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# The Society of Model Aeronautical Engineers (Then and Now)



Aeronautical Engineers (SMAE) it gives me great pleasure to be able to write this introduction for the programme of the 2006 European R/C Helicopter Championships.

The Society of Model Aeronautical Engineers! - you must by now be wondering who we all are

having seen the advertising for this event billed as the British Model Flying Association or the Aerobatic Helicopter Association. The SMAE came into being in 1922 when the London Aeromodellers Association changed its name to the Society of Model Aeronautical Engineers and at the same time the Royal Aero Club gave the new society formal recognition charging it with the organisation and regulation of model flying. The next major change in the organisation came about in 1948 when the society became a company limited by guarantee, the status under which most sporting governing bodies in this country operate.

The title of British Model Flying Association (BMFA) was adopted at the Annual General Meeting of 1987 and as such is a working title, all legal matters still refer to the Society of Model Aeronautical Engineers. The new title was adopted to enhance the presentation of model flying to the public at large.

The day to day running of the BMFA is carried out by a full time staff working from a permanent office based in Leicester. The Chief Executive Officer, Development Officer, Membership Secretary, Accounts Manager and other staff deal with members' queries and maintain the vital functions required to keep the Association going. They also have many volunteers upon whom they can call for additional help including nine officers elected by the members.

Fourteen Area Committees are responsible to the Council of Management for the various activities organised by themselves and the affiliated clubs in their area. Currently there are over 750 clubs affiliated to the BMFA and they in turn have a total membership of some 27,000 and, with about 10,000 country members, make model flying by far the largest aviation sport in Great Britain. The competitive side of aeromodelling is looked after by six Technical Committees each dealing with a particular discipline and in some cases the responsibility is further devolved to Specialist Bodies one of which is the Aerobatic Helicopter Association which has organised this European Championship.

The flying of radio controlled helicopters is one of the newer sports to be encompassed by the Fédération Aéronautique International and the first European Championships was held in Eibergen, Netherlands in 1984.

I hope the above will give visitors and competitors an insight into our Association and that some understanding of how we work will enhance your visit to Bryanston School, the Dorset countryside and the 2006 European Championships.

Many months of hard work, mainly by volunteers, goes into arranging an event such as this and at this point I would like to thank, on behalf of the BMFA Council of Management, all of those concerned for the work they have put in. I shall look forward to meeting many of you at Bryanston during the Championships and may I wish all competitors the best of luck.

#### Robin I Gowler FSMAE

Chairman British Model Flying Association

# Welcome from the Aerobatic Helicopter Association!



The Aerobatic Helicopter Association would like to extend a warm welcome to all who attend the 11<sup>th</sup> European F3C Championships in Dorset England. Coordinated by Julie Fisher and Adrian Richmond, this competition will provide top European pilots the opportunity to battle it out and establish the winning Individual and Team of 2006.

Volunteers and Sponsors have made all of this possible and whilst we enjoy the competition it is important that we support and remember them, as they are the vital background to the success of this event.

Enjoy!

### **Adrian Richmond**

**Event Coordinator** 

#### Julie Fisher

**Event Manager and Treasurer** 





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# Helicopters, the Early Years



Pete Christy shares his experiences as he looks back over the development of model helicopters in Great Britain.

t the beginning of the 1970s, the first commercial model helicopter kits were starting to trickle on to the market. Pioneered in Germany, the early helicopter kits were very expensive, and had a reputation of being extremely difficult to fly. Only the relatively wealthy modellers were prepared to risk a large investment (¼ the cost of a new small family car!) in such a fragile and temperamental machine

However, whilst the Germans (and Dieter Schluter in particular) are credited with pioneering radio controlled model helicopters, it was the British who made them affordable!

When Dieter Schluter attended the Sywell symposium (the forerunner of the current Sandown show), and demonstrated his Huey Cobra, it inspired a number of British designers to try and produce models that were within the reach of ordinary modellers. Chief amongst these were Jim Morley and Peter Valentine.



A pre-production Lark kit on the Micro-Mold stand at Sandown Park (c.1974)

### Jim Morley

Jim Morley was a professional aerospace engineer, and had been fascinated by the prospect of model helicopters for some time. He started experimenting with torque-reaction machines similar to the American DuBro Whirlybird 505 (r/c) and Cox (free-flight) models, but was developing "proper" gearbox driven helicopters at about the same time as Schluter. The gearbox machine eventually became the Morley 2b. Although originally developed with collective pitch, the machine initially released to the public had a fixed pitch, flapping hinge head for simplicity. The 2b rapidly gave way to the much more realistic



My original Morley 2b, built from one of Jim's "plan-packs", before he went into commercial kits. (C.1974)

looking 2c, and was followed by a series of scale models using essentially the same mechanics. The gearbox and clutch were extremely substantial items, and were quite capable of handling much more power than the .40 size engines for which they were designed.

These robust and reliable mechanics were used in a whole series of scale models sold under the Morley brand name. When the full kits finally came on the market, their attractive appearance and reliability made them an instant hit with the public. They were sold all over the world, and many are still flying today.

Although now retired, Jim Morley still keeps a fatherly eye on his creations, and is still able to supply some spares for his machines.



The other great British pioneer of model helicopters was Peter Valentine. Peter had served in the RAF as a pilot, and following his National Service became a BBC cameraman, and eventually

a Studio Technical Manager. He had a fascination with model and mechanical things, and was another who was inspired by Dieter Schluter's display at Sywell. Given the choice between buying one of



And yes, it did fly - here in action on Croxley Moor, near Watford. This was in the days when I still had hair...



My Morley 2c, built from plans and using the mechanics from my earlier 2b.



A close-up of the 2c. Note the flapping hinge head!



Peter Valentine (Lark designer) with his OS10 powered Mayfly (c.1974), based on scaled down Lark mechanics.

# **Aerial View and Location**

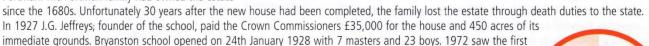


#### **Location (Flying Site)**

Bryanston School (Blandford Forum, Dorset, DT11 0PX) is located approximately twenty-four miles southwest of Salisbury and fourteen miles northwest of Poole. The School is situated in a 400-acre estate with extensive playing fields. The flying site will be located on the playing fields. IMPORTANT, PLEASE NOTE: no dogs are allowed in the playing fields.

#### **Background history of Bryanston:**

Bryanston is the biggest house in Dorset and the last of the really huge stately homes in England. The most famous architect of the late 19th Century, Norman Shaw, completed the present house in 1897 for Lord Portman. The Portman family had owned the estate



arrival of Sixth Form girls. The school now has 70 full-time staff and 680 boys and girls.

Today Bryanston is considered by many to be the outstanding co-educational boarding school in this country.



# Synopsis of FAI Class F3C Operation

# By Horace Hagen, Chairman of the CIAM F3C Sub-committee

or the FAI/CIAM F3C competition class pilots must perform complex hovering and aerobatic manoeuvres with a radio controlled model helicopter. Each manoeuvre must be executed with high precision and skill in any attitude and under all weather conditions. F3C model helicopters have a weight limit of 6 kg, a maximum rotor disc area of 300dm<sup>2</sup> and are powered by internal combustion engines with a maximum displacement of 15ccm or electric motors with a maximum battery voltage of 42 Volts. The engines/motors must be adequately silenced to meet a specified noise limit. The on-board radio control equipment, receiving signals from the competitor's transmitter, actuates the engine throttle, main rotor lateral and longitudinal cyclic pitch, main rotor collective pitch and tail rotor pitch to guide the model helicopter through hovering and aerobatic manoeuvres. Manoeuvre schedule A is used for the preliminary rounds and more difficult schedules B and C are used during the fly off rounds. Each schedule contains three hovering manoeuvres that are performed directly in front of the judges over a designated helipad layout. Aerobatic manoeuvres are performed in a window that extends 60 degrees to the left and right of a centre line, and at an elevation of no more than 60 degrees. A prescribed aerobatic manoeuvre must be performed each time the model helicopter crosses the centre line. Aerobatic manoeuvres consist of a combination of loops, rolls, pirouettes, lines and stall turns. Aerobatic manoeuvres or parts thereof performed outside of the window

are penalised by loss of points, proportional to the degree of infraction. The hovering manoeuvres are flown at a distance of 15 metres from the judges. The aerobatic manoeuvres are typically flown at 100 metres in front of and parallel to the judges' line.

Each competitor's performance is assessed by a panel of judges who award marks between zero and ten (0.5 increments) for each manoeuvre. Judging is based on four basic criteria: Precision, Smoothness and Gracefulness, Positioning and Display/Size of manoeuvres. Points are subtracted for various types of defects observed by the judges, the severity of these defects, and the number of times the defects are observed.

Each competitor participates in four preliminary rounds, of which the best three flight scores determine his/her placing. The F3C class is a team as well as an individual competition. FAI member countries may enter a team with a maximum of three competitors as a national team for World and Continental Championships. Team results are based on the sum of each country's team members' preliminary round scores and determine the F3C World Champion Team. The top 15 pilots of all competitors then participate in three fly-off rounds to determine the F3C World (Continental) Champion.

2006 sees the latest version of FAI F3C aerobatics hit the competition scene and the first official event to air this will be in the UK.

# The schedules the pilots are flying

#### By Adrian Richmond

#### Flight programme

The flight programme is made up of two manoeuvre schedules 'A' and 'B' and these will span the years 2006/7. Manoeuvre schedule 'B' will be replaced by schedule 'C' for the years 2008/9. Whilst schedule C is not detailed here it is available to scrutinise in the aforementioned document.

### Flying the Schedules

The pilot checks, starts and warms up their helicopter in the start circle flying no higher than skids at eye level and only completing 180 degree pirouettes in either direction. They then fly the model no higher and in an outward arc to the centre circle of the course layout.

#### The Hovering Manoeuvres

The model is landed facing left or right but in either case is parallel to the judges line. Each hovering manoeuvre starts with the model lifting off squarely and up to skids at eye level. Each landing sees the model return to a position directly in front of the pilot, skids at eye level before descending to the ground in the centre circle. The flying window for the aerobatic manoeuvres is 120 degree horizontally measured from the end judges and 60 degree vertically measured from the centre judge. If a manoeuvre does not meet the descriptors set out in the F3C Rule then it should receive zero points, likewise if pirouettes are performed in the wrong direction. Stops must last two seconds and lines of ascent should be straight to and from their correct positions without deviation. Constant speeds and pirouette rates must be observed. The pilot must stand in their circle illustrated as 'P' before flying the

#### **Aerobatics**

All manoeuvres are scored after start is called and scoring ends when finish is called. Between the calling of start and finish for the manoeuvre, accuracy is assessed. Manoeuvres must be centred and symmetrical. There should be a clear relationship between the scale of manoeuvres. The roll rates seen in the double roll should match those that appear elsewhere. The arc of loops should match the entry and exit arc to vertical manoeuvres etc. The pace of the model should be consistent throughout. Manoeuvres that become stretched, slow or suddenly rushed will be down graded.

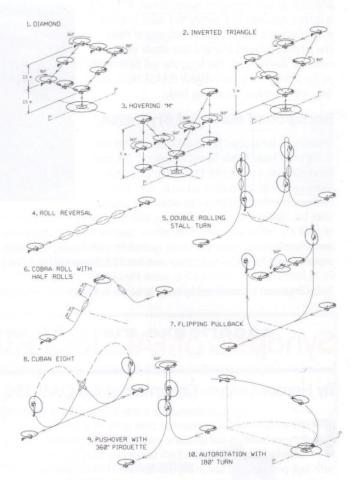
schedule and this must not be left until the flight is considered complete.

#### The 'A' schedule

#### **Hovering Manoeuvres**

#### 1. Diamond with 360-degree pirouettes

The model flies backwards and up to stop and hover 2.5 m over the flag. An 180° pirouette in either direction is performed. The model then flies backwards and up another 2.5 m to stop and hover over the helipad at a height of 5 m. A 360° pirouette in either direction is performed. The model aircraft then descends 2.5 m travelling backward to arrive over the upwind flag. An 180° pirouette in either direction is performed over flag. The model aircraft then descends backwards to the helipad and stops to hover at eye level.



#### The 'A' schedule

#### 2. Inverted Triangle

The model ascends backwards at 45°, whilst performing an 180° pirouette in either direction to a point directly over the flag. The model then flies horizontally while performing a 360° pirouette in either direction to the next flag. The model then descends at 45° whilst performing an 180° pirouette in either direction.

#### 3. Hovering 'M'.

The model flies backward to the flag and stops. Then the model ascends vertically 5 m whilst performing a 360° pirouette in either direction. The model then performs another 360° pirouette in the same direction whilst descending at a 45° angle to eye level above the helipad. The model then ascends at a 45° angle while performing a 360° pirouette in the opposite direction to a point 5 m over the flag. The model then descends to eye level while performing a 360° pirouette in the same direction. The model then flies backward to the helipad.

#### **Aerobatics**

#### 4. Roll Reversal

The model aircraft flies a roll in either direction followed by an upright straight section, this is followed by a roll in the opposite direction while maintaining the direction of flight.

#### 5. Double Rolling Stall Turn

The model arcs upwards vertically at 90° followed by a half roll in either direction. At the top the model aircraft executes an 180° pirouette so that the nose points downward. After diving, the model aircraft makes a half inside loop into another stall turn at the same altitude and flies an 180° pirouette so that the nose points downward. The model aircraft then makes a half roll in either direction. The model aircraft then returns to the same altitude and heading as at beginning of manoeuvre.

#### 6. Cobra Roll with Half Rolls

The model enters the manoeuvre by pulling up into a 45° climb. After a 5 m straight section the model aircraft performs a half roll in either direction to the inverted position and continues to climb at 45° for 5 m. At this point the model performs a ½ inside loop and enters a 45° dive inverted and after a 5 m straight segment performs another half roll in either direction. Model aircraft continues for 5 m minimum and then returns to its entry altitude in level flight.

#### 7. Flipping Pull back

The model enters the manoeuvre by pulling up into a vertical climb after passing the centre line. After the model comes to a stop the model performs small backward ¼ inside loop and flies backwards and performs a travelling, centred pushed flip at constant altitude. This is followed by another small backward ¼ inside loop to a vertical nose down stop. The model then continues by descending on a path that mirrors the entry path. After the descent the model returns to same heading and altitude as at the start of the manoeuvre.

#### 8. Cuban Eight

The model flies a % inside loop. When the model aircraft is in 45° descent and inverted it completes a % roll in either direction to upright and enters a % inside loop. When the model aircraft is again in 45° descent and inverted it executes a second % roll in either direction and finishes the first partial loop upright.

#### 9. Push Over with 36 degree pirouette

The model enters a 90° vertical climb. When the model comes to a stop the model performs a ¼ pushed flip to upright position and stops. The model then flies a slow 360° pirouette in either direction. The model then performs a ¼ pushed flip to the vertical nose down position followed by a vertical descent and ¼ inside loop back to the same altitude and heading as at entry.

#### 10. Autorotation with 180 degree Turn

The model flies at an altitude of 20 m. The manoeuvre begins when the model aircraft crosses the centre line that extends from the centre judge. The model must be in the autorotation state when it crosses centre. The engine must be off at this point and the model must be descending. The 180° turn must start at this point and the turning and descending rate must be constant from this point to a point just before touchdown on the helipad. The flight path of the model aircraft must appear as a semi-circle when viewed from above. The model aircraft's flight path must never be parallel to the ground or judge's line.

#### The 'B' schedule

#### 1. Hourglass 1

The model flies backward to the flag while flying a travelling 180° pirouette in either direction. A diagonal line is flown backwards across and up to 4 m, and stops to hover over the opposite flag. A 360° pirouette in either direction is performed while travelling across the top of the manoeuvre. A diagonal line is then flown descending backward and across to arrive at the other flag. Another 180° pirouette in either direction is performed while travelling back to the centre.

#### 2. Circle with Two 360 degree Pirouettes

The model flies forward into an ascending vertical circle while executing a 360° pirouette ending at the top of the first half. At this point the pirouette switches direction for the second half of the circle returning to eye level.

#### 3. Rectangle with 180 degree Pirouettes

The model aircraft flies backwards from the helipad to one of the flags. The model then ascends vertically 4 m while performing two 180° pirouettes of opposite direction. The model aircraft then flies across to a point over the next flag while performing a 360° pirouette. The model then descends vertically 4 m while performing two 180° pirouettes of opposite direction to eye level. The model flies back to centre.

#### **Aerobatics**

#### 4. Horizontal Eight

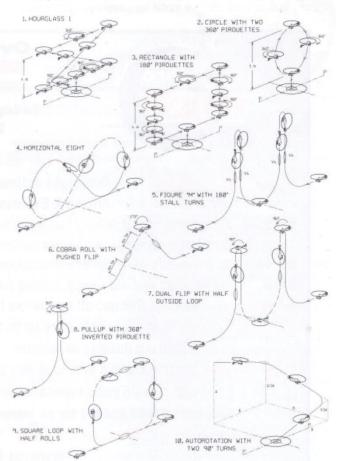
The model flies straight and level and executes a % inside loop. When the model aircraft is in 45° descent it enters a % outside loop. When the model is again in a 45° descent it flies a partial inside loop to upright.

#### 5. Figure M with 180 degree Stall Turns

The model pulls vertically and does a quarter roll so that the top of the disk is toward the pilot and continues for a minimum of 1 fuselage length. When the model stops climbing the model performs an 180° stall turn. On the way down the model does another quarter roll and performs an inside half loop. The model flies vertically again and does another quarter roll so that the top of the disk is toward the pilot and continues for a minimum of 1 fuselage length. The model flies another 180° stall turn. The model flies another quarter roll and pulls out at the entry height.

#### 6. Cobra Roll with Half Rolls and Pushed Flip

The model enters the manoeuvre by pulling up into a 45° climb. After a straight section the model performs a half roll in either direction to the inverted position and continues to climb at 45°. At this point the model



The 'B' schedule

aircraft makes a 270° pushed flip before it enters a 45° dive and after a straight section performs another half roll in either direction. The model continues at 45 degrees and then returns to entry-level flight.

#### 7. Dual Flip with Half Outside Loop

The model flies a 1/4 inside loop and establishes a vertical line. At the peak of the ascent the model performs a ½ outside flip so that it points nose down. The model aircraft descends vertically and executes a ½ roll. The model aircraft then performs a ½ outside loop centred on the centre line and then ascends vertically again and at the peak of the ascent the helicopter completes a 1/2 inside flip so that the nose points down. The model aircraft then descends vertically and executes a ½ roll followed by a straight segment. The model aircraft then performs a 1/4 inside loop to recover upright with the same altitude and direction as the entry.

#### 8. Pull Up with 360 Degree inverted Pirouette

The model flies straight and level and then enters a 90° vertical ascent. When the model comes to a stop the nose of the model is pulled over 90° to the level and inverted position. The model then flies a slow 360° pirouette in either direction. This is followed by the model's nose dropping 90° again to the vertical nose down position. The model descends vertically nose down and pulls out to the same height as for entry.

#### 9. Square Loop with Half Rolls

The model performs a ¼ inside loop followed by a straight section. This is followed by another ¼ inside loop and a straight section with a half roll. The model then performs a ¼ outside loop followed by a straight section and another ¼ outside loop followed by a final straight section with a half roll to level upright flight.

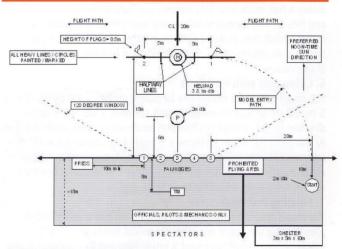
#### 10. Autorotation with Two 90 degree Turns

The model flies at a minimum height of 20 m. The manoeuvre begins when the model crosses a centre line from the centre judge. The model must be in the autorotation state when it crosses centre, the engine must be off at this point and the model must be descending. The first 90° turn must be made after the model has completed ½ of the total

The full document goes on to detail such important matters as the principles of an accurate flight, accurate and consistent judging, the criteria for judging and the grading criteria for manoeuvre segments.

> For full details of the complete document check www.aha-online.org.uk or www.fai.org.uk

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#### Contest area layout

descent. After this turn the model must fly straight before the next turn is made after which the model will have completed \% of the descent. The model then flies straight down to the helipad. The flight path of the model must appear as an open square when viewed from above.



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# Jury & Judges



### Details of the jury for the competiton

#### Horace Hagen - Jury Member

Horace has been an aero modeller for 58 years. In post war Germany he flew free flight rocket powered models (model engines were prohibited). After emigrating to the USA with his family in 1953 he built and flew 1/2A free flight and control line models. He joined the Academy of Model Aeronautics (AMA) in 1957 and started flying



single channel R/C models equipped with escapements and pulse proportional actuators. In 1961 he constructed his own 8 channel reed R/C system and flew the same in a Top Flite "ORION" aerobatic model. He bought his first analogue proportional R/C system in 1964 and flew it in a Midwest "HUSTLER" delta model. He joined the Monmouth Model Airplane Club in 1969, built two digital proportional R/C systems, flew in local and regional competitions and won many trophies.

In 1971 he was the first to fly a Schluter "Cobra" R/C helicopter in the States. He served as a member of the AMA R/C Helicopter Advisory Committee from 1974 thru 1976 and became its chairman in 1977. He organized the "East Coast R/C Helicopter Championships" from 1976 thru 1984. From 1982 thru 2002 he served as Chairman of the AMA R/C Helicopter Contest Board and today still represents AMA District II. He organized the 1984 (first) and 1991 USA F3C Team Trials, the R/C helicopter events at the 1983/1985 AMA Nationals, the F3C event at the 1989 World Championships (Aerolympics II) and the 1992/1994 Hirobo Cups. From 1985 thru 2004 he served as chairman of the AMA F3C Team Selection Committee and today still represents AMA District II. In 1979 he was appointed to serve on the FAI/CIAM F3C Subcommittee and since 1990 has served as its chairman.

He has been president (or member) of the FAI jury at every F3C World and Continental (European) Championship since the beginning in 1984 and at many other international championships. He has been a leader member of the AMA since 1974, a Contest Director since 1976 and was awarded the AMA Fellowship in 2002. Since the advent of high-power Lithium Polymer batteries and brushless motors in 2002 he has concentrated on flying electric powered high-performance sailplanes, aerobatic models and electric indoor airplanes/helicopters.

He retired as Distinguished Member of Technical Staff from AT&T Bell Laboratories in 2001 after 41 years of service. He has two daughters and three grandchildren and his partner Phyllis has three daughters and three grandchildren.

#### Nick Neve - Jury Member

Nick has been an aero modeller for over 60 years. As an ardent free flight enthusiast, he built A2 gliders and 1/2A power models until the mid-1960s. With the advent of reliable radio control systems and his advancing years, he discovered that landing a glider at his feet was preferable to long and arduous cross-country chases on a bicycle.



He organised the first R/C Soaring contest in the UK in 1969 (the event is still being held) and has been involved in the national UK modelling scene then in a number of roles. He was President of The British Association of Radio Controlled Soarers, has been twice a British Team manager at World Championships, also National Champion (F3B - a fluke) in 1984. For many years he was the UK delegate or alternate to CIAM. He has also been an Area Chairman, member of the BMFA Executive and local club chairman. He has served on previous juries at World Championships in 2002 and 2004. He holds the bronze medal of the Royal Aero Club for services to Aeromodelling and has been elected a Fellow of the BMFA.

He is retired, having formerly been an army officer, a research scientist and a member of the UK diplomatic service. He is happily married; he and his wife Pat have three sons and nine grandchildren.

#### Peter Keim - Jury Member

Aeromodelling achievements:

Seven times Dutch champion in thermal soaring and

Team member in F3B and four times in F5B. Two times team manager F3B.

World record duration electric flight.

FAI jury member on WC F3B 1998, EC F3C 2000 and WC F3C 2003.

Positions in aeromodelling organizations:

Member of the board and chairman of the Sporting Commission of the aeromodelling section of the Royal Netherlands Aeronautical Association. CIAM delegate for the Netherlands.

## Details of the judges for the competiton

#### Manfred Dittmayer

Since 1960 modeller. First helicopter Bell 47 G from Graupner 1975. 1985-2005 chairman of the national subcommittee F3C of the Austrian

Aeroclub and member of the CIAM-subcommittee F3C. F3C-EC-Contestdirector 1992, 1998, 2002

F3C-WC-Contestdirector 1993 and 1997.

F3C Judge EC 2002.

F3C Judge WC 1995, 2001 and 2003.

Oftentimes Temmanager of Austrian national F3C-Team. Very interested in all species of RC- Modelflying in particular sailplanes and Jetmodels.

# Dag Eckhoff

55 years of age, civil architect, 36 years of modelling, 30 years with helicopters.

Member of the f3C subcommittee since 1994. Judge in 3 World Championships and 3 European championships. Member in the jury in one World Championships. Leader of the helicopter group in the National Aero club of Norway.



#### Roger Lacome

Country: FRANCE Fly pilot since 1972 Helicopter Pilot since 1975

Best place in competition; Third place at the championship of France in 1985

Judge F3C since 1986.



#### Frits Van Laar

I'm 58 years old.

Retired as Chief Inspector of police in March 2006 Started with RC Helicopters in 1980 just for fun. Chairman of the RC Helicopter subcommittee aero modelling section of the Royal Dutch Aviation Association since 1994.

Member of the RC Helicopter subcommittee FAI/CIAM for more then 10 years. Started with international judging F3C in 1993.

Judged almost every World and European championships F3C from 1994 till now. Judged the 3D Taiwan Cup 2006 in Taipei first week of April this year. Also invited to judge the 1st Asian/Oceanic championship F3C 2006 in Japan in



#### Stefan Wolf

33 years old, surveying engineer, involved in R/C for 20 years, 17 years in R/C helicopters. Judge for R/C helicopters since 1995 (F3C/F3N). F3C Judge in European championships in 2004 in Germany. F3C Judge in World championships in 2005 in Spain.





# Pilot Information

No.	Name	Country	Model	Transmitter	Fuel
1	Ruediger Feil	GER	Hirobo Eagle 3	Futaba 14	25% CP
2	Bernhard Egger	AUT	Kyosho Calibre 90	Futaba 14	30% CP
3	Wolfgang Worgas	AUT	Kyosho Calibre 90	Futaba 14	30% CP
4	Andreas Kals	AUT	Hirobo Eagle	Futaba 14	30% CP
5	Jerome Flasse	BEL	Hirobo Eagle	Futaba	30% CP
6	Guy Vanderschelden	BEL	Hirobo Eagle	Futaba	30% CP
7	Chris Georgiades	CY	Robbe Futura	Graupner MC24	16% Bekra
8	Alexis Kestas	CY	JR Sylphide	JR PCM10X	30% CP
9	Kaj Nielsen	DNK	Nielsen ACS Scorpion	Futaba 9Z	10% CP
10	Soeren Ostergaard	DNK	Hirobo Freya Eagle 3	Futaba FC28	30% CP
11	Ari Holmstrom	FIN	Hirobo Freya WC	JR PCM10X	20% CP
12	Timo Keranen	FIN	Hirobo Eagle Freya	JR PCM9X	20% CP
13	Anssi Aunola	FIN	Freya Evolution 90	JR PCM10X	20% CP
14	Laurent Lombard	FRA	Kyosho Calibre 90	JR PCM10X	30% LS CP
15	Pascal Brianchon	FRA	Hirobo Eagle	Futaba 14	30% CP
16	Stephane Vuillaume	FRA	Kyosho Calibre 90	JR PCM10X	30% CP
17	Oliver Wessel	GER	Kyosho Calibre 90	Futaba 14	25% CP
18	Sven Roessner	GER	Genesis	Graupner MC24	30% CP
19	Uwe Kiesewetter	GER	DNHP 90	Futaba 9Z	25% CP
20	Mark Christy	GBR	JR Vibe	JR PCM10 X	30% Bekra
21	Dave Fisher	GBR	JR Venture 90	JR PCM10 X	30% LS CP
22	Steve Roberts	GBR	JR Sylphide	JR PCM10 X	20% Bekra
23	Evagelos Paschaloudis	GRE	Robbe Cuatro	Futaba MZ14	30% CP
24	John Koutsoulas	GRE	JR Sylphide	JR PCM10 X	30% CP
25	Dimitris Tetradakos	GRE	Robbe Millenium	JR PCM10 X	30% CP
26	Chen Zarfati	ISR	JR Sylphide 90	JR PCM10 X	30% CP
27	Efraim Kastiel	ISR	JR Sylphide 90	JR PCM10 X	30% CP
28	Aviv Levy	ISR	Hirobo Eagle 3	Futaba 14 MZ	30% CP
29	Stefano Lucchi	ITA	Hirobo Eagle 3	Futaba 14	30% CP
30	Alessandro Del Lungo	ITA	Hirobo Eagle 3	Futaba	30% CP
31	Maurizio Cevolani	ITA	Hirobo Freya EX	Futaba 14	30% CP
32	Cees Verplanke	NDL	JR Sylphide	JR PCM10X	30% CP
33	Michel Jager	NDL	JR Vibe Electric	JR PCM10X	30% CP
34	Rob Eikeboom	NDL	JR Sylphide / Venture	JR PCM10X	20% CP
35	Einar Bergseth	NOR	JR Vibe / Vigor	Futaba 9Z	20% CP
36	Kristian Mattson	NOR	X-Cell Tempest FAI	JR PCM10X	20% CP
37	Tom Roger Winther	NOR	JR Sylphide	Futaba 9Z	20% CP
38	Mikhail Mukhin	RUS	Kyosho Calibre 90	Futaba	30% CP
39	Alexander Emelyanenko	RUS	JR	Futaba	30% CP
40	Jose Cano Nieto	SPA			30% CP
41	Ignacio Somoza Serrana	SPA	Hirobo Eagle 3	Futaba 14	25% CP
42	Ruben Cortes Ferrando	SPA	Hirobo Freyo Evo 90	Futaba 9Z	25% CP
43	Ennio Graber	SUI	Hirobo Eagle Freya	Futaba 14	30% CP
44	Patrick Kessler	SUI	JR Sylphide	Futaba 14	25% CP
45	Hans Emmenegger	SUI	Spirit (Electric)	F40 (?)	30% CP

Former F3C European Championships Winners 1984
Netherlands Individual Results Ewald Heim, Germany. Francis Deproft, Belgium. Christian Demayer, Belgium. Team results Belgium. Germany. Switzerland.
1986 France Individual Results Ewald Heim, Germany Stephano Lucchi, Italy. Daniele Graber, Switzerland. Team results Switzerland. Germany. Italy
1988 Netherlands Individual results Daniele Graber, Switzerland. Joseph Brennsteiner, Austria. Ewald Heim, Germany. Team Results. Switzerland. Germany. Netherland
1992 Austria Individual Results Daniele Graber, Switzerland. Joseph Brennsteiner, Austria. Rudolphe Parisot, France. Team results Germany Switzerland Italy
1994 Poland Individual Results Daniele Graber, Switzerland. Hans-Jörg Rößner, Germany. Joseph Brennsteiner, Austria. Team results Germany Switzerland Denmark
1996 Finland Individual results Hans-Jörg Rößner, Germany. Daniele Graber, Switzerland. Johann Hönle, Germany. Team Results Germany Sweden Denmark

#### 1998 Austria **Individual Results**

Rüdiger Feil, Germany. Mark Christy, Great Britain. Hans-Jörg Rößner, Germany.

Team results.

Germany Switzerland. Great Britain.

#### 2000 **Netherlands** Individual results

Rüdiger Feil, Germany. Mark Christy, Great Britain. Patrick Kessler, Switzerland.

#### Team results

Germany Switzerland Great Britain

#### 2002 Romania **Individual Results**

Rüdiger Feil, Germany. Laurant Lombard, France. Fabio Livi, Italy

#### **Team Results**

Italy Germany France

#### 2004 Germany **Individual Results**

Rüdiger Feil, Germany. Patrick Kessler, Switzerland. Ennio Graber.

#### **Team Results**

Italy Austria France

## The Reigning **F3C European** Champion -Rüdiger Feil

#### World Championships

Fourth place, 1999 Poland Fourth place, 2003 Japan Eighth place, 2005 Spain

#### European Championships

First place in, 1998, 2000, 2002 and 2004.

#### **National** Championships

First Place in 2000, 2001, 2002 and 2004.



# Teams



Johann Egger Manager



Bernhard Egger Pilot



Wolfgang Worgas Andreas Kals





**Austria** 



Giovanni Lo Furno Jerome Flasse Manager





Guy Vanderschelden Pilot







**Chris Georgiades** Manager/Pilot



**Alexis Kestas** Pilot







Benthe Nielsen Manager



Kaj Nielsen Pilot



Soeren Oestergaard Pilot







Ilkka Jauho Manager



Ari Holmstrom Pilot



Timo Keranen Pilot



Anssi Aunola Pilot

# **Finland**





Manager



Stephane Brianchon Laurent Lombard Pascal Brianchon Pilot





Pilot



Stephane Vuillaume Pilot









Rudiger Spohr Manager



Rüdiger Feil 2004 European Champion



Oliver Wessel Pilot



Sven RÖssner Pilot



**Uwe Kiesewetter** Pilot

Germany





**Paul Roberts** Manager



Mark Christy Pilot



**Dave Fisher** Pilot



**Steve Roberts** Pilot





# Teams cont.



Pilot manager



Evagelos Paschaloudis John Koutsoulas Pilot



**Dimitris Tetradakos** Pilot





Chen Zarfati Manager/Pilot



**Efraim Kastiel** Pilot



**Aviv Levy** 







Claudio Dorigoni Manager



Stefano Lucchi Pilot



Alessandro Del Lungo Maurizio Cevolani



Pilot







Wim Doornekamp Cees Verplanke Manager



Pilot



Michel Jager Pilot



**Rob Eikeboom** Pilot

# **Netherlands**







**Einar Bergseth** Manager/ pilot



Kristian Mattson Pilot



**Tom Roger Winther** Pilot







Mikhail Mukhin Pilot



Alexander Emelyanenko







Jose Cano Hernandez Pilot



Ignacio Somoza Heras Pilot



**Ruben Cortes Ferrando** 







Peter Oberli Manager



**Ennio Graber** Pilot



Patrick Kessler Pilot



Hans Emmenegger Pilot

# **Switzerland**



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