

"Wonder what the dihedral is on a cruise missile?!"

More on Dihedral next month !

Jayhawk Model Masters

MARCH
Newsletter

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Joseph E. Bryant	Bill Elkins Jr.
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Mike Lee	Gary Rauckman
Jim Crawford	Larry Schultz
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Arlan Colman	Ralph Drake
Steve Paisley	

SPECIAL REMINDER

Our meeting this month is one everyone should make plans to attend. Mr. Tom Runge, President of Ace R/C in Higginsville Mo. will be with us. Please, Make plans to attend. With as many complaints as we've had about "Glitches", lately, we should have a full house. This guy knows his stuff and should be able to answer your questions concerning any problems you may be experiencing radio wise. BRING YOUR TRANSMITTERS. He will have his test equipment with him. MARCH 19th at 7:00 PM. We'll see you there.

WARNING CONCERNING FUTABA S-48 AND S-148 SERVO GEAR REPLACEMENT

Futaba began to ship the S-48/S-148 servo with some radios last fall. Early advertising and reports from the modeling press indicated that this new servo would use the same case and gear-set as the earlier S-28/S-128 and S-38/S-138 servo. This is not the case.

I just had occasion to replace a gear-set in one of my sons servos (S-148) in his R/C car. I had S-28 gear-sets on hand, so I used them. All went well and the servo worked fine for about 1/2 minute of bench cycleing, and then it started sounding like a blender full of rocks! It appears that at least one of the gears is a tooth or two smaller. This allows the gears to jump teeth which quickly destroys them. I'm just glad I put it in a car and not an airplane!

If you need to replace a S-48/S-148 gear-set, be advised that they are made of "Unobtainium" and are back-ordered untill late March. The proper gear-set to wait on is Futaba part #FGS-48. The FGS-28 gear-set fits the S-28 and S-38 servos only!

RLB

I Wonder ?

Is'nt a Glitch one of those little black flyin critters that always manages to get into your eye when your girl watchin, and your wifes with you ?

DP

FOOD FOR THOUGHT

I just got a new Tower Hobbies catalog in the mail and while browsing through it, almost suffered sticker shock! Did you notice that O.S. engines just went up in price ranging from 9% to 23%? Supretigre went up 9% to 14%! This got me to thinking about how much prices have increased since I started in R/C. I went back and found a 1985 Tower sale catalog and picked out some common items. The list follows:

ITEM	COUNTRY OF ORIGIN	1985 PRICE	1988 PRICE	PERCENT DIFFERENCE
Ace Digipace	U.S.A.	86.99	94.99	+9%
Flitecraft Cardinal	U.S.A.	79.99	74.99	-6%
Futaba conquest	Japan	159.99	156.99	-1%
Futaba FG-K-7	Japan	179.99	182.99	+1½%
Futaba S-28 servo	Japan	18.49	18.99	+2½%
G-P Super Sporster	U.S.A.	66.99	69.99	+4½%
Irvine .61	England	79.99	84.99	+6%
K&B .40	U.S.A.	45.99	49.99	+8½%
Ni-Starter	U.S.A.	18.99	16.99	-12%
O.S. FP-.40	Japan	52.99	59.99	+13%
O.S. FSR .50	Japan	84.99	134.99	+59%
O.S. FSR .61	Japan	99.99	159.99	+60%
O.S. FS-90	Japan	139.99	239.99	+71%
O.S. FS-61	Japan	109.99	199.99	+81%
Red max 10% fuel	U.S.A.	8.57	8.77	+2%
Royal Corsair	Japan	89.99	124.99	+39%
Saito .65 4-c	Japan	104.99	144.99	+38%
Sig Cougar	U.S.A.	37.99	43.99	+16%
Super Tigre S-40	Italy	64.99	97.99	+51%
Top Flite P-40	U.S.A.	62.99	69.99	+11%
Monokote 6'	U.S.A.	6.39	6.99	+9%

The first thing I noticed was the fairly orderly increase in items made in the United States. The second thing I noticed was the huge jump in Japanese products which really came as no suprise due to the exchange rate (Yen/Dollar) being so far out of whack! What really makes me wonder is what happened to O.S. and Super tigre, Other then Tower Hobbies gaining sole import rights to these two product lines in just the last couple of years! Are they getting greedy or what?

RLB



PICK'N YOUR STICK'UM

(or how to chose adhesives wisely)

The model builder of today is faced with a problem unknown only a few short years ago. Ivan Hird has related to me his experiance of having to make his own glue from nitrate movie film and acetone! Today the problem is just the reverse! We are faced with such a bewildering array of special purpose adhesives that choosing the right one becomes a problem. In this artical I will attempt to cover the more commonly used modeling adhesives and in general, where they work best. Choosing the right one is still a matter of personal choice.

ALPHATIC RESIN: COMMON WHITE OR YELLOW GLUE SUCH AS ELMERS, QUICK SAND, GLUIT, ETC.

USED FOR: General construction and kit building where maximum speed of drying is not a concern. It is especially useful for edge gluing wing sheeting together edge to edge. To do a good job on this you simply butt two sheets together edge to edge, and tape in place with masking tape. Fold open, apply glue to edge, and fold back shut. Weight the sheeting down on a flat surface untill dry (about 2-4 hours) then remove the tape and sand off excess glue. The result is a near perfect seam.

DON'T USE FOR: Fuselage doublers or any place where you need to glue large flat areas together. The water in this type of glue will result in severe warping of flat sheet balsa.

***SPECIAL NOTE:** Anyone with allergy problems would do well to use this type of glue for all of their building. It is the safest glue made and could even be eaten without any serious health problem. The same cannot be said for any other type of adhesive!

EPOXYS: SLOW SETTING TYPE: Such as Hobbypoxy II, ETC. **USED FOR*** Strongest possible joints in areas needing maximum strength such as firewalls, landing gear blocks, or any place where you are gluing hardwood to hardwood, plywood to plywood, etc. The slow cure time allows deep penetration into the grain of the wood and a maximum strength joint. It is also excellent for use with fiberglass cloth on wing center sections, etc. Will not attack foam parts or most plastics. **DON'T USE FOR:** General construction (Too heavy) or any place maximum strength is not needed. (Balsa to Balsa joints for instance. The glue joint would be several hundred times stronger then the wood itself!)

EPOXYS: FAST SETTING TYPE: Such as Hobbypoxy IV, 5 minute, Tower 6 Minute, etc.

USED FOR: Most places where the strength of epoxy is called for but you don't have time to wait on cure. In general, it is not as strong or impact resistant as slow epoxy would be.

DON'T USE FOR: General construction, Fiberglass work (not enough time to work out wrinkles), or any place that the short cure time would catch you in the middle of what you are gluing!

***NOTE:** Both types of Epoxy my cause skin irritation or respiratory problems. Use adequate ventilation and keep off skin.

CYANOACRYLATE (CYA), THIN TYPE: Such as Jet, Hot Stuff, Zap, etc.

USED FOR: Thin CYA is very useful in all building in that it sets up instantly (With a puff of smoke)! You can hold a part in place with one hand and Zap it with the other, and be done just that fast. Joints must fit perfectly or else the joint will be weak. Thin CYA is excellent for hardening Balsa for control horn mounting, wing tips, etc. It will wick into Balsa end grain like a sponge. After it cures the wood is rock hard. Thin CYA is also good for applying glass cloth, although it is difficult to sand smooth.

DON'T USE FOR: End-grain glue joints (Balsa sucks up thin CYA leaving a weak glue line) Loose fitting joints or anywhere a maximum strength glue joint is needed. Don't use for plastic canopys, or for henge setting.

CYANOACRYLATE (CYA), THICK TYPE: Such as Super Jet, Super-T, ZAP-A-GAP, etc.

USED FOR: All general construction and kit building. Very good for gluing fuselage doublers, bulkheads, or any Balsa/Balsa joint. Can be used to form fillets on joints by using an accelerator spray to speed up cure time.

DON'T USE FOR: Plastic canopys, henge setting, or on your wifes kitchen table!

*NOTE: Fumes given off by CYA and accelerator may cause severe allergic reactions in some people. Always use adequate ventilation and don't breath the fumes! Also, don't glue yourself to an airplane!

All CYA's work good. All are about the same quality and work the same. Pick the brand you like best.

SILICONES: Such as G.E. Silicone seal, etc.

USED FOR: Gluing internal supports inside fiberglass fuselages, fuel proofing wing saddle joints, hatch covers, etc. Also useful to vibration proof engine mount bolts, etc.

DON'T USE FOR: General construction. Don't use around radio installations as the fumes given off during cure are acid in nature and may cause corrosion.

FLEXABLE WHITE GLUE: Such as R/C-56, etc.

USE FOR: Gluing canopys and windows in place. Vibration proofing screws and bolts. This glue dries clear as glass and is very tough and resilient.

DON'T USE FOR: General construction as this glue is so tough you can't sand it.

There you have it! A brief rundown on the most commonly used modeling adhesives today. As you can see, each type has its place and will give excellent results if used correctly. If used incorrectly, modern adhesives can cause health problems, heavy airplanes, and divorces if you happen to get some on your wifes best table!

FLY SAFE! ,

RLB

BEGINNERS CORNER
(Questions & Answers)

This month is the kick-off of what I hope can be a helpful exchange of information in the club. As new modelers enter into the hobby they often hear terms used which are totally unfamiliar. Even those of us who have been active in the hobby need to dig around for an answer every now and then. As you come across items that are unfamiliar to you, take the time to jot them down and pass them on to Dave Plamann or myself. We will try to get the answers for you and also share them with the rest of the club. Also, we promise not to use your real name!

Q. WHAT IS THE DIFFERENCE BETWEEN SPORT AND PATTERN MODELS?

A. Actually the term "Sport Model" can mean many things to different people. In general though, it applies to a design that is fairly aerobatic, fairly easy to fly, and generally quick and easy to build. A pattern ship on the other hand, is designed from the ground up with only one objective in mind. That is to give the person who competes in A.M.A., FIA, or turn-around pattern contests a tool designed to win. Usually, all other considerations as to expense, complex building procedures, finishing, etc. take a back seat to the intended purpose of winning contests. You could use a pattern ship for sport flying, but could never hope to do well in higher level pattern competition with a sport design.

Q. HOW DO AIRFOIL SHAPE AND THICKNESS AFFECT FLIGHT PERFORMANCE?

A. There are basically four airfoil designs used in R/C aircraft design. These are the undercambered, flat bottom, semi-symmetrical, and symmetrical. The undercambered airfoil is able to provide high lift at slow speed without stalling. It is most often used in gliders and old-timer designs. The flat bottom wing again provides very high lift at slow speed. Stall characteristics are gentle and the wing design is easy to build straight because it is built flat on the building board. It is the best possible wing design for a trainer. The semi-symmetrical design is often used on sport designs. It has a wider speed range, and is able to perform aerobatics reasonably well while still being easy to build. The symmetrical wing is at its best on high-performance, fully aerobatic aircraft. It makes no difference if it is flying upside down, as it is the same on both sides. Stalls do tend to be more abrupt or even violent, which is desirable in an aerobatic aircraft. It is not a wing for the beginner however, as take-off and landing speeds are necessarily much higher.

Airfoil thickness has a lot of influence on drag and stall speed. In general, a thick wing with a blunt leading edge provides more lift, less top speed, and stalls slower and more gently than a comparable thin wing.

Dihedral generally has a stabilizing influence, however it does a lot of other things too. A full length article is planned for the news-letter to cover it in more detail.

Q. CAN I SUBSTITUTE 6-MIN. EPOXY IF THE PLANS CALL FOR 30 MIN.?

A. Yes, you usually can. Look for a full length article on adhesives coming up in the newsletter soon.

Q. CAN I USE TOO MUCH GLUE ON MY MODEL?

A. Well, yes and no! By using too much glue about the worst that can happen will be an overweight model. Most trainer designs can stand a little extra weight without hurting performance much. Too little glue on the other hand can cause big problems. I once had a wing fold up while test flying a fellow's new trainer. Post-crash inspection revealed little or no epoxy on the center spar braces. The fellow who built it was worried about using too much epoxy and adding weight. His plane was a whole lot heavier after he rebuilt the crash!

Q. WHAT IS 1/2 A ?

A. At one time, models were classed for competition by engine size (they still are in some events). A class "A" model had an engine that was .051 to .20 displacement, all the way up to the class "D" that had a .40-.65 engine. Sometime during the late 1940's (I think) a smaller size class came about. This class was half the size of the "A" class and engine size was set at .049 or smaller. So, "1/2 A" was used to name the new displacement class! Today, it means a small plane with a small engine such as the Cox line of engines.

Q. IF I USE A BUDDY BOX SYSTEM, DO BOTH RADIOS HAVE TO BE ON THE SAME CHANNEL?

A. No. The only thing you need to be concerned with is that both transmitters are of the same make and model. Also BE VERY SURE that all the trims and servo reversing switches are set the same!

Q. DO YOU CHECK WING INCEDENCE WITH THE FUSELAGE SETTING ON THE BENCH, OR SETTING ON THE LANDING GEAR?

A. It makes no difference as long as you can block up the plane to arrive at a "zero" referance line to measure from.

Q. CAN I LEARN TO FLY WITH A PLANE NOT SPECIFICLLY DESIGNED AS A TRAINER?

A. Well, yes and no! Some scale type planes such as a Cub or Cessna type could be used as a trainer. Don't try to start out with a P-51 Mustang, Q-500 Racer, or for that matter, any low-wing, high performance sport design. Most trainers are designed to be just that, and as such you will find yourself on a quicker road to success if you start with one. In any case you will need an instructor, and I would suggest that you talk it over with him and see how much extra time he is willing to spend with you if you start out with the wrong plane.

Q. IF I GET IN TROUBLE AND NEUTRALIZE THE CONTROLS, WILL AN R/C TRAINER RETURN TO LEVEL FLIGHT?

A. Well, again yes and no! Most good trainers have a lot of built-in stability. Given enough altitude when you get into trouble (and given the presence of mind to pull off the power) many trainers would save themselves. The problem however is that most people just can't think that fast, and continue to fight it all the way down! (A model flying at 60 M.P.H. covers 88 feet per second!) Here again, your instructor can often save your plane if he has time to get the transmitter. A good rule is to always fly "two mistakes high" while learning. This gives you one mistake and also gives your instructor one mistake before your plane hits the ground!

Q. SOME OF THE INTERLOCKING PARTS IN MY KIT FIT LOOSELY, LEAVING A GAP. WILL THE PART HOLD IF I ONLY GLUE IT ON ONE SIDE OF THE GAP?

A. Yes it will hold, but why not try using some thick CYA glue and a shot of accelarator spray. This technique will form a glue fillet over the gap and make a very strong joint.

Q. MY FOUR SERVOS CAME PLUGGED INTO THE RECEIVER WHEN I BOUGHT MY NEW RADIO. DO I NEED TO KEEP TRACK OF THEM AND ALWAYS PLUG THEM INTO THE SAME SOCKETS?

A. No. All servos of the same type (S-28, S-38, S-148, Etc.) are the same, and are totally interchangeable. They can be used for any control function and do not need to be kept in order.

Q. IS IT HARDER TO LEARN TO FLY A TAIL-DRAGGER, AS OPPOSED TO A TRI-CYCLE LANDING GEAR?

A. I suppose many people would disagree with me on this, but I don't feel that it is. You do need to learn to use the rudder a little more during take-off, but that is a good thing to learn anyway. Why not learn it when you start out insted of later? Other then during take-off and possibly during cross-wind landings, I personally find little difference. I suppose you might break a few more props while learning to land, but what the heck!

RLB

March 19th, at 7:00 PM
Gaslight Village Clubhouse

Bring your radios! Put your name & AMA number on them to avoid any confusion. Mr. Runge has accepted our invitation for this meeting, so lets have a good showing.

We would also like to find out what freq. everybodies on. So list your frequencies on the sign-in sheet being passed around.

Meeting Minutes

Richard Ballard provided a detailed map showing where we are flying, in relation to other points of interest to our club. Pointing out that we do, and will be, having neighbors near our site. Safe flying, and frequency practices are a must.

Discussions have begun concerning field maintenance. Brian Sorenson has been charged with securing the orange, plastic type fencing to separate the spectators from the pit, and flight line areas. Brian also brought his newest addition, (a ducted fan unit) to the meeting. He promised to let me test fly it for him when he gets a jet to go with it.

Danny Callahan is setting up a committee to approach the inevitable mowing issue this year. He could use some help guys.

Several new members were introduced, and we're glad to have them. If you newer members need help with anything,,,, ask! Much of the enjoyment of this hobbie is being able to share what you've learned.

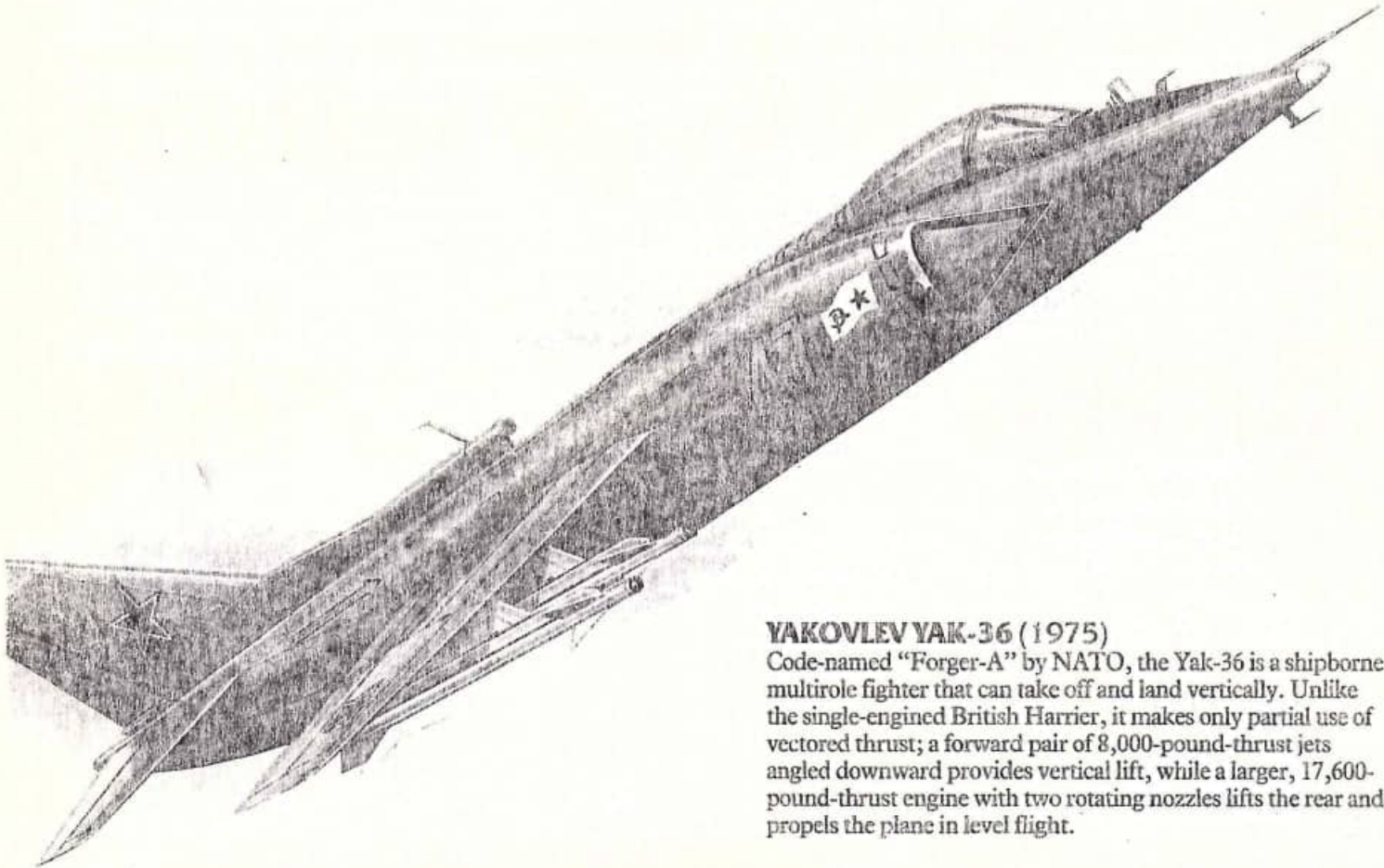
A meeting of instructors was held immediately following our regular get-together. The purpose was to determine how we wanted to proceed with standardising our training program. It is thought that instructors could better get the student where they need to be by using this method. You'll be hearing more about it soon.

No new solo pilots to report about this month, but we'll have some soon. New pilots will be given a pair of gold wings by their instructor starting this year.

How Many ?

I've heard reports early this week that folks are noticing problems with glitches. Having asked around at the field, everyone seemed to be giving me the same information. That information keeps telling me, that when these incidents occured, there were too many airplanes in the air, and the transmitters on the ground were too close together. We need to try to keep the number of planes in the air at four, and keep those transmitters at least 30ft apart. DP





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.