official digital newsletter of

Skywriter

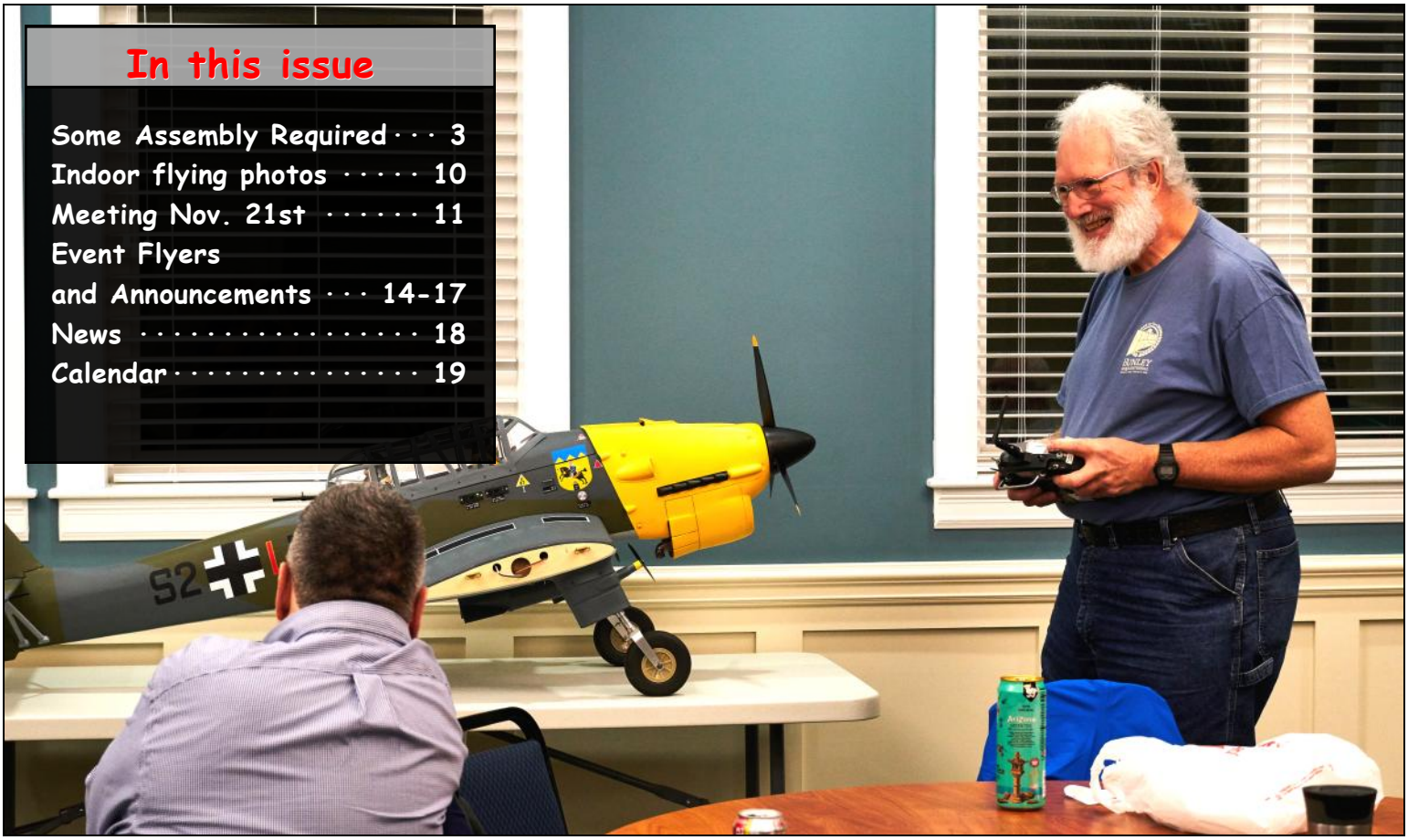
AMA Charter Club #970 www.skymasters.org 24 year Gold Leader Club

Skymasters Radio Control Club of Michigan

it's another beautiful day at Skymasters...

December, 2019

In this issue



Happy Holidays as it is that time of year again. Our club is preparing for it's Annual Family and Friends **Christmas Party Thursday December 5, at 6:30** p.m. at the Orion Center. Santa will again be there with gifts for those children that let us know will be in attendance. This is always a great annual club gathering of families and friends. Send your RSVP, dish you'll be bringing (and names and ages of any children 13 years of age or younger) to santa@skymasters.org.

We have a new club President for 2020. Congratulations to Pete Foss who was elected at our November club meeting. Pete has been a great part of Skymasters for a very long time and a past Vice President, best I know, and a great part of the club leadership for a long time also. As for the other positions, **John Billinger** was re-elected Vice President, **Phil Saunders**, Secretary, **Jim Satawa** Treasurer and **Dave Stanley** and **Steve Kretschmer** maintained two of the three At-Large positions with **Paul Goelz** being elected to the third at-Large position. **Congratulations to our 2020 club officers** and I hope you'll all take a moment and thank them for their service to our great club and I know they'll keep things running smoothly.

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I hope you've gotten a chance to fly at Indoor on Tuesdays. If not grab an airplane and head on over to Ultimate Soccer Arenas on Tuesdays for the greatest indoor flying anywhere. Check out our club website www.skymasters.org for all the information about indoor flying and many other exciting Skymasters activities. Be sure to check out flyers in this newsletter and extra Christmas flying dates.

Lastly, get your skis ready for our **Crazy Snow Fly on New Years Eve Day**. 10:00 a.m. Chili is being prepared.

It is another beautiful day at Skymasters!

Bob Chapdelaine, President, Skymasters RC

Next Skymasters Meeting is the Christmas Party!!!

Thursday, December 5th

6:30PM

at the Orion Center, 1335 Joslyn Road

(on the east side of Joslyn, just south of Clarkston Road), Lake Orion, MI

2019—2020 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 and 8 PM

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

Front Cover

Wade Wiley and his big beautiful Junkers JU-87 at the November meeting / elections.

Paul Goelz photo

Bell P-39 Airacobra conversion to control line

In last months column I said that if I'm going to take the time and spend the money to fly in the AMA Nationals in July, 2020 I'm going to fly in more than one event. I will fly my 1/4 scale Brown B-2 racer Miss Los Angeles in the Sport Scale event. I covered the conversion of Miss LA to control line in a recent Skywriter article. The Miss LA fuselage structure allowed a fairly simple conversion. The second plane I will be entering is my 63" P-39. I will enter it in the Authentic Scale event. This is the most rigorous control line scale event. All other events call for the static judging to be done from 15 ft away. In authentic Scale, the judges can examine the model up close. This means that they can see every detail on the surface and in the cockpit. My P-39 is a highly detailed model with rivets, panel lines, a fully detailed cockpit and landing gear. Having said that I will still need to raise the level of detail if I hope to be competitive. I'll be going through that as well as the warts that I can't fix in future articles. But before any of that work makes sense I have to convert it from r/c to control line. For this model that is not a trivial matter. For this model to qualify to fly in the nationals it must be able to pass a control system pull test of about 65 lb. The control system bellcrank will be mounted in the fuselage which was not designed to handle a lateral load of that magnitude.

Making matters worse, during the original construction I replaced a large amount of plywood in the fuselage to balsa in order to save weight in order to offset the added weight of the full cockpit and other scale details. The model is electric so packaging the batteries as far forward as they can be places them exactly where the bellcrank needs to be. As an r/c model it had (2) 3s-5000 mAh batteries in series. I have calculated that for the flight demands of the Control line Scale competition, I can use (2) 3s-3700 mAh packs located in the same location as the (2) 5000's. That opens up 9/16" to package the bellcrank and the necessary structural enhancements. The picture below shows the situation.

Bellcrank and battery packaging

The photo above shows a commercial nylon bellcrank that takes up 3/8". But the way the leadouts attach to the bellcrank would take up more space which I don't have. To solve that problem I designed and machined an aluminum bellcrank with a dual ball bearing pivot. It also allows for a different leadout attachment which does not take up additional space.

Aluminum bellcrank with ball bearings

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Cardboard bulkhead template

I used the template to make a left and right plywood doubler to add to the existing balsa bulkhead.

Plywood doubler ready for glue

I wanted to carry the loads across the fuselage to tie everything together. As before I made cardboard templates and fit them in place and then made the final plywood parts. The rear cross member would also carry a removable part that mounts the receiver and speed control. (Receiver?? The control line scale rules allow you to operate all of your secondary controls with a 2.4 gHz radio. The elevator must be directly controlled by the pilot through the flying wires, bellcrank and push rod. In the case of this P-39, the landing gear air valve, the flaps, the ailerons, and the drop tank release are all operated by a transmitter that I have with me in the center of the flight circle.)

The next parts are the ones that directly carry the bellcrank and the lateral test and flight loads. I made and fit (2) 3/32" aircraft grade birch plywood plates. The bellcrank pivot bolt goes through both. One plate attaches to the cockpit floor, the front and rear plywood bulkheads and cross members described above and attaches to a longitudinal stringer. The second plate is spaced 7/16" above the first one and attaches to the bulkheads and the fuselage side. This plate also acts as a support for one of the batteries. There will be a picture to show how it actually looks. Below is a picture of

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Leadout attachment to the bellcrank

So with the bellcrank problem solved I need to create a structural mount for it. To provide adequate support for the bellcrank I decided to mount it between (2) 3/32" aircraft grade plywood plates. The plates need to transfer the loads to both sides of the fuselage and (ideally) 2 structural bulkheads near the front and rear wing mounts. The existing front wing mount is already plywood and is quite robust. The rear wing bolt attachment plate attaches to a balsa bulkhead which is adequate for its purpose. However I didn't think it was good enough for the large lateral load from the bellcrank. I still have the original drawings so I made a cardboard template of the balsa bulkhead. The fuselage has longitudinal stringers and so the template was notched to tie them into the structure.

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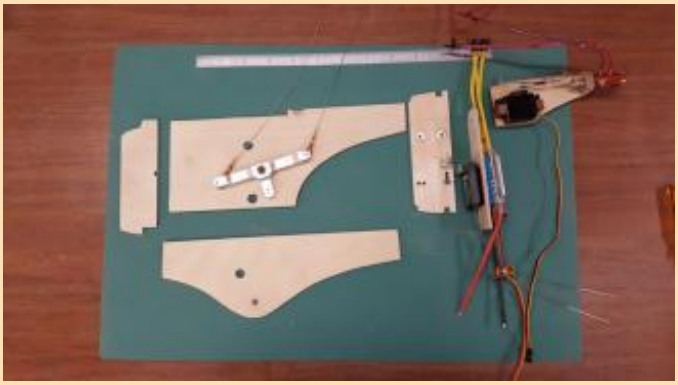
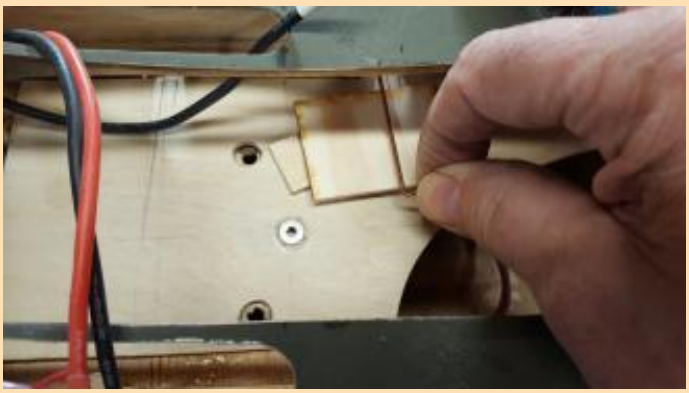
the parts that are ready to install. You can also see the bellcrank, the receiver / e.s.c. mount and the landing gear air control valve and servo. The rear (on the right) cross member also has holes for the landing gear pneumatic lines and elevator push rod guide.



Bellcrank mounting plates

The upper plate (bottom in the picture) will get an extension to go to the opposite fuselage side to provide a platform for the second battery. As one piece it couldn't fit though the wing saddle opening. The battery mount plates also keep the batteries and wires away from the bellcrank and leadouts. The larger plate also has layout lines that show the path of the leadouts to fuselage side where there will be exit holes. The picture below shows the large plat installed. Note the leadout layout lines and me using a sharpened wire to pierce the fuselage at the proper location for a leadout exit hole. Also note the two larger holes. Those holes allow me to insert a small tube to blow small jets of compressed air into the cockpit to blow dust off of the inside of the canopy :-(



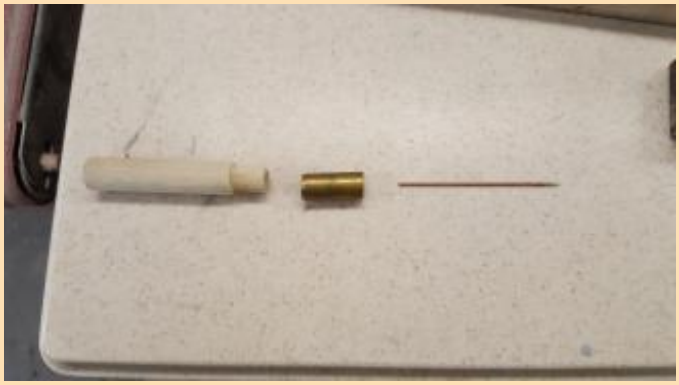
Making leadout exit hole center point.

Here are the parts installed.

Upper and lower bellcrank mounts

Bellcrank installation complete

The scale competition rules allow a competitor to remove the leadouts prior to static judging. That means that the leadout holes in the fuselage will be a little larger than would otherwise be necessary to be able to pass the end fittings. I want to have machined plastic inserts in the holes to prevent the leadouts from wearing in the opening. I also want to be extremely careful when I make the holes to minimize the damage to the finish. To make the holes I will use a sharpened brass tube. I made a tool that has a 1/16" steel wire as a centering pin. The pin will go into the hole I previously pierced in the fuselage side.



Parts for leadout hole tool

To use the tool, the pin goes into the pilot hole and the

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sharpened brass tube is rotated until it goes through the fuselage

Making the leadout hole with a special tool

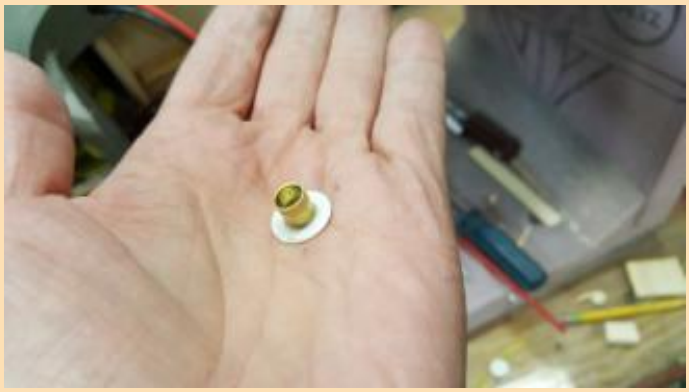
A nice clean hole

I machined 2 plastic fairleads to fit the hole and be flush with the outside surface of the fuselage.

Machined gray PVC fairlead

The fairlead is pressed into the fuselage and glued from the inside.

So after all of that work I thought to myself….."that looks ugly". To improve the looks at the time of judging I decided to make some removable covers that will be painted to match the model. To make the covers I cut two disks out of 0.010" polystyrene plastic available from the hobby shop. I then glued a short piece of brass tubing to the disks. The tubing is a slip fit in the lead-out hole.



Leadout hole cover

Leadout hole covers in place. They will be painted to match.

Ordinarily the leadouts on a control line model go through the wing and exit at the wing tip. On take-apart models and scale models with wing dihedral, the leadouts go through holes in the fuselage so there has to be an external leadout guide at the wing tip. The P-39 needs such a device. For static judging it can be removed so that's what I'll do here. I'll make it out of 1/4" aircraft grade birch plywood. I will also make the leadout location adjustable for flight trimming the model. Of course there is an airfoil shape to the wingtip that the guide needs to follow. To copy the shape I use a piece of 1/8" solder pressed against the wing tip to duplicate the exact shape and then transfer the shape to the plywood part blank.

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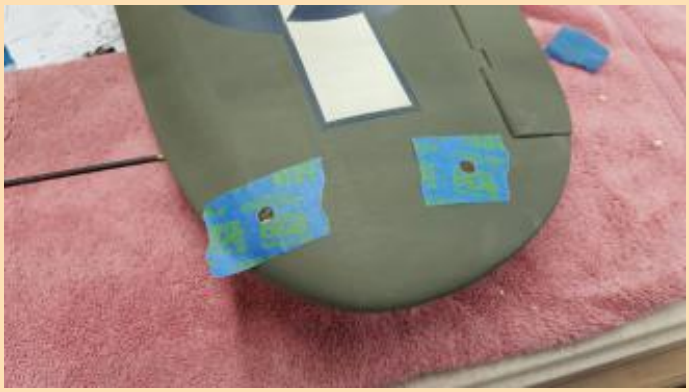
Solder used to copy the curvature

The plywood piece is designed with two concentric slots to allow the plastic adjuster to slide back and forth. There will be two 4-40 bolts holding it to the wing tip. The plastic piece is made out of 3/8" delrin. It is machined in a "t" shape to go into the slots in the plywood piece. There is a short 4-40 bolt and washer that locks it in place in the slot.

Leadout guide parts

The plywood part is used to mark the location of the mounting holes in the wing tip. A 5/16" sharpened brass tube is used to drill two blind holes where the mounting bolts will go. Note that the holes are drilled through a piece of masking tape. I did this because I will be filing the blind holes with J.B. Weld epoxy and the tape will keep the epoxy off of the finish.



Blind holes at guide mounting bolt connections.

J.B.Weld epoxy filling the holes.

When the epoxy has cured over night I sanded it down to the tape being careful not to go too far and damage the finish.

Sanding the epoxy plug flush with the surface

Next, I marked the mounting bolt locations on the now flush epoxy plugs. Next, I drilled and tapped the plugs for the 4-40 mounting bolts. I wrapped a piece of tape around the tap drill as a depth indicator to prevent drilling through the other side. I used a 4-40 tap that has been modified to act as a bottoming tap to get the threads all the way to the bottom of the hole. To modify the tap I took a broken tap and ground the end flat with my Dremel tool. I then put a sight chamfer on the end of the tap to aid in getting it started in the drilled pilot hole.

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leadout guide mounted on the wing tip

At this point I have a setup that I can do a pull test on. There's no point in going further until the test is done. If the test fails, the effect on the model will be catastrophic.

The moment of truth has arrived. I will be doing a 65 lb. pull test. To do this I use (2) 50 lb. spring scales in parallel tied to a steel column in my shop I connected the spring scales to two short pieces of leadout cable that I tested to 100 lb. A failure of the test apparatus would likely lead to a catastrophic structural failure of the bellcrank mount…. not good! I now connect the cables to the model's leadouts with proper sized line connectors (also tested).

With everything ready I held the model by the fuselage in accordance with the test protocol in the rules and slowly pulled while watching the scales. I went to 30 lb. first and then I went to the full 65 lb. Load. WOO HOO! No failure and no funny noises. Of course I knew it would pass ;-) right??

There is one more thing that needs to be done to make the model flyable as a ukie. It needs 2 oz. Of weight in the right hand wing tip. The weight is there to offset the weight of the flying wires. This model uses 0.024" 7 strand stainless steel cables as flying wires. I didn't want to cut a hole in the wing tip to install the weight. When I built the model I used some really cool control surface hinges that allow the surface to be removed. Sadly they don't make the hinges anymore. Anyway, I removed the right aileron and drilled a 1/2" hole in the wing with a sharpened piece of brass tubing so I could save the plug to conceal the hole after the weight is glued in. I used a piece of the brass tubing and cast it full of lead to make the 2 oz. weight.

Drilling the weight hole with a sharpened brass tube

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The hole ready for the weight

The lead filled brass tube weight

So that's it for this month. This model is still a long way from being ready for the nationals. I've got to add a number of scale details including recognition lights, navigation lights, shell ejector chutes for the 50 cal gun pods and some paint work. I'm working on the competition flight plan in accordance with the rules which is going to cause me to make a 75 gal, drop tank, the scale sway brace for the tank and a release mechanism so the tank can be dropped in flight. All of this stuff will be covered in future articles. For next month I'll be going through the conversion of an FW-190 A4 to fly in the Team Scale event. Team Scale does not have a "builder of the model" rule so I will prepare the model and Skymaster Jim Satawa will fly it in the event. It should be a fun time.

Steve Kretschmer

November Indoor Flying at Ultimate

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

Club Meeting and Elections

November 21st

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

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

Position Filled!

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 automated. 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.

HOLIDAY BREAK Special

4hrs of Flying or Road Racing

Mon. Dec. 23rd & Mon. Dec. 30th

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

At Ultimate Soccer Arenas, 876 South Blvd. Pontiac MI

1/10
Scale

Take a break from the hustle and bustle.

Come on over and fly or road race indoors.

Spectators Are Always Free

Visit Skymasters at
www.skymasters.org

All Pilots/Drivers must have proof of current AMA Membership.

A Special 3 Month Trial AMA Membership is Available.

For rules check out our website.

Season Passes and Punch Cards Honored

SKYMASTERS RC
MICHIGAN

2019

Skymasters R/C Club

Indoor Flying

Ultimate Soccer Arenas

skymasters.org

the best indoor flying venue anywhere!

Join us on Tuesdays*

at Ultimate Soccer Arenas

Where its always warm and dry!

Located on 867 South Blvd., Pontiac, MI 48341

Oct. 29th thru Apr. 14th

*from 10 AM -1 PM**

Spectators Welcomed – Trainer Planes On Site – Come Check It Out

Single Flying Session only $10

Any 5 Session Punch Card $40

25 Session Season Pass - $120

Pay at the door or register online after 9/30/10 at:

www.Skymasters.org

Have any questions contact the Event Director at: Indoorfly@Skymasters.org

Or call Fred at 248-770-3239

All Pilots must have proof of current AMA Membership

A Special 3 Month Trial AMA Membership is Available

* Consult schedule for exact times and dates.

Radio Control Club of Detroit

Presents Their

"24th Annual Swap Meet"
Sunday, January 26, 2020

Time: Open 9:00am – 12:00pm
Location: Knights of Columbus Hall
23695 Mound Rd.
Warren MI 48091
1/3 Mile North of 9 Mile Rd. on the West side of Mound Rd.
(See Map)
General Admission:
Adults - $5.00
Children under 12yr old - $1.00
Children under 5 – Free!
Free Parking
Door Prizes, 50/50 Drawing,
Special Raffles all day.

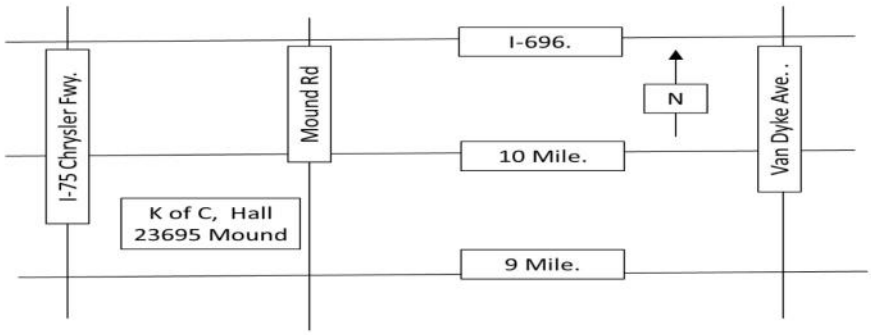
Food and Refreshments: Waffle Breakfast 9:00 – 11:00. $3.00

Contact info: To reserve tables or general info contact: **Paul Newby** at **586-747-7675** or email to: **paul.newby51@gmail.com**

Vendors: Tables $20.00 each
(Includes 1 admission per table)
Table set up at 7:30 AM
Vendors requested to stay until Noon.

Did your family surprise you with a gift of a new snow shovel.....then offer to help you clean up your workshop? Maybe it's time to get a table and sell some of that stuff before the dumpster shows up in your driveway.

Did you finally decide to "get into" flying Giant Scale or EDF Jets, but don't have the heart to "re-kit" a new one? (Hey, there's nothing wrong with dipping that toe in before diving into the deep end!) Well, come on out and find that perfect "previously owned" one.



More Info at: www.rccd.org

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** – **Seven Lakes State Park, Holly MI**

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

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

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

December 2019

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2 Skymasters Breakfast 9AM Red Olive, Rochester Hills	3 Indoor Flying 10AM—1PM Ultimate Soccer	4	5 Indoor Flying 9AM—3PM Premier Sports Center Shelby TWP Skymasters Christmas Party 6:30PM Orion Center	6	7 Saturday Breakfast 8:30AM Iris Café
8	9	10 Indoor Flying 10AM—1PM Ultimate Soccer	11	12 Indoor Flying 9AM—3PM Premier Sports Center Shelby TWP	13	14 Saturday Breakfast 8:30AM Iris Café
15	16 Skymasters Breakfast 9AM Red Olive, Rochester Hills	17 Indoor Flying 10AM—1PM Ultimate Soccer	18	19 Indoor Flying 9AM—3PM Premier Sports Center Shelby TWP	20	21 Saturday Breakfast 8:30AM Iris Café
22	23 Indoor Flying 10AM—1PM Ultimate Soccer	24	25	26 Indoor Flying 9AM—3PM Premier Sports Center Shelby TWP	27	28 Saturday Breakfast 8:30AM Iris Café
29	30 Indoor Flying 10AM—1PM Ultimate Soccer	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.**

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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