official digital newsletter of

Skywriter

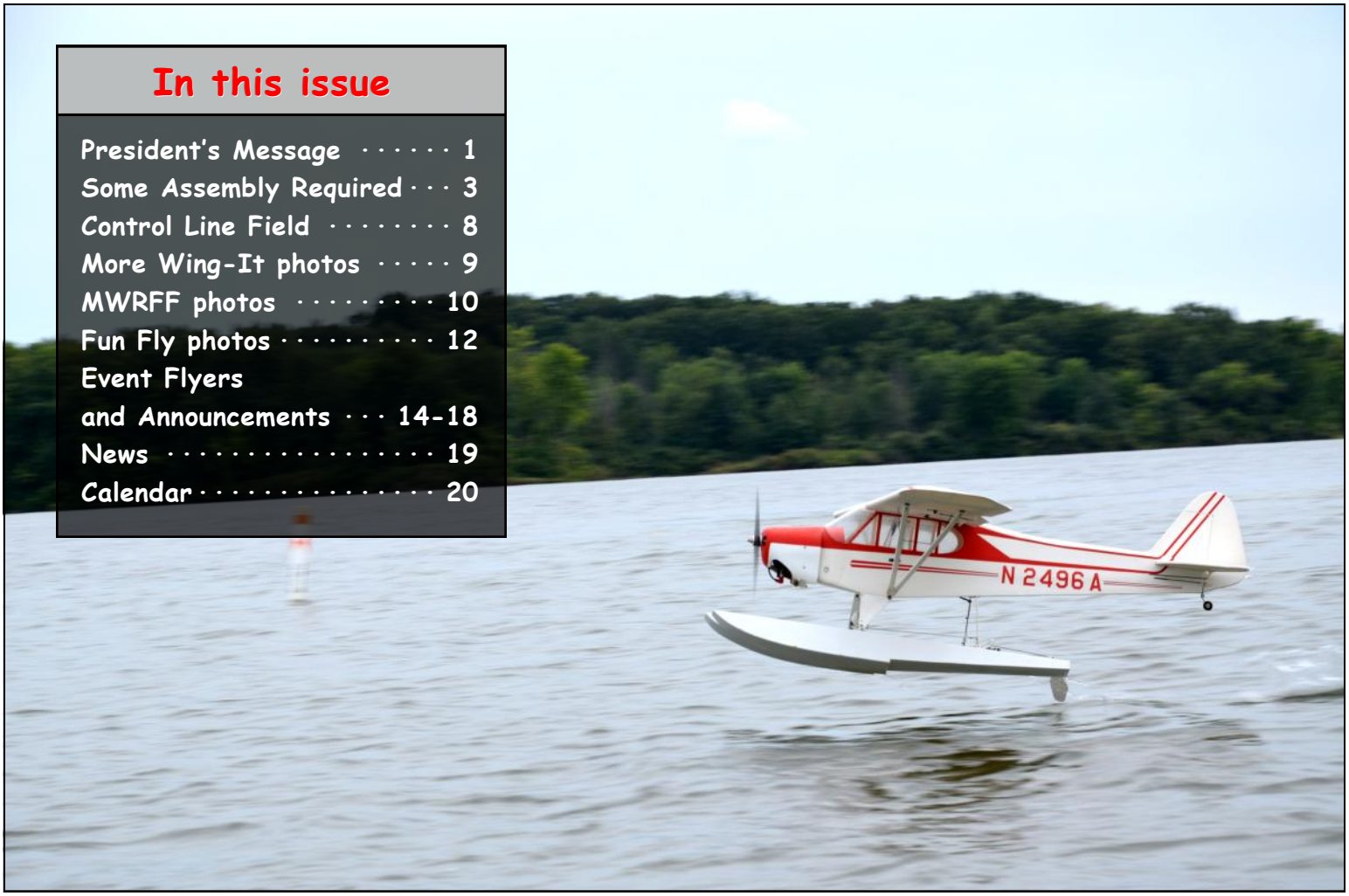
AMA Charter Club #970 www.skymasters.org 24 year Gold Leader Club

Skymasters Radio Control Club of Michigan

it's another beautiful day at Skymasters...

October, 2018

In this issue



October is here and that means Skymasters Indoor Flying begins at Ultimate! Check out the best Indoor Flying anywhere and sign up now for Skymasters Indoor Flying each week in Auburn Hills at Ultimate Soccer Arenas. Thanks to everyone who makes this great weekly endeavor happen and especially Fred Engleman.

We've got our Saturday October 13, Oktoberfest coming up soon that we're looking forward too. We'll start in the afternoon (3:00 p.m.) WE DO HAVE A PERMIT FOR OVERNIGHT CAMPING! There will be flying on both the main runway and the control line field. Then we'll roll into a night fly with a bonfire and a pulled pork/pork shoulder provided by Skymaster Mike Laviolette. Bring your own food to share (potluck) and refreshments.

Last month we had the Midwest Regional Float Fly at the new location, Seven Lake State Park in Holly and it was a huge success. The wind didn't dampen anyone's spirit and the overnight camping at the campground as usual added to

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the event. We had nearly thirty campers from many clubs. I want to thank everyone who participated and cannot wait to hear from Dave Wendt about plans for next year!

Our Fun Fly on September 22nd again was a riot and a team of Skymasters and others filled the runway and pavilion for some fun-hearted flying and balloon launching when we weren't flying. This was our sixth year in a row and a great time was had by all.

Club meetings resume at the Orion Center this month. The first is Thursday October 18, 6:45 p.m. in Room A. Remember to bring your items for show and tell. Meetings are the third Thursday of each Month EXCEPT our club **Christmas Party** is MONDAY DECEMBER 17, so please mark your calendar.

Upcoming Club Elections!

In November, we only have one club meeting at the Orion Center which will be on Thursday November 15th. THIS IS A VERY IMPORTANT MEETING FOR CLUB ELECTIONS AND OUR CLUB FINANCIAL REPORT. Time to nominate anyone or yourself for club officer or at-large positions.

Here is what I and/or the EOC is recommending for nominations

7 - Elected Officer Positions for your votes in November:

President: _____ Bob Chapdelaine

Vice President: _____ John Billinger

Secretary: _____ Phil Saunders

Treasurer: _____ Jim Satawa

At-Large: _____ Pete Foss

At-Large: _____ Steve Kretschmer

At-Large: _____ Paul Goelz

I am excited to announce that we have a very healthy roster of nominees.

ALSO: please consider if you would like to NOMINATE someone or yourself for any of those positions listed above!

See you at the field!

It is another beautiful day at Skymasters!

Bob Chapdelaine

President, Skymasters RC

Front Cover

One of the many great float planes that flew at the 2018 Midwest Regional Float Fly at its new location at Seven Lakes State Park in Holly MI.

Paul Goelz photo

Model airplane wing structural design

Preface

Structural design is a highly technical process with a great deal of engineering calculations to be done. In this article I will present a few **very simplified** engineering calculations to give you a basic understanding of how structures work In order to help you make decisions about what you want to do or how to evaluate designs by others.

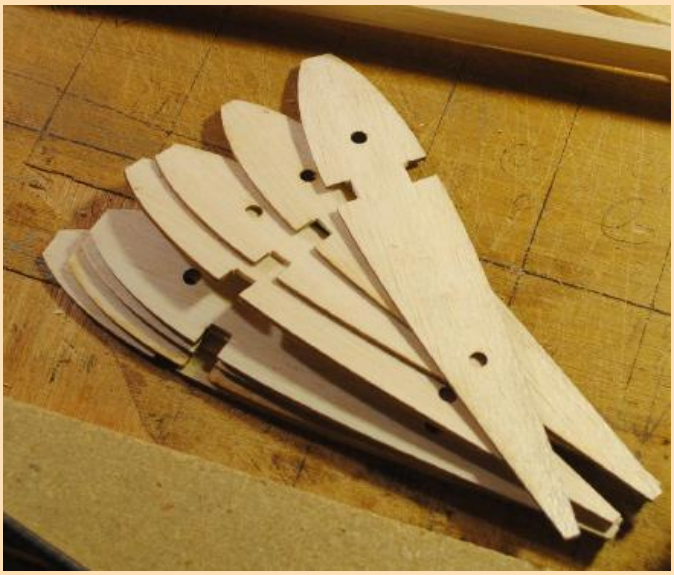
Model airplane wing structural design

In the last two articles we went through the details (simplified) of the selection of an airfoil for the wing that we want to build and then we went through the selection of the plan view of our wing and some online calculators that will help us with the overall dimensions and proportions of our model design. All of that is of course very important but if we decide to actually build the model, it must have some sort of structure to hold the main parts of the airplane together in the proper locations that we determined in the last article. In this article we will deal with the wing.

So from a structural stand point what are the design requirements for out wing? First we need something that will give the wing its airfoil shape. Conventional wing design going back to the earliest flying machines had airfoil shaped structures called ribs. These were usually built up from small spruce sticks with truss-like internal structure to create the rib shape. This was done because it was extremely important to have a light weight structure because the engines of the day were not very powerful. In the early days of model aviation we had the same problem and used the same stick built ribs. I've built ribs for full scale airplanes this way and all I can say is that it is very tedious.

Built-up wing rib

Fortunately, today we have very powerful engines and motors so the need for light weight is greatly reduced. So to save time we usually use ribs made from sheet balsa or lite plywood.



Conventional sheet ribs

There is an obvious variation on the solid sheet rib that will save some weight without the tedium of making stick ribs.

Lightened sheet ribs

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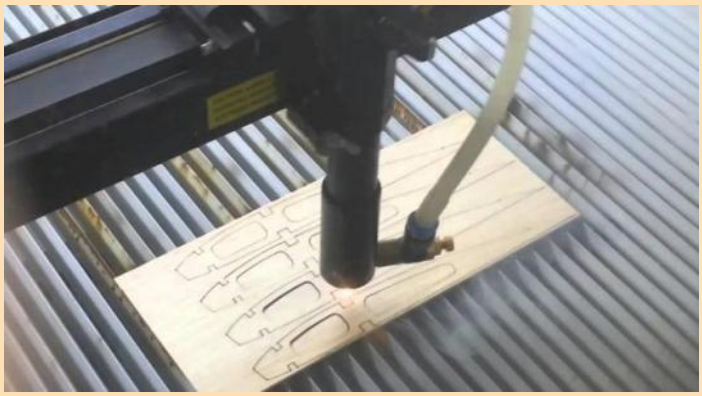
In the picture above you can see that the ribs are for a constant chord wing so all of the ribs are the same and can be made as shown. If we are building a tapered wing we must plot out each rib separately and cut them 2 at a time (right and left are the same of course). Fortunately for us, laser technology is now available and a set of ribs can be ordered from a variety of on-line vendors.



Laser cut ribs

The thickness of the ribs typically range from 1/16" to 1/8" for most r/c and control line model airplane applications.

The second requirement of the wing structure is to resist the aerodynamic forces generated by the airfoil and control surfaces. We will consider 2 different forces in this article.

The first force is the one created by wing lift. The magnitude of the lift force is the lift necessary to overcome the gravitational force on the ENTIRE airplane plus the forces generated by accelerations resulting from turning, climbing, diving, etc. These forces are often expressed in g's where 1 g is the magnitude of the earth's gravitational force on the airplane. For our purposes we will multiply the g's times the weight of the model to express the forces. So the 1 g gravitational force on a 6 lb. plane will be 6 lb. We must break this down a little when we are considering the forces on our wing. The reason for this is that (broad generalization coming) the weight of the wing itself does not play into the structural forces on itself (bending for example). So in our hypothetical 6 lb. plane, if we assume that the wing weighs 1.5 lb. and the fuselage and everything else that is not producing lift weighs 4.5 lb. then the net force acting on the center of the wing (at 1 g) is 4.5 lb. This is the force as we fly straight and level without any disturbances such as a wind gust or maneuvers. I have seen a report by an r/c flier who instrumented his aerobatic airplane with accelerometers to measure the g forces during flight. The recorder reported a maximum of 18.6 g's. Others have recorded approximately 20g's in an r/c pylon racer during a turn. In our hypothetical 6 lb. plane that would be 4.5lb. X 20 = 90lb. acting at the center of the wing. So that gives us an idea of **worst case** loading without a safety factor. It is not unreasonable to believe that even a trainer type model could generate loads almost as high. In aerodynamics it is necessary for the vertical lift force to equal the downward weight forces so in our worst case we need 90 lb. of lift (45lb each for the right and left wing panel). We know that lift is generated by the surface area of the wing and that the lift per square inch (for example) is not the same for each square inch. It turns out that the lift force per unit area decreases as we get closer to the wingtip in a more or less elliptical distribution. This is important to us because it helps us to understand where along the semi span we can assume the total panel lift force will act to simplify our calculations. For our purposes we will assume a rectangular wing with a 60in. span (30in. half span) A good approximation of the span-wise location of the lift force is D = 4L/3Pi where D is the distance from the center of the wing and L is the half span (30in.). So D = 12.73in (we'll call it 13in.). So where are we going with this? Well, we need to get at the strength that we build into the wing and there is a very important engineering concept that we need to use. That concept is "bending moment".

The bending moment is defined as the reaction induced in a structural element (our wing) when an external force (our 20g lift force) is applied to a structural element causing it to bend. For our hypothetical 60in. wing, imagine it resting on 2 supports 26in apart (2 X 13 from above) and a 90lb load applied to the center. When we support a beam (wing) in 2 places and apply a load somewhere between the supports it is called a simply supported beam and the bending moment reaction when the load is in the center between the supports is calculated as: Bending moment = (W x L) /4 where W = 90lb. and L=26in. So our bending moment is 585 in-lb. Cool! So what?? So that number allows us to determine whether the structural parts of our wing will break when we pull out of that wide open throttle vertical dive when we apply full up elevator or some other extreme maneuver (intended or otherwise) or whether the wing will break and the fuselage becomes a lawn dart.

In order to evaluate this there is one thing we need to keep in mind when it comes to bending strength and that is that every part that extends along the length of the wing contributes to bending strength and resists the bending moment. That includes the covering material,

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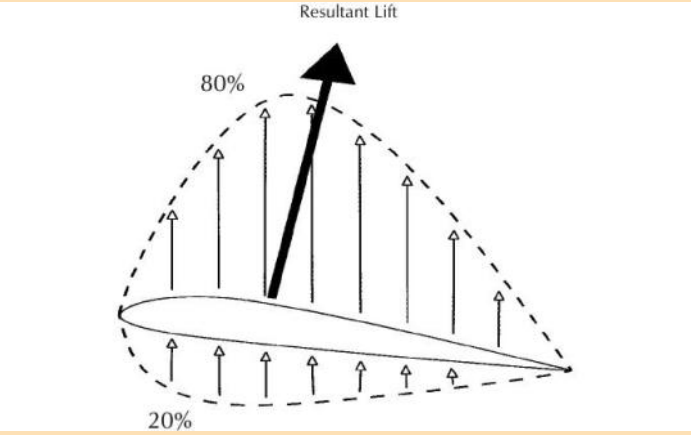
the spars, the leading and trailing edge and shear webs. The contributions of each element are added together under a principle called superposition. One thing to always keep in mind is that the farther away from the rib centerline that structural material is located, the greater its contribution is to strength. So, if we look at a very simple wing design with a leading edge, a trailing edge and an upper and lower spar positioned at the thickest part of the wing, the spars have the greatest contribution and the leading edge and trailing edge contribute less, sometimes much less.

Simple wing design

Another thing to think about is how important the thickness of the wing is. A simplified view of this is that the strength of a wing increases with the third power of its thickness. So a wing that has a chord of 10" and a 15% (1.5") thickness is almost twice as strong as the same wing with a 12% (1.2") thickness. Keep in mind that the weight only goes up a small amount with the increase in thickness so from a structural standpoint we want to use the thickest wing we can that is consistent with our aerodynamic requirements.

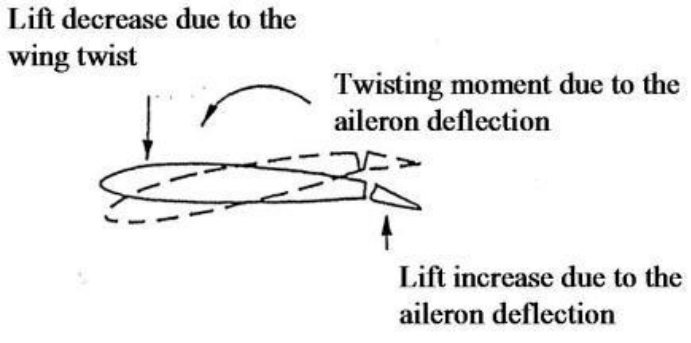
So from a structural standpoint let's look at a full depth rectangular spar. To do this we need to consider an engineering property of the rectangular shape; its moment of inertia (also called the second moment of the area) for a rectangle the moment of inertia is: I = B x H^3/12 where B is the thickness of the spar and H is the height of the spar. Note that I increases with the **third power** of the height. Knowing the "I" value of our spar still does not tell us if it is strong enough. So the next thing we need to do is determine the maximum stress in the spar. That stress is: S = (M x Y)/I where M is the bending moment we calculated above, Y is the spar height dimension from its centerline and I is the moment of inertia we calculated. So for our 1.5" thick wing let's choose to make the spar out of a balsa strip ½" thick and 1.5" tall. So using the calculations above we will get a maximum stress of S(max) = 3120 psi (pounds per square inch). So, can our one piece 1/2" x 1-1/2" balsa spar stand up to stresses generated by a 20g maneuver? To answer that we need to know what the ultimate strength of the balsa material is. Unfortunately, balsa wood is a highly variable material. We all see this when we cull through the bins of wood at the hobby shop. Some pieces are very hard and some are very soft and the rest falls somewhere in between. So, having said that, we can find that the published ultimate strength of balsa wood ranges from approximately 1100psi for soft material to approximately 4700psi for hard material. So, if we choose our material wisely our hypothetical wing will not fail at 20g's. If we choose poorly, it will fail. Keep in mind that this is just a single spar acting alone. In reality, our wing has a leading edge and trailing edge and though they may not contribute a lot to bending strength they do in fact contribute something which can be calculated just like the main spar and their "I" values can be combined.

The second force acting on the wing is torsion (twist). The twisting force comes from two sources. The first is how the lift forces are distributed along the chord of the wing from the leading edge to the trailing edge.



Airfoil lift distribution

As you can see, the distribution is not uniform and will cause a twisting force. There is also the force from a deflected aileron. We all know that an aileron deflected upward will cause a downward force at the trailing edge. That force will cause a twisting force on the wing.



In truth, wing twisting is not usually an issue in our models (sailplanes and pylon racers being exceptions). The reason is that like the moment of inertia calculation used

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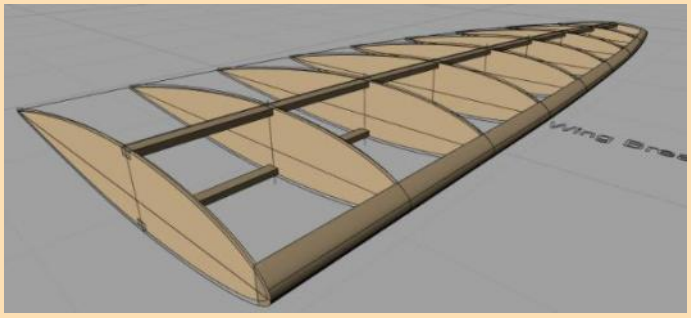
in bending, there is also a thing called the polar moment of inertia which deals with twisting forces. The calculation of the polar moment of inertia and torsional stiffness of an irregular shape like a wing is waaay beyond the scope of this article. Suffice to say that stiffness increases very quickly with the cross sectional area of a **closed shape**. To demonstrate this to yourself do a little experiment. Take a shoe box without the lid and hold it by the ends and give it a twist. Now do the same thing with the lid in place. Huge difference right? That's a closed shape vs. an open one. Now take two shoebox lids and tape them together to make a thin box. Twist it and compare the twisting stiffness of the thin box to the thick box. Big difference again. That illustrates the torsional stiffness differences based on the cross sectional area of a hollow shape and the reason torsional stiffness is more of a problem for thin glider and pylon racer wings compared to a sport aerobatic model.

Now let's look at specific examples of successful wing designs and consider the merits and possible problems.

The first one is a minimalist kind of wing where there are 2 spars and a leading and trailing edge



Two spar wing

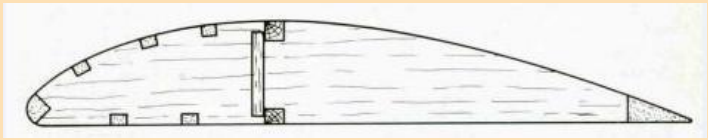
This design is usually used in small very light models. It is very light but is short on bending strength because the top and bottom spars are not tied together along their length to take greatest advantage of the material. In our previous example if we made the spar out if two pieces of balsa ½" by ¾" and stacked them on each other, the overall strength would be greatly reduced. However if we glue them together it will behave just like the one piece ½" x 1-1/2" example. The torsional stiffness of this design is almost entirely dependent in the covering material.

Next is a 2 spar wing with a shear web.

Two spars with a shear web

The big improvement here is the addition of a balsa web connecting the upper and lower spars. This makes the spar behave like an "I" beam. The grain of the shear web should be vertical to take advantage of its increased shear strength. This design adds a lot to the bending stiffness but not much to the torsional stiffness which is still dominated by the strength of the covering material.

Next we will talk about the multi spar wing. This wing is used in the Sig 4-Star series of models.



Multi spar wing

Each of the added spars adds a little to the bending and torsional strength but there is another thing that happens. Between the ribs, the covering material sags a little between the added spars. This causes the resulting small span-wise bumps to act as turbulators to the airflow. Some believe that this changes the low speed (landing) characteristics. The 4-Star series models are known to be floaters during the landing approach and this is attributed to the "turbulators". In truth, a turbulator is a drag reducing feature when designed and applied correctly. They are intended to trip the laminar boundary layer air flow on a wing and cause it to become a turbulent boundary layer. This delays air flow separation and makes the separation bubble smaller with the incumbent decrease in drag. One effect of this is that it can improve the lift over drag ratio for a narrow range of air speeds. This might be achievable in high performance model gliders but it would be very difficult to dem-

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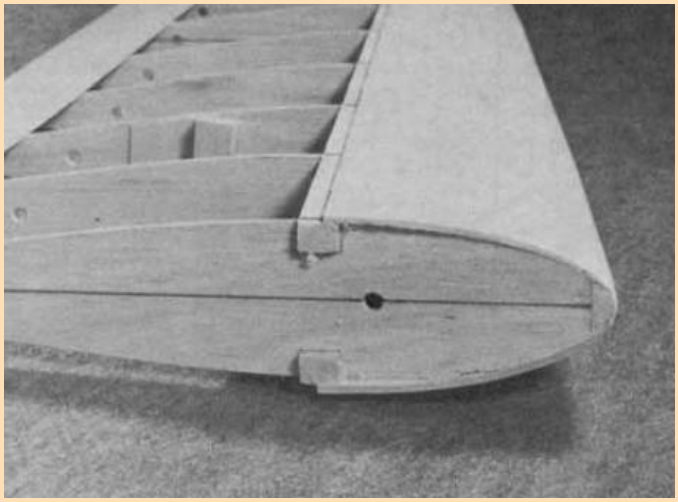
onstrate. I once put turbulators on my full scale 18 meter racing class sailplane and could not convince myself that they made a real difference. On the 4-star models it is **my opinion** that they are floaters because they have low wing loading. Many guys fix the floating by reducing the wing span and thus increase the wing loading. This causes a higher sink rate at landing speeds.

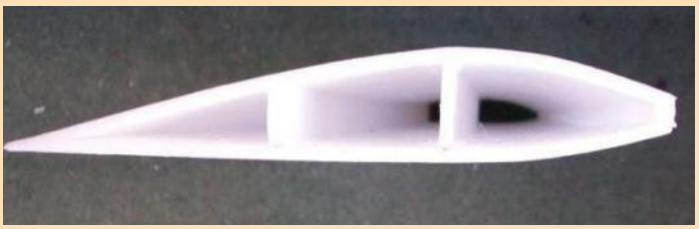
The next step up on the wing strength design ladder is the "D " tube wing.



"D" tube wing construction

The "D" tube construction adds sheeting to the leading edge area from the spars to the leading edge piece. It is probably the most common construction for mid to large size models. There is a weight penalty but there is an incremental increase in bending stiffness (if shear webs are used) and a very large increase in torsional stiffness. With this construction and the right airfoil, low drag laminar air flow is **possible.** The Idea can be carried further by applying balsa sheeting to the entire wing. This creates a very good looking wing with tremendous bending and torsional strength. It is not a light weight approach. Some might say that a fully sheeted foam core wing is best. There are some attractive things about this but generally light weight is not one of them. Relatively fast construction is perhaps the most attractive possibility. To deal with the weight you can hollow out the core or "honeycomb" the core before applying the skins taking care of the weight issue but making the wing more difficult to make.

Honeycomb foam wing



Hollow foam wing

Let's talk about materials. The analysis earlier in this article talked about a balsa spar. As you saw there is a very wide range of strength properties with balsa. Another material that is also used for spars is spruce. Sitka spruce has very consistent properties and is much stronger than even the highest strength balsa but at least twice as heavy. Of course you use smaller spruce spars which helps with the weight difference. Many full scale home built aircraft use Sitka spruce spars. Another material available to us is carbon fiber. We can get this as manufactured strips, rods and tubes. We can use the strips combined with balsa spars and get very high strength. Carbon fiber is not cheap but it is stronger than steel and lighter than aluminum and it is easy to glue to our structures. Finally, I would be very cautious about using so called lite plywood in a highly loaded structure. The quality of the lamination and the wood that is used leads to a high risk of failure. Much of it comes from China and it seems to lack consistent quality control. If you are looking for plywood for structural applications please use aircraft grade plywood which has more laminations of high quality Birch veneers.

As you can see there is a huge variety of approaches to the structural design of a wing. What has been presented here barely scratches the surface. So what are you to do if you want to design a wing of your own? My advice here is to go to sites like https://outerzone.co.uk/ where thousands of plans are available to download and study. Find models of the type and size you are interested in and see how the designer handled

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the problem. Use the simple math principles in this article to judge what you see and perhaps modify the design for your own purposes.

So next month we will end this design series with a discussion of fuselage and tail structures and some other bits and pieces.

Steve Kretschmer

We put on an air show last month for a group of wonderful individuals that visited from New Horizons. New Horizons is a non-profit company that services individuals with special needs. They assist them in their training for employment and they also have many other programs as well. They've started to do more community inclusion programs for their individuals which has them trying to find activities that the folk would like to be a part of. They are planning a visit to our club again and looking forward to a visit to Indoor Flying at some point. Check last month's President's Message for more details.

Bob Chapdelaine, President

More Wing It fly-off photos

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

Midwest Regional Float Fly

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

2018 Skymasters FunFly

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.

SKYMASTERS RC
MICHIGAN

Oktoberfest

SKYMASTERS

2018

Sat. Oct 13, 3:00 p.m.

NIGHT FLY—BONFIRE

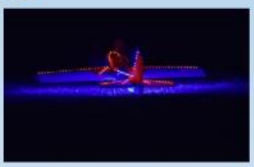
Flying on Both Fields

Pork Roast– Pulled Pork

bring food to share

bring your own refreshments

for the bonfire after flying



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:

PROP SHOP HOBBIES

FLIGHT LINE HOBBY

Nankin Hobby.com

* Indoor Schedule of Dates and Times Subject To Change

MIDWEST R/C SOCIETY

R/C SWAP MEET

Sunday, November 18th, 2018
8:30AM to 11:30AM

location

Northville Senior Community Center
303 West Main Street
Northville, Michigan

AKA
Latitude 42 43 04 North Longitude 83 48 60 West

Our admission charge hasn't changed in years
$5.00 per person-donations always welcomed
(active duty military, kids under 12, and women are always admitted FREE)

vendor table cost

$20.00-$25.00 per table payable in advance, depending on table location
The vendor ***table cost includes one admission. Vendor set up time is 7:45am.***
Advance table reservations are recommended since it costs more at the door!

for information and table reservations

call Rudi Reinhard at: 248.631.8205 or e-mail: therudi@icloud.com

directions

Take the 8 Mile Road exit off of I-275 and go west for 2.5 miles to Center Street. Go south on Center Street for a ½ mile and then west on Main Street. The Northville Senior Community Center is located at 303 West Main Street. There is free parking in the back of the building, off of Cady Street.

The BEST & LARGEST (and maybe the only) swap in SE Michigan!

2018 CLUB EVENTS

SKYMASTERS RC CLUB – LAKE ORION, MI

April 2018

Saturday April 21 —**Involvement Day** – Bald Mountain

May 2018

Saturday May 12 – **Field Opening/Work Day** – Scripps Road Flying Field; Lake Orion

Sunday May 20 — Chet Brady - **Spring Float Fly** – Bald Mountain Trout Lake; Lake Orion

Wednesday May 30 – **Student Flight Training & Potluck** begins – Scripps Road Flying Field; LO

June 2018

Saturday June 9 — **Night Fly (evening)** – Scripps Road Flying Field; Lake Orion

Sunday Jun 10 – **Electric Fly** – Scripps Road Flying Field; Lake Orion

Saturday June 16 — **Control Line Fly In** – Scripps Road Flying Field; Lake Orion

July 2018

Saturday July 14 – **Open House Air Show 2018** - **Recreation 101**– Scripps Road Flying Field

Saturday July 28 – **Flightline Wing It Contest Fly** – Scripps Road Flying Field; Lake Orion

August 2018

Sunday August 5—**Warbirds and Scale Fly In** - Scripps Road Flying Field; Lake Orion

Sunday August 12 – **OCIA Airshow & Open House** at Pontiac Oakland International Airport

Sunday August 19—**Corn Roast and Top Gun Flying** - Scripps Road Flying Field; Lake Orion

September 2018

Sat. – Sun. September 8-9 - **Midwest Regional Float Fly** – Seven Lakes State Park Rec. Area, Holly

Saturday September 22- **Skymasters Fun Fly** - Scripps Road Flying Field; Lake Orion

October 2018

Indoor Flying Season Begins – Ultimate Soccer Arenas; Auburn Hills

December 2018

Christmas Party – Orion Center; Lake Orion

Monday December 31—**Krazy Snow Fly** - Scripps Road Flying Field; Lake Orion

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

12-11-17 approved eoc | Skymasters - 2018 | EOC Approved

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

SKYMASTERS RC
MICHIGAN

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 Resumes October 30th

Tuesdays!
We'll be flying every Tuesday through mid April

10AM to 1PM (three hours)
Ultimate Soccer, Opdyke & South Blvd
Pontiac, MI

Next Skymasters Meeting:

Thursday, October 18th

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 resuming in October

Resumes October 18th

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/

October 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 Skymasters Breakfast 9AM Red Olive, Rochester Hills	2	3	4	5	6 Saturday Breakfast 8:30AM Iris Café
7	8	9	10	11	12	13 Saturday Breakfast 8:30AM Iris Café Octoberfest 3PM Scripps Field
14	15 Skymasters Breakfast 9AM Red Olive, Rochester Hills	16	17	18 Indoor Flying 9AM—3PM Premier Sports Center Shelby TWP Skymasters Meeting 6:45PM Orion Center	19	20 Saturday Breakfast 8:30AM Iris Café
21	22	23	24	25 Indoor Flying 9AM—3PM Premier Sports Center Shelby TWP	26	27 Saturday Breakfast 8:30AM Iris Café
28	29	30 Indoor Flying 10AM-1PM Ultimate Soccer, Pontiac	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!

2018 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
Treasurer:	Jim Satawa	Lake Orion	treasurer@skymasters.org
EOC at large	Pete Foss	Oxford	at.large3@skymasters.org
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EOC at large	Paul Goelz	Rochester Hills	at.large1@skymasters.org
Membership:			membership@skymasters.org
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CFI	Ken Gutelius	Lake Orion	cfi@skymasters.org
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