

official digital newsletter of
Skywriter
AMA Charter Club #970 www.skymasters.org 24 year Gold Leader Club



Skymasters Radio Control Club of Michigan

it's another beautiful day at Skymasters...

January, 2019



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Happy 2019 everyone. This year marks our 45th year as a club! As we look forward to this new year, I am convinced it will be a great year for Skymasters RC Club. We've had a blessed 2018 and a lot has happened. Our Christmas Party was a huge success as usual and very well attended. Our members continue to impress and surprise me with their generosity and kindness. We had another great gathering at the Orion Center and Santa gave wonderful gifts to all the children and a great meal was shared by families and loved ones.

In November we elected our club officers and I want to say thank you to Jon Grigsby and Paul Goelz for their years of service on the EOC (Executive Operating Committee) as they did not run for re-election. We voted for ten-dollar dues increase for the first time in well over decade and Treasurer Jim Satawa gave a superb club financial report and then reasons for the dues increase that (in my opinion) will set our club on a great path for years to come.

This past summer our club held another year of record setting flying events with the Warbirds and Scale event and

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the Open House Air Show filling the flight line and parking lot with Pilots, Planes and Spectators. We added/expanded our south flying area into a superb Control Line Field and multi-rotor field and already have plans to further improve the area.

Not the least of which to be mentioned here for the 2018-2019 season is our TENTH YEAR OF INDOOR FLYING which is huge accomplishment for our club and the many who have contributed to this great endeavor. What an honor to be the Ultimate Soccer Arenas on December 13 and recognize that accomplishment with all the past and present club officers and members that have been a part of this. It was great to work with Fred Engelman, Joe Hass and our club officers to make this day a huge success.

We had our Krazy Snow Fly on New Years Eve day is was another beautiful day at Skymasters, haha. I have to thank Paul Zabawa for many, many years of putting on this event and providing the best snow fly's ever. This year Ken G. had it easy as there was only a little sprinkle, and moderate temperatures. Steve K's chili was great, and the flying was ok. We had great turnout.

This month we have our club meeting on Thursday January 17, 6:45 p.m. at the Orion Center and the topic will be "Hunt for the Lost Squadron" (Glacier Girl P-38) Presenter Steve Kretschmer.

It's another beautiful day at Skymasters!



Bob Chapdelaine
President, Skymasters RC



Front Cover

Indoor pilots and the gifts they donated for the Toy Drive. Altogether, more than \$2000 in gifts and cash was raised!

Paul Goelz photo

Its All About Time....



Several times over the past few years Paul Goelz our great newsletter editor has observed that many Sky-masters have really interesting hobbies beyond model airplanes. He has asked for articles for the newsletter describing other hobbies that we have. So far no one has written about what else they are interested in or do beyond model airplanes. So this month I will take the challenge and write about another hobby that I have and perhaps others will decide to write about theirs.



It was just before Christmas 2008 Paulette and I were looking for a special gift for our daughter Lisa. It seemed that everything we looked at was made in China and I got really annoyed about that. It was too late to be able to do something about it that year but I vowed that I would do something special for her the following year. But what would it be? I remembered seeing an article about wood gear clocks many years earlier so I started looking on line to see what I could find. After a lot of web surfing I found an amazing guy in Hawaii who designs wood gear clocks and sells plans for them. His name is Clayton Boyer.

<http://www.lisaboyer.com/Claytonsite/Claytonsite1.htm>

I bought the plans for his Boyer #6 design and did a lot of reading on wood gear clock design and construction.

Of course the big challenge in making a wood gear clock is cutting all of the wood gears. This requires a good

scroll saw, steady hands and lots of patience. There are examples of some raw gears in the opening picture. The largest gear in the picture is 11" in diameter with 120 teeth. Everything in that picture has a defect of one kind or another (did I mention the need for patience?). Anyway, I managed to build the Boyer #6 with a lot of blood (really), sweat and a few tears (see the first picture above). And....it actually ran for a few minutes and then stopped. Hmmm, why did it stop. More reading and trouble shooting revealed a tiny little bind between 2 gears and the need to have a better finish on the faces of the gear teeth. The first problem was fixed with a little tuning of the offending teeth and the second was fixed by polishing the face of the teeth with my band sander and a totally worn out extra fine grit sanding belt. After a few more iterations of tooth tuning the Boyer #6 was running like a clock. This is what it looked like in my shop.



Boyer#6

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The gears are made of white Baltic birch and the frame is Honduras Mahogany. Earlier, I mentioned blood. The frame is 1/2" thick and of course it was made from 3/4" stock. At the time I did not have a thickness planer so I had to use a technique called re-sawing on my table saw. It involves standing the board on edge and sawing it to 1/2" thick. I'd done this process before and knew what is considered the safe way to do it. So I set everything up with a tall fence and feather boards controlling the stock and I was using commercial push sticks to move the wood through the saw. Half way through the cut the board popped out of one of the feather boards and kicked back. When that happened, the blunt end of one of the push sticks kicked back also and smashed into the underside of my wrist and ripped it open. Hey Paulette??? Could you drive me to the emergency room? 35 stitches later we were on our way home. I have a nice thickness planer now.

Wood gear clocks typically are powered by a falling weight like a grandfather clock. They also have a long pendulum to control the timing. Lisa has a cat and I could envision the cat being interested in the swinging pendulum so I designed and built a tall case with glass on 3 sides and a mirror in the back to keep the cat away. The case is also Honduras mahogany. This is the completed clock and case.



Boyer #6 in its glass case

In spite of everything, I really enjoyed building the clock and based on all of my reading I believed I could design my own clock. I wanted to push the boundaries a little so I decided to do a mantle clock. Now a mantle clock usually doesn't run with a falling weight for power and a 3' long pendulum to control the timing. So my mantle clock would use a pendulum shaped like a dumbbell (in physics these are called physical pendulums and are mathematically more complicated to analyze) and it would use what I call a ball drive for power. The first gear in the clock has 15 grooved holes around the perimeter. Seven of them have 1.125" steel balls resting in the grooved holes. All of the balls are on one half of the gear causing it to want to rotate and thus drive the clock. Every 4 minutes one of the balls reaches the bottom and gets pushed out of its hole. It then rolls down a track to a mechanism that raises the ball to the top of the clock where there is another track guiding the ball to an empty hole in the top of the gear. This happens every 4 minutes and keeps the clock running.



Mantle clock with ball drive mechanism

To see this clock running there is a YouTube video. Just click or copy and paste the link in your browser.

<https://www.youtube.com/watch?v=M6CWMWko0IY&t=64s>

Having built 2 clocks and hand cutting all of the gears (very tedious) I decided to design and build a 3-axis cnc machine to do the cutting. I was still working at the time and the company was decommissioning a very large and complicated virtual reality system. I was able to salvage a large amount of 8020 aluminum extrusions and joining hardware. Think of this material as a big boy erector set. Designing and building the machine could be an article all of its own. The resulting machine has a 24" X 36" X 12" work envelope. Here is what it looks like.

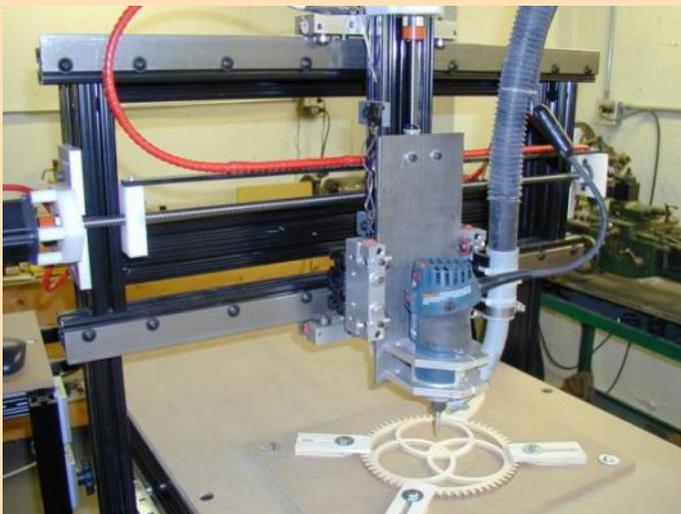
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the clocks generally require rewinding every 24 hours. Very annoying. So for my next design I decided to deal with that problem and also do a circular physical pendulum. In my research on clocks I found that the more sophisticated clocks in the 1600's through maybe the 1800's had something called a remontoir incorporated in the design. A remontoir is a rewinding mechanism of one kind or another whose purpose is to keep the clock running while it is being rewound. So my new design would have an electric rewind mechanism integrated in the falling weight drive. I designed the clock with a rewind motor and battery concealed in the clock framework. The motor I selected for the task is a Hitech servo HS 485 HB which I modified for continuous rotation. These are terrific servo's with karbonite (carbon fiber reinforced) gears. I did a test of an equivalent size metal gear servo against the HS485HB servo and found that the metal gear servo wore out the gears within a few weeks and the Karbonite gear servo showed no signs of wear. The karbonite gear servo's that I'm using have been running for up to 8 years with no visible wear. Anyway, the rewind mechanism uses an endless ladder chain design and 2 weights suspended by the ladder chain. One weight is heavy and the other is light and only serves to keep tension in the chain. There is a switch concealed in the frame that turns the rewind motor on and off. Here is what this clock looks like. The frame is made of Cherry and the gears are Baltic birch.

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Original design home built CNC router



CNC router cutting a clock gear

One thing about virtually every wood gear clock you will see is that they use the traditional falling weight to drive them just like the Boyer #6. The problem is that

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<https://www.youtube.com/watch?v=7HIclBIerTw>

<https://www.youtube.com/watch?v=4JVIXvoULs>

You can also see the circular pendulum in action in the video. This clock also has a copper bell in the center. The clock strikes a single chime on the hour.

So, for my next clock I stole an idea that I had seen many years ago where the clock has no hands. Instead it has a large driven gear that rotates 2 times per day. The hours are marked on the gear and a pointer tells you what time it is. My version incorporates a concentric circular pendulum like the last clock. Here it is.



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Another thing I did on this clock was to do a completely different version of an endless chain remontoir. In this case, the rewind motor and battery is inside of the weight shell. The chain is a simple loop that goes over a sprocket on the clock's first gear to drive the gear train. The chain also goes through the center of the weight.

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Sadly my YouTube video does not show the rewind system in action but I did find an animation that shows how an endless chain remontoir works. Keep in mind that the rewind motor and batteries are inside of the clock frame.

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Inside of the weight is the rewind motor and the batteries. In operation, the weight descends as the clock runs. When the weight gets to the bottom, a hidden switch turns on the rewind motor and the weight literally climbs up the chain while continuously maintaining tension on the chain. When it gets to the top the motor is shut off and the descend / climb cycle repeats. Another unique feature of the design is that the big gear was too large for my cnc machine. So I made it in (12) 30 degree sectors where the sectors interlock with "jig saw puzzle" tabs.

The clock material is black walnut and the gears are (you guessed it) Baltic birch.

The next clock is much more traditional with a little variation on the classic clock pendulum and the 2 weight endless chain remontoir that I'd used before. I designed this clock to have the entire gear train aligned vertically. This led me to splitting the pendulum into two linked pieces to swing on the sides of the clock. This is absolutely the best running (most accurate) of all of the weight driven clocks I've designed and built. It is accurate to about 1 minute per month. That's an error of 1/43200. Not bad for a clock with wooden gears I think. The frame and weight shells are cherry and the gears are Baltic birch. Here it is.

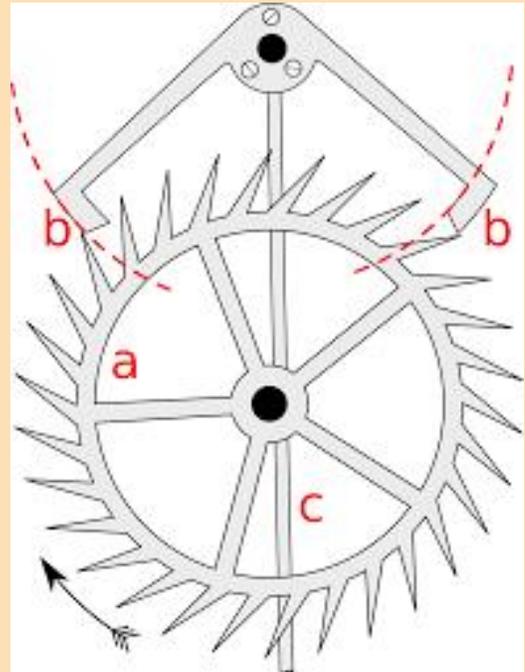


And here is the YouTube video link

<https://www.youtube.com/watch?v=x3IS61BrgjE>

The next clock I did is a very large one for above the fireplace. It needs to be big or it would look lost on the wall. In this case I wanted to try a "grasshopper" escapement. All of my other clocks use a Graham escapement mechanism because they are simple to build and are very efficient.

In a clock, the escapement is driven by the weights and consists of a toothed (escape) wheel and a pair of precisely shaped and located fingers (pallets). The pallets are connected to the pendulum. As the pendulum swings, the pallets release and capture the escape wheel teeth. The escape wheel drives the clock's gear train. Because of the way the escapement works the clock gearing starts and stops typically once per second. The stop / start action is why the gears are lightened with holes and /or arms.



A Graham escapement

The grasshopper escapement is a very complicated mechanism due to the need to be precisely balanced and the motions need to be carefully damped to reduce bouncing of the pallets as they engage and disengage the escape wheel teeth.

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mounted it on the wall in the family room I realized that I had a big problem. The clock was really loud. It went **TICK TOCK** instead of tick tock. No matter what I did I could not quiet the cluff-prunking escapement down. So, I redesigned things so I could use the good old Graham escapement. I got it running and had exactly the same problem (Sigh). So I did a complete redesign changing it to an electric driven ratchet drive. Because the ratchet mechanism had to run the opposite direction from the original escapement, I had to add an idler gear in the gear train to reverse the direction before it got to the gears that drive the hands. This clock is 100% white maple and is as accurate as any electric clock. Here it is.



Here is a link to the YouTube video. The clock in the video is the original configuration with the Grasshopper escapement

<https://www.youtube.com/watch?v=kBblsmfxBGo>

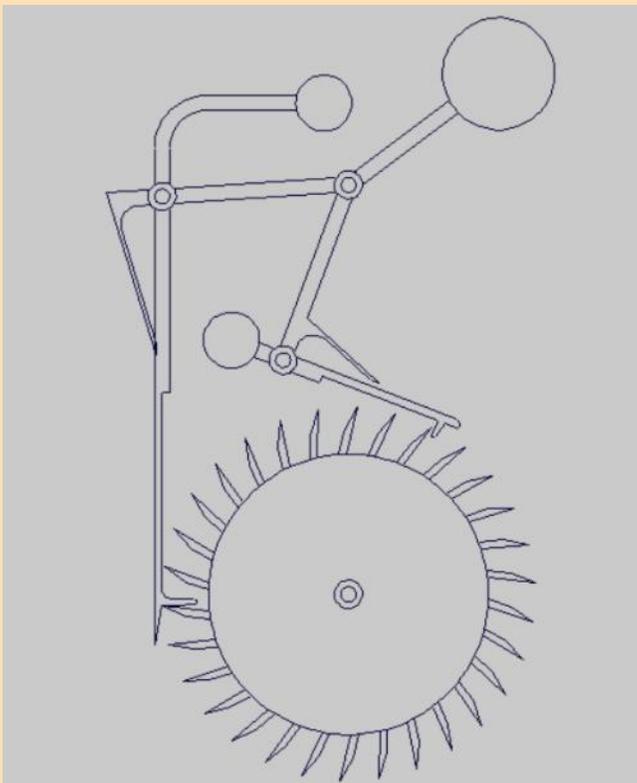
So that is the entire collection of wood gear clocks. But wait! There's more!

At one point I got interested in building a wood gear orrery. What's an orrery you ask? An orrery is a mechanical model of the solar system, or of just the sun, earth, and moon, used to represent their relative positions and motions. In my case I did a Sun, Earth, Moon orrery.

I decided to have the rotations and orbital speeds in their proper relationships but much faster than real time. To do that, the design of the gear train got really complicated. To keep the orrery reasonably compact I

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Grasshopper escapement

The main gears and the escape wheel in the clock are 30" in diameter made in puzzle locked segments as before. The escape wheel for this clock is made up of 50 interlocking parts. After numerous design refinements to the grasshopper mechanism I got the clock running. When I

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used multiple reverted epicyclic gear trains. To work out all of the ratios I created a big spreadsheet with an optimizer with rules limiting the sizes of the gears and the need to have gear tooth counts be a whole number. I think I spent more time doing the calculations than actually building it. My gear solution resulted in rotational speeds within the natural variations of the actual Sun, Earth, Moon spins.

	A	B	C	D	E	F	G	H	I	J	K	L
2	Gear tooth count											
3	B2	0	0	44			B	Link	B2 to G ratio			
4	41	0	0	44	Link stationary	-1	0	0	0.931818182			
5	B	0	0	44	Gears locked	1	1	1				
6	40	0	0	44	Sum	0	1	1	1.931818182			
7	Tooth count range											
8												
9												
10	G attaches to sleeve that rotates on earth arbor											
11												
12												
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Gear	Calc.	Teeth	Teeth	Dia. @ BCP
A	20	20	2.5	
B	42	42	5.25	
C	9.815144642	10	1.25	
D	58.03099512	58	7.25	
E	9.815144642	10	1.25	
G	44	44	5.5	
K	8	8	1	
L	51	51	6.375	
B2	41	41	5.125	
I2	47	47	5.875	
H	19	19	2.375	

(+) = CCW, (-) = CW

Arm rotates on tube
Tube does not rotate
Sun arbor rotates, CCW

The target value is the gear ratio necessary to achieve a rotation of gear G (moon) of 13.38 times when gear B2 (sun) rotates 14.39 times. The target equation is 1 + gear ratio from B2 to G.

Gear ratio optimization

The frame and arms are made of cherry, the Sun, Earth and Moon I machined in maple. The gears of course are Baltic birch



Sun Earth Moon orrery

Here is a link to the YouTube video

<https://www.youtube.com/watch?v=r3x6-Tvoh90>

I gave this to Lisa as a gift when I finished it.

Aside from the wood gear clocks above I have made two other clocks. One is a small grandfather clock I built about 45 years ago. It has a German movement with Westminster chimes. The case is black walnut. I still have this clock and it runs great and keeps excellent time. And the tick tock is very soft!



At one point, Lisa asked me to make a Vienna Regulator style clock for her. Regulator clocks were highly accurate wall clocks originally built in the 18th century. They were frequently very ornate and were used to set the time on less accurate clocks of the day. My rendition is made of black walnut with a German chiming movement governed by a short temperature compensated pendulum. It is driven by a pair of double reeved brass weights Here it is.

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Vienna Regulator style wall clock

So that's it for this month. I hope you found this interesting.

Steve Kretschmer



Vienna Regulator style wall clock

December Indoor flying

At Ultimate Soccer

Click anywhere in the collage to view the entire photo album on the Skymasters web site



In addition to our normal indoor flying and the 2018 Toy Drive in December, we also celebrated ten years of indoor flying at Ultimate Soccer, the best indoor venue in the world! Thanks to The folks at Ultimate as well as our own Skymasters members and especially our own Fred Engelman for keeping things running and organized!

Ten Years of Indoor Flying!

At Ultimate Soccer

Skymasters celebrated 10 YEARS OF INDOOR FLYING AT ULTIMATE SOCCER ARENAS on Tuesday December 18th, 2018. Over 80 Aeromodelers joined in the celebration with cake and coffee.

Since the beginning the Indoor Pilots have participated in all 10 Annual Christmas Toy Drives at Ultimate. This year alone \$1,136 was donated and well over 100 gifts were collected to help make Christmas a little happier for needy children.

Before the cake was cut, Skymasters President Bob Chapdelaine introduced AMA 7 District VP Tim Jesky as well as George Derderian (Owner of Ultimate Soccer Arenas) and Dawn Fitzgerald (Manager at Ultimate).



Back in 2008 Skymasters Larry Parker (credited for finding Ultimate), Jim Held, Ron Sokacz, and Joe Hass met with George Derderian at Ultimate Soccer to look over the facility. In the previous year Skymasters was flying indoors at the Utica Golf Dome which was small, dimly lit, very cold and damp. In comparison Ultimate was like the Taj Mahal. The field was long and wide, with a high ceiling, warm and dry, fantastic lighting, with plenty of bleacher seating and lots of parking. There was no better place to fly indoors in Michigan and that is *still true*.

To get the ball rolling in 2008, then President Joe Hass approached the Board with the concept of flying at Ultimate for 2 hours each Tuesday from 11 AM until 1 PM for a 25 week season. It would be funded with each pilot paying for their flying time. The Board Members approved the concept if at least 20 pilots would commit to purchase a season pass for \$110 each. That way enough money could be generated to keep the event afloat for the whole year. More than 40 season passes were sold that year plus many 5-session punch cards and single sessions. The first Indoor Flying Season was a resounding success with pilots from more than 10 local AMA Clubs participating.

Below are listed the Officers from 2008 that had the foresight to see indoor flying as a great opportunity and they took the risk to promote our hobby:

Joe Hass - President

Paul Zabawa - VP

Dave Wendt - Secretary

Joe Rubinstein - Treasurer

Ron Sokacz - CFI

Pete Foss - Skywriter Editor

Bill Stark - State Park Rep.

Jim Held - 1st Indoor Event Director

Every year since its inception the Indoor Event has been a financial success for Skymasters and this year will be no exception. Thanks to Skymasters Membership and Officers who over the years has made this a huge success.

Over the 10 Years 4 Skymasters have acted as Event Directors: Jim Held, Roger Schmelling, Jim Wynn and Fred Engelman. Currently there are many members helping out every week. At the registration table we have Randy MacInnis, Larry Perry, George Hesser and Fred Engelman. Marv Middleton and Bill Stark arrive very early to start setting up the field. Bob Burns andCarolynn Foss help with getting everything put away. Roger Schmelling, Paul Goelz and Pete Foss introduce new pilots to the indoor flying experience. Many of them are retirees and have never flown before like Brownie Kowalczyk who began RC flying at Ultimate at 92. Brownie and his son Randy now are Skymasters and fly regularly at Scripps Field along with float flying at Addison Oaks.

Thanks to the many Skymasters who help out without being asked and the hundreds of pilots who flown with us over the years. Without all of you this event would not have prospered.

Fred Engelman

Operation Good Cheer

December 8th, 2018

Click anywhere in the collage to view the entire photo album on the Skymasters web site



On Saturday December 8th, I accompanied our CFI Ken Gutelius flying gifts to needy children in foster care throughout Michigan. This was my first experience with Operation Good Cheer and I was amazed by the scope and the organization. Pontiac Airport was in fact so crowded with OGC flights that it took a good 30 minutes between starting the engine and arriving at the loading ramp... normally a one minute taxi to the other side of the airport. We could see it from where we were waiting ;) Once there, we stuffed Ken's Grumman Tiger to the roof (literally) with packages and flew over to Ionia, where an eager crew of adults and kids helped us unload and made us feel very welcome. I joked with another pilot about the \$200 hamburger syndrome and he reminded me that they would be flying anyway, so why not do a good thing and hang the cost. I like that idea!

Paul Goelz

Christmas Party

December 17th, 2018



Krazy Snow Fly

December 31st, 2018

Click anywhere in the collage to view the entire photo album on the Skymasters web site



Well, thanks to Steve Kretschmer.... and NO thanks to the weather..... The 2018 Krazy Snow Fly was a big success. In spite of constant near freezing rain, we had quite a few planes in the air including Steve with a control line flight! The only thing missing were glow engines..... Everyone was running electric ;)

The chili and coffee and brownies were great and the hangar flying was fun too.

Five Minutes on Safety

Random Thoughts

Range check

- It is a good idea (that many of us ignore) to do a range check before each new flying session. A known good radio system can fail, and you never know when that might happen.

Prop safety

- ALWAYS treat the propeller on an electric aircraft like a loaded gun whenever the battery is connected.
- ALWAYS treat the propeller on a fuel powered aircraft with extreme respect when the engine is running. Take extra time to think it through when making any needle valve or engine adjustments with the engine running.
- ALWAYS make sure that any cords or cable (like remote glow starters and starter power cords) are well clear before starting the engine.

Throttle Hold switch

- ALWAYS program, understand and USE a throttle hold switch on your transmitter if the transmitter includes that function. A THROTTLE HOLD switch is different than a THROTTLE KILL switch and is useful on both fuel powered and electric aircraft.
- The THROTTLE HOLD switch locks the throttle channel to idle (fuel powered) or zero throttle (electric) and prevents the throttle from advancing unless the switch is placed in the "non-hold" position.

Battery disconnect

- Electric aircraft are MUCH safer if they are equipped with a master battery disconnect switch, accessible from the outside of the aircraft with all hatches closed / in place. The disconnect usually takes the form of a shorting plug that can be seen and when NOT inserted, you know for sure that the motor is disabled. This is even more important if the battery plug is not easily accessible in an emergency.

Taxi safely

- It is good practice when taxiing not to aim directly at an opening between flight stations. When taxiing back to the pits, I angle towards a flight station until I get close and then I taxi parallel to the flightline until I reach the opening where I am standing. While still aiming east or west (ie., NOT towards the pits) I shut the motor down and then carry or tail walk the aircraft back to the pits.

Help Wanted at Skymasters



Website Content Editor Updater

Looking for a club member who can keep our club website calendar and website events updated. Requires a little skill getting around but most of it is auto-

mated. Training provided and most of the information is provided for you to add to the site. If you are interested let Bob, club president or Greg, webmaster know.

Email: president@skymasters.org or webmasters@skymasters.org. Thanks!

Club Email System Notice

We have a great club email system. Just an FYI, when you have something to sell or list for sale (or looking for something) please use the

"classifieds@skymasters.org". I encourage use of this email mail list system. Our member to member email address "members@skymasters.org" is for general communications between our members. We have several other great email addresses (actually many) such as the "indoorfly@skymasters.org", floatfly@skymasters.org, and many other email lists that you may be on by default. For a complete list, [click this link](#) (you will need to log in with your Skymasters credentials to view the addresses). Each mail list has a specific purpose for our very active club and you'll see that the emails that come as official club communications, i.e. club leadership, event directors or club officers, etc. are marked that way... either way you have control over the emails you receive or don't want to receive... by going to your member profile in your Skymasters Profile and "edit my profile" and then "Edit Email Subscriptions/Options:" I would really advise you to NOT change these unless there is some problem. Email is the primary way we communicate what is happening in our club! NOTE: to communicate TO the club you must use the email address you registered with on the site. Also, it is great when you log into the Skymasters website too! www.skymasters.org.

Skymasters Indoor Flying

Oct. 30th thru April 16th*

Join us on Tuesdays* from 10 AM – 1 PM

At Ultimate Soccer Arenas.

Where its always warm and dry!

Located at 867 South Blvd., Pontiac, MI 48341



Single Flying Session \$10
Any 5 Session Punch Card \$40
Season Pass \$120



All Pilots must have proof of current AMA Membership
A Special 3 Month Trial AMA Membership is Available

Spectators welcomed at no charge. Come in and walk around.

Check us out at: www.Skymasters.org

Support your local hobby shops:



* Indoor Schedule of Dates and Times Subject To Change

HOLIDAY BREAK

4 - Flying Hour Special

EXPERIENCE ULTIMATE INDOOR FLYING

Wed. Dec. 26th & Wed. Jan. 2nd

From 10:AM – 2:PM for \$10 each 4 hr. session

At Ultimate Soccer Arenas, 876 South Blvd. Pontiac MI

Take a break from work and enjoy flying indoors at it's best.

Spectators Are Always Free

Visit Skymasters at
www.skymasters.org

All Pilots must have proof of current AMA Membership.

A Special 3 Month Trial AMA Membership is Available.

The Remaining Winter Indoor Flying Schedule

<u>DEC. 2018</u>	<u>JAN. 2019</u>	<u>FEB.</u>	<u>MAR.</u>	<u>APR.</u>
Tue. 4 th	Wed. 2 nd – 4 hrs	Tue. 5 th	Tue. 5 th	Tue. 2 nd
Tue. 11 th	Tue. 8 th	Tue. 12 th	Tue. 12 th	Tue. 9 th
Tue. 18 th	Tue. 15 th	Tue. 19 th	Tue. 19 th	Tue. 16 th
Wed. 26 th – 4 hrs	Mon. 21 st - 4 hours Tue. 29 th	Tue. 26 th	Tue. 26 th	

Season Passes and Punch Cards Honored



Model Aviation

Swap Meet Extravaganza

Feb 2nd 9:00 am - 1:00 pm

Buy - Sell - Trade - and More

**Show Only
Specials**

**Aerotow &
Sailplane
Display**

**Food
&
Refreshments
Available**

**Local
Vendors:
RetroRC
Megajets
& others**

**Seperate
Vendor
Entrance**

Admission just \$5.

Tables from \$20 when reserved in advance.

Visit FlightlineHobby.com for reservation details.

Event Location:

Good Shepherd Lutheran Church

1950 S Baldwin Rd, Lake Orion, MI 48360

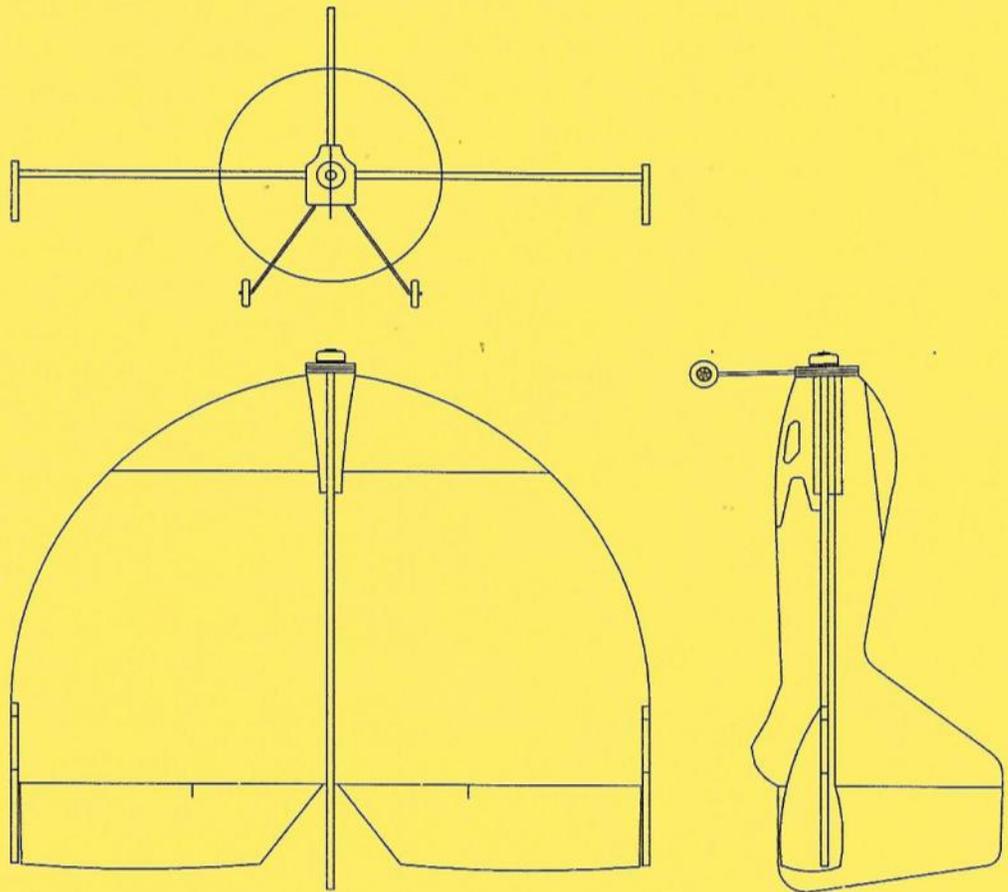
Questions? Call John at Flightline (248) 814-8359

Build your own airplane!

Beginning Tuesday December 18th at Ultimate, there will be a group build of the "Archie", one of John Hoover's great designs. The kit (which includes the plane, motor, servos and glue for \$100) is available at any Indoor session at Ultimate Soccer or at Flightline Hobby.

All you need to provide is the transmitter, receiver and battery. The build will begin on Tue. Dec. 18th at Ultimate. You can build then fly, then build and fly again. See Fred at the registration table.

Archie



Electric Sport Flyer Designed by John C. Hoover

Specifications:

Wing Span – 23"

Wing area – 340 Sq. In

Weight 6.5 to 8 ounces (Picture prototype 7.3oz)



2019 CLUB EVENTS

SKYMASTERS RC CLUB – LAKE ORION, MI



April 2019

Saturday April 27 — **Involvement Day** – Bald Mountain

May 2019

Saturday May 11 – **Field Opening/Work Day** – Scripps Road Flying Field; Lake Orion

Sunday May 19 — Chet Brady - **Spring Float Fly** – Bald Mountain Trout Lake; Lake Orion

Wednesday May 29 – **Student Flight Training & Potluck** begins – Scripps Road Flying Field

June 2019

Saturday June 8 — **Night Fly (evening)** – Scripps Road Flying Field; Lake Orion

Sunday Jun 9 – **Electric Fly** – Scripps Road Flying Field; Lake Orion

Saturday June 22 — **Control Line Fly In** – Scripps Road Flying Field; Lake Orion

July 2019

Saturday July 13 – **Open House - Recreation 101**– Scripps Road Flying Field

August 2019

Sunday August 4—**Warbirds and Scale Fly In** - Scripps Road Flying Field; Lake Orion

Sunday August 18—**Corn Roast and Top Gun Flying** - Scripps Road Flying Field; Lake Orion

September 2019

Sat. – Sun. September 7-8 - **Midwest Regional Float Fly** – Seven Lakes State Park Rec. Area, Holly

Saturday September 21- **Skymasters Fun Fly** - Scripps Road Flying Field; Lake Orion

October 2019

Indoor Flying Season Begins – Ultimate Soccer Arenas; Auburn Hills

December 2019

Christmas Party – Orion Center; Lake Orion

dates subject to change – PLEASE always consult current information on website: www.skymasters.org

Skymasters 2018-2019

Club Meetings

Orion Center - 1335 Joslyn Rd, Lake Orion, MI 48360 - Room A

3rd Thursday of Month – 6:45 – 8:45 p.m.

September 2018

Wednesday 19th – Club Meeting - **Scripps Field**

October 2018

Thursday 18th – Club Meeting

November 2018

Thursday 15th – Club Meeting - (Elections & Club Review)

December 2018

MONDAY 17th – CHRISTMAS PARTY

January 2019

Thursday 17th - Club Meeting

February 2019

Thursday 21st – Club Meeting

March 2019

Thursday 21st – Club Meeting

*dates subject to change - PLEASE always consult current information on website:
www.skymasters.org and current club email communications*



ON THE WING

Skymasters Breakfast (Everyone is welcome)

First and Third Monday of each month
through the summer... and beyond!

9AM

Red Olive restaurant

In the strip mall on Walton
across from Crittenton Hospital

Rochester MI

Skymasters Indoor Flying Tuesdays!

*We fly every Tuesday
through mid April*

10AM to 1PM (three hours)

Ultimate Soccer, Opdyke & South Blvd

Pontiac, MI

AMA required

Next Skymasters Meeting...

Thursday, January 17th

6:45PM

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

Premiere Sports Center

14901 23 mile, Shelby Twp, MI

(northwest corner of 23 mile and Hayes)

Every Thursday, 9AM to 3PM

Electric planes and helis (separate heli
space)

\$10/session, AMA required

Info: Steve Durecki 586-246-4203 (text or
voice)

<http://www.stevesindoorflying.com/>

Legacy Center

9299 Goble Dr.

Brighton, MI 48139

(Off of Winans Lake Road, between Rickett Rd.
and M23)

Wednesdays 1PM-3PM November through March

\$10/session

Sponsored by the Hamburg Flyers RC club

January 2019

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2 Indoor Flying 10AM-1PM Ultimate Soccer, Pontiac	3 Indoor Flying 9AM-3PM Premier Sports Center Shelby TWP	4	5 Saturday Breakfast 8:30AM Iris Cafe
6	7 Skymasters Breakfast 9AM Red Olive, Rochester Hills	8 Indoor Flying 10AM-1PM Ultimate Soccer, Pontiac	9	10 Indoor Flying 9AM-3PM Premier Sports Center Shelby TWP	11	12 Saturday Breakfast 8:30AM Iris Cafe
13	14	15 Indoor Flying 10AM-1PM Ultimate Soccer, Pontiac	16	17 Indoor Flying 9AM-3PM Premier Sports Center Shelby TWP Skymasters Meeting 6:45PM Orion Center	18	19 Saturday Breakfast 8:30AM Iris Cafe
20	21 Skymasters Breakfast 9AM Red Olive, Rochester Hills Indoor Flying (on Monday this week) 10AM-1PM Ultimate Soccer, Pontiac	22 No indoor flying today (See Monday)	23	24 Indoor Flying 9AM-3PM Premier Sports Center Shelby TWP	25	26 Saturday Breakfast 8:30AM Iris Cafe
27	28	29 Indoor Flying 10AM-1PM Ultimate Soccer, Pontiac	30	31 Indoor Flying 9AM-3PM Premier Sports Center Shelby TWP		

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.

Student Instruction & Pot Luck

Every Wednesday, May through September. Flying any time but we eat at 6:00 p.m. - rain or shine, literally!
 For those participating we ask that

you bring something for the grill - enough to feed (at least) you and your guests -OR- bring a dish to pass -OR- bring your own (non-alcoholic) beverage. **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! We've cooked pork tenderloin and chops, salmon, venison burgers, steaks and more. Don't forget the buns.

We start cooking about 5:30 p.m. - having grill items by then helps us get everything ready on time.

Potluck dish to pass: Don't know what to bring, working late? Each week we'll let you know what is needed for the next week from plates to condiments, charcoal, etc. **Pick one of the needed items to bring instead!** Not one to cook? A quick stop at local supermarket deli

for a side salad, or bakery for dessert always works!

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. 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!



2019 Club Officers & Appointees...

President:	Bob Chapdelaine	Oxford	president@skymasters.org
Vice Pres.:	John Billinger	Troy	vicepresident@skymasters.org
Secretary:	Phil Saunders	Rochester Hills	secretary@skymasters.org
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CSO	Greg Brausa	Metamora	cso@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