Smoke Trails no 24

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I have delayed this article so that the series, *Smoke Trails* 13-24, would end on an encouraging note with a report on the new season's models at Old Warden.

But first, Alan Chatfield had an email from George Wallbridge of *SAMS Models*. George, who took delivery of a large batch of motors in March, writes, "We understand that an article in *SAM Speaks* under "Smoke Trials" [sic] states that L2 Rapier motors will not be available again. I don't know where this information came from, but it is wrong. As the sole importer of these motors, perhaps I can clarify the situation. The problem that arose with L2s was to do with the supply of the cardboard casings The original cases became unavailable and an alternative had to be found. This necessitated several trials of new materials to identify a suitable replacement: these are ongoing but reports from Dr. Zigmund have been positive. In the meantime, to try to satisfy demand, he is impregnating tubes with epoxy resin under pressure to overcome the problem of blow out. This is a slow process, hence the delay in supply. Hopefully, a new supply has been found and Rapier L2s will become plentiful again. In the meantime, L1 and L3 motors are both still freely available".

Hmmm … I don't remember writing anywhere that Rapiers in general and L2s in particular would *never* be available again, in fact I've been remarkably sanguine throughout this whole distressing saga (which, to pick up on George's revealing slip of the keystroke, could indeed be called 'Smoke Trials'), but I am glad he has addressed our worst fears. It is George's firm belief that Dr Zigmund cannot afford *not* to rectify the situation. I hope he's right. Most of latest consignment went to the US, but Chris Wills was one of the few 'lucky' UK modellers to receive examples of these modified L2 motors, and writes: "I was surprised and pleased to receive the motors [L2s] out of the blue – I had only ordered L3s [for a Ukkie] as I didn't think there would be any L2s for a long time. Their weight range, 7.1g - 8.2g, is within the values quoted on *Jetex.org.*, lengths vary by up to 3 mm. I've yet to test any of them". The news from the US about impregnated L2s is that the specification is good, and the failure rate better, but not yet back to where it should be, say, 2% or better.

George said at Old Warden that impregnating motors is very much a temporary measure and the process is not good enough for the popular L2-HP, which we probably will not see for some time. Dr Z is still looking for, and may actually have found, a better source of casings, but George could give no dates, and the promised shipment of a thousand motors in time for Old Warden did not materialize. The good news is that George had stocks of L3s and L1s. I haven't tried the former, but the latter ignite easily, are of a useful 60 mN thrust and of good duration. Perfect for the latest Bluebottle X-15 or 'Wingding'. Be aware, though, that motors are now supplied in a plastic wrap, not the nice green boxes of yore. So you had better go out and buy plastic containers of suitable sizes, unless you want to incur the wrath of your better half by raiding the kitchen cupboards. I speak from experience. Tupperware is, apparently, as unique, 'vintage', sought after and precious as any dirty old Rapiers or Jetex!

And so to Old Warden 'Aeromodel Day', May 9 &10. Though our 'Smoke Trials' have inevitably affected the numbers following our reactionary recreation, the dedicated diehards who were there were as enthusiastic as ever and we had more Jetex powered models than in previous years. First, a selection of photos:

Clockwise from top left: Chris Richards' L2 and Jetex 50C powered Sharkies; Chris's Rapier L1 powered Wren; Andy Blackwell helping to extract Chris's wick; Andy with PAA Loader powered Skyleada Skyray; Meredith Evan's L2 powered XB 70; Meredith launching (note diminutive size of this unique model); Nick Aiken and Steve Bage with Nick's L3 powered Skyleada Canberra; Nick launches, L3 blazing!

Top & middle: What it's all about! Meredith's unique XB 70 Valkyrie and Nick's impressive Canberra in flight. When first launched the latter dived into the ground with some force; this seemed to align the surfaces perfectly and a quick re-launch had it doing wide flat circuits at 50 feet or so. Both models are splendid, if contrasting (old and the new) efforts.

Bottom: Two vintage Sharkies in their natural environment. Note the sartorial elegance of one of them. Is this the SAM look for 2009? Chris's model has a Depron wing with a proper aerofoil section; mine a 'flat plate', as the original.

Saturday's high wind made any free flight impossible; Sunday was eminently flyable, but had my least favourite flying weather – a 'light breeze' of variable direction with frequent strong thermals (and down-draughts!) – that could freshen it up and take a model every which way. Tricky and scary!

My apprehensions were confirmed when my first flight ended up in trees that were definitely 'up wind' when I launched! After that I 'played safe' and my new Avro Arrow and MiG 29 stayed in their boxes. Even so, I, like many others, had several close calls: a Sharky flew all the way to the entrance hut and just escaped being a light snack for a llama and my rebuilt NACA Skyrocket (which I didn't mind loosing) made a spectacular flight in strong lift.

Mind you, it really looked the part – Mach 2.0 with Scott Crossfield at the controls, I would guess. Towards the end of the day the MiG 15 did put in some nice flights in a steady and predictable breeze with 100 mN L2s (courtesy Steve Bage). These were just the way I like 'em – not too much excitement.

However, others are made of sterner stuff and there were pleasing numbers of smoke trails throughout the day: Simon Firth's Skyray was going well, André Bird's idiosyncratic L3 powered all-sheet creations were a strong presence towards especially tea time and Steve Bage's modified Me 163 seemed to be in the air continuously, often landing far, far away.

So, in the end, and despite the heat, long retrieves and kite eating trees, we all agreed it had been a marvellous day.

There were many highlights: Meredith's Valkyrie, Nick's Canberra, Steve's Wingding and Komet and Andy's two Skyrays. The smaller one, built from Mike Stuart's plan, was modified for Jetex 50 with a modified trough and larger engine bay. Mike's original was for L1/L2, but Andy's version bore the extra weight well, and requires a little more fettling for the perfect flight. Deltas need just the right combination of CG and up elevon to get them properly 'on the step' and out of their 'low drag' regime: finding this optimum requires a methodical approach that takes time, especially if you have to clean and reload the motors.

The first test hops of the large Skyray with a single pellet were successful (no crash landings), but the wing was at a high angle of attack and it wallowed around at low speed. Its final flight showed the trim was 'spot on' and it cruised around close to Mach 1 for a nice long time on three pellets. Just great. Pity about the trees! I hope Andy will now paint it.

Andy's Skyray, built from Mike Stuart's plan, coped well with the extra weight of the Jetex 50.

Above top: Andy's Skyray for Jetex 50.

Below 'Full size' Sharky with smaller (80%) sibling for L1. 11.5" length, 10.75" span, 9.5g

we saw at least three Wrens and six Sharkies on the field. All flew well, and I was particularly pleased with the sparkling performance of my L1 powered 'mini-Sharky', built in case I ran out of L2s.

Chris Richards' Jetex powered Rocket Boy (above) and Sharky made some lovely sorties, as did my Sharky with a Jetex 50B. My two 50Cs suffered that common feature of 50Cs – blocked nozzles. Andy reckons the copper core of the Sebel fuse was melting and advises ICI fuse in future. Chris had no such problems with his 50C.

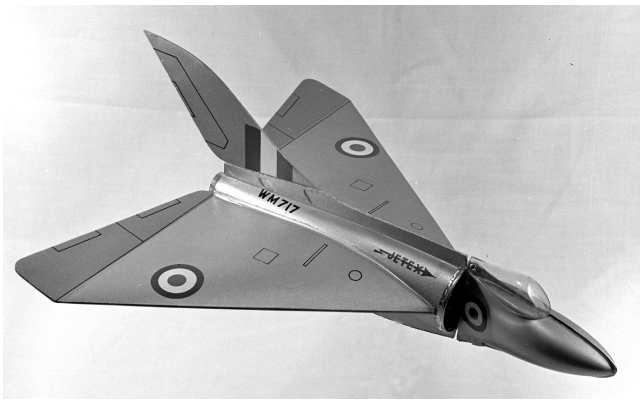
The M 7 Delta Flying Boat has yet to fly under rocket propulsion: with the elevons set using the template from the kit it needed over 10g lead to prevent stalling: this can't be right! So I've fitted moveable elevons and it is now flying reasonably from a catapult launch. The performance of the current L1s is reassuring ─ I shall fit two for its maiden flight.

Of the six Sharkies, two were powered by Jetex 50s, which enabled a comparison of Rapiers and Jetex. My L2 Sharky appeared overpowered with 140 mN, looped continuously with 100mN, and was best [read predictable] with the 80 mN of an L2-LT. I shall try it with an L1 when I have a chance. Chris Richards' and Chris Langfield's Sharkies were great with standard L2s; the flight patterns of Sharkies with Jetex 50s were steady rather than spectacular – neither the (theoretical) extra thrust nor a properly profiled Depron flying surfaces could compensate fully for that extra 7g on board. Chris (L) commented that his first Sharky, being tissue covered, was heavier, and didn't fly as well as his mk. 2. Chris also had a Bill Dean Vulture for L2. This was in bits when I saw it ─ Chris explained he had put the L2 where the Jetex 50 was on the plan, not fully realising the implications for the CG. But all-sheet models are easily repaired, so I do hope we will soon see the Vulture back in the air.

Steve shares his impressions of the day: "The breeze was a little tricky, generating strong thermal activity that saw several models disappearing out of sight. Upwards. I thought Roger's L2-LT powered Sharky was a gonner too. I lost sight of it over the llama field, and was amazed when he turned up half an hour later with model intact [so was I, it is at least ½ mile to the animal enclosures!] The thermally conditions meant I mainly flew the Me163 Komet which was the least likely of my fleet to fly away. This performed splendidly, and I must have used about 40 motors in this model alone.

I had a couple of flights into the trees and two or three into the car park. I also managed to hit an RC flyer standing over a quarter of mile away. There should be a prize for that! I had two burn throughs; one a 2006 L2-HP from a known 'dodgy' batch but which I'd coated with thin cyano glue, the second a 2008 140 mN L2. Luckily, both motors failed on the side away from the model and did only minor damage. My Flying Wing was performing well but every flight carried a high risk of going OOS, and it spent most of the day in the woods before Andy and his son found it. Andy's big Skyray was especially memorable. I missed most of its last flight as I was in the car park but I did see it come down in the woods and got a good line on it which enabled a quick recovery. All in all a great day with more free flight models in the air than I've ever seen, and, unusually, none of the I.C. powered models hit me on the head"!

What was particularly heartening about Old Warden was (a) at least three of us were 'flying Jetex', and, if the motors Andy and I have passed on bear fruit, more will be flying 'Jetex' soon, including our own President, (b) though no new L2s were to be had, those who did have stocks were generous in sharing them ─ so please bring your 'jet' models to these meetings even if you have no visible means of propulsion.

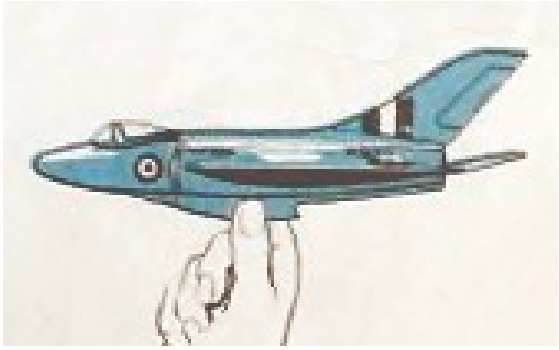


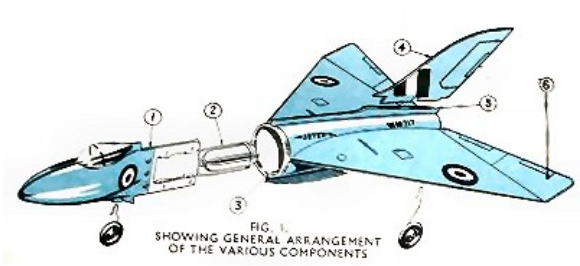
Top: the caption for this splendid 1950s photo from Mike Ingram's archive reads, 'Pete demonstrating the Interceptor at the Jetex Contest'. H&S very much *not* in evidence here! **Below:** original Jetex publicity photo, also from Mike's archive, showing it in all its beauty.

Given the interest that vintage Jetex 'ARTF' models like the Wren and Sharky have stimulated, the obvious question is – what next?

On the left is one sight I would dearly love to recreate at Old Warden. Peter Cock's lovely 'Jetex Interceptor' is, however, rare on what could be called the "Collectors' Market" and non-existent, alas, on the Flying Field. This is a pity because it is a lovely model made of printed paper/wood laminate reminiscent of the pre-war FROG models, and has the reputation of being a superb flyer. Pete gave demonstrations at many contests and at SBAC Farnborough, where it attracted the interest of the 'great and good' test pilots of the era. He remembers only one pilot crashed the Interceptor – John Cunningham! Possession of a good example is a prerequisite for any recreation, so Andy and I were excited when a complete kit in fair condition recently appeared on eBay:

Some years ago a similar example went for an eye-watering £150, but Andy had hopes this one would go for a lot less in these 'credit crunch' days. Unfortunately, this was not the case. Andy was outbid and it would appear that this wonderful Jetex model will see out its dusty days in the hands of some nefarious money grubbing 'Dealer/Collector' (who are as popular with me as merchant bankers/politicians) and not back in the air in the (or out of the) hands of a dedicated but impecunious modeller.

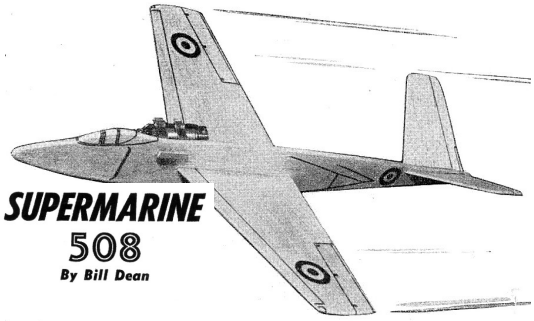




Wing planform and decoration is shown in top photo. The middle illustration gives a useful side view; the isometric view is also informative . . . and nostalgic.

Looking on the bright side, the vendor did, and for free, post a nice selection of photos, selections from which I take much pleasure in reproducing here. But none of these is adequate for a proper replication – would any kind reader allow access to a complete kit?

Chatting to fliers at Old Warden, I was pleased at the interest shown in Bill Dean's profile models. Simon's Skyray (which could do with some decoration) was going very well and suited the conditions perfectly – the 'S' profile wing makes it a 'one speed' model that could hold a tight turn and kept it in the field. There was also a gentleman with a Valiant, which went well with a catapult, but had yet to fly with a Rapier. He was very keen I should feature another of Bill Dean's profile models that hasn't been seen for many a day:



The plan, first published in *Model Aircraft*, May 1951, appeared in *SAM Speaks* in July 1997, in Terry Kidd's last *Jet Reaction.* This was well before the 'Rapier Revival', so it's definitely due for a makeover. Note the Jetex 50 is side mounted above the wing, making for an interesting – though not insurmountable – problem for anyone wanting to use a Rapier.

Terry wrote, "Under power a straight ahead climb should develop into a left hand spiral, the directional trim changing as the fuel is consumed. With luck, you can get a pattern which gets the model clear of the ground with the wings level followed by a turn, thus avoiding the Zoom to Doom!" Rapiers loose an even greater proportion of their weight whilst burning, so the L2 (or more likely, L1) should be back a bit from the position of the Jetex 50.