Pattern Patter

Up-to-date facts and figures on Pattern ships and some useful YS tips

The Japanese used a different solution to produce drag in their designs. If you look carefully just in front of the name of the model you will see an outline of a panel. There is a panel directly opposite on the other side of the fuselage too. These panels open when the engine is at idle, thus producing drag.

Well another year gone by, and to be honest 2001 was not a great year, what with the foot and mouth epidemic and then the horrific September the 11th devastation in the US hopefully we can look forward to better year in 2002. It seems very strange to have attended the World Champs where it was ten days of all nationalities getting on so well while the rest of the world does not seem to be able to get on. Perhaps we should forget about religion and politics and replace it with aeromodelling!

On a positive note my small company has seen an increase of clients of over 60% in the last twelve months, and the building programme for fully finished pattern models has an all time delay of around three and a half years. It has become ever increasingly difficult to reply to all of your e-mails and phone calls, many e-mails are for help and advice which I give freely but it's just starting to eat into my long day just too much. At the moment I start at around 5 am with e-mails and I am still building at around midnight, and this seven days a week! To try and still maintain help for those who need it we are going to set aside space on my web site and add fact sheets which can be downloaded and kept for reference. My good friend Martin Uttley is collating the required information and putting it on file and Steve Hartley does his magic on the web pages. The address is always advertised in the trade section of this magazine but to save you looking it up go to probuild-uk.co.uk.

YS Engine Fact Sheets

One of the many mails we get is first time operators of YS engines who have bought engines from sources with no operational expertise. These engines do need to operate in the correct operational parameters and the fact sheet deals with operating these engines for the first time. The fact sheet has

Nigel Armstrong's PL Tornado. From this shot you are able to see the squared off front which helps produce drag into the airframe.

by Phil Williams

Another way of producing drag into a model propelled by a 2-stroke is by blanked off cheeks. This method being used on the German Zircon design.

around 2500 words and diagrams of how to plumb the motor in to operate correctly, prop selection, plug selection, and fuel recommendations. The second fact sheet is on how to install a nose ring into a glass fuselage, it consists of step by step photos and instructions on how to install this item correctly. More fact sheets will be added monthly to help people with particular problems they are having building pattern models.

The column will deal with the most asked for problems for those who do not have access to the web, so I am able to collate the required information on what particular topics need covering in more detail.

We had great feedback from readers of the column world wide when we attended the World Champs', and it makes it all worth it. I am often very tight for time in getting the column to the Traplet HQ, quite often working into the early hours of the morning to write the column. The technical team do a wonderful job of producing the magazine as do the editorial team in producing the column.

Tornado Tips

Last month we looked at Jeremy Macmillan's PL Tornado, in the write up I mentioned that I considered that this airframe might work well if propelled by a 2-stroke engine as well as a 4-stroke. I also mentioned that a friend of mine Nigel Armstrong was putting one of these models together and was planning to use a Webra 145 to propel the model. Nigel has been good enough to send down some photos of his model.

The model as thought, has sufficient built in drag to the airframe to compensate for the lack of braking from the 2-stroke engine, just as important is that the model is light enough to have a excellent power to weight ratio. Nigel' s model features spring air retracts which is not that common place anymore with mechanical systems being preferred these days or though there is no disadvantage in using an air system. The length of the retract legs having to have MK extension/wheel axles bolted to the struts to enable sufficient length to accommodate prop clearance of this mid winged design.

Talking of the Webra, it's rumoured that they have developed a 148

The Tornado's immensely long retracts struts required on a mid-winged model, with the increased length of strut the leverage is increased proportionally. The retract unit and its mount has to be securely mounted within the wing.

Another Zircon in a Breitling colour scheme. You can see that the cheeks of the cowl do not look out of place but are very functional in the models flight characteristics.

In this shot you can see the intricate moulding that has gone into the fuselage at the front end, a moulders night-mare to produce, but very satisfying when complete.

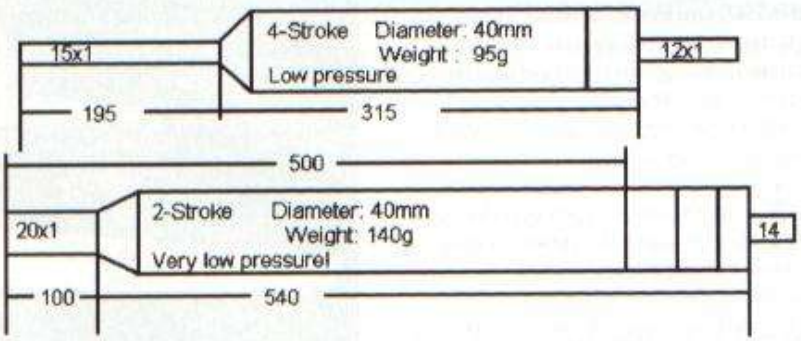
The German produced Tucano. This model having a largely exaggerated air-inlet at the front to help with drag. Not the most beautiful design but an extremely good flier which is what it is all about!

Laribeat was seen in Liechtenstein. Although not totally visible in this shot, the cowl has cheeks to produce in-built drag.

version, this being used in the US at the moment. Tom Miller from the US wrote to me a while back saying that the engine was being used over there and was very strong. He is planning on using the engine in his new own design model for the 2002 season. The UK agent for Webra is robbe/Schlüter UK. The current price for the un-pumped 145 is £279.99.

Semi Scale Tucano

Another model that I saw while in Liechtenstein in July which was powered by a 2-stroke engine was a German design of a semi-scale Tucano, the model departing from current thinking in its design. I must admit to not particularly liking the model's outline but boy it does fly very well. It features trike undercarriage and all the models I have seen flying have been propelled by either the OS 1.40 or the Webra 145. Both engines providing more than enough performance for the PO1 and FO1 schedules. Pattern enthusiasts in the mid eighties might remember John Robinson campaigning with an own design Tucano based model here in the UK. Bernd Beschorner from Germany pictured within these pages flew his Tucano in the finals of the World champs so the design is more than capable in the right hands.



Technical dimensions and weights of the Greve pipe system, prices vary from retail outlet's £60.00 from some, £90.00 from others, shop around.

Greve Pipes

The German engines and many others in the European pattern scene are matching their motors to the German made Manfred Greve pipes. These pipes being made from light weight alloy, with laser welding techniques being used in its construction. Prices are very competitive at only £60.00 for the two or the four stroke pipe. The benefit supposedly with using the 2-stroke pipe is that it helps to eliminate the wind up in the downward verticals, therefore providing a small degree of braking. You will also notice that Bernd uses a 4-blade APC prop which combined with the Greve pipe makes for a quiet operation.

RCMW

The top German flier at 2001 World Champs, Bernd Beschorner, using a Webra powered Tucano - really nice guy too.

Pattern Patter

Our regular F3A report this time recalls some of the aircraft in closer detail from the 2001 Worlds' in Ireland

The format for this month will be slightly different, with detailed text and photos rather than an article and sub titles with photos, the photos being from the World Champs that we attended back in September in Ireland. It's good to look back and remember the great time we had during the event and the new friends we made, indeed I should actually be in Thailand as I write this, attending the 4th World Jet Masters event but pressure of work has meant that I have had to stay home. Still we have a trip planned to Japan for the end of March, I have three models to build and deliver, so I plan on trying to attend some 'pattern' meetings while I am there.

I believe that the 2001 World champs was such a success due primarily to the fantastic organisation of the Irish, having attended numerous World Champs themselves they were able to put a package together that seemed to be flawless and able to add humour to what is a very serious business. One such event was during model processing when Noel Barrett's model (Irish team) was deemed too long to fit within the box, onlookers who were in on the secret were treated to a very confused Noel trying to work out why his all moulded model (an Angles Shadow) was longer than his fellow team mates. The relief on his face was something to behold apparently, when he too was let in on the secret! A hand had been skilfully placed over the nose of the model pushing the tail over length on the measuring device.

The remaining space of this month's column is dedicated to the models and pilots of the 2001 competition.

Christophe in the start box with both of his models, the idea being that if any trouble is found with the first model then the second one could be flown as an alternative. The #1 model is always the best flying model, and is flown out of choice.

The Japanese team are always renown for models of the highest standard, this model the 'Galaxy' was superbly built and finished. The model being all painted finish and you can see the shine on the surface of the wing in this shot. The model was powered by a OS 1.40 normally aspirated engine, but the heads on the Japanese engines were not the standard items you would find on an out of the box engine, they featured two plugs within one head, and those of us who were in attendance before the start of the competition were privy to how much head removal and shim changing was undertaken before the team were happy with the motors performance. If you look carefully on the side of the fuselage where the word Presteige is written you can see a panel outline. The panel is an air-brake, there is another one on the other side of the fuselage. These brakes were mixed in to the throttle output and would operate when the engine was at idle. This was the Japanese solution to the lack of braking that the two stroke engine has, so effectively with these brakes operating it would give them the best of both worlds! Although the Galaxy looked superb on the ground, this for me, did not transfer to the model when in flight, for me it did not have any presence when flown through the schedule.

by Phil Williams

You can see on the #2 model the exhaust outlet on the underside of the fuselage just below the 'S' on Synergy, just gives you an indication of the length of the pipe installation. The MK 2-1 elevator coupler is still the favourite component to transfer the control forces of the servo to the two independent elevator halves.

Defending World Champion Christophe Paysant le Roux with his Synergy, this model being a fine tune of the Alliance. The wings and tail were made by his father using the carbon spar and brown paper method. Christophe used the YS 1.40L engine and not the Dingo as some reports have indicated. The Dingo was removed in favour of the 'L', because at that time Christophe was happier with the throttling of the 'L'. Note that Christophe has the Ushio glow driver beside the model, this unit has switchable glow settings and Christophe relies heavily on this glow driver to ensure that it drives the plug at the correct setting to start the engine at the first application of the starter. At the time of the Worlds' the model had only been flown with fixed gear, this being the new swept back carbon legs and the smaller wheel pants. Not visible in this shot is the very long carbon fibre pipe used by Christophe, it protruded about 4 inches behind the wing and there was a recess in the bottom of the fuselage for the pipe to fit into. Noise suppression of the models was paramount and the larger pipe was obviously an attempt to reduce the output noise of the engine. What was very noticeable was that the top pilots model's were all very quiet whether it be a two or four stroke engine.

Next Month...

I will run through some of the other models that were of interest and detail some of the schedules that were used at the competition.
RCMW

Before you are allowed in the start box, you have to be in the ready box. Here you prepare yourself mentally for the flight, as seen here Christophe sitting on one of his flight cases preparing to do his best, the pressure to perform well in front of the judges is immense, but if you are defending your World title then there must be extra pressure.

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Wolfgang Matt flew his own design Smaragd, the model being built in the PL workshops. This particular model did use the YS Dingo engine, and as earlier reported the Matts were running header tanks within the engine bay. This to reduce the chance of air getting into the fuel supply to the engine which can cause it to quit. The Smaragd does look a little out of proportion on the ground but in the air looks well and does present well also. It has a good constant speed with a 4-stroke engine up the front and in snap manoeuvres exits very cleanly, and on heading. The model was equipped with electric retracts rather than mechanical units as this does away with having a retract servo and the mechanical linkage between the units and servo. The amplifier that actuates the retracts merely plugs directly into the model's receiver and takes its operational power from the Rx Ni-Cad.

Chip Hyde looks very relaxed in the ready box alongside Mark Waterman of Probuild. Chip used the Hydeaway model as his #1 model and the Hydeout as the reserve, both being equipped with YS Dingo 1.40 engines, again both models featured fixed gear, with plug in wings and tail. The US models are quite different in style to the European designs, we have a number of the Hydeaway kits on order and will be evaluating the design later. In Chips hands the model looked to fly on rails and in the air the model presented well. The two-piece wing and tail should prove popular with those who have limited storage and transportation areas.

Akiba's Grand Slam was my model of the competition, absolutely fantastic finish of an all built up airframe. The gloss finish was out of this world and as can be seen from the photos the all-up-weight of the model was 4.68 kg. The model being equipped with MK mechanical retracts which indicates that a model equipped with retracts can be one of the lightest models at the competition, so the statement that the fixed gear is weight saving does not necessarily ring true! The other unique feature with this particular model was its power unit, it used the OS 160 side exhaust with fuel injection, giving the model a very good power to weight ratio. The airframe must be considered to have sufficient drag within the design as it was deemed not necessary to have the air-brakes fitted that all the other Japanese team members used.

Pattern Patter

Our F3A expert takes a closer look at more of his favourite models from the 2001 World Championships

This month I will continue with the second part of the 2001 World F3A Championships report, but first I would like to thank everyone for their e-mails and calls reporting favourably on the YS fact sheet that can be downloaded from the Probuild web pages. Indeed by the time this column hits the streets there should be downloadable fact sheets on the following subjects:-

Fact sheet No 1 - YS four-stroke engine for the new operator.

Fact sheet No 2 - Installing FI into a glass fuselage.

Fact sheet No 3 - Installing a nose ring into a glass fuselage.

Fact sheet No 4 - Installing a plug in tail into a glass fuselage.

Fact sheet No 5 - Installing a plug in wing into a glass fuselage.

Fact sheet No 6 - Joining and applying the glass reinforcing bandage of a 1 piece wing.

These sheets are at the following address www.probulld-uk.co.uk

We aim to increase the fact sheets as time allows and will keep you informed as to the progress we make.

Mr Akiba pictured here with the 'Grand Slam'. In this shot you are able to see that the fuselage is a progressive taper straight from the front of the model to the tail post rather than being a more conventional airfoil shape. The motor used was the side exhaust 1.60 fuel injection unit, I believe the only one used at the competition. APC props were the most popular prop of the competition. Their extensive range of sizes for the pattern enthusiast will ensure their place as first choice for a long time to come.

This, I think, was my favourite model of the meeting. Last month we saw this model on the scales from the front angle showing the all-up-weight at 4.68 kg. The angle of this shot shows the flowing lines of the fuselage and also the depth of the fuselage from the canopy back to the fin. The models are so designed that they are balanced to fly in a cross wind. Too much area here along with the fin area will produce a model that will over compensate in a cross wind. All the models have evolved through hours of trial and error to make a model that will fly well in all weather conditions, this is what you are paying for when you buy a kit, the development. The Grand Slam is an all built-up model, then I believe covered with silk and then painted. The selection of wood for a model of this size and weight is very important, only the very lightest grade wood would have been used on a model of this type. It is becoming increasingly more difficult to find good wood that is lightweight.

by Phil Williams

Jason Shulman from the US had two Angel's Shadows painted in his own choice of colour scheme which looked good. The models were powered by an OS1.40FI two-stroke engine complete with the electronics that manage the injection of fuel to the engine. The engine was matched to ES Composites carbon lightweight pipe, which gave a tractable power delivery, combined with low noise output. The engines being mounted on Hyde AR engine mount which greatly increases the life of the model and its content due to its excellent vibration dampening qualities, it also makes for a quieter operational model.

The third member of the US team was Sean McMurtry. He was put under pressure from the very beginning when his models ended up in British customs Heathrow and were delayed getting to the competition on time. On top of that one of the models was very badly damaged during transportation. Christophe, being the gentleman that he is, lent one of his models to Sean to enable him to fly in the competition - very commendable from the defending champion. Sean used his Prophecy design which really does look dated now and small also. But this did not stop him making the semi-finals and also being one of the demo pilot's for the finals. The model was powered by a YS 1.40L with Hatori manifold and Hatori 692 pipe.

Chip Hyde had two designs with him, this model being Hydeout. The Hydeaway we pictured last month which is the newer design, and these kits will be available from Probuild by the time you read this column. Chip used the YS Dingo in both of his models and he certainly was not short on power. As I write this column a day or so before Christmas I have just received a report from Chip via Al Coomer that he has the latest DZ which is out turning the OS 1.40 prop for prop! So the power game continues to roll on. Chip used the Central Hobbies power manifold on this model with the Hatori 693 pipe and Futaba 9 ZAP radio.

Pattern Patter

The French pilot Arnaud Poyet pictured here with his design Evolis XXL, again YS1.40L engine. The Evolis is a ZN kit and is proving to be popular over here in the UK, the model does look especially nice with the fixed gear option. The model can be built lighter than models with a transparent canopy, being that the Evolis has a painted area to represent the canopy area. A transparent canopy with the required glue and fairing material would cost in weight terms about 125 g. Arnaud also used his own engine mount, which is a variant of the Hyde soft mount, which is now marketed by ZN. The mount bolts directly to the YS engine being designed for the 1.40L or Dingo, within the mount is a mechanical restructure that allows the engine to oscillate a maximum of 10 mm. This helps reduce the chance of the engine moving too far and knocking on the cowling of the model. The rubber used on the mount as the isolator looks to be vulcanised onto the two metal disks, although the mount is a lot stiffer in operation than the Hyde mount system and I still prefer the Hyde system myself, it's cheaper too!

Ales Zapletal pictured here with his Alliance. Ales stepped in to the CZE team at the last moment. Ales model was powered by an OS 1.40 engine and used Futaba radio. I think that this was the only Alliance at the World Champs that featured a fixed undercarriage but it did look well with it. There was one competitor in the competition who had an Alliance which was fitted with the larger Caprise canopy and looked very good with this set up.

The Japanese team complete with two of their outstanding models. All the Japanese models were powered by two-stroke engines. For those of use who were at the World's for the practise sessions prior to the start of the competition were privy to the amount of setting up of the engines that was required to get them to function to the satisfaction of the Japanese pilots. The first thing that was noticed was that the standard heads of the engines were discarded in favour of an anodised head which featured two glow plugs instead of the normal single item. The number of times the heads were removed and shims placed under the head were numerous, and there was a lot of ground running along with tuning of the radio for the active carb. Once set up there seamed to be no particular problem with operation of these engines but the Webra two-stroke engine seemed to be less pedantic with its setup to the OS, although arguably the OS would seem to have the edge on the Webra when it comes to power output. My own personal choice would always be the YS as it generally is a fit and forget power plant and the need for on the field tuning, active carb's and electronic fuel metering to get the engine to run correctly is not required!

And finally...

I did promise to put some of the schedules in this month but as usual I have run out of space, so next month we will carry on with the World Champs coverage.

RCMW

Pattern Patter

More F3A World Champs competitors and models in close-up, and Unknown Schedules

This month should conclude the report from the 2001 World Champs that took place in Ireland, the great organisation and the universal well natured individuals from each country still sticks firmly in my mind.

The event had no protests from any of the teams involved for the total duration of the event and the FAI concluded in a later report that the event was one of the best-run World champs run in recent years. I think I may have mentioned before, but I believe that the individuals that put this world championships together have been attending world championships themselves as competitors for a number of years, and had identified past problems with an event of this type, therefore having this information in advance were able to make sure that the problems would not arise. Along with more than a little Irish luck with the weather it has to be among one of the best World Championships in history. All that leads me to do is to thank everyone involved in the organisation of the event for an exceptionally well done job, you boys can now have a well earned rest!

Number 1

There were a number of events organised for evening entertainment, one even organised by the local Cork drinking establishment, seen here is Probuild's PRO man Ray with Chip Hyde. The great part of this type of evening event is the amount of information and discussions that take place about the pattern flying. There's no snobbery between competitors it's just one large happy family. The problem is that you come down with a bump when you return back home to the UK!

Number 2

Chip brought and flew the Hydeout design, this being a development of the Hyde-away, as can be seen from this shot that the design has quite a high frontal area with the canopy being very pronounced in its shape. Many pilots believe that the US has lost direction in designs over the last few years. The Hydeout I believe will put the US back on the map again. I spent quite a while watching the model fly during the event and I liked the way the model presented in the air. Chip is also one of the pilots who have been involved with the long development of the YS 1.40 Dingo, which should be readily available by the time you read this column. We have one of the pre-production engines and the power is well up on the 1.40L. With a new edition of an engine we like to familiarise ourselves with the product before we start selling them; there's nothing worse than a retailer just selling a product that they have no knowledge of and not being able to offer advice to customers if they have a problem. Chip has really been using the motor for probably the longest period of time, Christophe choosing to stick with the very well tried and tested 1.40L engine for the Championships, as he had been suffering from overheating of the regulator and having to duct air to this component to ensure consistent running. Chip is not experiencing this problem with his motors, the problem may lie with the oil used by Chip being superior to that used by Christophe. This may also indicate that the power output of this engine may have been pushed to the limit, power wise and I hope that this does not mean that we are in for a temperamental motor, which is of no use to any one. Chip is confident that the motor is a very workable unit and the power that he is obtaining is higher than any of the two stroke alternatives.

Number 3

In this photo you can see Chip beside the previous design to the Hydeout the Hyde-away, you can see from this photo the canopy area and how the canopy shape is now more prominent and also the fuselage side area in general is also increased. The wing section is

also somewhat different to the NACA section used by the European models, Chip has used a section with a reflex, which he has been very happy with. The model also benefits from having plug in wings and tail, which aids the transport of the model as well as being fitted with Gator incidence adjusters, which allows for minor adjustments in the models trimming process. Later this year we will be looking more in detail of this design as I plan to build one of these models for myself. What something for myself, surely not!

Number 3

Number 4

Number 4

This shows Christophe in action during practice. Even with it only being a practice flight, a competition flight is simulated in all ways to ensure that when it comes to the real thing all works like clockwork. The starting equipment is worth noting; Christophe used a two level power glow driver provided by MK. A number of years ago Christophe was forced to change models in the start box because his number one model became flooded and the glow driver could not deliver the necessary power to over come the flooded plug. With the two level driver all that needs to be done to overcome a flooded engine is to up the power to the plug to burn off the excess fuel. A high torque Sullivan starter equipped with a Graupner large diameter cone to increase the rubber area that slips over the spinner to engage the starter to the engine, which does not slip because of a small diameter drive cone. To drive the starter a more than adequate capacity battery which would be freshly charged. Note that Christophe uses a transmitter tray in which he mounts his Futaba 9 ZAP transmitter. Mode 2 arrangement is his choice on the sticks.

Number 5

Number 6

Number 7

Number 5

Christophe stands on the box centre line, while his father takes the model to the appropriate spot where the model will commence its take off run. At this point the engine is just cleared prior to placing the model on the ground. You can see clearly here the white markings painted in the grass to enable the pilot to establish the box ends and centre points when flying the model, obviously these are used to by the judges but they have to account for a parallax view of the box markers from their seating position.

Number 6

With the model airborne, Christophe's caller (his dad) takes position behind him to act as his caller. The caller helps with the flight depending on how much the pilot wishes him to. Generally at this level you would probably not be anything other than back up with the schedule just in case a lapse of manoeuvre sequence is experienced by the pilot. The pilot will be flying constantly working on the position of the manoeuvres within the box as well as working out the position of the model for the next manoeuvre. It's no good making a great job of one manoeuvre if it places you in the incorrect place for the next two or three manoeuvres. Sometimes it's better to get downgraded on one manoeuvre to get better marks for the following manoeuvres.

Number 7

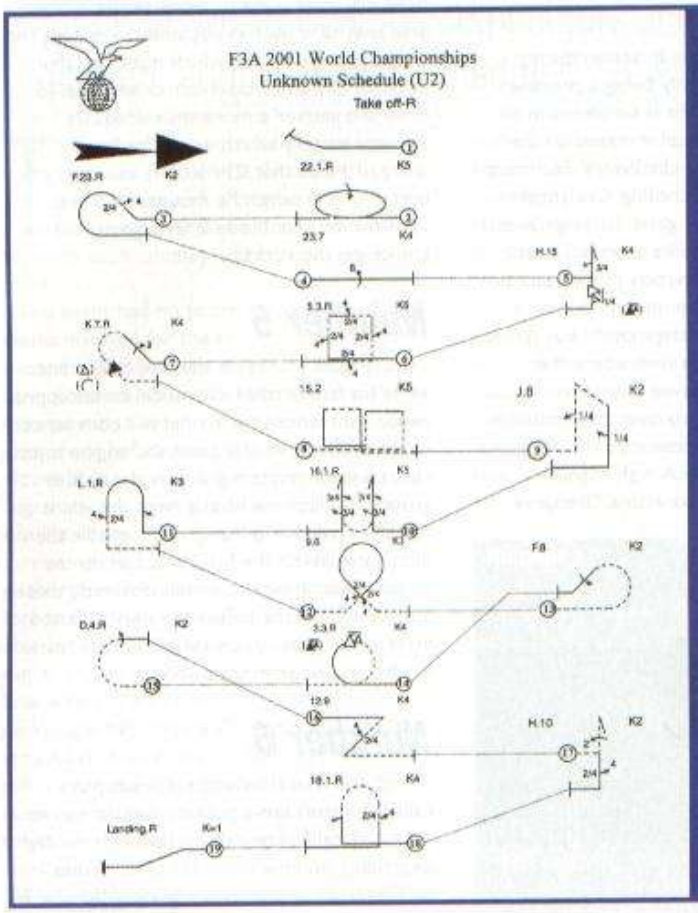
Brandon Ransley was the top placed British pilot, making the semi-finals, he used a Probuild/zn Alliance. This model is powered by a YS 1.40L engine, which drives a modified APC 15" x 13" APC prop. Radio is Futaba 9-ZAP which was by far the most popular radio of the competition, It's a real pity that Brandon has not felt it worth his effort to go for the UK team any more.

Schedules

I did promise to include the Unknown Schedules flown at the 2001 World Champs, and in concluding this report U1 and U2 (note wind direction is L-R) are included. Next time you are out flying why not give them ago?

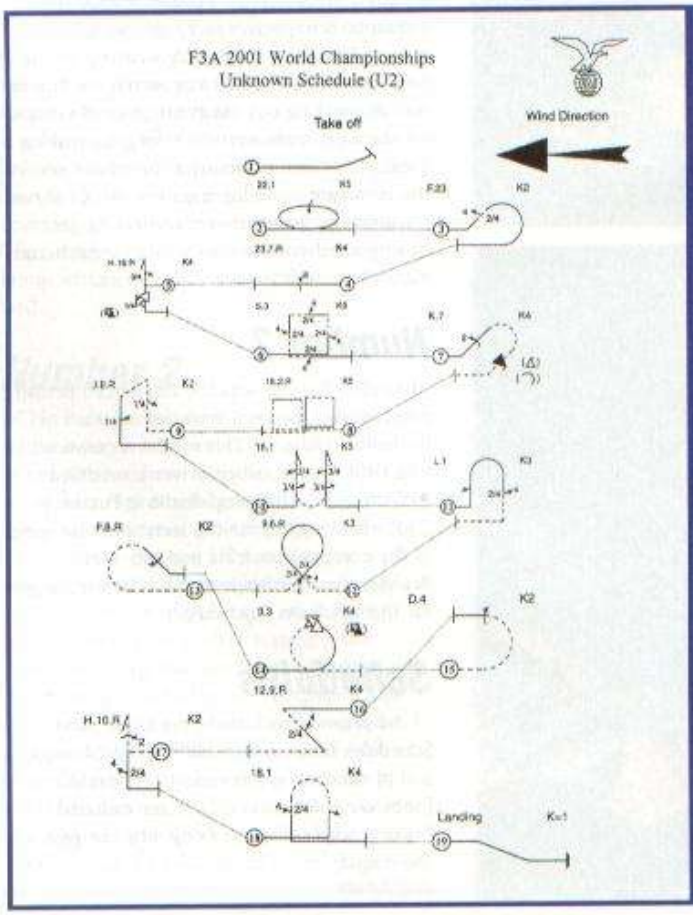
RCMW

Pattern Patter



Unknown Schedule 1

1. Take-off procedure (K1)
2. Rolling loop with one roll (from bottom) (K5)
3. Stall turn; half roll up; full snap down; exit inverted (K4)
4. Rolling circle with 2 rolls inside; inverted entry and exit (K5)
5. Top hat; 3/4 pt roll up; 3/4 pt roll down; inverted entry and exit (K2)
6. 2/4 pt roll; 1 ½ snap roll opposite; inverted entry and exit (K5)
7. Half square loop with full roll up; inverted entry (K2)
8. 45 degree down with full snap roll (K3)
9. Humpty bump (pull; pull; push) 2/4 pt roll up; half roll down; inverted exit (K3)
10. 2 loops with half roll first top; full roll second; inverted entry (from bottom) (K4)
11. Figure 9 from bottom; 2/2 pt roll up; inverted exit (K2)
12. Reverse knife edge flight; inverted entry and exit (K5)
13. Figure 6 from middle (bottom first); inverted entry (K1)
14. Avalanche with 1 negative snap (from top) (K4)
15. Two turn spin; inverted exit (K2)
16. Triangular loop with full roll (from bottom) inverted entry and exit (K4)
17. Half cuban eight; 2/2 pt roll; inverted entry (K2)
18. Stall turn; 3/4 roll up; 3/4 pt roll down; inverted exit (half roll not judged) (K3)
19. Landing Procedure (K1)



Unknown Schedule 2

1. Take-off procedure (K1)
2. Rolling circle with one roll inside (low Level) (K5)
3. Half reverse Cuban eight; 2/4 pt roll (K2)
4. Eight point roll (K4)
5. Stall turn: 3/4 roll up; 1 ¼ snap down (K4)
6. Square loop with 2/4 pt rolls (K5)
7. 45 degree up; 2/2 pt roll; half loop (inside or outside); full snap roll down; inverted exit (K4)
8. Square horizontal eight; inverted entry and exit (K5)
9. Top hat; 1/4 roll up; 1/4 roll down; inverted entry ; exit upright (K2)
10. Figure M with 3/4 rolls (K5)
11. Humpty bump (pull; pull; push) half roll up; 2/4 pt roll down; exit inverted (K3)
12. Golf ball with 2/4 pt rolls; inverted entry and exit (K3)
13. Half Cuban eight with full roll; inverted entry (K2)
14. Avalanche with 1 ½ snap (from bottom); inverted exit (K4)
15. Immelmann turn; full roll; inverted entry (K2)
16. Figure Z from top with 2/4 pt roll down; inverted exit (K4)
17. Stall turn; 2/2 pt roll up; 2/4 pt roll down; inverted entry (K2)
18. Humpty bump; half roll up; 2/4 pt roll down (K4)
19. Landing Procedure (K1)

Pattern Patter

Bonding the right team together and the latest 'stuff' for F3A pattern fliers.

Mk Alliance designed around the popular YS.63 engine. As can be seen the model is simple in its layout, with the silencer just exiting out the side of the cowl.

Selecting and Bonding a Team

I would like to start with this month with some observations from last years World Championships...

As a trader there as well as a spectator it was very interesting to observe the other teams as they were in the trade area. First point was that they all tended to come to the Probuild stand as a team. That is to say that even when they were not flying they stuck together as one unit. They seemed to be well bonded as a unit, now this could not be said of the UK team. Because of the late selection of the team we had three individuals rather that one unit working together, this may not have helped with the view that perhaps one member should not have been there, which meant in my view there was a divide between the team. There is no question that our top flier was Brandon Ransley who was head and shoulders ahead of the other two members and the final placing confirmed this view. With this in mind I believe that the number one pilot should be given the position of the Team Captain, and his job would be to get the entire team to work together! This may take the form of the three

Front view of the Alliance showing the wide track of the fixed gear.

Brian used the box colour scheme for his model and a fine job of the model he made.

members getting together and flying together on a regular basis, the inclusion of the Chief Judge in these flying sessions would also be a valued member of the team. The team manager should be a current or ex-flier also, being a flier he would be in tune with the fliers point of view rather than a pure managerial member of the team, so he would also be a good person to include in the training sessions. These five members should be the only ones present on these training sessions; too many views would defeat the object of these training sessions. Until we can get a team that will work together I believe we will not move forward in the world rankings. The selection process of the team works okay as long as the right judges are used for the panel. A new system is now in use and the computer can show any bias judging to any one flier. One judge has already been identified and will not be used again in the team selection process! This decision was made as the result of a long period of investigation and to be fair to the remaining contestants.

A Model Team

The Chief Judge and Stuart Mellor have worked hard together to produce a fair program to be used for scoring these events. Once the team starts to work together and improve then it will be time to come up with a UK design that all members will fly. I don't believe you can be recognised as a team to be reckoned with if you are flying someone else's designs. I have been working on and off with two top pattern fliers from Scotland, and we are on the third design at the moment, these designs being Carbon-Kevlar fuselage, with white gel coat as the PL or ZZN models. I am currently working on a moulded wing and tail for this model also, this is a long drawn out project, being so busy building pattern models that are now shipped worldwide. I am also looking at purchasing a small autoclave, which would help tremendously with the manufacturing of the lightweight wing panels that are required on a current F3A model. We have successfully manufactured moulded wings for jet models, which have stood up to the flight loads of the

by Phil Williams

Rear view of the model shows that the layout with the long moment arm is used just as the larger 2 metre design. Mk also has produced a prop to match the model and engine setup.

Martin used the Volz 'Micro-Max X' servos for elevator control. He found the elevator very responsive at first.

turbine-powered flight. The task is to now make these wings in a lightweight format for pattern use. The process is one of trial and error, you have to establish a point where you consider that the wing will withstand the flight loads with no failure possible, then work to lighten the unit and flight test I for a long period of time to establish weather the unit is up to the job in hand.

I personally have been totally committed to pattern flying here in the UK since the early eighties, but for the first time in twenty years or so I have not renewed my membership to the GBRCAA for personal and political reasons, and I would rather bow out while on good terms.

In my view I don't believe enough is done to run local area events, which brings new blood into the sport. Unless there is new blood then, the whole thing will go into decline. We have something in the order of 700 customers in the UK buying pattern planes and equipment, yet there are only 120 + members who join the Association and probably only half fly in competitions. If there were a larger number of people participating at the base of the pattern triangle the top fliers would benefit from a larger financial base and we would have a larger number of good pilots to choose a team from.

Something New

With the column reporting on the world champs for three months and the Probuild McLaren Extra there have been a number of new products released during this period, so lets have a look at what's new...

Mk has been a long time established kit manufacturer as well as an accessories producer. They specialise in F3A products and have come up with a delightful introduction model for pattern fliers who budget does not run to a full-blown two-metre model. The model is designed around the YS.63 and is not far off the size of the Hanno powered two-stroke models of a few years ago. The kit content is one of balsa and ply cut parts that are just a delight to put together, the model could be in theory put together and then the glue added! I started putting one together for myself, being busy I allowed myself 30 minutes a day on it, but it was such a delight to put together it soon was extended! The model built in the photos was built by Brian Elcock at the time the photos were taken the spats were not fitted. The model is some what overpowered by the YS.63 with the model only weighting in at 5 ½ lb.

For those who are 'Freestyle' followers, Mk have also introduced a model specifically for this discipline, the '3-D Dancer'. The kit being an all built-up construction in the same style as the Alliance. The model was designed by Quique Somenzini and power is for the YS .91 or though looking at the size of the model a 1.40 would also fit in the cowl area. At an all-up-weight of 7.5 lb throttle management with the 1.40 in would have to be a priority!

Martin Uttley with his Probuild Shadow design, model is powered by a YS1.20AC which gives the model a more than adequate power to weight ratio. The model was designed to be powered by older power plants that are available second-hand, so therefore reducing the overall price of the combination. Kit price starts at a price which is a lot lower than French kits.

Front view of the new 1.40 engine, the regulator and mechanical pump is now located on the inlet valve push rod cover and driven by the inlet push rod.

Talking of YS1.40 engines, the long awaited YS 1.40DZ was released here in February 2002. We had one of the first releases sent directly from Japan late last year, this being a modified version to the engine that was used at the World Champs last year. Before we intended to sell the engine we wanted a period of operating the engine before actually selling the product, there are too many people jumping on the band wagon selling YS engines, with little or no knowledge on how these engines run, let alone stocking spares for these engines. The thing to remember with these engines is that the fuel system is made up from a number of small components which cost only a few pounds but without them the engines will not run. If you were to have a fault with any of these components and were not able to obtain replacement parts then you would not be able to fly through lack of back up. As a competition flier that could mean the difference between winning a competition - or not!

The introduction of the DZ will mean a large investment of spares for this engine, as there are very few interchangeable parts from any of its predecessors. Another battle coming up with the accountant no doubt!

The long awaited YS 1.40 DZ engine turns a 15" x 12" APC @ 9700 out of the box on 20% nitro. Bolt pattern is the same as the 1.40L but there is a need to open up the gap between the bearers as there is a larger area needed for the larger con rod.

The MK 3-D Dancer designed by Quique Somenzini, for all of those pilots interested in 'Freestyle' models. All-up-weight is only 7.5 lb ready to go.

PB Shadow 'Add-Ons'

To finish off this month Martin Uttley has sent some photos of his PB Shadow, built from the Probuild kit. As always Martin has produced a model to be proud of and at the time of writing he has just completed his first outing with the model. The advances in the model's flying capabilities were outstanding according to Martin over his last model an Excelsior 188. The model is powered by an AC1.20 YS engine which gives the model unlimited vertical performance when paired up with a 14.4" x 12" APC prop with the engine running on 20% Nitro. The model features plug-in tail and wings so it breaks down to a small number count for transportation. Martin's model is equipped with retracts, but there is now a fixed gear package available for this design. The fuselage, when being laid up, has the fixed gear location point reinforced to prolong the models life expectancy. Martin also used the German 'Volz' servos set into the tail of the model to control the pitch of the model, with control linkages made up from the Central Hobbies Titanium/carbon pushrod system with Mk ball raced ends - nice one!

RCMW

Model Aircraft Competition Scoring System
Provisional Individual Standings
2001 F3A World Championships
Cork, Ireland
1st September

RANK	Pilot	Total	Round 1	Round 2	Round 3	Round 4
1	FRA C. Paysant Le Roux	2000.0000	1000.0000	1000.0000	1000.0000	1000.0000
2	ARG Quique Somenzini	1984.7139	918.1139	952.6563	993.0971	991.6168
3	USA Gordon (Chip) Hyde	1974.1929	927.8644	975.8781	998.3148	965.3125
4	USA Jason Shulman	1911.0022	911.9658	943.4871	967.5151	928.1185
5	LIE Roland Matt	1909.8312	907.4177	956.3114	953.5198	901.8566
6	JPN Yoichiro Akiba	1883.9358	916.5982	933.9287	945.4138	938.5220
7	LIE Wolfgang Matt	1802.7220	925.0529	877.6691	870.9742	846.9983
8	GER Bernd Beschorner	1789.1738	853.1429	799.3906	908.1881	880.9857
9	JPN Hajime Hatta	1781.3216	839.2328	809.2892	889.1326	892.1890
10	ITA Sebastiano Silvestri	1768.4945	839.1810	878.0043	887.2871	881.2074

VM F3A 2001

Tekst og bilder : Ola Fremming

Verdensmesterskap i F3A arrangeres hvert annet år, og det var denne gangen det Irske modellflyforbundet som fungerte som vertskap. De hadde fått adgang til en galoppbane utenfor den lille byen Mallow, noen kilometer nord for Cork.

På indre bane hadde de anlagt to fine gresstriper, med tilstrekkelig avstand. Ved hver bane var det senderdepot, telt for deltagerne, plass til parkering etc. I tillegg ble bygningene med kafeteria, festlokaler etc benyttet. Det var uansett liten aktivitet på banen, siden den var stengt i forbindelse med faren for utbredelse av munn og klovsyken.

Fra Norge var det kun de 3 deltagerne Knut Frantzen, Kjell Tore Pettersen og undertegnede som reiste. Tom Erik Sørensen hadde fått tilbud om å stille som dommer, men måtte dessverre melde avbud av jobbhensyn (programleder i Norge Rundt!). Det Norske laget valgte litt forskjellig reisemåter; Knut tok fly fra Flesland til Dublin hvor han leide bil. Kjell Tore og Ola kjørte bil og ferger hele vegen, mest praktisk siden vi hadde med to

Det Norske laget før 'avspark' : Ola Fremming, Knut Frantzen og Kjell T. Pettersen

Regjerende og ny mester, Cristophe Paysant LeRoux venter på tur.

modeller hver. Det å transportere 2 store modeller på fly kan være problematisk (Knut hadde ingen problemer med sin ene), noe Sean McMurtry fra USA fikk erfare. Kassene med begge hans modeller ble borte på vegen over Atlanteren, og dukket ikke opp før dagen før selve konkurransen startet. Til overmål var da begge modellene skadet. Stor sportsånd ble utvist da regjerende mester Christophe Paysant LeRoux lånte bort en av sine modeller til den uheldige.

Det skulle vise seg at dette ble det største VM så langt. Hele 103 piloter fra 38 nasjoner stilte til start. Samtidig skulle det vise seg at nivået på ingen måte har blitt lavere siden sist vi deltok, snarere tvert i mot.

Arrangørene var vel forberedt og vi opplevde et stevne som fløt jevnt og trutt frem, bare noe forsinket pga. morgentåke et par dager. Været var usedvanlig bra, med kun svak til moderat vind, og et par regnbyger. Vi snakket med noen at de innfødte, som kunne fortelle at dette var langt bedre enn hva man kunne forvente på denne tiden av året.

Selve konkurransen besto av 4 innledende omganger hvor P-01 flyprogrammet ble benyttet. Fra innledende går 1/3, eller maksimalt 30 piloter videre til semifinalen, hvor det betydelig vanskeligere F-01 flys. Deretter får de 10 beste i semifinalen æren av å utkjempe et siste slag i finalen. I finalen ble det fløyet to omganger med F-01, og en omgang hver av to ukjente flyprogrammer. De ukjente programmene blir komponert av finalistene i felleskap, på kvelden før finalen, og ingen får lov til å trene på disse før finaleflyvingene. I finalen på EM i fjor, så vi at noen slet med enkelte øvelser i de ukjente programmene. På VM var det svært god flyving av alle finalistene, til tross for en ukjent sekvens.

Når det gjelder innsatsen til det Norske laget, så kan man vel si at det gikk omtrent som man kunne forvente. Knut har hatt en sesong med masse problemer, som fort fører til synkende motivasjon og lite trening. Kjell Tore fløy på det jevne som han bruker, men hadde i hver eneste omgang en eller flere 'slegere' som vi ikke er vant med å se ham gjøre. Undertegnede fløy fire jevnt OK omganger, manglet nok det lille ekstra som skulle til for å nå målet med en plass i semifinalen. Stort sett var vi vel rimelig godt fornøyd alt tatt i betraktning. Utdrag fra den individuelle resultatlista (de 10 beste er vist med poengsummen fra finalen).

(Se side 26)

Sølvmedaljen gikk til Quique Somenzini, som bor i USA, men flyr for Argentina.

Gordon (Chip) Hyde kom på pallen igjen, her sammen med sin hjelper.

Jason Shulman er en trivelig kar, og han var på ingen måte misfornøyd med 4. plass.

Det er alltid spennende å se om det er noen nye trender når det gjelder modeller og utstyr. Jeg regner med å få tak i en komplett liste med benyttet utstyr senere i høst, men noen inntrykk kan jeg røpe allerede nå.

På motorsiden var det enda jevnere fordeling mellom 2- og 4-takt enn tidligere. I motsetning til tidligere år, var det jevnt fordelt også helt på toppen av lista. Av de 10 finalistene var det eksakt 50/50 mellom 2- og 4-takt. Det virket som om relativt mange hadde, eller hadde hatt problemer med YS-140 firetakterne. For mange gikk de fint, men det var relativt mange som opplevde motorstopp, også på VM.

Man kunne også få inntrykk av at selv den nyeste og sprekeste YS'en (140DZ) ikke er helt ferdig utviklet, da flere piloter som hadde slike liggende valgte å ikke benytte dem. Mange hadde opplevd problemer med kjølingen og måtte kjøre med relativt små propeller med dertil høyt turtall og støynivå.

Det var enorm kontrast i lydbildet fra noen av 4-takterne, som ble støymålt helt opptil grensen på 94 db, til de roligste modellene. Tyskeren Berndt Beschoner hadde en Webra 145 med 4-bladet propell i sin noe spesielle semiskala Tucano, den ble målt til kun 84 db og var ekstremt rolig i luften. Han var forøvrig den eneste som hadde 3-leggs understell på sin modell.

Også Akiba's modell med en prototype OS 160FX-FI (sideeksos) var spesielt rolig i luften.

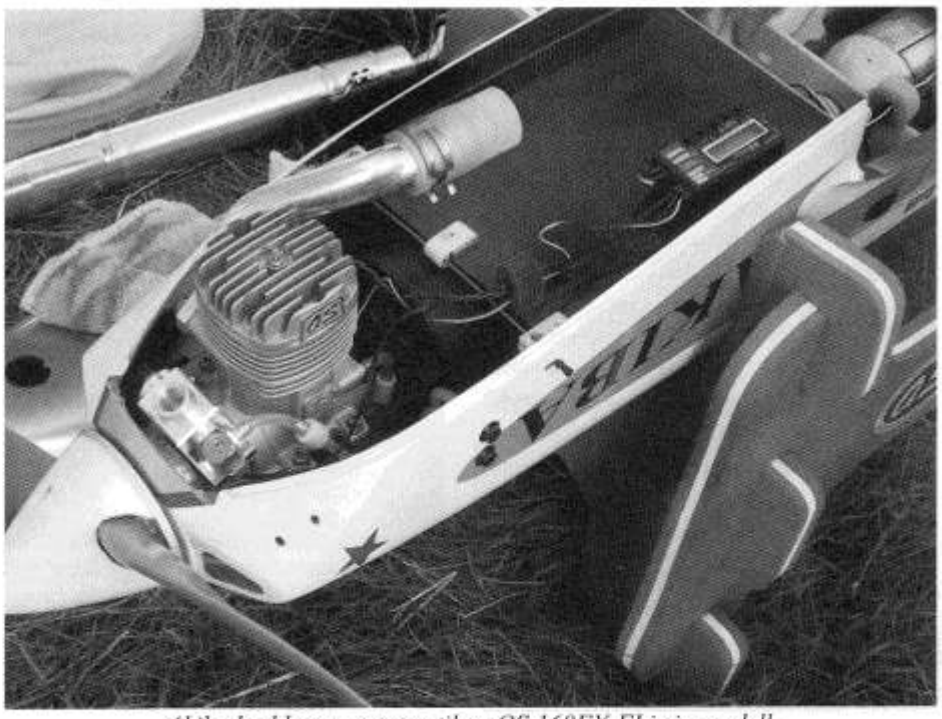
Selve modellene har nå stabilisert seg i størrelse, etter noe eksperimentering med veldig tykke kropper har det nå roet seg ned noe. Det viser seg i praksis at en middelveg er bedre, og at man heller krymper vingene noe.

Mengden snap-roller i flyprogrammene har vært en medvirkende faktor til en reduksjon i vingespenn, areal og ikke minst tippkorde. Skal man gjøre så, er det selvfølgelig viktig å ha kontroll på modellens vekt. Alt under 4.5 kg virker å fungere akseptabelt.

Når det gjelder konstruksjonsmetoder er det også stor variasjon, i finalen var det representert både formstøpte helkomposittmodeller, vanlige karbon/kevlar kropper med isoporvinger og balsafly med spantevinger.

Det var som ventet mange som fløy modeller laget av byggesett fra de to sentrale Europeiske produsentene PL-prod og ZN-line.

Trenden mot fast understell fortsetter,



Akiba hadde en prototyp til en OS 160FX-FI i sin modell.

Tyskeren Berndt Beschoner med sin noe spesielle Tucano.

Både Hatta (vist her) og Kusama fra Japan hadde slike luftbremser på modellene.

også her var finalisten delt 50/50 uten at det virker viktig om man velger det ene eller andre. Det har nok mest med hva man føler for, og hva den enkelte finner mest praktisk.

På radiosiden er det ikke dramatiske ting som er skjedd, bortsett fra at det er den nye generasjonen med 'digitale' servoer som gjelder.

#	Nat.	Navn	Poeng
1	FRA	C. Paysant Le Roux	2000
2	ARG	Quique Somenzini	1984.7
3	USA	Gordon (Chip) Hyde	1974.2
4	USA	Jason Shulman	1911.0
5	LIE	Roland Matt	1909.8
6	JPN	Yoichiro Akiba	1883.9
7	LIE	Wolfgang Matt	1802.7
8	GER	Bernd Beschorner	1789.2
9	JPN	Hajime Hatta	1781.3
10	ITA	Sebastiano Silvestri	1768.5
33	NOR	Ola Fremming	2546.2
46	SWE	Robert Sundstrøm	2439.9
49	DEN	Finn Lerager	2409.2
55	NOR	Kjell Tore Pettersen	2378.0
61	DEN	Peer Hinrichsen	2348.6
62	SWE	Bert Olsson	2345.1
73	NOR	Knut Frantzen	2191.7
77	SWE	Inge Norberg	2133.2
80	DEN	Erik Toft	2088.8

Fra Banketten, hvor det Norske laget delte bord med den Svenske (Bengt E. Søderstøm) og den Danske (Anders Rasmussen) dommeren.

Utdrag av resultatlista for lag

#	Nasjon	Poeng
1	Japan	8391.65
2	USA	8287.8
3	Germany	8146.49
18	Norway	7115.92
19	Sweden	6918.21
21	Denmark	6846.54

Fullstendige resultater kan finnes på nettsiden til arrangementet :

http://www.maci.ie/2001

Model Aircraft Competition Scoring System - Contest Standings

F3A World Championships, August 24 - September 2 2001

PROVISIONAL RESULTS – PRELIMINARY ROUNDS *(Subject to confirmation)*

Rank	Pilot	Total	Panel 1	Panel 2	Panel 3	Panel 4
1	CHAMP C. Paysant Le roux	3000.0	1000.0	1000.0	1000.0	1000.0
2	ARG Quique Somenzini	2943.8199	977.9273	986.9771	951.7538	978.9153
3	LIE Roland Matt	2935.1963	973.7830	871.6793	992.1602	969.2531
4	JPN Yochiro Akiba	2859.4098	948.5231	938.4325	938.3601	972.4541
5	USA Gordon (Chip) Hyde	2857.3229	941.2918	882.1312	949.1980	966.8330
6	JPN Hajime Hatta	2820.2515	895.1432	953.8499	906.2300	960.1716
7	LIE Wolfgang Matt	2802.9335	928.6403	872.6154	913.0872	961.2059
8	GER Bernd Beschorner	2797.3591	903.9269	862.9084	961.6172	931.8149
9	USA Jason Shulman	2758.8459	907.5652	876.9203	921.8225	929.4580
10	ITA Marco Benincasa	2752.0074	869.7878	913.9795	893.7529	944.2749
11	JPN Masato Kusama	2711.9838	852.8342	880.5722	890.6601	940.7514
12	AUT Helmut Danksagmuller	2700.2640	887.6009	810.3552	899.8269	912.8361
13	ITA Sebastiano Silvestri	2686.9378	891.0384	866.8742	920.9203	874.9790
14	GER Stefan Fink	2677.8029	815.6865	815.0498	946.6305	915.4857
15	USA Sean Mc Murtry	2671.6332	889.9832	889.4124	866.2934	892.2375
16	GER Ewald Trumpp	2671.3241	885.5359	826.1922	897.8105	887.9776
17	AUT Markus Zeiner	2663.3396	872.4250	858.1289	903.5654	887.3491
18	SUI Bernard Schaden	2655.8718	874.5237	799.0884	892.5708	888.7771
19	FRA Pascal Nowik	2647.4034	866.6040	873.1019	760.6296	907.6974
20	FRA Florent Rochedieu	2643.4349	887.6652	865.6232	890.1465	851.0662
21	SUI Daniel Koch	2624.9615	841.1180	847.6735	900.1354	877.1526
22	FRA Arnaud Poyet	2618.3930	830.4062	396.6513	861.4478	926.5388
23	ITA Luca Friggeri	2603.0917	844.9048	814.9563	872.7608	885.4260
24	AUT Heinrich Kronlachner	2591.7108	843.7732	821.8901	855.9701	891.9674
25	CAN Michael Siddall	2584.8798	866.2376	837.4178	813.0539	881.2243
26	GBR Brandon Ransley	2578.1609	819.2214	881.9646	862.7380	833.4582
27	BEL Philippe Marquet	2575.1445	854.8021	849.8865	870.4558	819.1883
28	ARG Marcello Colombo	2573.2412	810.6084	827.2906	870.5340	875.4165
29	CAN Chad Northeast	2570.4483	804.3208	860.4006	839.8518	870.1958

Model Aircraft Competition Scoring System - Contest Standings

F3A World Championships, August 24 - September 2 2001

F3A

Rank	Pilot	Total	Panel 1	Panel 2	Panel 3	Panel 4
30	SUI Patrick Drack	2561.1676	912.8472	845.1675	2.0190	803.1528
31	NED Danny Van Vliet	2553.9956	839.0360	834.4787	880.4808	818.7134
32	NED Denis Van Der Toorren	2551.8174	768.7893	820.3599	854.2547	877.2027
33	NOR Ola Fremming	2546.2333	843.8243	836.0578	851.2354	851.1735
34	RSA Andre Stockwell	2543.8806	785.6715	823.3083	855.0142	865.5581
35	BEL Christian Hans	2528.6740	845.1737	801.2880	826.6198	856.8804
36	AUS Alfred Pye	2518.6155	838.4499	822.3045	853.6187	826.5467
37	CHN Yebin Tan	2514.2587	788.4615	851.7358	823.8621	838.6607
38	ESP Isaac Prat Tarres	2491.3321	709.6553	792.4485	850.9819	847.9016
39	BEL Jean Pierre Zardini	2475.8411	832.4444	775.0937	818.0808	825.3158
40	URU Marcello Covella	2458.4529	789.1364	755.6867	827.1007	842.2157
41	NED Frank Van Leeuwen	2453.5004	762.0075	831.0169	802.2222	820.2612
42	AUS Steve Coram	2451.7760	818.5079	803.4172	829.8509	764.4935
43	KOR Sung Nam Kim	2450.9765	805.8119	795.7021	807.9717	837.1928
44	AUS David Mc Farlane	2447.5989	797.6076	759.6971	794.3863	855.6049
45	ARG Daniel Neito	2441.4931	774.4019	804.8432	795.2764	841.3734
46	SWE Robert Sundstron	2439.9252	834.6177	830.1900	52.5652	775.1174
47	GBR David Matthias	2414.6774	790.7947	754.3428	755.6176	868.2650
48	RSA Pierre Marais	2414.1197	775.3535	794.8638	843.9023	716.1421
49	DEN Finn Lerager	2409.1700	736.2364	820.9845	767.2334	820.9520
50	KOR Byung Jun Park	2402.5315	750.5001	796.6664	836.0754	769.7896
51	CHN Aigiang Liu	2399.5813	794.2270	754.7307	755.4261	849.9280
52	RSA Rui Martins	2398.7645	740.6668	768.1659	823.2859	807.3127
53	CHN Weiguo Li	2386.0768	409.6096	783.4411	788.9415	813.6942
54	LUX Marc Weber	2383.8375	739.5822	785.7453	796.9728	801.1193
55	NOR Kjell Tore Pettersen	2377.9786	795.2755	749.3174	804.0785	778.6245
56	GBR Keith M. Jackson	2376.2380	780.5908	814.7548	776.8676	780.8923
57	CAN Dezso Vaghy	2373.3056	785.8714	799.3872	320.8756	788.0468
58	LIE Nick Schadler	2370.3587	804.0988	761.1532	780.2810	785.9787

Model Aircraft Competition Scoring System - Contest Standings

F3A World Championships, August 24 - September 2 2001

F3A

Rank	Pilot	Total	Panel 1	Panel 2	Panel 3	Panel 4
59	HKG Alex Lau Chuen Tak	2366.0731	736.5234	754.3785	825.8499	785.8446
60	ESP Cristobel Rombaut Cauterman	2365.8574	755.6196	721.9747	806.1325	804.1051
61	DEN Peer Hinrichsen	2348.5974	754.5588	785.7251	773.9294	788.9427
62	SWE Bernt Olsson	2345.1118	729.4510	766.6890	50.7250	848.9717
63	NZL Hamish Galloway	2339.8758	742.4141	747.3180	805.8163	786.7414
64	SMR Massimo Selva	2331.7795	767.7521	769.2920	794.7353	700.4296
65	KOR Sung Soo Jung	2307.6083	759.2854	706.2221	770.9540	777.3688
66	HKG Jackie Tse	2261.8738	748.7313	753.7438	733.6560	759.3985
67	CZE Ondiej Matula	2253.8563	630.6554	724.3452	771.8881	757.6230
68	RUS Oleg Zacharov	2241.5801	738.5710	661.4911	762.9329	740.0762
69	RUS Victor Mandrika	2238.8587	716.4739	743.8705	767.1806	727.8075
70	HKG Li Hung Kay	2215.0744	736.8170	728.8727	749.3847	692.7479
71	TRI Mark Mendonca	2205.4928	738.6367	716.2557	672.1409	750.6003
72	IRL Ray Keane	2199.4535	694.9294	708.3038	784.6548	706.4948
73	NOR Knut Widar Frantzen	2191.7128	750.2749	683.4932	732.8513	708.5864
74	IRL Barry Smith	2186.4367	721.7415	749.2909	715.4042	652.3085
75	RUS Vladimir Kozlovski	2168.2876	666.4308	704.7129	788.7261	674.8486
76	NZL James Danby	2164.9143	726.2457	720.1989	718.4697	715.4173
77	SWE Inge Norberg	2133.1701	661.6479	672.9094	711.7128	748.5478
78	CYP Capt. Lakis Prastitis	2111.1620	659.3624	619.3003	717.0463	734.7531
79	NZL Steve Alexander	2089.8560	656.2299	707.8882	697.8171	684.1507
80	DEN Erik Toft	2088.7687	693.2845	642.3362	712.5208	682.9634
81	CYP Nicolas Georgiades	2080.9916	-23.3929	703.7707	760.7111	616.5098
82	CZE Ales Zapletal	2052.3315	667.6728	691.5297	644.3556	693.1289
83	CHI Adolfo Konig Samohod	2052.0242	599.8923	661.0151	685.6394	705.3696
84	ESP Jeroni Salas Valdell	2046.5173	556.3965	672.2004	689.2350	685.0818
85	SIN Derek Chan	2042.6914	621.2497	42.2422	717.8175	703.6241
86	ZIM Gordon James	2032.8390	633.0477	610.9818	692.7845	707.0067
87	IRL Noel Barrett	2003.8465	679.3524	606.3459	619.3009	705.1931

Model Aircraft Competition Scoring System - Contest Standings

F3A World Championships, August 24 - September 2 2001

F3A

Rank	Pilot	Total	Panel 1	Panel 2	Panel 3	Panel 4
88	ZIM Paul Gordon-Brander	1990.2512	633.7185	641.1050	691.7511	657.3949
89	POR Rui Ferreia	1989.5911	577.2435	631.5691	679.3378	678.6841
90	SIN Frederick Tze Hin Yong	1925.1768	615.3756	607.2853	669.0319	640.7692
91	TRI David Stodart	1918.5398	544.2252	679.8272	268.0202	694.4874
92	ISR Eli Kats	1912.5556	603.3649	614.7653	648.4842	649.3060
93	GRE Elias Sopeoglou	1902.1198	533.6587	613.1846	622.6906	666.2445
94	ECU Eduardo Avilles	1892.0494	608.9474	625.8736	657.2283	551.8141
95	URU Ricardo Mendez Turell	1760.2454	595.3246	120.7975	562.2914	602.6293
96	CYP Paris Christodouldes	1753.0218	601.1690	581.9193	56.3821	569.9334
97	CZE Jan Soucek	1750.8668	473.3790	583.6804	551.2408	615.9454
98	ECU Xavier Almeida	1738.6608	608.3793	501.6408	183.9401	628.6406
99	ZIM Andy Van Eeden	1722.7791	575.2048	492.4372	545.0163	602.5579
100	SIN Henry Lim	1648.8850	507.6740	560.7196	253.2050	580.4912
101	ISR Isaak Najary	1628.1676	436.8284	567.9270	530.2517	529.9888
102	ECU Cesar Paredes	1512.2920	437.7044	491.2215	366.5777	583.3660
103	URU Miguel Guerra	1493.6556	362.3136	426.3651	476.0660	591.2244

Model Aircraft Competition Scoring System - Contest Standings

Provisional Results for **F3A 2001 Semi Finals, 31st August 2001**

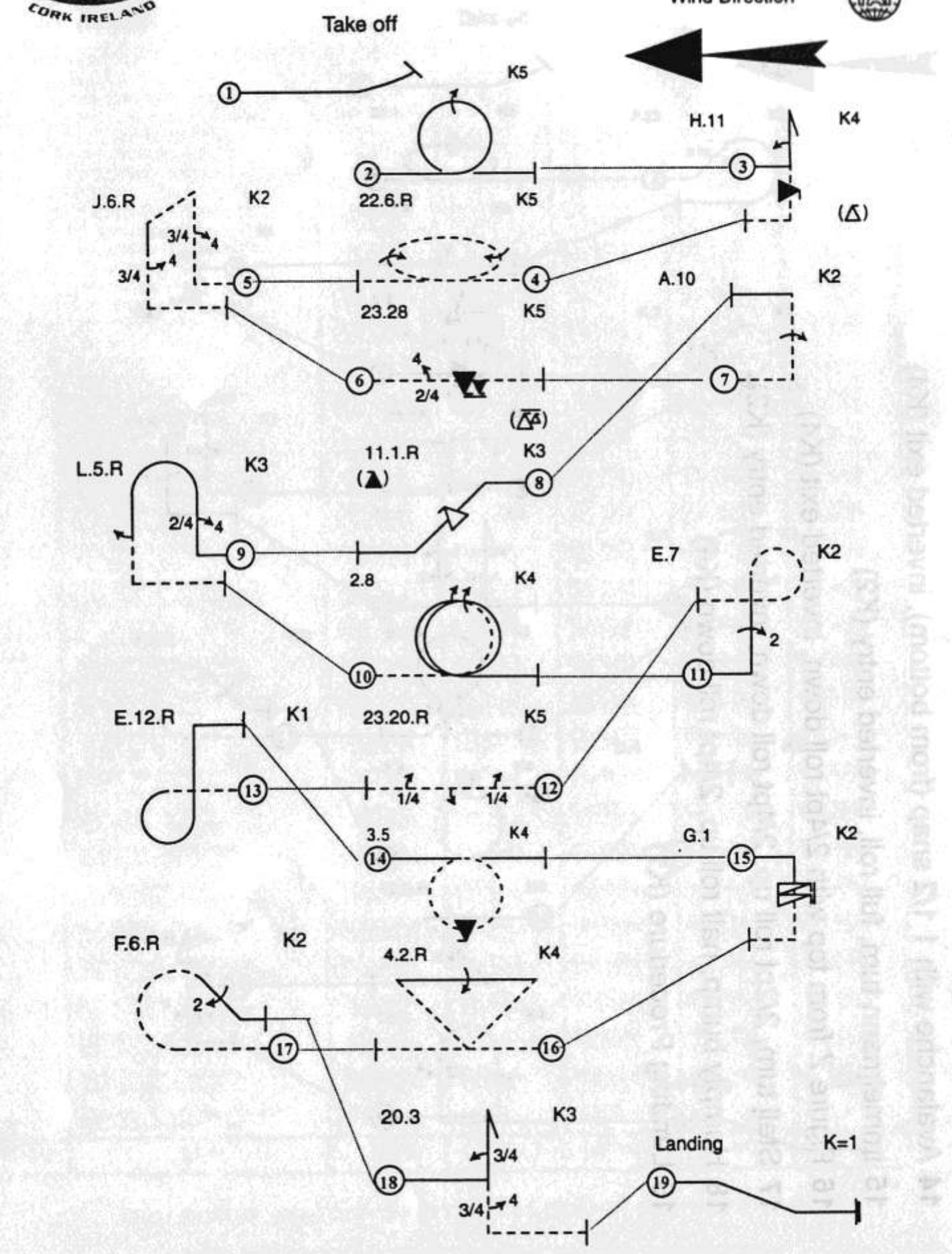
F3A

Rank	Pilot	Total	Round 1	Round 2	Round 3
1	CHAMP C. Paysant Le Roux	2000.0	1000.0	1000.0	1000.0
2	LIE Roland Matt	1942.5956	978.3987	964.1969	884.1356
3	ARG Quique Somenzini	1939.3446	981.2733	948.6936	958.0713
4	USA Gordon (Chip) Hyde	1922.4361	952.4409	969.9951	889.9010
5	LIE Wolfgang Matt	1898.8631	934.3111	964.5520	884.6598
6	JPN Hajime Hatta	1869.4372	940.0838	925.9035	929.3533
7	JPN Yoichiro Akiba	1857.1392	953.1365	873.5074	904.0026
8	USA Jason Shulman	1846.3099	919.6152	926.6946	890.6697
9	GER Bernd Beschorner	1840.0870	932.4530	907.6339	906.3601
10	ITA Sebastiano Silvestri	1838.5881	895.6459	942.9421	865.8146
11	USA Sean Mc Murtry	1834.4723	890.5444	943.2662	891.2061
12	ITA Marco Benincasa	1822.2859	917.3358	904.9501	799.4660
13	GER Stefan Fink	1814.9673	892.6009	922.3664	764.7531
14	JPN Masato Kusama	1812.6425	903.9946	891.5196	908.6479
15	FRA Arnaud Poyet	1777.9297	872.7976	901.3546	876.5751
16	AUT Helmut Danksagmuller	1764.1569	900.088	864.0689	770.7345
17	SUI Patrick Drack	1755.2584	853.7225	901.5359	799.2376
18	ITA Luca Friggeri	1742.0073	867.6972	874.3100	805.6247
19	SUI Bernhard Schaden	1737.4886	885.2905	852.1980	778.4337
20	AUT Mrakus Zeiner	1737.0980	887.7798	849.2322	849.3182
21	GER Ewald Trumpp	1717.5246	890.4413	824.4792	827.0832
22	ARG Marcello Colombo	1713.8662	857.7470	819.1796	856.1192
23	FRA Florent Rochedieu	1712.9638	881.1449	831.8188	756.1011
24	FRA Pascal Nowik	1707.8074	882.4678	742.5846	825.3396
25	SUI Daniel Koch	1703.4486	874.9871	828.4614	797.4573
26	BEL Philippe Marquet	1701.2940	858.3815	842.9125	731.0860
27	CAN Michael Siddall	1692.3639	861.6266	785.7945	830.7373
28	AUS Heinrich Kronlachner	1691.7035	863.9035	827.7999	748.0903
29	GBR Brandon Ransley	1625.5869	859.3869	762.4343	766.1999
30	CAN Chad Northeast	1609.4755	856.8161	678.6761	752.6594

Model Aircraft Competition Scoring System
Provisional Team Standings
2001 F3A World Championships
Cork, Ireland

Place	Country	Score
1	**Japan**	**8391.65**
2	**United States of America**	**8287.80**
3	**Germany**	**8146.49**
4	Liechtenstein	8108.49
5	Italy	8042.04
6	Argentina	7958.55
7	Austria	7955.31
8	France	7909.23
9	Switzerland	7842.00
10	Belgium	7579.66
11	The Netherlands	7559.31
12	Canada	7528.63
13	Australia	7417.99
14	Great Britain	7369.08
15	South Africa	7356.76
16	China	7299.92
17	Korea	7161.12
18	Norway	7115.92
19	Sweden	6918.21
20	Spain	6903.71
21	Denmark	6846.54
22	Hong Kong	6843.02
23	Russia	6648.73
24	New Zealand	6594.65
25	Ireland	6389.74
26	Czech Republic	6057.05
27	Cyprus	5945.18
28	Zimbabwe	5745.87
29	Uruaguay	5712.35
30	Singapore	5616.75
31	Ecuador	5143.00
32	Trinidad and Tobago	4124.03
33	Israel	3540.72
34	Luxembourg	2383.84
35	San Marino	2331.78
36	Chile	2052.02
37	Portugal	1989.59
38	Greece	1902.12

F3A 2001 World Championships
Unknown Schedule (U1)



F3A 2001 World Championships
Unknown Schedule (U2)