



September 2009

SKYWRITINGS

Newsletter of the *Mid Kent*



Light Aircraft Association

Mike's Mutterings

Mike Negus -
Editor



Gary Smith

RV9 to Spain

Having successfully completed some of aviations "firsts" (first solo, first time lost, first long trip, first major rally, first solo channel crossing etc) I am always up for a new challenge. This summers trip to Jaca in Spain opened up a new chapter of firsts, pushed my abilities and rewarded me with a thoroughly memorable holiday - par avion.

A group of flyers (including myself) from the Mid Kent Strut regularly attend the French Home builders Rally and for the third year running we planned to visit Vichy in mid July. I had invited Karl Martin (from the "Strut") to



Jaca Gliding

September Meeting
24th September 2009
Talk on Air Rallying

fill my spare seat but it appeared he had ideas of grandeur. It turned out that Karl had reserved a glider in Jaca for the week following the French Rally..... and since Vichey was half way there.....would I like to take him all the way to Spain. I accepted the challenge and thought I may do a little gliding too, but had some reservations about crossing the Pyrenees (highest point 12,000ft).

Our Group departed on Friday 10th July and headed for our preferred over night stop at Avalon. Saturday morning provided fine flying conditions for the short hop to Vichey where I saw the most amazing sight. The aircraft landing 2 places in front of us stopped in the middle of the active runway, turned around and started taxiing back into the approaching traffic. Not content with that he turned back around and just sat there. I have never seen this trick before but it gave the two of us on short finals a nervous 60 seconds.

We enjoyed the show and after a very fraught Sunday morning attempting to submit our flight plan we departed for Spain. Our south westerly route took us past Clermont Ferrand and we needed to climb to flight level 060 (6000ft) to pass over the Massif Central (the volcanoes in the middle of France). A tail wind kept our ground speed over 140kt (155mph) and the superb visibility meant you could pick a point on the horizon and fly to it. We passed north

He said to me. . . How many men does it take to change a roll of toilet paper?

I said to him I don't know; it has never happened.

of Toulouse which sits on the valley floor and I was surprised how abruptly the Pyrenees mountains rose on the French side, like a cliff. We routed west to point "Pic D'Anie" where the peaks drop in height to 8000ft and since the sky was crystal clear we climbed to 9600ft and "set sail" for the south. Having never flown in the mountains it is very hard to identify one valley/ peak from another and its hard to judge altitude relative to your surroundings. I had been warned about lift and sink in the mountains (the whole reason the gliders come here) but there were no serious problems for the RV.

The period of uncertainty quickly passed, when an engine failure would not allow you to glide back to France nor glide on to Spain, and soon we were descending down a long pass toward the valley floor and the airfield of Jaca. I had never been above 6000ft before and the environment made me reluctant to reduce height. Needless to say that I arrived overhead the airfield at 3000ft (way too high), but everything looked in perspective and right (most odd). The landing was uneventful and one could not fail to notice the outside air temperature had risen from 20C (over the mountains) to 34C on the ground. Santa Celia de Jaca (to give it its full name) has perfect conditions for gliding and many trailer their aircraft from all over Europe to take a "gliding summer vacation". Thermal lift is in abundance as the sun warms south facing slopes of the mountains, thermal updrafts are huge and altitude records are set and broken daily. If the wind is from the north it is common to get "wave lift" as the air is forced upwards over the mountains. Conditions are so good that it is possible to glide the whole length of the Pyrenees in a day

and 500km distance records are regularly achieved. Karl took a check ride in his rented glider on Sunday afternoon whilst I relaxed and prepared for my flight on Monday. In the gliding world the morning is spent preparing the gliders, getting weather briefs and eating. The best launch time is 1 to 2pm, the peak of the solar day, which gives the longest amount of sunshine/lift with the least chance of having to return for a “re-light” (a second launch because the lift was not good enough first time around).

My turn to glide. The French registered Duo Discus glider was an all composite machine with tandem seats, me in the front and my Spanish instructor in the rear. My limited gliding experience at Lasham 20 years ago was all but forgotten so I considered this to be a first glider flight. Important items to remember :- take a rimmed hat to keep the sun off, apply lots of sun cream before flight, take a large bottle of water and a map. A Robin aircraft gave us a 4 minute aero tow and dropped us at “stage 1”, a large south facing rock that had “free thermals” written all over it. The instructor “turned in” to the rising air and the altimeter started winding on height at an amazing rate. Within 15 minutes 5 other gliders had joined us circling around the rock, we had risen 4000ft and were ready to move to “stage 2” for some proper thermal lift.

The experience of flying in the mountains was brilliant, the northerly air flow was not ideal for gliding but you could

He said....**What do you call a woman who knows where her husband is every night?**

I said. . . **A widow.**

see a cloud layer in France being held against their side of the Pyrenees, what an amazing sight. We continued to fly when suddenly things went very calm and tranquil and the altimeter started to wind on height again. The instructor said that we were in “wave lift” and it felt like we had stopped going forwards but were being lifted upwards instead.

At one point we were looking for another 50metres of height to achieve 4000metres altitude. 10 minutes of searching could not get the needle on the magic number and having confessed to not feeling “so good” we converted some height into distance and had a look further up the ridge. (4000m equates to 13,000ft, we had no oxygen so its hardly surprising I did not feel so good!). It was interesting that the glider needed masses of rudder input before aileron to perform coordinated turns due to its long wing span. This took a lot of getting used to as the RV has very well harmonised controls and my feet have got lazy over the years.

With our water drunk we took a slow route back to Jaca, it had always been in view on the valley floor but with a glide ratio of 40 : 1 or more it has always been within reach. As the glider rolled to a stop my instructor said that we had been airborne for 3¾ hours, longer than all of my previous gliding experience put together. We had been higher than I had ever been before (even with an engine) and I had experienced the onset of hypoxia for the first time.

The experience was truly amazing and I can see how people get hooked. Karl returned two hours later (a near 6 hour flight) and some of the others returned at near sunset.

Tuesday, Peter Gorman arrived in the RV6 (G-RVIB) which he used to share with Karl, and I departed for Biarritz. A climb to flight level FL85 put me well over the mountains (and clouds on the French side) and the broken cloud over the sea allowed me to “let down” to circuit height. I elected to continue north as it was 14th July (Bastille day bank holiday in France) and had a truly memorable flight up the western side of France, past Rochfort and La Rochelle to Les Sables D’Lonne, a sea side resort on the bottom of Brittany. I have been stuck in France on Bastille day before when the country was closed but this time the town was alive and the evening firework display was magnificent. A short flight to Caen and then back to the strip finished off a most enjoyable trip with many new things experiences and many new places visited.

Oradour-sur-Glane

10th June 1944

A thought provoking destination.

Ever heard of it? Maybe, maybe not! When I asked the blonde, she thought it was a familiar, but not sure why. It’s a village near to Limoges, where the pottery comes from and somewhere I had wanted to visit for a long time. A friend of mine had not long sold his Taylorcraft to an Englishman living near Belves in southern France and was invited to a fly-in and air show there. He then arranged special permission for my Jodel, his own RV as

well as two other Devon strut planes to attend the event. Weather permitting it would be a good flight, although it would take the best part of the day to get there. Looking closely at the charts I had to fly past St Junien, the nearest



airfield to Oradour-sur-Glane. My mind was made up; I was going to make sure I went this time, even if I had to catch the others up later.

With only mild persuasion the rest were happy to go along, it seems as if anything from the war period holds a particular fascination for all pilots. After flying all day in extremely hot weather, we managed to meet at St Junien airfield within 30 minutes of each other. We then found a bar, hotel and restaurant in that order.

The next morning we arranged a taxi to drop us off and return to pick us up at Oradour about 4 hours later giving us time to look around without rushing. If there had not been four of us the taxi fare would have been very expensive

Both optimists and pessimists
contribute to the society.

The optimist invents the aeroplane,
the pessimist the parachute.

and I think maybe flying into Limoges and getting a bus or hiring a car might have been a better option. If you visit,



start with the museum, it gives a good background to events and make sure you hire one of their headsets (in English). Then move onto the village which the French have preserved in the same condition as the Germans left it.

The full story can be found on the internet but to give the general picture.....

A few days after the allies had landed in Normandy, on the 10th of June 1944; the Der Fuhrer Regiment of the 2nd-Waffen SS Panzer Division Das Reich surrounded the village of Oradour and systematically massacred everybody, killing a total of 642 men women and children. They didn't simply execute them, but locked the women and children in the church before setting fire to it and shot the men in their legs before setting fire to them. The village itself was known to be peaceful and not a hot bed for the resistance.

At one time it was thought that this village had been targeted through some confusion with another village of a similar name, but subsequent studies of German documentation proved that

not to be the case. Very few managed to escape, but luckily some of those that did were able to testify later at the war crimes hearings.

As you wander around the village, most of the visitors, like ourselves had little to say, sewing machines had survived the fires and ravages of time, cars were rusting were they had been abandoned, but the ruins stood like proud witness' to the atrocities. I think all the French want is for people to visit and remember!!

After the experience of the day we never got to the fly-in, but settled for our own company and a bit of time for reflection.

<http://www.oradour.info/>

Jabiru Engine Rework

Nigel Read

In May last year we flew our Europa up to Boughton for a fly-in arranged by ST



Head before Decoke

Aviation with the opportunity to have the engine checked over by Roger and Gary from the then Jabiru agents. A leak down check revealed no. 1 cylinder was just in limits but on removing the dip stick a fine mist was visible spraying out.

The leak down test comprises of connecting an air hose to a spark plug hole and using a special gauge and valve set to apply 80 psi to each cylinder in turn whilst hanging on to the prop with that cylinders piston held at TDC. Listening at the carby (in Aussie speak) the exhaust



Barrel before honing

and the dipstick will tell if an inlet valve, exhaust valve or the rings are allowing pressure to escape. Some obviously will and a second gauge reads the pressure held in the cylinder whilst the 80 psi is applied giving figures of something like 80/70 etc.

We were also advised that the engines were being made with insufficient clearance between the piston and bore. This shows up after only a couple of minutes running when the prop can be felt to be tight to turn over, the aluminium pistons expanding more than the steel barrels. The solution was to hone the bore about 40µm larger and fit new rings in November early December.

As I worked at Ford Motor Company Technical Centre at Dunton and had access to the prototype workshops, enquiries found it was possible to get the barrel honed there after locating a sufficiently large

honing tool. Also it only cost a drink whereas our honing machine supplier was happy to do it for nothing but I would have to pay for a fixture. Measurements for roundness were about 14µm at the top - not too bad for an engine that had run 220 hours perhaps the ring gaps had become aligned. There was however quite a bit of wear in the ring reversal area at the top of the bore which after honing as much as I dared still left a slight witness mark about 5µm deep. The strip down with the engine installed was quite straightforward so after running the engine and finding it worked ok but was still tight decided we may as well do the other three cylinders.

Checking back through our fuel logs



Barrel after honing

prior to the rework the fuel consumption was 14.6 l/hr over 505 litres of avgas. Since the rework it has dropped to 13.5 l/hr averaged over 323 litres in fact the last two fills returned under 12l/hr and oil consumption has reduced - less accumulating in the overflow bottle - unfortunately there is no air/oil separator.

I also have a theory that running the engine for a couple of hundred hours should have relieved any machining stresses and the bore geometry should



Tour de France—1940 style!

have improved. What caused this particular cylinder to be down on compression in the first place resulting in the higher wear may be down to over heat - we don't monitor that side of the engine or just bad luck with the initial assembly - we were hoping to get 2900 static rpm which it never did but we think there is about a hundred rpm gain for takeoff. Either way, the improved fuel economy is well worth it as due to the vague fuel gauge we work on hours run since last fill and were working on 16l/hr and now overestimate the quantity required.

There have been many other attempts to extract more oomph from the engine including making a smooth bore composite hose to get a smooth flow into the carby and grinding the barrel base nuts so they do not interfere with mounting flange radius. Next job will be modifying the top cowl (again) to improve the view while taxiing but some more flying first.!

Strut Treasure Hunt Thursday 27th August 2009

Many thanks to Steve Solley for organising our first ever car treasure hunt and to the 8 teams who took part. The first route had to be abandoned when the local council closed one of the roads for repairs, so with one week to go Steve had to get his maps out again. The 4.1 mile course comprised of a large circuit south of the Medway M2 services finishing with free sandwiches at the Bell pub in Bredhurst village.

Some of the clues were easy (how

The scientific theory I like best is that the rings of Saturn are composed entirely of lost airline baggage.

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many wires to the overhead electrical cables) whilst some of the others were more difficult (who patrols the pub car park), but the majority of teams turned in good scores.

The winner was Glen Everett (man with dog), second place was Simon Pratt and Fran, and third place was Brian Hope and Gary Smith. Notable entrants were Bob Chequer and Karl in the open top sports car, Martin and Sue for finishing in the dark and big Martin for going wrong so many times he had to refuel. Yet again a good time was had by all.

If helicopters are so safe,
 how come there are no
 vintage/classic helicopter
 fly-ins.

Dates for your Diary

Sep 24	Rallying by Air
Sep 27	Fly-Out to Abbeville
Oct 04	Young Aviators Day
Oct 29	John Thorpe—Bristol Flight Test Centre