

Avro Avian

Perhaps second only to the Tiger Moth as a pilot favourite, the Avro Avian has flown into oblivion. **David Ogilvy** recalls a singular flight



When we consider the best of pre-war light aeroplanes we tend to think of de Havilland and Miles – probably in that order; yet many other designers and manufacturers became well established in the field and some excellent machines came to light attached to the Avro handle – itself a contraction of A V Roe & Co and a name that goes back to the very earliest on the aviation scene.

The Avro 504 series should need little introduction to even the most recent recruit to flying, for its almost legendary fame as the type on which pilot training really became established has lived on even today. After the famous 504 (of which more than 9,000 were

built) several other two-seat tandem, open Avro biplanes established themselves and a very fine breed they were.

The Tutor in the military training role and its successors the Cadet and Club Cadet for civil use were among the best; they were strong, roomy and, with ailerons on upper and lower wings, delightful to fly. Between these, though, came the Avian, the prototype of which,



G-EBOV, flew as early as 1926 behind an Armstrong-Siddeley Genet of only 75hp. The type developed in the following few years and, among the progressive refinements, the early circular 504-type rudder gave way to a more modern-looking, angular, vertical tail surface.

Avians were produced in various forms and with quite an array of power sources. They achieved many successes, including H J (Bert) Hinckler's solo flight from England to Australia in February 1928, which took only 15 days. Before this a lady pilot, Mrs Elliott Lynn, had achieved a light aeroplane height record of 19,200 feet in an Avian powered by the little-known Avro Alpha radial. However, perhaps the most frequently documented of the Avian's successes on the home front was in 1930, when another member of the fair sex, Winifred Brown, won the King's Cup Air Race in G-EBZV.

Strangely by today's standards, when Britain imports so many of her aircraft from the United States and elsewhere, the general flow in the early thirties was the other way; British machines were acknowledged as the best in the world and many new Avians were exported to America, with others sent to almost every country that one can name. Still the type developed and the later machines to be built, known as the mark IV, forsook the traditional wooden fuselage for a stronger structure of steel tube. One Avian, G-AAXH, was used by British Landing Gears Ltd to develop an early form of tricycle undercarriage.

There are only a few records of Avians serving with the RAF in an active flying role,

for most machines still in existence at the start of the war in 1939 were impressed for use as ground instructional airframes. Four emerged with peace in 1945, but only two flew again. G-ACKE operated from Baginton, Coventry, until it lost an argument with a Tiger Moth with which it collided.

G-ABEE had a happier, though far too short, reactivation in the hands of a group of four members of the then Vintage Aeroplane Club; this organisation held flying meetings in the early fifties for owners of pre-war light types and it operated the Avian's successor, an Avro Club Cadet, G-ACHP. G-ABEE was the Avian that I was fortunate enough to fly, and which forms the foundation on which my comments are based.

G-ABEE had been used as an unofficial 'hack' for the C.O. at Bassingbourn (how this happened so late in the type's career is impossible to determine) and in 1948 found its way, in sick state, to Denham. It lay there, forlorn, for two years when a group set to work to restore it to full flying health. With the help of parts from G-ACKE, which by then had met its Tiger Moth, a rejuvenated G-ABEE emerged in mid 1951 complete with overhauled Gipsy 11 engine.

As with the original DH60 Moth, the Avian was not the easiest aeroplane to enter. With a long exhaust pipe down the port side, running near the top of the fuselage to a point behind the rear cockpit, entry was possible only from the other side. The permitted walkway on the lower wing started well forward of the trailing

edge and, to enter the front cockpit, a passenger needed not only to reach this but to work round a flying wire in the process! I cannot confirm the state of play on other Avians, but 'BEE offered little in the front other than, strangely, a pair of large, typically-Avro, electric-light type ignition switches which lived on even to the last mark of Anson.

The rear cockpit offered a reasonable scale of kit, including a trimmer without a gauge. However, by levelling the two ends of the chain that wound round the trim wheel, neutral was engaged! This was correct for take-off. Points of interest included a generous tank holding 24 gallons and a facility for priming without the need to raise a cowl.

Taxying was in the true vintage style. Tail skids attached to the rudder had not become the norm when the Avian was built, so, with the skid fixed to the rear of the fuselage, some energetic efforts were needed to persuade 'BEE to go round any corners other than those that led straight into wind. She had a pronounced weathercock tendency, which one would expect from her fair expanse of slab-sidedness, but with realistic use of the throttle, opposite aileron when needed and a reasonable manoeuvring space, movement on the ground was adequately controllable.

If there was one crime that the upright Gipsy 11 of 105hp would not tolerate, it was rapid throttle movement. Fuel supply was by gravity and there was no fuel pump, a feature common to most biplanes with tanks fitted in the centre-section of the top wing, therefore



Photos via Philip Jarrett

Above: this Avro Avian IIIA belonged to E. W. Percival

Below left: Bert Hinkler with the Avro Avian 581 prototype after it had been converted to a 581E with a Cirrus 1 engine.

Note the rounded rudder

Below: G-ABEE, the subject of David Ogilvy's flight test



Below: The Northern Aircraft Preservation Society built-up a static museum exhibit combining G-EBZM, G-ABEE and G-ACKE



providing a good natural head of fuel. The early Gipsy spluttered quietly but decisively with any harsh power increase, which was a mild problem on the ground when a good rush of slipstream was needed to bring the rudder into business.

Take-off was uneventful if carried out reasonably into wind. With the relatively low power, there was hardly any swing; acceleration was tame, too, but with a low wing loading the run was short and 'BEE was soon climbing smoothly and quietly at 65mph IAS. Vertical success was at a rate of about 600ft min, despite an imaginative range of figures better and worse, published in a number of different documents.

The most noticeable features of the climb, which the Gipsy performed very comfortably when slightly throttled back to give 2,000rpm, were the high nose position and the lack of draught. The first, of course, contributed largely to the second. Goggles could be raised and kept raised throughout the climb; this was possible with some other biplanes fitted with upright engines and, consequently, low-slung propellers, but on this score the Avian was more comfortable than most.

Lowering the nose for level flight created (not surprisingly) a very marked increase in draught round the face and a first feeling of being mildly cold. The engine was unexpectedly quiet and smooth at all times except when suffering from the odd cough already mentioned. A verbally advised cruise of 1850rpm provided an indicated reading of

84mph, which was about what I had expected. Again, textbooks quote cruise figures for various versions of the Avian between 82mph and 105mph, but these were not accompanied by comparative rpm references;

as by this time 'BEE was at least a mild hybrid, I doubt if it conformed precisely to the

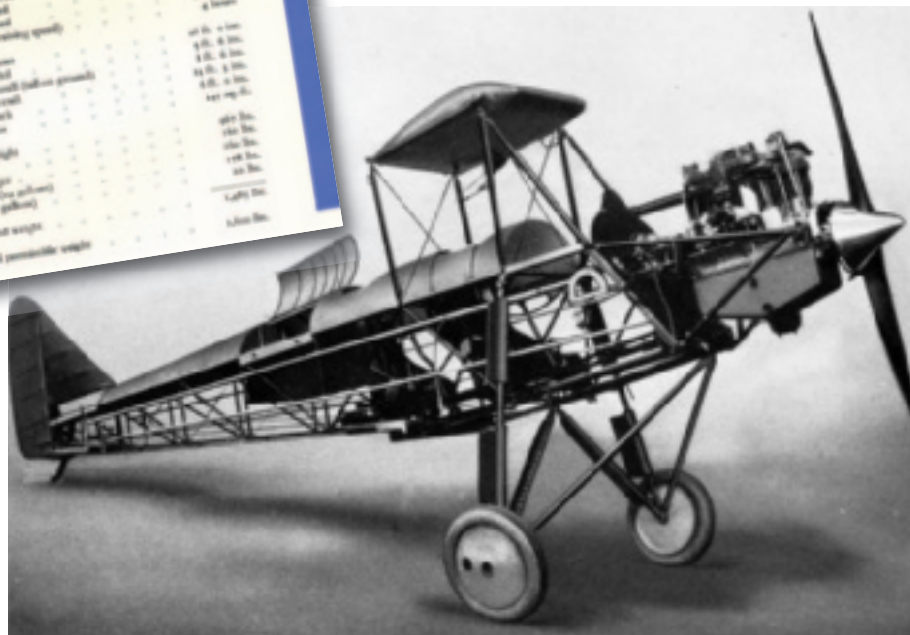
Details from period brochures. Note Armstrong-Siddeley Genet powered version, left



specification of any particular mark. Nominally it was a (Sports) Avian IV.

One of the first qualities that I hope to find in any aeroplane in level flight is a set of ailerons that are lively and, preferably, light on the touch. Here the Avian could not claim to shine, for they were slower in response than that of any Moth in the straight-winged DH60 range; but I viewed the Avian as a tourer and certainly not the type of machine on which to try anything ambitious in roll. There was some cable play fore-and-aft and the stick could be moved an inch or two before any elevator response came to light; however I was assured that this was a temporary elastic condition as a result of a new elevator control cable, so to criticise this as a type characteristic would be wholly unfair.

Turns needed to be of the traditional biplane variety. The drag of the ailerons was accentuated as they were not differential, so into-turn rudder (to maintain what is now



Below: the long exhaust pipe meant the Avian could only be entered from the other side





Above: G-AAAT, construction No 172, was the first Mk. IV Avian built

called balanced flight) played a major part in the turning process. This, of course, is much more satisfying than the present-day turn carried out almost on aileron alone.

The stall was straightforward but, as from the level, it called for a marked show of nose and very pronounced backward pressure, it was not a condition that a pilot would have been likely to meet inadvertently. My old notes record that the power-off breakaway occurred at 43mph IAS, but I am inclined to challenge this. I would have expected a lower reading.

The Avian looped contentedly from 120, even though a little more energy from the elevators would have made the over-the-top arc feel a shade more decisive. Perhaps the manoeuvre that it liked best was the stall turn, which it performed admirably; but I have never been a confirmed aerobat and leisurely, early biplanes have better things to offer. What, among aeronautical activities, can be more pleasant than a gentle potter, with the throttle well back, and the calm of a summer evening to go with it? 1,400rpm produced virtually no mechanical vibration or noise (except a satisfying burble from the end of the long exhaust pipe behind one's left ear) with an indicated 65 on the level. Only rationed daylight brought this happy state to a close.

The landing, with no wind at all by this time, offered no special features other than an expected need to hold the nose very high in order to achieve a bona fide 3-pointer. The subsequent run seemed slightly longer than I had expected, but all aeroplanes roll-on in such calm conditions. The undercarriage, of a fairly soft nature, always seemed to provide a smooth ride but, again, taxiing towards the hangars at Denham, the engine reminded me that it would not tolerate inconsiderate treatment. Full rudder, a burst of throttle and a cough told me that this Avian, at least (and there were no others) was not the machine to try to manoeuvre in confined spaces.

Right: this restored Avian VH-UFZ flew from England to Australia in 1998, retracing Bert Hinkler's 1928 flight

What is the final verdict? With a markedly soft spot for an open cockpit biplane, obviously I liked the Avian. By direct comparison with two other types of similar configuration, the DH60 Moth and the Spartan Arrow, I put the Avian between the two. I have not yet found anything that beats the real Moth as an aeroplane in which to enjoy the purer pleasures of flying, but the Avian came a fairly close second. It was docile, quiet, relatively draught-free but still decidedly 'open', and now, alas, actively extinct.

Although a handful of Avians still exists, the present position is sad. A grounded Avian is better than no Avian and in Britain there would be no presentable specimen at all if the Northern Aircraft Preservation Society (later renamed the Aeroplane Collection) had not collected some remains; from these, this group of enthusiasts built-up a static museum exhibit combining G-EBZM, G-ABEE and G-ACKE, the whole, understandably, taking the first and earliest of these registrations. Other Avians exist in two museums in Canada. Not very long ago, one was flying in New Zealand and

another in South Africa. Most significant of all, however, is G-EBOV, the original prototype of 1926, in which 'Bert' Hinkler established the first solo flight to Australia; this machine is on view at the Museum in Brisbane.

In 1998, Lang Kidby recreated Hinkler's epic in an Mk. IV Avian he had restored and placed on the Australian register.

Despite these stored and static display specimens, I think we have said goodbye to the Avian as a flying machine in Britain, although airworthy examples of the earlier Avro 504k and the later Tutor are still with us. G-ABEE was the last Avian ever to fly here and, after more than 50 years, only a minor miracle is likely to bring one back to active life again. Miracles do happen, though; may we hope for one? ■

G-ACGT – with an Armstrong-Siddeley Genet radial – was stored in Huddersfield and subsequently has moved; does any reader know whether it has survived and, if so, where?



Paul Tomlin