THE CONNECTOR

The Official Newsletter of the Aeroguidance Society, Inc. Endicott, New York

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Academy of Model Aeronautics Chartered Club

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CALENDAR OF EVENTS

Date	Time	Place	Event
1/12/86	12:00	IBM Owego	Glider Flying
1/14/86	6:30	NYSEG	Ground School
	7:30	"	AGS Regular Meeting
	8:30	"	Radio Maintainance Bill Underkofler
	9:30	"	Social Hour-Villa
1/20/86	7:30	?	AGS Board Meeting
1/21/86	7:30	Bob Noll's	Hanger Session-RSVP
2/2/86	12:00	IBM Owego	Glider Flying
2/11/86	6:30	NYSEG	Ground School
	7:30	"	AGS Meeting
	8:30	"	Cutting Foam Wing Cores Bob Noll
	9:30	"	Social Hour-Villa
2/17/86	7:30	?	AGS Board Meeting

THE PREZ SEZ

Unfortunately the holiday season is over and we have to get back to the daily work routine. Fortunately our local climate is very conducive to building planes during the next 3-4 months. I usually make use of this time to add two new ones which hopefully will balance attrition.

The AGS Event for the holidays was a fine, enjoyable Christmas party (Dinner at the Treadway) attended by about 40 members and guests. Dick and Diane Fish did a super job of organizing it. Everyone enjoyed the meal and socializing. There was even a surprise birthday cake for Tom Socha arranged by his wife. (He never did tell us how old!)

The AGS, as an All-season club, is proceeding with its event-of-the-month policy. I just returned from setting up the Mall show which should be bigger and better than ever. This year the Mall Management welcomed us with free tables and covers AND the whole Mall to ourselves. (We won't have to listen to 1000Db Music!) To fill up all the space, all of te area modeling clubs were invited to partici pate. At this time it appears that there will be good participation. Thanks to Gordy and Terry for organizing this event.

For February, we will have a SNOW FLY at Moore Park, Vestal. So get those skis attached to your favorite bird. If you have any questions about skis, bring them to the "experts" at the Jan. meeting. Contact Bill Tomsa if you would like to help with hot coffee, firewood, etc.

This brings up the subject of winter/early spring flying. With the new road at our field,we no longer "officially" close the field. However, anyone using it during this period does so at extremely high risk to himself and his car. If you are so determined to use our field, DO NOT DRIVE PAST the turnaround at the top of the new road. Beyond this point extreme peril exists. I find that Moore Park is an excellent flying site during this period and use it without hestitation. However, there are soccer goals around the perimeter which at first look menacing but really are not a serious hazard because of the wide spaces between them.

See you at the Jan. 14 meeting; Pleasant building.

Jerry Skreckoski

RADIO INTERFERENCE-Bill Underkofler

It seems that the interference problem is always with us. Recent news indicates that the problem is getting worse instead of better.

History: Years ago we flew nicely on 27 mhz until those frequencies were rendered useless by the proliferation of CB radios. The AMA then successfully petitioned the FCC for frequencies away from CB (at 72 mhz). These channels seemed good, but were shared with industrial users. In some locations these frequencies are unuseable. Again the AMA came to the rescue and obtained a set of new "exclusive" frequencies, closely spaced at 20 khz separation. Since present equipment could not cope with this close spacing, a phase-in plan was adopted, initially using only even numbered channels (40 khz separation) with fall useage deferred to 1991 when more selective radios would (it was hoped) become available.

Presently two forms of interference are of the most common:

1. Adjacent channel interference (ACI).
   Many present radios do not cope well with 40 khz spacing and react to the neighboring channel.

2. Third order intermodulation interference(3MI).
   This can occur with 3 adjacent channels operating together due to mixing products of fundamentals and harmonies.

A recent column by George Myers in "Model Aviation" (Jan.'86) points out the severity of our problems. He devised a simple and realistic test method for evaluating equipment for interference potential and susceptibility, and reported test results for Am, Fm, and PCM equipment. I strongly urge you to read and digest this report--the implications are frightening!

Some implications of the Myers Test Data:

1. For rejecting ACI Fm is no better than Am (and may be worse)
2. For causing ACI Fm is definitely worse.
3. For causing 3IM Fm is worse
4. For rejecting 3im no present equipment is any good.
5. "Narrow band-Dual conversion-1991 Receivers" are not much better against ACI and are no good against 3IM
6. PCM Against ACI: Some good, some bad
   Against 3IM: No good

Actions to Protect against Interference
(Untilreally improved equipment is available)

1. Stay on "old" frequencies (Greater spacing, 80 khz vs. 40 khz)
2. Stay on Am. Don't buy new Fm until technical problems are solved.
3. Aviod flying with Fm on adjacent channels.
4. Avoid flying with 3 adjacent channels in operation.
5. If flying under potential ACI or 3IM conditions use a single flight line with transmitters separated by 25 feet.
6. If conditions are suspicious or if interference is suspected do the Myers test to verify source and severity of the problem.

In conclusion: Under typical AGS club field conditions interference potential should be low, especially if our new frequency control system uses proper grouping. Major contests with multiple separated flight lines have potentially severe problems.

Our present interference problems will undoubtedly be solved in the future by technical improvements in equipment. In the meantime we need to be alert and use all available techniques to avoid potential interference combinations.

MALL SHOW JANUARY 4TH & 5TH

Well fellas, we've done it again! The biggest and best yet. After 3 years on our own and practically begging other local clubs to participate with us in this effort it all came together. A lot of credit should go to the organizer of our area's newest club, the Binghamton Aeros. They have drawn members from the MOB, AGS, and AIR WOLVES who in turn have relayed information to their clubs. The result was participation by all local clubs. The AGS had center court and kept the pond full of boats and the floor occupied by cars and tanks. Across the isle Ed Rowe and some friends displayed and flew rubber models. This area also contained a large plastic model display and several U-control planes courtesy of the Prop-Spinners.

In the north court-by Bradlees-the Binghamton Aeros had a very nice display of large aircraft including one very big chopper.

The south court-by Wards was well occupied by the MOB.

Comments by both the public and merchants was very favorable which should lead to further growth as the years progress.

We also had the AMA Booth as well as a color TV and VCR on loan from Wards. The TV and films had constant viewers and proved to be a real crowd stopper which then gave us the opportunity to talk to the people.

May I extend my personal thanks to all who participated.

Terry Terrenoire

THE ACTION AREA - by BOB NOLL

FOAM WINGS HAVE IT ALL - With the heart of the building season upon us, it should be no surprise that there is alot of interest in building foam wings, Most of the pattern kits on the market today come with foam wing and stab cores for several reasons. They are very easy to supply by the kit manufacturer and are highly desired by the builder. Their appeal to the builder is their simplicity and strength. The simplicity allows you to build a very accurate wing while the strength is an extremely important to withstand the high G forces encountered in many aerobatic maneuvers.

Probably the most important factor to be concerned with when building a foam wing is the weight. However, it is possible to construct a very light wing using foam without sacrificing any of its strength. Extremely careful and judicious use of adhesives together with proper selection of balsa will provide a wing that is superior to all other techniques of wing construction if accuracy and strength are the principle objectives.

Our HANGER SESSIONS have been concentrating on foam wing construction and we are keeping weight data for several planes being built by club members.

PATTERN PROJECTS
- Dick Fish is building a "Phoenix 8". This design by Don Lowe is one of the latest in Don's long line of successful pattern designs. Dick has already completed and flown an "ATLANTA".
- Jim McKeown has a "TIPORARI 750" well on the way. This Dick Hanson design has been one of the most popular designs being used in the AMA pattern events around the country.
- Todd Kopl found a "TIPO 750" under his Christmas tree and will be getting to work on it a soon as he finishes a customer project.
- Scott Seaman came over to the house last evening with his new pride and joy, a "T2-A Mk II" which is a very high quality kit complete with a very excellent fiberglass fuselage, foam cores and a full complement of preshaped wood. This design also has a proven contest record.
- Terry Terroniore Jr. is finishing up his "TIPO 750".
- Terry Sr. has a SIG "KING KOBRA" almost ready for painting and has already started building an "XLT", which is a Joe Bridi design.
-Bob Copland is working on a twin engine "DUALIST" which is scratch built with a foam wing which we cut at the first hanger session.
- I am building a "SLIM ZLIN" by Dick Hanson for FAI Turnaround Pattern.

HANGER SESSIONS CONTINUE - Besides exchanging information on construction techniques, there has been considerable exchange of ideas regarding finishing techniques at the hanger sessions. Everyone seems to be interested in finding the better finishing technique, one that is light, durable, maintenance free and relatively easy to apply. It goes without saying that we are all tired with the problems of Monokote.

So if you're interested in joining the next PATTERN HANGER SESSION, we will be meeting in my hanger as follows:

Tuesday January 21
7 PM to 10 PM
2317 Acorn Dr, Vestal
Phone 754-5279

Please call me if you will be attending so I can be sure to have enough fuel on hand. Bring your current building project with you.

How many of us really look at our models and check the rigidity of the control surfaces? Some years ago, I built a Goldberg Senior Falcon which had the elevator and rudder push rod made out of 3/8" square balsa. This seemed, in my opinion, to be more than rigid enough to operate the elevator. During the first ground checks of the model, there was a radio problem with the elevator which appeared to be caused by vibration affecting the elevator servo at full throttle. At engine idle, the servo performed with no problems. I removed the wing, started the engine and, sure enough, the high speed vibration was still evident. I then removed the arm from the elevator servo and the problem vanished. Replacing the arm thus loading the servo with the elevator and linkage again started the problem. Very perplexing! Apparently, the natural vibration frequency of the elevator and push rod assembly at high engine speeds was very close to the natural response frequency of the servo. Subsequent calculations indeed proved this point.

I then removed the rudder and elevator pushrods from the servo and wrapped a rubber band over both rods to apply some damping between the two push rods. The problem went away and the plane was flown successfully on that day. That evening, I replaced both the elevator and rudder pushrods with 3/8" diameter fiberglass arrow shafts. The problem never appeared again for me on this or any other airplane.

Thus even though the linkage systems appear to be rigid enough to hold the control surface in its desired position, there can be problems with responses between the elements of the linkages. With the advent of the coreless servos, which have very low mechanical friction and can easily driven from the control surface, this problem may become more common. The only suggestion that I can make concerning such a problem is to CHECK THE CONTROLS every time you fly the plane. During the building of a model, be sure that the linkages do not have any bends or points which are flexible.

For all you hearty glider guiders, I again plan to be at Owego on January 12 and February 2. As has been the policy in the past, I plan to start around noon. Anyone wishing to brave the elements is ineed welcome to join in. Enough for this month see you all around.

Jim

EX LIBRE AGS

JACK HOSTETLER
LIBRARIAN

FOLLOWING IS A LIST (NOT IN ALPHABETICAL ORDER) OF THE BOOKS CURRENTLY AVAILABLE FOR BORROWING (NO CHARGE) FROM THE AGS "LIBRARY" (ACTUALLY A VERY TIRED OLD LEATHER SUIT-CASE). THERE ARE A FEW MORE BOOKS ALREADY ON LOAN WHICH I WILL TRY TO VERIFY AS STILL IN EXISTANCE. NEXT MONTH I'LL TRY TO PUBLISH THE ENTIRE LIST. CALL ME OR FIND ME AT THE MEETING IF YOU'D LIKE TO BORROW SOMETHING.

TITLE	AUTHOR
THEY FOUGHT FOR THE SKY	QUENTIN REYNOLDS
EARLY AVIATION	SIR ROBERT SAUNDBY
FLYING ACES OF WORLD WAR I	GENE GURNEY
RC MODELER'S HANDBOOK OF GLIDERS AND SAILPLANES	GEORGE SIPOSS
GOSSAMER ODYSSEY	MORTON GROSSER
PROFILE PUBLICATIONS:	
FOKKER MONOPLANES	
SOPWITH 7F.I SNIPE	
BRISTOL FIGHTER	
NIEUPORT N.28C-I	
CHANCE VOUGHT F4U-1 CORSAIR	
CURTISS JN-4	
SHORT 184	
WESTLAND WAPITI	
FAIREY FLYCATCHER	
VICKERS F.B.27 VIMY	
CHANCE VOUGHT F4U CORSAIR	AERO SERIES
B-25 MITCHELL IN ACTION	SQUADRON/SIGNAL PUB.
HOW TO BUILD AND FLY RADIO CONTROL GLIDERS	JACK SCHROEDER
A DECADE OF DESIGNS # 2	FLYING MODELS
THE FLYING COLES	DUANE COLE
GETTING THE MOST FROM RADIO CONTROL SYSTEMS	FRED MARKS
R C MODELER PUBLICATIONS:	
MISSION TO GIBRALTER	KEN WILLARD
SCALE IN HAND	DAVE PLATT
THE R/C ENGINE	CLARENCE LEE
FOR WHAT IT'S WORTH VOL II	DON DEWEY
NEW YORK STATE AEROSPACE RESOURCES GUIDE	UNIV. OF N.Y.
DESIGNERS AND TEST PILOTS	RICHARD HALLION
COLOR PROFILES OF WW2 COMBAT PLANES	WILLIAM GREEN

NEW

Precision Built

Laser 200

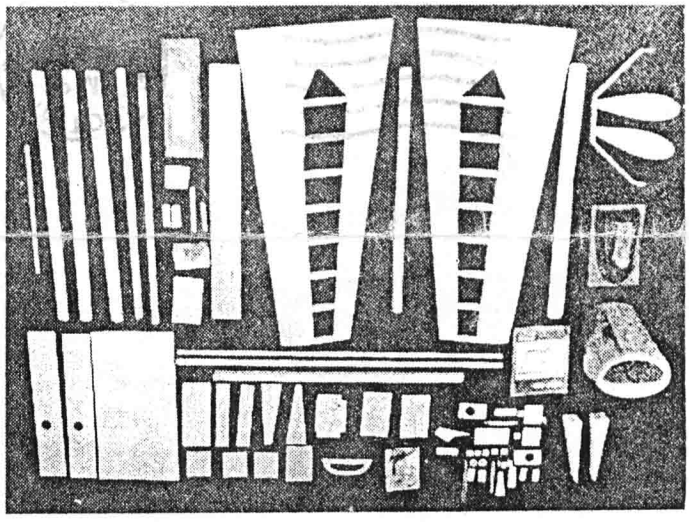
The Las Vegas Laser

Wayne Ulery - Design

1/3 Scale
16 - 17 Lbs.
Wing Span - 98.25
Wing Area - 1615 Sq. In.

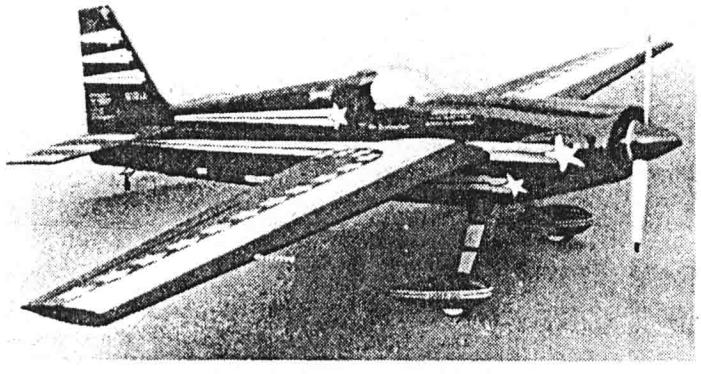
KIT INCLUDES

- Canopy
- Cowl
- Wheel Pants
- 3' Alum. Tube for mounting wings
- Rolled Plans
- Balsa Hardwood and Plywood, for Building Fuse and Tail
- Formed Landing Gear
- All Special Hardware
- Wing Completely built on Special Jig and Ready for Covering



Recommended Engines

Quadra 50 ; Z. Quartz ;
Super Tartan ; Sachs D.



Dick Allen
(607) 785-1641
$ 350.00 + shipping

($325 U-Pick-Up)

Happy 1986

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PRANG (prang), v. To damage an aircraft by contact with an immovable object – such as the ground. n. A loud noise accompanying the termination of an aircraft flight; usually preceded by a rapid descent.