

DVD Review by Klaus Weiss

RADIO CARBON ART - F3 BUILDING CLINIC

Following on the article and mini review of the Radio Carbon Art 'Performance Tuning for Gliders', in Airborne issue #210, comes Paul Naton's latest instructional DVD, titled 'F3 Building Clinic'. This DVD runs for over two hours, and takes you through the stages of installing the radio gear right through to setting up and finally flying your new, moulded fibreglass/composite sailplane. F3 Building Clinic takes you step by step, through the assembling and setting up, of the Trinity sailplane, and the principles shown can be applied to any composite sailplane build.

Very few moulded or composite sailplane kits these days, come with instructions, so the information shown on this production will greatly assist the builder in getting the best out of his finished model. A bonus with this type of instruction is the fact you can visually see what to do, rather than guess it or try to decipher a two line written step. As they say, "a picture is worth a thousand words".

F3 Building Clinic is not just for the modeller who is building his first composite or moulded aeroplane, but those of us who have built a number of them will also learn a few new tricks and find different ways of accomplishing some of the assembly and radio installation tasks. There is information on servo installation, ballast installation, soldering wiring harnesses, making up battery packs, linkages and servo geometry as well as showing what tools are required and how to pre-flight your model. The list goes on.

This DVD tutorial covers some 31 subjects, so let's have a look at a few of them. I was thinking of just lightly browsing various scenes in no particular order, but I really should start at the beginning. The brand new kit arrives at your home, so you unpack it and dry assemble everything, to see what it will look like - at least that is what I always tend to do. Paul opens the scene, by showing a sequence of majestic, close in slope soaring with the Trinity F3F glider, which will be the subject of his building clinic tutorial. This then goes to the segment which shows the tools and associated equipment you

will require to build or assemble any moulded or composite aeroplane.

These tools are quite inexpensive, and you will no doubt have most of them in your workshop already. Some of the others, such as the Voltmeter or wire stripper can be bought at very reasonable prices at a variety of stores around Australia.

In his assembly sequence, Paul begins with the setting up of the V tails. Many of the kits available these days have the ball links and rods already factory installed, but there are a number where you need to either bolt or solder on the balls to the actuator rods. Paul Naton shows how to do this, and how to get it done accurately without burning yourself or your model.

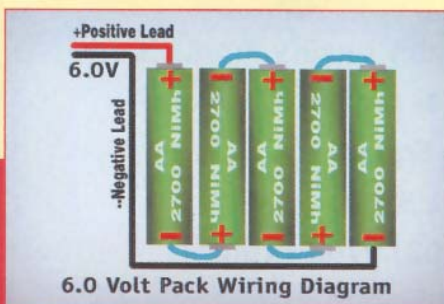
The next section shows the installation of servos into the fuselage, as well as how to set up slop free pushrods. It is important to have no backlash or slop in linkages, so that the model will react positively to any control inputs given. There is a lot more information given, of course, as I am only glossing over the sections.

Soldering up battery packs is a task that a lot of modellers are not happy to attempt. At times, especially when the glider has a slim fuselage or nose, you are required to install a custom configuration or if you want quicker servo response, a five cell pack. Most times, you will have to solder this pack yourself, or get a friend to do it for you. This section shows you how to do that job simply. Paul has his method, and there are other ways to accomplish this task, but

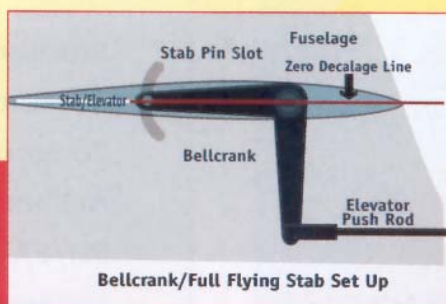
the point here, is to have a go and solder a pack yourself. Buy some heat shrink plastic tube to finish it off and it will look like a bought one. There is a chapter devoted to soldering, and when you learn this art, you will wonder why you haven't done it before. Tinning the job first, and perhaps using flux, will make it an easier task. A good soldering iron is also beneficial.

You may want to solder up a 9 pin connector or a 6 pin connector to make the plugging in of the wings a 5 second job. This is highly recommended on a multi servo aeroplane, as it saves stressing the thin connectors on servo leads and receivers if they can remain plugged in at all times. The servo signal wires and the positive and negative leads are all soldered on to relevant pins on the plugs. Connections are positive and no mistakes can be made as to which servo plug into which slot. The F3 Clinic shows you how. It also explains how to manufacture a wiring harness, something which may intimidate the average modeller. There is a method shown, whereby the wiring harness is soldered up in such a way, as to have the ruddervators powered through the receiver and the ailerons are powered directly off the switch/battery connection, with only the signal wires going through the receiver. An interesting method.

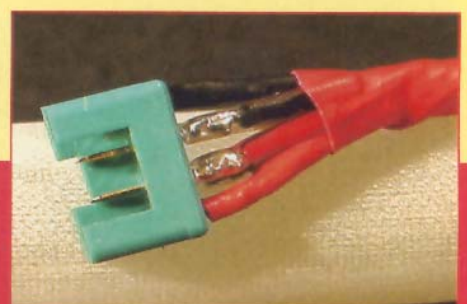
I have seen lots of pilots with a multimeter in their toolkit, but no real idea of how to use it to test circuits etc. A segment on this DVD shows you how. It is very straightforward, so there can be no concern that you are reading



Shows the wiring diagram for a 5 cell, 6v receiver battery pack.



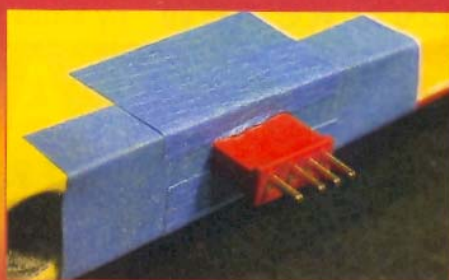
Shows the set up for a bellcrank on a full flying stabiliser.



Shows a Multiplex connector soldered to the lead.



Shows a Dremel tool being used to cut out the servo bay on a fiberglass fuselage.



Shows a Deans connector epoxied into the wing root. The wing connects into the female connector, which is epoxied into the fuselage.

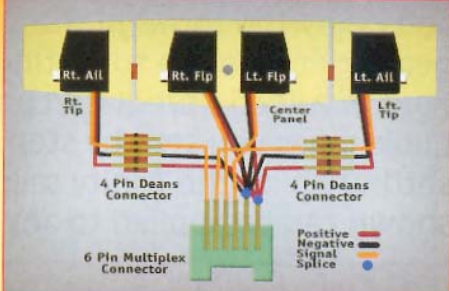


A section of the DVD shows how to solder battery packs.

the wrong information or have the meter set on the wrong position.

I see lots of composite sailplanes come in for a jolting, nose first arrival (me included at times) and then you find the nose cone has been driven onto the fuselage and is perhaps cracked. It is very hard to get the nosecone off when this happens, and further damage can ensue. F3 Clinic shows how to 'pot' the nosecone, so that this will no longer be an issue. I know that I am going to carry out this simple procedure on all my models which have slip on nosecones. Even if you know everything there is to know about assembling models, you can always learn something innovative.

After showing the installation of control rods, antenna and tow hook, the fuselage is just about finished. There is a further section on linkages and setting up of a cruciform tailplane, before Paul commences the sections on installing flap and aileron servos, as well as wiring harnesses into the wing.



Shows the wiring diagram for a Multiplex 6 pin connector on a four servo wing layout.

The flap servos can be installed into frames, which are secured into the wing, or glued into the wing with a mixture of epoxy and micro balloons. Both methods are explained. The geometry of top driven or bottom driven flaps is shown. The procedure for installing servos is

shown in details which can be replicated exactly for both wing halves. This gives you a symmetrical installation and trimming will be very precise, when you have finished.

I have a Supra, where the ballast tube needs to be glued in. It is not just a matter of inserting ballast and then going out to fly. It has to be installed, so that the addition of the ballast will not change the C of G. This is achieved by the use of spacers. F3 Clinic shows you how.

There are sections on how to add graphics to moulded 'planes or paint them. Also, following on from the excellent DVD Tutorial "Performance Tuning Gliders", (which I reviewed a few months back) F3 Clinic explains the necessity for checking incidence of the wing and tailplane, lateral and longitudinal balance and surface control checks for symmetry and binding.

F3 Building Clinic covers two hours of viewing, and in my opinion, should be in every pilots library, along with the Performance Tuning for Gliders DVD. Great value.



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