

The Point Fives **Britain's equivalent to the 'Half A's'** **by David Larkin**

In 1950 and the late 40s, Britain had had a few tiny engines, like the Kalper 0.32cc and the 'K' .2cc, but the revolution came with the Allbon Dart 0.5cc in 1951. Actually the Dart is 0.55cc (0.033 cu ins). Well-made, light and relatively powerful, it started a new trend for sport and scale flyers, and designs flourished for it in Aeromodeller and Model Aircraft. 6 X 3 and 6 X 4 props were churned out, although the Dart could handle bigger props. The Dart followed on from the 1.5cc Allbon Javelin, which, like the Elfin 1.49 was essentially descended from the early 'hot' diesels - the AMCO 3.5 PB and the Elfin 1.8 and 2.49.

The other manufacturers were slower off the mark, but eventually the FROG '50' and the ED Baby were on the shelves and in the air. Last of the original batch to appear, was the Elfin 0.5. This was a little different in that it was like a miniature Arden with the tank mounted underneath. The others had a tank behind the crankcase, except for the Dart which originally had no tank, though one appeared a few years later, with the Dart Mk II. The size of the Dart tank was increased over the years.

The first production run of FROG 50s were not reliable, but the designer, A.A. (Bert) Judge, was brought back to the factory to oversee production, and the engine, when sorted out, was an excellent runner. Still, it was not as powerful as the Dart. Later, a Mk II came out, with a longer tank and an angled needlevalve which was easier to adjust.

ED came out with the 0.46 cc Baby. Like the FROG, it was no powerhouse, but was a good little sport engine. The early version had drilled exhaust ports and is relatively rare. The later version, with milled ports, was in production longer.

Lastly, Elfin came out with their point five. Although it was nicely built and quite powerful, it was expensive and was never very popular. Maybe, with so many designs already out for the beam mount engine, the radial mount was a disadvantage. Or maybe it was just too scarce and expensive - it was only available for one year.

Although it was slightly more expensive than the FROG 50 or the ED Baby, the Dart was the engine which survived in production. The early ones were the most powerful, with green heads and pointed pistons, and no gasket between the cylinder and the crankcase.

The very first engines had three-part pistons, a design used on other contemporary Allbon engines, such as the Arrow and Javelin. The gudgeon, sorry 'wrist', pin, went into a dural carrier which was held in place by a screw through the piston crown. The intent was to prevent the pin getting entangled in the ports. The green-head MK Is were the most powerful Darts ever produced, and some planes, like the Veron ducted fan models, performed poorly, if at all, with the later engines. Obviously Phil Smith, the Veron designer, had one of the hot original engines! Then the Dart Mk II was introduced. Presumably the change in piston shape, and the change in timing due to the introduction of a gasket under the cylinder flange, caused the drop in power

Still the redhead Dart Mk II was a nice little engine and the addition of a tank was probably appreciated. It came out about the time that Allbon engines were taken over by Davies Charlton, better known as DC. DC themselves were superceded by other manufacturers and the Dart continued to be made until the 80s. The later engines did not enjoy the original reputation for quality. I should mention that, for a while, DC produced a smaller brother of the Dart - the Bambi of 0.15cc.

The original Dart designer, Alan Allbon, later introduced the Allbon-Saunders 55. or AS 55. This was a quality product but was a little expensive. It didn't stay in production long but is still highly sought-after as eBay prices attest.

Some point fives were produced by other European countries, but none in quantity.

Around 1990, Dennis Allen added a point five to his AE range. However, although it used the same porting and timing as all the other AEs, the Mk I was not at all easy to start. It could be done - I saw Dennis start them, and, thus re-assured, was then able to start them myself. But Dennis was obliged to introduce the Mk II. Some of these were Mk Is which had been returned, but when back in regular production, the engine appeared with a tank and a spring starter. It was no trouble to start but was a little down on power compared to the Mk I. Dennis never disclosed what his modifications were. There was still a steady demand for this engine long after Dennis stopped making it. It is a little heavy but a fine runner.

Recently, the most powerful point five ever has been produced. PAW had a sideline in making replacement parts for Darts, particularly crankshafts, and decided to go ahead and build a complete engine. It was Tony

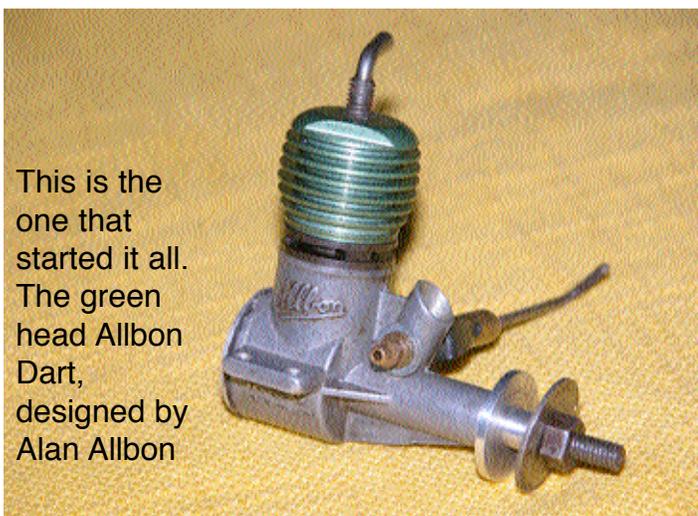
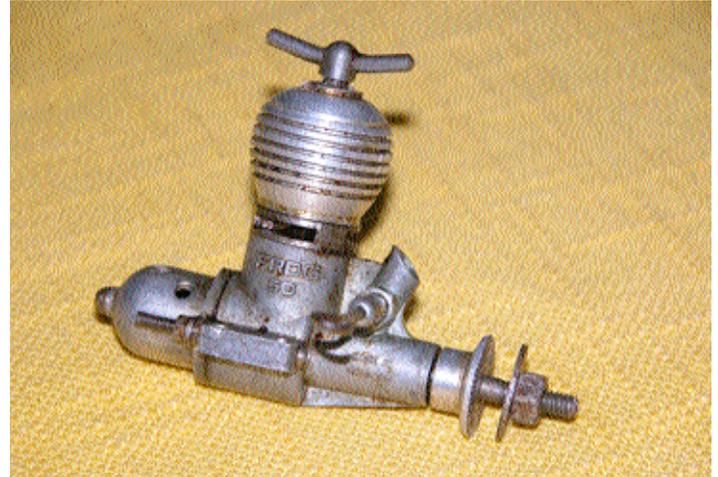
Eifflander's first production design for PAW. The PAW 55 is a beauty, with a single ballrace. It sounds like a miniature Oliver. Its only fault is that it is rather powerful for all those planes designed in the 50s and 60s, but if you wanted to make a Veron Lavochkin or Sabre actually fly - then this is the engine. It is available in an R/C version. Unlike previous PAW engines designed by his father, Gig, Tony Eifflander designed this without bolts, using the same 'screw-together' construction methods as the Dart.

Very limited production runs have been made recently by specialist firms. Arne Hende produced a 0.5cc Oliver Tiger, sold through Dave Platt, and VA has produced a Mills 1.3 @ 0.5cc, as well as an ED Bee and an ED 246 @ 0.5cc.

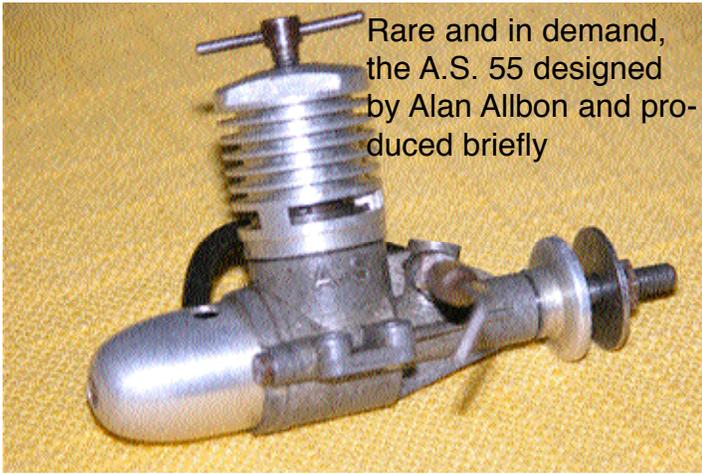
VA has also produced half-size point fives - the FROG 50 @ 0.25cc, and the ED Baby and Elfin at the same size.

In the late 50s, FROG abandoned the 50 and introduced the '80', unlike DC who brought out the 0.76cc Merlin but still kept the Dart in production alongside it. Notable designs for point fives include the Keil Kraft scale series designed by Bill Dean (Cessna 170, Piper Super Cub and Luscombe Silvaire), the FROG Zephyr and Tarquin, and the tiny Mirage team racer. Then there are myriads of fun designs like the RoDart autogyro and the Ray Malmstrom creations. They are also suitable for older designs originally intended for the Mills 0.75 and AMCO 0.87, like the Slicker and Southerner Mites and the Scalded Kitten, as well as many of the smaller Vic Smeed designs such as the Mamselle.

Dave Larkin has an impressive knowledge of engines in general, and British ones in particular. The photos are a compilation of pictures from his and the editorial collections Ed.



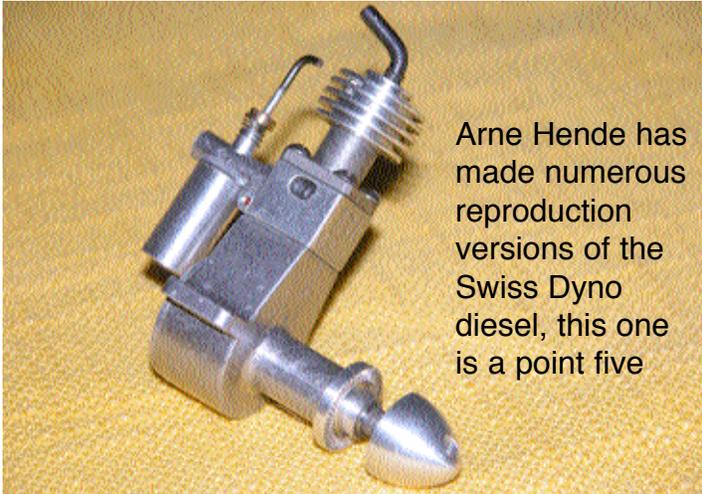
This is the one that started it all. The green head Allbon Dart, designed by Alan Allbon



Rare and in demand, the A.S. 55 designed by Alan Allbon and produced briefly



Drone fixed head diesel, scaled to point five



Arne Hende has made numerous reproduction versions of the Swiss Dyno diesel, this one is a point five



VA reproduction of Kalper .32



Mk11 version of the Frog 50



One of the later D.C. Darts. Heads went from green to red to gold



Lovely copy of the Mills 1.3, but reproduced as a point five. If still behaves like a Mills.