

JAYHAWK MODEL MASTERS NEWSLETTER

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A . M . A . CHARTER #2013

ISSUE DATE: August 11, 1990

NEXT MEETING: August 18, 1990; DAYS INN MOTEL; 8:30 a.m.

MEETING MINUTES

July 21, 1990

Richard called the meeting to order. Door prize was won by Vince Callahan.

Richard reported \$782.82 in the treasury.

Richard brought up the point that our trash pick-up has been poor in the last few months. It is requested that if the trash barrel is overflowing after Tuesday of each week, to give Richard a call and report it.

Safety officers brought up the problem of flying over the road and parking lot. We must avoid these areas.

At our next meeting we will be nominating officers for next year. This meeting will be for nominations only; voting will take place in our September meeting. The

nominations will be for:

President
Vice-President
Treasurer
Secretary/Editor
1 Safety Officer

Two airplanes were brought to the meeting. An Eagle II was brought by Kyle Walker that he built himself, (and did a very good job building and covering); the other was brought by Brett Bennett which was a Sharp that apparently had a thrust problem in it (talking to Brett at the field, it sounds like his airplane problem has been fixed).

The door prize at August's meeting will be an ACE Voltmaster.

We also wish to welcome two new members: Emory Price and Vince Callahan.

**R/C REPORT MAGAZINE,
A BEST BUY IN READING THE FACTS!**

If you have been in the club very long, you no doubt have read about R/C REPORT. It is a monthly magazine aimed at the average guy like you and me. You won't find engine tests on O.S.'s latest six cylinder four-stroke radial engine or even a Byron P-51 kit review. What you will find however, is factual tests on planes and engines and other stuff that most of us can afford to own and use. Not only that, but if an engine won't run right or a plane is a dog, then they tell you so right up front.

If you read very many modeling mags, then this kind of information may come as a shock to you! I would like to suggest that if you can afford to spend \$10.00 a year on any modeling publication and are not presently a subscriber, you should be! R/C REPORT is kind of like a Consumer Reports for modelers. They won't leave you hanging out to dry because of the all-mighty advertising dollar, like most monthly mags do. If it won't work, they tell you so. If it does, they tell you that too.

I started writing a monthly column aimed mostly at beginners to R/C in the September issue. While I wouldn't want you to think that the other writers are as bad as I am, I would say that they know what they are writing about most of the time, and that's more than I can say for a lot of other modeling publications you can spend your hard earned bucks on!

If you don't already subscribe, then you need to consider sending in \$10.00 for a year's worth of the best in R/C reporting to be had for the average sport flyer like you and me.

R/C REPORT
P.O. Box 1706
Huntsville, AL 35807

\$10.00 per year, subject to increase this fall! DO IT TODAY!

FALL FUN-FLY '90 !!

Things are looking towards an October 14th Fun-Fly with big prizes, and perhaps a new format of events aimed towards a bigger crowd and less time spent trying to get contestants up to the flight line, on time, six times during the day's events. What we are thinking about at this time is along the lines of the A.M.A. Team Fun-Fly event as outlined in the Rule Book. Perhaps a different set of events, but something that could be flown in one flight and scored accordingly.

What this would do for us is to speed things up so that the folks who normally set things up and take it all down again could get done before dark this time! If you haven't been there to do it, then you needn't worry about it, but let me assure you that it isn't much fun at 5:30 p.m. after everyone is gone to still be there picking up trash and carrying tents and coolers back to the parking lot! Don't believe me? Then ask Dave, Tom, or Darrel, or several others who are always there doing it after everyone else has gone home!

We think we can run this fall's Fun-Fly faster and more smoothly if we can come up with a set of events that can be flown in one or two flights. Perhaps take-off, do a bomb drop, a touch-and-go, and then three loops and rolls, followed by a spot landing or something.

Short time plus distance added together could be used to settle

the matter and in the event of a tie, a sudden death fly-off for dead-stick spot landing, or another bomb drop could settle the matter. All done in one or two flights per entry.

Please be prepared to discuss what you want to do this fall at the August 18 club meeting. We are open to suggestions!!!

NOMINATION OF OFFICERS FOR THE SEPTEMBER ELECTION

We will vote on the nominees at the September meeting. BE THERE

It's time to nominate officers for the election coming up in September. If you have an interest in becoming an officer or getting re-elected, come to the August meeting and nominate yourself or someone else. It's a dirty job, but someone has to do it!!

ELECTION COMING UP AT THE SEPTEMBER MEETING, (SEPTEMBER 15, 1990)

NEWSLETTER ARTICLES WANTED!

For almost three years now, I have been writing stuff for the newsletter. I have enjoyed it a great deal, and I hope I have been able to provide you with stuff you like to read. Some of the people in the club come forward from time to time and tell me they like what I write, so I guess it isn't all used for bird cage lining! I hope not, anyway!

Anyway, the time has come that I have taken on a better paying job writing a monthly beginners column for R/C REPORT Magazine, plus doing some kit reviews. Needless to say, the pay is better and a national circulation may eventually result

in making it worth my time for a change. Besides that, I got a free R/C REPORT baseball cap!

Now it's your turn! You all have something to say, and know things that I don't know. Please think about sharing it with the rest of the club! You, too, can be a newsletter writer just like me! It's really very easy once you decide you need to do it!

The next time you have an idea for a good story, write it down and send it to Tom or me. One of us can clean it up enough to keep from offending anyone and get it printed in the newsletter! WE NEED YOUR HELP TO KEEP IT GOING! My time is becoming more and more scarce as I take on the monthly column and kit tests for R/C REPORT. HELP!

GUIDELINES AND QUALIFICATIONS NECESSARY FOR THE JOB

1. Applicant must be warm to the touch, at least while the sun is out.
2. Applicant should know what an R/C airplane is, but it's not a hard rule.
3. Spelling is not necessary, but it's a good help if you can.
4. Errors in facts are not a problem as no one reads it anyway.
4. Cussing and other crap like that won't be put up with at all.
5. You should pay your dues this year if you really want to be considered.
6. We can use Crayon draft text if sharp objects are a problem.
7. We can even use re-cycled stories from other sources if

don't sign your name to it so you can't be sued.

8. Don't express your own personal opinions unless you like to argue.
9. About a page is long enough, unless you have something to say.
10. If you don't have anything to say, then about a page is long enough.

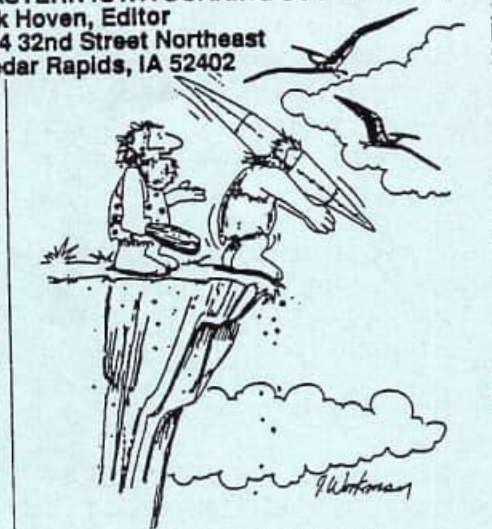
NOW DO IT!

FLY SAFE! R.L.B.

There will be assorted rolls of Monokote available at the meeting for \$4.00 each. There are many colors to choose from.

EASTERN IOWA SOARING SOCIETY

Rik Hoven, Editor
734 32nd Street Northeast
Cedar Rapids, IA 52402



"Are you sure about this, Stan?
It seems odd that a pointy head and long beak is what makes it fly."

JUST FOR LAUGHS—

MILE HIGH R/C CLUB

Al Duffy, Editor

15130 East Greenwood Place

Aurora, CO 80014

THE HISTORY OF BALSA WOOD AND MODEL AVIATION

In the beginning, God created the heavens and the earth. And rested. And God created man, and rested. Then the Lord God made woman. And since that time, no one has rested.

And it came to pass, as the trees grew and covered the earth, that God said, "Let there be light." And one of the trees said, "I will be light." And the balsa wood tree grew and prospered and populated the earth. And God saw what he had made, and that it was good.

And it is truly written that the serpent did beguile Eve, and she ate of the forbidden fruit, as did her husband, Adam. And the Lord God came down to walk in the garden in the cool of the day, and asked his creation, "Hast thou eaten of the fruit of the tree?" And Adam blamed Eve. And Eve blamed the serpent. And the serpent didn't have a leg to stand on.

Then the wrath of the Lord rose up and he cursed the serpent, proclaiming that the serpent should crawl on its belly all the days of its life, and that man would smite its head, and it would bruise man's heel.

And it came to pass, that man multiplied on the face of the earth, and so did the serpent. And man said, "I will invent a tool to bruise the serpent's head, as the Lord God hath said." And he made a tool from the balsa wood tree and found it easy to carry in his quest for a serpent to bruise. Man called the new tool a "club". And soon man found a serpent and said, "Holdest thou still, whilst I bruise thy head." And the man did swing his club at the serpent, but the club did break, and fulfilling all that the Lord God had so prophesied, the serpent did bruise the man's heel. And man gave up on his invention, the balsa wood club, hoping that perhaps the Japanese would improve upon it and import them into the land of Canaan.

As the man rubbed his heel, he hacked his club into pieces with his other new invention, the X-Acto knife. One of the pieces was round in shape like unto the sun and the moon. And it rolled down the hill. The man said, "I have a new invention. I will call thee a wheel." And soon it came to pass that men all over the earth were making wheels of balsa wood trees. The Makasites fastened nine wheels on each side of a log and called it an "eighteen wheeler". One of the Makasites, who was called Nader, sat down on the eighteen wheeler. It rolled down a steep hill and all the balsa wheels broke. As Nader picked the splinters from his lower parts, he was heard to proclaim: "Thou art unsafe at any speed." (Many years came to pass before his descendant, Ralph, wrote a book

about the Chevrolet Corvair and used that statement as his title.)

Meanwhile, in the land of the Jebusites, a man called Honda had hollowed out a large balsa log and put four balsa wheels on it. It would seat four of the Jebusites and one Amelikite comfortable. And the Jebusites and Amelikites would come from miles around to sit in the new invention and drink from the fruit of the vine. And after they had drunk, they got along so well that someone named the invention the Honda Accord. That it endured for many years is proven by the statement in the New Testament. "They were gathered in the upper room, all in one Accord."

As man looked for new items to invent, he noticed a Pterodactyl soaring overhead. He said, "I will build a copy of the Pterodactyl, and I will call it a 'model' and it will be good." So man cut a balsa log into many sticks with his X-Acto knife. He melted tree sap in a boiling pot. He saw that it was sticky and was good for fastening the balsa sticks together. He thought, "I will call it 'Sticky Stuff'". But he was overruled by his marketing and advertising consultant, Benjamin Boehnke, who said that the name "Hot Stuff" would sell better.

And it came to pass after many days that man fashioned a likeness of a Pterodactyl from the balsa wood sticks and hot stuff, and man's wife helped him cover it with real feathers from a real Pterodactyl, insisting that any other kind of feathers would not qualify for a true scale finish. And man threw his model from a tall tree. And it flew. And man saw that what he had made was good. And the Lord God looked down from heaven and saw that it was good. And people came from many lands to see the man fly his model Pterodactyl, and all agreed that he was the wisest in the land.

Then one day as the man launched his model Pterodactyl from an especially tall tree, the model suddenly dove to earth and was destroyed. "What happened?", screamed the Jebusites. "What happened?", screamed the Canaanites, the Amelikites, and the Realuptites. "I was glitched," said the man soberly. "He was glitched," said the Jebusites. "He was glitched," said the Canaanites, the Amelikites, and the Realuptites, none daring to ask what meaneth the word, "glitched," lest they appear stupid in front of the wisest man in the land.

And thus was model aviation born on the earth and continues to this very day.

(Author unknown, but he had to be a modeler.)

All You Ever Wanted to Know About BALSA But Were Afraid to Ask!

by Frank Garcher and Jim Newman

If you decide to carry on building model airplanes for the next 200 years, you need have no fear of a balsa shortage. In spite of current rumors to the contrary, that is the estimated quantity of balsa currently in the forests of Ecuador!

Even so, the Industry is not sitting still and trusting in Divine Providence for a continuation of this happy situation, although there are still vast areas of Ecuador as yet untapped. For a number of years the Industry has worked toward a program of planned reforestation and has experimented with the planting and cultivation of balsa trees. This alone is a difficult task because the trees normally grow singly or in very small groups. The balsa tree has a rapid growth rate and within one year can be greater than 15 feet tall, eventually reaching 90 feet within the following 10 years. Felling between the 6th and 10th year yields the better grades of balsa because after about the 10th year the tree is very susceptible to rot and fungus. It is a continual effort to determine a means of cultivation whereby trees will grow in sufficient numbers to allow normal logging operations and now, after years of effort, there is showing a measure of success.

Because of its sparse growth, the usual "production line" techniques used in the logging industry cannot be made to work. The South and Central American jungle country in which the trees are found makes normal transportation impossible. Instead, the balsa trees must be sought out, felled, and dragged to water by oxen. At the riverside the logs are formed into rafts and floated to the sawmill. But, by nature, balsa can be considered a delicate substance and for the wood to be of good quality the time between felling and processing can be no more than two weeks or fungi and infestation will take their toll.

Once the logs are sawn into conveniently thick boards, they are very carefully kiln dried, under closely controlled conditions so that all fungus spores and insects are killed. Once dried out, the boards will be 80% lighter than their original weight. This is easily explained when the structure of the tree is understood, since the whole thing is nothing more than a big bunch of tubes up which the moisture travels. Modelers use only a very small percentage of the wood processed which, in a way, is fortunate, because a tree yields only about 15 to 18 percent of model grade balsa, the remainder going for industrial use—from space vehicles to toothpicks.

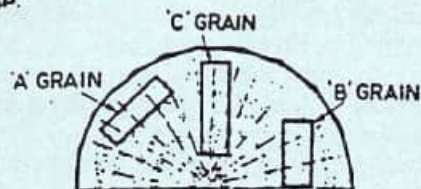
Although the mills are sawing more balsa than ever before, the demand has grown so rapidly over the past few months that consumption is exceeding the rate of processing. With the current production facilities this

is bound to have an effect on the model industry, of course, until new sawing facilities come into operation. Already 4" and 6" lumber is at a premium and the situation will remain tight until the new plants are completed. The amount of 4" and 6" wood that is generated by a tree will never fill the demand caused by modelers. It is predicted that before long we shall be gluing logs together to fulfill the need.

Midwest Products has carried out considerable research into gluing techniques for balsa blocks and found it to be perfectly feasible. Once processed, there is not too much difference between that and a sheet of "natural" balsa. Of course, they match logs as closely as possible and in model use, certainly, there is nothing against this system because the wood fractures long before the glue joint.

The right choice of wood goes a long way toward building a troublefree model, so it is helpful to know a little about the wood you are handling. For instance, many modelers, when shopping for balsa, select wood according to the duty it is expected to perform. You will see them carefully "weighing" a strip or a sheet in their hands, testing it for flex or stiffness. They have a good idea what they require, but all too many do not know the reason why the wood performs the way it does.

Take a look at the end of a log. On it you will plainly see the rays and rings which have a direct bearing on the type of balsa wood. Cutting the planks from the log in certain ways produces three basic grain types, A, B, and C, and a stronger model will result from intelligent use of these.



Showing how the three primary grains are obtained from a balsa log.

"A" Grain

Balsa sheets cut in this way show characteristic long grain lines running parallel with the long edge of the sheet. This type of cut produces very flexible sheets which curve very readily, like around a leading edge, for example. Except in very light weight models, this would be the wrong cut to use for wing ribs because its great flexibility also allows warpage and crushing. However, "A" grain is ideal for turtle decks, leading edges, forming tubes, and fairly flexible wing spars. Do avoid using it for flat sheet fuselage sides and all sheet wings and tails.

"B" GRAIN

This balsa shows much shorter grain lines and generally feels much stiffer. This is a very useful cut of balsa, combining some of the qualities of "A" and "C" grains. Specify "B" grain for trailing edges, tough fuselage sides, formers, wing ribs, planking and sheeting wing leading edges of heavier models.

"C" GRAIN

This balsa shows a distinctly mottled appearance, best described as Mother of Pearl chips! Balsa cut in this manner is extremely stiff, bends very little and splits easily, but used intelligently will produce by far the lightest and strongest models. Always use it for wing ribs because of its high resistance to warps. Makes excellent all sheet wings and tails for the same reason. If you contemplate using tubular fuselages on indoor models, this is the cut to use by soaking, rolling, then light baking. Avoid using "C" grain where impact shock is likely to be troublesome, e.g., hand launch glider fuselages, wing spars, or tubes other than "indoor".

Balsa density is directly related to strength. That is, the heavier it is, the stronger it becomes. This means that the modeler must be very critical in his selection, using only very dense wood where great loads are encountered (wing spars, for instance) and very, very light wood in unloaded areas such as fuselage, turtle decks, fairings or fillets, or wing tips.

Balsa, for the purposes of grading is graded by the Industry into density groups although the modeler prefers to use the terms, "soft", "medium", or "hard". Specifically, these generalizations are as follows:

GRADING	SOFT	MEDIUM	HARD
Density in lb./cu. ft.	6-8	9-12	12-15

The serious-minded competition modelers will grade balsa wood into even tighter groups, for instance:

GRADING	LIGHT	MED. LIGHT	MEDIUM	MED. HARD	HARD	VERY HARD
Microfilm and penny plane. Indoor HL gliders. Block tips all models.	Hollowed out turtle decks. "Solid" RC model canopies, cowls. Leading and trailing edges to foam cores. Rubber model props. Solid (Jedelsky) wings. Fill between stringers. Wing sheeting. Triangle section strip (fuselage corners).	Thick leading and trailing edges. All sheet fuselages. HL glider wings and tails. Planking. Wing ribs.	Nonstructural stringers. Wide 2 piece trailing edges. U.C. solid wings. Large longerons (5/16" sq. upwards) Spacers on stringer fuselages.	Longerons (gen. purpose). Small solid trailing edge sections. Deep spars.	Small size longerons (1/8" sq. down). Secondary wing spars	Small section spars on multispar wings. Glider nose blocks. HL glider leading edges.

NOTE Builders should bear in mind that in addition to grading, A, B, or C grain is an important consideration. For example: Wing ribs, use "medium light" and for stiff warp resistant structure selection "C" grain (Quarter Grain).

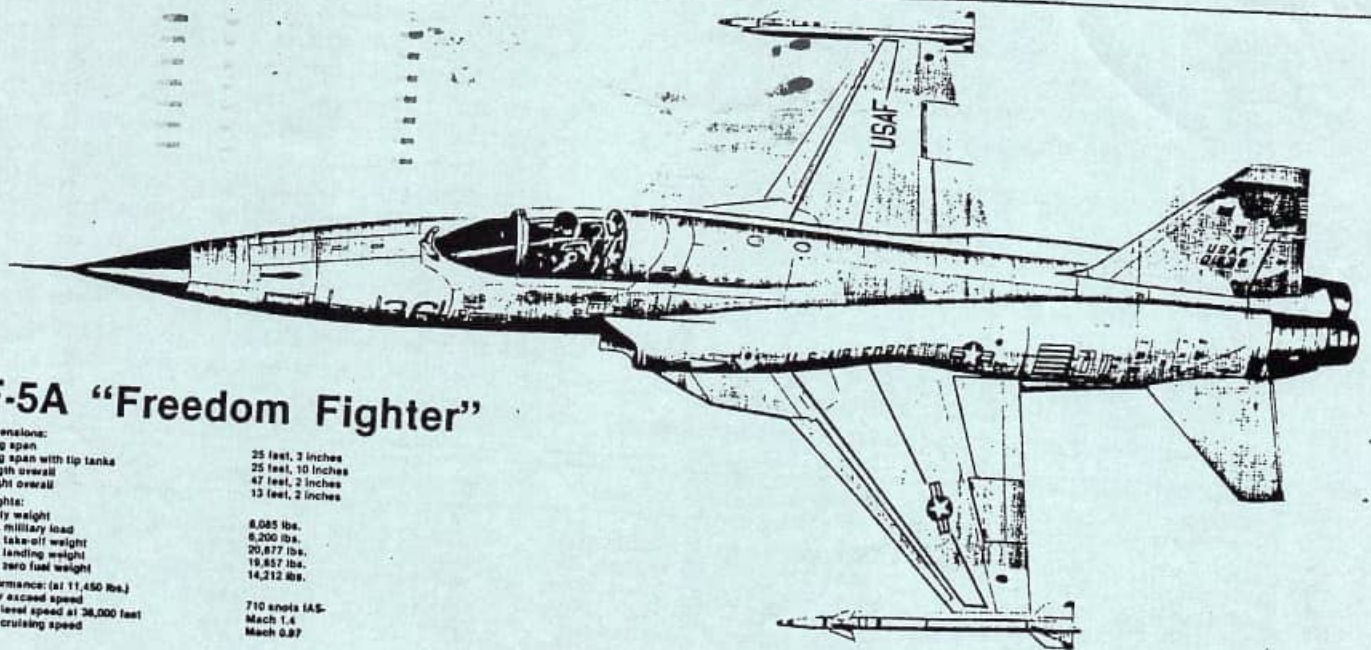
GRADING	VERY LIGHT	LIGHT	MED. LIGHT	MEDIUM	VERY HARD	HARD	VERY HARD
Density in lb./cu. ft.	6 and below	6-8	8/9	9/10	10-12	14/15	16 upwards

RC modelers, in general, are not quite so "weight conscious" as modelers used to be years ago, nevertheless, there are still the glider and Wakefield boys who look for the odd fraction of an ounce here and there. The "indoor" fraternity are the most selective group ever and a whole article could be devoted to their requirements alone! For starters, the table shown at the bottom of the page is given to help the builder select balsa for specific areas.

Selection of balsa, particularly at dealer level, can be a lengthy process not to mention testing the patience of the dealer and other customers! When picking out wing sheeting it is important to match left and right hand wing skins if trimming problems are to be avoided. You may be extremely fortunate and find a number of adjacent sheets in stock, which obviously were sawn consecutively from the same log. The same care must be exercised with fuselage sides if a symmetrical fuselage is to be achieved because one hard and one soft side will "pull" towards the harder sheet and a built-in turn will result.

To obtain matching strip balsa is an even greater problem, percentage-wise, generally the dealer having a huge bundle in his rack. Once again, spar stock should match, likewise the four longerons in a fuselage. Stiffness of strips can only be determined

by actual test, for example, anchoring one end to a bench and hanging a small weight on the other and comparing the degree of curvature—but this is not convenient in most hobby stores. In any case, the "friendly" dealer will rapidly become less friendly as he views the steadily mounting pile of fractured spars at your feet! Because of this, old hands prefer slicing their own strip and spars from one good sheet but even this has its practical difficulties if one does not have access to a good table saw when the balsa sheets gets to be thicker than 1/8", because it becomes awkward keeping the knife square to the balsa.



F-5A "Freedom Fighter"

Dimensions:	
Wing span	25 feet, 2 inches
Wing span with tip tanks	25 feet, 10 inches
Length overall	47 feet, 2 inches
Height overall	13 feet, 2 inches
Weights:	
Empty weight	8,085 lbs.
Max. military load	8,200 lbs.
Max. take-off weight	20,877 lbs.
Max. landing weight	18,857 lbs.
Max. zero fuel weight	14,212 lbs.
Performance: (at 11,450 lbs.)	
Never exceed speed	710 knots (IAS)
Max. level speed at 38,000 feet	Mach 1.4
Max. cruising speed	Mach 0.87