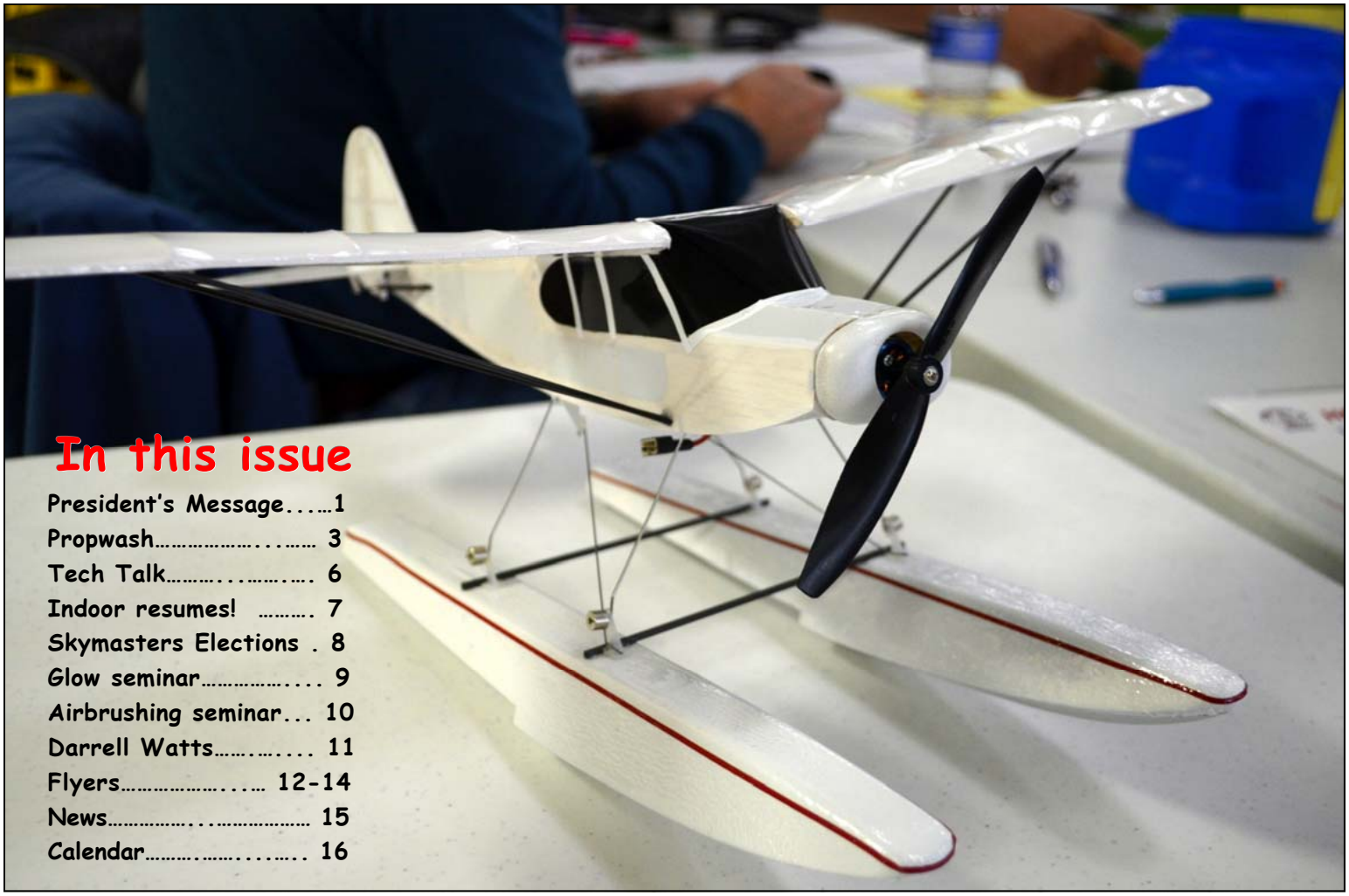
December

Skywriter

2014

SKYMASTERS RADIO CONTROL CLUB
OF MICHIGAN
AMA Chartered Club #970
16 Year Gold Leader Club
www.skymasters.org



In this issue

From the President...

Well, it is finally time for me to write my last president's message. I'm sure you will miss my ramblings and musings but I'll bet that your new president will bring some fresh thoughts to fill the emptiness that you must now be feeling.

I think many if not most of you know by now that Bob Chapdelaine was elected at the last club meeting as the 2015 president. Bob has already jumped in with amazing energy to get a running start on his first term. I have the utmost confidence that he will do as good and probably better job than I have done. Bob has the kind of passion for the hobby and club that are bound to make his presidency successful.

John Billinger will replace Dave Lange as vice president, Chris Strong will continue as treasurer and Pete Foss will stay on as secretary. Gary Wells and Paul Goelz will retain their at-large board positions, and Phil Saunders will replace Joe Rubinstein as the third at-large member. If you happen to talk to any of these gentlemen, incoming or outgoing board members, please give them your thanks. They all have worked and will work hard to make Skymasters what it is. They all have my genuine admiration and appreciation for all they've done.

(Continued on page 2)

(Continued from page 1)

I would like to use the remaining space to thank some other people, not all of whom have official titles. I always hesitate to do this because there are many people who do a lot for the club and to leave anyone out may seem like an oversight or an insult. Please don't take it this way. I appreciate everyone who contributes to the club in ways big and small.

First is Fred Engelman. Fred approached me immediately after the election in 2012 to offer his help and support. I didn't really know him well at the time but was glad for any help anyone might offer. Over the last two years Fred has been indispensable in so many ways that there's not enough space to list them. From picking up food, helping to run events, organizing Bald Mountain Involvement Day to just prodding me to get things done, it's hard for me to imagine how I would have done the job without him.

Bill Dezur also gets special mention. From the first meeting I ran in January of 2013 where the coffee and donuts magically showed up with no effort on my part up through the majority of events of all types, Bill has been there to feed us and also to help with many miscellaneous tasks that needed doing.

Thanks to John Hoover at Flightline for supporting the club and our events and even organizing some like the very popular Fazer kit bash.

Thanks to Dan Stolz for tirelessly maintaining our field in a manner of which we can all be proud.

Ted Labbe gets mention for bringing in the full size helis to each of the last 3 heli fun flies. I think this was great public relations for the club.

I could fill the whole newsletter this way but I will cut it off at this point. In closing, so long and thanks for all the fish.

Happy Landings,

Your soon to be ex-president,

Ken

Ken Gutelius
President, Skymasters
kennanc@msn.com

The newest addition to my fleet. This is a Trex 250 Plus DFC in a scale Hughes MD-500E body. Looks like I have a "thing" for the Hughes MD-500 line ;)

Paul Goelz

Front Cover:

Another exquisite creation from Jon Noocha. Built from a Guillows rubber powered kit and electrified.

Paul Goelz photo

Propwash

By

Joe Finkelstine

November 2014

Fuselages

Hi All

I would like to continue with last month's column on material strength by focusing on the fuselage (fuse) this month.

In the 20+ years I have been in this hobby, fuse design has continually evolved nonstop from my experience and I believe will continue on, as we pilots always want more of everything from a fuse.

While fuse design may appear to be somewhat stagnant, I hope to convince you otherwise before I finish up this column for the month, so let's get to it.

For the purposes of this month, I would like to zero in on a typical sport aircraft fuse, with one fixed wing and a conventional tail group (elevator, rudder) in the back. There are certainly more setups (canard for example) than this, but what I will discuss is mostly independent of the location of the engine and tail group.

In any fuse design, there are always constraints and compromises that have to be chosen, and these wind up often dictating the materials chosen for the job. From last month, let me digress and mention again the two primary jobs of the fuse

- Make a place to hold the engine, fuel, servos, and flying surfaces
- Keep everything aligned and rigid whilst we bore holes in the sky

Let's now focus on some of our primary considerations on the materials we can choose as an airplane designer

- Strength of the material vs. the stress it will see
- Weight of the material
- Ease of use/fabrication of the material
- Cost of the material

All fuse design takes these above 4 considerations into account. There are many valid combinations of the above priorities that will deliver a working design and all one need do is take a look in any hobby shop to verify this.

One somewhat extreme example of the above priorities would be to use an extensive amount of Carbon fiber for most of the material in the fuse. In this case the fuse is essentially made in a mold and built with layers of Carbon fiber material. This set of priorities essentially ignores cost, and ease of use/fabrication, but maximizes relative strength (for most stresses, but not all!), and minimizes weight –

The composite fuse looks quite ideal for us until you look at the price of the fuse to the average sport flyer, as these designs do indeed exist in the market. For example, it is possible to buy a composite (composite is the name typically given to materials, such as Carbon Fiber) fuse for a 2 Meter pattern ship that can cost upwards of $3000 just for the fuse and associated parts. On top of that $3000 for the fuse, you still need a power plant, fuel (or battery), electronics, etc. It is very easy to approach $5000 for one of these type aircraft and typically, they are only purchased by serious competitors.

By contrast, the 2 Meter pattern ship I fly is a wood design, delivered as a kit, where I have a total of about $1200 total ready to fly into her – both planes are nearly identical in weight (a primary rule of FAI is maximum plane weight), but I have chosen (as a buyer) a much different set of priorities. Will the composite 2M ship fly and setup better mine? – Of course it will, but I am not a serious competitor and choose to keep my expenditures to much lower levels. Also, I would note that I am not a good enough flyer to notice the difference – Both approaches are completely valid – The Serious competitor gets the glory of the win, I get to keep more of my $ for important things (to me) like pilot's meetings.

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Now that I am off my soapbox, let's return to specifics.

A conventional fuse has two primary types of elements. The first one is known as a former, and the second is often called a stringer (or longeron for fans of French aeronautical terms). If you have ever built up a wood fuse, you may remember that one of the first steps of building a fuse is typically centered around setting up the fuse formers on the top view of the plan. Formers are elements that run vertically – I.E. they run from the top to the bottom of the fuse. Stringers run orthogonal to the formers, and primarily run horizontally – Each has a different function and they work in unison to make a strong fuse.

Formers are often made of multiple materials in a wood design, and can often change material type completely from front to back, depending on where the former is with respect to the wing saddle.

When I first joined the hobby, making your trainer from a kit was the order of the day, along with glow power as the primary motivating force. Electric flight was still a pipe dream so everyone built up a Goldberg Eagle II or similar and we got a box of wood, a set of 1:1 plans and a "good luck" from the manufacturer.

Since the plane was designed to have a big shaker (I.E. glow engine) on the front, the strongest materials are utilized in this design where the engine was mounted (firewall) and continued back to another high stress area where we mount the wing (wing saddle) – for these older designs, the strength necessary mandated plywood, even with the associated weight penalty. On my Eagle II, the fuse was all plywood back to the wing saddle, but aft of the saddle, the formers changed to balsa – Why is that? – Well, as we move aft of the wing saddle, we are a long way from the vibration source and do not have significant stresses on the fuse for keeping the main lifting body (wing) in place. We can use balsa formers to help maintain alignment of the fuse and stringers, rather than need them for strength. The Balsa formers aft of the wing saddle also helped with the CG – Less weight aft of the safe CG leads to an easier to balance ship.

Today's designs bring some new considerations into play as well. One is the advent of laser cutting. Before laser cutting, the only way to get parts for you plane was either a kit with parts cut from a die, or to cut them yourself from a template. The die for cutting parts is expensive to make and also maintain. Indeed, there is an old joke in the industry that the kit is "Die Crushed" instead of Die Cut – which is referring to the fact that unless the manufacturing is controlled well, the die can have a tendency to crush the wood, rather than cut it.

Laser cutting, besides removing the need to build and maintain dies, also is accurate enough to allow significant increases in tab base construction. My Eagle II had several butt joints, and as most of you know, these are weak by nature. Tab based design where parts have interlocking sections (tabs and slots) allow for a significant increase in joint strength, not to mention much increased building ease as alignment is much easier. Laser cutting reduces the cost, and also adds strength.

Most kit manufacturers, with the notable exception of Balsa USA, have switched to laser cutting of wood rather than die cutting for these reasons. I always have this visual in my mind that there is some old grey haired master sitting in the back room at Balsa USA, whose only job is to design and maintain the numerous dies they have – When this guy finally retires (or dies), we just might see Balsa USA bite the bullet and go to laser cutting, since he/she is probably the only one left on the planet who can still develop and maintain these tools.

So we have balsa and ply formers standing vertically, but what about the stringers? – The stringers add strength in two primary ways. They add torsional resistance, and also keep the formers vertical and locked to add compressive strength. If we had just Formers – they would be quite fragile. When coupled with Stringers we get a good interaction of some elements in compression and some in tension simultaneously – This is often ideal for strength and keeps our fuse very rigid. This dual nature of some elements in tension and some in compression is also used in the wing, but that is for next month's topic!

Stringers can also be made of balsa and hardwoods, but a consideration on these items becomes a little more important in a potential constraint I have not mentioned yet – scale fidelity. If our fuse is of a scale design, or a modern aerobat, we also ask the stringers to make much of the shape of the fuse consistent with the original full scale –

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Stringers often create the outline we want in the fuse which would otherwise be difficult to build in complex shapes.

So together, the formers and the stringers resist torsional, compressive, and tension stresses – it makes for a rigid structure in all modes of stress as we gyrate the plane through all kinds of maneuvers – the stresses in the fuse can be enormous and the overall strength of our simple wood designs is something I never stop marveling at.

Two seasons ago (I think), I was at the field when Neil Krohn's Alpha high wing plane was stuck on wide open throttle. He flew it for 15+ minutes and still brought it down in one piece. When he examined the wing spar (Aluminum tube) we were all amazed that the aluminum rod was bent, but the wood wing was undamaged. Wood, when properly designed and engineered, can make for a strong and rigid structure!

Often our fuse also has sheeting, and this also adds strength in the same manner that wing sheeting does. Sheeting of an entire fuse is becoming much rarer, often due to current materials (I.E. judicious use of Carb Fiber), laser cutting and more experienced design have lessened the need to add sheeting as an additional strength contributor. The weight penalty does not make sense for many designs, and is why we often see the shrink wrap covering (Ultracoate, Monocoat) directly over the formers and stringers. Indeed, this is carried a bit further now, as many designs have a foam turtle deck to ease the cost burden. Most turtle decks have a compound curve, which is difficult to reproduce in wood, and much easier to CNC cut a perfect shape of foam and apply low temp covering directly on top – Once again, the primary considerations here are not strength, as the turtle deck sees minimal direct stresses.

There are many designs that are pushing the limits of these considerations. If I choose to design a plane that is electric only, I can save considerable weight by using balsa in many more places since I theoretically only have a well-balanced electric motor and prop up front.

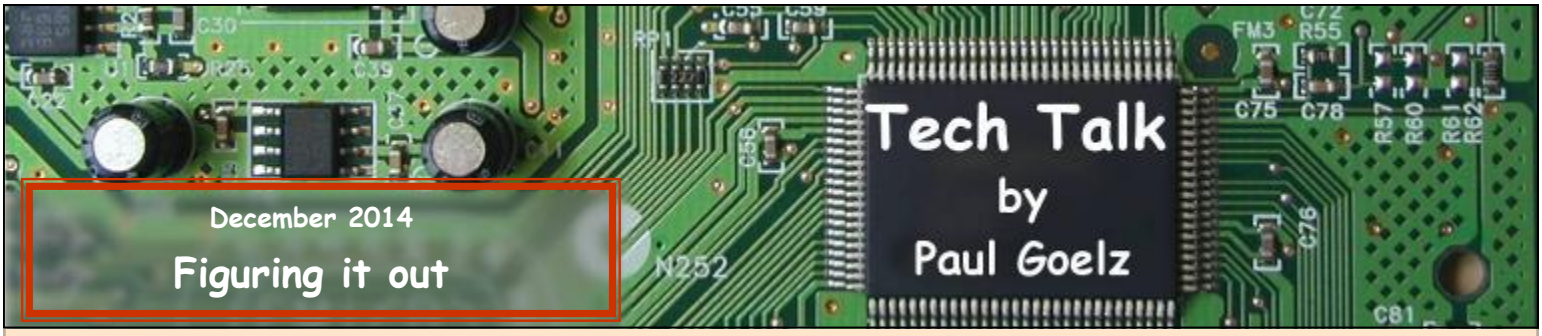
I have two planes from precision aerobatics that are a combination of balsa and carbon fiber everywhere – there is minimal ply, other than small pieces to mount servo horns and the firewall) on the design. They are exceptionally light, rigid and a blast to fly. They also are more expensive than a conventional all wood design – Carbon fiber is not cheap!

So, when you go to repair a fuse, it is vital to understand what material was used on the pieces you are going to try to fix and/or replace. Remember that some materials lose considerable strength, even if glued back together. For example, if you just glue a cracked stringer together, it will still be weak at the glue joint in compression. Adding additional bracing may be in order in this example.

Try to imagine the stresses and purpose of the piece and replace it or brace it to match the original design intent. I would suggest you think long and hard before ever replacing a ply piece with a balsa equivalent, especially in a high stress area of the fuse – It may work for a while, but these "repairs" eventually fail and are usually the things of field lore as they disintegrate in the air ,falling in a hail of fluttering bits. I lost a great 90 sized Ultra Sport by ignoring this advice…

Until we meet again, keep flying and building

Joe Finkelstine



To paraphrase Charles Dickens…. "It was the best of times. It was the worst of times". You might ask how that applies to us modelers in the first part of the 21st century. Well, here's my take on it.

This month I thought I'd depart from a straight tech talk and talk about how to find answers to questions you might ordinarily take to the internet. While there is nothing wrong with asking questions, I find that more often than not, the answers received are either misleading or outright wrong. Time and time again, I see the same wrong information being passed on as the truth by people who have never bothered to actually "do the experiment" and see if what they are repeating is in fact correct.

As I tend to say these days…. "Back in the Piccolo Days we just figured it out". What is a Piccolo, you ask? The Piccolo was the first commercial mass marketed "micro" helicopter back in 1999. There was a HUGE online community of Piccolo pilots and very little actual information about how it flew. Worse, there was very poor parts support. It was a perfect storm…. A very unique and fascinating product, near nonexistent support, a lot of very eager and interested pilots, and… the internet. Ikarus (the manufacturer) provided an online forum that grew to more than 15,000 threads very quickly. And the people that hung out there were all by necessity thinking, experimenting, refining, innovating and sharing. If you wanted to fly a Piccolo…. And more importantly, fix it when you broke it…… you became adept at tinkering and innovating. And if you discovered something, you put it on the forum for everyone else to see…. And debunk. The ideas that survived that process became part of the body of knowledge that was passed on to the community. But it came from ordinary pilots who sat down, defined a problem and then set about solving it.

These days there are many examples of totally incorrect information being passed on as gospel by people who have done some reading but have never applied any sort of critical thinking to the "answer". One of my favorites is how to initialize a gyro stabilized aircraft. Some older systems actually required that the aircraft be exactly upright, level and stationary when first powered up. Even though this is rarely required any more, people still go into great detail about how to "correctly" initialize their aircraft without ever actually doing the simple experiment that would show that they were incorrect. Example…. When I got my 200QX quadrotor, there were several self appointed experts on RC Groups who insisted that it had to be upright and level to initialize and that if it was not, it would fly crooked. A simple test (I initialized in several non-level attitudes) revealed this was completely incorrect. The same applies to my MCPx micro heli. I initialize it on its side because all it needs it to be motionless (and even senses when it is not) but there are still some who insist it needs to be upright and level.

So what am I getting at here? There is an overwhelming amount of information "out there" these days on the internet. Some of it is correct and some of it is very far off the mark. Instead of asking a question and just accepting the answer, apply some tests wherever possible.

How do you do that? Well, the first step is to try to fully understand the question. Think about it. See if you can get your head around it. Then see if you can come up with one or more ways to do some tests and evaluate the results. Like a simplified version of "the scientific process". Develop a hypothesis, then test it.

A simple example that I run into from time to time. Someone will ask "how much control throw do I need" or "how much expo do I need". You can ask that question of ten pilots and you will probably get ten answers. So why not just do the experiment? First, get a good understanding of how control throws and/or expo works. Then change the parameter a bit and fly it. Does it feel better or worse?

The idea is to become your own most trusted expert. And in the process, perhaps develop new knowledge that you can pass on.

See you in January!

Paul

Indoor flying resumes at Ultimate!

Skymasters Election Meeting
November 13th, 2014

Elections for 2015 Skymasters officers and board members at large were held the evening of 13 November 2014. The results are as follows:

President—Bob Chapdelaine

Vice president—John Billinger

Treasurer—Chris Strong

Secretary—Pete Foss

Board member at large—Gary Wells

Board member at large—Paul Goelz

Board member at large—Phil Saunders

In addition to the elected positions, the following appointments have been made:

Chief Flight Instructor—Dan Berry

Newsletter Editor—Paul Goelz

Groundskeeper—Dan Stolz

Webmaster—Greg Cardillo

Park Liaison—Bill Pesch

Membership—Jim Satawa

Following the elections, Ken presented the club's financials and then we had some show and tell…..

Flightline Hobby glow seminar

Good day!

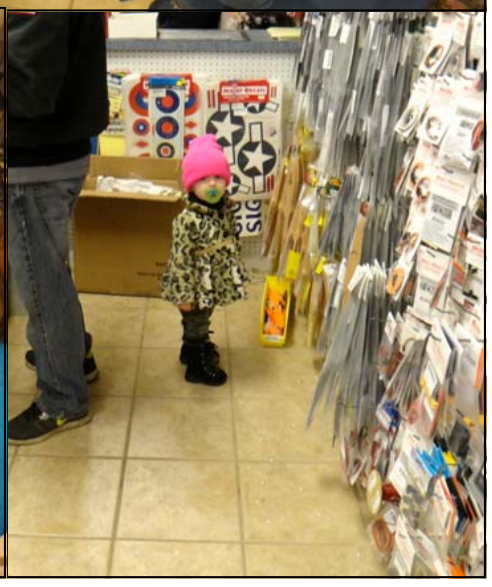
Today was our glow/gas motor tuning seminar. Walt did a great job of covering the tuning basics and fuel tank set ups, glow plug choices etc..

Thanks Walt Great job!! Ariel was there to help too!

Next week join us for the "Airbrushing basics" seminar. George and Joe do a great job of explaining the use and care of airbrush and related parts.

Good flights!

John



Flightline Hobby airbrushing seminar

Good day,

We had our seminar on airbrushing with George and Joe this morning at 11:00. The turnout built up as they went and peaked out with a good crowd. Many good tips were shared and interest level was high. Great job guys! Next week Dave Shea is sharing his expertise in the science of adhesives. If you can't make it in that is a: "Sticky Situation".

Good flights!

John

Flightline Hobby

Goodbye Darrell Watts

It is with great sadness that I must inform the aeromodeling community of the death of Darrell Watts.

Darrell suffered a massive cerebral hemorrhage last Friday. His family was with him when he passed.

Darrell held multiple positions with the Skymasters and other clubs around the country. His boundless energy was contagious. Darrell constantly promoted aeromodeling in every form.

Darrell is probably best remembered for creating the Midwest Regional Float Fly some 24 years ago. If memory serves me correctly the first one was very late in the year on a small body of water in some of the most blustery conditions imaginable. Darrell continued to promote the event, eventually finding the current fantastic location at Island Lake State Park and securing what is now the traditional date of the first weekend after Labor Day.

Darrell continued his promotion of all things related to float flying when he and his wife Jane moved back to Kansas City a few years ago. In a conversation I had with Scott DeTray of Model Aero this evening Scott mentioned that Darrell was responsible for plenty of Polaris sales in the Kansas City Area. Darrell brought his giant scale twin engine Grumman Widgeon to the Weak Signals Conference in Toledo.

Darrell was responsible for involving aeromodeling with the annual Camp Jeep event. He was also responsible for giant radio controlled "cars" flying above auto show events.

There are few further details at this time. I will forward more information as soon as it is available. Please keep the Watts' family in your thoughts and prayers during the coming difficult days.

Joe Hass

248-321-7934

The 6th Annual Holiday Gift Drive

With the support of Skymasters and all the Indoor Pilots at Ultimate Soccer Arenas

Once again the staff at Ultimate Soccer Arenas is helping the needy children of the community with a toy collection campaign. A wrapped (with a label with gender and age) or unwrapped gift can be left at Ultimate Soccer Arenas. Continuing the tradition let's make Tuesday December 16th the day that Skymasters and all the Indoor Pilots make their contribution.

For each gift (wrapped or unwrapped) having a value of $10.00 or more the person making the donation will receive a drawing ticket.

Make Christmas at Ultimate Soccer Arenas even more memorable for those in need!

THE SALVATION ARMY

100% of Your Donation Goes To The Salvation Army

Pilots don't forget bring your gifts on Tuesday, Dec. 16th & Fly for a Bonus Hour

Christmas Kettles

Nankin Hobby.com

PROP SHOP HOBBIES

FLIGHT LINE HOBBY

Retro RC

A Special Thanks You Goes Out To Joe Hass For His Efforts In Promoting The Holiday Gift Drive

Skymasters R/C Club

Indoor Electric Flying

At Ultimate Soccer Arenas
867 South Blvd., Pontiac, MI 48341

HOBBY SHOP BONUS

Sponsored By:

Nankin Hobby.com

Friday, December 26th from 11 AM to 2 PM

Christmas Holiday Event

Pilots receive a BONUS hour of flying time for the low cost of $10:00. That's 3 hours of flying for 10 bucks – Compliments of Nankin Hobby.

Spectators Free

All Pilots must have proof of current AMA Membership

Season Pass – Holiday Bonus included & Punch Cards - single punch

For full schedule, flight rules, size and weight limits go to: www.skymasters.org

For more information contact Fred Engelman: indoorfly@skymasters.org

* Special Family Rates available at the door.

SKYMASTERS

INDOOR FLYING AT ULTIMATE SOCCER

For the 2014-2015 Winter Season

26 Flying Dates – 57 Hours of Flying

Season Pass $100 for 57 hours of flying fun.

DATES — **Time 11:AM – 1:PM unless noted.**

NOVEMBER:

- Tues. 4th
- Tues. 11th
- Tues. 18th
- Tues. 25th
- Sun. 30th * 11AM-2PM

DECEMBER:

- Tues. 2nd
- Tues. 9th
- Tues. 16th
- Tues. 23rd
- Fri. 26th * 11AM-2PM

JANUARY:

- Fri. 2nd * 11AM-2PM
- Tues. 6th
- Tues. 13th
- Mon. 19th * MLK Day
- Tues. 20th
- Tues. 27th

FEBRUARY:

- Tues. 3rd
- Tues. 10th
- Mon. 16th * Pres . Day
- Tues. 17th
- Tues. 24th

MARCH:

- Tues. 3th
- Tues. 10th
- Tues. 17th
- Tues. 24th
- Tues. 31st

*** 5 - Holiday Bonus Sessions**

3 Hrs. Of Flying from 11:AM – 2:PM

Sponsored by Prop Shop Hobbies, Nankin Hobby, Flight Line Hobby, Radio Control Club of Detroit & Skymasters

For additional Information go to www.Skymasters.org
Or contact Fred E. at Indoorfly@Skymasters.org

ON THE WING

Skymasters Breakfast

First and Third Monday of each month through May

9AM
Everyone welcome

Red Olive restaurant
In the strip mall on Walton
across from Crittenton Hospital,
Rochester MI

Skymasters Indoor Flying

Every Tuesday

See the Skymasters web site for details
11AM to 1PM
At Ultimate Soccer,
Opdyke and South Blvd
Pontiac, MI
AMA required

Next Skymasters Meeting...

CHRISTMAS PARTY December 11th
6PM
at the Orion Center
1335 Joslyn Road
(on the east side of Joslyn,
just south of Clarkston Road)
Lake Orion, MI

Other local area indoor flying sessions

Premiere Training Center

51379 Quadrate, Macomb MI
(north of 23 mile and east of Hayes)
Thursdays, 9AM to 3PM (yes, that's 6 hours)
Thursday December 25th & January 1st sessions moved to Friday December 26th & Friday, January 2nd
Small electric planes and helis (separate heli space)
$10/session, AMA not required
Info: Steve Durecki 586-246-4203 (text or voice)
stevedurecki@comcast.net

Legacy Center

9299 Goble Dr.
Brighton, MI 48139
(Off of Winans Lake Road, between Rickett Rd. and M23)
Thursdays 12PM—2PM through April 30th $5/session
Sponsored by the Hamburg Flyers RC club

December 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 Skymasters Breakfast 9AM Red Olive, Rochester Hills	2 Indoor Flying 11AM—1PM Ultimate Soccer Auburn Hills	3	4 Indoor Flying 9AM—3PM 51379 Quadrate Macomb	5	6
7	8	9 Indoor Flying 11AM—1PM Ultimate Soccer Auburn Hills	10	11 Indoor Flying 9AM—3PM 51379 Quadrate Macomb Skymasters Christ-mas Party 6PM Orion Center	12	13
14	15 Skymasters Breakfast 9AM Red Olive, Rochester Hills	16 Indoor Flying 11AM—1PM Ultimate Soccer Auburn Hills	17	18 Indoor Flying 9AM—3PM 51379 Quadrate Macomb	19	20
21	22	23 Indoor Flying 11AM—1PM Ultimate Soccer Auburn Hills	24	25 Merry Christmas!	26 Indoor Flying 11AM—2PM Ultimate Soccer Auburn Hills Indoor Flying 9AM—3PM 51379 Quadrate Macomb	27
28	29	30 Indoor Flying 11AM—1PM Ultimate Soccer Auburn Hills	31 Krazy Snow Fly 10AM Scripps Field			

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 is permitted from 10 AM to 8 PM. The noise limit is 94 dBa at 10 feet. This noise rule is 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) but there are usually instructors around all day. Meet the instructors and arrange for more instruction time together on other days. Our Chief Flight Instructor is Greg Brausa, 248-373-8949 cgbrausa@gmail.com

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!

2014 Club Officers & Appointees...

President:	Ken Gutelius	Lake Orion	248-814-1157	kennanc@msn.com
Vice Pres.:	Dave Lange	Oxford	248-969-3914	dllan65@sbcglobal.net
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Treasurer:	Chris Strong	White Lake	248-961-4333	strongchris1134@yahoo.com
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CFI :	Greg Brausa	Orion	248-373-8949	cgbrausa@gmail.com
Membership:	Bob Chapdelaine	Lake Orion	231-675-8590	rdchapdelaine@gmail.com

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