sadly, it has come to our attention that Steve had a garage fire the other day and six of his planes were destroyed. As of this writing, it is not clear which planes he lost, but it is likely that one or more of his fabulous scale creations were included in the planes that were destroyed. We all feel for you, Steve!

Steve Kretschmer photo

(Continued from page 2)

together to guide our club in the right direction. Maybe that can continue?

This month, August, we have the Corn Roast and Top Gun Contest for our club, so mark your calendar and bring the family out for a great Sunday on August 23. I am challenging all Skymasters Pilots right now to consider flying in the top gun contest. You do not have to be the best pilot, but just fly for a few minutes without crashing, and you may even win and become TOP GUN... you don't have to put your airplane at risk, just have the courage to step up and fly and endure the peanut gallery. I'll tell you ahead of time... I appreciate your participation in Top Gun!

AMA celebrates National Model Aviation Day this month and we celebrate with them too! Continue to invite your friends, family and coworkers to this awesome hobby. Remember how much being a part of this club means to you and what we have to offer. We do a great job of reaching out and meeting and greeting the public and visitors to our field. Keep up the good work.

Next month is HUGE for our club... the 25th Annual Midwest Regional Float Fly. This club has put on a world class regional event for 25 years and I know this year will be a great 25th celebration. I have already laid down the challenge to get 20 Skymasters who have never float flown to do so. Mark your calendar for September

12-13 at Island Lake State Park near Brighton. Consider spending two days at the event or just attend one day. Bottom line, get a float plane ready, register as a pilot and that opens you up to win some wonderful event prizes. I've also challenged us to come up with 10 more float fly pilots/registrants from other clubs to participate this year. Not that a huge amount of pilots makes the event it sure is nice to have a good showing. Float flying has changed a lot over the years, it is more readily available with things like the Tidewater and Polaris float planes, and the ability to fly off your local lakes and ponds. The Midwest Regional Float Fly Event is a great opportunity to see some incredible airplanes and fly off a beautiful lake. *I ask all Skymasters to help out for this event by contacting Event Director Greg Cardillo and offering to help in some way and seriously, consider putting floats on something or getting a Tidewater and fly off water for this event.* Mark Smith is a great source for floats. Check out www.seaplanesupply.com!

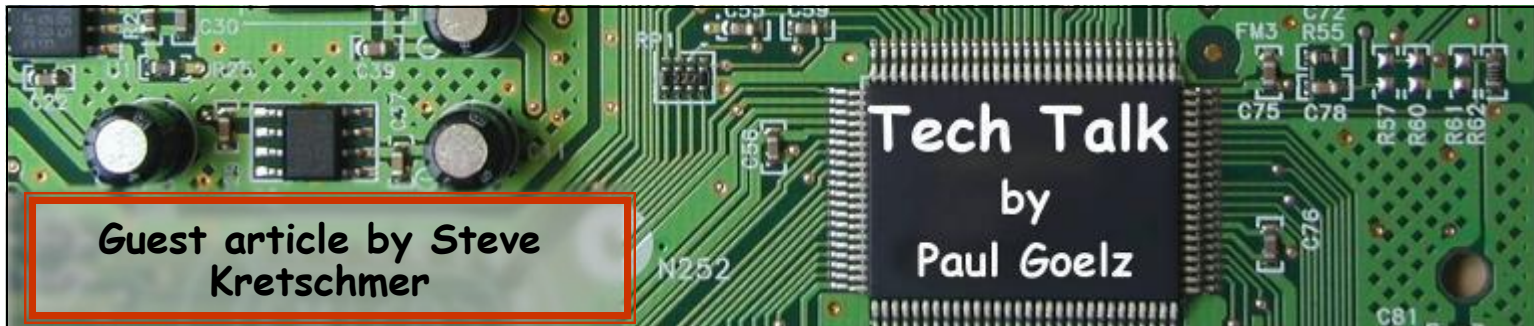
It's another beautiful day at Skymasters!

Bob Chapdelaine

President, Skymasters RC

Greg Cardillo at the Skymasters encampment at MidAm





Guest article by Steve Kretschmer

Tech Talk
by
Paul Goelz

Folks, since I am very busy this month, I haven't had the time to devote to a proper Tech Talk article. So I asked Steve Kretschmer to fill in for me and write an article about his composite construction techniques. *Paul*

Composite Sandwich Construction Methods

By Steve Kretschmer

Some of you may have seen my "Warlock 2" model at the field or at a show and tell this past winter. If not it was shown on the cover of the July newsletter. There has been some interest in how it was constructed so Paul Goelz asked if I would do a series of articles on the techniques that I used. In this first article I'll describe the process I used to produce the wing panels. Let me start by saying that I am not claiming to have invented anything. I have merely taken ideas from many places and adapted them to accomplish my own goals. There are many variations on the process. What is described here is how I did it.

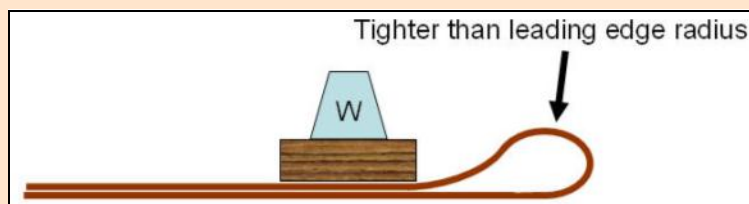
In this case my goal was to develop techniques to produce an all composite sandwich (fiberglass - balsa - fiberglass) shell structure to use on my next scale project. The shells would be true monoques meaning there would be no internal structure for strength. The shells would carry all of the loads. My desire was to be able to do the structure without female molds and yet be able to produce at least 2 or 3 full sets of parts. My plan was to develop the techniques on small surrogate parts and then prove it out on a 52" span electric sport model before jumping into the scale project.

I first considered using the "lost foam" method where you cover a foam form with fiberglass and then use solvents to dissolve the foam leaving a fiberglass shell. I tried a small part and while it worked ok, it was messy and limited to one set of

parts since you destroy the form in the process.

My next step was to create a reusable form that would be durable enough to mold several sets of parts. My first experiments were on a wing section sized to a 10" chord. I start by hot-wire cutting a wing core out of 2# density pink (or blue) polystyrene foam. This is the 2" thick foam insulation board that you can get at Home Depot or Lowes. I next covered the core with low temperature film. I found Top Flite Econokote to work well for this purpose. I was also successful using shelf paper but felt that the shrink film would be better in the long run especially on fuselages. The film acts as a barrier between the fiberglass and the form.

The next step in the process was to get everything ready for the fiberglass lay-ups. The balsa core was prepared by edge gluing contest grade (about 6 lb/cu ft) 1/16" balsa as you would if you were going to sheet a wing. I made the sheet large enough to wrap completely around the wing panel from trailing edge to trailing edge in one piece. I then wet the balsa along the area where the leading edge would be and folded the balsa sheet over to create the leading edge radius. I use a piece of wood and weights to apply even pressure along a straight line. It is important to get a pretty tight radius here.



I let the balsa dry over night. When you remove the board and weights after drying, the core retains the radius very well. The contest balsa really helps here.

Next I prepare the form with mold release. I use

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poly vinyl alcohol but a good quality paste wax release would work too but I prefer the PVA as it easily washes off with plain water

Next I prepare my vacuum bag. I use ordinary 4 mil polyethylene drop cloth material that I get from the home improvement store. I use caulking material to seal the bag when I'm ready to apply vacuum. It's cheap and readily available and works well for me.

I next cut my fiberglass reinforcing material. In this case I used 3oz/sq yd material. I found that lighter weight glass resulted in a wing that was a little too "squishy" and required a couple of shear webs to stiffen it and heavier cloth added weight that was not necessary for this model. I now put 2 strips of release film on the top and bottom surface at the trailing edge; one on top and one on the

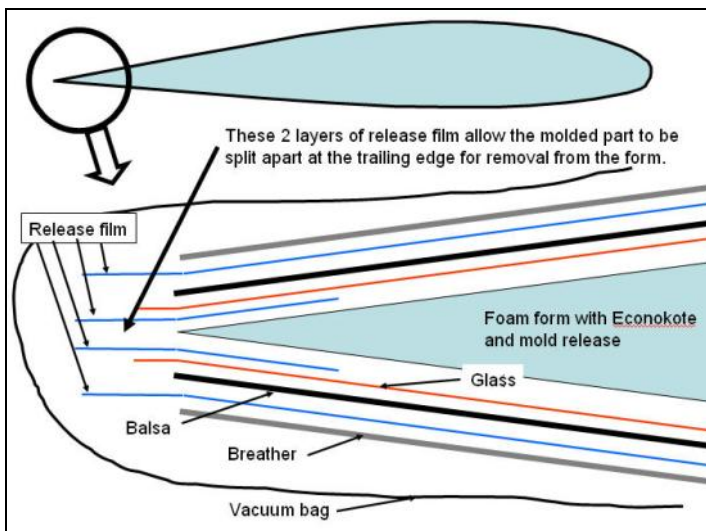


Figure 2

bottom. This is very important as it will allow me to easily split the finished shell at the trailing edge and remove it from the form. You can use the polyethylene film or parchment paper (from the grocery store).

Next, mix your epoxy and apply one layer of the 3oz glass completely around the wing form. I weigh the glass and mix enough epoxy for a 1:1 glass/resin ratio plus a tiny bit more to account for what stays in the cup & brush. I drizzle the epoxy on the surface and use a 4" very thin bladed putty knife to spread and scrape the epoxy. Playing cards also work well for this.

Next I slip the sheet balsa core over the wet glass/epoxy making absolutely sure that there is no gap at the leading edge. If there is even a small gap there it will pinch when you apply the vacuum. I now wrap a piece of polyethylene around the lay-up as a release ply and then I place some thick paper towels on the top and bottom surfaces to act as a breather. A breather is necessary to assure uniform distribution of the vacuum over the surface of the wing. Slip the whole assembly in the vacuum bag and seal it up. See figure 2 to see how all of this goes together. Place the wing and vacuum bag package back in the core shucks (the foam pieces left over after hot wire cutting the wing core) and add weights. This assures that you do not introduce any unintended twist to the panel.

Next, turn on the vacuum. I used 15" of vacuum. Let the lay-up cure overnight.

Next, remove the cured assembly from the bag and inspect the results. I had a little epoxy leak under the release film so I use a sharp scraper blade to smooth out the leaks. If you try to use sandpaper, the balsa sands faster than the hard epoxy and you will get a wave in the surface.

The final step is to apply the outer layer of glass. Once again I used 3oz glass. In this case I mixed enough epoxy for a 1:1.1 glass/resin ratio. I found that when applying the glass to the balsa surface, the balsa soaks up a bit of resin so that's why I add 10% more resin. As before I use 1 piece of glass to go completely around the wing profile. For this outer layer of glass I do not use a vacuum bag process. Some composite builders will vacuum bag the outer surface using a sheet of heavy mylar to create an extremely smooth finish when you peel off the mylar. I experimented with this and had problems at the leading edge and it seemed to require more resin (heavy) to fill the glass weave. I simply use the same process as you would use for glassing a conventional balsa wing; drizzle on the resin and spread with the putty knife and scrape off as much as you can without starving the glass (later you will fill the glass weave with a light weight filler). I now hang the section in my home made curing oven (more on this later) and cure @ 150 deg F for 6 hrs.

(Continued on page 6)

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At this point I separate the top and bottom surfaces at the trailing edge and pop the finished part off of the form. You now have a hollow sandwich shell wing section. Figure 3 shows the experimental setup and a couple of the experimental sections.

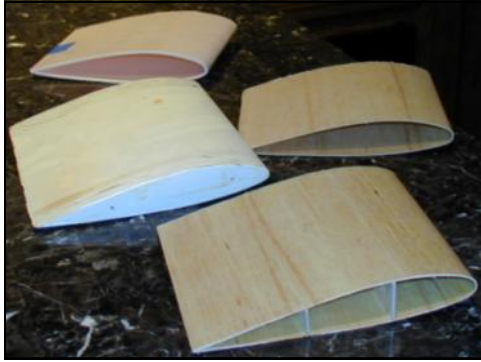


Figure 3

In the end I was happy with the way things worked and believe that it is scaleable to the sizes that I am interested in. Figure 4 shows the foam form that I used on the final model. The red color is the Econokote. It is a



Figure 4

constant chord wing so the form can be used for both left and right panels. After 2 uses the form still looks good and can probably be used for at least 2 more complete sets of parts. In the next installment will describe how I adapted the method for the fuselage construction.

So lets talk about equipment and materials. I buy my fiberglassing supplies on-line. One source is USComposites <http://www.uscomposites.com/>. They sell pretty much everything you will need. There are many others.

I buy my epoxy from Aircraft Spruce and Specialties <http://www.aircraftspruce.com/catalog/cmpages/aeropoxy.php>. I use PR2032 resin and PH3660 hardener. I used this on a full scale project and like it. You can find cheaper epoxy but this stuff gives a nice 1 hr pot life and is an exact 3:1 by weight mix ratio. I like to measure by

weight as I find it more accurate and less messy than using pumps or graduated cups. Get a cheap digital kitchen scale. Do not use hobby shop epoxy. Most cure too fast and they are not optimized for laminating.

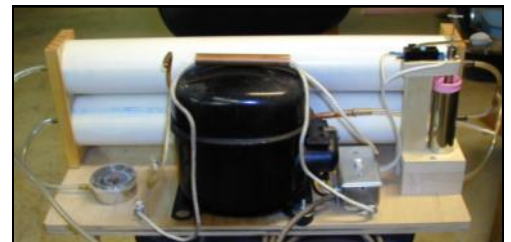
Epoxy will cure ok at room temperature but it will achieve maximum strength with an elevated temperature cure. I make a simple "oven" out of cardboard boxes. I use my Monokote hot air gun as a heat source and a digital thermometer to roughly control the. I use a lamp dimmer mounted in an outlet box to control the temperature of the Monokote gun.



You can purchase vacuum pumps to use in vacuum bagging composites. They can be expensive. Some have used a wet/dry vacuum cleaner if lower vacuum is ok. I once used a vacuum cleaner to vacuum bag a pair of 18ft wing panels on the full scale that I mentioned earlier.



You can also build your own vacuum pump using a compressor from an old refrigerator or window air conditioner or dehumidifier. I built mine using the parts from a dehumidifier and stuff from my 20 year box.



I even built my own vacuum switch to control the vacuum level. See above.

Safety: Epoxy is a toxic material. Some more so than others. ALWAYS work in a well ventilated area. ALWAYS wear latex or polyurethane gloves. ALWAYS wear eye protection.

Safety: Epoxy is a toxic material. Some more so than others. ALWAYS work in a well ventilated area. ALWAYS wear latex or polyurethane gloves. ALWAYS wear eye protection.

Steve Kretschmer

Rec 101
July 11th



Ben Buckle "Majestic Major"



Here is a photo I took at the field of my Ben Buckle Majestic Major 3 channel plane. I build this from a kit during the early 1980's and had not flown it for some time. It flies quite slow with the HP(Hirttenberger) VT 49 4-stroke engine. The engine is an Austrian built overhead rotary valve four cycle engine with double ball bearing crankshaft. Wing-span is 80 inches. Prop used is 13 x 8 and I use Futaba RC equipment.

Alain Adam

At the Field

*Click any photo to view
the entire photo album
on the Skymasters web
site*



2015 CLUB EVENTS

SKYMASTERS RC CLUB – LAKE ORION, MI

February 2015

Saturday February 21 – Swap Meet - CERC Building; Lake Orion 9:00 a.m.

April 2015

Saturday April 18 – Involvement Day – Bald Mountain, Main Park

May 2015

Saturday May 9 – Cub Scout Event – Camp Rotary, Ray Township

Wednesday May 13 – Field Opening Party & Potluck– Scripps Road Flying Field; Lake Orion

Student Flight Training Begins

Saturday May 16 – Field Work Day – Scripps Road Flying Field; Lake Orion

Sunday May 17 – Spring Float Fly [Chet Brady] – Bald Mountain Lake; Lake Orion

June 2015

Wednesday June 17 – Fish Fry Dinner & Member Appreciation – Scripps Road Flying Field; Lake Orion

Sunday June 28 – Electric Fly In – Scripps Road Flying Field; Lake Orion

July 2015

Saturday July 11 – Recreation 101 - Scripps Road Flying Field; Lake Orion

Sunday July 26 – Helicopter Fly In - Scripps Road Flying Field; Lake Orion

August 2015

Sunday August 2 – Warbirds and Scale Fly In - Scripps Road Flying Field; Lake Orion

Sunday August 23 – Corn Roast and Top Gun Flying - Scripps Road Flying Field; Lake Orion

September 2015

Sat & Sunday September 12-13 – 25th Midwest Regional Float Fly – Island Lake State Park; Brighton

Saturday September 19 – Skymasters Fun Fly - Scripps Road Flying Field; Lake Orion

October 2015

*Saturday October 17 – Field Closing Party - Scripps Road Flying Field; Lake Orion

November 2015

Tuesday November 3 – Indoor Flying Season Begins – Ultimate Soccer Arenas; Auburn Hills

December 2015

Thursday December 10 – Christmas Party – Orion Center; Lake Orion

Thursday December 31 – Krazy Snow Fly - Scripps Road Flying Field; Lake Orion

ON THE WING

NEW FLYING HOURS!

QUIET ELECTRICS only from 8AM to 10AM and 8PM to 10PM

The noise limit during these hours is 80 dBa at 10 feet. If in doubt, don't fly.

Regular flying is permitted between 10 AM to 8 PM

The noise limit during these hours remains 94 dBa at 10 feet.

These noise limits are enforced



Skymasters Pot Luck (Wednesday evenings at 6PM at the field)

For those participating we ask that you:

- Bring something for the grill - enough to at least feed you and your guests
- Bring a dish to pass (see notes below)
- Bring your own (non-alcoholic) beverage

We eat at 6pm - rain or shine! The potluck is sustained by those participating, with no expense to the club.

Something for the grill:

The obvious choices are burgers, sausages/brats and hotdogs - but other alternatives are welcome. If you bring it - we will cook it! Already this year we have cooked pork tenderloin and chops, salmon, venison burgers and more.



Next Skymasters Meeting

To Be Announced

August 2015

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2 Warbirds and Scale 10AM Scripps Field	3	4	5 Student Night & Pot Luck Scripps Field Addison Oaks Float Fly 9AM Addison Oaks	6	7	8
9	10	11	12 Student Night & Pot Luck Scripps Field Addison Oaks Float Fly 9AM Addison Oaks	13	14	15
16	17	18	19 Student Night & Pot Luck Scripps Field Addison Oaks Float Fly 9AM Addison Oaks	20	21	22 CARDS Electric Event 9AM RCCD Model Airplane Show 10AM
23 Corn Roast & Top Gun 10AM Scripps Field	24	25	26 Student Night & Pot Luck Scripps Field Addison Oaks Float Fly 9AM Addison Oaks	27	28	29 ALPS Float Fly 9AM Gaylord
30 ALPS Float Fly 9AM Gaylord	31					

Skymasters Information...

[The Skymasters field is located in Lake Orion, within the Bald Mountain Recreational Area](#) on Scripps Road, between M24 and Joslyn (see map). A recreation passport or sticker is required and can be obtained from the Park Headquarters located on Greenshield Road or you can check the box on your tab renewal for a "Recreational Passport".

Flying hours:

QUIET ELECTRICS ONLY from 8AM to 10AM and 8PM to 10PM.

The noise limit is 80dBa at ten feet.

Regular flying is permitted between 10 AM to 8 PM. **The noise limit is 94 dBa at 10 feet.** These noise

limits are enforced.

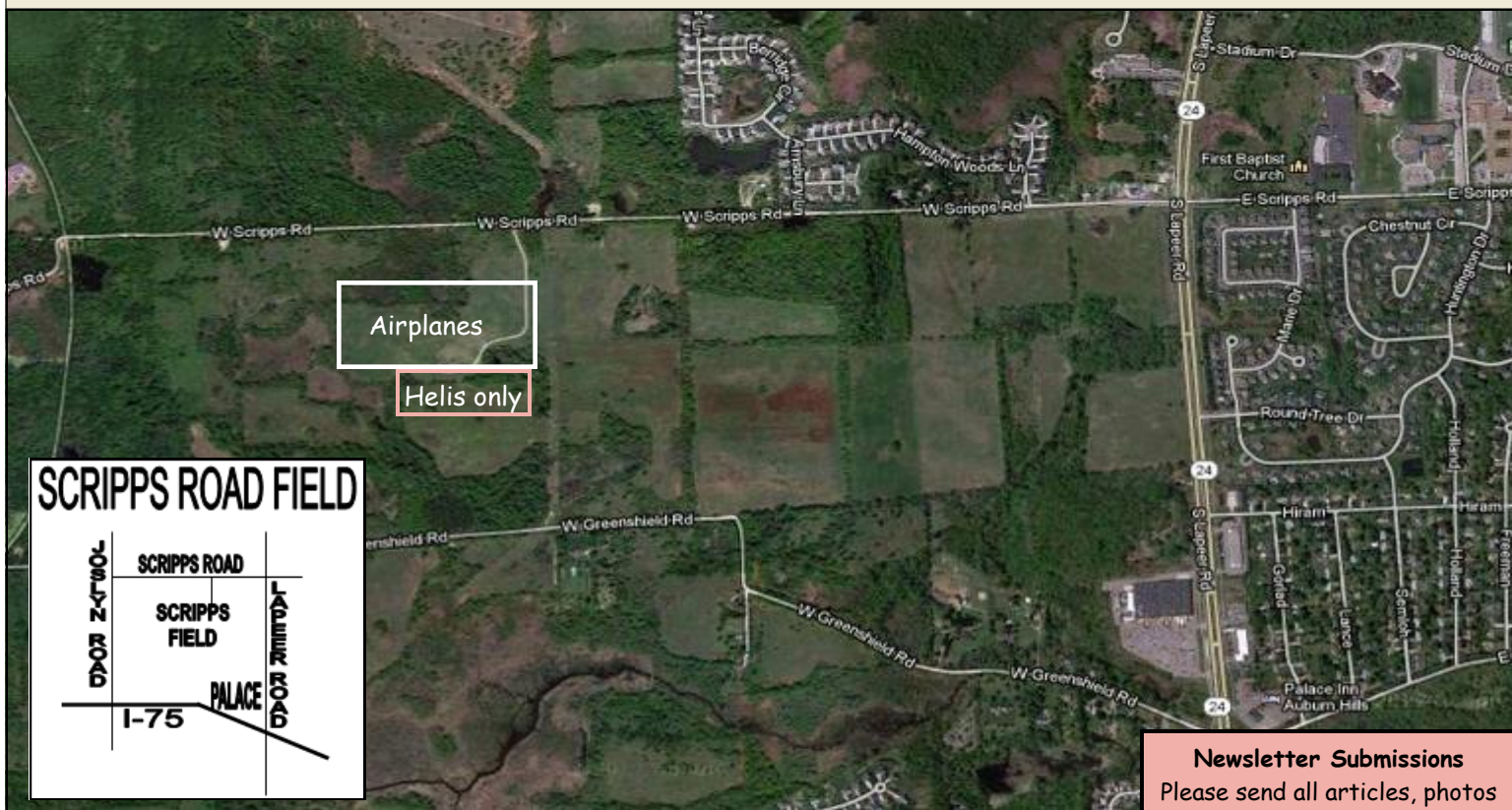
Wednesday evening (through August) is Family Night with flying and a pot luck buffet. Bring something for the grill & a dish to pass.

Wednesday 5PM to 8PM is also Student Night (through August) Meet the instructors and arrange for more instruction time together on other days. Our Chief Flight Instructor is Ken Gutelius, 248-892-2943, cfi@skymasters.org

From June through August, club meetings are held at the field, on the second and fourth Wednesday of the month at 8 PM. A great chance to fly and socialize. **Winter meetings**

(September through May) are held at the Orion Center, 1335 Joslyn, in Lake Orion. Check the calendar here or on the [web site](#) for specifics. Bring a model for Show and Tell, enjoy coffee and donuts and listen to the speaker of the evening.

The Skywriter newsletter is available online at the Skymasters web site and is free to all. It may also be printed from the web site if desired. All contributions are welcome. Please send photos and articles to newsletter@skymasters.org If you know of anyone who may be interested in R/C Aviation, please give them a link to this newsletter or give them a copy of an AMA magazine. It may spark their interest!



2015 Club Officers & Appointees...

President:	Bob Chapdelaine	Lake Orion	president@skymasters.org
Vice Pres.:	John Billinger	Troy	vicepresident@skymasters.org
Secretary:	Pete Foss	Oxford	secretary@skymasters.org
Treasurer:	Phil Saunders	Rochester Hills	treasurer@skymasters.org
Editor:	Paul Goelz	Rochester Hills	newsletter@skymasters.org
Membership:	Jim Satawa	Lake Orion	membership@skymasters.org
CFI	Ken Gutelius	Lake Orion	cfi@skymasters.org
EOC at large	Mike Bard	Oxford	at.large2@skymasters.org
EOC at large	Gary Wells	Oxford	at.large3@skymasters.org
EOC at large	Paul Goelz	Rochester Hills	at.large1@skymasters.org

Newsletter Submissions

Please send all articles, photos and announcements to the Skywriter editor at:

newsletter@skymasters.org
Deadline is the 20th of each month.

The Skywriter newsletter is published monthly by the Skymasters Radio Control Club of Michigan

www.skymasters.org