



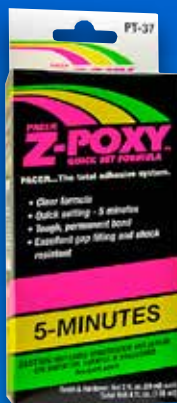
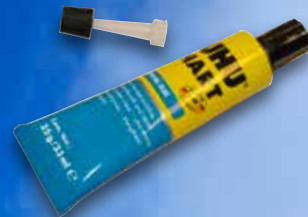
*God Jul och Gott Nytt År!*



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I detta nummer: F2A-historia • Belgien anno dazumal • Orion  
• Busek • Sydafrika • Tips från Igor • Rossi • Västkustträffen  
• Weatherman • Komet • Tips från Frank • Boxer-motor för F2B  
• Quiz • Tips från coachen • Julkort • och mycket mer ...



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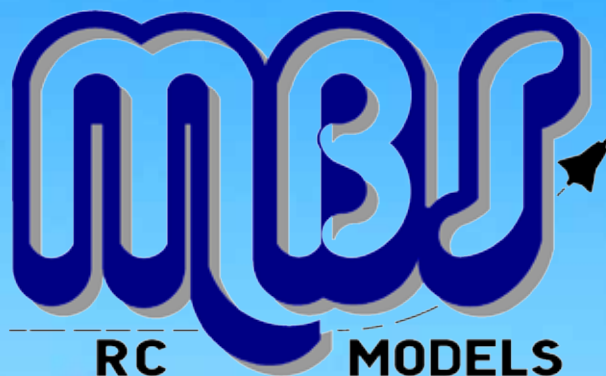


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## Ytterligare ett år till ända...

och ytterligare ett år där pandemin lagt en slöja över tävlande och möten med likasinnade. Visserligen kördes ett antal tävlingar under andra halvan av året men det har ju inte på långa vägar liknat ett "normalt" år. Vi kan bara hoppas på att 2022 blir som vi är vana vid att ett modellflygår ska vara. Glädjande under året har varit den stora aktiviteten i Weatherman där det gjorts ca 250 tävlingsstarter.

Årets andra nummer av Lina bjuder på många motorartiklar och nästa avsnitt om pallplatser vid VM, denna gång om F2A. I övrigt är det en blandning av nostalgi, tips, julkort, quiz och tävlingsreferat. Så dra nu ner persiennerna, lås ytterdörren, stäng av mobiltelefonen och luta Er tillbaka i favoritsoffan och njut av innehållet!

Ingemar Larsson

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**On the cover:** Do we see the reality or is it an illusion? Plato and his Allegory of the Cave is well worth giving a thought. He gave life to the idea that we are looking at the wall of a Cave and that reality is not what we think it is. Plato said: "The invisible world is the most intelligible and that the visible world is the least knowable, and the most obscure". Maybe you have already experienced this several times in your life? Front page photo of Willie Bodenstein is a good illustration of this philosophic theory.

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# Weatherman...

With this article, we hope to spark your interest in discovering and exploring the electric speed category through a fun and recreational approach while remaining technical and engaged.

Much progress is yet to be discovered and with winter coming, we think this is the perfect time to embark on a new recreational challenge for 2022 and thus find us on the "Web – Online" or better, at the center of the circle in 2022. So, get back to your workshops!

There is a plethora of speed categories with IC motors, on the other hand in the electric group we only have the F2G, the queen category which remains as demanding as possible, so for fun and beautiful evenings what can we offer? Why not the Weatherman?

The Weatherman is first and foremost a great British idea, a popular speed category that has been around for several years. Its take off then widened with the Scandinavian initiative which is well publicized with a forum ([www.slis.org/forum](http://www.slis.org/forum)) and regular publications in LINA, etc... The concept is now also generating interest in Italy, Spain, France, Holland, Germany and Switzerland.

Following the COVID pandemic and largely for the sake of sharing through "postal" contests, we are in line to participate in the regulatory framework for IC motors. So, we opened our drawers and brought out Super-Tigre, Rossi, Cox ... However, incorrigible as we are, and on the strength of nearly ten years of development of the FAI F2G speed, the idea also germinated to try the unprece-



*Both engine, electronics and cables are accessible from above.*



*Planning to get a safe construction!*



*Engine mount.*



*Two different constructions: Class E-3 with battery integration from above and removable covers.*



*And here Class E-4 with battery integration from below.*

# What if we go Electric?

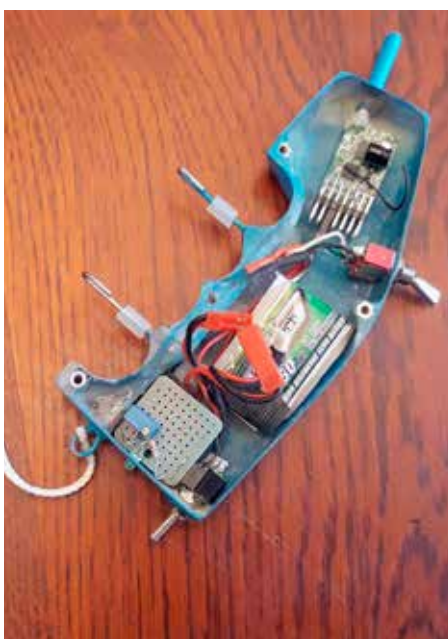


*Example 1: Radio integrated in the handle. A simple and easy to build electronic circuit which controls the 2.4 GHz transmitter in On/Off mode, with the switch mounted on the handle, 100% controllable by the pilot.*

dented electrical adventure of the Weatherman, Class E-n... obviously.

September 2020: our idea, then embryonic, is supported by a request from a few Swiss officials, during the 2020 Swiss Championship of Electrospeed F2G, a competition survivor in extremis of the pandemic. They asked us what "soft" approach to the F2G speed category could be offered, in particular geared towards less experienced pilots who wish to progress as well as towards a young audience.

The specifications could therefore be broken down into the following terms: moderate cost, simple implementation, ordinary components, standard plan, if possible, no take-off trolley, no pylon, rustic runway, reduced noise, kit available, classic wooden construction, user-friendly and above all a lot of fun... The Weatherman immediately met the specifications. The possibility of actively participating in "Postal" contests in "Gentleman"



mode also offered a very motivating opening with a contest almost every month ... Tilt! We were in 2020; Let's go ! See you in 2021... And here we are... with our W-E3 and 4 galloping planes, between 140 and 150 km/h... Cool !!!!

We also started with the logic of the existing, in light of the ex-F2G motorization available in our drawers. To stay in the spirit, we used the Scandinavian reference rule which itself is largely taken from the British SAM 35 (GBR Vintage National Federation). Only the motorization part changes for electric motors. The models underwent only minor changes from the reference planes - the LiPo batteries had to be housed in a timber frame. Very quickly the weight estimate indicated in which Weatherman class (-es) we would be able to "register" in the beginning.

By a light construction, using thermal adhesive as cover material and with a powerful but light motor, the 480 g of class 3 were



*E-4 ready for test flight!*



*E-3 ready for test flight!*



*Test flight went ok without problems. Using a carpet when flying on grass is a very good approach.*

possible (478 g) to achieve. By building more robustly, with laminated cover (fiberglass 20 g) and with a more muscular motor, it is then immediately class 4 and its 590 g (560 g) which is needed.

For safety reasons, a principle to which we are particularly attached, the battery has been integrated into its housing. For the remote control of the motor (start and stop), we use compact 2.4 GHz radios (photos attached) in "all or nothing" (On/Off - we take off at full throttle, it is in accordance with the logic of the Weatherman protospeed). This device is derived from our F2G systems (reminder: On/Off compulsory), but it is very convenient to replace it with a conventional 2.4 GHz radio handled by an assistant or the pilot himself (without a pylon both hands are available!). The use of a Timer may be considered, but we have not explored it yet.



*Example 2: A remote radio on the arm with On/Off motor control on the handle and motorization for E-4 with LEO 3025.*



The objective for next year is to be efficient while remaining simple, using the abundant

# Then we have an E-Weatherman!

## Specifications

### Class E-4:

Maximum motor weight: 135 g (manufacturer data)

Recommended ESC 50A to 75A

Maximum battery: 4S LiPo

Speed reached 137 km/h or 21.04 sec for 8 laps, potential for improvement: good.

Motor tested: Leo L3025 2300 KV

### Class E-3:

Maximum motor weight: 105 g (manufacturer data)

Recommended ESC between 40A to 60A

Maximum battery: 4S LiPo

Speed reached 150 km/h or 19.3 sec for 9 laps, potential for improvement: good.

Motor tested: Scorpion HK 2520 1880 KV

Note : Weight is critical, you have to build lightly

**Class E-o** ( we are targeting a Cox 0.049 class that we will be "tested" this winter 2021-22 at the same time as the Go):

Maximum Motor weight: 31 g (manufacturer data)

Maximum battery: 3S LiPo

Expected speed around 100 km/h or 15 sec for 6 laps, potential for improvement unknown.

The capacities of the batteries tested vary between 350 and 450 mAh for the 0E to 650 and 1000 mAh for the 3E and 4E.

motors and batteries available on the market, while remaining reasonable so as to be in the same speed range as the existing IC categories.

It should be noted that a Weatherman E-4 is a simple starting model to use in electric speed F2G competitions over a 17.69 m radius with free batteries according to F2G regulations.

"Double-Dan"



Double-Daniel alias Rota & Janan.

## Christmas Greetings from Frederic Monnier

Frederic sent us pictures of his ongoing model.

It is not a full scale model of PT17 but not so far from! Wing span of 1,4 m for 2 kg expected weight when finished. Maybe it will be used for F2B. For sure the engine is not a Real 5 cylinders engine but is made from silicone molds to copy cylinder of a Saito 62 and the result is interesting: Not a copy of the real PT17 engine (which was a 7 cylinders) but realistic enough.

– Frederic Monnier FRA



## TIPS från Coachen



Börja med att forma en balsakloss i den storlek som tanken ska ha. I det här fallet ska den sitta bakom motorn och få plats under kåpan.



Rita ut bitarna på glasfiberlaminatet. Använd balsabiten som mall.



Klipp eller skär ut dem och rugga ytan med sandpapper.



Limma dit sida efter sida med snabbepoxi. Använd stöd och gladpack. Efter varje limning måste man slipa kanten jämn så att nästa bit passar.



Limma ihop allt men lämna locket. Fixa till de två rören och gör hål där de ska sitta. Observera flerpen på matningsröret! Den ger större limyta.



Limma dit rören.

## Glasfibertank

Ibland kan det vara svårt att löda ihop en mässingtank som ska passa under en kåpa eller ha en udda form. Har man en dieselmotor kan det vara en ide att göra tanken av glasfiber. Jag använder 0,4 mm glasfiberlaminat plus glasfiberväv för att få en bra tank. Den på bilden är för en Webra och väger färdig 4,55 gram. Hade jag använt alu-rör hade jag säkert fått ner vikten 0,05 gram till...

Ingemar Larsson



Limma på locket. Slipa bort alla utstickande kanter. Testa att den är tät.



Sedan klär man in hela tanken med utspädd 24-timmarsepxi och tunn glasfiberväv (annars kommer inte skarvarna att hålla).



Som slutbehandling ger man den ett lager med 2-komponents klarlack. På undersidan limmar man fast fästet av 1 mm kolfiber.



Färdig! Kolla återigen att den är tät samt skölj ur den.

## TIPS från Coachen



## Löda landningsställ

Hör Ni till dem som tycker det är svårt att löda fast en bricka i korrekt vinkel på landningsstället? Här är ett förslag till lösning!

När man bygger Weatherman-modeller blir det alltid stumpar av rödbok över. Ta en sådan och borra ett centrumhål med samma diameter som den pianotråd som ska lödas. Använd pelarborrmaskin så att det blir rakt. Rödbok har fördelen att det tål värme bra och dessutom inte avleder värmen.

Både landningsstället och den bricka man vill löda dit rengörs med t ex acetone och sedan ruggas ytorna med ett grovt sandpapper. Spänn fast rödboksbiten i ett skruvstycke. Sätt i det bockade landningsstället i rödboksbiten (med brickan på plats). Ta på lödpasta eller lödvatten. Löd och se till att det flyter ut över hela brickan. När det svalnat tvättar man bort lödresten. Klart!

Ingemar Larsson

# Belgium "anno dazumal", part 2

by looking in the Dessaucy Family photo album

## 13<sup>th</sup> Critérium des As, Bierset Liege 1965

This was the first Critérium to be held at Bierset, a combined civil/military airfield outside Liege. Among other things remembered is Drazek's outstanding performance with his Orion Teamracer (go to page 22-23 for more info). Also Herb Stockton's way of handling his fell over in the TR Final without crashing the model and then continue to win it.



Italian F2B Team of Compostella, Sbragia and Arbuffi.



Fontana/Amodio ITA with their Picus Horridus (Woodpecker) TR model that had retractable undercarriage. That, together with the electrically remote control compression adjust of Swede Måns Hagberg, was considered the Tech Highlights of the F2C event.



Jean-Bernard Morelle FRA was flying Combat.

In part 2 we will now cover the rest of the Critériums/Champs in Belgium by continue to look in the Dessaucy Family photo album. Two Critériums in Liege (1965 and 1967), one Critérium (1969) and one Euro Champ (1981) in Genk, a World Champ in Namur (1970) and then two Euro Champs (1975 and 1977) in Verviers. After 1981 no Champs or Critériums have been held in Belgium, only the A-B-C World Cup in Pepinster and the B contests in Genk.

I would like to end this article by giving a big thanks to Luc Dessaucy for letting us look in the old albums and all the job he did by scanning the photos and providing data.

## 14<sup>th</sup> Critérium des As, Bierset Liege 1967

This was the second and last Critérium to be held at Bierset. The organisation got very good credit for the way they ran the event and that A and C circles were surrounded with safety fences.

Mars speed engine of Franco Marcenaro, ITA.



Juhani Kari FIN with his Thunderbird.

G Masznik HUN with his wing/fuselage take-apart model.



Hungarian Stunt Team of T Veliai, G Egervary and G Masznik.

# Belgium "anno dazumal", part 2

by looking in the Dessaucy Family photo album

## 15<sup>th</sup> Critérium des As, Genk 1969

Back to Genk again and all reports says that this event will be remembered for the wettest weather ever at an International contest! The only ones that felt like being at home were the British flyers... or as Aeromodeller reports: "Every tent was filled with cold, wet aeromodellers - pasty faces peering from every opening watching their unfortunate compatriots in the rain...". But the organisation was at top level and there were enough circles for both training and competition.



F2B models  
from USSR.



## 17<sup>th</sup> Critérium/Euro Champs, Verviers 1975



Kraznorutsky USSR  
pitting F2C.

This was the first time FAI granted the status of Euro Champs to an event and also first time in Verviers. Only two tarmac circles, one for F2B and one shared between F2A and F2C. F2D was run at a nearby grass field.



Ricci ITA flying Speed.



Richard Evans  
GBR won F2D.

## 16<sup>th</sup> Critérium/World Champs, Namur 1970

First and only time in Namur. The city paid for and built all circles just before the Champ and all but one tarmac was removed the day after the finals. The area used was at the Citadele situated high over the city with a beautiful view over the river Meuse and the valley. As there were no circles for training those that needed training had to do a 2 hour travel to Genk.



Jean Dessaucy  
BEL doing his first  
F2C World Champ.



Babichev USSR was flying with  
Kraznorutsky.



F2C model of Shapavalov/Onufrienko USSR.

# Belgium "anno dazumal", part 2

## by looking in the Dessaucy Family photo album

### 18<sup>th</sup> Critérium/Euro Champs, Verviers 1977

Second time in Verviers and same lack of training facilities. As weather condition changed from the official practise day until contest days most pilots needed to adjust settings and this caused problems. One thing that helped was the low number of competitors, almost half compared to the World Champs the year before and also lower than first time in Verviers.



*Model check of German pilot Emil Rumpel's F2A model.*



*Pertti Salerma FIN and Werner Grothe BRD flying F2D.*



*Jimmy Marsch BEL and Göran Rylin SWE flying F2C.*



*F2B pilot Elias Mayer FIN.*

By 1981 the old circles were moved and they now had 7 tarmac circles and 3 grass circles, ie still best in Europe. Parramon of Spain won speed and said it was the design of his pipe that did it (Most of the pipe was hidden inside the model!). High revs (around 34.000) and one blade carbon prop plus centrifugal switch. In F2B it was a discussion if Claus Maikis new Indigo looked better than the Czech model of Cani ...

### 19<sup>th</sup> Critérium/Euro Champs, Genk 1981



*Per Stjärnesund SWE release an F2D model for his team mate Håkan Östman.*



*Well-known club house of the site in Genk!*



# NORGESMESTERSKAP 2021

## F2B och Weatherman

Årets NM i Linekontroll F2B (Stunt) og Weatherman (Old time speed) ble avholdt på fotballbanen til Hvam VgS Lørdag 21 August. Været var som vanlig perfekt. Sol og 25 grader. Lite eller ingen vind.

Det var 6 deltagere i hver klasse, og det ble fløyet 4 runder hvorav de 2 beste ble tellende. En god del tilskuere var tilstede i godværet. Harry Kolberg var tilbake i sirkelen etter et par års opphold. Han var so vanlig godt forberedt og fikk en 2. og en 3. plass i henholdsvis F2B og Weatherman.

Stevnet forløp uten større uhell, bortsett fra at Norvald fikk modellen fanget i sin egen vortex i 3. runde i utvendige looper, da det var blikk stille.. Resultatet ble en touch-down i gresset med en oppskrubbet nese og canopy som resultat. Ingen skader forøvrig.

Årets dommere var Morten Sitje og Marthe Meltzer.

■  
Norvald Olsvold



Shark med Per vid handtaget.



Harrys Blåmann, elmodell med en Axi 2826/12, Jeti Spin 66-regulator och en Brodak Timer.



Clamers Escapade.



F2B: Harry, Clamer och Per.

### F2B Stunt

Placering, Namn	Poäng
1. Clamer Meltzer	3863,0 p
2. Harry Kolberg	3816,0 p
3. Per Vassbotn	3548,0 p
4. Ingolf Steffensen	3110,0 p
5. Norvald Olsvold	2939,5 p
6. Roy Heitmann	2923,5 p

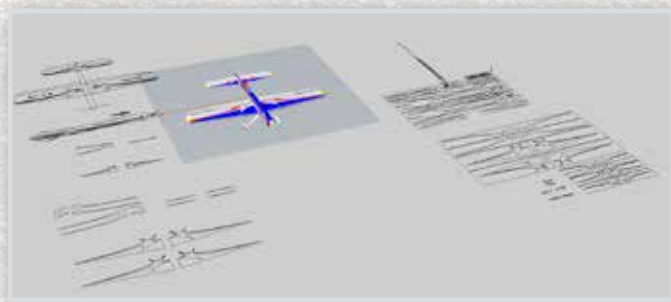
### Weatherman Vintage Speed

Placering, Namn	Klass	Tid	Procent
1. Roy Heitmann	2D	27,6	87,1 %
2. Per Vassbotn	2D	28,7	83,6 %
3. Harry Kolberg	3D	26,1	79,8 %
4. Clamer Meltzer	3D	27,6	75,4 %
5. Jan Wold	3D	27,9	74,6 %
6. Ingolf Steffensen	3D	35,4	58,8 %



# Colors from the Plotter

As a lazy man, I tried to develop a useful way how to make decals for my model in a better and easier way. I started with masking foil for spraying. That was the case with my first MaxBee model and it worked well. Unfortunately, I do not have a workshop where I can easily spray colors and since I use composite wings on my last models with a nice white glossy finish directly from mold and that is hard to spray without sanding, I decided to try stickers from the plotter. Note that I use them on the electric model, not with an IC engine.



The first task was designing. I have a full 3d model of MaxBee, so putting color skin was easy. What wasn't that easy was unwinding 3d surfaces to a flat area.

Therefore I printed parts that will need some stretching on a paper printer, and I tried how much they will need to be "managed" to fit the 3d curved surfaces, especially the fuselage on the front part. I was afraid of results, so I decided to make 2 variants, one had a nose in one piece and the other had separate nose "sides" and top "cover". Later I found that foil can stick and cover another layer nicely, so now I use the version with sides and overlapping thin part. The dark blue color makes it invisible.

The second task was finding proper foil. I spoke with people in nearby Advert studio, making plotter foil stickers and also car covers, to find the best foil for my purpose. It was not a big surprise to find out that the limit will be in price. There are vinyl foils thicker and thinner, lasting longer or shorter. After all, I found 2 useful ones; Avery 700 which is a cheaper version of thickness 65 um and Avery 800 with a thickness of 55 um. Both are usefully stretchable and version 800 should last longer. The lifetime is calculated for outside conditions in years, so it does not make any difference for us, because models usually hang inside on walls. I haven't found any aging signs on my oldest model yet. The difference in thickness is 20%, but since the weight of all parts is approximately 50 g I am not sure if the price difference is worth that 10 g. The lighter version was twice the price compared to the other.

Advert studio needed a certain file format for cutting and it was necessary to clarify with them. In my case I used DXF but they had some problems with my export and they forced me to use Corel draw files which did not work on my side, but later we found out how to make a proper format that suited us both.



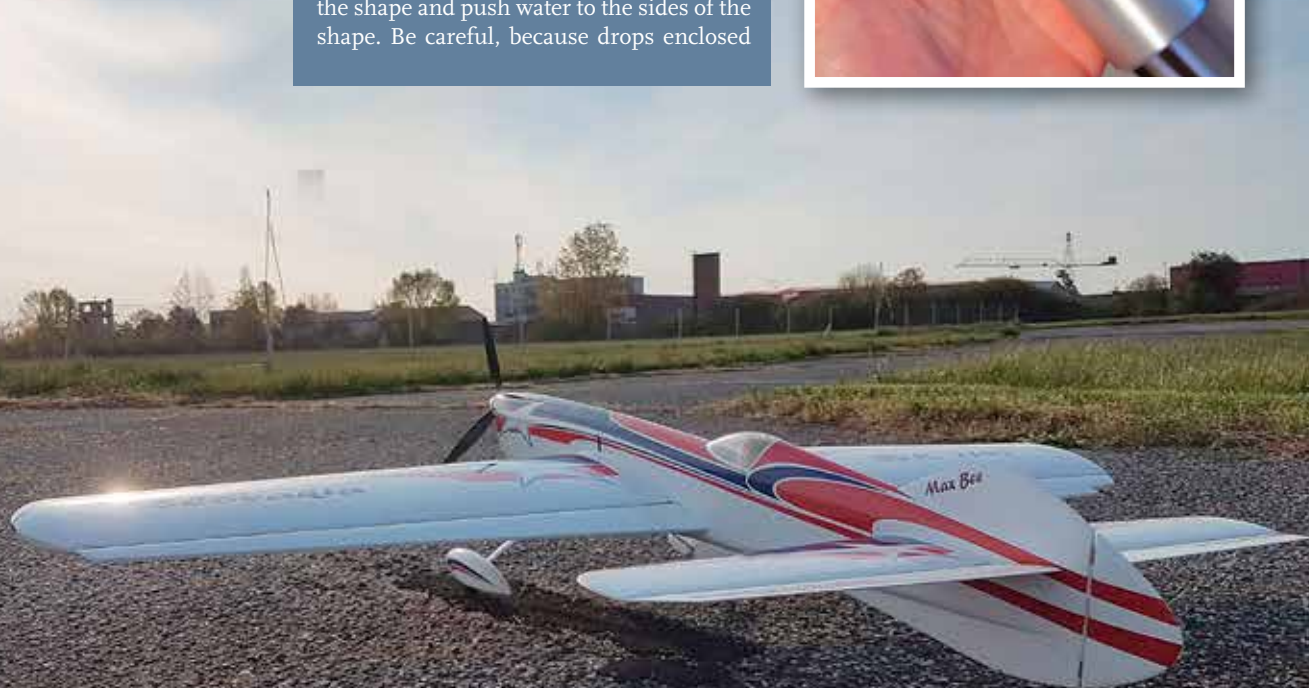
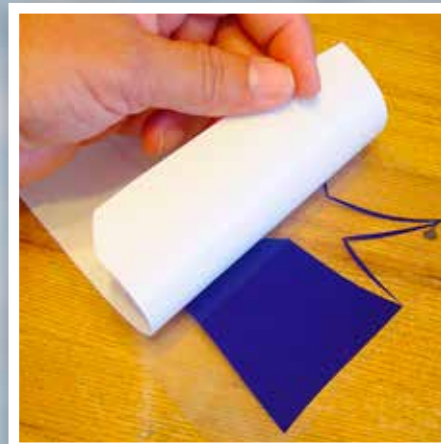


The proper way of application is the usage of transfer foil. It is necessary only for parts that are more complex or large. Simple and small shapes can be peeled off the paper and put into place directly. The transfer foil has limited adhesion, which is high enough to separate sticker shape from the paper background but not enough to separate it from the destination surface.

My shapes on the elevator and wing needed transferring with transfer foil because of their complex shapes and especially thin lines. Pictures show how to make it – cut the sticker background paper around shapes, put them on the transfer foil, cut such sticker closely around shape sides and peel off the transfer foil from paper. The shape will stick on to the transfer foil with adhesive side out, so it will be ready to use.

Now comes the trick. The adhesive on the sticker is very strong and any contact with the surface of the model will attach it permanently, so it is nearly impossible to put larger shapes to the surface in the proper place without bubbles etc. The trick is that a little amount of cleaning agent for dishes (soap, detergent) will make a sliding surface which will make the application easy. I use a small spray bottle with such agent in a very low concentration, approximately 1 drop of soap for 2 dl water. The concentration should be as small as possible, but still, it must allow sliding of stickers on the surface. Too low concentration will make it “sticky” and too high concentration will make it hard to attach – the transfer foil will stick better than a sticker on the surface. It needs some practice and experience.

When in place, water with soap must be removed from the model surface under the sticker to attach the sticker to the model. The best way is to use a plastic card. Simply put the card somewhere in the middle of the shape and push water to the sides of the shape. Be careful, because drops enclosed



*continue: Colors from the Plotter*

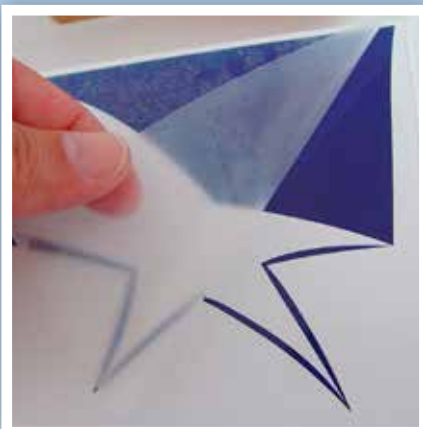
by foil sticking around is hard to remove. That is reason why you start from the middle and work outwards. Be prepared that some drops or air bubbles will damage your foil on the first attempts. It is good to learn it on some scrap surface and use left-over pieces of foil.

The adhesive need some time to activate because the water surface must disappear. So I usually allow time for "drying". The more detergent you use and the larger area you cover, the longer it needs to rest. Sometimes it needs a few minutes, sometimes an hour. A dry paper towel will help to remove water quicker. Transparent transfer foil will also show air getting under its surface.

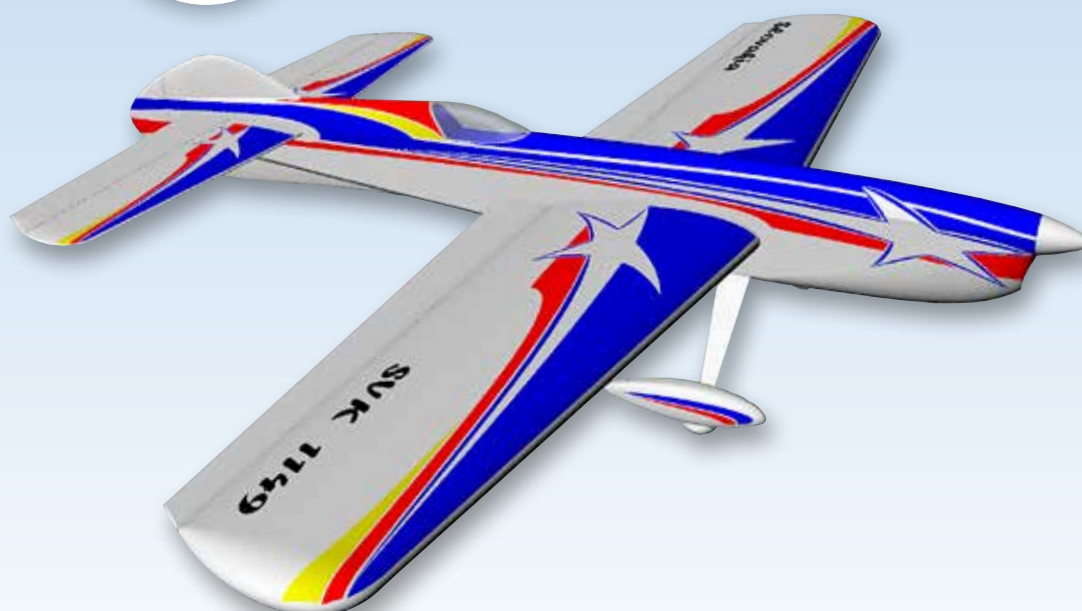
When all is done, transfer foil is easy to remove and the sticker will seat in place.

In the same way, I also apply all other colors of the color scheme. There is a way to put all colors on one transfer foil, but I found it easier to apply them one after the other. It takes more time while "drying" but a good result is then easier to achieve.

Simple shapes can be transferred without transfer foil. That is how I cover complex 3d curvature of the fuselage. Transfer foil does not allow stretching, so the fuselage is easier to do directly. In that case, I use a paper towel to remove water and I "pull" it a little so that the vinyl foil will stretch/shrink to copy the 3d surface. The trick is to allow it to stick on one side of the shape so it allows pulling it on another side. When working with paper or textile towels you need to be careful. Any non-liquid object under the foil, on its adhesive or on the surface of the model will be visible, including all towel fibers. Even small dust particles will make visible bumps and it is impossible to remove them.



■  
Igor Burger



# Finska Mästerskapet F2B

Depån vid FM1.



## FM1 på Nummela flygfält 19 juni

Vädret var fint och varmt med svag vind och på hemvägen visade bilens termometer 32,5 °C. Tredje starten blev ödesdiger för Erkki Elimäki, han flyger EL och motorn stannade i överliggande åttan – Totalkrasch!

Plac.	Namn	Klubb	Omg 1	Omg 2	Omg 3	Resultat
1.	Tuomas Juutinen	KLK	1132.50	1090.00	1024.50	2222.50
2.	Mikko Suokas	VLK	1025.50	1009.50	976.50	2035.00
3.	Elias Mayer	LaLK	1021.00	1006.00	1013.00	2034.00
4.	Jussi Frisk	LePo	950.50	909.00	973.50	1924.00
5.	Alf Lindholm	EMFK	917.00	869.50	818.00	1786.50
6.	Erkki Ylimäki	VLH	838.50	825.50	0.00	1664.00

Domare Veikko Fagerström och Kerkko Kehrävu. Resultaträknare Heikki Kangasniemi

## FM2 flögs på Kurkimäki idrottsplan i Kuopio 18 juli

I strålände sol och högsommarvärme! Mikko Suokas råkade ut för bränslestörning i tredje flygningen och avbröt. Alf Lindholm tappade en skruv i handtaget så justeringen blev fel och fick därför avbryta tredje flygningen.

Plac.	Namn	Klubb	Omg 1	Omg 2	Omg 3	Resultat
1.	Tuomas Juutinen	KLK	1129.15	1132.30	1154.75	2287.05
2.	Kai Karma	SIL	1080.20	1087.70	1072.55	2167.90
3.	Mikko Suokas	VLK	1004.85	985.85	17.10	1990.70
4.	Alf Lindholm	EMFK	965.40	943.15	244.20	1908.55
5.	Erkki Ylimäki	VLH	913.70	811.65	724.30	1725.35

Domare Lasse Aaltio och Matti Husso. Resultaträknare Aleks Tammi

## FM3 gick i Nummela 15 augusti

Endast 4 deltagare och Tuomas som redan var klar mästare hade förhinder liksom Affe. Kai Karma avbröt tredje omgången då blästen var besvärlig och han inte ville riskera sin modell.

Plac.	Namn	Klubb	Omg 1	Omg 2	Omg 3	Resultat
1.	Kai Karma	SIL	1053.00	1046.00	300.50	2099.00
2.	Elias Mayer	LaLK	1027.50	1034.50	1046.50	2081.00
3.	Mikko Suokas	VLK	982.50	997.50	993.50	1991.00
4.	Erkki Ylimäki	VLH	882.50	827.00	848.00	1730.50

Domare Lasse Aaltio och Veikko Fagerström

## Kuopion Syyskisa (Ruska Classic)

flögs lördagen den 25 september i ganska ruskigt höstväder, duggregn och medelmåttlig vind och ganska svalt. Antalet deltagare var två i F2B och tre i X-stunt. Classic flögs inte alls.

### F2B

Plac.	Namn	Omg 1	Omg 2	Omg 3	Resultat
1.	Mikko Husso	1038	1068	1036	2106
2.	Mikko Suokas	1004	991	1007	2011

### X-Stunt

1.	Alexis Tammi	59
2.	Raimo Sällinen	56
3.	Topias Tammi	56

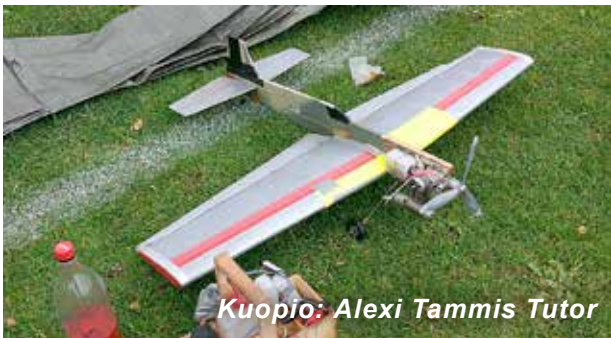
## FM 2021, slutställning

1.	Tuomas Juutinen	KLK
2.	Kai Karma	SIL
3.	Elias Mayer	LaLK
4.	Mikko Suokas	VLK
5.	Alf Lindholm	EMFK
6.	Erkki Ylimäki	VLH
7.	Jussi Frisk	LePo

Kuopio: Mikko Suokas Sampo



Kuopio: Alexi Tammi's Tutor



Kuopio: Mikko Hussos Nakke



# Nostalgia -

## FAI F2A World Champs podiums



### The early years ...

In 1951 the first World Championship in Speed was flown on the town square of Knokke in Belgium (see Lina 2-2020). Only five countries took part but it was a start. The first two Championships were flown in three classes but after the CIAM meeting in 1953 it was decided to fly one class only. So for 1953 it was 10 cc and for 1954 5 cc and thereafter 2,5 cc only.

Reading about these contests you find that the rules had yet a long way to go. This also goes for the Judges/Jury that, at many Champs, got a lot of criticism for being incompetent, biased or ignorant. Most organisers, especially the ones in Belgium, received positive criticism while others, like Paris in 1955, had a flying circle covered in dust and sand that was more suitable for horse racing (according to the competitors)....

In 1957 new rules came as CIAM decided for a wing area of 2 dm<sup>2</sup> per cm<sup>3</sup>. The last half of the decade had a steady entrance of around 30 pilots from around ten countries, mostly European.

Pilots from USA taking part were servicemen stationed in Europe and North Africa.

#### 1951 Knokke Belgium

##### 2,5 cc Speed (km/h)

1 Alan Hewitt	GBR	151
2 Peter Wright	GBR	142
3 John Claydon	GBR	141

##### 5 cc Speed (km/h)

1 Peter Wright	GBR	201
2 Evert Kreulen	NED	186
3 Robert Cordier	BEL	182

##### 10 cc Speed (km/h)

1 Robert Labarde	FRA	204
2 Gerard Laniot	FRA	194
3 Bernard Dezobry	FRA	190

#### 1952 Brussels Belgium

##### 2,5 cc Speed (km/h)

1 Peter Wright	GBR	158
2 Albert Sorensen	DEN	155
3 Robert Labarde	FRA	138

##### 5 cc Speed (km/h)

1 Dr Auguste Millet	FRA	198
2 Peter Wright	GBR	193
3 Robert Labarde	FRA	191

##### 10 cc Speed (km/h)

1 Guido Battistella	ITA	233
2 Ron Davenport	GBR	225
3 Dr Auguste Millet	FRA	216

#### 1953 Milan Italy

##### 10 cc Speed (km/h)

1 Guido Battistella	ITA	250
2 Ron Davenport	GBR	244
3 Enrico Fanoli	ITA	233

#### 1954 Hague Netherlands

##### 5 cc Speed (km/h)

1 Bob Lutker	USA	222
2 Olle Ericsson	SWE	222
3 Robert Labarde	FRA	214

#### 1955 Paris France

##### 2,5 cc Speed (km/h)

1 Joseph Sladky	CSR	179
2 Amato Prati	ITA	176
3 Franco Monti	ITA	175

#### 1956 Florence Italy

##### 2,5 cc Speed (km/h)

1 Ray Gibbs	GBR	211
2 Miklos Vitkovics	HUN	205
3 Giovanni Cellini	ITA	200

#### 1957 Mlada Boleslav Czechoslovakia

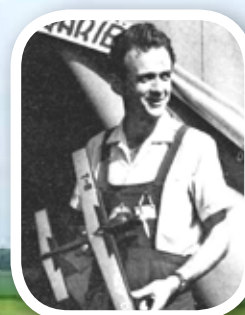
##### 2,5 cc Speed (km/h)

1 Joseph Sladky	CSR	216
2 Miroslav Zatocil	CSR	214
3 Frantisek Pastyrik	CSR	208

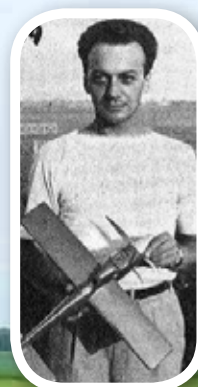
#### 1958 Brussels Belgium

##### 2,5 cc Speed (km/h)

1 Imre Toth	HUN	216
2 Rezso Bech	HUN	214
3 Jaroslav Koci	CSR	209



**Imre Toth HUN**  
won in 1958.



**Enrico Fanoli ITA**  
came 3<sup>rd</sup> in 1953.

Swede Olle Ericsson took part in several Champs in the 50's. In 1954 he and Bob Lutker USA had the same speed but the American won due to a better second time. At a Swedish Speed contest in 2017 Olle, then age 82, came and brought the McCoy 60 equipped model (still flyable) he used at the Champs in 1953 (5th place). On the old photo you can see Olle (right) holding the very same model. To the left is Olle's team mate P-A Eliasson. At the Champs in 1955 Olle was the fastest pilot using a diesel, a Webra Mach I (8 pilots used this engine) which gave him a 7th place among the 33 pilots.

**Ugo Rossi ITA****Brian Jackson GBR****Gyula Krizsma HUN****Team USA 1968; Arnold Nelson, Roger Theobald, Bill Wisniewski and Pete Brandt (Team manager).**

From 1960 it was a combined Championship with all three classes (A-B-C) present. This year the Speed contest will be remembered for two things. One is the super fuel used by Bill Wisniewski. It was a mix of Methanol (15%), Nitromethane (55%), Castor oil, Steen "C" Polyoxide, Nitrobenzene and just before start tetra nitromethane was added. Bill called it "California Moonshine" and it could be used for 30 minutes before the effect was gone. After each flight the piston had to be replaced as the top of it collapsed.

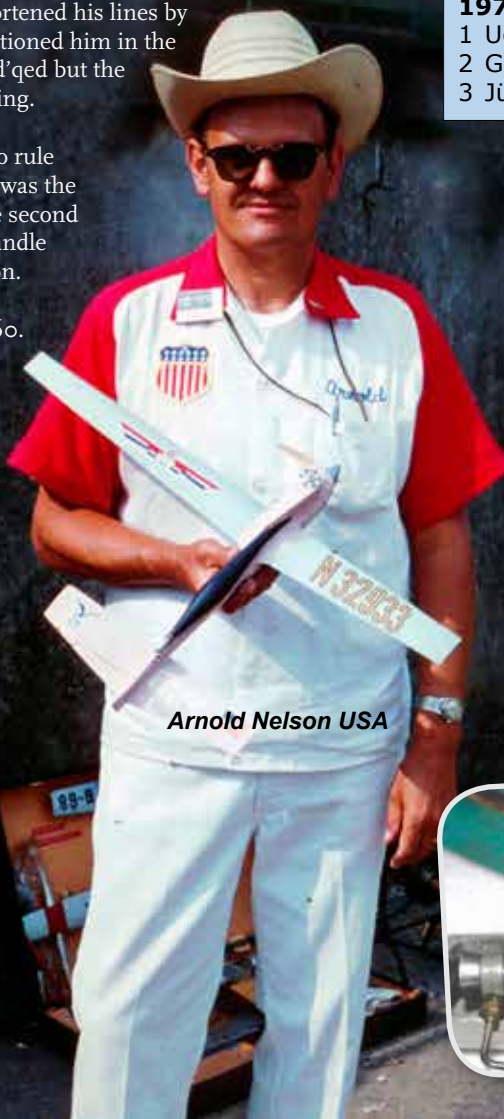
In round 3, with Bill W in a clear lead, the second thing occurred.... Ugo Rossi did a super whipping and also shortened his lines by having them around his shoulder which positioned him in the lead. The ones watching expected him to be d'qed but the Jury apparently looked away when he was flying.

When it came to the 1962 Championship two rule changes had been made by CIAM/FAI. First was the use of standard fuel (80/20 or 75/25) and the second was a change of the pylon and the use of a handle with a crossbar that should be put in the pylon. There were also new rules for those using monoline. All because what happened in 1960.

In 1964 new inventions were seen as the Americans came with side exhaust Schnuerle ported engines. Also the Czechoslovak pilots used Schnuerle ported engines.

1966 came with new inventions again as the Americans used resonance pipes. Chuck Schuette had an assymetric model with a Dural aluminium inner wing and a stabilizer on the outside only. In addition the engine was laying down (Sidewinder). The line diameter for monoline was increased to 0.40 mm.

By 1968 FAI/CIAM had taken a decision to ban monoline and only allow two line system (0.30 mm) together with a crossbar handle. In 1970 Rossi had their new engine ready and this Champ it was used by 5 pilots. As it proved to be a powerful engine the 1972 Champs had 24 pilots out of 34 using a Rossi. And that started a long era of success for Rossi!

**Arnold Nelson USA**

# 1960-1972

## 1960 Budapest Hungary

- |                   |      |     |        |
|-------------------|------|-----|--------|
| 1 Ugo Rossi       | ITA  | 236 | ST G20 |
| 2 Bill Wisniewski | USA  | 230 |        |
| 3 Zbynek Pech     | CSSR | 227 |        |

## 1962 Kiev USSR

- |                   |     |     |      |
|-------------------|-----|-----|------|
| 1 Gyula Krizsma   | HUN | 218 | Moki |
| 2 Giancarlo Ricci | ITA | 214 |      |
| 3 Imre Toth       | HUN | 211 |      |

## 1964 Budapest Hungary

- |                   |     |     |            |
|-------------------|-----|-----|------------|
| 1 Bill Wisniewski | USA | 227 | K&B "Wart" |
| 2 Gyula Krizsma   | HUN | 225 |            |
| 3 Glenn Lee       | USA | 223 |            |

## 1966 Swinderby Great Britain

- |                   |     |     |     |
|-------------------|-----|-----|-----|
| 1 Bill Wisniewski | USA | 258 | TWA |
| 2 Roger Theobald  | USA | 241 |     |
| 3 Chuck Schuette  | USA | 226 |     |

## 1968 Helsinki Finland

- |                   |     |     |     |
|-------------------|-----|-----|-----|
| 1 Arnold Nelson   | USA | 256 | TWA |
| 2 Bill Wisniewski | USA | 250 |     |
| 3 Roger Theobald  | USA | 243 |     |

## 1970 Namur Belgium

- |                   |     |     |     |
|-------------------|-----|-----|-----|
| 1 Arnold Nelson   | USA | 240 | TWA |
| 2 Jim Nightingale | USA | 238 |     |
| 3 Brian Jackson   | GBR | 229 |     |

## 1972 Helsinki Finland

- |                   |     |     |       |
|-------------------|-----|-----|-------|
| 1 Ugo Dusi        | ITA | 252 | Rossi |
| 2 Giancarlo Ricci | ITA | 251 |       |
| 3 Jürgen Lenzen   | BRD | 247 |       |

**Roger Theobald USA****Glenn Lee USA and his side exhaust schnuerle K&B Wart engine.**

# 1974-1984

The invention seen at the 1974 Champs was the use of groupers to keep the two lines together. It was estimated it gave a 20 km/h increase in speed but reading articles everyone seemed to dislike them and wanted them banned. But everyone had to use them to be competitive .....

The rule change this year was an increase of the line diameter from 0,3 mm to 0,4 mm, both for safety reasons and to slow models down. Most pilots now used asymmetric designs with metal wings and the engine mounted in a sidewinder fashion. Wooden props were now replaced by glass fiber props. Many pilots having a shut-off mounted in their model. The Rossi engine dominated and some of them had an ABC liner/piston assembly.

As expected, groupers were banned when it came to the Champ in 1976. But carbon-fiber props had become more and more popular as it gave higher speed. The dominance of Rossi's was total as 43 out of 47 pilots used it.

In Poland 1980 you could see AAC liner/piston assembly by some pilots. And almost everyone used single blade props. Not so many inventions showed in Sweden 1982 apart from Ingo Schmidt's (West Germany) integral AAC liner/piston assembly he made for his Rossi. From 1984 suction feed system were used by most flyer's instead of centrifugal switch system or pressure.

**Jürgen Lenzen**  
BRD



**Pietro Fontana** ITA



**Giancarlo Ricci** ITA



**Sandor Szegedi** HUN



**Ugo Dusi** ITA



**Emil Rumpel** BRD



**Patrick Constant** FRA



**Team Hungary swept the podium in both 1982 and 1984. From left Sandor Szegedi, Jozsef Mult and Jozsef Molnar.**

## 1974 Hradec Kralove Czechoslovakia

- |   |                 |     |     |       |
|---|-----------------|-----|-----|-------|
| 1 | Giancarlo Ricci | ITA | 279 | Rossi |
| 2 | Ugo Dusi        | ITA | 279 |       |
| 3 | Chuck Schuette  | USA | 266 |       |

## 1976 Utrecht Netherlands

- |   |                 |     |     |       |
|---|-----------------|-----|-----|-------|
| 1 | Emil Rumpel     | BRD | 252 | Rossi |
| 2 | Chuck Schuette  | USA | 247 |       |
| 3 | Giancarlo Ricci | ITA | 247 |       |

## 1978 Woodvale Great Britain

- |   |               |     |     |       |
|---|---------------|-----|-----|-------|
| 1 | Jürgen Lenzen | BRD | 255 | Rossi |
| 2 | Louis Bilat   | SUI | 253 |       |
| 3 | Robert Spahr  | USA | 252 |       |

## 1980 Czestochowa Poland

- |   |                  |     |     |       |
|---|------------------|-----|-----|-------|
| 1 | Patrick Constant | FRA | 274 | Rossi |
| 2 | Pietro Fontana   | ITA | 265 |       |
| 3 | Giancarlo Ricci  | ITA | 264 |       |

## 1982 Oxelösund Sweden

- |   |                |     |     |       |
|---|----------------|-----|-----|-------|
| 1 | Sandor Szegedi | HUN | 275 | Rossi |
| 2 | Jozsef Mult    | HUN | 272 |       |
| 3 | Jozsef Molnar  | HUN | 271 |       |

## 1984 Chicopee USA

- |   |                |     |     |       |
|---|----------------|-----|-----|-------|
| 1 | Sandor Szegedi | HUN | 280 | Rossi |
| 2 | Jozsef Molnar  | HUN | 279 |       |
| 3 | Jozsef Mult    | HUN | 277 |       |

# 1986–1996

This period showed very few "main" inventions or spectacular changes in rules etc. Instead it was fine tuning of propellers, engines, pipes and models. Most models were assymetric with laying engines having cylinders pointing outwards, one blade carbon props, metal wings and an increased pipe volume (with diameters above 30 mm), steep end cone and an outlet hole between 4 and 5 mm. And of course that the Rossi era had come to an end and other brands took over.

In 1988 the winning speed was over 300 km/h for the first time with more and more pilots struggle with the high speed flying on 15 metre lines. In 1994, new rules were introduced, making it mandatory to have a shut-off to be used as soon as the official time keeping was finished. The main reason for this was the approach by CIAM to reduce noise in all classes.



**Peter Halman GBR**



**Sergio Tomelleri ITA**

## 1986 Pecs Hungary

1 Aleksandr Kalmykov	USSR	293	Cyclon
2 Sergey Piskalev	USSR	288	
3 Jozsef Mult	HUN	287	

## 1988 Kiev USSR

1 Aleksandr Kalmykov	USSR	301	Cyclon
2 Sergey Schelkalin	USSR	299	
3 Sergey Piskalev	USSR	299	

## 1990 Blenod France

1 Carl Dodge	USA	302	Dodge
2 Sergey Kostin	RUS	300	
3 Sergey Schelkalin	RUS	286	

## 1992 Hradec Kralove Czechoslovakia

1 Sergey Schelkalin	RUS	308	Shelkalin
2 Andrey Bolshakov	RUS	301	
3 Sergio Tomelleri	ITA	300	

## 1994 Shanghai China

1 Peter Halman	GBR	302	Irvine HS
2 Gerard Billon	FRA	302	
3 Tomasz Rachwal	POL	300	

## 1996 Norrköping Sweden

1 Luis Parramon	ESP	311	Profi
2 Sergey Kostin	RUS	305	
3 Konstantin Fedotov	RUS	303	



**Sergey Kostin RUS**



*The 1990 podium with Sergey Kostin, Carl Dodge and Sergey Schelkalin.*



**Aleksandr Kalmykov USSR**



**Luis Parramon's model.**



**Successfull 1988 USSR Team; Sergey Piskalev, Aleksandr Kalmykov and Sergey Schelkalin.**



**Carl Dodge USA**

## 1998-2008



Jean Magne FRA



Andrey Kalinin RUS

*Luis Parramon ESP, the most successful F2A flier ever with 8 World Champion titles. Will that ever be beaten? And in addition he also have 5 European Champion titles! First title came in 1981 and the latest (last?) in 2012. Respect!!*



Gordon Isles GBR



Konstantin Fedotov RUS

1998 came with a new rule that many pilots saw as a great relief..... Yes, an increase of the line length to 17,69 m. As speeds had become so high the fast lap times were hard to cope with so this change was welcome. But already in this first flight in the 1998 Champs Luis Parramon flew 301 and showed that he mastered the longer lines. In fact, he was the only one over 300 this time. This Championship also saw a Profi win for the second time in a row and then repeat it 9 times out of 10 in the coming Championships.

In 2000 Goran Olsson of Sweden started to develop an electronic timing device (which he called TransiTrace). Back in 1976 the Dutch organizers tested a device at the Champs in Utrecht but it never turned into a product. Already at the World Champs the same year Goran made tests and then development continued. At the Champs 2002 Transitrace was unofficially used and then in 2004 used as an official timing device. The rest is history! Without doubt the most important thing that has happened in the speed circles for the last 30 years. Goran was also awarded the Antonov Diploma by FAI for this innovation.



**Inflation in F2A World Champions! From left Arnold Nelson, Carl Dodge, Bill Wisniewski, Peter Halman, Luis Parramon and Jean Magne.**

**1998 Kiev Ukraine**

1 Luis Parramon	ESP	301	Profi
2 Gordon Isles	GBR	295	
3 Sergey Kostin	RUS	295	

**2000 Landres France**

1 Luis Parramon	ESP	297	Profi
2 Ken Morrissey	GBR	297	
3 Andrey Kalinin	RUS	294	

**2002 Sebnitz Germany**

1 Luis Parramon	ESP	302	Profi
2 Peter Halman	GBR	297	
3 Ken Morrissey	GBR	296	

**2004 Muncie USA**

1 Luis Parramon	ESP	295	Profi
2 Jean Magne	FRA	295	
3 Peter Halman	GBR	292	

**2006 Valladolid Spain**

1 Luis Parramon	ESP	301	Profi
2 Peter Halman	GBR	297	
3 Konstantin Fedotov	RUS	292	

**2008 Landres France**

1 Luis Parramon	ESP	296	Profi
2 Sandor Kalmar	HUN	296	
3 Luca Grossi	ITA	295	

**2010 Gyula Hungary**

- |                 |     |     |       |
|-----------------|-----|-----|-------|
| 1 Sandor Kalmar | HUN | 302 | Profi |
| 2 Peter Halman  | GBR | 300 |       |
| 3 Ken Morrissey | GBR | 300 |       |

**2012 Pazardzhik Bulgaria**

- |                    |     |     |       |
|--------------------|-----|-----|-------|
| 1 Luis Parramon    | ESP | 302 | Profi |
| 2 Ken Morrissey    | GBR | 302 |       |
| 3 Oleksandr Osovyk | UKR | 300 |       |

**2014 Wloclawek Poland**

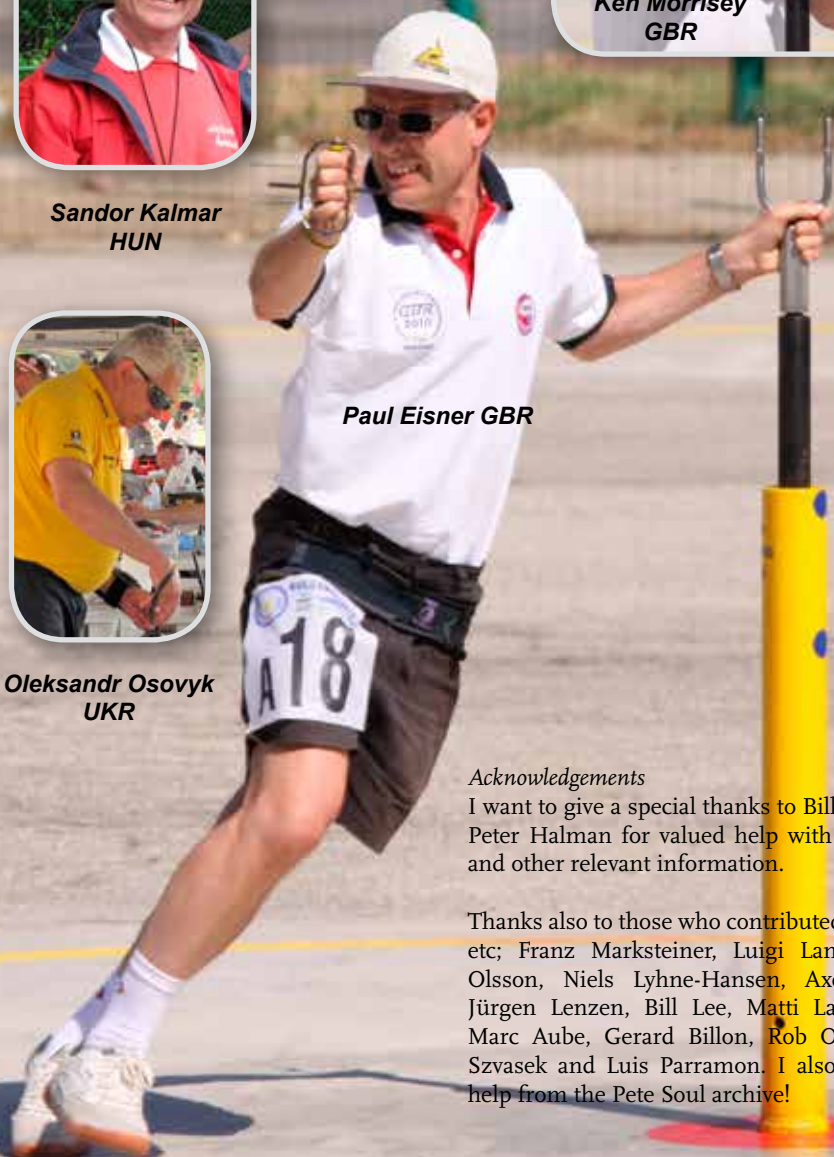
- |                 |     |     |       |
|-----------------|-----|-----|-------|
| 1 Carl Dodge    | USA | 301 | Profi |
| 2 Paul Eisner   | GBR | 301 |       |
| 3 Ken Morrissey | GBR | 300 |       |

**2016 Perth Australia**

- |                |     |     |        |
|----------------|-----|-----|--------|
| 1 Paul Eisner  | GBR | 304 | Halman |
| 2 Peter Halman | GBR | 303 |        |
| 3 Luca Grossi  | ITA | 302 |        |

**2018 Landres France**

- |                   |     |     |       |
|-------------------|-----|-----|-------|
| 1 Luca Grossi     | ITA | 302 | Profi |
| 2 Ferenc Szvacsek | HUN | 300 |       |
| 3 Paul Eisner     | GBR | 299 |       |

**Luca Grossi ITA****2010–2018****Ferenc Szvacsek HUN****Ken Morrissey GBR****Carl Dodge USA****Sandor Kalmar HUN****Oleksandr Osovyk UKR****Paul Eisner GBR**

During this last decade the rules have been pretty stable without any major changes and that can also be seen in the speed at the Champs with just over 300 km/h. The difference is that more and more pilots manage to reach the 300 barrier.

Profi is still the main choice with both models and propellers quite easy accessible for everyone. So how fast it will run is a matter of the skill of the pilot and how he can handle the equipment.

This will put an end to this F2A flashback and I hope you have had as much fun reading it as I had when collecting data and writing the article.

■  
Ingemar Larsson

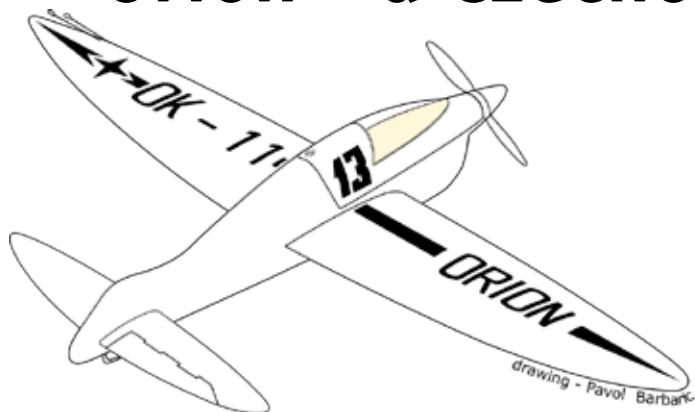
**Acknowledgements**

I want to give a special thanks to Bill Hughes and Peter Halman for valued help with data, photos and other relevant information.

Thanks also to those who contributed with photos etc; Franz Marksteiner, Luigi Lanzoni, Göran Olsson, Niels Lyhne-Hansen, Axel Jungherz, Jürgen Lenzen, Bill Lee, Matti Lahtinen, Jean Marc Aube, Gerard Billon, Rob Olijve, Ferenc Szvacsek and Luis Parramon. I also had a great help from the Pete Soul archive!



# Orion - a Czechoslovak Team Racer



**D**escribed model is the current development done by Milan Drazek, flying as teammate with Jiri Trnka. It represents how a strict efficiency and elegance could be coupled. The model has very good flight parameters, is robust and lightweight (not to compare with current F2C models). Construction material is mainly balsa, epoxy resin only used for gluing and all external surfaces covered with thin (30 g/dm<sup>2</sup>) fibre glass. Certain degree of experience and skills are required for successful model building, the described building method is kept as short as possible.

The 1964 World Championships, where it placed second, was held in Hungary. Nowadays we must see the construction as well as used materials or technology with another view, as the model was designed and built almost 60 years ago, so if you consider to build it, you probably need to use current materials and technologies, unless you plan to make an exact copy of the model. Good luck and enjoy the flying.

■  
Pavol Barbaric  
(Translation and adaption)



## Building of the Orion

**Fuselage.** Basic and most difficult part of the model's construction is the engine mount 3a holding the engine and whole fuel system. The massive frame secures the protection of fuel tubes/hoses are jeopardized to the engine's vibrations and simultaneously an easy system of tank regulation is possible.

The frame is milled from Duraluminium of 11 mm thickness. Front part is the engine mount with M3 threads to fasten the engine (drilled according to the used engine). Rear part is bearing the fuel tank 9a-f as well as filling valve 10a - h, lightened as much as reasonable. Arrestation bolts 3b Ø 2 mm each, are pressed to the chamfered front part and these are fixing the upper cowl part. Four countersunk M3x20 mm screws 14 are placed in Ø 3,2 borings. Remaining three M3x5 mm screws (12 a 13) as well as one M3x40 mm screw (15) is fixing the upper fuselage cowl.

The upper fuselage cowl 2a-d is carved out of balsa 2b. The contact surfaces to the fuselage bottom part are reinforced by 1 mm plywood parts 2c a 2d. Front part is reinforced by using 3 mm plywood, formed according to the propeller nut. To avoid the damage of fastening bolt (3b) holes, the use of bushings (2e) made of brass tube is highly recommended. The screw hole for M3x40 screw (15) must be drilled together with main frame attached. The cabin glazing is pressed from organic glass (like Umaplex) 1,5-2 mm strong.

The whole fuselage lower parts 1a - 1k are combined of several layers of plywood (1a - 1 mm, 1c - 3 mm) and balsa 1d - 1h and 1k. Before gluing, the engine openings, the wing opening as well as the air

output and the square openings for the hardwood (i.e. beech) fasteners (1n and 1p - 4 pcs) must be finished in advance. All layers are solid glued, where the parts 1b and 1d are glued only temporarily, as here the fuselage will be cut here after painting and covering, to install the stab with push rod. The fuselage front is reinforced by 3 mm plywood, shaped to the prop cone. Rear part is reinforced by 1 mm ply sheet, glued into the slot. Landing skid 1s on the tail is made of 2 mm piano wire and installed to brass tubes 1t.

When completing the fuselage, we recommend starting with the front ply frame 1a and 1c, drilled along the engine mount and glued to the main frame 1d, made of hard 6 mm strong balsa. Next layer is the 12 mm strong balsa sheet with the wing slot and a bolt 1p. The cooling air intake leading through the whole fuselage centre in layers 1f (12 mm balsa) and 1g (15 mm balsa) is shaped before gluing the last layer 1h made of 8 mm balsa. It is a good idea to protect the cooling slot with 0,5 mm thin sheet of aluminium.

**Landing gear** 5a d is glued to chiselled or milled bedding in the fuselage. Duraluminium gear 5a of 1,5 mm sheet, is riveted to 4 mm ply (5b). Wheel bolt is riveted too by 1,5 mm rivets (5c) and when the wheel (5e Ø 30 mm) is installed, the axis end is riveted too.

**Wing** is made of 15 mm strong balsa sheet (6a). Leading and trailing edges are reinforced with 1-1,2 mm plywood building a sort of frame 6d, divided at the wing tips. The frame is inserted and glued to a slot on the front and rear edges. Wing is carefully planed-off, where the profile cross sections to be checked by using air foil templates. As long the wing is roughly finished, the circular slot 4 for the control horn is made and the bottom 6e reinforced with 1 mm strong piece of plywood is glued in. Slots for control lines 6c are then morticed of 1,5 mm width and covered with a strip of balsa 6d. The tip of the outer wing has a place of 36x24 mm, about 2 mm deep for the tip weight (15-20 g) and finally covered by a piece of balsa sheet. The wing is finally fine sanded and painted with epoxy varnish.

**Stab and elevator** are very similar in constructing as the wing, made of 6 mm balsa sheet, plywood frame 7b of 0,8 mm ply. The elevator's hinge is made of brass tube Ø 3 mm (7c and 8b) glued to the elevator 8a with glass cloth. The Ø 2 mm pivot (7d) is moving freely in brass bushings 8b. Elevator horn 8c is made of Ø 2 mm piano wire and thoroughly glued into the elevator. The part 8d must be soldered to the horn.

The **steering** is way complicated, very solid however and quite easy to fly. It transforms the lines wide movements to narrow elevator movements. Its steering line 4d of 0,8 mm diameter, enters tangentially to the 4a shell through a slot continually to another slot in the pulley 4b and is finally secured by a "stone" 4c that is soldered thoroughly to the steering line 4d. A radial slot of 180° is milled to the pulley for a tap (4m), that is limiting the 90° pulley both way movements. The tap is inserted and glued both to the shell and wing. Further limitation is easily possible by inserting of additional tap(s).

The steering is installed to finished model. First the shell is glued and secured by two wood screws Ø 3x8 mm (4n). As next, the steering line 4d is laced through both slots in the wing (two aluminium tubes might be glued in), the "stone" must be soldered in advance, inserted to the slots and along the pulley mounted to the shell. Pulley is secured by 4e bolt that must not lap over nor slack the pulley. The steering rod bearing 4f is fastened to the pulley by two bolts M2x5 those must not be too long to retain the shell. The staple 4g is soldered to the steering rod and fastened to the bearing 4f by a M2x5 mm bolt (4l) and a washer. The bolt must be tightened thoroughly to avoid it to lose (use a tiny drop of the blue thread locker). The steering rod is made of Ø 2 mm piano wire and the opposite end at the elevator's horn beam

# 2<sup>nd</sup> at the 1964 World Champs

is equipped by another staple 4p, soldered to the rod as well. A tiny tap 4r is finally soldered to the horn beam's staple 8d.

**Note:** It is recommended to use soldering composite of 96% pewter and 4% silver

**Tank** is soldered of 0,3 mm brass or copper tin plate (if you select 0,25 mm steel plate, you won't make a fault) by keeping the dimensions published in the plan (56x6x7 mm). A piece of stronger sheet (0,5 mm) is to be used for the fastening stems 9b&9c, the rear one – 9c is equipped by an oval opening for adopting the tank's position. Inner diameter of ventilation tube 9e should not exceed 1 mm, to keep correct tank function. All joints must be soldered carefully to achieve good joints quality and durability. The tank total volume inclusive all tubes and hoses must not exceed 10 cm<sup>3</sup>. Small modifications can be achieved by careful squeezing of the larger sides; it is better to reach 9,9 than 10,0 cm<sup>3</sup> however!

**Filling valve** 10a-h is a part of tank and has the function of fuel filter too. It is installed to the engine mount 3a using a M8x0,75 thread. The fuel hose 3c is secured by a thin copper wire.

Surface finishing is important not only for good look, but for better model durability. That is the reason to choose such finishing that is reinforcing the model and protects against the fuel influence. All wooden parts are covered by the thinnest available fibre glass (30 g/dm<sup>2</sup> at maximum) and well varnished by epoxy varnish (the original model was varnished with Polish varnish "Chemolak" / not available anymore – can be easily replaced by epoxy diluted by methanol).

**Note:** Use of vacuum lamination can be successfully applied when covering the wing and tailplane.

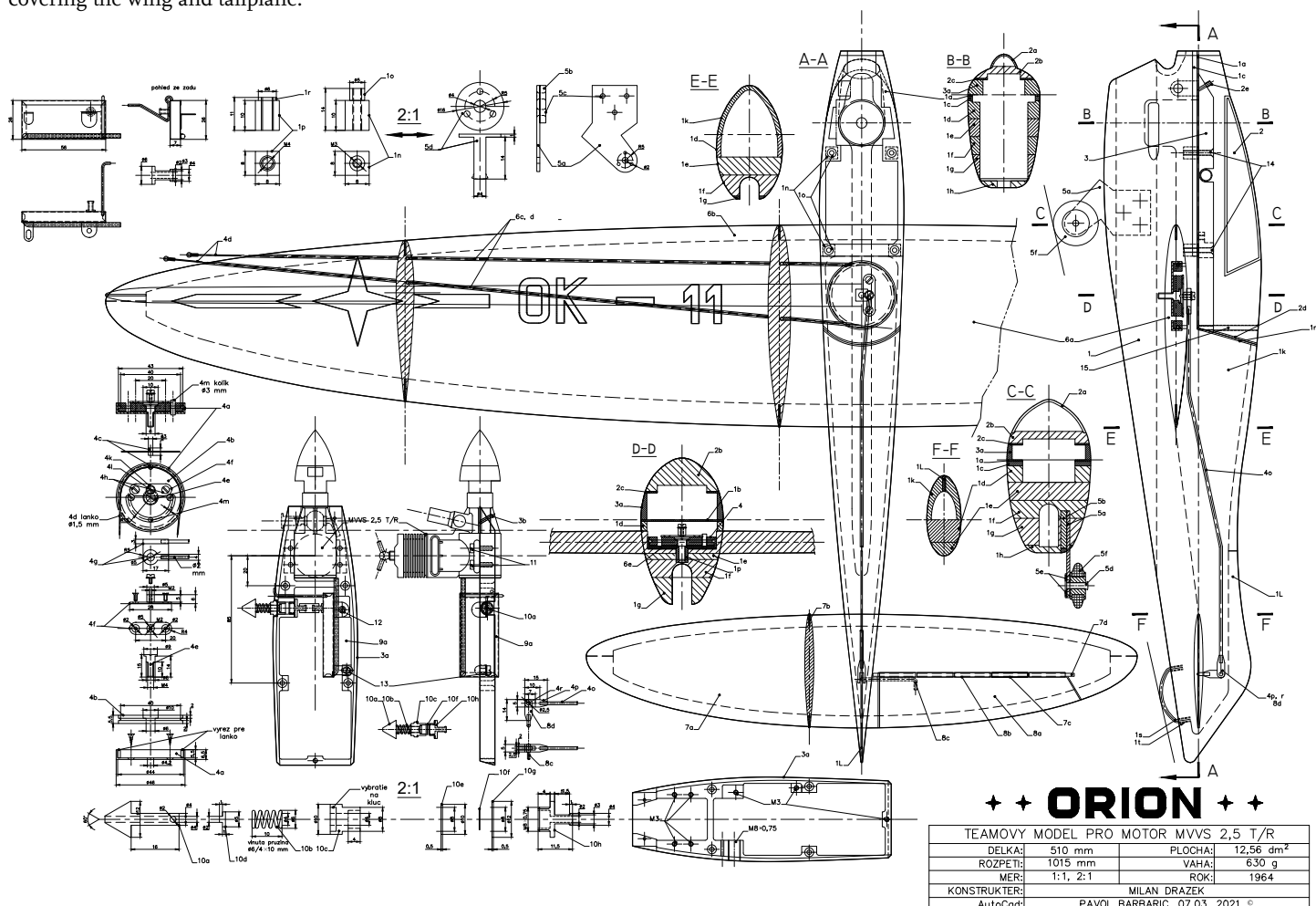
Front part of the fuselage is covered with three layers of fibreglass, the rear part towards the tail plane with two layers. The layer of varnish must be that strong, so after sanding and polishing the surface is mirror like smooth, with no cracks nor rifts. The model inside must be treated with epoxi paint to protect it from fuel.

Model is assembled of single parts (fuselage, wing and tail plane), after they were epoxi treated, painted, laminated and sanded. The wing and tail plane slots must be fine finished before installing. Tail plane slot is fixed after the tail plane is glued and steering installed. After the wing is inserted and glued, all steering parts are assembled (bell crank) and now we can finally glue the upper parts of fuselage. All connecting parts between wing and tail plane are to be reinforced with a strip of fibre glass, sanded and polished.

**Flying.** Check the entire model before first start. After correct balancing the C/G is close the front steering line. The control mechanism must operate smooth at high tension too. Outer wing remains on the ground when landed, which ensures the model won't run inside at take off.

Observe and listen to the engine during first flights (not only during first flights) and calculate the speed of course. The engine must be run-in on a test bench and possible vibrations fixed. If the tank is in correct position, the beginning laps speed won't differ too much from the final laps. Correct tank position is fixed when the rear tank part is off the longitudinal axis. Fixing the correct position is often lengthy but important for top results.

We skip to mention the average performance, as you know it depends on too many factors much more, than at other classes.



# Busek-Frog 1.23 diesel



## Busek-Frog 1.23 diesel

In the early 1950's Czechoslovakian modellers could buy the side-port NV-21 diesel from Svazarm stores, or more modern alternatives from individual engine constructors. Such as those made by Gustav Busek, who began back in 1939 with his Letná 6.3cc spark ignition engine. The first Czech commercial model engine, much like the American Baby Cyclone. Also, the first "commercial" Czech model diesel engines, his 1943 five-piece series of (essentially) copies of the Klemenz-Schenk DYNO. However, from the late 1940s onwards, his "long-stroke" 1.1cc and 2.5cc Busek-Frog diesels were much more original. The "Frog" part most likely from the two-screw cylinder retention similar to the English FROG engines of that time. We look here at the next-generation Busek-Frog (aka BF) 1.23cc diesel circa 1953. Beginning with my translation of an article from *Letecký Modelář* magazine of the BF 1.23cc and BF 2.5cc engines.

Here is the translated text from the original sheet (Thanks, Pavol B!):

"The designer and manufacturer of these engines is a modelling worker Gustav Busek from Prague VII<sup>I</sup>, U akademie 9.

Both of these types are very simple to manufacture and are actually a model for many amateur engines in our country. Among other things, cutting threads in diameter (rear caps, cylinder heads) is a problem during production. This issue falls off in case with both engines. Attaching the head and insert with two screws is very simple and allows disassembly. The engine BF 1.23 cc is a smaller version of BF 2.5 cc. Both types are actually the only ones in their swept volumes that are available on sale.

Engine BF 1.23 - is very suitable for free flight engine models. With swept volume of 1.23 cc and a loading of 300 g / cc, the minimum weight of the model is 370 g, which is an acceptable solution for a small model. The engine runs in all positions. It is quite easy to start. The procedure is as follows:

- Open needle about a turn.
- Choke the engine.
- Flick on the propeller until the engine starts, then open 1/2 to 2/3 of a turn. Be sure to note the location of the correct compression with a line on the cylinder.

The BF 1.23 engine is suitable for control line models with a maximum span of 50 cm and a weight of up to 400 g - this means only simple models.

Attention: Many modellers who already have the BF 1.23 cc engine consider it as "one cc". This means that in order to determine the minimum weight of a free flying model at a prescribed load of 300 g / cc, they use only count on as of 1 cc. This is a big mistake - the engine has a content of 1.23 cc so min. model weight comes out higher. This year, the jury has already encountered this in the Gottwaldow<sup>2</sup> Winter Competition. Therefore, be careful to avoid unnecessary disqualification in competitions for small loads.

BF 2.5 engine - also runs in all positions and therefore we use it with success, especially for models with an inverted position. The motor is extremely powerful so that it can be mounted in scale models up to 1000 g in weight and a span of up to 1200 mm. The stem mount is very good for adjusting the engines in free-flying models, in scale and models for Group flying<sup>3</sup> (Team Racing) the lower stem is often annoying (it goes badly to the contour of the fuselage).

The disadvantage of these engines is that they do not have a bushing of crankshaft housing and after some time the main bearing is leaking. Otherwise, the BF 2.5 cc and BF 1.23 cc motors are very well and carefully crafted. The crankcase is cast in a metal mould and has a very smooth surface. Flushing is circulating, the fuel is sucked in around the entire liner, so that the overflow channels are eliminated, where especially for small engines these are the source of high losses (the viscosity of the fuel is the same).

Both engines are not very sensitive to the type of fuel. The most suitable is the following tested: 50% ether, 25% kerosene or diesel, the rest oil (castor plus D oil in half.) For cold winter period, it is advisable to give less castor versus D-oils, for hot weather vice versa.

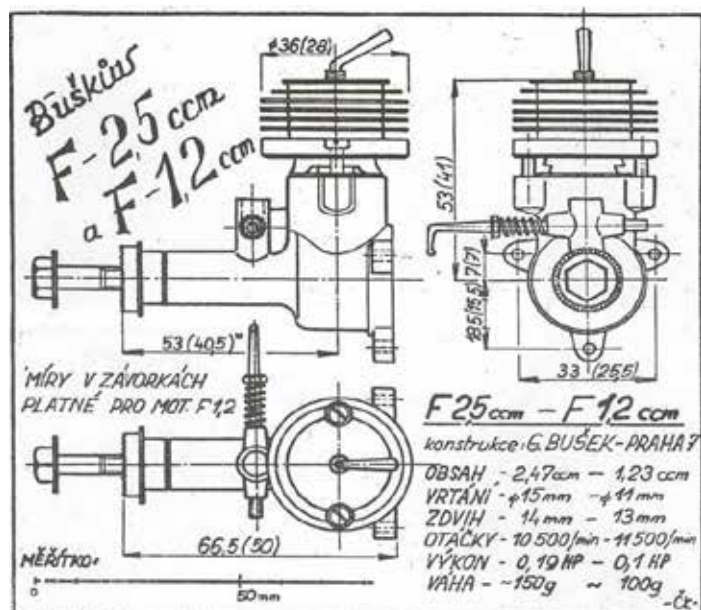
Finally, we would like to point out that a scale model of Czechoslovak sport aircraft Beta Minor Be-50 is equipped with this engine; the plan is going to be published in the issue of LM<sup>4</sup> 4/1954. Installation to the airframe used in the plan, might be used as example for less experienced model builders for their own construction solutions."

### My own BF 1.23 has the following specification:

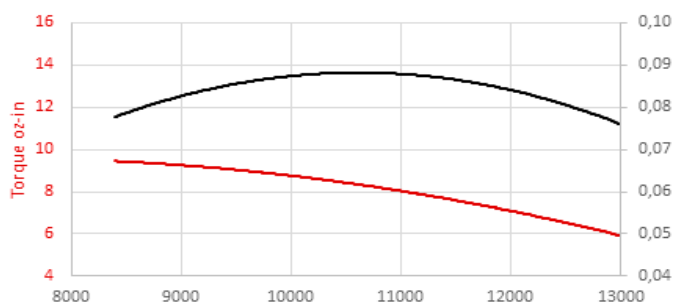
Bore 11.13 mm  
Stroke 12.11 mm  
Swept Volume 1.178 cc - (other engines of this type typically 11mm bore, 13 mm stroke, 1.23 cc swept vol.)  
Exhaust 152 degrees  
Transfer 104 degrees  
Intake opens 65 ABDC closes 20 ATDC duration 135 degrees  
Very small exhaust area via two narrow/shallow sawn slots. Total 14 sq mm.  
Transfer via three sawn slots below clamp-down flange fed via annular gap to lower cylinder OD and crankcase.

Propeller	RPM straight fuel	RPM Nitrated fuel
APC 7x3	11700	12300
APC 7x4	10400	11000
APC 7x5	9500	10300
APC 7x6	9000	9400
APC 8x4	8800	9100
Graupner 8x5	7800	8400
APC 8x6	7400	
APC 9x4	7300	

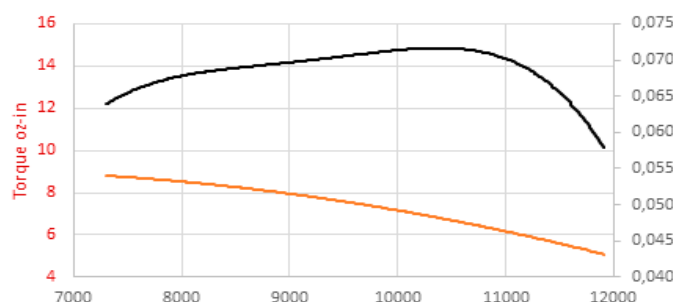
# Busek-Frog 1.23 diesel



Bušek Frog 1.2 (nitrated fuel)



Bušek Frog 1.2 (straight fuel)



Appears to have had a long working life. Has had brass crankshaft bush fitted and non-standard needle valve assembly, piston fit very loose, contra piston too tight, wrist pin bent. I fitted replacement pin & pistons. Re-engineered NVA so that it works and set it to give approximately 3.5 square mm effective choke area.

The bush rotated during initial tests almost closing intake. Also evident was crankcase compression leak via outside of bushing to case joint. Reset/sealed bush in crankcase with Loctite.

Back cover was a press fit, but only held by a narrow band at back of crankcase. Negligible flange, so fitting a gasket is impractical. Theoretically, it should be OK when mounted in a model, providing there are no leaks, but I glued it in place with balsa cement. At last, it was again in good shape.

Starting needs exhaust prime and 4 drops fuel in carburettor. Then starts are good. Compression setting has an obvious maximum point before sagging is evident. Used aluminium tube tool on compression screw lever to adjust, as fit becomes tighter when hot. Tolerates rich needle setting OK, but definitely best when set to minimum lean with slight crackle.

Warming up time is short and finding settings is quite easy. Vibration seems fine at all practical speeds despite no counter-balance and heavy piston. Feared heat build-up due to sloppy cooling jacket fit did not eventuate. Overall, a pleasant engine to operate and various latter-day replicas have been made.

Initial tests with un-nitrated fuel gave acceptable running, providing propeller choice did not allow speed to exceed around 11,000 RPM. However, fuel with 1.5% ignition improver allowed the engine to give its best, raising maximum power output.

Gustav Busek was a renowned master craftsman with the ability to produce fine engines with only the most basic machinery and equipment. Perhaps he had been able to upgrade to a lathe with screw-cutting facility, as his next Star and Bus – Albion engines – lighter and more powerful – were influenced by the Albion Javelin. However, the mass-produced Start 1.8 diesel was released in 1955, selling in Svazarm stores for only 140 CZK. Unable to compete, Gustav subsequently ceased engine production and took a position at a national factory.

Scans of old Czech and other modelling magazines/books are available at <https://norbulinka.eu/>



Maris Dislers

## Footnotes:

1. Part of Czech capital Prague, called here Prague VII, is named Bubenec and Holesovice. The reason of numbering the Prague's districts is easy, altogether Prague is composed of 121 small historical villages and it wouldn't be very efficient to use all the names...
2. Gottwaldow is a town in Eastern Moravia, that has been renamed from Zlín, which was the original town's name. Renamed after 1948-1953 communist president Klement Gottwald and the original name was reintroduced on 1<sup>st</sup> of January 1990.
3. Quite an ancient interpretation of Team Racing in Czech language in the end of 40's and beginning of 50's.
4. "LM" was the model magazine back in 50's, prior to "Modelar".



# South African Control Line Nationals

The Control Line Association of South Africa (CLASA), a special interest group and a subsection of SAMAA (South African Model Aircraft Association), was established to be the centre point for control-Line aeromodelling activity in South Africa, as well as to foster interest in Control Line flying.

This year, Barnstormers on the East Rand again hosted the CLASA's Nationals. Hot and dry and windy at times, the weather held and three days of flying was possible except for an interruption on Saturday when access to the premises was closed for a while due to a crime scene investigation in the vicinity.



CLASA members came from far and wide to attend, testifying to the passion of this small group for their sport that can trace its history back for more than a century. Flying models controlled by lines actually predates man's flight.

Although the origins of model aircraft controlled in flight by wire between the pilots and the aircraft are obscure, it is generally accepted that the first person to use a recognizable system that operated the control surfaces on a model was Oba St. Clair, who in June 1936 using a complicated system of lines, flew a model near Gresham, Oregon in the USA.



The Nationals consists of three disciplines; Racing, Stunt flying and Combat. Only the Racing and Stunt flying disciplines were contested at the Nationals this year. Racing includes a Speed trail flight and for the first time since 2016, when Klerksdorp in the Northwest hosted the event, a jet powered aircraft took part.



**Max Bee F2B model flown by Percy Attfield.**



**Glen Roberts with his 50 year old Stuppi model, refurbished for this contest!**



**Evert Scholtz flying Slow Goodyear.**



**Glen Roberts pitting Slow Goodyear (.15 engine, external controls, steel liner, 28 s/10 laps).**





Towards the end of the NATS, two aircraft were entered in the Fun Scale Category:- Evert Scholz's SE5 biplane and Percy Attfield's Hurricane. Judging is rather strict and not just aimed at how closely the model resembles the actual aircraft. The SE5 flown by Evert Scholz was built by his brother Naas in the 1970's. Through the years, it was used as a toy by the children until Evert convinced his brother to let him have it. He restored it and changed the petrol engine for an electric motor and on Sunday, it flew again. Percy Attfield's Hurricane was lovingly built by himself and the Nationals was the first time that she was flown competitively.



**Glen Roberts flying F2B.**



**"Pink Lady" style Speed model from the 70's.  
Piped MDS engine.**

# Barnstormers

24<sup>th</sup> - 26<sup>th</sup> of September 2021



**Glen Roberts's Speedster.**



**F2B pilots Percy Attfield, Glen Roberts and Evert Scholtz.**

## FINAL RESULTS

F2A: 1st Peter Lott 2nd Glen Roberts

F2B: 1st Evert Scholtz 2nd Keith Renecke 3rd Glen Roberts

Slow Goodyear: 1st Peter Lott/Henry Kurovski 2nd Dirk Meyer/Conrad Cloete

Fun Scale: 1st Percy Attfield 2nd Evert Scholtz

Glen Roberts won the High Points Trophy

The passion for their sport by CLASA members was evident during the competition. Although, except for the racing discipline, generally not a team sport, its amazing how many are always ready to help a competitor when a problem arises, either by advice or by helping with spares and repairs. This bodes well for the future of the sport. However, the lack of younger participants must be of concern.

More info about aeromodelling in South Africa can be found at [www.pilotspost.com](http://www.pilotspost.com).

Willie Bodenstein



**Evert Scholtz flying F2B**

# Brian Turners F2B Boxer engine



I have been thinking about making a twin cylinder stunt engine for some years, I came to the conclusion that the only practical option is a flat boxer twin, the problem was that I could not find what I considered to be a suitable arrangement for the crank shaft and connecting rods assembly. So I put it on the back burner. At the back end of last year I had another look at it. This time the philosophy was that, if it worked all well and good, if it didn't, it had been an interesting project. The reasons for the flat twin configuration is firstly because it is theoretically very well balanced because the pistons are both going outwards and inwards at the same time which cancel out most of the vibration. This piston movement also provides the pumping effect required in a two stroke engine to feed the mixture to both cylinders. I came up with the engine specification you can see below.

The pistons and liners were made of iron and steel to prove the design, because it takes a long time to get brass or alu liners hard chrome plated. With the specification decided I could work on the drawing board to look at the detail design. I thought if I made two crankshafts both running in twin ball races, (one at the back and one at the front) with a joining disc connecting the two crank pins, that the assemble may not need locking together. I decided to test this theory using an old T/R engine crank case and two old crank shafts, it almost worked!! So it was back to the drawing board.

I now knew that the crankshaft assy had to be locked together, how to do it and still be able to assemble it inside the crank case and fit the conrods? I thought it would be possible to join the crank assy with roll pins fitted through the joining disc and the crank pins, I tried this system with the old T/R engine parts and it worked. The problem with this was that the holes for the roll pins would have to be drilled after the crankshafts had been hardened and finally ground. (The crank pins and joining disc I used for the test were not hardened) I would normally temper the shafts at 100° C which would be too hard to drill, but I did not think the big ends would wear very well if left unharde-

ned. So I hardened a piece of the EN24 and tempered it at ever higher temperatures until I found the point at which it was still hard but drillable, this turned out to be 450° C. According to the hardening charts this made the hardness roughly half way between fully hard and fully soft.

Another area I was concerned about was the possibility that the inside cylinder would run leaner when mounted in a control line model due to centrifugal force sending more fuel into the outer cylinder. The cylinders have to be staggered to line up with the conrods, as the engine is rear exhaust the transfer passages are both at the front, one transfer passage is in front of the crankshaft flywheel so is masked from the fresh fuel mixture, the other transfer passage is in line with the fresh fuel mixture. So I made the outboard cylinder the one with the restricted flow path to compensate for the centrifugal force effect. I also made the transfer passages quite small to keep the gas velocity high to reduce the risk of fuel droplets going into the cylinders.

The engine weighs about 100 g more than a single, but with two crankshafts four ball races and the iron and steel pistons and liners it was always going to be heavy. When I first ran the engine on the test stand, after just a few minutes of running the roll pins joining the crankshaft sections failed and the joining disk started rubbing against the inside of the crank case. I dismantled the engine and found that both roll pins were in three pieces, but no serious damage was done. I felt that the load on the roll pins should not be very high, so I was surprised at the breakage, but on close examination I could see they had not sheared, the broken surface was clearly a stress fracture, which must have been caused by very small movements in the assembly.



So, once again, back to the drawing board. Another option I had considered when deciding on the roll pins, was taper pins, these are solid pins with a very shallow taper on them which are driven into a tapered hole to lock two or more items together. After making them I very carefully realigned the crankshaft assembly, clamped it together and reamed the existing holes with the taper reamer. Then I turned and ground a pair of pins to fit the holes. To my great relief the shaft was still perfectly aligned when I refitted the assembly back in the crank case. I ran it on the test stand for about 40 minutes, then took it apart and had a good look at the crank assy, and everything looked in order. Modifications to an old Skytoane model have now been completed to take the new engine. Because of the increased engine weight the nose had to be shortened by 30 mm and new vertically aligned bearers fitted. The total weight is now 61.5 oz, about 2-3 oz heavier than my other models. The tank now fits between the bearers but biased towards the inside of the circle, inboard of the needle assembly Early flight tests have now been completed and it shows good promise of being a usable stunt engine, Teething issues included the usual adjusting of propeller and venturi sizes as is expected in any new model trimming, but it is still early days.



Brian Turner

## SPECIFICATION

Capacity = 10 cc	Cylinder Bore = 18.5 mm	Stroke = 18.5 mm
Big End Dia = 6.0 mm	Little End Dia = 5.0 mm	
Exhaust Timing = 130°	Transfer Timing = 110°	
Induction Timing = 40°ABDC - 40°ATDC = 180°		
Rear BR = 24x12x6 mm 2 off	Front BR = 17x7x 5 mm 2 Off	
Conrod length = 35 mm		
Crank Case and back plate material = 12% Si Alu alloy 4032		
Cylinders and cylinder head material = Alu alloy HE30		
Conrod material = Alu Alloy HE15 with Bronze Bushes		
Crank Shaft assy. Material = EN24 Steel hardened and tempered		
Cylinder Liner Material = Silver Steel hardened and tempered		
Piston Material = Meehanite (Cast Iron)		
Gudgeon Pin Material = Silver Steel hardened and tempered		

## TIPS från Coachen

Saknar Du shims när Du vill justera kompressionen på Din motor? Och har svårt att hitta någon som säljer just den storlek Du vill ha? Då kan det vara läge att göra sina egna shims. Det är inte svårt om Du följer anvisningarna som följer...



Först måste vi göra två stycken fyrkantiga alu-plattor, t ex i fräsen. De ska ha en tjocklek på ca 6 mm och ha en storlek som är ca 4 mm större än ytterdiametern på de shims man vill göra.



Sedan måste man skaffa mässing-plåt i de tjocklekar man vill ha. Finns att köpa på webben. T ex 0.05, 0.10, 0.25 och 0.50 mm. Klipp sedan ut ett antal fyrkanter i samma storlek som alu-bitarna. Det skadar inte att klippa till typ 40 st i varje tjocklek när man ändå håller på. Borra också 4 mm hål i varje hörn av alu-bitarna. Håll ihop dem med tex en tving när Du borrar så att hålen kommer på samma ställe på båda bitarna.



Packa sedan ihop mässingplåtarna mellan alu-bitarna och borra hålen i mässingen. Skruva sedan ihop paketet. När man ändå håller på tar det inte mycket längre tid att göra shims i olika storlekar.

## Gör Dina egna Shims!



Spänn fast paketet i en 4-backschuck i svarven (har Du bara en 3-backschuck kan Du följa knepet på sidan 45 i Lina 2-2018). Borra först ett centrumhål på ca 10 mm och fortsätt sedan med ett innerstål.



Till slut har hålet fått den innerdiameter som man vill ha på shimsen. Då kan man lossa på paketet (och inner-svarva nästa paket ifall man gör flera stycken).



Nästa steg är att tillverka den "jigg" som ska hålla fast paketet i steg 2. Sätt upp en alu-stång i svarven (med minst 5 mm större dia än hålet i paketet). Gänga sedan upp ett M6-hål i ändan. OBS. Från och med nu får man inte lossa biten i svarven förrän man är färdig med shimsen!



Sedan svarvar man stängen till den ytterdiameter som paketet har invändigt. Den bit man svarvar ner ska vara smalare än paketets tjocklek så att skruven och brickan kan pressa fast paketet mot stängens bakkant. Här måste man spänna hårt så att paketet sitter fast. OBS! Paketet ska gå att trä på stängen med ytterst lite motstånd. Man ska inte använda våld för att få dit det.



När paketet är ordentligt fastspänt kan man lossa de 4 skruvarna och börja svarva till ytterdiametern på shimsen.



Här är svarvningen nästan klar. Som Ni ser bygger ca 200 st mässingbitar väldigt lite ... Nästa steg är att lossa skruven och kränga av shimspaketet vilket går lätt om man inte haft för tight passning när man satte dit det. Ska man svarva ett paket till är det bara att låta stängen sitta kvar och svarva ner den till nästa diameter.

Och vips har vi shims i en viss storlek i en mängd tjocklekar som gör att vi aldrig behöver svarva den här storleken mera!

Ingemar Larsson

**T**his time we look at **32 diesel engines** from the top (Thank you for the idea, Göran Olsson!) and your task is to decide brand and sometimes type. Most of them should be easy to recognize for an experienced aeromodeller while others may cause problems (to avoid that everyone get 32 correct answers...). Enjoy your Christmas holiday by doing this quiz and mail your answers to yours truly (address on page 3).

### Answers to last years model quiz:

(Most wrong answers with no 2, 15 and 26 ...)

- |                 |                 |
|-----------------|-----------------|
| 1. Peacemaker   | 14. Ares        |
| 2. Speed King   | 15. SuperStar   |
| 3. Jefe         | 16. Miss FAI    |
| 4. Ringmaster   | 17. Nakke       |
| 5. DH 88        | 18. Ruter Ess   |
| 6. Li'l Quickie | 19. Turtle      |
| 7. Voodoo       | 20. Dominator   |
| 8. Stuppi       | 21. Stiletto    |
| 9. GeeBee       | 22. KlotzBug    |
| 10. Nobler      | 23. Stuka       |
| 11. Tigress     | 24. Kingsfisher |
| 12. Shark       | 25. Thunderbird |
| 13. SWEater     | 26. Ironmonger  |

### Winners:

- |                       |     |            |
|-----------------------|-----|------------|
| 1. Göran Olsson       | SWE | 23 correct |
| 2. Jens Geschwendtner | DEN | 21 correct |
| 2. Harry Kolberg      | NOR | 21 correct |
| 4. Maris Dislers      | AUS | 20 correct |

# Amusements

## - A Top-of-the-engine Quiz!

1



2



7

6



12



13



14



19



20



21



29



26



27



28



3



4



5



9



10



11



8



16



18



15



17



24



25



22



23



31



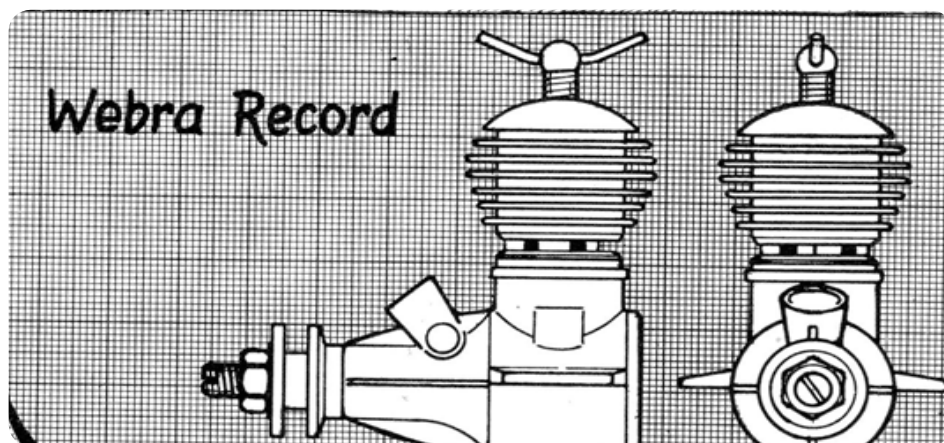
32



30



# Fräscha upp Din Webra Record!



Det är nog många av oss som fick vår första snurrupplevelse med en Webra, kanske i en Getingen, Vespis eller nåt. Fastän yra i mössan så gav vi oss inte och tog oss vidare. Så småningom tittade vi på vad de stora pojkarna körde med, sparade ihop till nånting mer avancerat och Webran blev liggande. Nu finns det en god anledning att gräva upp sin gamla Webra Record ur gömmorna! En ny tävlingsklass, Webra Record Cup, har skapats! Reglerna är precis som i Weatherman klass 2D, likadan modell osv, bara det att motorn måste vara... ja ni gissade rätt, en Webra Record. (Klassen ingår inte i Weatherman och resultaten presenteras separat).

## Lite historia först

Det började med att två affärsmän, Walter WEichler och Martin BRAGenitz, ville göra modellmotorer och fick kontakt med konstruktören Günther Bodemann på Fein- und Modell-Technik i Berlin. Först kom en tvåhalva och sen en enhalva, som så småningom kom att heta Record. Den gjordes i uppmot fem versioner mellan 1952 och ca 1972. Den första hade vertikalfäste och snabbt kom nästa med kombinerat vertikal- och horisontalfäste. Dessa hade rödeloxerad liten topp med rektangulär profil. Ca 1958 kom en reviderad modell med större klotprofilerad röd topp och enbart horisontalfäste. Nålventilen var omgjord och nålen hade ett grepp av röd plast. Ca 1963 fick toppen mindre kylflänsar och blank aluminiumfinish och vevhuset blev mattblåstrat. Nålen fick vinkelböjt grepp. Kopskruven försågs med låsarm.

Det kom också en RC-variant med en primitiv trottell och vevhusgjutningen förstörades vid insuget så att trotteln fick rum. Topparna hade sex kylflänsar, men mot slutet kom en variant med sju flänsar. Invändigt skedde runt -63 och kanske i flera steg, en ändring i vevaxeln. Den hade i oförsiktiga nybörjares händer (läs överkomp) en benägenhet att gå av vid insuget. Därför ändrades den axiella borringen i axeln från 4,6 till 4,0 mm diameter och ventilhålet från 4,5 till 3,2 mm, med öppningen vidgad till 3,6 mm. Det lär även finnas senare varianter med 3,8 mm

axiellt hål. Baklocket ändrades också -63, där inre delens dia ökades från 14 till 16 mm, för ökad vevhuskompression.

## Problemområden

**Igenbeckad motor.** Något som gäller för alla motorer där cylindern sitter med gänga i vevhuset är att kolven inte får sitta fast i cylindern när man försöker lossa denna. Då riskerar man att vrida sönder vevstaken! Motorn, med baklocket avtaget, får badas i varm glykol tills kolven kan röra sig i cylindern!

## Saker som skramlar loss eller sitter för hårt.

Baklocket har ju ett praktiskt spår som man kan sätta ett mynt eller stålbricka i för att skruva av och på det. Varför inte nåt motsvarande för cylindertoppen och cylindern? Webra, vad tänkte ni på?? Det brukar sluta med fula polygripmärken på toppen. En bra åtgärd är att fila/fräsa ner toppen överst med plana uttag så man får grepp med en skiftnyckel. (Ingemar fräser i stället ned de understa två flänsarna för att passa en 19 mm nyckel).



Och skulle sen cylinder och topp lossna tillsammans har man inget att greppa om cylindern med för att sära dem. Då är bästa lösningen att tillverka en nyckel av 1,5 mm stålplåt med ett halvcirkelformat uttag med 8 mm radie, avslutat med en utstickande tagg som passar i en avgasport. Taggen får givetvis inte vara så lång att den kan skada portens innerkant.



En enklare lösning är att slipa ner cylinderns fläns mot vevhuset ca 0,9 mm på motsatta sidor för skiftnyckelgrepp enligt samma idé som toppen.

När man fixat dessa anordningar har man fått en bra chans att cylinder och topp sitter fast vid körning och samtidigt går att få loss vid service.



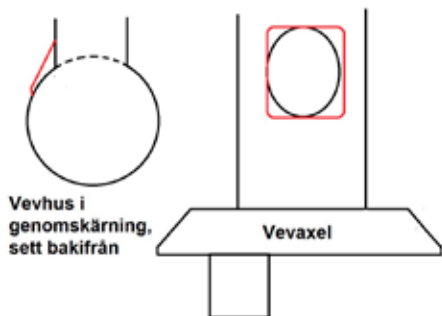
**Motkolven.** Här finns olika problem, från det att motkolven fastnar när motorn är varm, till att den är så lös att den skruvar ur sig vid körning. De senare modellerna har en låsarm, gissningsvis i kombination med lösare passning. Äldre modeller kan man alltid förse med en låsarm. En kevlartåd i gänskan kan också vara verksam. Om motkolven istället fastnar är den lösning man får ta till att med diamantpasta och lappdon få till en lättare passning. Lelle Nord har en annan lösning då han svarvar ur överdelen på motkolvens insida så att väggarna blir så tunna att de kan fjädra och tar sedan ner ytterdiametern på nedersta delen där den är stum.

**Går gärna baklänges.** Typiskt för Recorden är att den lätt startar baklänges och sedan glatt fortsätter på det viset. Om man tittar på insugstiderna förstår man orsaken och kan åtgärda problemet. Rent geometriskt blir det med 4,6 mm hål i axeln med 8 mm diameter och 4,2 i vevhuset en öppningsvinkel på 133 grader. Med nya axeln där hålet är minskat till 3,6 mm blir det 117 grader. Mycket små värden! Mera normalt är att insuget är öppet 180 grader eller mer.

Hur öppning och stängning hamnar i förhållande till undre och övre dödlägena är förstås också väsentligt. Ska man vara noggrann sätter man en gradskiva i medbringaren osv, men man kommer långt med att bara syfta. Man kan ta sin smartphone, lysa ner i förgasaren och sedan vrida axeln till de vinklar där ljuset inte längre kan ses i axelhålet och se vevtappens läge. Man finner då genom syftning att stängningen sker ca 45 grader efter övre dödläget (lite mindre med ny axel). Detta är ett ganska normalt värde. Öppningen hamnar då vid 92 grader efter undre dödläget. (100 med nya axeln). Detta är extremt

sent, ett vanligare värde är 45 grader! Vi kan börja med att fundera på vad som händer om motorn går baklänges. Då öppnar den 135 grader efter undre dödläget. Det är mycket sent, förstås, men motorn hinner i alla fall suga in lite luft. Stängningen sker sedan 85 grader efter övre dödläget. Då har trycket i vevhuset ännu inte hunnit öka så mycket att luften blåser ut igen genom insuget. Med mera normala insugstider blir denna vinkel runt 135 grader och då hinner den insugna luften blåsa ut igen, så att baklängesgången hindras.

Vid gång framlänges gör en tidigare öppning att mer luft kan sugas in och effekten ökar. Detta vill vi alltså fixa, fram med Dremeln! Man kan slipa upp vevaxelhålet, men man vill ju inte försvaga axeln allt för mycket, så man gör det mesta i vevhuset. Öppningen i axeln har ju ganska spetsiga kanter, så slipar man dem lite rundare har man troligtvis gjort axeln starkare trots att man tar bort material. Sett bakifrån blir det axelhålets högra sida och vevhushålets vänstra sida man ska vidga. Det är okritiskt hur mycket man ökar öppningen. Allt upp till 180 grader totalöppning är en förbättring. Sikta på 170 grader, dvs. öppning vid 55 grader efter undre dödläget! Det blir 27 resp. 43 grader ökning, motsvarande 1,87 resp. 2,93 mm sammanlagd vidgning. Av detta lägger man merparten i vevhuset, säg 1,6 resp. 1,8 mm, med 0,27 resp. 1,13 mm i axeln. Hundradelarna är det inte så noga med. Det är ju omöjligt att mäta inne i vevhuset, man får med jämna mellanrum sätta dit axeln och göra ljusprovet.



När man ändå håller på och slipar kan man passa på att göra de ovala hålen mer rektangulära, så man får en mer distinkt öppning och stängning. Vill man med en ny axel flytta stängningen till 45 grader kan man ta bort 0,35 mm på motsatta sidan också. Till axeln kan man använda ett slipstift av karborundum. Diamant går också om man håller ner varvet så stålet inte blir varmt, för då åter det upp diamanten. Till vevhuset tar man ett filstift som förs genom insuget. Diameter runt 2 mm. Avsluta med noggrann rensning av grader och rengöring.



När man nu med stor list och förslagenhet fått in maximalt med luft i vevhuset, är det ändå så att Recordens cylinderportning är av det primitivare slaget. Överströmningskanalerna är ju många, men de slutar ju under avgasportarna och är alltså öppna under en mycket kort tid. Och av den friska luft/bränsleblandningen som ändå letar sig in i cylindern försvinner en stor del ut genom avgasportarna. En modern schnürleportad motor ger inte bara dubbla effekten, den går även dubbelt så länge på tanken. Men nu är det en 50-talskonstruktion vi håller på med, så ingenting att gråta över!

## Andra saker

**Nålventilen.** Nålen är ju en utsatt komponent och en skadad nålventil är nog orsaken till att många motorer hamnat där i lådan. Via ebay kan man kapa nya webbranålar från en engelsman (sök på "popular1956", GBP 28 + frakt 5). Man kan förstås sätta dit någon annan nålventil, men fördelen med originalet är att den har liten dia, 2,5 mm. Ett grövre nålrör ger effektförlust.

**Balansering av vevaxeln.** Vevaxeln är helt obalanserad och vill man, kan man slipa ner uttag i vevskivan på bägge sidor av vevtappen. Det kanske ger en viss förbättring, men man har ju ändå den rätt tunga kolven kvar som ger vibrationer.

**Vevaxelns längd.** Webra hade dålig koll på den färdiga längden på vevaxel med medbringare. Det bör vara ett spel på runt 0,05 mm. Om mindre bör man svarva bort lite på medbringarens baksida. Om för stort, så vevtappen kan ta i baklocket, måste man sätta in en bricka bakom medbringaren. I samband med detta bör man kolla spelet mellan baklock och vevtapp. Vid behov får man sätta dit en tjockare packning.

**Utfyllnad av baklocket.** Vevhusets insida har 20 mm diameter, men baklocket har en innerdel med mindre diameter, 14 eller 16 mm, för att inte kollidera med kolven, som går ner en bit i vevhuset. Det kan tyckas vara en onödig förlust av vevhuskompression. Man kan ordna en utfyllnad här, men det behövs ett uttag för kolven som måste hamna rätt. En idé kan vara att svarva en ring som passar på baklocket med ett urtag för kolven och som kan låsas i rätt position med en stoppskruv.

**Gångorna.** Man bör vid montering av alla gängade delar använda konsistensfett. Rikligt mellan cylinder och topp då det förbättrar värmeledningen.

**Bränsle.** Man brukar köra en glidlagrad motor på mer olja, 25%, men jag kör på 20% och det har fungerat bra. Alltså 35% eter, 43% fotogen, 20% ricinolja (Benol), 2% DII.

**Propeller.** Lämplig propeller att börja med är en 7x6. Lelle använde en APC 6,5x6,0 vid senaste cupen. Det finns ju många olika vari-

anter av propellrar att använda och det är bara att prova sig fram.



## Överkurs

Om man har tid att spendera på tokiga fineser kan man göra som jag, sätta kullager i Recorden! Axeln är 8 mm så ett 8x16 mm lager passade som bakre lager då det finns gott om gods i vevhuset. Främre lager då? Där är ju vevhuset väldigt smalt, 12 mm. Jag svarvade ner framänden till ca 11,9 mm, kortade av den och gjorde en hylsa som trycks på med hård presspassning, ytterdia 13,6 mm. Den har sedan ett säte för ett flänslager 8x12x13,6x3,5 mm. Sedan får man brotscha upp axelhålet mellan lagren till ca 8,02 mm så att inte axeln tar i där.



Jag gjorde detta som en kul övningsuppgift för nyköpta svarven, men motorn blir ju underkänd för Webra Record Cup (kan dock användas i Weatherman klass 2D).

## Tester och ytterligare utveckling

När man ökat insugstiden och fått motorn att suga mycket bättre kan det vara möjligt att borra upp insuget och ändå få acceptabelt självsug av bränslet. Då det är svårt att ångra sig är det bäst att ta det försiktigt. Kan man hitta ett ännu smalare nålrör kan man börja med att byta till det. Går det bra, borrar man upp 0,1 mm och uppprepar tills det inte längre går bra och sätter då tillbaka originalröret.

Nu vill jag se att Din Record plockas fram ur lådorna, fixas och sätts i den Weatherman som Du genast sätter igång och bygger! Du har kanske andra bra idéer om Webrans trimning, skötsel, behov av delar eller andra frågor. SLIS-forumet är då ett utmärkt ställe för detta. Lycka till!

Göran Olsson,  
med konsult hjälp  
av Lennart Nord





Martin Alkestrand



Trivial Pursuit med PA75.



Lennart Nord



Stefan Olssons fina  
Weatherman-kärre.

# Västkust- TRÄFFEN 2021



Thomas Olsson  
flög Semistunt med en fin Oriental.



Anders Hellsén



Skärp dig  
unge man!

Gör det  
själv,  
skäggmops!



Torbjörn  
Lundgren



Tidigt på morgonen den 15 september i nådens år 2021 rullade de ut sina linor, en del hade kommit långväga ifrån, de kom från söder, de kom från norr. De hade kommit till Stunt City, Kungsbacka för att göra upp om den hedervärda första-platsen i den 55:e Väst kustträffen. Det flögs F2B, Semistunt!!! Och Weatherman Vintage Speed. Det ska nämnas att det var fem år sedan det var deltagare i Semistunt, det är glädjande att det kom nytt folk!

Morgonen var fuktig, gräset dröp av dagg, marken var sur från föregående veckas regn. Gråa moln hotade med regn, det kom också efter första omgången i F2B. Ca 1,5 timmes uppehåll i tävlandet orsakade det. Då satte vi oss i klubbstugan och lyssnade storögt på de äldres historier om hur det gick till förr, anekdoter från förra seklet när vår sport var stor. Förhoppningsvis blir den större igen, vi får jobba på det.

Som skrivits innan så hade vi återigen anmällda i Semistunt. Alla behärskade inte hela programmet. Men vad gör det? Ingenting! De hade kul och lärde sig förhoppningsvis mer av de mer erfarna flygarna. Det är ju det som är meningen med Semistunt, en instegsklass till F2B eller bara flyga tävling för att det är kul och träffa folk med samma intresse, få tips om motorer, flygplan, hur man bäst kontrollerar flygplanet m m. Kan man inte hela programmet är det bara att säga till domarna vilka manövrer man vill hoppa över, ingen ser ner på någon för det.

Weatherman flögs också. Det var några nya ansikten med även här, hoppas vi får se dem igen. Det blev inga överraskningar resultatmässigt denna tävlingen. Vi hoppas vi ses nästa år och att vi då gör bättre resultat.

Micke Palm

## RESULTAT VÄSTKUSTTRÄFFEN 2021 Inlag, Kungsbacka, 11 september

### F2B Stunt

Placering, Namn	Klubb	1	2	3	2 bästa
1. Staffan Ekström	Trelleborgs MFK	1013	1046	1038	2084 p
2. Lennart Nord	Västerås FK Modell	978	1058	1021	2079 p
3. Niklas Löfroth	Karlskoga MFK	912	939	1012	1951 p
4. Michael Palm	Kungsbacka MFK	850	930	902	1832 p
5. Anders Hellsén	MFK Snobben	894	887	913	1807 p
6. Emil Palm JUN	Kungsbacka MFK	611	734	-	1345 p

### Semistunt

Placering, Namn	Klubb	1	2	3	2 bästa
1. Thomas Olsson	Trollhättans MFK	54	148	138	286 p
2. Martin Alkestrand	MFK Snobben	97	92	107	204 p
3. Torbjörn Lundgren	MFK Snobben	84	104	74	188 p

### Weatherman Vintage Speed

Placering, Namn, Klubb	Klass	Tid	Hastighet	%	Motor
1. Stefan Olsson Uddevalla RFK	3G	18,2 s	159,1 km/h	95,1 %	(Nelson)
2. Ingemar Larsson Vänersborgs MFK	4G	19,9 s	145,5 km/h	95,0 %	(K&B)
3. Thomas Olsson Trollhättans MFK	3G	21,3 s	135,9 km/h	81,2 %	(MDS)
4. Johan Larsson Vänersborgs MFK	2G	30,1 s	96,2 km/h	79,1 %	(THK)
5. Anders Fridén Uddevalla RFK	3G	23,6 s	122,7 km/h	73,3 %	(Rossi)
6. Martin Alkestrand MFK Snobben	5G	27,0 s	107,2 km/h	71,1 %	(OS)
7. Torbjörn Lundgren MFK Snobben	3G	32,3 s	89,6 km/h	53,6 %	(MVVS)
8. Lennart Nord Västerås FK Modell	3D	0 s	0	0	(Zorro)

### Domare

F2B: Johan Larsson och Ingemar Larsson

Staffan Ekström



Ingemar Larsson



Torbjörn  
Lundgren



Anders Hellsén



# From G20 to R15 ...



**Ugo Rossi in 1961 with a Vulcan powered Pulse Jet model.**

The participation of the Rossi Brothers in C/L competitions began in the early 1950's with participation in Speed contests, where they immediately stood out, despite being still very young, always placing themselves in the first places. In 1957 they appear in the result lists of some regional T/R races but the real leap in quality will take place in 1958, the year of the new FAI rules for speed models in class A (now F2A), and for T/R.

From the first contests the Rossi Brothers won class A with Cesare and from then culminating in Ugo's conquest of the 1959 European Championship in Brussels with 222 km/h and the 1960 World Championship in Budapest, again won by Ugo, with 236 km/h. After winning the 1958 Italian Championship in classes A (2.5 cc) and B (5 cc), from 1959 they also participated in class C (10 cc) and D (Pulse Jets) where, needless to say, they won practically everything.

In classes A and B they used the ST G20V and G21V and at first in the C they used the McCoy 60 and in the D class (Pulse Jet) they produced and then marketed the Vulcan. In the meantime they begin to offer commercially Vulcan glow plugs, speed propellers and aluminum pans for the various classes, as well as modified G20V and G21V.

Not satisfied with the performance of the McCoy 60, they began to work on a 10 cc of their own design; the Rossi R60. This engine is clearly inspired by the American engines, which at least in C/L was then the most competitive engines but their changes were very important, starting with a general strengthening of the crankcase, the enlarged transfer duct and with an optimized piston with a single segment with a much more modern design and therefore consequently much more efficient head design. The crank shaft with fillings designed to reduce the volume of the crankcase and finally an intake valve in plastic with ball bearings.

In short, an engine inspired by the Mc Coy but with a considerably different and decidedly more modern design. After a period of fine-tuning, with the R60 the Rossi Brothers won the 1960 and 1961 Italian Championships, a success that was carried on by others for the years to come. The Rossi Brothers abandoned the races at the end of 1962 because they were busy with the production of the R60.

But let's go back to the 2.5 cc engines which are the ones that this article will discuss. After the first two seasons using the ST G20, more and more modifications were made by the Brothers, producing parts from scratch while maintaining the original design but with materials more suitable for the purpose and with much more workmanship. In fact, one thing is to produce thousands of pieces and another is to make a few pieces without having to worry about how much they will cost.

In their last racing season, 1962, the Rossi Brothers took part in the Shell Cup in Genoa and with the class A monoline model and FAI mixture without nitromethane, they made two superb flights at a speed of 225 km/h and 226 km/h. It should be noted that up to that moment the best result obtained in Italian races and also in the rest of the world had been a remarkable 219 km/h by Giancarlo Ricci with the ST G20. In the magazines of the time, the engine is described as having the G20 crankcase but that everything else was entirely by Rossi.

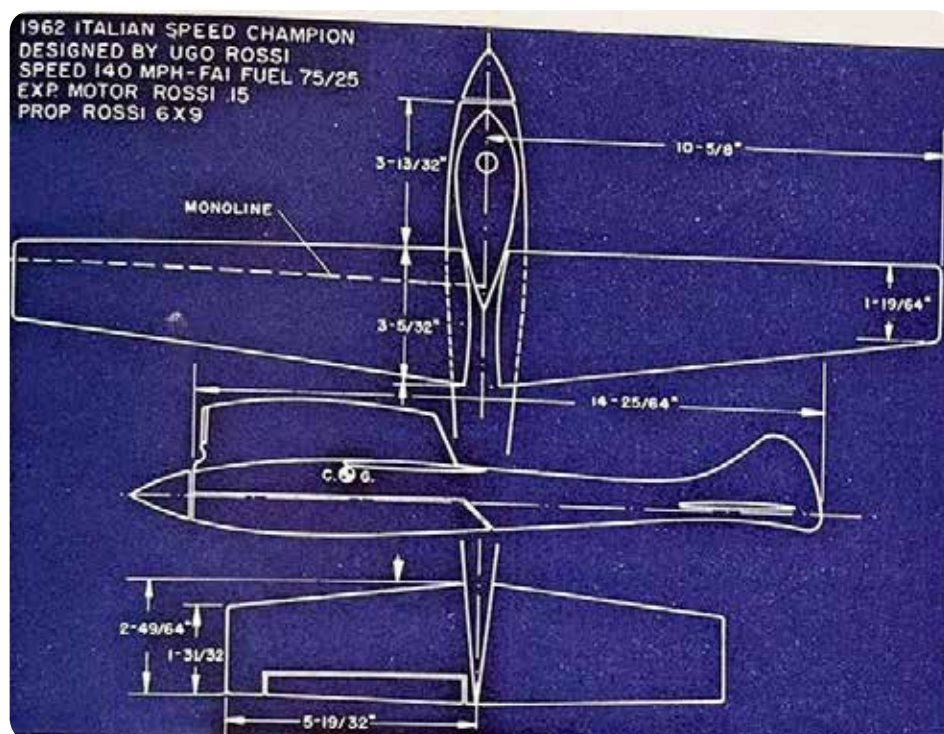
Strangely, but probably for reasons not inherent to sporting choices, Ugo Rossi was not



**Inspired by American engines like Fox, the venturi intake was made big and rectangular. But also to test the principle to have the venturi look the same as the cut-out inlet in the crankshaft.**



**Prototype casting of an engine with a big square intake, later abandoned. Also note the tests with bilateral ports in the crankcase although it has unilateral porting.**



# The long road to a Supermotor!

included in the Italian Team that participating in the 1962 World Championships in Kiev. It should be noted that Speed was won by the Hungarian Kriszma with 218 km/h while Ricci finished in second place with 214 km/h.

Work had probably already begun based on the sporting and commercial success achieved with the R60, but the Rossi Brothers decided to design and produce a 2.5 cc that should beat all other competitors. We (the authors) do not have the presumption to think that the various prototypes we will talk about are all those produced, there have probably been many more, but we think that the following are models that significantly represent the remarkable development process which over time has been carried forward.



**Note the fastening method for the prop driver, common in these days.**

At this point, we are in 1963, it is clear that the next step was to design a new crankcase. One of the first castings had a rectangular front intake venturi, vaguely inspired by the Fox Combat engine. This solution could have the advantage of eliminating the difference in shape and passage between a circular venturi and the rectangular port in the crankshaft (as high performance engines have).

Probably this solution did not give the desired results and they returned to a circular venturi, while at the same time enlarging the front part of the crankcase for the shaft support between the two bearing seats. In the first castings produced, a vertical rib, already used in the R60, can be seen between the fixing fin and the lower part of the exhaust duct, with the precise purpose of stiffening



**Several variants of porting with cut-aways in both the liner and the piston was tested.**

the part of the engine most subjected to thermal stresses (difference of temperature between the transfer side and the exhaust side).

At the beginning of the 1960's, all 2.5 cc speed engines, except the G20, had rear rotary valve intake (MVVS, MOKI, K&B), so it is logical that a version with rear disc rotary valve was tested. The influence of the R60 is clearly seen, with the nylon disc valve and the shaft having a constant diameter for the entire length (1/4 ").

The prop driver also follows the philosophy of the 60's slavishly. Very interesting is the modification of the transfer ports in the liner, which, instead of being single as on all engines with unilateral transfer, is divided into two parts by a central crosspiece. Considering that, even if already produced by Rossi, the sleeve still follow the Super Tigre design of the ports of the G20 and the fact of dividing the gas flow in two along the transfer ports can only lead to an improvement in performance with the 'elimination of many dead spaces and a reduction of turbulence in the central area.

With the rear intake it was possible to try valves with different configurations, the "drum" type valve with radial intake and axial port towards the center of the crankcase is tested. In this case from the fluid-dynamic point of view it is like having a front intake but with the advantage of a shorter distance because normally there is no ball bearing, less harmful space in the crankcase and above all the possibility of having a section of much larger intake because the diameter of the drum is not as limited as that of a shaft in a front-aspirated engine.

On the other hand, there are greater losses due to friction. In this particular example the "drum" has an external diameter of 11 mm with the intake port of 8.1 mm. The venturi has a diameter of 8,7 mm, only to a small extent limited by the passing pin as on the R60.

As mentioned before, it can easily be seen that in comparison with a front suction solution, which in those years provided for a maximum of a 10 mm diameter crankshaft, with an internal port with a very limited diameter for reasons of structural integrity, the improvement of the suction capacity is remarkable.

Among the various solutions tested there was one in particular over the top with front suction but with the opening of the intake controlled by the crankshaft; a kind of front disc valve. The fluid dynamic benefits are very evident: the inlet port can be shorter plus there is a reduction in the noxious

volume in the crankcase to the advantage of a better flow of the cylinder because if compared with a front aspiration engine you gain all the volume of the port between the intake port and the crankshaft. The venturi has been appropriately moved to the right in order to have decent suction times.

Where, on the other hand, there can be problems, and there certainly are, with regard to the mechanical part. The balancing of the shaft, at least as it is normally done, is practically impossible to obtain with this cut-away section. In part, it can be solved with inserts of heavier material than steel, for example tungsten, and with a suitably balanced propeller driver. It is impossible to mount a rear



**Photos showing the principle for the front intake disc system which gives balancing problems and also left the engine without a rear ball bearing.**

# The birth of a Rossi!



**The front intake engine with a front rotary disc as you can see from the position of the venturi.**



**The rear intake side exhaust prototype with the venturi straight out from the back cover.**

bearing because between the intake passage and the crankshaft there is not even space for a roller bearing and in this example the crankshaft use a bushing, a solution that is fine up to a certain number of revolutions; when these rise beyond a certain limit it proves to be limiting with respect to the solution with bearings. Finally, the seal of the crankshaft, with respect to the venturi, can be solved with precise machining so it would be possible to limit the axial clearance. It can be noted that this design already was seen in the beginning of the 50's in DDR with Wilo, a company specializing in the production of racing outboard motors.

In the 1964 World Championship in Budapest the United States team showed up with the prototypes of the K&B 15RS (better known as WART), with rear disc intake, side exhaust and three-port Schnuerle transfer; the first engines with this type of transfer seen on a competition field. It was immediately clear to everyone that this type of transfer was decidedly superior to the unilateral transfer. All the engine manufacturers turned to the new scheme and of course the Rossi Brothers also



**Back to a conventional crankshaft with intake inside the shaft. Note the reinforced front part of the crankcase.**



**Another prototype with a rotating drum instead of a rotating disc as can be seen on the engine to the left.**

began to experiment with Schnuerle liners and transfer ports.

Meanwhile, they returned to the classic scheme with front suction through the shaft and a new crankcase was produced with the part towards the rear enlarged because the first prototype was probably considered too weak.

Thus we arrive at 1966 and probably the new R15 would have already been ready to be put on the market but at the World Championship of that year the Speed flyers of the US Team showed up with rear exhaust engines complete with tuned exhaust pipes and they won with large margins to other competitors. It should be noted that for some years the tuned exhaust pipe had already been introduced on the engines of Motorcycles (MZ) and Racing Outboards.

It soon becomes clear that the future of speed engines would be those with a rear exhaust and a tuned exhaust pipe. The Rossi Brothers, and not only them, thus find themselves in the position of having to give up

part of their experiments, leaving aside all prototypes with side exhaust and moving on, at least as regards the geometry of the crankcase, to something completely different. The front intake is maintained, a solution that convinced them to be the best despite the fact that the TWA engine had rear disc intake and three port liners and rear exhaust. With the use of the tuned exhaust pipe they had to start development from the scratch and this involved a significant increase in the time spent in experimentation.

With this last variant the long phase of experimentation carried out by the Rossi Brothers ends. From this moment on, the glorious history of the R15 is written in the aeromodeling world. There has probably never been, neither before nor since, an engine that has allowed itself to dominate completely in so many modeling specialties. In C/L Speed it was used by 99% of the competitors, also in Free Flight. In the USA it was used with the Scale Racers and in the Quarter Midget Pylon Racing Class.



**In the end this is the famous Rossi R15 that came out of the prototype project.**

It is not that other manufacturers have not tried to produce engines that could oppose this excessive power; in the USA, for example, first the K&B and then the COX tried it, but although these engines were advertised in American magazines as of equal performance, if not even better than the Rossi, if you look at result lists, it is almost impossible to find any of these engines mentioned.

This article would not have been feasible at all without the indispensable support of Mr. Mario Verdi who made most of the engines presented available and to whom therefore our heartfelt thanks go.

Gianmauro Castagnetti and Gianni Mattea



&



Translation and adaption:  
Piero Incani and Ingemar Larsson

# Barcelona F2D World Cup



This 2021 World Cup in Barcelona was the first to be held after a year and a half of restrictions. Despite the uncertainty in the number of pilots coming, the RACBSA club decided to organize the competition as a World Cup category with the idea of starting to promote competitions at European level.

Although the attendance was scarcer as expected, pilots from different countries attended and we are very grateful to the pilots from abroad who came; Ericks Kocuns and Vitaly Kochunts (LAT), Vytautas Rimisa (LIT), Antonello Cantatore (ITA) and Xavier Riera (FRA). And, as always, our pro judge Vernon Hunt came from England (who we are always proud to host).

In addition, this competition was the first of the new promising junior of our club, Xavier Segarra, starting his incipient career as a fighter pilot that we predict a long and fruitful way in combat competitions and, not bad, he managed to win 2 combat heats!

With this edition adapted to current times, La Mercè Barcelona WC Trophy is further consolidated and we hope that next year we will be able to celebrate this event again with more participation and without losing the enthusiasm of the organization.

We are also grateful to all the sponsors who have made the event possible and to all the RACBSA club members without whom this competition would not be possible to carry out.

*Next year more and better!*



Marta Sala



**Combat final just finished between Gonzalo Garcia and Manuel Mateo.**



**Manuel together with the Baltic pilots; Ericks, Vytautas and Vitaly.**



**Top three : Gonzalo Garcia, Manuel Mateo and Antonello Cantatore.**

# Jura Cup Switzerland

## held for more than 40 years!

The international JURA CUP Control Line on Saturday, 18 September 2021, was entirely dedicated to the F2B Aerobatics. 13 competitors from 4 countries traveled, some of them already the day before, to the control line site 'Schwalbennest' near Büsserach, Switzerland. There they found the best conditions for holding the competition. Sunny, pleasantly warm, hardly any wind. This is how it can be flown! Or not? The lack of wind was at the end bad luck for a German competitor. During a training flight, the model got into its own turbulence and crashed - really a rare and special incident that would not have happened with a light wind.

But otherwise the competition went perfectly. Excellent performance could be seen, and the participants were able to complete all three

flights with the 15 aerobatic figures on Saturday without any problems. In the end, there were two German pilots on the podium: Christoph Holtermann in first place and Frank Wadle in second place. Third place went to Swiss champion Lauri Malila.

The JURA CUP 2021 was a beautiful, happy occasion in every respect. And that's not all: The program offered another attractive novelty: the first-time staging of the Concours d'Élégance.



*Thierry Saunier won Concours d'Elegance.*



*Lauri, Christoph and Frank!*



*Models taking part in Concours d'Elegance.*

This facet, which has been newly introduced at international level, is about subjecting the aerobatic models that are flown in a competition also to a construction assessment. For this purpose, all models were presented to a specially composed jury. This judged the models for the elegance of contours and shapes, for the construction and surface quality as well as for the coloring. With this number of splendid constructs, it was not an easy job for the jury. In the end, the 'Shark' model by Thierry Saunier, France, was chosen as the winner. His model is really outstanding!

The competition program was concentrated, but there was still enough time for interesting discussions, for exchanging ideas and also for socializing. German, English, French, Italian could be heard mixed up. But although not everyone speaks every language, everybody understood each other very well.

After the Corona-related failure in 2020, the traditional JURA CUP - which has been held for over 40 years - was continued in 2021. And all competitors and guests said goodbye at the end with the promise that they would definitely be there again at the next event. The date for this is already known: 24-25 September 2022 in F2B Aerobatics.



*Ursi Borer  
Swiss Control Line Committee*



*Only happy faces ...*

## Christmas Greetings from

## Harry Kolberg

My latest project, Stunty, was my first model/engine in 1957. I remember it took me one year to save money to buy a DA Satellit for the model.

Stunty was a kit from Erik Engelhardt-Olsen, the fuselage was from massive balsa, the wing a balsa sheet and the engine mount was made of pinewood. It was a nice model for a beginner as it could withstand rough treatment. The original had no landing gear. Now I use a PAW in it as my Webra Record is used for Weatherman flying.

– Harry Kolberg NOR



## Christmas Greetings from

## Serge Delabarde



Serge have sent photos of his latest model, a Yak. A wing span of 1540 mm and a weight of 1808 gr with an area of 49,2 dm<sup>2</sup> which gives a load of 36,8 gr/dm<sup>2</sup>. Using a BadAss 3515 710 Kv electric engine and a 5S 2700 mAh LiPo together with a two blade Yatsenko propeller.

– Serge Delabarde FRA

# Open International in Lugo



Since 1964, 56 editions of the International COPPA d'ORO have been held every year, first time only for F2C, then also F2A, F2B and finally F2D.

But Covid-19 prevented us from meeting up with all the control-line friends in 2020. For continuity of the numbering of the editions, the 2020 - 57<sup>th</sup> edition - was held only with validity for the Italian Championship.

Fortunately vaccination, despite many problems and still some limitations, has allowed a certain mobility to people and so we were able to have the 58<sup>th</sup> COPPA d'ORO from 3 to 5 September 2021, with a great desire to fly again and match each other sportingly, even if the race only was an Open International and not a World Cup.

Good participation in terms of number and quality of competitors: 82 from 15 nations. Thanks to the judges (in particular the

'foreigners' Serge Delabarde, Joseph Fisher, Vernon Hunt) to all the helpers, lapcounters, timekeepers and to the computer operator for the Acrobatic scores, Mariangela Sudarovich.

Speed: only 4 in F2A + 2 in F2G: our Italian World Champion Luca Grossi confirmed his performances with 306.1 km/h; the Ukrainian Junior Alex Ryzhov made his debut with a good result of 269 km/h; Electro Speed performance boost with Daniel Rota's remarkable 309.2 speed.

Acrobatics: 14 competitors who saw the victory of Andrii Yatsenko-UKR, followed by Mauro Fiussello-ITA and Lauri Malila-SUI.

Team Racing: 20 crews, with a large presence of Polish friends (5 teams including Juniors Jakub Golisz and Julia Lesiuk). Victory of the french brothers Pascal and George Surugue, followed by Anton Makarenko/Jurii Marciuk-UKR and Ferenc Orvos-Rob Metkemejer-NED.

The F2F category race -with 5 teams- was also held on Friday 3 afternoon, won by Orvos/Metkemejer-NED.

Save the date ... 59 'COPPA D'ORO 3-4 September 2022 ... you are all invited to LUGO-Italy!

Luigi Lanzoni



*A nice table with prizes for all winners. In the background you see the Club tent! How many clubs can show such a nice place to hide from the sun?*



*Vernon Hunt and Piero Incani made sure everyone in F2D followed the rules.*



*Raul Mateo ESP, Jose Luis Lopez ESP and Adriano Molteni ITA took the top positions in F2D.*



*10 year old Vittoria showed that she could fly a combat model and we are now waiting for her first contest start.*



*Maurizio Anastasi, Antonio Giandrini and Adriano Molteni were top 3 in the Italian F2D Nationals.*

# 58<sup>th</sup> Coppa d'Oro

The 58<sup>th</sup> "Coppa d'Oro" in the F2D category was a fantastic three days and registered 24 pilots from Italy, Spain, Germany, Denmark, Romania and Great Britain. A number not as important as in the past when 48 appearances were reached, but it is definitely consistent if we consider the current situation relating to COVID-19.

The race took place under the careful guidance of the two international judges Vernon Hunt and Piero Incani assisted by a team of 9 helpers as time and cut keepers.

For the first time the race was held on the basis of the three lives available to all the pilots. This was possible as the competition was registered on the FAI calendar as Open International and not as a World Cup. The formula was very successful and appreciated by the competitors who, in the face of great distances covered to reach Lugo, were able to carry out at least three flights.

The high level of the participants made them appreciate flights of absolute quality. The competition was won by José Luis Lopez who beat the other Spanish pilot Raul Mateo in the final, the Spanish team was therefore also awarded the "Memorial Alessandro Bossi" Team Trophy offered by Adriano Molteni and Antonio Giandrini in memory of Alessandro who died prematurely many years ago. Confirming their fame, the young Spanish team therefore dominated the event by winning individually and in teams even if we have to record the excellent performance of Adriano Molteni who reached third place expressing a quality of flight at the height of his international fame. He really missed just a little to win the competition.

Maurizio Anastasi confirmed himself to be an excellent pilot but unfortunately a muscle accident prevented him from giving his best. Good luck to Maurizio for a prompt recovery knowing that he is one of the Italian pilots who best expresses himself in this type of event. Good performance also by Antonio Giandrini, however, fouled by two flights not well carburized that put Antonio a little in difficulty immediately at the start, excellent recovery in the following two flights but at the fifth launch Antonio had to raise the white flag. Excellent performance also of the almost rookie Giacomo Sbernardori. The ranking of the Italians is closed by Giuseppe Motta who unfortunately was the victim of a series of inconveniences that did not allow him to climb the rankings as he competes and as he often manages to do.

The Italian Championship was also held within the event, with Adriano Molteni prevailing over Maurizio Anastasi in second position and Antonio Giandrini in third.

Finally, a happy note about new recruits, on the field there have been faces that in the past have flown with the Combat and who could soon reappear in the category, as well as the advent of a junior pilot Vittoria A. who under the skilful guidance of Adriano has shown everyone how already at the age of 10 you can have what it takes to safely pilot a powerful Combat model. Welcome Vittoria, we are waiting for you on the competition fields.

Antonio Giandrini



**The Spanish Team won "Memorial Alessandro Bossi" Team Trophy!**



# The Swedish Komet Diesel



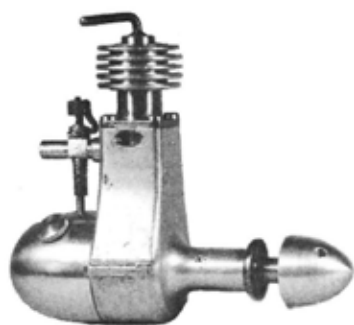
Adrian Duncan is a 74 year old modeler living in Canada. One of his main interests is Models/Model Engines and he runs a very informative web site.

This time we have chosen the story of the Swedish Komet Diesels. More articles can be found at Adrians web site <http://adriansmodelaeroengines.com>.

In an earlier article about Giancarlo Pinotti which appears on my own website (and also in a compressed version in Lina 2-2015), I set out the history of model engine manufacture in Sweden during the pioneering era. Readers who are interested in that broader topic are referred to that article - I won't repeat the material here.

Model engines had been commercially manufactured in Sweden in very small numbers prior to the outbreak of World War 2, most notably by Giancarlo Pinotti with his GP models. However, the model engine manufacturing movement in Sweden was really set upon its course by the 1943 publication in the popular magazine "Teknik för Alla" of plans for a 2 cc diesel engine intended for home construction. This engine was designed by Ivan Rogstadius based on the Swiss Dyno model of 1941. It led to the proliferation of a number of Dyno "clones" throughout the Scandinavian countries.

The first model diesels to be produced in Sweden at anything more than "one-off" scale



**Västerås-dieseln 1944**

were the RJ engines, which were hand-made in very limited numbers by Rune Johansson beginning at some point in 1943. However, it would be stretching things somewhat to characterize the RJ engines as commercial products. Johansson apparently only managed to produce a total of around 20 engines between 1943 and 1946. 15 of these were reportedly 2.5 cc models, while 5 were of 3.25 cc displacement. This surely places the RJ engines in the "labor of love" category as distinct from a commercial series production.

Giancarlo Pinotti was next into the fray, releasing his excellent GP 1.5 cc diesel model in early 1944. This was probably Sweden's first commercially-produced model diesel.

Although the precise dating is somewhat uncertain, it was definitely not long after the appearance of the GP 1.5 that the first model of what was to evolve into the Komet range entered the marketplace. The Komet engines were built by the brothers Harry and Bernt Johansson of Västerås, a Swedish town located about 100 km west of Stockholm. The brothers were apparently unrelated to Rune Johansson.

The brothers traded under the business name of H. & B. Johansson. They began their activities at Linnégatan 1b in Västerås, later (c. 1950-51) relocating to Tessingatan 3c, still in Västerås. In his memoirs which appeared on the web-site of the Svenska Modellracer Unionen (Swedish Model Racing Union) tether car organization, pioneering Swedish tether car racer Lars-Olof Johansson (again, no relation!) recalled visiting the Tessingatan location during a trip to participate in the Swedish Model Car Racing Championships held at Västerås in 1952. In company with Leif Åström, Leif Pettersson and Lasse "Puke-torp" Johansson, he was given a tour of the facilities.

Lars-Olof recalled that the Johansson brothers' workshop occupied two small basement rooms in an ordinary house. These two rooms were absolutely packed with machine tools and related equipment. The brothers showed the group one of the 5 cc development models on which they were then working. The main point to be drawn from this description is that, like the parallel manufacturing activities of Giancarlo Pinotti, the Komet venture remained at a small-scale artisan level throughout, never expanding to anything approaching "factory" status.

The first model produced by the Johansson brothers was a very workmanlike sideport diesel of a nominal 2 cc displacement. This first design was simply called the "Västerås-dieseln" (diesel engine from Västerås) - no mention at that time of the Komet brand-



**Another view of Västerås-dieseln**

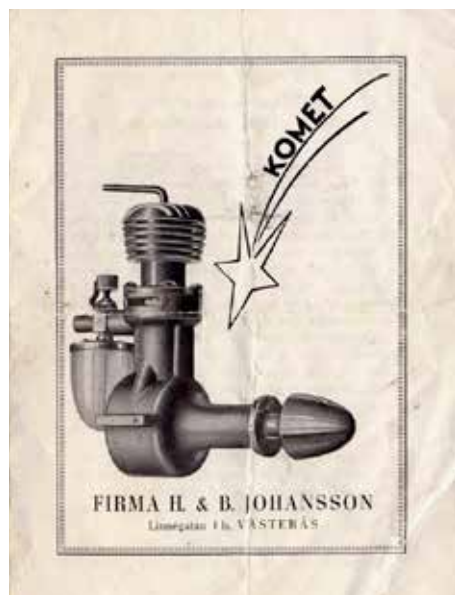
name. It seems to have appeared in mid to late 1944. It was more or less a copy of the Swiss-made Dyno model, leading to the strong suspicion that the two brothers had studied Ivan Rogstadius's drawings which had been published in late 1943 in "Teknik för Alla" magazine. The engine did display a few detail changes from the Dyno design, but the influence was very obvious.

Bore and stroke of this initial model were 12.10 mm and 17.50 mm for a calculated displacement of 2.01 cc (although some sources have given this figure as 2.06 cc). The engine weighed a reported 185 gm (6.53 ounces) and developed a claimed 1/10 BHP @ 7,500 rpm. This was a good performance by the standards of the day, and the engine seems to have been quite well received. About 500 examples of this model were reportedly manufactured between 1944 and 1946.

It seems worth noting that the Swedish modelling publication "Hobbyboken" for 1946 mentioned an engine which it referred to as the "HJ dieseln" from Västerås. This is almost certainly the same model by a slightly different name. The letters HJ likely refer to Harry Johansson, who was evidently the driving force behind the venture. Still no mention of the Komet name at this point in time.



# The Swedish Komet Diesel



Front page of the instruction sheet

In 1946 the brothers adopted the name Komet for their series of model engines, along with the Komet “shooting star” logo which was soon to become very familiar to Swedish modellers. The first model to be released under this name was the Komet I, which was in essence a development of the Västerås dieseln.

It retained the same general design layout, including the sideport induction, but featured a somewhat less bulky and more elegantly contoured crankcase which was a high-quality gravity die-casting. Both bore and stroke were increased to 13.00 mm and 18.00 mm respectively to yield a displacement of 2.39 cc (0.146 cuin.). Weight was slightly reduced to 165 gm (5.82 ounces). Rather oddly, claimed power output was unchanged despite the increased displacement. We shall be testing this factor in the following section of this article.

One particular feature which seems worth mentioning is the prop retention system. When viewed with a prop fitted, one would assume that the visible alloy spinner nut was the main prop fastener. Not so, however



Komet Mk I

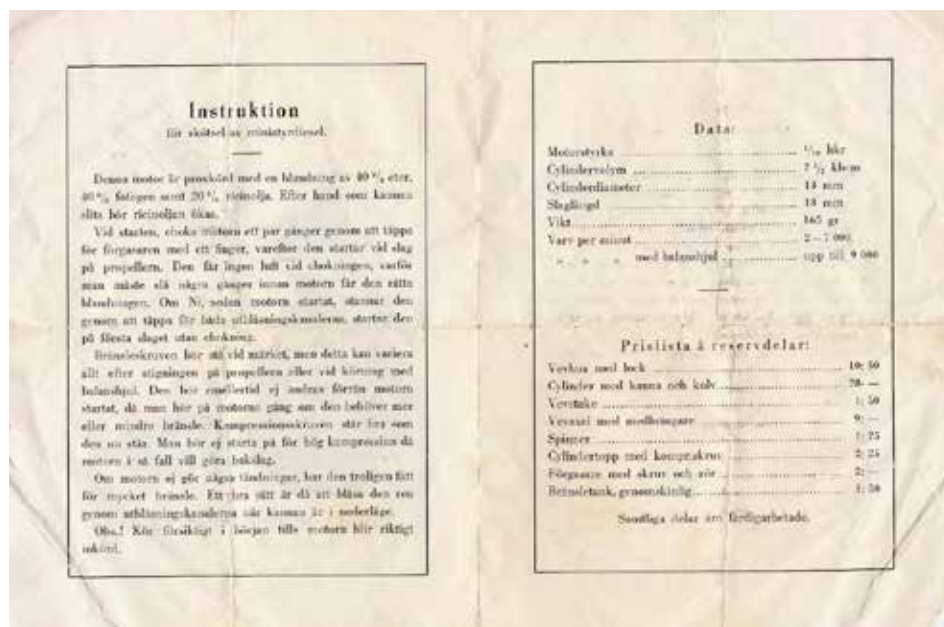
- in fact, the prop was secured by a conventional nut and washer which engaged with a threaded stud which screwed into the internally-threaded shaft. The alloy spinner nut was hollowed out at the rear to accommodate the prop-nut and washer, which were concealed from view when the alloy spinner was in place. One tightened the prop using the conventional nut and washer, after which the alloy spinner could be installed on the protruding end of the prop mounting stud. The engine would run perfectly well without the spinner.

I mention this because many owners evidently didn't bother using the spinner, contenting themselves with using the nut and washer alone. For this reason, examples are frequently encountered without the spinner. However, as far as I'm aware all examples

he mentioned an occasion on which he was packing up after a flying session and happened to idly flip the prop over (without refueling or priming). To his great surprise, the engine started up on the dregs remaining in the cylinder and crankcase!!

I haven't been able to find a previous test of this engine that's available on line. However, my valued Swedish friend and colleague Lars Gustafsson had placed me in possession of two nice examples which were itching to be put to work! No sooner thought of than done – off to the test bench!

Before being tested, both of my two examples of the Komet I required attention to a few significant problems. Chief among these was an issue that probably bedeviled this model all along - both examples had broken



Detailed instructions and also data of the engine with spare parts

were supplied new with this accessory. Therefore, any examples encountered without the spinner must be considered incomplete. The Komet I proved to be a very popular model. It was extremely well made, easy to start and lasted forever in service. It's been reliably estimated that at least 1,000 examples ended up being produced in total - in fact, the number may have been considerably higher. The fact that the engines bore no serial numbers makes the issue of production figures somewhat problematic for this model. Manufacture of this engine continued right up to 1951.

Lars-Olof Johansson recalled having done some control line flying with one of these motors in the early nineteen-fifties. In his recollection, the Komet I was “next to impossible to wear out and fantastically easy to start”. In support of the latter contention,

intake tubes. I've seen this before with other examples of this engine, implying that this is a chronic weakness.

There are two reasons for the prevalence of this issue - one, the main carburettor body is made of very poor quality cast material of the type often referred to as “pot metal”; and two, the intake is not threaded but rather is simply pushed into the induction boss on the crankcase. That boss is bored at a very slight taper, causing the intake tube to wedge in there very securely - perhaps too securely at times!

These factors can give rise to serious difficulties. Due to the very poor quality of the material used, the intake tube is readily broken. Even trying to extract a well-frozen component from the installation wedge can break it. Worse, if it breaks more or less flush

# The Swedish Komet Diesel



**Komet Mk I, side view**

with the rear end of the crankcase induction boss (as it usually does!), you're left with part of the tube firmly wedged inside the boss with no purchase for extraction! One of my two examples had suffered in this way, and I had to drill it out very carefully and precisely so as to avoid marring the very fine (2 degree included angle) installation taper in the crankcase boss. The replica replacement carburettor bodies that I made for both examples are machined from aircraft grade aluminium alloy barstock - they should hold up! They replicate the originals as closely as I was able to manage.

Apart from the issue with the carburettor, both engines were in extremely good mechanical condition. They had seen a fair bit of use, but felt as if they'd just finished running in! The replica carburettor bodies that I made have bores that are dimensionally identical to that of the broken originals (which were still with both engines when I got them), and the needles, jets and tanks are all the original components. Therefore these examples should deliver fully representative performances.

For these tests, I elected to use an un-nitrated fuel made up from equal parts of kerosene, ether and castor oil. The cooling jacket on these engines seems to be more for appearance than for any practical purpose, making it appear highly advisable to use the coolest-running fuel possible.

First impressions were entirely favourable. Both engines started ridiculously easily, needing only a few preliminary finger-chokes to

get enough fuel into the crankcase followed by one or two starting flicks. In fact, I almost fell victim to the "unexpected start" syndrome mentioned by Lars-Olof Johansson - after making a compression adjustment prior to a warm re-start, I idly spun the engine over between thumb and forefinger to check that there was no trace of a hydraulic lock, and the thing started!! Fortunately my hand escaped being cut by this unplanned event!

Once running, settings were easily established, with smooth consistent running being readily obtained. Both controls held their settings perfectly while remaining adjustable at all times. Re-starts were instantaneous following prop changes, making this test a real pleasure. No prime was required at any time.



**Bench test**

I tested both engines on the full range of props, finding that one of them was very slightly more powerful than the other. This is to be expected from two examples of the same artisan-built engine having different previous owners and hence differing usage histories. That said, the differences on a given prop were only of the order of 100 RPM or so, with a 200 RPM gap at the top end of the scale. The figures reported here are those obtained with the slightly faster engine of the two.

Propeller	Speed (RPM)	Output (BHP)
Zinger 11x7 Wood	4,600	0.072
APC 11x6	5,400	0.089
TF 10x7 Wood	5,800	0.097
APC 101/2 x6	6,000	0.102
APC 10x7	6,200	0.102
APC 10x6	6,400	0.100
APC 10x4	6,600	0.081

As the above data show, the test Komet delivered almost exactly the 1/10 BHP @ 6,000 RPM that the manufacturer claimed - it topped out at 0.103 BHP @ 6,100 RPM. While not a stellar performance by later standards, this was a quite acceptable performance for a low-revving 2.39 cc sideport diesel of 1946 vintage. Coupled with the



**Komet Mk I, top view**

engine's extremely high quality, outstanding starting and running characteristics and ability to swing a large and hence efficient prop with authority, it's no wonder that the Komet I achieved such widespread acceptance among the Swedish modelling public!

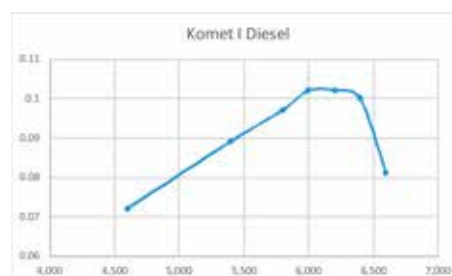
Just for fun, I tried the Komet on the 10x4 prop using a nitrated fuel. There was no measurable effect on the engine's speed using this prop and fuel - it still settled down to a steady 6,600 rpm. The sole indication of the new fuel's effect was a considerable reduction in the amount of compression required. On those grounds alone, I'd be tempted to add a little ignition improver if I was planning to use this engine on a load which would allow it to reach its peak in the air.



**Komet Mk I, from behind**

In summary, the Komet sideport engines were fine model powerplants which would have outlasted most of their owners! They undoubtedly got the Johansson brothers off to a good start. The brothers were to go on to develop far more sophisticated rotary valve designs in both diesel and glow-plug formats. But that's another story, maybe for later...!

Adrian Duncan



**Test results**

# Frank's DOs & DON'Ts of STUNT:



*Frank's personal view  
on how to become  
a better stunt pilot.*

## Have a close look at your hinge gaps

We have all read numerous times about taping the hinge gap on flaps and/or elevators. Some models profit a lot from the increased effectiveness of the rudder caused by this, others don't. This article will therefore not focus on the reason or benefits of taping the hinge gap. Rather, I would like to have a look at those planes that fly without taped hinges.

In general, a gap at the hinge is not the end of the world. It just means the rudder, be it the flap or elevator, is less effective than it could be. This can easily be compensated with a little more rudder deflection. However, since one of our main objectives should be on a symmetrical flight performance of our plane, we should try to keep the hinge gap symmetric as well. Let me explain what I mean. On some models I have noticed, the hinges were not installed precisely in center of the flap or elevator. This leads to the gap opening up in one direction and closing in the other direction.



In the above illustration, the hinge is perfectly centered on the tip of the rudder. The

gap remains unchanged when the rudder is deflected up or down. Such an installation will show a symmetrical behavior. The rudder effectiveness is perfectly symmetric both ways.



Here the hinge is installed too low. The gap will open up when the rudder is deflected down and will close when the rudder is deflected up. This will make the rudder less effective when deflected down vs. up.



In this illustration the hinge is installed too high. The gap will close when the rudder is deflected down and will open when the rudder is deflected up. This will make the rudder more effective when deflected down vs. up.

The worst that can happen, is to have one flap of your plane with the hinges installed too high and the other flap with the hinges too low. The result will be a plane that wants to roll to the left or right in corners when the flaps are deflected because one

flap is always more effective than the other. The only cure, besides reinstalling the hinges properly, is to tape the hinges. The same effect will be noticed for elevators or flaps built with a round leading edge, like the Yatsenko airplanes and various others.



If the hinge (point of rotation) is too high or too low, then the same will happen as with the conventional design illustrated above. The hinge gap will vary for up vs. down deflection.

Unfortunately, such hinges are difficult to tape off. Therefore, you have to be extremely cautious when building hinges using this design, making sure the hinge is perfectly centered.

I'm convinced that a difference in hinge gap of 0,2mm will be noticeable on a stunt plane. So have a close look at the hinge gap on your model, maybe you will find the reason for that inexplicable trim issue that you've been trying to figure out for months now!

# Pimpa Din Weatherman!

Man vill ju alltid att en välflygande modell ska se snygg ut också. Jag ska här ge några enkla tips man kan göra för att sticka ut i mängden.

## Underlag är A och O för bra finish

En slutfinish blir aldrig bättre än grundarbetet så någon till mig för många år sedan och det stämmer väl. Jag brukar slipa med kornstorlek 400-600-1200 mellan varje lager som läggs på oavsett om det är Dope, Epoxy, grundfärg eller slutkulör. Först när man kommer till de sista lagren färg våt slipar jag enbart med 1200-papper. Man vill ju hålla nere vikt samt bibehålla slät yta så att maskeringstejpen får en slät yta mot underlaget för att undvika att färg inte rinner in under maskeringen.

## Val av färger,

och då menar jag inte kulörer. Det finns många färger att välja mellan på marknaden och jag har använt Butyrate Dope det senaste året. Butyrate är inte så tåligt mot högnitrerat bränsle så man behöver lägga på ett eller två lager 2-komponentlack. Här är det känsligt med valet av skyddslack då det är risk att underliggande färg kan resa sig och allt slipande och grundande måste göras om. Här intill finns en tabell som kan vara till hjälp vid val av färger för att minska risken för resning.

Jag har även provat olika sprayburkar och har funnit att Belton sprayfärg blir hård och tål Nitro ganska bra om man låter den härda ut ordentligt. Kanske inte 25% Nitro dock och där behövs det klarlack som toppskikt. Belton är även lätt att slipa utan att den kladdar ihop på slip-pappret.



Sprayfärg från Belton är ett utmärkt val liksom Biltemas 2-komponentlack.



Ett noggrant underarbete är A och O för ett bra resultat!



Att tillverka en stabil hållare underlättar målningen.



Det finns ett stort urval av dekaler att köpa via olika web-platser.

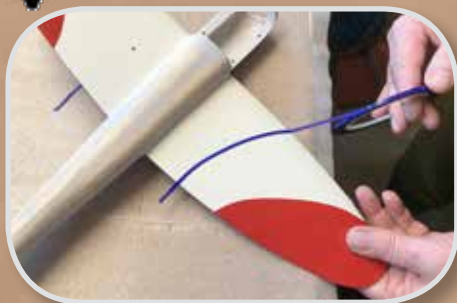


Har man den blå tejpens från 3M i bredderna 3,17 mm resp 6,35 mm klarar man de flesta maskeringar.

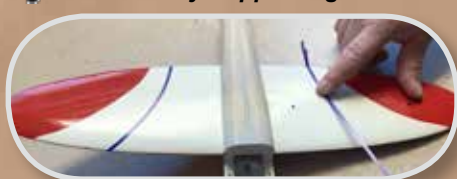
C = Compatible N = Not compatible											
Over											
Polyurethane											
Acrylic Enamel											
Epoxy Enamel											
Alkyd Enamel											
Acrylic Lacquer											
Butyrate Dope											
Nitrate Dope											
Aero Gloss Dope											
Dupont 305											
Polyester Resin											
Vinyl Spackle											
Under											
Vinyl Spackle	C	N	C	C	C	C	C	C	C	C	C
Polyester Resin	C	C	C	C	C	C	C	C	C	C	C
Dupont 305	C	N	C	N	C	C	C	C	C	C	C
Aero Gloss Dope	C	C	C	C	N	C	C	C	C	C	C
Nitrate Dope	C	C	C	C	C	C	C	C	C	C	C
Butyrate Dope	C	N	C	N	N	C	C	C	C	C	C
Acrylic Lacquer	C	N	C	N	C	N	C	C	C	C	C
Alkyd Enamel	C	N	C	N	C	N	C	N	N	N	N
Epoxy Enamel	C	N	C	N	C	N	C	C	C	C	C
Acrylic Enamel	C	N	C	N	C	N	C	N	C	N	N
Polyurethane	C	N	C	N	C	N	C	C	C	C	C



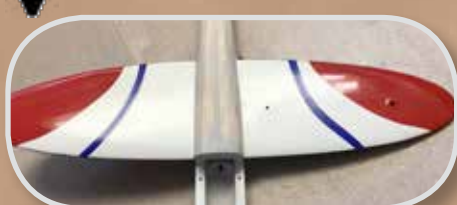
↓ **Mät ut var maskeringen ska börja och märk ut med tejp.**



↓ **Tejpa önskad kontur, antingen på frihand eller via papp-mall. Blir det fel så lyft upp och gör om!**



↓ **Vid frihandsval formar man konturen med hjälp av fingret.**



↓ **Bygg sedan på med den bredare tejp. Pressa fast all tejp!**



**Lägg sedan på en bred tejp varefter man kan täcka resten med t ex papper.**

### Maskering

När jag kommer till maskering så har jag provat många typer av maskeringstejp men det är bara två varianter som verkligen fungerar bra. Billackeringsfirmor eller webleverantörer har 3M vinyltejp i två kulörer. Den röda är mer styv för raka långa linjer. Den blå är mycket följsam och båda varianterna finns i olika bredder. Man får en mycket skarp kant på färgen jämfört med all annan maskeringstejp. För övrigt så maskeras ytor med

papp eller plastfilm för att hålla ytorna fria från oönskad färg. Förvara tejp i plastpåse mellan målningsarbetena så räcker de länge och suger inte åt sig damm. Trots tunn vinyl så blir det alltid en liten kant vid övergången mellan kulörerna. Jag brukar våtslipa lätt med 1200-papper innan dekalering eller annan märkning görs främst för att få ner dessa kanter samt att få tusch att fastna ordentligt.

Mönster och linjer är ju lite upp till var och ens fantasi. Det finns många fina modeller på olika Web-sidor där man kan inhämta inspiration. Att använda hjälplinjer med tejp för syftning var början och slut på maskering skall hamna är ett bättre sätt än att rita tunna linjer med blyertspenna. Givetvis så kontrollerar man med linjal.

Håll tejpullen med ena handen och följ med fingret på tejpens allteftersom man styr med handen som håller rullen. Den smala tejpens (3 mm) går att få tajta kurvor med och det är lätt att justera om det inte blir rakt. Tejpens som är 6 mm är att föredra för bättre kontroll vid styrning av linjen då kurvatur inte är för skarp. Jag använder båda då jag vill få till en bredare tejpita före slutmaskering.

### Dekorering

Det här är den punkt man till slut kommer till om man fortfarande har ork och tid innan tävling. Om man inte tänkt sätta på några dekaler förutom antal varv för just Din klass så kan man lägga på 2-komponentlacken på maskinen och börja slutmonteringen. Var noga med att rätt färgvariant används så att underlaget inte reser sig. Se tabell!

Det finns ganska många olika typer av dekaler att få tag på i handeln. Jag brukar hitta olika typer lite varstans. De vattenbaserade dekalererna är ganska lätta att lägga på modellen om man är varsam. Jag brukar sätta en maskeringstejp som jag riktar upp dekaler emot så det blir rakt. Man får tänka på att det inte är alla dekaler som tål lösningsmedlet i tvåkomponentlacken. Är man osäker på om en dekal klarar lacken så kan man göra provlackning på dekal på annan yta. Oftast klarar det av lösningsmedlet om man "dammar" på tunt lager i flera omgångar tills man fått ett skikt.

Jag har provat Biltema's Polyuretanlack (2-komponent) med bra resultat då jag bara lägger ett lager på modellen. Ytan blir väldigt blank om grunden är slät och fin.

De lite mer robusta dekaler jag hittat är av tjockare vinyl och dessa brukar jag applicera med maskeringstejp. Jag tar bort "skrotet" runt dekal och sätter sedan bred maskeringstejp på dekaler. Därefter passas dekal in på ytan och man fixerar dekaler i ena kanten mot underlaget med maskeringstejp som gångjärn varefter man tar bort bärfilmen/pappret på dekalerens undersida och faller ner dekal mot ytan. Använd klibbdud för att torka av ytan innan!



↓ **Börja med att sätta en stöd-tejp där dekaler ska sitta.**



↓ **Placera dekaler på önskat ställe.**



↓ **Fäst dekaler med en bit tejp.**



↓ **Ta sedan bort skyddsfilmen på dekalerens undersida och pressa fast den. Få ut alla bubblor!**



**Till sist tar man bort skyddsfilmen på översidan och tejpbiten som håller den plus stödtejp.**

Senaste inköpet är en skärplotter av märket Silhouette Cameo Plus där jag ska kunna skriva (skära) ut schabloner med texter eller bilder. Det är fortfarande en hel del att utforska innan jag kan utnyttja dess funktioner fullt ut men man får lära sig en del i taget. Just nu ser det i alla fall ut som en lovande investering!



Thomas Olsson

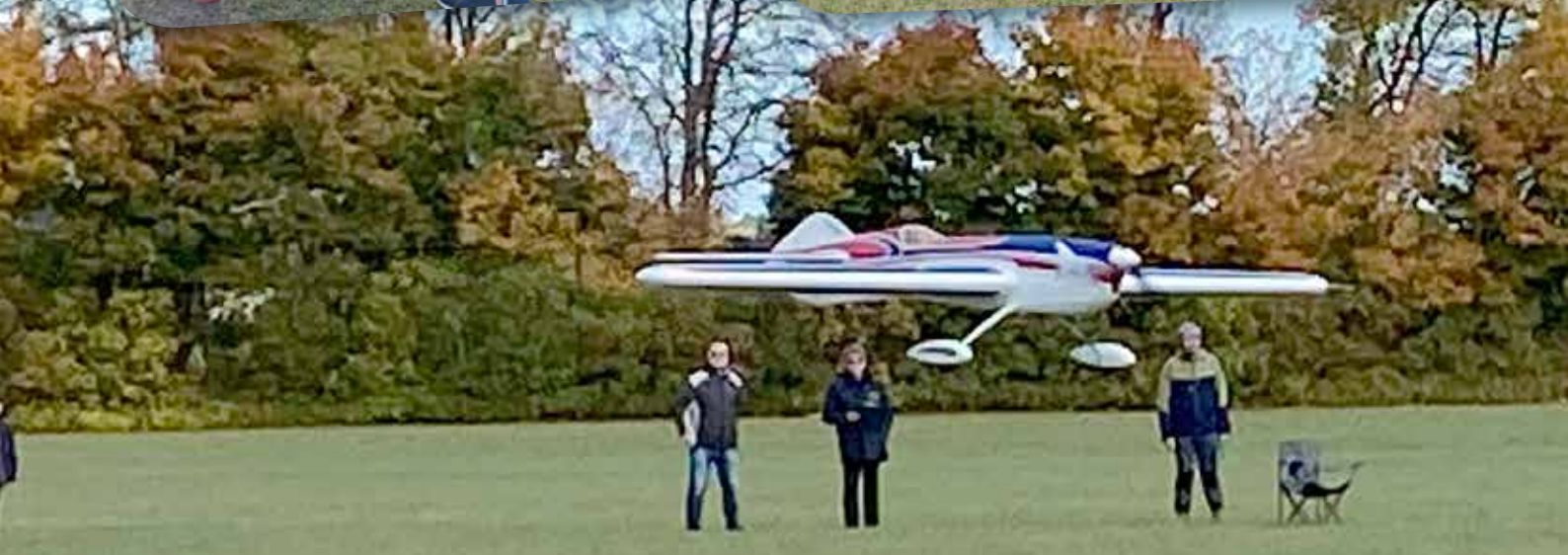
# Austrian F2B Nationals



*Franz Ecker starts the 10 cm<sup>3</sup> Super Tigre on his "Max" model.*



*With the e-powered "Kitty" Pavel Benesch (CZE, right) took the second place.*



The successful carrying out of the Austrian championship in the F2B class on the model airfield of the MFC Weikersdorf (Lower Austria) a year ago gave rise to the idea of organizing another F2B contest. The F2B Steinfeld Cup was born, the idea came from the Austrian C/L-Chairman Hanno Miorini.

This competition was held on October 16th, 2021 with international participation. Of the total of ten starters, two came from the Czech Republic and one from Slovakia. Heimo Stadlbauer skillfully managed the contest, which went off without any problems due to the very disciplined pilots. Pavol Barbaric (SVK), Maximilian Marksteiner and Max Dillinger from Austria acted as judges and the Jury was the ÖAeC Vice President Roland Dunger.

In the demanding aerobatics program, which lasts a maximum of seven minutes, a total of fifteen figures including take-off and landing are flown in a fixed sequence. The most difficult figures, such as the hourglass, overhead eight and four-leaf clover, come at the end of the program.

Flying models with electric motors were in the majority, three models were operated with combustion engines. The AXI 2826/12 or 14 with 5 to 6s Lipo batteries and the Super Tigre 10 cm<sup>3</sup> for the combustion engines were mainly used. The technology of the models was essentially identical to that of the Austrian Nationals 2020.

The youngest pilot at the age of ten, Gregor Nagl, grandson of chairman Karl Nagl, took part for the first time, although his "Asterix" unfortunately broke in the third run in his only flown aerobatic figure, the looping. The multiple World and European Champion Igor Burger from Slovakia, Pavel Benesch and Kamil Meisl from the Czech Republic gave the competition an international "touch".

After three rounds, world champion Igor Burger (SVK) confidently secured victory, followed by Pavel Benesch (CZE) and Kamil Meisl (CZE). The best Austrian as fourth was the Austrian Champion Franz Wenzel. Further placements: 5th Rudolf Trogbacher, 6th Franz Marksteiner, 7th Daniel Nagl, 8th

Hanno Miorini, 9th Franz Ecker and 10th the junior Gregor Nagl.

The chairman Karl Nagl, C/L-Chairman Hanno Miorini, Jury Roland Dunger and contest director Heimo Stadlbauer carried out the award ceremony, with the first three receiving a lasered trophy. Many thanks go to the MFC Weikersdorf under chairman Karl Nagl for holding the F2B Steinfeld Cup. Thanks also to the kitchen team, all the helpers and the evaluator Alexander Miorini.

According to reports there will be probably the 2nd F2B Steinfeld Cup (with Austrian Championship?) in Weikersdorf on October 15th, 2022 and an International "Styria Cup" competition on May 28th and 29th 2022 in Liezen (Styria).

Heimo Stadlbauer



# Steinfeld Cup 2021



*The Austrian C/L Chairman Hanno Miorini (left) with helper Daniel Nagl could not really convince the judges with his program this time.*



*Kamil Meisl (CZE) achieved a remarkable third place with his "Gilles".*



*Gregor Nagl, youngest pilot in Weikersdorf.*



*Igor Burger won the contest.*



*All competitors, officials and models gathered together.*

# Oldtimer- vrålet

## 12–13 juni 2021

**D**å Oldtimerträffen blev inställd även i år var det bara att utlysa en mail-tävling så att allas flyglystnad kunde mättas. Hela 32 piloter nappade på erbjudandet och det känns som vi generellt har fler piloter i startlistorna i år. Vilket väl är naturligt eftersom fler och fler ansluter sig och vill vara med i den gemenskap som vi har utan att man behöver lägga pengar och tid på att åka långt till tävlingar. Återigen var det tätt i toppen med bara strax under 3 % skillnad mellan ettan och trean och flera aspiranter strax efteråt. Både Olli Jovero från Finland och Alexander Olsson från Sverige debuterade i cirkelarna och båda hade valt klass 0 för sina underbart fint byggda och målade modeller där Olli till och med fått in ett covid-tema i målningen. Debutanter var också Milenko Kvirgic, Staffan Östh och Bengt-Olof Samuelsson men här hade både B-O och Milenko valt att flyga i klass 3. Bengt-Olof är dessutom den ende av alla W-flygare som har en Galax-dekal på vingen, unikt så att det förslår! Men inte går det fortare för det ... Staffan hade letat fram sin gamla Webra Rekord, vilket legat i en låda i 50 år men efter lite genomsköljning med fräscht bränsle startade lika lätt som den hade varit körd dagen innan.

Ingemar Larsson



Olli Jovero



Sune Karlsson

### RESULTAT Weatherman Vintage Speed OLDTIMERVRÅLET – 12–13 juni 2021

Placering, Namn, Klubb, Nation	Klass	Tid	Hastighet	%	Motor
1. Christian Johansson Västerviks MFK SWE	4G	17,5	165,5	106,9	CRF Orion RS
2. Per Stjärnesund Västerås FK Modell SWE	2G	20,4	141,9	105,4	Parra
3. Göran Olsson Västerås FK Modell SWE	5G	17,1	169,3	104,1	ST
4. Per Nordström Nyköpings MK	2G	21,2	136,6	101,4	Parra
5. Aaro Seppälä RC-Nummela FIN	3V	38,6	75,0	100,0	Viking
6. Johan Larsson Vänersborgs MFK SWE	2G	21,7	133,4	99,1	THK
7. Lennart Nord Västerås FK Modell SWE	2D	20,4	141,9	99,0	Fora
8. Jan Wold Skedsmo MFK NOR	1	17,3	183,9	97,1	Mills
9. Jörgen Aagard MFK Pingvinen DEN	3G	18,2	159,1	95,1	Cyclon PC9
9. Björn Hansen MFK Comet DEN	6G	18,5	156,5	95,1	ST
11. Thomas Olsson Trollhättans MFK SWE	2D	22,6	128,1	89,4	THK
12. Jens Geschwendtner MFK Comet DEN	3G	19,5	148,5	88,7	Cyclon PC7
13. Matti Lahtinen FXJ FIN	3G	20,3	142,6	85,2	Demon
14. Luis Petersen MFK Comet DEN	4G	22,2	130,4	84,2	OS 19XZ
15. Ingemar Larsson Vänersborgs MFK SWE	5G	21,8	132,8	81,7	K&B
16. Niels Lyhne Hansen Hernings MFK DEN	4G	23,0	125,9	81,3	CS
17. Anders Fridén Uddevalla RFK SWE	3G	22,0	131,6	78,6	Rossi
18. Roy Heitmann Fredrikstad MFK NOR	2D	25,8	112,2	78,3	Parra
18. Stefan Olsson Uddevalla RFK SWE	3G	22,1	131,0	78,3	Irvine
20. Ingvar Nilsson Kungsbacka MFK SWE	1	22,8	63,5	73,7	Mills
21. Conny Åquist Uddevalla RFK SWE	3G	24,2	119,7	70,9	K&B
22. Milenko Kvirgic Karlskoga MFK SWE	3D	24,2	119,7	70,7	Fora
23. Bengt-Olof Samuelsson MFK Galax SWE	3G	25,0	115,8	69,2	Nelson
24. Alf Lindholm Ekenäs MFK FIN	3D	25,3	114,5	67,6	Rossi
25. Harry Kolberg Skedsmo MFK NOR	3D	26,5	109,3	64,5	Drabant
26. Clamer Meltzer Stjördals MFK NOR	3D	26,9	107,6	63,6	Drabant
27. Alexander Olsson Uddevalla RFK SWE	0G	18,1	80,0	59,1	OS
28. Sune Karlsson MFK Jordfräsarna SWE	2D	34,9	83,0	57,9	Fora
29. Staffan Östh Lidköpings MFK SWE	2D	36,1	80,2	56,0	Webra Rekord
30. Kaj Johansson Västerås FK Modell SWE	3D	30,9	93,7	55,3	Oliver Tiger
31. Jesper Buth MFK Pingvinen DEN	3D	0	0	0	MVVS
31. Olli Jovero Porvoo IK FIN	0D	0	0	0	Schlosser

#### E-Weatherman

Daniel Rota GAM SUI	3E	19,3	150,0	100,5	Scorpion
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1 - Christian Johansson  
– 106,9 %



2 – Per Stjärnesund  
– 105,4 %



3 – Göran Olsson  
– 104,1 %



# Finska Sisuvrålet

## 10–11 juli 2021

Vad är väl en bättre aktivitet i juli än att bada bastu och utbrista i ett Sisukarjaisut? Jo, det skulle väl vara att flyga Weatherman då... Med hela 30 piloter till start verkade detta med semestertider inte bekymra någon. Våldigt tigt i toppen då de tre första bara hade 0,6 % i skillnad med dött lopp mellan Per och Niels-Erik. Bakom dessa var det otroligt jämnt med tiondelar och halvsekunder för att fördela platserna. Roligt att se är variationen mellan motorfabrikat och det är ju en av grundstenarna i Weatherman-reglerna, dvs att man ska kunna köra med varierande utrustning. Och lika fördelning mellan glödare och dieslar även om 2.5-storleken är den ojämförligt största med halva startfältet. Debutanter denna gång var Sverker Evans och Martin Larsson. Sverker hade satt en PAW 19 i sin modell medan Martin flög med en helsvart "Gendalen Black Beauty" försedd med en Fora-diesel ganska lik de Foror han använder i F1C (vilken är hans huvudklass).

Ingemar Larsson



Ingvar Nilsson



Roy Heitmann



Björn Hansen



1 - Christian Johansson  
– 100,6 %



2 - Niels-Erik Hansen – 100,0 %



2 - Per Stjärnesund  
– 100,0 %

### RESULTAT Weatherman Vintage Speed – SOMMALAINEN SISUKARJAISUT – 10-11 juli 2021

Placering, Namn, Klubb, Nation	Klass	Tid	Hastighet	%	Motor
1. Christian Johansson, Västerviks MFK SWE	5G	17,0	170,3	100,6	SH PT28-P3
2. Niels-Erik Hansen, MFK Comet DEN	3G	17,3	167,4	100,0	Cyclon PC7
2. Per Stjärnesund, Västerås FK Modell SWE	2G	20,4	141,9	100,0	Parra
4. Göran Olsson, Västerås FK Modell SWE	5G	17,2	168,4	99,4	ST
5. Jörgen Aagard, MFK Pingvinen DEN	3G	17,7	163,6	97,7	Cyclon PC9
6. Lennart Nord, Västerås FK Modell SWE	3D	17,6	164,5	97,2	Zorro
7. Johan Larsson, Vänersborgs MFK SWE	2G	21,3	135,9	95,8	THK
7. Aaro Seppälä, RC-Nummela FIN	3V	40,3	71,9	95,8	Viking
9. Per Nordström, Nyköpings MK	2G	21,6	134,1	94,4	Parra
10. Stefan Olsson, Uddevalla RFK SWE	3G	18,6	155,7	93,0	Nelson
11. Björn Hansen, MFK Comet DEN	6G	19,1	151,6	92,1	ST
12. Luis Petersen, MFK Comet DEN	6G	19,2	150,8	91,7	BUGLUP 40
13. Jan Wold, Skedsmo MFK NOR	1	18,4	78,7	91,3	Mills
14. Thomas Olsson, Trollhättans MFK SWE	2D	22,9	126,4	88,2	THK
15. B-O Samuelsson, MFK Galax SWE	3G	20,1	144,1	86,1	Nelson
16. Jesper Buth, MFK Pingvinen DEN	2D	23,7	122,2	85,2	Parra
17. Ingemar Larsson, Vänersborgs MFK SWE	5G	20,2	143,3	84,7	K&B
18. Anders Fridén, Uddevalla RFK SWE	3G	21,7	133,4	79,7	Rossi
19. Milenko Kvirgic, Karlskoga MFK SWE	3D	22,1	131,0	77,4	Fora
20. Martin Larsson, MFK Sländan SWE	3D	22,6	128,1	75,7	Fora
21. Roy Heitmann, Fredrikstad MFK NOR	2D	27,0	107,2	74,8	Parra
22. Ingvar Nilsson, Kungsbacka MFK SWE	1	23,4	61,9	71,8	Mills
23. Leo Voss, NLC NED	0G	15,9	91,1	67,3	Fora
24. Pertti Mela, Miniveneiljät FIN	0G	16,0	90,5	66,9	Cox Tee Dee
25. Alf Lindholm, Ekenäs MFK FIN	3D	25,8	112,2	66,3	KMD
26. Kaj Johansson, Västerås FK Modell SWE	3D	27,8	104,2	61,5	Oliver Tiger
27. Harry Kolberg, Skedsmo MFK NOR	3D	28,9	100,2	59,2	Drabant
28. Sverker Evans, Nyköpings MK SWE	4D	36,7	78,9	58,6	PAW 19
29. Antti Santala, VLK FIN	3D	46,0	62,9	37,2	MVVS
30. Jens Geschwendtner, MFK Comet DEN	3G	0	0	0	Cyclon PC7

#### E-Weatherman

Daniel Rota, GAM SUI	3E	20,1	144,1	96,5	Scorpion
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Sverker Evans

# LidingYlet

## 21–22 aug 2021

**D**å linfältet på Lidingö blev tillgängligt för Weatherman en augustihelg valde Lennart Nord och Göran Olsson att utlysa en mail-tävling utan att vråla eller bröla, bara yla lite försiktigt. Alla var inbjudna att komma till Lidingö och flyga men det hörsammades bara av de två organisatörerna. Men återigen över 30 deltagare fast bara 2 st över 100 % och inte alls lika många på 90 % som tidigare. För många kräftskivor och mörka kvällar kanske tagit ner kapaciteten? Ola Murelius hade nu fått klart sin klass o-modell och antrände W-cirkeln för första gången. Vi fick också se Ingolf Steffensen från Norge prova en Drabant samt Klas Nilsson med en MVVS. Klas, som flög combat på 70-talet och nu återvänt till cirkeln, kan Ni för övrigt se på bild i Lina 2-2015.



1 – Christian Johansson – 102,3 %



2 – Per Stjärnesund – 101,0 %



3 – Lennart Nord – 99,4 %

Ingemar Larsson

### RESULTAT Weatherman Vintage Speed – LIDINGYLET 21–22 augusti 2021

Placering, Namn, Klubb, Nation	Klass	Tid	Hastighet	%	Motor
1. Christian Johansson SWE	4G	17,1	169,3	102,3	CRF Orion RS
2. Per Stjärnesund SWE	2G	20,2	143,3	101,0	Parra
3. Lennart Nord SWE	3D	17,2	168,4	99,4	Zorro D-konv.
4. Niels-Erik Hansen DEN	3G	17,5	165,4	98,9	Cyclon PC7
5. Jørgen Aagaard DEN	3G	17,6	164,5	98,3	Cyclon PC9
6. Göran Olsson SWE	0G	10,9	132,8	98,2	Cyclon Top4
7. Stefan Olsson SWE	3G	18,6	155,7	93,0	Nelson
8. Johan Larsson SWE	2G	22,6	128,1	90,3	THK
9. Aaro Seppälä FIN	3V	43,2	67,0	89,4	
10. Ingemar Larsson SWE	4G	20,2	143,3	86,6	K&B
11. Matti Lahtinen FIN	3G	20,2	143,3	85,6	Demon
12. Erik Huss SWE	2D	24,9	116,3	81,1	Parra
13. Jesper Buth Rasmussen DEN	2D	25,0	115,8	80,8	Parra
14. Martin Larsson SWE	3D	21,8	132,8	78,4	Fora
15. Milenko Kvirgic SWE	3D	22,5	128,7	76,0	Fora
16. Ola Murelius SWE	0G	14,4	100,5	74,3	Cyclon
17. Roy Heitmann NOR	2D	27,6	104,9	73,2	Parra
18. Thomas Olsson SWE	3G	24,4	118,7	70,9	MDS
19. Per Vassbotn NOR	2D	28,7	100,9	70,4	Fora
20. Torbjörn Lundgren SWE	3G	24,8	116,6	69,8	MVVS
21. Pertti Mela FIN	0G	15,7	92,2	68,2	Cox Tee Dee
22. Conny Åquist SWE	3G	25,8	112,2	67,1	K&B
23. Harry Kolberg NOR	3D	26,1	110,9	65,5	DA Drabant
24. Clamer Meltzer NOR	3D	27,6	104,9	62,0	DA Drabant
25. Kaj Johansson SWE	3D	27,8	104,2	61,5	Oliver Tiger
26. Jan Wold NOR	3D	27,9	103,8	61,3	DA Drabant
26. Klas-Göran Nilsson SWE	3D	27,9	103,8	61,3	MVVS
28. Staffan Östh SWE	2D	37,1	78,0	54,4	Webra Rekord
29. Ingolf Steffensen NOR	3D	35,4	81,8	48,3	DA Drabant
30. Antti Santala FIN	3D	40,6	71,3	42,1	Silver Swallow
31. Luis Petersen DEN	3G	4 r.	0	0	Cyclon Top 15



Klas-Göran Nilsson



Per Vassbotn



Johan Larsson



Clamer Meltzer



Martin Larsson



Daniel Janan



Erik Huss



Staffan Östh

# Höstbrölet

## 25–26 sep 2021

Christian Johansson har gått fram som en ångväld den här säsongen och tog nu åter en seger, dessutom med hyfsad marginal till tvåan Sverker Evans som fick bra fart på sin Viking. Plats 4 och 5 hade också piloter som flög över 100 % och det är alltid surt att slå rekord men inte hamna på pallen. Tävlingens debutant var Daniel Janan från Frankrike som både byggt en vanlig W med en ST G20/15G samt en E-W i klass 4. Tyvärr blev det ingen tid för honom i någon av klasserna men med mer träning så kommer nog resultaten.

1 – Christian Johansson  
– 113,6 %2 – Sverker Evans  
– 108,2 %3 – Per Nordström  
– 107,5 %

För första gången kördes också en Webra Rekord Cup. Webra Rekord 1,5 cc räknas ju in i klass 2D där Webran knappast kan utmana om höga procentsatser. Men denna Cup, som är en sidoaktivitet skild från själva tävlingen, är tanken att få till något där alla flyger med samma motor och kanske på hyfsat lika villkor. Resultaten från de 4 som deltog visar ju detta då tiderna mellan första och sista bara skiljer 2,6 s. Om vi kommer att se många välbyggda och fint pimpade/målade modeller här framtiden genom kanske det blir läge för en Concours d'Elegance också? ■

Ingemar Larsson



Torbjörn Lundgren

### RESULTAT Weatherman Vintage Speed – HÖSTBRÖLET 25–26 september 2021

Placering, Namn, Klubb, Nation	Klass	Tid	Hastighet	%	Motor
1. Christian Johansson Västerviks MFK SWE	5G	16,9	171,3	113,6	SH PT28-P3
2. Sverker Evans Nyköpings MK SWE	3V	38,0	76,2	108,2	Viking
3. Per Nordström Nyköpings MK SWE	2G	21,3	135,9	107,5	Parra
4. Göran Olsson Västerås FK M. SWE	0G	9,9	146,2	104,0	Cyclon
5. Harry Kolberg Skedsmo MFK NOR	1	17,2	84,2	100,6	Mills
6. Stefan Olsson Uddevalla RFK SWE	3G	18,2	159,1	95,1	Nelson
7. Thomas Olsson Trollhättans MFK SWE	2D	22,7	127,6	93,8	THK
8. Jan Wold Skedsmo MFK NOR	1	19,1	75,8	90,6	Mills
9. Ingemar Larsson Vänersborgs MFK SWE	4G	21,1	137,2	89,6	K&B
10. Ola Murelius Västerås FK M. SWE	0G	11,7	123,7	88,0	Cyclon
11. Klas Nilsson Västerås FK M. SWE	3D	22,9	126,4	86,0	MVVS
12. Erik Huss MFK Jordfräsarna SWE	3D	24,2	119,7	81,4	Parra
13. Milenko Kvrgic Karlskoga MFK SWE	7G	23,0	125,9	81,3	OS 46 LA
14. Conny Åquist Uddevalla RFK SWE	3G	22,8	127,0	75,9	K&B
15. Kaj Johansson Västerås FK M. SWE	3D	27,7	104,5	71,1	Oliver Tiger
16. Torbjörn Lundgren MFK Snobben SWE	3G	25,2	114,9	68,7	MVVS
17. Staffan Östh Lidköpings MFK SWE	2D	34,5	83,9	61,7	Webra Rekord
18. Martin Alkestrand MFK Snobben SWE	3G	30,3	95,6	57,1	AP 15
19. Daniel Janan ACSE FRA	3G	0	0	0	ST G20/15
19. B-O Samuelsson MFK Galax SWE	3G	0	0	0	Nelson

#### E-Weatherman

1. Daniel Rota	GAM SUI	3E	19,2	150,8	100,5	Scorpion HK
2. Daniel Janan	ACSE FRA	4E	0	0	0	Leomotion 2300

#### Webra Record Cup

1. Ingemar Larsson, Vänersborgs MFK SWE	32,1 s	90,2 km/h
2. Harry Kolberg, Skedsmo MFK NOR	32,4 s	89,4 km/h
3. Jan Wold, Skedsmo MFK NOR	33,6 s	86,2 km/h
4. Staffan Östh, Lidköpings MFK SWE	34,7 s	83,4 km/h

# Oktober-festen

## 23–24 okt 2021

**K**anske inte samma typ av fest man har i München men sjutton inte långt ifrån... Per och Luis hade en tät kamp om segern men vinterens snackis blir ju Sveriges snabbaste friflygande W-flygare som med Gendalen Black Beauty och en Fora-diesel betvingade rekordet med 0,5 %. Återigen över 30 deltagare och med Jose Cotterel från Frankrike som debutant. Antar att Daniel Janan lockat honom att bygga ihop en W för att kunna vara med och utmana.

Återigen lockade Webra Rekord Cup fyra deltagare och med tanke på de rapporter som kommit är det flera nya Webra-W på gång tills nästa år. Nu var det Lennart och Anders som hade fått sina modeller klara. Lennart körde fortast och Anders hade säker vunnit Concours d'Elegance om vi haft någon sådan tävling. Dessutom kördes det en Suomi-Ruotsi-Maot-telu mellan de fyra bästa finska Malmeflygarna och de fyra bästa Brätzellundflygarna, denna gång till de senares fördel och landskampsvinst.

■  
Ingemar Larsson



1 – Per Stjärnesund  
– 109,2 %



2 – Luis Petersen  
107,1 %



3 – Martin Larsson  
100,5 %



Jose Cotterel



Bengt-Olof Samuelsson



Jesper Buth Rasmussen



Niels-Erik Hansen

### RESULTAT Weatherman Vintage Speed OKTOBERFESTEN – 23–24 oktober 2021

Placering	Namn, Klubb, Nation	Klass	Tid	Hastighet	%	Motor
1.	Per Stjärnesund, Västerås FK M. SWE	2G	19,5	148,5	109,2	Parra
2.	Luis Petersen, MFK Comet DEN	5D	22,4	129,3	107,1	Weston
3.	Martin Larsson, MFK Sländan SWE	3D	19,6	147,7	100,5	Fora
4.	Niels-Erik Hansen, MFK Comet DEN	3G	17,3	167,4	100,0	Cyclon
5.	Lennart Nord, Västerås FK Modell SWE	2D	21,4	135,3	99,5	Fora
6.	Thomas Olsson, Trollhättans MFK SWE	2D	21,8	132,8	97,7	THK
7.	Jörgen Aagaard, MFK Pingvinen DEN	3G	17,9	161,8	96,6	Cyclon
8.	Jens Geschwendtner, MFK Comet DEN	3G	18,1	160,0	95,6	Cyclon
9.	Stefan Olsson, Uddevalla RFK SWE	3G	18,2	159,1	95,1	Nelson
10.	Ingemar Larsson, Vänersborgs MFK SWE	3DA	27,1	106,9	92,3	Drabant
11.	Erik Huss, MFK Jordfräsarna SWE	3D	21,9	132,2	90,0	Parra
12.	Sverker Evans, Nyköpings MK SWE	3V	42,7	67,8	89,0	Viking
13.	Aaro Seppälä, RC-Nummela FIN	1	19,8	73,1	86,9	Mills
14.	Anders Fridén, Uddevalla RFK SWE	3G	20,1	144,1	86,1	Rossi
15.	Anders Hellsén, MFK Snobben SWE	7G	22,3	129,8	83,9	Rossi
16.	B-O Samuelsson, MFK Galax SWE	3G	20,7	139,9	83,6	Nelson
17.	Matti Lahtinen, FXJ FIN	3G	21,1	137,2	82,0	Demon
18.	Milenko Kviric, Karlskoga MFK SWE	3D	24,2	119,7	81,4	Fora
19.	Harry Kolberg, Skedsmo MFK NOR	3D	24,8	116,8	79,4	Oliver Tiger
20.	Jesper B. Rasmussen, MFK Pingvinen DEN	3D	25,0	115,8	78,8	MVVS
21.	Göran Olsson, Västerås FK Modell SWE	0G	13,1	110,5	75,6	Cyclon
22.	Conny Åquist, Uddevalla RFK SWE	3G	24,1	120,2	71,8	K&B
23.	Kaj Johansson, Västerås FK Modell SWE	3D	27,7	104,5	71,1	Oliver Tiger
24.	Klas Nilsson, Västerås FK Modell SWE	3D	29,0	99,9	67,9	MVVS
25.	Pertti Mela, Miniveneilijät FIN	0G	14,7	98,5	67,3	Cox Tee Dee
26.	Martin Alkestrand, MFK Snobben SWE	3G	28,2	102,7	61,3	AP 15
27.	Torbjörn Lundgren, MFK Snobben SWE	3G	28,4	102,0	60,9	AP 15
28.	Antti Santala, VLK FIN	3D	41,6	69,6	47,4	Silver Swallow
29.	Jose Cotterel, AMVS FRA	0G	0	0	0	Cox Tee Dee
29.	Daniel Janan, ACSE FRA	3G	0	0	0	ST G20/15
29.	Leo Voss, NLC NED	0G	0	0	0	Fora

#### E-Weatherman

1 Daniel Janan, ACSE FRA	4E	0	0	0	Leomotion 2300
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#### Webra Rekord Cup

1. Lennart Nord, Västerås FK Modell SWE	27,9 s	103,8 km/h
2. Ingemar Larsson, Vänersborgs MFK SWE	30,6 s	94,6 km/h
3. Harry Kolberg, Skedsmo MFK NOR	32,0 s	90,5 km/h
4. Anders Fridén, Uddevalla RFK SWE	39,2 s	73,9 km/h



Leo Voss

## Christmas Greetings from

## Staffan Ekström

Staffan sends his greetings by telling us that he just finished rebuilding the door of his Work Shop. Remember the article from Lina 2-2011 where Staffan wrote about his Shoestring project (part 1) and Lina 1-2012 where he regrets that there will be no part 2 as the model got stuck in the door and lost both wings! Considered as a typical pilot's mistake!

It took some years but now the door is modified to manage transport of models in and out of the Work Shop. A real improvement, as he says! His neighbours looked like question marks when they saw the modification but as a modeller you have the ability to ignore such things...

– Staffan Ekström SWE



# Preliminär tävlingskalender 2022

Datum	Tävling	Klasser	Plats	Arrangör	Kontaktman
Fre 15/4	Häxvrålet	Weatherman, Classic Stunt	Inlag, Kungsbacka	KMFK	Michael Palm, 0706-47 29 66
Lör 23/4	Snobben Cup 1	F2B, Weatherman	Mygglanda, Nymölla	Snobben	Anders Hellsén, 0738-47 83 12
Sön 5/5	Linflygets dag	Speed Open, Weatherman	Johannisberg, Västerås	Västerås FK M	Per Stjärnesund, 0738-04 23 41
Tor-Lör 26-28/5	World Cup F2B	F2B, Semistunt, W, Classic	Åbytorp, Karlskoga	KMFK	Niklas Löfroth, 0702-09 69 65
Lör 11/6	Oldtimerträff	Weatherman	Inlag, Kungsbacka	KMFK	Michael Palm, 0706-47 29 66
Lör 18/6	Kga-racet	Alla Speed- och Team-klasser	Åbytorp, Karlskoga	KMFK	Niklas Karlsson, 0703-73 89 97
Sön 2/7	Kga-combaten	Slow Combat, Combat 1.5	Åbytorp, Karlskoga	KMFK	Niklas Karlsson, 0703-73 89 97
Lör 30/7	Snobben Cup 2	F2B, Weatherman	Mygglanda, Nymölla	Snobben	Anders Hellsén, 0738-47 83 12
Lör-Sön 20-21/8	SM	F2A, F2B, F2C, F2D	Johannisberg, Västerås	Grenstyrelsen	Ingemar Larsson, 0703-40 44 05
Lör 10/9	Väst kustträffen	F2B, Weatherman	Inlag, Kungsbacka	KMFK	Michael Palm, 0706-47 29 66
Sön 11/9	Västerås Open	Speed Open, Weatherman	Johannisberg, Västerås	Västerås FK M	Per Stjärnesund, 0738-04 23 41
Lör-Sön 24-25/9	Vbg-pokalen/RM	Slow Combat, Combat 1.5, W-man	Brättnelund, Vänersborg	VMFK	Ingemar Larsson, 0703-40 44 05
Lör-Sön 1-2/10	Snobben Cup 3	F2B, Weatherman, Ringmaster	Mygglanda, Nymölla	Snobben	Anders Hellsén, 0738-47 83 12

### Världscuptävlingar mm (Ett urval! Komplet lista på [www.fai.org](http://www.fai.org))

Datum	Tävling	Klasser	Plats
21-22/5	Hradec Kralove World Cup (CZE)	A,B	Hradec Kralove, Tjeckien
26-28/5	Karlskoga World Cup (SWE)	B, W, Classic	Karlskoga, Sverige
4-6/6	NM/World Cup (DEN)	A,B,C,D m m	Herning, Danmark
1-3/7	Svitavy World Cup (CZE)	D	Svitavy, Tjeckien
2-3/7	Barcelona World Cup (ESP)	D	Barcelona, Spanien
7-10/7	French/Dutch World Cup (FRA+NED)	A,B,C	Landres, Frankrike
5-7/8	Warsaw World Cup (POL)	A, B, C, D	Wloclawek, Polen
8-13/8	Världsmästerskap	A, B, C, D	Wloclawek, Polen
24-25/8	British World Cup	A, B, C, D	Buckminster, England
27-29/8	British Nationals	A, B, C, D m m	Barkston Heath, England
1-4/9	Lugo World Cup (GBR+ITA)	A,B,C,D, F2F	Lugo, Italien
24-25/9	Jura World Cup (SUI)	B	Schwalbenest, Schweiz
16-18/12	Gran Canaria Eurocombat (ESP)	Combat, Stunt	Las Palmas, Gran Canaria

### Norska tävlingar

30/4-1/5	Kristiansand
Säsongsöppning	F2B + W
12/6	Hvam
Sommerstevne	F2B + W
22-26/6	Geitryggen
NM-Veka	F2B + W
17/9	Hvam
Årsavslutning	F2B + W

### Finska Tävlingar

FM1 18/6	F2B	Nummela
FM2 16/7	F2B	Kuopio
FM3 13/8	F2B	Nummela
Ruska Classic ?/?	F2B-C	Kuopio

**OBS! Notera att alla tävlingar och deras genomförande kan ändras beroende på corona-situationen!**

# Results

58 <sup>th</sup> COPPA d'ORO FAI Open International 4-6 Settembre 2021									
F2C Team Racing									
Team/No	FAI #id	1 <sup>st</sup> leg	2 <sup>nd</sup> leg	3 <sup>rd</sup> leg	4 <sup>th</sup> leg	5 <sup>th</sup> leg	6 <sup>th</sup> leg	7 <sup>th</sup> leg	Total
Pracel SURUGUE/George BURUGUE - FRA	FRA 102791 #0403042	3'11.0	3'08.7	3'18.5	3'51.4	3'09.8	6'37.1	1	
Anton MAKARENKO/Darius MARCHUCK - UKR	UKR 080756 #0401001	3'24.0	3'54.4	DNF	3'17.7	81 laps	6'36.1	2	
Franco OPIVOSKI/Rob MITHMEIJER - NED	NED 10000037 #0202019	3'18.8	3'22.6	3'18.2	3'18.4	2'23.6	81 laps	3	
Igorshyn GLEKOSIY/ury CHAYKA - UKR	UKR 041902 #0401001	3'17.8	3'17.8	DSQ	3'27.6	3'18.8	4		
Narjes ZUKAUSKAS/Gintaras SABLINSKAS - LTU	LTU 000205 #0200011	3'24.2	3'18.7	==	3'20.1	84 laps	5		
Thierry OUGEN/Valent SURUGUE - FRA	FRA 10040175 #0203003	3'19.9	3'12.0	89 laps	3'40.1	3'21.1	6		
Hugh SIMONS/Jens GESCHWENDTNER - DEN	DEN 00000416 #0202010	3'19.8	3'26.7	DSQ	3'27.3	3'26.8	7		
Vladimir MAKARENKO/Darius MARCHUCK - UKR	UKR 080756 #0401001	3'24.0	3'54.4	DNF	3'17.7	81 laps	6'36.1	2	
Yuri BONDARENKO/Benjamin LERNER - UKR	UKR 050101 #0203003	4'03.0	3'12.9	DNF	54 laps	3'27.9	9		
Marek FEDAN/Wojciech LESIAK - POL	POL 00000000 #0401001	3'44.8	3'18.6	3'48.5			10		
Wacław GOLUSZ/Przemysław LESIAK - POL	POL 00000000 #0401001	3'27.4	DSQ	3'26.0			11		
Artur TOMCZYK/Szymon BECZALA - POL	POL 00000000 #0401001	3'48.9	3'28.5	3'28.1			12		
Janek WOHAN/Janek STRANAK - HUNAUT	HUNAUT 00000000 #0401001	3'27.4	DSQ	3'26.0			13		
Ezio VIRGILI/Gianfranco COCCO - ITA	ITA 10000110 #0203003	DSQ	4'08.4	3'18.2			14		
Jakub GOLUSZ/Przemysław LESIAK - POL	POL 00000000 #0401001	7'03.0	4'40.7	3'26.5			15		
Grigorios ORLOVSKI/Arnas CHILINSKAS - LTU	LTU 00000000 #0401001	DSQ	3'41.8	87 laps			16		
Krzysztof PIOTROWSKI/Michael CZIKOWSKI - POL	POL 00000000 #0401001	4'03.0	3'12.9	DNF	54 laps	3'27.9	9		
Andrea ROSSI/Renato VERRE - ITA	ITA 10000110 #0203003	DSQ	4'08.4	3'18.2			17		
Paolo DELBAND/Enrico SAVARELLI - ITA	ITA 10000110 #0203003	24 laps	4'03.0	3'18.2			18		
Jacco de ROOIJ/Frank KRUIFF - NED	NED 10000037 #0202019	3'18.8	3'22.6	3'18.2	3'18.4	2'23.6	81 laps	3	

## F2A - Speed

Competitor	Nat	FAI #id	1 <sup>st</sup> By	2 <sup>nd</sup> By	3 <sup>rd</sup> By	4 <sup>th</sup> By
Luca GROSSI	ITA	ITA F-15904 # 20241	== 0	11.75 306.1	DNF	1 <sup>st</sup>
Paolo DEL BIANCO	ITA	ITA F-11746 # 20134	13.34 269.8	13.59 264.8	14.08 255.5	2 <sup>nd</sup>
Alex RYZHOV (Jun)	UKR	10.5.2005	13.36 269.3	== 0	13.41 268.2	3 <sup>rd</sup>
Jari VALO	FIN	FIN 1854 # 10072	== 0	== 0	== 0	4 <sup>th</sup>

## F2G - Elektro Speed

Competitor	Nat	FAI #id	1 <sup>st</sup> By	2 <sup>nd</sup> By	3 <sup>rd</sup> By	4 <sup>th</sup> By
Daniel ROTA	SUI	SUI 114650 #106872	11.89 302.5	11.64 309.2	== 0	1 <sup>st</sup>
Guy DUCAS	SUI	SUI 45833 # 26311	13.15 273.5	== 0	== 0	2 <sup>nd</sup>

## F2B - Aerobatics

Competitor	Nat	FAI #id	1 <sup>st</sup> leg	2 <sup>nd</sup> leg	3 <sup>rd</sup> leg	Total
Andri YATSENKO	UKR	UKR 125 #124254	1.065.30	1.067.50	1.055.33	2.122.80 1
Mauro FIUSSELLO	ITA	ITA 10506 # 20010	1.009.43	1.023.37	1.005.13	2.032.80 2
Lauri MAILA	SUI	SUI 50033 # 11576	995.50	1.014.80	1.009.27	2.023.87 3
Jacky PIGOUT	FRA	FRA 783 # 60334	1.002.13	1.012.73	1.004.80	2.017.53 4
Giacomo FELICI	ITA	ITA 7326 # 20301	994.03	998.20	979.60	1.992.23 5
Giorgio ZENIERE	ITA	ITA 15505 # 91701	965.83	979.40	973.80	1.953.20 6
Angelo BERENZI	ITA	ITA 15844 # 68781	938.10	941.23	922.70	1.879.33 7
Thierry SAUNIER	FRA	FRA 2507 # 60335	913.13	929.40	948.27	1.877.87 8
Roberto MORANDI	ITA	ITA 10830 #132077	893.53	927.90	941.37	1.862.77 9
Peter GERMANI	SUI	SUI 159228 # 11968	923.73	938.40	936.57	1.862.30 10
Dioniso FURLAN	ITA	ITA 5915 #159562	899.73	919.10	911.47	1.830.57 11
Raffaello BRENTONEGO	ITA	ITA 10039 # 65930	899.80	901.97	916.50	1.818.47 12
Ulrich KAPPLER	GER	GER 3045 # 19648	847.67	862.13	793.70	1.709.80 13
Claude RUSSBACH	SUI	SUI 107640 #136377	742.70	828.10	799.87	1.627.87 14

## Lugo International F2D 4-5/9

Plac, Name	Nation
1 LOPEZ, Jose Luis	ESP
2 MATEO, Raul	ESP
3 MOLteni, Adriano	ITA
4 MATEO, Manuel	ESP
5 BUYANOV, Vladimir	GER
5 HORST, Andre	GER
5 LYSGAARD, Steen	DEN
8 THORUP, Kent	DEN
8 VAZQLUEZ, Benjamin	ESP
10 ANASTASI, Maurizio	ITA
10 PODARI IONUT, Christian	ROU
10 ZILBERMAN, Volodimir	GER
13 GIANDRINI, Antonio	ITA
13 OSORHEAN, Andrei	ROU
13 SBERNADORI, Giacomo	ITA
13 UNRUH, Rafael	GER
17 JALUNINS, Boriss	GER
18 CASSIDY, Simon	GBR
18 KONIGSHOFER, Rudi	AUT
18 MOSER, Maxim	GER
18 MOTTA, Guiseppe	ITA
18 SCHWARZ, Johann	GER
18 WELTER, Alexandre	GER
18 WALLNER, Andreas	GER

## Barcelona F2D World Cup 31/7-1/8

Plac, Name	Nation
1 MATEO, Manuel	ESP
2 GARCIA, Gonzalo	ESP
3 CANTATORE, Antonello	ITA
4 KOCUNS, Erik, Jun	LAT
5 IMBERNON, Toni	ESP
5 KOCUNS, Vitaly	LAT
5 MATEO, Raul	ESP
5 RIERA, Xavier	FRA
5 Vytutas, Rimsa	LAT
10 FRIAS, Juan Carlos	ESP
10 López, Jose	ESP
10 SEGARRA, Xavier, Jun	ESP
10 VAZQLUEZ, Benjamin	ESP
14 GONZALEZ, Miguel	ESP
14 López, Jose Luis	ESP
14 Mons, Francisco	ESP

## Galax Open, Johannisberg 12/9, Weatherman Vintage Speed

Plac, Namn, Klubb	Klass/Tid/Hast/%	Motor
1 Göran Olsson	0G / 10,3 s / 140,6 km/h / 103,9 %	(Cyclon)
1 Västerås FK Modell		(Cyclon)
1 Per Stjärnesund,	2G / 22,9 s / 126,4 km/h / 103,9 %	(Parra)
Västerås FK Modell		(Parra)
Sverker Evans, B-O Samuelsson, Erik Huss, Milenko Kvrjic, Kaj Johansson och Klas Nilsson fick ingen tid noterad.		

## International JURA CUP F2B, Schwalbennest, Büsserach, SUI, 18/9

Place, Name	Nation	1	2	3	Total
1 Christoph Holtermann	GER	1'070.6	1'069.3	1'051.3	2'139.9
2 Frank Wadle	GER	1'060.4	1'045.7	1'071.7	2'132.1
3 Lauri Malila	SUI	1056.1	1'024.3	1'053.3	2'109.4
4 Peter Germann	SUI	968.9	912.2	970.3	1'939.2
5 Peter Hofacker	SUI	940.6	878.5	946.3	1'886.9
6 Daniel Baumann	SUI	967.8	776.0	889.2	1'857.0
7 Thierry Saunier	FRA	915.2	87.9	904.1	1'819.3
8 Hugo Borer	SUI	871.3	834.6	863.5	1'734.8
9 Claude Russbach	SUI	692.3	711.4	727.5	1'438.9
10 Benedikt Wibmer	GER	701.9	683.0	694.4	1'396.3
11 Wolfgang Nieuwkamp	NED	651.1	621.5	501.2	1'272.6
12 André Meyer	SUI	192.5	dns	dns	192.5
13 Michael Feger	GER	dns	dns	dns	dns

## DM Herning 28-29/8, F2B Stunt

Plac, Namn	Klubb	1	2	3	2 bästa
1 Dan Hune	Herning	1858,5	1863,5	1873,5	3737,0
2 Calle Fanøe	Herning	1020,0	1694,0	1798,5	3492,5
3 Hans P Nørgaard	Herning	871,0	1215,0	1175,0	2390,0
4 Aage Wiberg	Herning	284,0			284,0

## DM Herning 28-29/8, Minispeed

Plac, Namn	Klubb	Klass/Tid/Hast/%
1 Jens Geschwendtner	Comet	6 21,2 170,2 91,7
2 Niels-Erik Hansen	Comet	1 35,2 102,3 72,1

## DM Herning 28-29/8, Weatherman Vintage Speed

Plac, Namn	Klubb	Klass/Tid/Hast/%	Motor
1 Jørgen Aagaard	Pingvinen	3D 19,7 146,9 105,5	MM
2 Bjørn Hansen	Comet	6G 17,8 162,7 98,8	ST 40
3 Niels-Erik Hansen	Comet	3G 17,6 164,5 98,2	Cyclon
4 Luis Petersen	Comet	4G 19,7 147,0 95,9	OS 19
6 Jesper Buth	Pingvinen	2D 26,7 108,4 79,7	Parra
7 Niels Lyhne-Hansen	Herning	4G 23,7 122,2 79,7	CS 21
8 Tom Pedersen	Herning	6G 23,4 123,8 75,2	HP40

## DM Herning 28-29/8, F2F

Plac, Namn	Klubb	1	Final
1 André Bertelsen	Pingvinen	4:37,7	9:19,7
Jesper Buth			
2 Calle Fanøe	Herning	5:28,7	69 v
Henning Forbech			
4 Bjarne Schou	Herning	0	
Niels Lyhne			

## Lag-DM

## Plac, Klubb, Poäng

1 Herning	39
2 Pingvinen	19
3 Comet	13
4 Aviator	3

## DM Herning 28-29/8, Goodyear

Plac, Namn	Klubb	1	Final
1 André Bertelsen	Pingvinen	4:46,4	9:15,5
Jesper Buth			
2 Calle Fanøe	Herning	4:53,0	10:31,6
Henning Forbech			
3 Michael Frandsen	Aviator	5:35,6	168 v
Tom Pedersen	Herning		

## DM Aalborg 19/9, Diesel-Combat

## Plac, Namn

## Klubb

1 Morten F-Nielsen	Herning
2 Bjarne Schou	Herning
3 Henrik Nielsen	Herning
4-6 Ole Bjerager	Pingvinen
4-6 Jesper Buth	Pingvinen
4-6 Bjarne Bertelsen	Pingvinen
7-9 Micael Frandsen	Aviator
7-9 Steen Lysgaard	Herning
7-9 Kent Thorup	Aviator
10-12 Liv Monck Nielsen	Aviator
10-12 Tobias B Nielsen	Herning
10-12 Calle Fanøe	Aviator

## DM Herning 28-29/8, F2D Combat

## Plac, Namn

## Klubb

1 Natasha Dementieva	Belgien
2 Steen Lysgaard	Herning
3 Bjarne Schou	Herning
4 Morten Friis-Nielsen	Herning
5 Tobias B-Nielsen	Herning
6-8 André Bertelsen	Pingvinen
6-8 Kent Thorup	Aviator
6-8 Michael Frandsen	Aviator
Dansk Mästare; Steen Lysgaard	

# † Bengt-Åke Fällgren 1956–2021

Jag lärde känna Bengt-Åke redan i slutet av 60-talet då han blev medlem i Oxelösunds Modellsportklubb. Där var han en mycket läraktig och intresserad medlem tillsammans med äldre brodern Göran. Med stor entusiasm deltog han i allehanda aktiviteter i klubben som tävlingsverksamhet och arrangerande av tävlingar i Oxelösund. Bengt-Åke var en av tre bröder Fällgren som bildade 3F, en affärsverksamhet som främst gynnade linflygare både i Sverige och internationellt. Inom linflyget har han framgångsrikt tävlat i både Speed, Team Racing och Combat med flera SM-medaljer som följd och där höjdpunkten blev SM-guldet i F2D 2008. Det har också blivit landslagsuppdrag i F2D vid både EM och VM. Han har också med framgång tävlat i friflyg med "handlunsar".

Om jag ser bortom hans egen modellflygverksamhet så tänker jag bland annat på alla modellvänner som han har hjälpt med tillverkning av "pipor", aluminium-pannor av olika utseenden samt bearbetning av specialstål.

Utöver modellflyget var ett av hans stora intressen att renovera sina Volvo-bilar. Vi har väl alla sett bakluckemotivet med en Spitfire på hans Volvo 142 samt hans egentillverkade och kromade ekerfålgar.

Jag är tacksam för de drygt 50 år som jag har haft förmånen att känna honom!

Bengt-Olof Samuelsson



## Karlskoga F2B World Cup



26<sup>th</sup> - 28<sup>th</sup> of May 2022

Mark this in your calendar!



**Thursday:** Classic Stunt (Swedish rules)

**Friday-Saturday:** F2B Stunt, Weatherman Vintage Speed

Pre-registered pilots and more info at [www.f2d.nu](http://www.f2d.nu)



## World Cup Open Nordic Champs in Herning

4<sup>th</sup> - 5<sup>th</sup> of June 2022

**Thursday:** Arrival. Free training.

**Saturday:** Contest

**Sunday:** Contest

**Monday:** Diesel-combat

**Nordic Champs:** A-B-C-D

**World Cup:** A-B-D

**Weatherman Vintage Speed, Mini-speed,  
Beginner's Stunt, Goodyear Racing, F2F.**

Pre-registered pilots and info at  
[herningmodellflyveklub.dk](http://herningmodellflyveklub.dk)

2022 Svitavy World Cup



# F2D

Svitavy, Czech Republic

July 1 - 3, 2022

more info & registration: [www.modelklub-svitavy.webnode.cz](http://www.modelklub-svitavy.webnode.cz)

## Willy Bloms databas

Danne Johansson m fl har jobbat hårt och nu finns databasen tillgänglig på webben (inklusive sökfunktion).

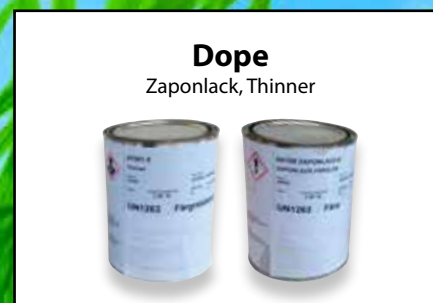
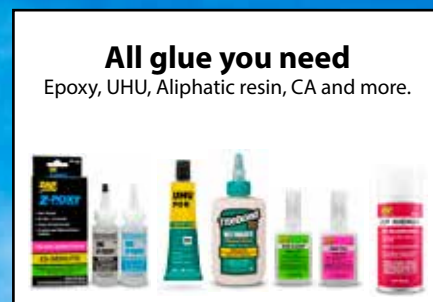
Kolla på [http://www.cmabx.se/ModelFly/prg/fl\\_start.php#](http://www.cmabx.se/ModelFly/prg/fl_start.php#).



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