JAYHAWK MODEL MASTERS NEWSLETTER

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A.M.A. CHARTER #2013

ISSUE DATE: March 9, 1991

NEXT MEETING: March 16, 1991; ALL-SEASONS MOTEL; 8:30 a.m.

MEETING MINUTES
February 16, 1991

Richard called the meeting to order. He reported $1,323.22 in the Treasury. After donations of $50.00 from FMC and $725.00 from Hallmark Cards, $898.96 will be used for the Clinton Lake Clean-Up Fund.

The ACE AT2000 was won by Tom Ratliffe; an ACE Magazine was won by Mike Winesaft; and an RC Report was won by Gary Rauchman and Tom Ratliffe.

ACE is discontinuing their present Digi-Pace line and they can be bought for a really reasonable price.

An AMA film was shown.

Brett Bennett and Bill Elkins brought up the issue of using odd channels at the field. This subject will be discussed further and voted on at the next meeting.

The door prize at the next meeting will be another ACE AT2000.

(Press Release)

STATE OF THE CLUB ADDRESS
(April 1, 1991 - April Fool's Day)

3/20ths of a Score ago, our Older and Wiser Pilots set forth to form a more perfect Flying Field.

Past Transgressions by all had caused HAZARDS to many. Most went in HARMS WAY, while yet others were ATTRITED. Still others just HUNKERED DOWN behind their Flite Box and kept on flying!

(No BDA is available at this time, but I will try to get back to you on that!)

For a time, it seemed that no amount of TRAINING could ATONE for ineptness by most, and Over-Confidence by others. Such was not the case however. Fortunately we were able to form a COALITION OF MANY FAITHS which could somehow fly together WITHOUT DISPUTE, in a fashion conductive to a minimum number of CASUALTIES per/SORTIE. In short, We had formed the "MOTHER OF ALL R/C CLUBS!" We have now SET FORTH on A NEW WORLD ORDER of Flyin Field Affairs!

Some of you have seen the "THOUSAND POINTS OF LIGHT" when a Mid-Air Collision rendered your aircraft INOPERATIVE. Many more have seen the Disfigurement of Prop Flipping and Needle Ajusting Fingers, yet still the pain and suffering continue.

Thankfully Most have seen the GOODNESS of Pilot Stations and Frequency Pins, and yes, even Safety Rules. We have ALL SEEN THE TRUTH of Narrow Banding. Surly MORE GOOD WILL COME to Those who BELIEVE in the JUST CAUSE of Frequency Control. For others who do not subscribe to these teachings, may they be frought with Glitches and crash upon the land!

I NOW FEEL IN MY HEART that WE CAN TRULY COME TOGETHER and FLY SAFELY, as a club, without incident!
(Those who don't will be SHOT!)

I AM SURE OF THAT BECAUSE I AM: (Titles Follow)

MOST EXHAUSED RULER
MARRIED
TREASURER OF THE CLUB
AN A.M.A. MEMBER
AUTHER OF WRITINGS
FATHER OF TEEN-AGE SONS
OLD AND WISE
RE-ELECTED
A TAX PAYER
YOUNG AND FOOLISH
USUALLY UNINFORMED
OFTEN WRONG
ALWAYS BROKE
BUT ABOVE ALL ELSE

DE PREZ!

P.S. Sorry about that!

I just thought I would throw together some stuff I keep hearing world leaders say on TV and try it out on you guys!

It seems to work for them, for awhile anyway!

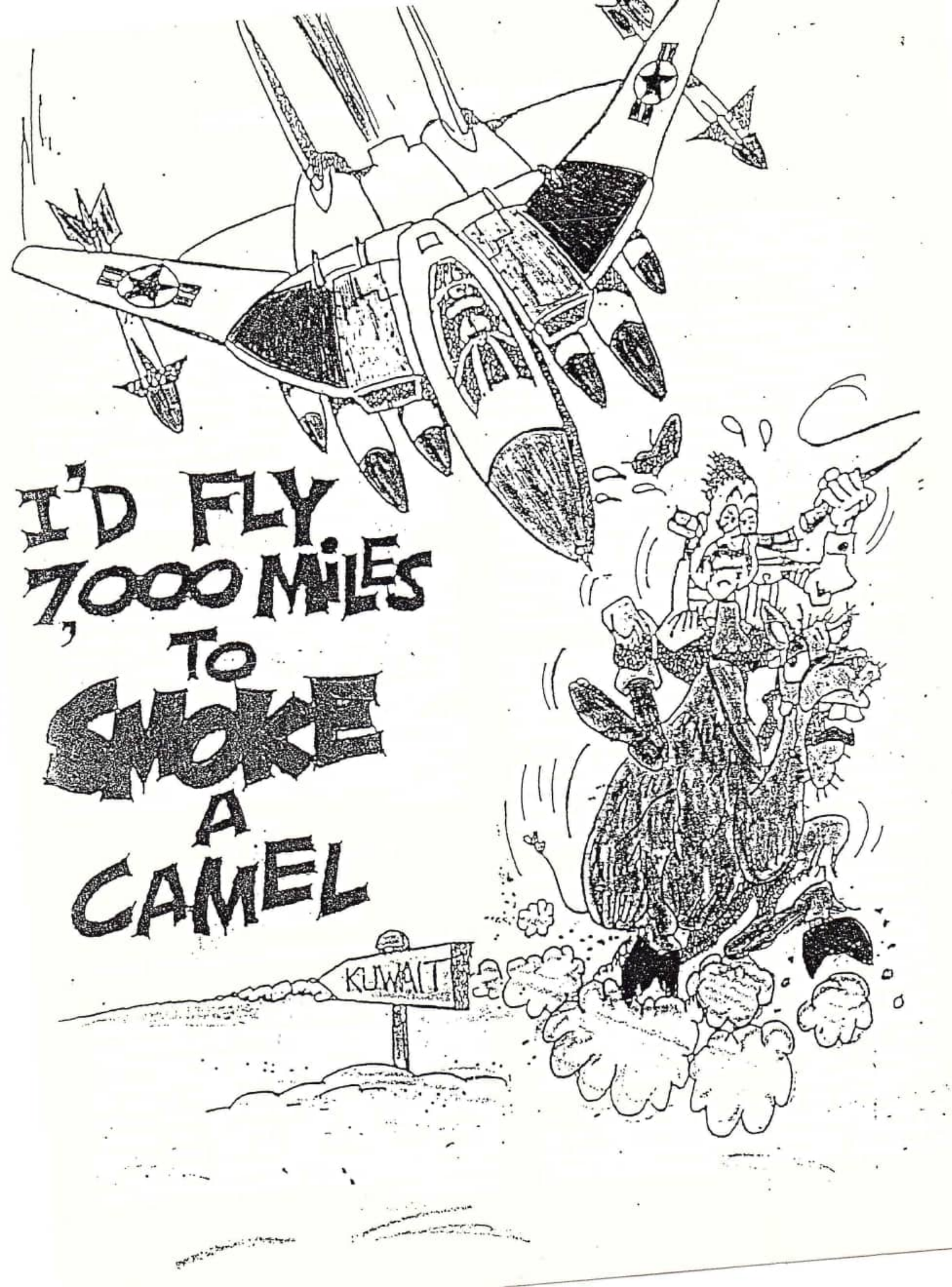
* *

REMOVE DRIED CA GLUE???

(Borrowed from Kansas City Radio Control CONTACTS Newsletter, Feb. 1991)

There has been something in dozens of newsletters the past month. I just hope it is correct, editors are inclined to pass on information that sounds good, without testing the item. I am doing just that. People say that the "Skin-So-Soft Bath Oil" by Avon has proved to be worth its weight in gold. It seems that when put on dried CA glue, it will dissolve the dried CA glue in minutes. He said that he had some on a counter top for a year and accidentally spilled some of the bath oil on it and it came right off. He did not say what it did to his hand. Try it and tell me if it works. I would like to know as I accidentally spilled some CA on my new ACE Transmitter.

* *


I'D FLY
7,000 MILES
TO
SMOKE
A
CAMEL
KUWAIT

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 Ecua- dor 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.

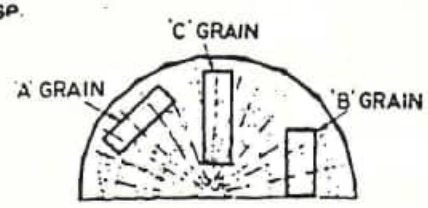
Once the logs are sawn into conveniently thick boards, they are very carefully kiln dried, under closely controlled conditions so that all fungus spores and insects are killed. Once dried out, the boards will be 80% lighter than their original weight. This is easily explained when the structure of the 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 gener- ally 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	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.

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).

[redacted]

[redacted]

YAKOVLEV YAK-36 (1975)
Code-named "Forger-A" by NATO, the Yak-36 is a shipborne multirole fighter that can take off and land vertically. Unlike the single-engined British Harrier, it makes only partial use of vectored thrust; a forward pair of 8,000-pound-thrust jets angled downward provides vertical lift, while a larger, 17,600-pound-thrust engine with two rotating nozzles lifts the rear and propels the plane in level flight.