Hi All

Welcome to my first Skymasters Presidents’ letter in over 25 years! Lots of things about the hobby and club have changed but so much has stayed the same. We still have a very active club with a great flying field!

This year’s club Christmas Party was a very nice time. As always members stepped up including Jim Satawa and his son who came very early for setup and decorating plus shopping for pop and cleanup; my wife Carolynn shopped and wrapped the kids gifts, crocheted the ladies gifts and cooked a ham, turkey and stuffing; and finally Joe Rubin-stein baked the 2nd turkey. I’d also like to thank everyone who came and brought food to share proving once again that at Skymasters "We always eat, sometimes we fly!".

The annual toy drive at Ultimate Soccer was a huge success with about $1600 worth of cash and gifts collected. Congratulations to all attendees and special thanks to Fred Engleman for coordi-
nating. If you haven't made it out to indoor flying this year, you should! We have been having a great time flying (and driving RC cars).

I just got back from the annual Krazy Snow Fly where for the eleventeenth year in a row it was cold, snowing and windy! Thanks Ken Gutelius for setting up the shelter and hosting a great event. 20+ crazy enthusiastic pilots came out to eat donuts, drink coffee and hot chocolate (thanks Jim Satawa and Fred Engleman), eat Steve Kretschermer's awesome chili, snuggle up to Greg Brausa's patio heater and Oh Yeah, FLY! We had just about every type of RC aircraft including a glow helicopter and stunt plane plus electric of all types (flying boats, gliders, EDFs, etc.). Thanks for a fun morning guys (and gal).

Our first club meeting of the year is on Jan 16th at the Orion Center at 6:45 as usual. Not sure yet what the topic will be, but we plan to talk about glues, LED lighting, care and feeding of lipo batteries, etc. at our spring meetings.

Thanks,

Pete

Pete Foss, President, Skymasters RC

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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.
In last months article I went through the conversion of my P-39Q to control line. That was the second of four models I will be taking to the AMA control line scale nationals. The third plane will be my FW-190 A4. This model will also require conversion. This conversion will be tricky because it has a fiberglass fuselage. The problem here is that there is almost no structure inside to withstand the almost 60lb side load that the scale rules dictate for a static pull test on the control system. Here is what the inside of the fuselage looks like as an r/c model.

FW-190 internal fuselage view.
The P-39 had internal structure in the right place that I could tie into. The FW is essentially a very thin fiberglass shell with a firewall and the wing bolt plate as the only structural elements and they are 18” apart. After a lot of head scratching and sketching of ideas I settled on a plan.

I had a piece of 3/4” diameter carbon fiber tubing that was 24” long. I did a bending test by supporting the tube on each end and applying a 100lb load in the center. It barely deflected. So the plan was to run the tube from the firewall to a new structural bulkhead that would attach to the cockpit floor, the wing mount plate, and the fuselage sides. I would then make some birch plywood parts that would allow me to attach the control line bellcrank, the landing gear air control valve, the air control valve servo, and the rudder servo. Why have a rudder servo you might ask? I found that for control line tail dragger planes of this size, the plane wants to turn hard left during the take off roll due to the prop “P” factor. In r/c planes we compensate with rudder until the tail comes up. Of course I could fix the rudder to have a large amount of right rudder in the control line version but then I’ve got too much rudder for the remainder of the flight. I solved the problem in my Miss Los Angeles by keeping radio control of the rudder. To simplify things for my geezer brain, I set up a rudder/flap mix so when I lower the flaps for take off I get the proper amount of rudder. After take off I raise the flaps and the rudder is neutralized. Both are set up to take about 3 seconds. It works very well this way and there’s one less thing to think about.

The first thing I did was to make some templates for the new bulkhead that I’ll be adding to attach one end of the carbon fiber tube. As I usually do when I want to duplicate a shape I use a piece of 1/8” solder for a template. I formed the solder to the outside of the fuselage and used that to transfer the shape to a template that I make out of a file folder. I made a right and left template so I could make small corrections to the shape of each side. When the left and right templates fit perfectly, I taped them together and transferred the shape to the Birch plywood blank.

Bulkhead template development.

(Continued on page 4)
I wanted the bellcrank to be mounted between two plates to prevent bending of the mounting bolt under the test load. I designed a pair of plywood parts that have a hole for the carbon fiber tube and two slots for the bellcrank mounting plates. I machined the plates in my milling machine. I could have done it with a scroll saw but the mill was more accurate.

**Machining the bellcrank mount plates**

As I did with the P-39 I machined an aluminum bellcrank so that I can use ball bearings in the pivot and use nylon bushings where the control lines attach.

With all of the parts made I assembled the bellcrank mount to the fuselage. The odd shaped of the mounting plates is the result of needing access to the lead out line connector fasteners and clearance for the elevator push rod spherical connector.

**Parts assembled to the carbon fiber tube.**

To install the conversion module I drilled an oversized hole in the firewall to allow for the need to angle the tube during installation.

**Bellcrank mount test fit in fuselage.**

**Control line attachment bushings.**
Hole in the firewall.

I made a plywood doubler to deal with the oversize hole and to reinforce the mounting area. The part needed to be shaped to fit into a recess in the electric motor mount.

Plywood doubler.

Plywood doubler in place.

After cutting the rear bulkhead to shape and verifying the fit, I cut an opening to reduce its weight and also clear the carbon fiber elevator push rod and the rudder pull-pull wires. I also marked and drilled the hole for the 3/4” carbon fiber tube. I then sanded and cleaned the inside of the fiberglass fuselage to prepare the surface for the epoxy adhesive. I also sanded the outside of the carbon fiber tube for the same purpose. I then bonded the bulkhead in place tying the wing mounting plate, cockpit floor and both sides of the fuselage together.

Rear bulkhead epoxied in place.

Next, I added the rudder servo mount and the landing gear air control valve to the module in preparation for final installation.

Bellcrank module is ready to install.

I then slipped the tube through the oversize hole in the firewall and then backed it into the rear bulkhead hole. I aligned the module such that the bellcrank pivot is at the center of gravity of the model and epoxied the tube.

(Continued on page 6)
to the bulkhead and the firewall doubler.

Bellcrank module installed.

The next thing that needed to be done to complete the conversion was to fabricate a removable, adjustable lead out guide for the wing tip. I used the same basic design as I used for the P-39 and Miss Los Angeles. The guide consists of a plywood piece with a machined “T” slot and a machined nylon slider with a locking bolt. The plywood piece has two mounting bolts to attach it to the wing tip. The mating edge is contoured to match the curvature of the wingtip.

Adjustable lead out guide.

The lead out guide mounting holes in the wing tip need to be prepared. I decided to use short dowels that were drilled and threaded for the mounting bolts. The pilot holes are drilled in the dowels and then the holes are tapped for the 4-40 bolts. I hardened the threads with thin CA and then re-tapped the holes. This process makes threaded holes in wood much stronger. I laid out the location of the mounting dowels and drilled the holes. I wrapped a piece of tape around the drill bit to let me know how deep to drill. You do not need to drill all the way through!! Before I glued the threaded dowels in place I made a mask to keep the glue off of the painted finish. I used a sharpened brass tube to cut a hole in the masking tape and then positioned it over the hole.

Masking off the mounting holes.

Next, I glued the threaded dowels in the masked holes. I kept the dowels on the guide so the alignment would be perfect. I allowed the dowels to protrude slightly above the wingtip so I could finish the ends flush to the wing tip. When the glue was dry I masked a larger area around the protruding dowel and then sanded the dowel flush to the wing tip.

Threaded dowels ready for sanding flush.

With the threaded dowels finished, I mounted the lead out guide. Note that the guide had to be mounted pretty far forward to be able to properly position the plastic slider. That meant that the forward mounting hole had to go through the guide. The mounting bold head was recessed in order to allow the slider to slide.

Lead out guide mounted to the wing tip.

(Continued on page 7)
The next thing to do was to make the lead out holes in the side of the fuselage. During the installation of the bellcrank module I had marked the location of where the lead outs would go through the fuselage side. I double checked the location relative to the final position of the lead out guide I actually got it right!! So I drilled the holes. I started the hole with a 1/8" bit in my electric drill. I then used a step drill by hand to finish the hole. The fiberglass is so thin I wanted to have better control thus the use of the hand held step drill.

Drilling the lead out holes with a hand held step drill.
I like to have a plastic bushing for the lead out wires. In this case I machined a pair from some gray PVC rod. I machined a 0.015" lip that will fit through the hole in the fuselage and be flush on the outside.

Machined lead out wire bushing.
Next, I glued the bushings into the prepared holes in the fuselage. You will notice that the holes are a little larger than you might expect. The larger hole allows the thimble at the end of the lead out to pass through. The scale competition rules allow the lead outs to be concealed in the fuselage and the wing tip guide to be removed for the static judging.

Lead out bushings are installed.
The moment of truth has arrived. I needed to do a static pull test. I rigged up two 50lb spring scales in parallel and assembled the model. I connected the scales to the lead outs and a steel post in my shop. I held the model by the fuselage in accordance with the AMA test procedure and slowly increased the load until both scales got to 30lb (60 lb total). I didn't hear any funny noises and no big hole suddenly appeared in the side of the fuselage. WOO HOO!

That's it for this month. Now that the P-39 and the FW-190 are structurally ready I need to do some scale enhancements to make them more competitive in the static judging. So next month I will begin that work. The difficult thing will be to do the enhancements without screwing up the finish. Among other things, I will be designing and building scale drop tank and bomb racks with scale sway braces. In the flying portion of the competition I will be doing a belly tank drop on the P-39 in the “Authentic Scale” event and fellow Skymaster Jim Satawa will be doing a bomb drop from the FW-190 in the “Team Scale” event.

Until next month,

Steve Kretschmer
December Indoor Flying at Ultimate

Click anywhere in the collage to view the entire photo album on the Skymasters web site
December 7th saw your reporter and Ken Gutelius participating in “Operation Good Cheer”, where pilots donate their time and aircraft to fly Christmas presents to various locations in Michigan. Pontiac Airport was a zoo, with at least 100 planes (possibly more) following a tight schedule for taxiing, loading and departing. For example, we sat at the loading area for almost 15 minutes with the engine running waiting to be called to taxi for departure. “Don’t call us, we’ll call you”. The weather that day was a bit iffy but Ken is IFR rated so he filed IFR and after loading the plane to the rooftop with presents (including a tricycle somewhere at the bottom of that heap) we flew off to Luddington. At Luddington, a bunch of very happy kids and parents helped unload the plane and then we relaxed in the lounge with some munchies before activating our flight plan and departing for Pontiac. After flying in moderate snow on the way out and under an overcast layer on the way back, Pontiac Airport was surprisingly sunny on our return. A fun day and a great flight in Ken’s fast and comfortable Grumman Tiger.

Paul Goelz
2019 Krazy Snow Fly
December 31st

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
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.
Indoor Flying & Road Racing
Monday, Jan. 20th

Martin Luther King Day
from 10 AM to 2 PM for $10
Ultimate Soccer Arenas – 867 South Blvd. Pontiac, MI 48341
Punch Cards/ Season Pass Honored and all spectators are free

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

For more information visit our web site at: www.skymasters.org

The Remaining Winter Indoor Schedule

December:  Mon. 23rd & Mon., 30th - 4 hrs. ea.
January:
Tue 7th
Tue 14th
Mon. 20th – 4 hrs. MLK Day
Tue 28th

February:
Tue 4th
Tue 11th
Tue 18th
Tue 25th

March:
Tue 3rd
Tue 10th
Tue 17th
Tue 24th
Tue 31st

April:
Tue 7th
Tue 14th

All Sessions
3 hrs. unless noted.

2 Special Spring Sessions in April:
Tue 21st & Tue 28th
Join us on Tuesdays*

at Ultimate Soccer Arenas

Where it's 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
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

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

Other local area indoor flying
### January 2020

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<td>No indoor flying Tuesday the 21st... Come fly with us on MLK day, Monday the 20th. &lt;&lt;&lt; &lt;&lt;&lt;&lt;&lt;</td>
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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!