

# Radio Controlled Soaring Digest

June 2016

Vol. 33, No. 6



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**Front cover:** The model is a PSS BAe Hawk, built by Matt Jones from the popular Andy Conway plans. With a 34" span and an AUV of ~2lb, this fully built up model has a sporty performance on the slope with 2 channel R/C controlling ailerons and an all-moving tailplane. The model is now owned by Andy Meade, and it is Andy at the controls when the photo was taken on 17th April this year – a fast low run towards the end of a fantastic weekends flying on the Great Orme, Wales. Photo by Phil Cooke – Power Scale Soaring Association <<http://www.pssaonline.co.uk>>[www.pssaonline.co.uk](http://www.pssaonline.co.uk) for more information on this event. Canon EOS 70D, ISO300, 1/1600 sec., f5.6, 220mm

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Stephane Duponsel announces a relatively inexpensive F3K machine. With Stephane's experience and the utilization of leading edge technology, this looks to be a real winner on the contest scene.

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**Back cover:** Renato Machado flies his 3m ASW 28 into the sunset near Porto, Portugal.

Nikon D5200, ISO 280, 1/1200 sec., f8, 50mm

# R/C Soaring Digest

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## In the Air

The May edition of *RC Soaring Digest* included information on the Działowski Bydgoszczanka, an early Polish sailplane. Our intent in presenting this information was, as always, that a reader (or perhaps several readers) will tackle the design, construction and flying of a scale model. In the case of the Działowski Bydgoszczanka, we were unaware that someone had already successfully flown a 1:4 scale model. Vincent Besançon's (Beziers, France) model is truly a work of art, both on the ground and in the air.

For a description of the construction of Vincent's model, see <<http://retroplane.net/bydgoszczanka/page1.htm>>. Links to an in-flight video and a close-up video of the pilot figure in action are listed on page 4 of the series.



Although the glide ratio is in keeping with the high drag of bracing wires, control cables, and an unenclosed pilot, the model flies in a very stable manner and easily reaches altitude by aerotow.

Time to build another sailplane!

A large, stylized red signature or mark, possibly a stylized 'B' or 'B²', written in a cursive, handwritten style.



# New Zealand Aerotow Fly-In

Rex Ashwell, [rex.ashwell@xtra.co.nz](mailto:rex.ashwell@xtra.co.nz)

Roughly in the centre of the South Island of New Zealand lies the small town of Omarama (population 350), one of the world's great full size gliding centres, site of the 1995 World Championships and, for the second year, site of a major R/C aerotow meeting, organised by the Omarama Model Aircraft Club.

The area is known for it's strong wave conditions (See the title page — *Omarama wave - a bit high for RC but great for the big guys.*) and many world gliding records have been set using Omarama as the starting point.

With this kind of reputation and the full size gliding season coming to an end, it was an eager bunch of R/C pilots that arrived anticipating a good weekend.

Flying started mid-day on April 22 (Friday) and continued until mid-day April 25, which gave plenty of scope for the 34 pilots to get in lots of stick time. We flew from the Omarama airfield, set up for the '95 World Champs with it's 5000 foot grass runway, which meant almost unlimited space was available, although at times we had to make way for the full-size Duo Discus gliders of Glide Omarama, who operate a flight school and tourist flights with a fleet of a dozen gliders.

It is mid autumn in NZ, a time of relatively settled weather and we were blessed with flyable conditions over the whole period, not always with abundant lift



*Dave Griffin heads for the flight line with his ASH 31.*

but good enough to keep most people happy. With half a dozen tow planes on hand and normally about three operating, it took slick work by the organisers to keep things moving along, but they handled it well, even adjusting to the occasional radio call advising that a full

size tow was about to take place. That meant either landing if you were relatively low, or flying outside the runway area if you had sufficient altitude - it sounds a bit clumsy but it worked fine.

As you see there was a huge range of models varying from about 3 metres

to over 7 metres, with no official count but I'd estimate well over one hundred present.

The biggest of all being Neal Blackie's extraordinary 1/3rd scale model of Burt Rutan's White Knight.

This was the first public showing of the model, which was designed to be a glider but possibly to be EDF powered in the future. The intention was to aerotow the 36 Kg model but it was found that there are a few technical issues still to be overcome so, despite everyone's expectations, Neal decided that discretion was the best course and no attempt at a maiden flight was made.

A lot of people are looking forward to seeing this one fly, as well as his matching Space Ship One, which is sitting at home waiting.

Pilots travelled considerable distances to be at Omarama, such is the enticement of such a famous venue, with Ross Biggar coming all the way from Auckland (that's a round trip of over 2600 kilometres) while Ken and Graeme Rose made the trip from Hastings.

There was a great bonus for Graeme whose name was drawn as the recipient of a prize generously presented by Glide Omarama - a 30 minute glider flight, which I believe lasted 2 1/2 hours. Graeme was overjoyed!



*Neal preparing the monster!*



*White Knight looking ready to blast off.*



*Jack Coker assembling his lovely Weihe, with Jonathon Gardner, who helped fly the "fleet."*



*One man's passion, Jack Coker's current fleet.*

Omarama also played host to two visitors from Australia, Jilles Smitt from Queensland and John Copeland from South Australia, both vastly experienced modellers and great pilots who flew a variety of other people's models and impressed everyone as a pair of friendly and knowledgeable gents.

The scale glider community is not large in this country so it was great to see familiar faces again and meet a few new ones.

Jack Coker is well known as a fine scratch builder and he turned up with a veritable fleet of beautiful vintage models - Weihe, Sagitta, Reiher and Minimoa, all superbly finished and ranging in size from 4 metres to 4.8 metres. Similar sized Sperber Junior and Olympia models, flown by other pilots, were also built by Jack.

There was nothing in the way of competition, this was strictly flying for fun, although Dave Griffin and John Copeland demonstrated the way the GPS triangle is flown and a few others had a go at this using their models. Dave flew his own ASH 31 and John flew Ross Biggar's similar model, complete with up and go. The wind got up a bit on Sunday afternoon, when most pilots were happy to sit back and watch a handful of the bigger models revel in the conditions and threaten the 2000 foot altitude that our local Notam allowed.



*Ian Harvey with his DG 1000 complete with scratch built pilot - guess who.*

Being able to store the models each night in hangars with the real things was a great help and appreciated by all as no assembly in the morning meant an extra half hour in bed - we were all on holiday after all. There are three purpose built hangars on the airfield, each 145 metres long, so plenty of room under the wings of the big gliders.



*No shortage of space in easy access hangars.*





An aerotow doesn't happen without tow pilots and we were fortunate to have at least six. As usual though no-one did more towing than Alec Taylor whose big Pawnee seemed to be on hand almost all the time while Andrew Palmer, Scott Chisholm and Peter Deacon weren't far behind as far as workload was concerned.

Not so long ago tow planes could be relatively modest aircraft but as the gliders have gotten bigger and heavier so the towplanes have had to grow to cope with bigger loads.

We are fortunate that there are those among us who are prepared to make the necessary investment to do the job, as bigger models obviously mean bigger engines, more powerful servos and bigger trailers to move the models around. Good on you guys, the rest of us appreciate it.

Glide Omarama carried on with their commercial flights during the event and whenever they were about to launch one of the marshals would be contacted by radio. He then instructed anyone who was low to land, while those at altitude flew away from the runway area until the



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*Carefully crafted detail on Ken Rose's lovely Schweizer SGS 2-8 - if there had been a concours this was the winner.*

*Alec swings the Pawnee into place for another tow - his back is all I ever seem to see!*

*Ross Biggar's LET Models Flash, a very impressive electric glider.*



*Peter Deacon with his ASW 28-18 ready to be towed - capable of self launching but this is more fun.*



*The real thing looks just like a model - shot taken from the pilots box.*



*Dave Griffin's 4 metre Fox with retractable EDF unit - spectacular!*



*Paul Chisholm's Schleicher KA 6 - Jilles Smitt (standing) laser cut the kit for this model.*

towplane and glider had cleared the area. The rest of us just stood and admired the view as these gliders are BIG and with no head wind the climb out was long and slow, not much like some model tows I've seen.

During the initial pilot's briefing it was announced that Glide Omarama had donated a glider flight as a prize and the winner would be chosen by drawing names from the list of registered pilots. Quite a few were excited by that prospect and Graham Rose announced that he might have to register a few more times to increase his chances. His excitement was very evident the next day when his number was drawn and somehow the 30 minute flight stretched out to 2 1/2 hours, so pilot Justin Wills must have been enjoying the conditions and the company. Graham was still buzzing a day later and he would have had a spectacular flight which took in NZ's highest mountain, Mt Cook, which is 105 kilometres from Omarama.

It seems as though you have to pass a "good guy" test to join the scale aerotow fraternity. What a great bunch of people!

The weather was good, the models were great and the people were excellent.

My congratulations and thanks go to the organisers, Bevan Allen, Greg Clarkson and the rest of the team who did a wonderful job and I'm sure that most of those present will be back next year.



*Graeme Rose levers himself out of the Duo Discus after his prize flight.*

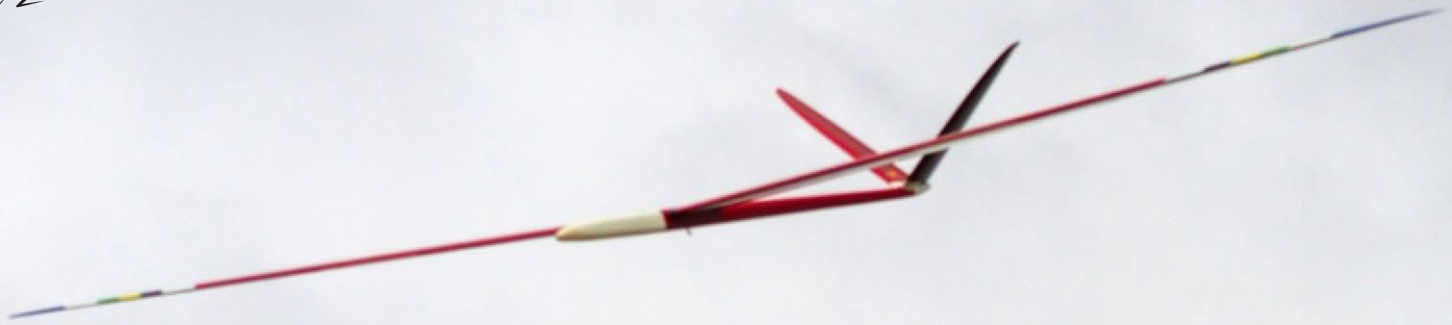
Finally, if you hanker to see a few moving pictures, try this link to Peter Hewson's short video of the event: <<https://www.youtube.com/watch?v=9WNa3vczxzU&feature=youtu.be>>

Okay, that's it. It was an excellent meeting that was universally acclaimed. I'm already looking forward to next year

although it's a good long haul from my home - 650 kilometres each way and no big interstates to cruise along in this country. Good roads and not too much traffic though, so a pleasant drive with an overnight stop.



*Open (F3J) Class  
at the 2016 South African National Gliding Championships*



Jan Sime, [jansime@rpmtv.co.za](mailto:jansime@rpmtv.co.za)

*Slippery machine - a Fosa F3B slicing through the air to make it back for the landing.*



*Cloud and wind - lots of wind. This was the opening overture of the 2016 national championships held close to Bapsfontein in South Africa in April.*

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*As 2016 is a F3J world championship year the open class flew to these rules; a 10 minute duration task in 10 minutes of working time. It is thus impossible to*

*get a full ten minute flight as time on the winch is at least 1 second and only the very brave, or foolish, attempt to land in the last second of working time.*



*As the weather was challenging, the early morning battle lines were drawn between the F3J gliders of Alan Smith and Ian Sime and the F3B machines of Craig and Michelle Goodrum.*



*After some scratching and heroics on the landing spots, honours were grabbed by the F3J contingent of Alan and Ian with a perfect 1000 score each compared to a total of 1975 by husband and wife team of Michelle and Craig.*



*Round 2 saw the competition opening up to allow Chris Adrain, Peter Moore and Craig to grab top scores.*



*Juanita Smith and Robert Leadbitter also crept up the leader board.*



*Round 3 saw perfect scores from Michelle, Chris and Alan with Ian only managing 994 despite this impressive landing sequence.*





*A buzzer sounds to signal the end of working time and if your glider has not touched before this you forfeit your landing points, potentially 100 if you land within 20 centimetres (about 8 inches). You are also penalised by 30 points being deducted from your flying time.*

*As the open class was flown on the same days as F3K discuss launch gliders this was the last round for Sunday and flying resumed on Monday 2 May, a public holiday.*



*The top five were now solidly entrenched and fighting it out for the number one position.*

*The only F3J rule not enforced was for two-man towing teams. 150 meter winches were used.*





*Gordon Browne managed a perfect score in round 4 and two other back markers; Shaun Mileson and Jan Sime did the same in round 5.*

Rank	Name	Team	Score	Pcnt	Raw Score	Rnd1 Dur	Rnd2 Dur	Rnd3 Dur	Rnd4 Dur	Rnd5 Dur	Rnd6 Dur	Drop1 Dur
1	Smith, Alan	1	4997	100	5986	1000	989	1000	1000	1000	997	989
2	Goodrum, Craig	5	4995	99,96	4995	1000	1000	995	1000	0	1000	0
3	Adrian, Christian	3	4980	99,66	5667	687	1000	1000	985	995	1000	687
4	Goodrum, Michelle	5	4941	98,88	5859	975	918	1000	995	971	1000	918
5	Sime, Ian	1	4841	96,88	5659	1000	847	994	818	1000	1000	818
6	Smith, Juanita	2	4761	95,28	5251	490	942	968	946	940	965	490
7	Moore, Peter	5	4673	93,52	5378	705	1000	863	969	898	943	705
8	Browne, Gordon	2	4603	92,12	5053	858	803	988	1000	450	954	450
9	Mare, Eloff	4	4124	82,53	4666	840	890	635	781	542	978	542
10	Leadbitter, Robert	4	4075	81,55	4489	593	966	989	968	414	559	414
11	Shepard, Mark	3	3828	76,61	4275	872	910	694	505	447	847	447
12	Sime, Jan	2	3579	71,62	3983	404	924	688	514	1000	453	404
13	Milesen, Shaun	4	3099	62,02	3099	0	0	978	340	1000	781	0
14	Venter, Rudi	3	0	0	0	0	0	0	0	0	0	0

At the end of day 2 the weather had moderated and turned out quite warm so, the last round saw no fewer than five perfect scores (1000 points) and five more over 900 points.

Congratulations to all the pilots who braved the elements and turned in some good scores. Here are the final results.





*Thanks also to Rudi Venter who, despite putting his back out, shot most of the pictures seen here.*

*More photos and videos can be seen on the South African F3J Team Facebook page: <<https://www.facebook.com/saf3jteam/>>*



TWO OCEANS SLOPE SOARERS  
**BLACK EAGLE PSS FESTIVAL**  
18TH-19TH JUNE 2016  
CAPE TOWN SOUTH AFRICA



**REACH FOR THE SKY!**

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# MODEL ARCHAEOLOGY

Philip Randolph, [amphioxus.philip@gmail.com](mailto:amphioxus.philip@gmail.com)

*Model archaeology: Attempting to discern the motivation for leaving a sport in the splayed entrails of a model airplane that sat on a shelf for nine years. Or: Fairly tight but randomly variable servo linkages keep a model out of trim and perhaps discouraged a pilot out of the sport.*

Let's start with a parody of a classic country western ballad song:

Ten years ago on a cold dark night a pilot gave up on RC flight. He said, "I just ain't able to skillfully fly."

Buried in his model was the reason why: Slipping pushrods kept his plane out of trim but the pilot gave up 'cuz he thought it was him.

Yeah, doggerel. Put a collar on it. Down boy. Sit. Or, please start over:

Well, in a way it was him, or at least the

fault of whoever installed the pushrods in his Mini-Ellipse.

I don't even remember who the fellow was who was bailing from the sport. But for his privacy I wouldn't say anyway. He was older. At the time I thought maybe that was why he was giving up. Probably wrong.

It reminds me of my second slope combat, about 2002.

The things we don't know can hurt us.

Well, it was dumb and I was newbie ignorant.

I had put some control horns on servos. They seemed to fit pretty snug and worked okay until the wing was up into 50+ mph winds. Then I couldn't keep it in trim.

JR horns don't actually fit Hitec servos.

Bother.

Duh.

Being graphomaniacal (adj.: having a compulsion to write stuff, whether one has anything to say or not) I was at my computer when an email to the local club showed.

I was first to call, so it was to me he gave his plane. A Mini-Ellipse, a lightly built 58" (1.5m) vee-tail with hollow-molded wings and sweet little fairings over the servo push-rods.

I was looking forward to flying the Mini, but I didn't.

I kept going to slope hills with landing zones I refer to as "Chris Erikson<sup>1</sup> rock piles."

No place to fly something this delicate.

And I had lots of other projects.

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<sup>1</sup> Intrepid slope explorer and flounder of CEWAMS. Oops. Founder.

So it sat in the rack for nine years, hiding what is remarkably similar to mixing JR servo horns and Hitec servos, hiding what I guess was the source of the donor's presumed discouragement and exodus.

Disclaimer: Here I'm taking wild guesses. It's just toy airplane archaeology, looking for psychology in the build of a model.

That's only a bit less random than trying to auger fate from tea leaves in the bottom of a cup or from the splayed entrails of a goat.

Plus, I didn't have a goat.

Last week finally I hooked up a receiver and a battery to the Min-E. First time. Transmitter on.

The left aileron was off by 13mm, the right by 8mm. Too far to fix with sub-trim.

So I popped the ball links free and started screwing them tighter. They were a bit hard to get at because of the fairings over the push rods.

The right one I exposed by giving full right aileron and pulling the connector to the battery.

Oddly, turning it didn't seem to help.

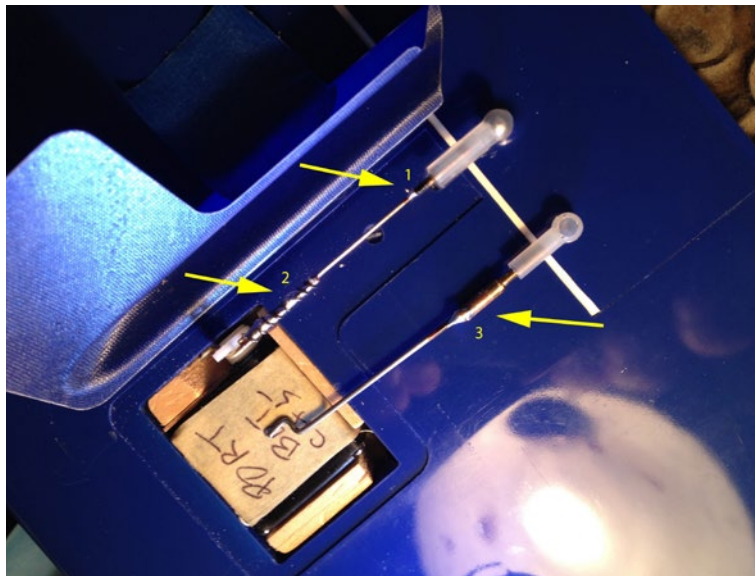
For the left I gently pulled on the ball-link. The servo was a bit tight so I pulled harder.

The rod came off.

Out.



*1: The Mini-Elephant pushrod fairing that hid slipping linkages.*



*2: Freshly soldered pushrods. Joint 1 was skinny wire glued into hollow threaded rod with CA. It slipped. I cleaned, fluxed, tinned the rod with solder, and soldered it in. Joint #2 was shrink-tube and CA. I wrapped it in twist-tie wire and soldered. I threw the other shrink-tubed pushrod away before I took a picture. Bother. I only had one Dubro threaded coupler (3) handy, so I only did one the easy way, with new rod and a Z-bend.*



*3. Roughing up metal surfaces gives tooth for glue.*

I scraped off the clear tape that held the pretty little push-rod faring that hid the pushrod. Maybe it was a result of standard build techniques for Red Herring pushrods.

Back in the single-digit years guys who were building light often saved a thirteenth of a gram by joining bent metal rods for servo and aileron horns to lighter carbon fiber rods. They did this with shrink-tube and CA.

On the Mini, a 0.7 mm rod was joined to a 1.2mm rod with shrink-tube and CA. The 1.2mm rod hooked to the servo horn. That joint was slipping.

The 0.7mm rod fit into a hollow threaded rod threaded into the ball joint.

When I tried to unscrew the left one the wire turned inside the threaded rod. I pulled and that came apart also. It was pretty tight, but.

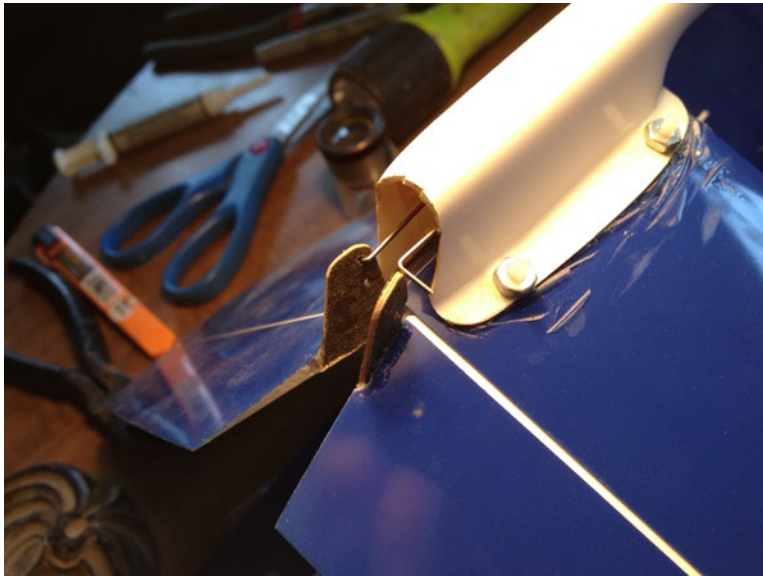
Rather than being soldered, it had also been glued in with CA, which didn't hold to the slick surfaces.

The metal to metal in shrink-tube or threaded-tube glue bonds might have worked if the rods had been roughened. Chucking them into a drill and a bit of sand paper might have given them sufficient tooth to hold.

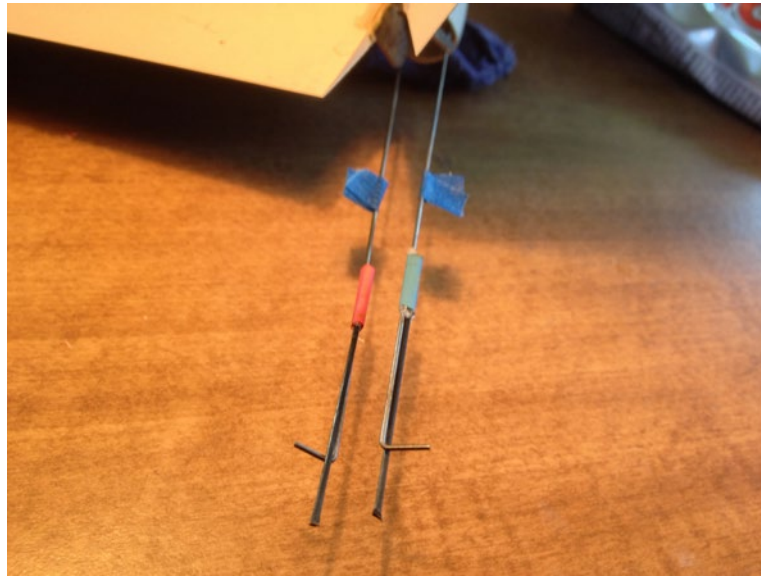
They were smooth. As was the peg in the front of the wing, which had slipped its epoxy to reside in its receiving hole in the wing saddle.



*4. The wing pin had slipped out. Also.*



5. The "L" bends to the ruddervator horns had no keepers.



6. Carbon rod, shrink-tube and CA make fine keepers since there is no tension force.



7: Ruddervator keepers.



8. The Mini-E/Z connectors were installed without keepers. Better to fix now rather than post-crash.



The result: The aileron linkages felt as solid as my JR-Hitec mix, but would always have slipped enough under load to keep the plane out of trim.

All buried beneath those cute fairings.

That must have made for pilot discouragement.

Hidden toy traps and pitfalls.

I wish someone could have diagnosed the problem way back when, and perhaps kept the guy happy enough with flying to keep at it. Bother.

Incidentally (meaning, in hopes of preventing incidents), there is a great guide to pushrods and connectors at <http://www.flyrc.com/beginners-guide-to-pushrods-and-connectors-2/>.

Nearly postscript: The last thing I discovered was that the Mini E/Z connectors between the pushrods and the servo arms didn't have retainers.

I found this when one popped off a servo arm.

I'll probably either do a "snake" bend or a simple "L" bend with a shrink-tube and carbon rod retainer like I did for the ruddervators, which also didn't have retainers. But not tonight.

Maybe this all explains why there was a repair of the fuselage.

Now I just have to get to some place that doesn't have rocks for an LZ.



# Replacing the **TARANIS** Trim Switch

Gordy Stahl, GordySoar@aol.com

Taranis hardware quality only equaled by... .. a 1954 transistor radio!

Of course I'm only slightly kidding.

Until the Taranis, transmitters have been electronic and hardware works of art. Each brand bragging about their smooth gimbals, and ergonomic case designs. And of course there is a price to all that quality.

Fr/Sky took a different approach, and provided us with unlimited function, but very limited form. And they only charge us for what we paid for; paint that wears away, no rubber grips, a tiny voice speaker, not extremely durable switches, yes, and the Taranis' notorious crappy, short lived trim switches.

Here's the scenario:

You decide to adjust your Elevator trim only to find out it's working, but only sort of working.

Only one elevator trim function is working, either the down trim or up trim beeps and changes the elevator trim setting, the other does not.

This is not too big of a deal cuz you can simply go to "Outputs," Edit Elevator, scroll down to Trim and choose to use the Throttle's trim lever! Now your Elevator trim is along side the Throttle for a field quick fix until you can put in the new switch assembly.

(This should normally be switched OFF in that spot since you don't want to be accidentally changing flap trim.)

A new screw-in component from ALOFT Hobbies only costs \$4 plus shipping and it only takes about eight minutes to swap one out. Remove the six case screws, fold the back out of the way, pull its plug (red wire toward the top when you put it back), take out the two screws holding it, install the new one... done.

The known shortcomings of the Taranis' hardware drives competitive brand manufacturers crazy because the "cheapness" of a Taranis's components isn't viewed as a bad thing by its users.

In fact it's this kind of thing about the Taranis which gets a lot of nerd



*The Taranis trim switch assembly. Swapping out the internal mechanism for a good one is not difficult and takes only a few minutes.*

types excited because its something they can find an improvement for themselves and then do a thread on RC Groups about it.

If one of the “quality” brands experienced this kind of hardware problem, goofs on Groups would be threatening lawsuits and boycotts!!!

In this case the bonus problem is the elevator trim switch mechanism. One of the guys in the Taranis thread found a higher quality and more durable direct replacement component made by Panasonic.

This is a replacement button that drops right down where the original button switches sit. But the Panasonic’s guts are substantially better.

Swapping out the original switch buttons:

If you look closely at the sides of the original white switches you’ll see a soldered point. There’s one on either side.

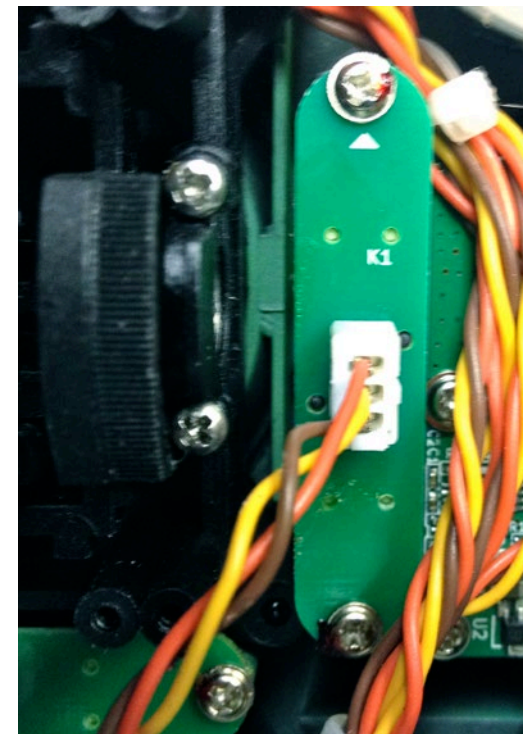
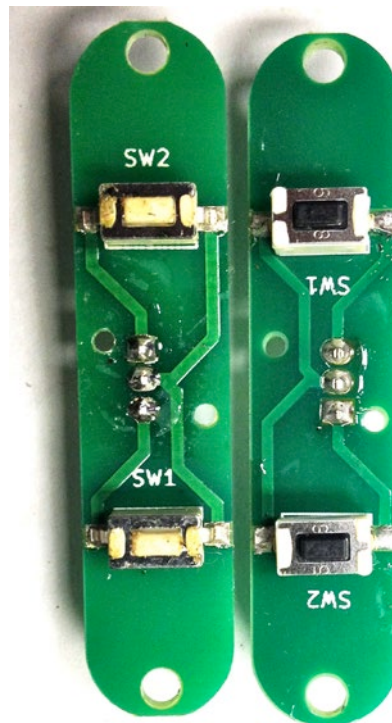
Using an X-Acto blade to slip under the switch bodies, and a very clean pointy soldering pen, you can carefully — sequentially lifting one end a bit then the other — the switch will finally separate away from the soldered spots as you heat the solder. Remember, lift in bits, one side at a time, so you don’t lift the board connection points off the board.

The board is marked with a white outline rectangle to insure that you get the buttons perfectly aligned.

One at a time, hold the new button down in place inside the outline - then tack each connection with solder.

Extremely simple.

I bought a dozen from DigiKey and got them almost next day! However, I’m only doing my Elevator trim spots, since the others are seldom used.



*Left: Original Taranis trim switch on left, Panasonic replacement on right. Right: The installed replacement, ready to go flying!*

The Panasonic buttons are white bodied with black buttons, versus the white buttons of the original equipment shown in the photo.

And yes, you can ‘feel’ the difference once installed.

Here’s the link. There is a story about the hunt for the switch replacements on RC Groups, where I found out about them.

<http://www.digikey.com/product-detail/en/panasonic-electronic-components/EVQ-5PN04K/P13595SCT-ND/1245516>

Too cold and wet to fly, so might as well solder in trim buttons!



The Fr Sky Taranis transmitter.

The one on the Left is an original, you can see the button switches are looking pretty funky (I put a lot of flight time on my stuff!) The black buttons are the new Panasonic buttons, the original uses a metal dot single point connection to make contact inside, the Panasonic uses gold plated multi-point system inside.

Easy to swap out!

Make sure you mount the new switch with the red wire up when you put it back in or down will be up!

More tips about the Taranis hardware in an upcoming issue of *RCSD*!

Things like:

- Why do I suddenly have the Blue Screen of Death when I turn on my Taranis?
- How to keep the Menu Button assemblies from poking into the case?
- What does the SWR Telemetry tell me?
- How can I use the Taranis to find my lost model?
- Which way should the transmitter antenna lean?
- A tool to tighten the toggle switch nuts?
- Updating transmitter module and receiver firmware.
- How does Mix Weight differ from Mix Offset?
- Should I update to Firmware 2.1 or stay at 2.0?

The Taranis is a “fun” transmitter!

Most TX’s are utilitarian in design, I think the word fun and transmitter have never been used by an RC sailplane enthusiast since for the most part we never wanted to futz with transmitters or programming at all.

Our interest is in hunting and working thermals.

The Taranis has changed that.

Until then, my Taranis is “Completely Operational and All Its Circuits are Functioning Properly.”



# TOM'S TIPS

## Converting PSA to Hook & Loop

Tom Broeski, T&G Innovations LLC, tom@adesigner.com

Before Hook and Loop, all my orbital sanding disks were PSA (pressure sensitive adhesive).

It was always a pain to try to keep them sticky, especially if you changed grits often and before wearing them out.

I would spray glue them on, but they still only stuck once and often made a mess of the pad.

I eventually converted my sanders to Hook and Loop pads.

Of course, I still had a box full of good PSA disks with no stick left, as you can see from Photo 1.

I also had a bunch of worn out loop disks.

It was a simple thing to glue the worn out loop disks to the good PSA disks.





Almost any spray glue will work. 3M 77, 3M 90, Camie, etc. Photo 2 shows a sampling of those I've used.

Photo 3. Take the good PSA and spray the back. Take the worn loop disk and spray the front.

Slap together and *voila*.... A good loop disk as shown in Photo 4.



# Altitude Permit

## Altitude Switch

### *A How-to Series*

Gordy Stahl, gordysoar@aol.com

Often the suppliers of our equipment are not American, so mostly the device instructions are translations of the original language, which often leads to confusion.

The FlyDream's Altitude Permit Motor Switch instruction are very detailed but leave the new operator scratching his head on something that should be very simple.

I will be doing a series of How-To Tips to help Altitude Permit owners better understand its features.

The first and most often asked about feature is how to set the motor restart function so that the motor can be restarted when ever needed.

One setting that is very obvious in the restart menu is the "OFF" setting. The F5J FAI competition class does not allow motor restarts for any reason during a flight, so that is one of the settings for motor restart in the A.P.'s Programmer Menu.

Here are the steps to use the Programmer to set the Restart function according to desire or contest rules.

The "settings" are done via three buttons located along the bottom of the programmer. See Photo (1) at right.

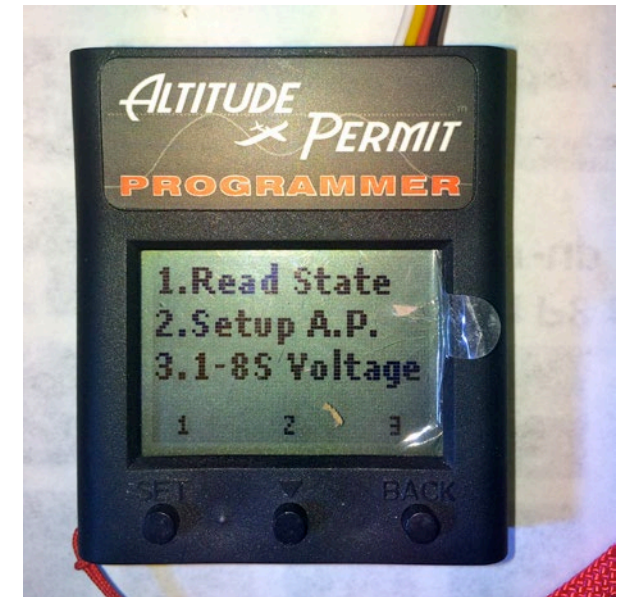
Connect the model's motor battery after connecting the AP's Programmer.

The first menu page shows three selections, each correspond to the numbered buttons at the bottom of the programmer. You can navigate the Programmer screens by pressing button number 1 until you see the screen you need. So the first step will be to press button number 2, "Setup A.P."

In the SETUP A.P. menu, choose the RESTART option.

The bottom line displays "A.P. 15m OFF," as seen in Photo (2) on the next page.

Choose the option you want by pressing the left, middle or right button.



(1) The "settings" are done via three buttons located along the bottom of the programmer. The first step will be to press button number 2, "Setup A.P."

If you want to confirm that the setup is correct, you have to go back to the "Read Data" function, then press button number 1. This will display 'RESTART: A.P.', 'RESTART: 15m', or 'RESTART: OFF'.

- A.P. means Altitude Permit, and allows the motor to be restarted if two conditions are met: the altitude must be under the limit, and the throttle must be zeroed. See Photo (3).
- 15m means that the motor can only be restarted if the altitude is less than 15m (50ft).
- OFF means off - no restart is allowed. You have to disconnect and reconnect power each flight before the motor will restart.

There will not be a cursor or anything highlighted as options. To choose which RESTART state you want, simply press the numbered buttons under the Restart function selection you want programmed.

Choosing one of the three RESTART conditions will cause the screen to revert back to the menu screen. That implies that your selection has been programmed.

WARNING! Restarting the motor in flight will be hazardous to your RC soaring piloting skills.

Seriously, if you want to improve your air reading and piloting skills, never ever restart your models launch motor



(2) In the SETUP A.P. menu, choose the RESTART option. The bottom line displays "A.P. 15m OFF."

in flight. "No restart allowed" forces the pilot to work a little harder while in flight to find the best air and will inspire the pilot to fly smarter, smoother and to follow lift cues in order to avoid having to walk for his model before the practice flight time has ended.

The Altitude Permit instructions included with the device can be downloaded



(3) A.P. means Altitude Permit, and allows the motor to be restarted. Here the throttle is at idle (zeroed) and the altitude is set at zero.

from <<http://www.rcsoaringdigest.com/Supplements/APManual.pdf>>. I'll be taking a section or two in the following issues to offer up instructions from an active ALES contest pilot's point of view.

If you have questions or comments feel free to contact me directly at [GordySoar@aol.com](mailto:GordySoar@aol.com)







# *SD CREATIONS* Rafale

Stephane Duponsel, [sduponsel@gmail.com](mailto:sduponsel@gmail.com)

My passion for RC gliding spans over the last 25 years. The majority of models I have flown have been designed and built by myself on a small hobby budget. My goal with SD CREATIONS is to use my experience in home built projects to offer high value for your money solutions.

The RAFALE is very similar in performance to the SD CREATIONS DART 2.0. The main difference being that the fuselage holds all the radio gear. The wing plan form is also further optimised for an elliptical lift distribution and is larger in wing area than the DART 2.0 for

a similar all up weight, leaning towards a better “hang” time off the same launch height.

The Rafale is my latest creation, offering what I would require as a competitive F3K pilot.







#### The RAFALE features

- A stiff full carbon wing helps toward achieving excellent launch heights. There is no flutter with powerful launches. The ailerons are closed off at the hinge line to add to their torsional stiffness.

- It is designed around having a high cruise speed and a good glide ratio in order to search for thermals and it needs to be flown aggressively.

- The planform design is to have no sweep back along the centre of pressure of the wing. This helps curb the torsional loads created by lift along the wing during launch which would add to drag.



- The full carbon pod is quite spacious and very strong, allowing for the easy installment of servos and the radio gear.
- The model comes with 3x30g ballast and the throwing peg already installed to your requirements, that is if you are left or right handed.

- The model is shipped with the wing split in two and the vertical stab needs to be glued in place. The wing comes with wing joiners for easy alignment during bonding of the wings and no bandage is required at the wing joint. The wing bolts holes are pre-drilled with the correct spacing to attach to the fuselage.



Specifications:

Flying weight: 280 g  
can be ballasted to 380 g

Wing area: 21.1 dm<sup>2</sup>  
Wing Span: 150 cm  
Dihedral: 5.5 degrees  
Length: 1050 mm

Price: US\$418

Website: <<http://www.sdcreations.co>>

For more information contact Stephane  
at <[sduponsel@gmail.com](mailto:sduponsel@gmail.com)>



# 2017 USA F3B Team Selection

I am pleased to announce that the 2017 USA F3B Team Selection contest will be held in Perris, California from Fri. June 10 through Sun. June 12, 2016.

The Perris field is home to the Riverside Radio Control Club and the Southern California Antique Model Plane Society (SCAMPS). They have graciously allowed us to use their excellent facility once again.

Contest Director: Sheldon Smith  
Event Coordinator: Tom Watson  
Head Jurist: TBD

We will use F3X Vault for event scoring. You must do three things to enter:

1. Register at [http://www.f3xvault.com/?action=even...w&event\\_id=708](http://www.f3xvault.com/?action=even...w&event_id=708). This is the system of record for event scoring.
2. Submit an F3B Program entry form to AMA (\$20 program fee).

3. Submit an F3B Finals entry form to AMA (\$125 contest fee).

## Volunteers

As always, helpers are an integral part of any F3B event. If you would like to volunteer, please post in this thread and indicate what day(s) you are available. Lunch will be provided for helpers every day, at no cost.

## Pilots

If you intend to participate, please also post in this thread.

<<http://www.rcgroups.com/forums/showthread.php?t=2637973>>

See "Lodging, Logistics and Other Info" for additional information.

Tom Watson  
2017 USA F3B TS Coordinator

The AMA forms can be downloaded via this URL. Please get your entries in ASAP.



**Flying Circus**  
faszination alpinflug

**7. BIS 10. JULI 2016 - FISS / TIROL UND SCHÖNJÖCHL**  
Großsegler-Parade auf 2500 m . Freies Fliegen für Alle . Nachtflugshow . Fliegerparty mit Liveband . Wertvolle Sachpreise  
Unterkünfte: Infobüro Fiss, A-6533 Fiss, Tel. +43/5476/6239, Fax -6813  
Infos: Flying-Circus Eventorganisation . [info@flying-circus.de](mailto:info@flying-circus.de)

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