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ADS

ABERDEEN AND DISTRICT SOARERS

Newsletter No.33

8, Hilltop Drive,
Westhill,
Aberdeen.

MARCH 1988

FORTHCOMING EVENTS

For those of you who have lost your 1988 event calendar (already!), here is a remimder of events coming up in April, May and June. We'll hopefully remind you of later events in the next newsletter.

16.04.88	Cairn O'Mount slope fly-in
24.04.88	Fourdon fly-in SAA certification
08.05.88	Balmedie %slot BARCS league, Brian Sherriff trophy
21.05.88	Brimmond ADS 10th aniversary fly-in
24.05.88	Seaton - soaring fun competition
11.06.88	Balmedie %slot BARCS league Maxwell trophy
28.06.88	Mackie Academy - soaring/electric fun competition

EDITORIAL

This is my second issue as editor and I'm beginning to find out what a difficult job this is. Unfortunately my call for material in the last issue has mainly fallen on deaf ears. At the moment, I've just about used up all the surplus articles from December. So, please, if you have built a new kit or bought something you particularly like, write a brief article. I am sure other members would like to read about it. The closing date for the next (June) newsletter is the end of May.

Many thanks in anticipation.

Frank

CHAIRMAN'S COMMENT

The hour changes in a few days time, so it is hoped to start regular Tuesday evening flying on TUESDAY 12th APRIL - weather permitting. I am hoping that this will be the start of a well supported season. We've had an encouraging start to the year with some excellent winter flying and two social evenings (see Frank's comments later).

Considerable interest is being shown by beginers and new members. Welcome to you all. We'll do our best to encourage you and to get you into the air with your own creations with as little difficulty as possible. We all remember our early struggle to co-ordinate our fingers and thumbs (some of us are still all fingers and thumbs).

Your committee have agreed to purchase new 'leisure' type batteries for use with the power winches (yes winches). We hope to have three operational this year, thanks to Brian, Neil etc.

SAFETY

We are only a couple of months into the year as I write this and already I know of two models which have met their demise. However, due to good flying field discipline (see Dec '87 newsletter), the only trauma was to the wallets of those involved.

On a more serious note, as the spring and summer(?) approach and the weather becomes more condusive to flying (PLEASE!), we need to consider other airspace users who frequent the slopes - i.e. the hang glider pilots. So to this end we have included with this newsletter the BHGA/SMAE operating code.

BHGA - British Hang Glider Association

SMAE - Society of Model Aeronautical Engineers.

BHGA/SMAE OPERATING CODE

The BHGA and the SMAE have discussed together the shared use of sites by hang gliders and radio-controlled slope soaring model gliders.

The two bodies have concluded that there is at present no reason to call for a general segregation of these two branches of sporting aviation. Both bodies believe that the two activities can and should be able to co-exist safely and harmoniously on shared sites, even when circumstances dictate the use of shared airspace.

However, safety and harmony do require the followers of both activities to adopt positive altitudes and to follow certain basic rules of conduct.

The purpose of the Joint Code is to give guidance to enable hang-gliding and model flying enthusiasts to arrive at safe and sensible detailed local rules for specific shared sites.

For Both Parties

a) Club Officials (or group leaders/representatives) should make positive attempts to meet their opposite numbers with a view to establishing joint rules of conduct for specific local sites. These officials/leaders/representatives should make every effort to head-off and/or minimise the adverse effects of the 'hot-heads' of either side. A club official should be nominated as liaison officer for future contacts.

b) Where and when segregated airspace is a practical proposition without undue penalty on either activity then it should be implemented.

c) Where, as is likely to be more normal, shared airspace is necessary to one degree or another, then separate hang-gliding and model landing areas shall be clearly designated. Similarly separate hang-gliding and model launching areas shall be clearly designated.

d) 'Parking' areas for models and hang-gliders shall be clearly designated and sited so as to minimise the problems presented to either activity e.g. landing approaches over model or hang-glider parking areas should be avoided by both sides. Footpaths must not be obstructed.

e) When rules have been agreed they should be promulgated locally and, if possible, carried on suitable notice boards at the sites.

f) On any particular day, if several models and hang-gliders are present one representative on each side should be nominated as "Duty Liaison Officer" to ensure that agreed rules are kept to and that any ad hoc problems are dealt with promptly.

For Model Flyers

1) Before attempting to fly, check what the local site rules are for the day. Familiarise yourself with the hang-gliding launch, landing and parking areas. If you are the first model flyer to arrive make yourself known to the hang gliding people and ensure that they know where your launch, landing and parking areas are going to be.

2) If you are an inexperienced slope-soaring model flyer then do not fly in airspace likely to be shared with hang gliders.

3) Do not launch until your launch area is clear of hang-gliders.

4) Where more than one model flyer is operating, they should stand together at the launch area while flying.

5) When flying aim to keep a good angular separation between your model and any hang-glider. Don't forget - your depth perception is often very poor.

6) Avoid flying in the critical airspace associated with the designated hang-glider launch, landing and parking areas.

7) Allow plenty of clear airspace if you are performing aerobatics.

8) Avoid your model being shielded from your vision by a hang-glider.

9) The above rules should prevent problems but if, nonetheless, a collision appears likely then the much better agility of your model (compared with a hang-glider) means that your role will probably be the more significant one in any avoidance action. It is not possible to give hard and fast collision avoidance rules to cover every situation, but to minimise the effects of depth perception and disorientation 'up' or 'down' manoeuvres by the model are likely to be the most sensible actions.

   Your best protection is to observe and learn about hang-glider characteristics compared with your models. If collision avoidance then becomes necessary your actions will be more likely to be instinctively best. Remember that a hang-glider pilot will not be able to see models above and behind him.

10) Remember that a life is at stake on a hang-glider and, despite being relatively newcomers to the scene, they have just as much right as you to enjoy their activity. Remember that they are also represented on the same national and international bodies as SMAE.

*****

For Hang Gliders

1)
2) Similar to those for Model Flyers.
3)

4) Avoid flying directly between a model and its operator.

5) Similar to 6 for model flyers.

6) Remember that although the models are more agile than you their operators are separated from the models by some distance. This often results in poor depth perception by the operator. In addition, distractions can cause the operator to become disorientated with respect to his model - perhaps leading directly to incorrect directional controls.

7) Never use 27MHz walkie-talkies - they are precisely the same band as the legal model control frequencies - thus interference to models will be inevitable if the operator is using this band, leading to uncontrolled and potentially dangerous flight paths.

8) Remember that model flyers have been operating many more year than hang-gliders - they have just as much right as you to be in the air. They are also represented on the same national and international bodies as BHGA

LIST OF MEMBERS

Below are listed names and telephone numbers of paid up 1988 members. If your name does not appear, it means either that you have not paid your '88 dues or that our records are not complete. Either way, to ensure that you are included in the mailing list for further newsletter etc, pay up or complain. It's up to you.

WILLIAM ADAMSON		9372221
DOUGLAS ALLAN		790500
JIM ANDERSON	DUNCAN CAMERON	641110
JOHN BARNES	13 SEAFIELD PLACE	932 2368
MIKE BENZIE	AVIEMORE	824942
ANGUS BROWN	PH 22 1RZ	92 64144
PETER CHADWICK	0479 810844	
DUNCAN CHRISTIE		92 62242
KIMBERLY CORMACK		572297
PETER DEMPSEY		741164
RICHARD DONALDSON		486961
GRAHAM DONALDSON		486961
NORMAN DUNBAR		714840
NEIL FRASER		310726
COLIN GANLEY	20 BINGHILL RD WEST	92 64276
RON GRANT	MILLTIMBER	714454
CLIVE GRUNDY	732491.	92 63882
TOM HAMILTON		310306
RICHARD HOLT	GEORGE BRUCE	~~935~~ 2777
PAULINE KERR		324722
NORRIE KERR		324722
STEWART LAWSON		92 65243
RON LOCK		733693
BILL MAC LEOD		898274
NEIL MASSON		896794
JIM MASSON		896794
JOHN MC CONVILLE		824179
DONALD MC DONALD		92 62173
TOM MC PHERSON	JOHN FALCONER	92 63868
SANDY MEARNS	05695 288.	
GERRY MITCHEL		324828
DAVE MORRIS		742776
DAVE NORRIS		317759
BRIAN ORD		698449
GRAHAM PHILIP	KEN GOULD	92 64209
PETER RINK		
RAJU SANGRA		861884
MON SANGRA	JIM ALEXANDE	861884
MALCOLM SATTERLEY		92 62980
CRAIG SCOTT		92 64905
PAUL SHEPHERD		741670
FRANK SKILBECK		743052
BILL STARK		640560
DOUG STEWART		0358 43356
ALAN STEWART	636054	722663
ANDREW THOIRS		712008
TEUN VAN WAART	0031	023 244815
LES WALKER		
A. WATT		572292

GRAHAM MCINTOSH 0674 73107

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GALA ADVERTISING

BOB DUNTHORN HANG GLIDING 318449.

PILOTS FORDOUN

JOHN WALKER

JOHN CAMPBELL

IAN KERR

IAN WOOD

TERRY SLATER.

N. FRASER 065 13

MIKE WOOD.

DUNCAN MITCHEL 0250 4945

0706 2982

0796 3416

R. ~~LORRENTE~~ R. LORENTE 13 LENTLANDS ROAD FORFAR 0307 66515

SOCIAL EVENINGS

Many thanks to all who turned up to the two social evenings at the Cammachmore Hotel. Unfortunately the video evening in January was somewhat spoilt by a faulty TV. However, the bring and buy was a great success (see also Malc Satterly's article on what can be picked up at these sales).

The second evening saw the staging of our first indoor glider event. This was very successful, and special mention must go to those who took the trouble to build special gliders for the event. There were canards, biplanes, scale and cardboard models.

The winners were:-

1. Norrie Kerr - O/D Discus

2. Pete Dempsey - Cardboard ASW?

3. Pauline Kerr - Red Arrows jet

A repeat showing was also given of the ducted fan video - this time without the troublesome TV.

Many thanks to the Cammachmore for providing the venue and refreshments.

Frank Skilbeck

p.s. If anyone has any ideas for further social evenings, please contact me.

FLYING TECHNIQUES - CONTROLLED LANDINGS

Landing technique is all too often something that modellers rarely think about or even practice. It usually ends up with the model arriving onto the ground at about three times it's take off speed. Landing technique has to be practiced more than any other manoeuvre. It is the most dangerous stage of any flight.

The most important aspect of landing is to find out what the performance of the aircraft is. This knowledge is then used to control the aircraft at slow speed. Fly the aircraft around with different power settings and experiment with different trim settings. Use rudder with the ailerons at these speeds. The combination of these two controls is very effective at these speeds.

Once familiar with the performance of the aircraft, the technique of controlled landings can begin.

STEP 1 - Always plan a circuit.

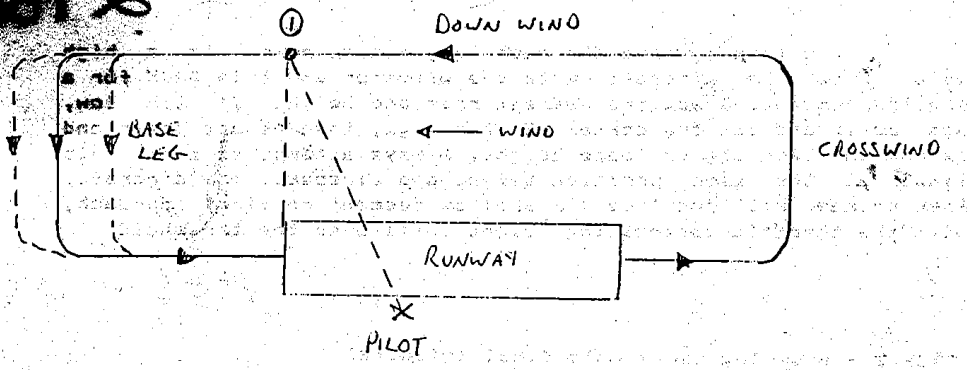


FIG 1 - LANDING CIRCUIT

Fly overhead and then turn crosswind, then downwind. Gliders will be continually descending, but the powered aircraft should be at constant altitude. Idealy, the height should be 50-100ft. It is best to stick to the same plan to familiarise yourself with height against distance and also to be able to place the aircraft in the same position (1) before the turn onto the base leg.

STEP 2 - Base leg turn onto final (power)

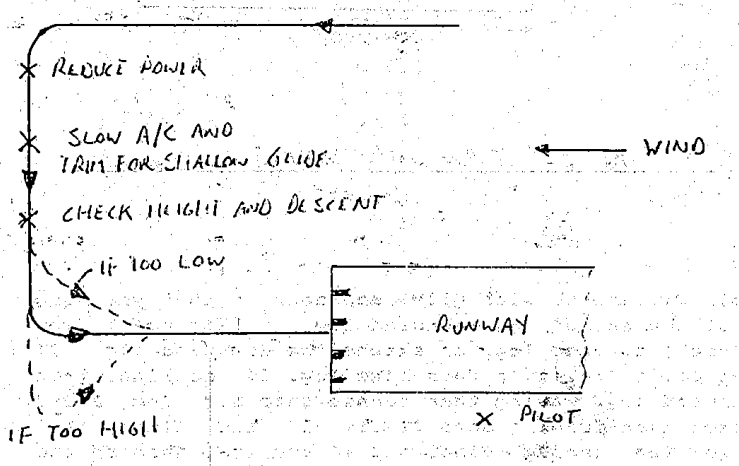


FIG 2 BASE LEG TURN ONTO FINALS - POWER A/C

On turning onto the base leg, reduce power to a high idle. Slow the aircraft with the elevator and trim BACK for a shallow descent. Check the descent rate and height. If too low, add power and cut the corner. If too high, then reduce power and extend the base leg to loose height. Always attempt to turn onto final at the same position height and airspeed. The aircraft, when trimmed will continue its shallow descent on final approach, with the throttle controlling height until over the threshold.

STEP 2 - Base leg turnm onto final (gliders)

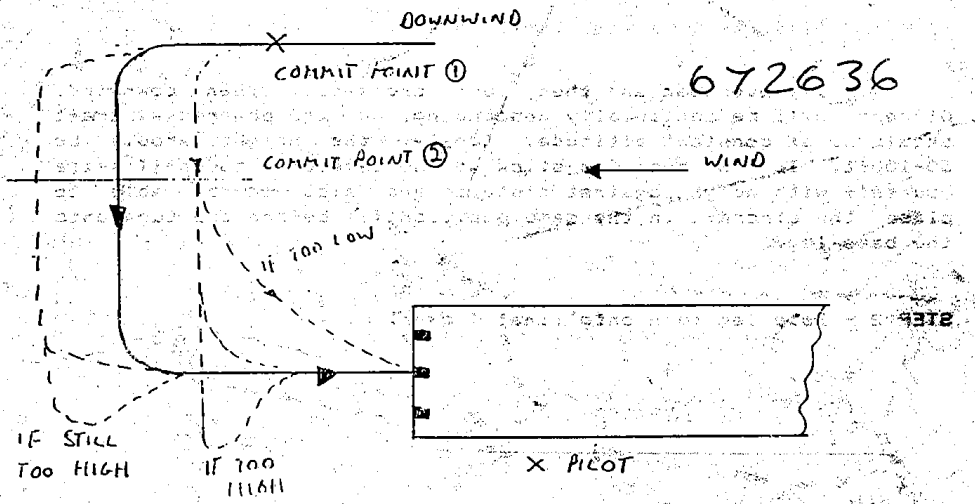


FIG 3 BASE LEG TURN ONTO FINALS - GLIDERS

The main difference with glide approach is that you have a commit point at the end of the downwind leg. At this point, you must commit yourself to base leg, or extend the downwind leg. If slightly high at point (1), turn onto base leg. If too high, then extend the downwind leg. Having then turned onto base leg, a 2nd commit point comes when turning onto final. If too high, them extend the base leg through final and if too low, shorten the base leg.

Speed with a glider should be constant throughout the circuit. If your glider is fitted with airbrakes, aim slightly high and bleed off the excess hight gradually to final approach. Aim to arrive at the threshold at the correct speed and height.

STEP 3 - The landing

The illustration (fig 4) shows the correct glide on final approach. To correct a low altitude, add power to stop descent. To correct high altitude, reduce power to re-establish the correct glidepath.

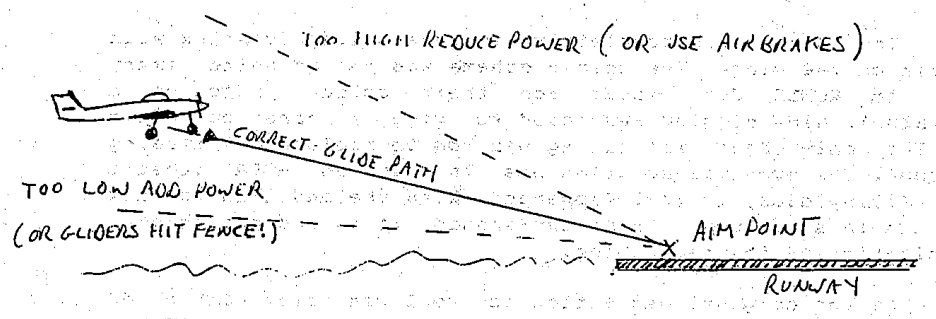


FIG 4 - GLIDE PATH

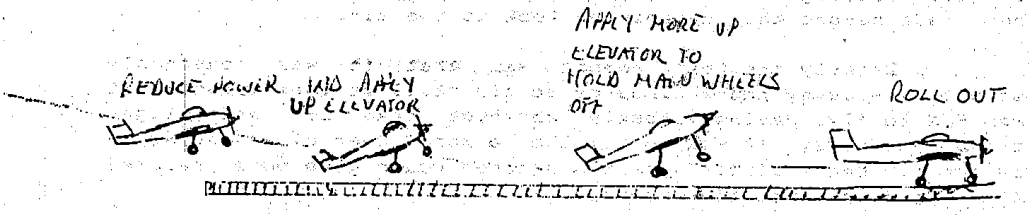


FIG 5 - LANDING

Fig 5 shows the actual landing process. Having carried out the previous steps, correctly the aircraft will be on short final, in a landing configuration and at the correct speed. When over the threshold, reduce the power to idle (gliders ignore that!), and apply up elevator to fly parallel to the ground. This action will cause the nose to rise, the speed to fall off , and by gradually applying more up elevator, the aircraft will hold off until gravity takes over and it will land, SLOWLY with the main wheels touching first. Note that this is the ONLY technique which will enable you to land tail-draggers successfully. Then remove the plane from the runway as soon as possible.

John McConville

(Next issue John will cover the art of cross wind landings. Ed)

BARGAIN BOY !

I recently aquired a second hand model from the Montrose Club. They were holding a sale in support of funds for a new clubhouse roof. The model was a semi-scale Jungmeister biplane. It looked in need of a bit of T. L. C., but to my pleasant surprise on stripping it down, it was soundly built and only required minor structural repairs.

The plane was completely recovered using Solartex with Solarspan on the wings. The colour scheme was red on white (many thanks to RCM&E June issue for their colour photo of a Jungmeister). Wire rigging was added to give a more authentic look. The only head scratching was how to replace the missing front cowl. The eventual solution was to use an ASDA (that's another flying club, is it?) flowerpot. With the addition of six balsa scallops around the circumference, it turned out to be a good initation of the real thing.

As the original was fitted (or so I was told) with a 40 two stroke, I fitted a OS40FP for its maiden flight. As 1987 has held some illfated flight for me (only one was self inflicted - honest), the Jungmeister was duly photographed for posterity.

On the day of reckoning, the wind was light, westerly. Due to my recently dented faith and confidence, the services of a 'test pilot' were obtained to put it through its paces - thanks Graham. Preflight checks were made and a couple of trial taxi runs made before the Jungmeister took to the air.

Briefly the test report was that it was reasonably stable at speed, had a tendency to tip stall at lower speeds but was FUN to fly. Having closely observed take off and flight characteristics, it was agreed that a more powerful engine would be greatly beneficial. This it was hoped would give more relaxed flying and more positive control.

At a later date an Irvine 61 Sport was installed. This gave a rapid take off if reqired - a big help on a rough grass runway. The model proved to be quite stable and extremly aerobatic with the additional power available. Rolls were noted to be very positive and axial with little or no down elevator required at the inverted stage of the roll. It was still found that landings were best controlled with power on due to the high drag factor (who needs air brakes?) - but for £15 plus covering , who's complaining.

Malcolm Satterly

REPORT ON A NEW METHOD OF THERMAL DETECTION

At the recent model and hobbies exhibition I was describing thermal soaring to an interested visitor I already knew vaguely. He usually drove a van fitted out with cages and worked as an animal trainer, supplying mainly trained dogs and cats for commercials and television scenes.

A Belfast scriptwriter had been working on the script for a television adaptation of Hitchcock's classic film, "The Birds". He had asked my acquaintance, George, to see if seagulls could be trained to the necessary standard.

Over the next few months George obtained a seagull chick, named it Bushmills, and trained it to flap, glide and manoeuvre as required.

Anway, I digress. Once George understoon how my models were flown he suggested a joint session to see if his tamed gull could find and mark lift for me.

One evening a few days later we met on my usual field at Killyclogher. Once I had unrolled the Bungee George released Bushmills, who flapped away upwind. I hooked up my new "Raven" 2-metre model, gleaming in its all-black colour scheme, and waited.

After a few minutes Bushmills came circling back at about 400 feet and I launched into the same lift. It was weak, but steady, allowing gull and glider to hold height as they slowly drifted downwind towards the town pump.

I have watched the gulls scavenging on the dump many times, and often see mass launches as dozens of birds take off to follow a few who have discovered a thermal. True to form Bushmills and my "Raven" started a stampede of frantic flapping and they were soon part of a circling throng.

Then came disaster. "Raven" hit a gull and was promptly mobbed. With it's tail surfaces shattered by sharp beaks the model plummeted to earth and was written off. Bushmills, suddenly surrounded by potential friends, glided down with the flock and took to the wild.

George and I, rather depressed by the result of our experiment, packed up to return home for a pint and a postmortem.

The basic idea of using a soraring bird such as an eagle as a lift finder may well be viable with the help of a falconer.

Letting George persuade me to fly with Bushmills definitely marks me as gull-ible!

(THANKS TO 'NIMSA NEWS')

R/C Soaring

By Herk Stokley

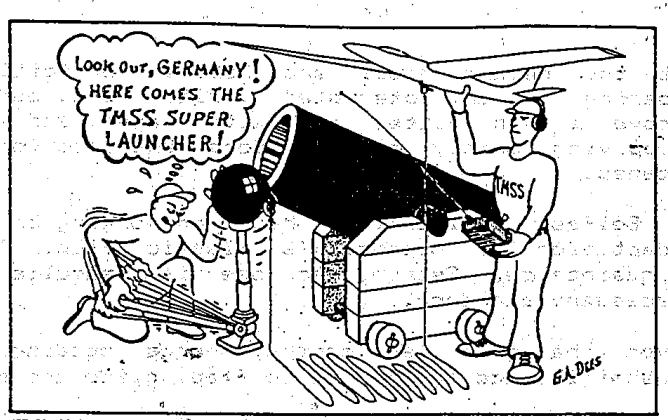
Last month, I wrote about putting the spoilers on the bottom of the wings to help lower the landing speeds of heavy sailplanes and electric powered models. Immediately after writing that column I received the *Proceedings of the International Soaring Flight Forum* (ISF) which had been held in Switzerland during November, 1985. In it was an article by Reinhard Liese and Martin Schlott in which they described the *Milan II* design which has: *Yes!* large spoilers on the bottom of the wing. These units not only act as glide path control and lift flaps, they also cover the ballast compartment. This was the plane which Mr. Liese flew to fifth place in the last World Championships. His spoilers used a spring loaded operating linkage to keep them from being damaged if they hit anything during landing. He called them "braking flaps" in which function I'm sure they were very effective. I wish I could read more of the German text but the little I can understand was enough to see what he had done.

Interesting is the fact that this model has full span flaperons which can also act as flaps to slow the landing speed. The addition of under-wing spoilers was one of the changes he made from an earlier design. If you've flown heavy models in competition, you know that the precision landing points are very hard to get because the weight of the model takes over on touchdown, making the slide to a stop very unpredictable. The only way to improve a model in this area is to slow the landing speed. Since you can't legally drop any weight in flight, the only answer is to get more lift from the wing. Spoilers on the bottom are one way to do it.

Winch Wars

Winches for R/C sailplanes were really developed and widely used first in the USA - right? Well maybe; but what is happening elsewhere threatens to surprise us if we just keep using the same old equipment without keeping in touch with the rest of the world. From the beginnings of R/C soaring, most European competition has required the contestant to supply his own measured towline, and a helper to pull the plane up into the air with it. That's not surprising; it's a natural development of free flight soaring where it's still done exactly that way. Except of course the contestant does the running and the helper releases the model. Open class competition in England is an exciting example of the current use of hand-tow. A whole flight group of perhaps as many as ten or even more fliers must hand-tow into the same air to fly against one another, man-on-man. Best scorers in each flight group then fly-off in the same way at the end of the day to see who is the winner. Very easy for the organizers who have only a few landing spots to put out in preparation.

When the international F3B rules were developed it was a logical decision to use this same procedure. Each contestant supplies his own towline and helper, and takes them both off the field when he's not flying. When winches were used, they followed the same procedure. Each flier brings his own, and carts it off the field when he's not using it. *What a Drag!* Anyway that's still the way that F3B is working the launch procedures in Europe. Needless to say that gives each flier an incentive to do some special things to his winch. F3B is won by getting high, and both winch power and launching technique become very important.



ARTWORK: GENE DEES

The following are some examples of what's happening with the Europeans' winches. First from Denmark a description of a "Super Winch" and how it works.

"The winches are based on the starter motor from a Mercedes Benz 300 diesel which is much too big according to the rules. But all unnecessary things are stipped off, and a lot of new hardware is produced for both ends including high pecision ball bearings to make the dimensions fit the rules exactly. Everything is perfectly balanced and the commutator modified and trimmed. We have not measured the RPM but it must be in the range of 15 to 20,000. With this winch we use a revised launch technique. First we climb slowly all the way to 90 degrees above the turn around. At about 150 feet altitude we recover from the dive, release the tow line, and climb vertically to about 1000 feet - and a good deal higher than anyone else. The secret is of course an extremely fast winch, and the line drag is eliminated."

The indication is that the winches cost about $500 each. Sounds pretty exciting doesn't it. He adds that this takes a special model too. As far as I'm concerned, he didn't have to say that.

This next bit is from a German model magazine report of an F3B contest. It's a bit sketchy, but you can certainly begin to get the idea of what is happening there. We found out in Australia (the last World Champs) that the Germans had built some "Super Winches": some reportedly costing thousands of dollars to put together.

"Fridolin Fritz was measuring the height of the models after launch. He was using some special equipment with mirrors for the speed and distance tasks too. The best launch was by the current world champion Ralf Decker. It was 935 feet. That's pretty good when you realize that the starting length of the towline (to the turn around) is limited by the rules to 656 feet. This contest saw the destruction of about 30 models - most during the launch maneuver. Speed run was the two lap course (the Germans use this almost exclusively). The fastest time ever recorded at a contest was by Reinhard Liese - 7.1 seconds (that's 100 miles per hour folks). The average speed for the top ten finishers was between 7.5 and 8 seconds. They were flying at the field which is the most likely place for the 1987 World Championships."

Someone said that speed is height - I guess that shows it. As a final note here I got a New Zealand Soaring Society newsletter with a description of some studies that the author had done on winch power and technique after he made some "improvements."

"Using a helper to release the model, stand on the switch till the winch stalls. Then have your helper walk back to stretch the line about 15 feet. When he throws the model keep standing on the winch while climbing strongly until you're over the turn around. Dive sharply toward the turn around until full speed is reached and then zoom off to maximum height."

I wanted to try that "stall the winch and stretch back" business - but I was chicken - even my strong models won't take that. In case you think he might have a "wimpy winch" he measured the current during the climb phase at 400 amps. That's not weak. In fact it's the kind of thing we're going to have to get used to if we want to get the most from those *heavy, heavy, heavy* models. And I used to think that the 6 volt winches we made from 12 volt Ford starter motors should be enough for any model!

(THANKS TO 'FLYING MODELS')