



Official Newsletter of the Southern Ontario Glider Group Inc

TASK



A Model Aeronautics Association of Canada Chartered Club

OFFICIAL NEWSLETTER - March 1995
Volume 11 - #2

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Editorial



Spring!!!! It's in the air... I can smell it!
Well... not quite; but we have had a few nice days and I have been enjoying them. You see, my job keeps me out in the elements most of the time. I do a considerable amount of travelling and have had the pleasure of watching the seasons change in most of Ontario. It is so rejuvenating to pull off the road, climb the nearest hill and take in a few breaths of that fresh warm air (what little there is of it).

This brings to mind some good news which I wanted to share with you. There definitely appears to be an increase in the Hawk numbers these days. I'm not sure of the reason, whether modern farming practices are making more food available to the mice or an improvement in the overall environment. It is amazing how many times I have been treated to a show of pure flight perfection as the Hawks swoop down beside me to take their lunch.

One breezy day during that warm period which we experienced in mid February, I was coming out of beautiful Haldiman region and felt the need to stretch my legs. As I came to a stop, a Hawk appeared to the south cruising up-wind. I positioned myself for comfortable viewing and watched as she taught.

THERMAL SURFING

She would continue at a moderate speed into the wind until she was lifted by the leading edge of a thermal almost like heading into a wave at the beach. She would only expend enough energy to get maximum height afforded by the thermal and would immediately bank to the left to race the thermal down-wind. A quick turn into the wind and she would catch the surf again rising to a new height. This process was repeated several times, her height increasing each time.

I was intrigued at the subtle differences between this process and the thermaling I had come to understand. The Hawk seemed to climb in and out of the thermal, always sure of it's position by the leading edge. The great difficulty in my thermaling practice was in knowing that I was in fact still with it. I have been positioning myself in what I hoped to be the centre of the thermal and trying to stay there.

If I fell (up-wind) out of the thermal, I would have to turn around and try mounting again down wind. This could prove difficult and counter productive. Keep in mind that this demonstration occurred on a breezy day which as you all know will cause even the strongest thermal's to become elusive. I am anxious to put the Hawk's "BREEZY WEATHER" method to the test if I can.

There is much to be learned from our feathered buddies and they're all too willing to demonstrate. They have shown us all where to find the thermal's. Oh! and there is one more very important lesson to be learned from the Hawk....PATIENCE.

R.I.P.

CY DYER 1921 - 1995

With deep regret we note the passing of Cy Dyer, long-time member of both SOGGI and EMFSO.

Cy possessed an insatiable curiosity and could always be counted on to ask more questions than anyone else on any subject under discussion, whether it be connected with the operation of powered or non-powered sailplanes. He also kept copious records of his many interests.

As a result of his WWII service with 409 squadron, R.C.A.F., Cy began a lasting love affair with the De Havilland Mosquito, on which he worked extensively during his service career, and probably knew more about this aircraft than Geoffrey De Havilland! Not surprisingly, he was working on a scale model of this, his favourite airplane and had hoped to see it fly sometime this year.

While he never competed in the club contests, Cy was always one of the first to offer his help - chasing down chutes, unravelling winch lines, timing or whatever he could see needed to be done.

Cy Dyer made a real contribution to our club and to EMFSO. He will be greatly missed by both organisations.

Our sincere condolences to Marian, her three daughters and their respective families.

F.J.F.



"THE FIXINS" (WINGS THAT IS) - Pt. 1

It was a call from a colleague that prompted me to write about the subject of wing retention; he was thinking of making a change to the kit he was building, which called for the wing to be held down by the "IN-LINE" type of system .. single dowels fore and aft of the wing, on centre line of the fuselage, and was concerned as to whether this would be firm enough for winch launches. "Well" I replied, "that depends on whose foot is on the switch - If he has a fairly light foot and knows what he is doing, I can't see any problem - all should be well"

But the answer to that question would be the same no matter how the wing is fixed to the fuselage.

There are several methods of attaching the wing to the fuselage. Let's look at the most popular, the simple transverse arrangement found on sailplanes like the Olympic, Riser etc. The dowels are located in front and behind the wing, with rubber bands stretched across the chord of the wing. In this method, It is important not to get the dowels too close to the leading or trailing edges of the wing (i.e for 1/4" dowels you need 1/2" clearance (diag. A)) and the same distance measured vertically from L.E and T.E.. This will give a secure hold and allow you to fit the retaining bands on quite comfortably (diag. B).

It is also essential that the dowels be long enough to accept the necessary number of rubber bands you anticipate using. A good rule of thumb here is to add a minimum of 4 times the dia. of the dowel you intend to use. (i.e. for 1/4" dowel, add 1" to the width of the fuselage at the dowel location. Once you have decided on dowel length and location you

should also be sure to add a crosspiece if necessary in order to prevent bending of the dowel under tension of the rubber bands (diag C). There are varying opinions as to the manner in which the bands should be stretched across the wing. My own method is to cross the last two bands because it has the psychological advantage of seeming, at least, to pull the whole set-up together. I like the security that this procedure suggests.

One last point with regard to this tried and true method of wing attachment.... Add ply washers around each dowel to help preserve the security of the arrangement and to prevent damage to the point where the rubber bands will sit.

What answer did I give my friend?

I told him that the in-line dowel method is fine and should not present any problem at all; it does, however work better on wings having a one-piece centre-section and detachable tips.

But that's another story....

Till next time,

Don't forget to drift with the lift

Fred F.



See Illustrations for "THE FIXINS" on the following page.

THE FIXINS'

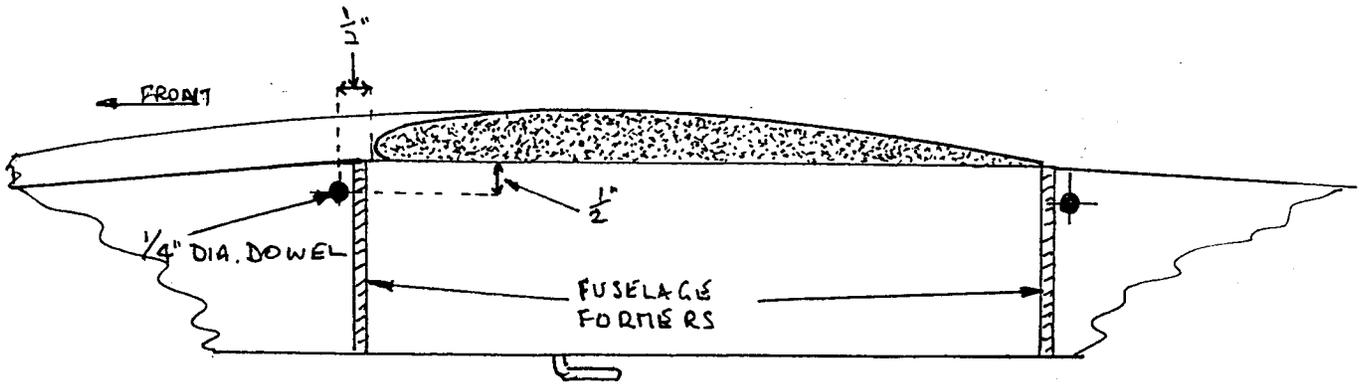


DIAGRAM "A"

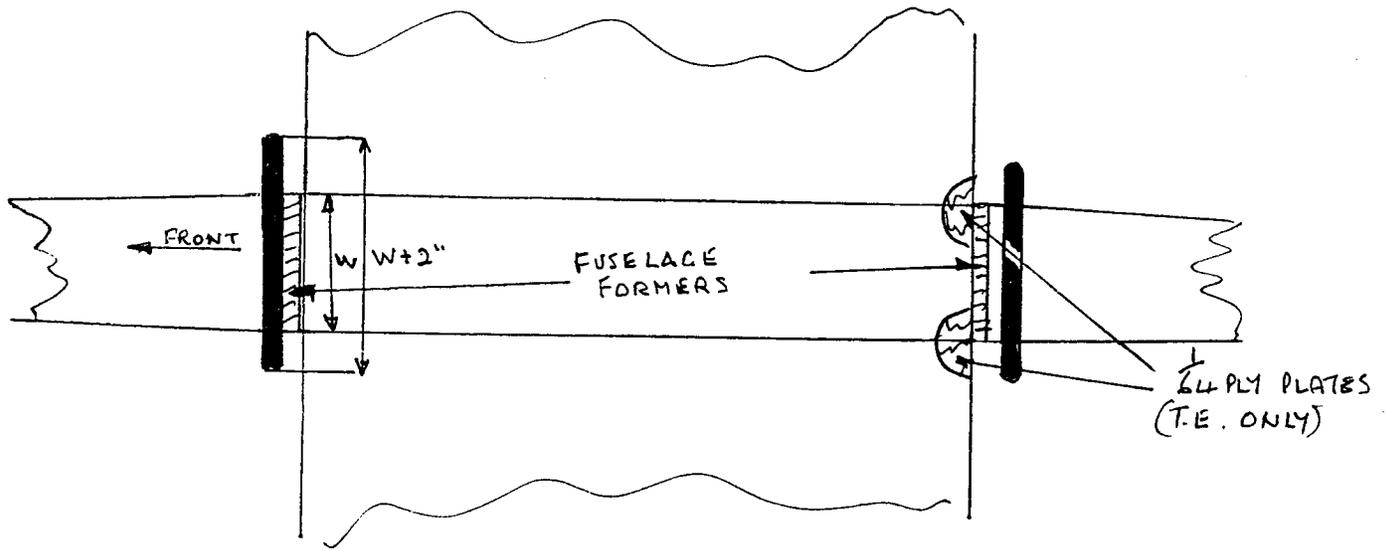


DIAGRAM "B"

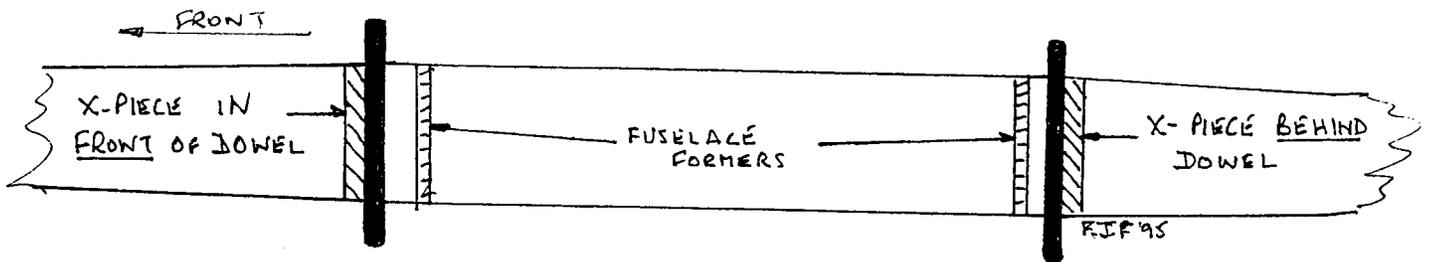


DIAGRAM "C"

ElectroSpeak

By Rob Campbell

Improving Control Linkage Precision

Many radio installations in model aircraft are less than ideal. Often, control surfaces exhibit a lot of play or "slop". This can reduce control precision, or much worse, invite harmful flutter. In many cases, this situation can be improved by simply changing the geometry of the linkages between the servos and the control surfaces.

The control improvements outlined here are independent of the actual hardware used. It doesn't matter if you have ball-bearing servos with ball link connections to a control rod made from some exotic material or the least expensive servos with Z-bend connections to balsa sticks - the same rules apply.

Let's take a look at some control linkage geometry. The arrangement in Figures 1 and 2 result in similar control surface throws, but the first case uses the shortest possible servo horn radius and the second uses the longest possible servo horn radius.

Fig 1a

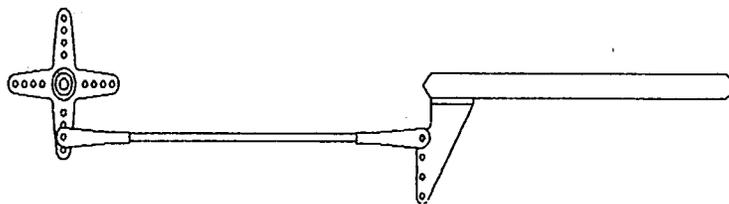
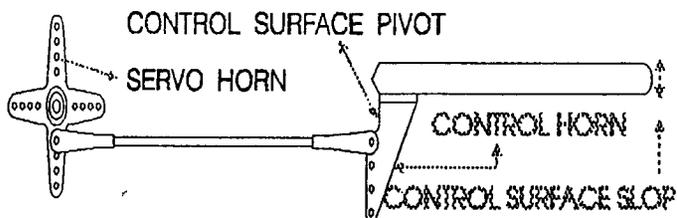


Fig 1b

To see what will happen here, let's look even closer...

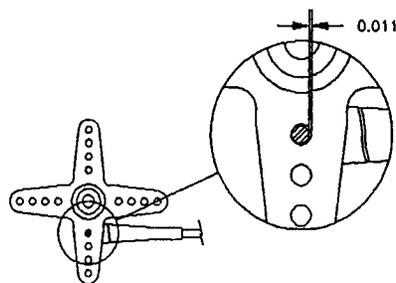


Fig 2

Let us assume there are similar clearances (.011") at the servo and control surface ends.

In this example, the distance from the centre of the Servo Arm to the Linkage Pivot is .281". The distance from the control surface pivot point to the linkage pivot is .516" (These are actual distances for a standard Futaba servo arm and a standard control horn on a .250" thick control surface.) The length of the control surface in this example is 4.125". Using these figures, at the position shown (best case!), the control slop due to the .011" clearance in each linkage is:

$$2 \times .011'' \times 4.125'' + .516''$$

which equates to .176"!

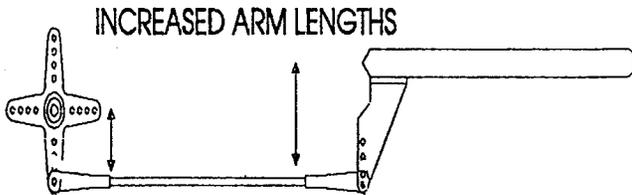


Fig 3

Using the distances from Figure 3, where the moment arms are maximized, the control slop is:

.. .. .

which equates to only .084". This is less than half the slop calculated for the arrangement in Figure 1!

Admittedly, the second example will result in slightly smaller control surface throws because the holes are farther apart on the control surface horn, but if this is a problem move back to the second longest control horn position.

Remember this is the best case, where the control arms are at 90° to the control rod or cable. As this angle deviates from 90°, things get worse. Use trigonometry to work this out (or take my word for it).

But there's more. The force the control rod or cable must transmit is also a function of the lengths of the servo and control horn arms. For a given control surface aerodynamic load, for example, the first case transmits approximately TWICE the axial force through the control cable.

"So what?", you might say. The cable or control rod might easily be strong enough to handle this load. The cables or rods are definitely not infinitely rigid, however, so the effective slop increases some more! (Cables stretch and take up the clearance in their sleeves, control rods can bend etc.) If you balance the forces at work here, you will see these forces are also exerted on the servo arm and upper servo bearing, and the control horn, control surface and control surface pivot. (These better be strong!) Since these also have some flexibility (perhaps even slop!) you can see that how you install your radio equipment can make a vast difference in control surface precision.

One other thought. If your control rods or cables change length with temperature or humidity changes (and they almost certainly do to some extent), then you will experience greater trim changes (about double) with the first case than with the second. This is an area of functionality where the "pull-pull" control surface set-up is superior.

In summary, maximizing the servo and control surface moment arms as much as space and required throws will allow will also optimize the precision of your flight control system.



SELECTING AND CARING FOR YOUR HI-START

(Courtesy - GNATS NEWS)

Hi-Starts are an excellent way to launch gliders. They lay out quickly and are easy to move when the wind changes and maintenance presents no problems.

If you are not happy with you Hi-Start, chances are it is not strong enough for your particular glider, A good rule of thumb is to select a Hi-Start made of continuous U.V. protected latex rubber that when stretched to a safe stretch of 300% will be equal to a pull of 3 times the weight of your glider - for lightly built gliders. As an example - 100 ' of latex stretched 300% means an additional 200' of length and the following guages would apply...

2 METER 22 oz.	4-5 lbs PULL	3/16 ID x 1/16 WALL
2 METER 44 oz	9 lbs PULL	1/8 ID x 1/8 WALL
3 METER 88 oz	14 lbs PULL	1/4 ID x 1/8 WALL

DO'S AND DON'TS FOR HI-START CARE

- Do store in a cool dry place such as your basement
- Don't leave your Hi-Start in a hot car for any length of time
- Do store on a spool or reel in a cardboard box or bag powdered with talcom powder
- Don't store rubber in a partially stretched state
- Do stretch to 300% before launching the glider
- Don't leave your Hi-Start stretched for any length of time unless you want to kill it

Larry Literovich



Announcements...

Regarding the April 22nd Hobby fest in Dundas; I would like to thank Fred, Kurt Fritz and Charles Rader for their contributions to the event. I now have enough video footage and still photo's for the event. Please look into your shop and dig out a model to compliment our display. I will be there with the display booth at all times. Would anyone like to join me for an hour or so?

Many thanks to Rob Campbell and Fred Freeman for their continuing support of the news letter. Their experience and effort goes a long way to making the news letter fun to receive.

Please note the correction to Stan's address and phone number on the cover page. My apologies for any inconvenience .

Bring your transmitters to the next meeting (March 12) for a frequency test. Stan will have the spectrum analyzer.

HOT OFF THE PRESSES.....

Congratulations to Bill Woodward for his appointment as Chairman of the new R/C SAILPLANE committee at M.A.A.C. Bill brings a great deal of experience and wisdom to the job. We will all benefit from his work and should be proud that he has taken the time to brighten our future.

Have you paid your yearly dues yet????

This year offers more reasons than ever to belong to the finest glider association in Canada! Please find enclosed a copy of your renewal form and put it to good use....

Hope to see you all on the field!

Mike Penney



Minutes



Minutes of S.O.G.G.I. meeting held February 12, 1995:

Meeting called to order at 2:10pm with 22 members and 5 guests present.

Minutes of the January 8th meeting were read and moved by Al Hilborn - recorded by Fred Freeman. - Passed

Discussions took place regarding the Hand Launch Fun Fly. Moved by Stan Shaw that September 24th be the date for the event. Seconded by Bud Wallace. Carried - Plans are now available for \$3.00 per set.

A brief report by Mike Penney on the newsletter followed. The large number of pages were discussed with a view to limiting the newsletter to five doublesided pages.

Mike again asked the members for articles to publish in the news letter.

Discussion of suitable slope sites included Paul Schmidts publication of slope sites. Perhaps some site locations could be published again as well as King's Forest on Hamilton's Mowhawk Road.

The treasurer, Don Guthrie reported our bank balance is currently \$1763.00 with the field payment of \$840.00 outstanding, giving a balance of \$923.00 with 22 paid up members. Members are reminded to forward their annual membership fee so as to receive the next newsletter.

Bud Wallace moved that the meeting be adjourned in order for our guest speaker Ken Jones, the Middle Zone Director to make his presentation. Ken Jones, MAAC director introduced himself as a modeller of some forty years, with a variety of interests including R/C. His major concern in visiting the clubs is to make them aware of the importance of safety. Last year MAAC had seven accident claim reports with an average claim being "models hitting cars" .. Currently, MAAC's insurance has a \$1000.00 deductible of which the member pays only \$250.00. MAAC covers the rest. As of April '95 members will face \$1000.00 deductible due to the AGM March 5th meeting when the policy was changed.

Next Ken discussed the need for accident prevention. The suggestion of appointing a safety officer to be responsible for the field operation was made however the message was that all members are responsible for following the MAAC code. The importance of keeping the flight line far away from the parked cars brought a number of comments from the members. The minimum of one hundred feet from the parking can and should be increased where possible, as well as erecting a protective fence around the pit area for powered models. To conclude, Ken discussed a number of questions concerning accident prevention and safety regarding glider operation.

Bud Wallace thanked Ken for his interesting presentation on behalf of the members.

A swap shop was setup following the meeting and many a tall tale was told!

SOUTHERN ONTARIO GLIDER GROUP INC.

Rules of the Flying Field

a) Field Rules:

1. a) The executive shall establish the field rules governing the use of the field.
b) If the field is closed, contact the owner.
2. The field rules shall be reviewed by the executive and field instructors between the months of January and March each year and a copy of the rules will be distributed to all members by direct mailing or through the newsletter. These rules are to be given to each new member along with the club by-laws.
3. The field rules shall include all MAAC rules for the safe operation of model aircraft.
4. Field instructors and the executive shall have the authority to temporarily ban a member from flying if:
 - a) The member's aircraft is considered unsafe. The member will be allowed to fly when the aircraft is deemed safe by an instructor.
 - b) The member deliberately violates a field safety rule. The incident will be referred to the executive and an investigation undertaken to determine if there should be further action.
5. New members shall not be allowed to fly at the field until checked out by an instructor. New members shall be asked to demonstrate the manoeuvres given in the level five of the "MAAC Wings Program".
6. Flying of electric powered aircraft is allowed subject to the ruling that gliders are given right-of-way.
7. Don't hog a frequency - no flier shall hold a frequency if someone else is waiting to fly. Flight time shall be limited to 15 minutes if someone is waiting to fly on the same frequency.

b) Field Instructors:

1. Field instructors shall be appointed by the chief instructor or the executive.
2. The qualification to be a field instructor shall be all of the following:
 - a) Paid up senior or open member.
 - b) At least three year's experience in radio control flying.
 - c) Can demonstrate safely the five levels of the "MAAC Wings Program".

c) Field Insurance:

The club shall register the flying field at the beginning of each year with MAAC and shall pay the required fee.

d) PROCEDURE in CASE of ACCIDENTS:

In the event of an accident involving a model aircraft, involving personal injury and/or property damage, a report must be made out and submitted to the MAAC zone director or the MAAC office.



The MAAC Safety Code



All Categories

1. I will not fly my model aircraft in competition or in the presence of spectators until it has been proven to be airworthy by having been previously successfully flight tested.
2. Clubs which are conducting flying operations within five miles of an airport are to notify the local airport manager annually of the location of their flying operations and if applicable, throughout the year when any location or site change occurs.
3. Where established, I will abide by the safety rules for the flying site I use, and I will not willfully and deliberately fly my models in a careless, reckless, and/or dangerous manner.

Free Flight

1. I will not launch my model aircraft unless I am at least 100 feet downwind of spectators and automobile parking.
2. I will not fly my models unless the launch area is clear of all persons except my mechanic and officials.
3. I will employ the use of an adequate device in flight to extinguish any fuses on the model after it has completed its function.

Control Line

1. I will subject my complete control line system (including mandatory safety though speed models only) to an inspection and pull test prior to flying.
2. I will assure that my flying area is safely clear of all utility wires on poles.
3. I will assure that my flying area is safely clear of all non-essential participants and spectators before permitting my engine to be started.

Radio Control

1. I will have completed a successful radio equipment ground range check before the first flight of new or repaired model.
2. I will not fly my model aircraft in the presence of spectators until I become a

qualified flyer, unless assisted by an experienced helper.

3. I will perform my initial turn after take-off away from the pit, spectator and parking areas and I will not thereafter perform maneuvers, flight of any sort, or landing approaches over a pit, spectator or parking area. In order to do so, I will always fly with my back to the pit, spectator and parking area. I will also leave the parking area at least 100 feet from the flying area at least.

Mufflers

Mufflers are mandatory on all engines over 1526 cu. in. displacement.

MAAC Safety Guidelines For Field Operations

These guidelines are employed by MAAC and are highly recommended. While these guidelines are not mandatory, they should be included in club operations when they apply:

- a. Model aircraft must yield to piloted aircraft with no exceptions. Flying operations must cease when piloted aircraft are in the proximity of model flying operations.
- b. Pyrotechnic and explosive devices are not permitted to be carried or activated by model aircraft.
- c. Internally mounted pulse jets, rocket or thrust engines are not permitted because of the danger of fire.
- d. A maximum of five (5) aircraft/collectors to be permitted to be airborne at any one time at any field.
- e. Non flying activities will be segregated from areas where flying activities are in progress, by a minimum distance of 100 feet. Spectator and parking areas will be further segregated from flying and pit operations.
- f. Frequencies will be controlled by a positive means. The MAAC frequency system is highly recommended. For clubs with more than 25 members, a transmitter impedance system should be available in addition to means for positive frequency control.
- g. Pits are prohibited from standing either on or immediately adjacent to any active runway. Helicopter operations, particularly hovering, must be well removed from active fixed wing runways.
- h. Individual pilot operating locations be marked near active runways. Pilots must control their aircraft from these locations, however, take off and landings may be done from the runway area itself. To minimize effects of radio interference, these locations should be spread out by a minimum of 20 feet.
- i. Pilots should be qualified by the MAAC Wings training program. Instructors should be highly capable individuals who will not only provide adequate instruction but consistently demonstrate safety by their example and attitude. Club members must be aware of their responsibility to beginners particularly if club instructors are unavailable. Once a beginner has overcome the basic aspects of flight training, it may be acceptable for qualified pilots to assist students who do not require other than "stick time".
- j. Spectators and visitors should be prohibited from flight areas and pilot operating locations.
- k. A safety barrier or fence be placed so as to prevent non-airborne aircraft that are out of control from entering the pit or spectator areas.
- l. That strict announcement procedures be normal operation where pilots call out to other flyers any intention to land or take off or move out to the active runway.
- m. Any guest or club visitor who is allowed flight privileges at any field must be prepared to submit his aircraft for an airworthiness/safety inspection and must demonstrate acceptable flying competence before being allowed to operate his aircraft without supervision.

n. Only frequencies authorized by the Department of Communications may be used. Transmitters must have the approved frequency flag(s) and indicators attached to the antenna.

- o. Only authorized pilots and aircraft should be allowed to participate in flying demonstrations at locations other than the regular flying site. Particular care must be taken regarding any proposed field layout, crowd control measures and the possibility of local radio interference affecting the operating frequencies.
- p. Aircraft are to be operated in areas of the sky where any results from an accident are minimized. In this regard, flying over pit or spectator areas is expressly forbidden as noted in the MAAC safety code.
- q. Clubs should consider the adoption of an aircraft certification program so that all aircraft are inspected prior to operation, particularly those belonging to beginners.
- r. A recertification program for major repairs or rebuilt aircraft is also suggested.
- s. Although this rule does not directly relate to safety, it is in the interests of the club to ensure that no visitor(s) or guest may operate his aircraft at any MAAC field unless that individual can show proof of MAAC membership and a valid radio license issued by the Department of Communications. Visitors from the USA must present proof of AWA membership.
- t. If feasible, radio transmitters should be checked and certified as operating within allowable frequency tolerance and within acceptable limits of spectral radiations: (300% of frequency, 35 db down at 25 KHz bandwidth).
- u. Care is particularly required around pit areas. Areas of concern are:
 - (1) Propellers will be of approved types. Future nylon propellers (does not include the glass filled type) will not be used on engines of 40 cubic inch or larger. Repaired or damaged propellers will not be used under any circumstances.
 - (2) Pilots will ensure that no one is standing in line with the propeller arc of operating engines.
 - (3) Taxing of aircraft in the pit area is forbidden. The boundaries of the pit area should be clearly marked to ensure there is no confusion as to what constitutes the pit area.
 - (4) Slipstream effects from running engines can be dangerous to all affected and models should be positioned to minimize these effects and operated for the minimum period possible at full power settings in pit areas.
 - (5) Smoking should be prohibited in pit areas where gasoline powered engines are in use.
 - (6) Propellers should be secured with properly tightened nuts or with spinners which have a locking system or which are secured by some positive locking system. Four cycle engines should have particular care due to their tendency to backfire and throw the propeller.
 - (7) Pilots should ensure that helpers with aircraft are fully briefed regarding the carrying, testing, adjusting and general handling of the aircraft.
 - u. Every MAAC club should have a safety committee composed of safety chairman and members. This committee should consist of all executive members if no specific committee is available. The purpose of this committee is to see that the club rules and regulations are observed and to ensure that all model operations are conducted in a safe manner as possible.
 - v. Instructors in a club should be given additional responsibility to act on matters of safety since they provide the most direct contact with beginning flyers. These individuals can exert the most visible example of the safety manner to approach flying operations.
 - w. Club members who refuse to abide by club rules and regulations and who disregard instructions by the safety committee should be given formal warning of shortcomings and if corrective action is not taken, they should have their flying privileges revoked, and:
 - x. It is suggested that a "fine" system be instituted whereby members "pay up" a nominal amount for infraction of these guidelines. This takes the serious nature of the safety problems into a more pleasant area of friendly discussion where members can be easily discussed without raising defensive emotions. Clubs will find that even chronic offenders will change their habits to avoid the stigma of paying a quarter.

MAAC Etiquette Code

This code is included to outline those matters which are expected of all modelers as common courtesy:

- a. All modelers will respect the safety code and guidelines without being reminded of the need to do so.
- b. Modelers should restrict their use of the operating frequency when others are waiting. Beginners should be given additional chances to use frequencies.
- c. Modelers will make every effort to ensure that the operations of their model does not interfere with the enjoyment of the hobby by others. Loud aircraft, running engines unnecessarily in pit areas, slipstream affecting modelers and spectators are matters that the modeler should attend to as a matter of individual concern.
- d. Modelers are expected to retain full control over their visitors or guests, particularly children. It should not be necessary for other club members to substitute as most or attempt to apply "club rules" to guests, and
- e. Modelers share the sky with other modelers and will be considerate by attention to where and how they operate their models.

A Note To Clubs: If you wish to make photocopies of these centre spread and copy on 11" x 17" paper.

pages for distribution to your members, remove this

1995 Contest Calendar

DAY	DATE	CLUB	EVENT	TIME	C-D
SUN	MAR 12	SOGGI	MEETING	2:00 PM	BUD WALLACE 416 274-3177
SUN	APRIL 9	SOGGI	MEETING	2:00PM	
SAT	APRIL 22	SOGGI	DUNDAS HOBBY FEST ST.PAULS UNITED CHURCH	10:00AM	MIKE PENNEY (905) 648-5843
SUN	MAY 21	SOGGI	CLUB DAY - OTTO BANDMANN MEMORIAL	9:30AM	BUD WALLACE 416 274-3177
SUN	MAY 21	COGG	F3J DURATION	*****	ROBERT SHELIKER
SAT > MON	MAY 27,28 29	COGG	DASH FOR CASH CROSS COUNTRY	*****	*****
SUN	MAY 28	GNATS	OPEN 15 MIN. ACCUMULATIVE EVENT	*****	LOUIS KLEIMAN
SAT > SUN	JUNE 3 > 4	SOGGI	HOST TO ELECTRIC FLYERS OF SOUTHERN ONTARIO - FUN FLY	9:30AM	STAN SHAW
SUN	JUNE 11	SOGGI	STAND OFF SCALE GLIDER CONTEST	9:30AM	BILL WOODWARD 519 653-4251
SUN	JUNE 18	COGG	2 METER AND OPEN ELECTRIC CONTEST	*****	
SUN	JUNE 25	COGG	OPEN CLASS MAN ON MAN CONTEST	*****	*****
SUN	JUNE 25	GNATS	OPEN SCALE FUN FLY	*****	LOUIS KLEIMAN
SUN	JULY 9	SOGGI	VINTAGE GLIDER CONTEST * PRE 1980 DESIGNS	9:30AM	BUD WALLACE
WED > THURS	JULY 12 > 13	COGG	DASH FOR CASH	*****	*****

THURS > SUN	JULY 13 > 16	*****	CANADIAN NATIONALS SAILPLANE EVENT PATTERSON FIELD - BARRIE, ONT.	9:30AM	*****
SUN	JULY 23	GNATS	OPEN NOVATHON CONTEST		LOUIS KLEIMAN
SUN	AUGUST 13	SOGGI	NOVATHON CONTEST OPEN CLASS	9:30AM	BILL MOAR 905 659-1053
SUN	AUGUST 20	GNATS	MAN ON MAN CONTEST		LOUIS KLEIMAN
SUN	AUGUST 27	COGG	OPEN NOVATHON CONTEST	*****	*****
SUN	SEPT 3	SOGGI	BIG BIRD BASH OPEN GLIDER CONTEST	9:30AM	STAN SHAW 519 766-9966

revised Mar. 2, 1995