

T O S S " U P



NEWSLETTER

JULY 1990

T.O.S.S. P.O. BOX 1955

THOUSAND OAKS, CA. 91360

A.M.A. CHARTERED CLUB #1493

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Chuck Griswold (805) 495-1409
Myles Moran (818) 882-4687

Code-A-Phone: (805) 497-6367

Next Contest: Aug 11th 1990
C/D: Chuck Griswold
Type: 3) 10min in-out

Next Meeting: JUL 25th 1990
Place: Oaks Mall
Next to Bullocks
Hillcrest Dr. T.O.
Time 7:30 p.m.

TOSS Active Roster 1990

last	first	phone	street	city	st.	zip	frequencies
BUZOLICH	NICK	714 854 3689	19366 SIERRA BELLO RD.	IRVINE	CA	92715	22 42 44 50
CARTER	EDWARD	805 494 0855	2592 NORTHSHORE LANE	WESTLAKE VILLAGE	CA	91361	6 METER
ELLIS	JOHN	805 388 5674	1961 VIA MONTECITO	CAMARILLO	CA	93010	56
GOLDSMITH	BOB	805 529 2441	12792 WINTER AVE.	MOORPARK	CA	93021	16,24,40,48,
GRISWOLD	CHUCK	805 495 1409	1646 LA JOLLA DR.	THOUSAND OAKS	CA	91362	56,38,22,54,26,
HARTMAN	RICHARD	805 488 6136	1852 SANFORD ST	OXNARD	CA	93033	44,46,48,52,54,56
HENDRICKSON	ERIC	805 493 4210	2486 CHAUCER PL.	THOUSAND OAKS	CA	91362	22,24,26,30,42
HOLLOWAY	GREG	805 483 8170	1853 IVES AVE. #162	OXNARD	CA	93033	48,50
KOPLAN	TERRY	818 889 6984	30434 W. RAINBOW CREST DR.	AGOURA HILLS	CA	91301	40, 56--
LEAL	MICHAEL	805 529 7535	844 CHARLES ST.	MOORPARK	CA	93021	20,24,28
LOE	DAVID	805 644 1527	5961 CANNON CT.	VENTURA	CA	93003	24
McNAMEE	ART	818 362 2822	14950 YOUNGDALE PL.	SAN FERNANDO	CA	91342	53.0 ,40
McNAMEE	DON	805 526 3145	2291 N. HIETTER	SIMI VALLEY	CA	93063	26,54
MICHETSCH	BERT	818 991 0666	6012 COLODNY DR.	AGOURA HILLS	CA	91301	40,44,46,48
MICHITSCH	GLENN	818 991 0666	6012 COLODNY DR.	AGOURA HILLS	CA	91301	40,44,46,48,
MICHITSEH	ROBERT	818 991 0666	6012 COLODNY DR.	AGOURA HILLS	CA	91301	40,44,46,48
MORAN	MYLES	818 882 4687	10428 OSO AVE.	CHATSWORTH	CA	91311	every one known
MORGAN	RALPH	805 484 7728	2120 GORMAN STREET	CAMARILLO	CA	93010	32 38 40 42 46 50 56
NIBLEY	BILL	805 526 6754	2106 LATHAM ST.	SIMI VALLEY	CA	93065	44
NORTHERN	DON	805 523 1018	3977 WILLOWCREEK Ln.	MOORPARK	CA	93021	40,48,52
OLDENBURG	ED	805 497 7463	951 WARWICK AVE. #A2	THOUSAND OAKS	CA	91360	53.3
ONSTAD	BOB	501 389 6203	P.O. BOX 287	HATFIELD	AR.	71947	
PUCKETT	MIKE, LINDA	805 499 9557	1350 ALESSANDRO DR.	NEWBURY PARK	CA	91320	20,50,40
STERN	MICHAEL	805 492 8452	745 LYNNMERE DR.	THOUSAND OAKS	CA	91360	???
SWET	BOB	805 388 9619	2600 PONDEROSA DR. APT.15	CAMARILLO	CA	93010	42,54
VAN HAMERSVELD	JOHN	805 492 5904	2826 N MARIETTA CIRCLE	THOUSAND OAKS	CA	91360	28 32 40 46 50
VICKERS	DON	818 792 5612	3310 DEL VINA	PASADENA	CA	91107	38, 6 METER
WEISMAN	EDGAR	805 496 0611	752 CAMINO VALLES	THOUSAND OAKS	CA	91360	32,40,52
WIECHERT	JIM	805 526 3327	1791 GLENVIEW AVE	SIMI VALLEY	CA	93063	16
WILLIS	BEN	805 496 7404	196 QUAILS TRAIL	THOUSAND OAKS	CA	91361	22

Bob Co
Mike
Eric
Eric
Bob
Don
Mike
Eric
Van, Ray

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**Oxymorons from
the head Moron.**

As most of you know Art McNamee is doing time in beautiful down town Bangkok, Thailand. He's bringing them up to date so that they can all ride around in BMWs with car phones. Art sent a beautiful post card of the Buddha image at the ruins of Wat Mahathat ancient city of Sukhothai, Thailand it goes like this.

Hi to anyone that Chuck shows this to.

It's hot and humid, as expected here, and shouldn't change till November when it drops to 80° some mornings.

There's no place to fly here, gliders that is.

If I sent you pictures of what I've seen you'd all be over here. (Very few throw aways)

Art

If any of you want to find out what he's not throwing away or would just like to say Hi! Here's his address. Art should be having fun over there until October 1990

Art McNamee
Imperial Hotel Rm. 1063
Wireless Rd.
Bangkok10330, Thailand

Next on the list is our SC squared this Sunday the 29th. Unless you want TOSS to really look silly. Be there! Every one pitch in, fly, have fun and help. Eric has taken on a big job don't let him down.

Rules for having a good time. Flying more with more friends at the field.

1) After setting up the high-start / winch / limber arm, look around see if you can find someone that you don't know. The minute you see this type, go immediately and introduce yourself. Act friendly.

2) Fly and have fun. Don't fly like a jerk, Fly smoothly land smoothly. It'll make you a better pilot, and set a good example for those of us that fly like a jerk.

3) If you see someone leaving ask them if they can make it next Saturday and/or Sunday. The more you ask, the more people you will see next week. (hopefully you like to fly with other people)

4) If you see someone at the mall, driving, exercising, dancing, (you get the picture) before you say "goodbye" ask if they are going flying this week at the field. Which day?

5) If you don't get the message. You are one of the few people that don't like to fly with others. (Why did you join a club?)

For all of you that showed up for a contest as advertised and found a few fun fliers, Take heart, Edgar and I had to call all of you to confirm that the contest was on the original Sunday as always. So many to confuse and so little time. Will I ever be able to complete this job. I am really very sorry, I will never roll the calendar to August before its time again.

You will all probably see that Next months contest is slated for the 11th of August.???? This ain't no error cause I is da C/D. Of course there could be a problem if the Soccor or baseball team shows up. I hope we will be able to straighten out the mess by meeting time. So if you have a question show up at the meeting.

For all the folks that would like to see something really interesting in the newsletter send it to me: Chuck Griswold, no later than the 20th of the month. I will, in turn, put it in TOSS UP. If you forget to send it to me



before the 20th please send it anyway it will make good copy for the next month or I might just get it in for this month. It used to be that the president was good for a short message. The C/D for the month would give me a bit. And even some of the members at large would give me something interesting. (Thank you Eric Hendrickson, he still does) This letter is going to get really dull unless you give-give-give. I've used up my back log of articles and that's a fact.

*Bye Bye Bye
Chuck*

C/D's For the Year.

Jan 13th	Ed Weisman
Feb 10th	Don Northern
Mar 10th	Art McNamee
Apr 8th	Ed Oidenburg
May 12th	Eric Hendrickson
Jun 9th	Bob Goldsmith
Jul 14th	Terry Keplan
Aug 11th	Chuck Griswold
Sept 8th	X/C
Oct 13th	Richard Hartman
Nov 10th	Ralph Morgan
Dec 8th	Myles Moran

INJECTING FOAM INTO FIBERGLASS TAIL BOOMS

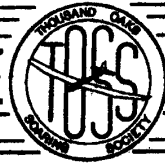
By Frank Dels
From the Pikes Peak Soaring Society

Fiberglass fuselages get their great strength from the "monocot" nature of their construction. More simply stated they are strong for the same reason an egg shell is strong.... because of the combination of shape and material. It turns out that a sailplane fuselage is not nearly as ideal a shape as an egg from a strength stand point. Hence they are a lot easier to break than most people realize. The most vulnerable part of the fuselage to one of these shape related failures is the tail boom. If a bending load is applied to the tail boom- say you try to break it over your knee for example- the boom initially appears to be very strong, then deforms slightly (flattens a little) and abruptly fails totally after suddenly losing all of its strength. This is sometimes called an "oil can" failure of simply "oil canning". For a vivid and cheap demonstration of this try to bend an empty soft drink can and you will quickly understand the term "oil canning". In case you have any

doubt that this is a shape distortion related failure, get a can of that rigid expanding, insulation foam and fill another soft drink can with it. After a few days try to bend the foam filled can— lots of luck! It won't fail unless you dent it first then it is a piece of cake. If you want a demonstration that is more tail boom like try the cardboard roll form a paper towel roll. The bottom line is your fiberglass fuselage boom will take a lot tougher landing if you can keep it form "oil canning"

Most people who use fiberglass fuselages are aware of the problem and aware that a can of that rigid, foam in place, insulation foam is a good solution. The problem is how to do it. I just foamed the fuselages on both my Falcon 880 and ICON. I had some problems and found some fixes and thought I would pass along my approach in the hope that someone will be able to improve on it. The procedure is as follows:

- 1) Put in all of the pushrods and control linkages, tack them in place with 5 min. epoxy and make sure they work. I am using 1/16" music wire inside the yellow part of a NYROD. I also put t in a piece of the outer blue tube to serve as a antenna guide.



2) Plug the tail boom on the inside as far back toward the vertical fin as possible. (remember they often break at the weak spot just forward of the fin so you want to be sure you can get some foam in that area to maintain the shape as well.) I used a balsa plug on the Falcon that supported the rudder, horizontal stabilizer, and antenna tubes. On the ICON I just packed Styrofoam packing beads (worms) in from the opening in the tail. Both seem to have worked fine.

3) Locate a strong bright light that will penetrate the fuselage (like candling an egg), and put a band of masking tape around the fuselage at the trailing edge of the wing. You should be able to see a shadow from the plug in the tail boom when you hold the fuselage up to the light. The masking tape will tell you what the upper fill limit is. I have found that the foam continues to expand very slowly as it cures - about another 10% - so when you are done the foam will extend forward an additional 3 inches. This is OK because the other place the fuselage likes to break is right at the trailing edge of the wing and this extra foam helps maintain the shape there also.

4) Now that the fuselage is

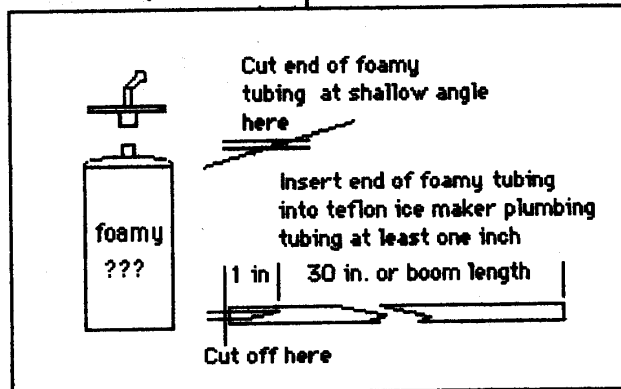
ready it is time to talk about the foam. A principle of high strength design is to avoid sudden changes in the strength or stiffness. I know these changes as "stress discontinuities". They are why your wing spar breaks right at the end of the spar doubler unless you taper the doubler down very slowly. A similar effect occurs when you join spruce and balsa to one another. If you feather one into the other the overall structure will be much stronger. Another example is the use of fillets in place of sharp corners when machining metal parts. The point of all this is that you want to avoid stress discontinuities in your tail boom if you are going to maximize its strength and that means **NO HOLES IN THE FOAM!** Don't just foam a couple spots down the boom, it will help very little. Try this on a card board tube if you think

and continuously injected into the boom.

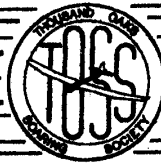
The can of foam comes with about a foot of tubing to use as an extension to reach into small places. Hardly enough to reach down the tail boom of the ICON. The solution of using a longer piece of tubing sounds straight forward but there is a problem. The foam is very viscous (thick and sticky) as it comes from the can. Trying to squirt this stuff down a 30 inch long 1/8 inch diameter tube resulted in one of two situations:

- a) It clogged the tube and stopped flowing or,
- b) it blew the tube off the nozzle and made a real mess.

The solution I stumbled on is shown in the diagram.



I'm fooling. The problem is how to get the foam smoothly



I got an ice maker plumbing kit from the hardware store which included 25 ft. of Teflon tubing. It is larger in diameter than the tube that comes with the foam and that helps a lot by itself. Cut the end of the tubing that comes with the foam at a very shallow angle - see the diagram - and shove it into the ice maker tubing. It is a very tight fit so you really have to force it. It should go in and inch or more. Then cut off the part sticking out of the ice maker tubing flush with the end. You can now force this over the end of the nozzle that comes with the foam. This made a tight enough fit that the tubing did not pop off the nozzle - (I have plenty of extra tubing if anyone needs some). I cut the Teflon tubing sufficiently long to reach easily to the plug at the end of the tail boom when inserted from the canopy area.

Now insert the tube down the fuselage to the plug, hold the fuselage up to the light so you can see the depth of the foam, and start injecting, slowly withdrawing the tube as you go until you come to the masking tape marker and stop.

!!! CAUTION !!!

The foam is messy beyond

belief!! Don't touch it or play with it in any way or you will rapidly get into unbelievable trouble!!! (the comment "making love to a tar baby" conjures up the appropriate picture). Fortunately the stuff is real easy to work with once it sets up. If anything goes wrong or the foam went some place you don't want it (like the forward fuselage when you withdraw the tube) just wait until it hardens and then break it off. You will be surprised how easy it cleans up. Be sure to read the cautions on the can to get the full story on working with this stuff.

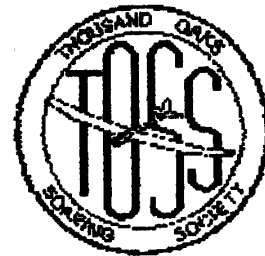
5) Let the fuselage stand for a day or so while the foam sets. Initially you will notice that the tail boom feels cool and heavy and as it cures it seems to lighten up. I did not have the foresight to weigh the fuselages before and after, so I don't know the weight gain. It doesn't feel significant. The foam seem to cure by an evaporation like process so you will notice that middle of the tail boom will feel squishy when the ends are firm. This goes away slowly as the foam cures - very slowly! As I recall it took several weeks to finish when I did this to my Maestro last summer. The fuselage is not up to full strength until the foam is rigid the full length of the boom. I don't

think you have to wait to fly it however. It is no weaker than an untreated fuselage and there are no stress discontinuities so it's air worthy. You may see some CG shift as the foam cures but it shifts forward so you should not bet any nasty surprises.

6) After a day or so of curing you can clean up any mess that might have occurred and continue building as though none of this ever happened.

The finished fuselage will be almost immune to those silly landings where a wing hits a clump of grass and snaps the tail boom and it will take a surprising crash. If it does break, the presence of the foam does not seem to complicate the normal repair techniques.

Grant





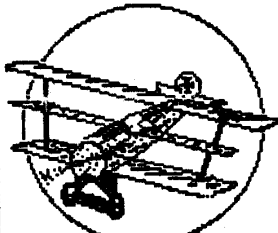
Servo Connector Coding

George Steiner
From the Modesto club
Newsletter
Thermal Topics.

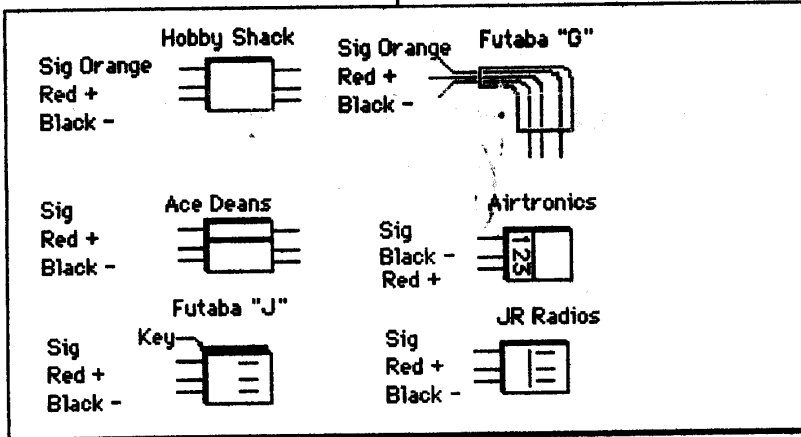
Servos are pretty standardized electronically, the connectors should be the same, but they aren't. So, it's up to you, the hobbyist, to convert the connectors to fit your receiver. The following are some common connectors and their coding. Note that the Futaba "J" connector will fit the Airtronics block with some slight trimming and a reversal of + and -, done simply with a pin. (TOSS-UP June 1989)

George

The Red Baron



Radio Control Model Hobbies
77 Daily Drive
Camarillo, CA.
(805) 482-0250



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