Tipsy Trainer

A neat little design that did a lot with a little engine, the Tipsy Trainer never recovered from the interruption of war.
By ***David Ogilvy***

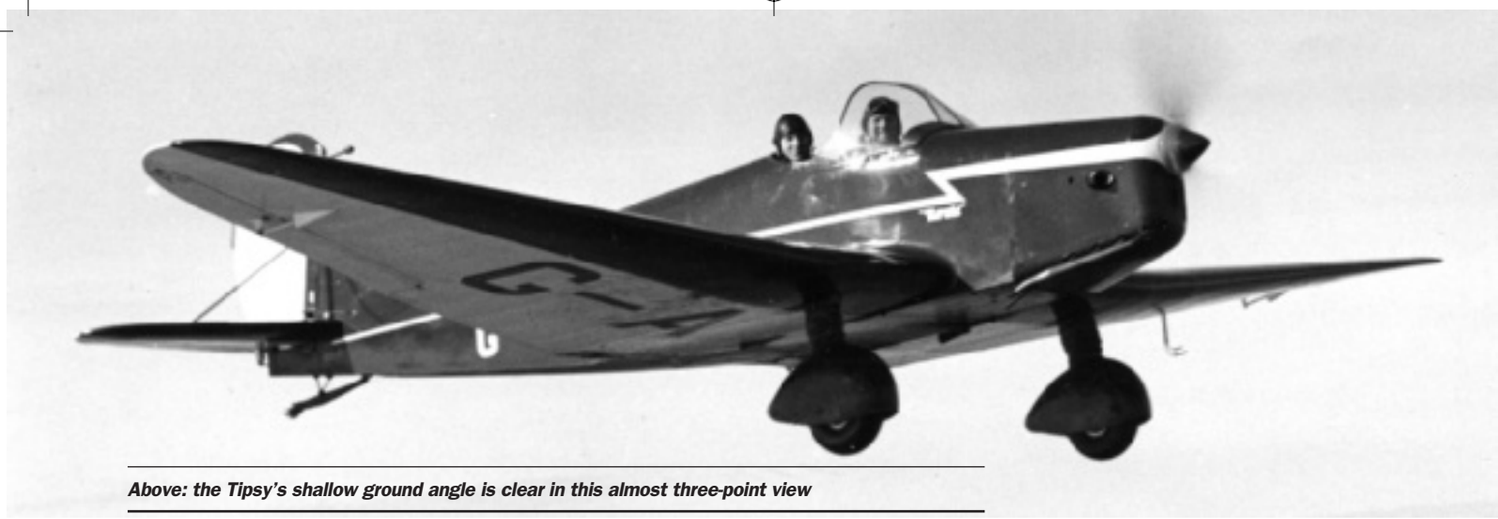
The word 'Tipsy' (apart from its non-aviation connotation!) came to public light in 1936 when E.O. Tips designed and started to build the S1 and S2 single-seat low-wing monoplanes at Avions Fairey at Gosselies in Belgium. Nine of the latter were built in this country by Aero Engines Limited of Kingsdown, Bristol. The performance of the S2 on only a 28hp Douglas Sprite encouraged Monsieur Tips to develop the theme into a two-seater that became known as the Tipsy B. This was powered by the then ubiquitous Czechoslovakian Walter Mikron of 62hp.

The visually attractive little Tipsy Trainer was an anglicised adaptation of the Belgian Tipsy B. Although the two variants were broadly identical, there were several changes in the later version; an independent company – Tipsy Aircraft Ltd – was established in 1938 at Hanworth in Middlesex to build the machine under licence. It was one of several types of light aeroplane produced in Britain in modest numbers by about a dozen small firms that entered the then flourishing field of light aviation.

The Tipsy Trainer differed from its Belgian predecessor in several ways. The wing structure was strengthened, with wash-out at the tips to improve low-speed handling; the controls were fitted with mass balances and the split elevators were replaced by one-piece units; and there were flaps that could change the camber to improve take-off performance. The permissible maximum weight was increased from 992 to 1200 lbs. The basic tenet of a simple wooden construction with fabric covering, though, remained unchanged.

Photos via Philip Jarrett

Above: two Tipsy Trainers were presented to the Royal Naval Flying Club at RNAS Gosport by Sir Richard Fairey on the occasion of its official opening on July 1st 1949. Here, one of them is being flown over the clubhouse by Lt Cdr Sproule, a famous glider pilot. The photograph was taken from the other Tipsy, flown by the club's CFI, Flt Lt KW Birt
Right: period sales brochures



Above: the Tipsy's shallow ground angle is clear in this almost three-point view

Just as the light aircraft industry was booming, the start of World War 2 in 1939 brought all this activity to an abrupt halt. By this time only 15 Trainers had been completed, but eight of those had been put to good use by the Civil Air Guard and three served with the Yorkshire Aeroplane Club at Sherburn-in-Elmet. In Belgium, though, a B had been modified with raised decking to the rear fuselage and a Perspex canopy, to become the prototype Tipsy Belfair. In 1940 this escaped to England from its war-torn country of origin and was impressed into RAF service on HM 494.

After the war, three partly-finished Trainers that had been stored for seven years were completed by Tipsy Aircraft Limited at their new base on Slough Trading Estate. They emerged in 1947-8 as G-AISA, B and C; shortly after that the company ceased trading and in the process set fire to three other specimens. In Belgium, though, seven cabin Belfairs were built and the last three of these were completed at Sherburn with the British culinary registrations G-AOXO, G-APIE and G-APUD!

Above: the large single-piece protective windscreen is clear to see; in balanced flight it is very effective

The Tipsy B and the Trainer were examples of the many potentially successful designs that had only short production lives; certainly the British variant deserved more success than it achieved. The type acquired a small but understandably devoted following of owners and I was fortunate to make the acquaintance of G-AFWT in 1952 when it was on the strength of the West London Aero Club at White Waltham. I am pleased to report that it remains active (as does the Club) to this day. British-built specimens achieved modest results in several air races, while in 1950, G-AFJT romped home first to win the Grosvenor Challenge Trophy at the original Wolverhampton aerodrome – not the present site of that name, Halfpenny Green.

An initial impression on approaching the Tipsy Trainer is that it is small and neat. A generally streamlined appearance may be partially spoilt by the need for a single but conspicuous strut on each side between the fin and the tailplane, but from many angles the elliptical wings of almost Spitfire shape more than compensate for this. It all looks right.

On entering the almost side-by-side open cockpit (the seats were slightly staggered) two features stand out: the single stick control column emerges from the floor in the centre, between the two seats, with a short almost horizontal extension on each side for equal accessibility by either occupant. Then, the short undercarriage makes the whole package feel unusually close to the ground. The instrument provision and layout are simple and basic, but wholly adequate for the purpose.

For many years the Walter Mikron engine has been a popular little power provider for light aeroplanes. It develops only 62bhp, but as a four-cylinder inverted unit it runs smoothly. It needs a gentle throttle movement and it is not equipped with carburettor heat, so it calls for some thought. Today's practice of slamming on full power at the start of a take-off run would lead to instant trouble.

The Mikron's relatively low output leads to a fairly sedate initial run, but this can be useful

Above left: G-AFWT – once on the strength of the West London Aero Club – formed the basis for this article
Left: G-AFSC is one of four British-built Tipsy Trainers that remain extant today

in an aeroplane designed for training, allowing time for a student to gain experience in rudder use and its improved effectiveness as speed increases; even at its best, though, it lacks the full authority that I would like to find, especially when it is necessary to operate in a crosswind. However, to be fair, aeroplanes of the thirties were intended to fly from omni-directional grass aerodromes.

Once in the air an anomaly arises, for, inexplicably, the Belgian B (which I have not met in the flesh) and the British variant have markedly different published performances, with initial climb of 450 and 650 feet per minute respectively. As the Trainer is heavier, I must assume that a considerably finer pitch propeller is the sole reason for the better rate, which is borne out by B/T cruise and maximum speeds of 106/100 and 124/110 respectively. It may be, of course, that the figures were not based on like-for-like configurations.

In normal flight the controls are very comfortably responsive but, not surprisingly, the ailerons, in particular, crispen with increased speed, from a mild degree of slop at the lower end. Whilst the wing tip wash-out might have a small effect on overall performance, its main aim would be to improve behaviour at low speed and especially at the stall. An elliptical wing with relatively pointed tips is likely to have a marked drop at the break-away, so presumably the British 'mod' led to the Trainer's relatively benign behaviour, although even in the modified state it can bite a bit.

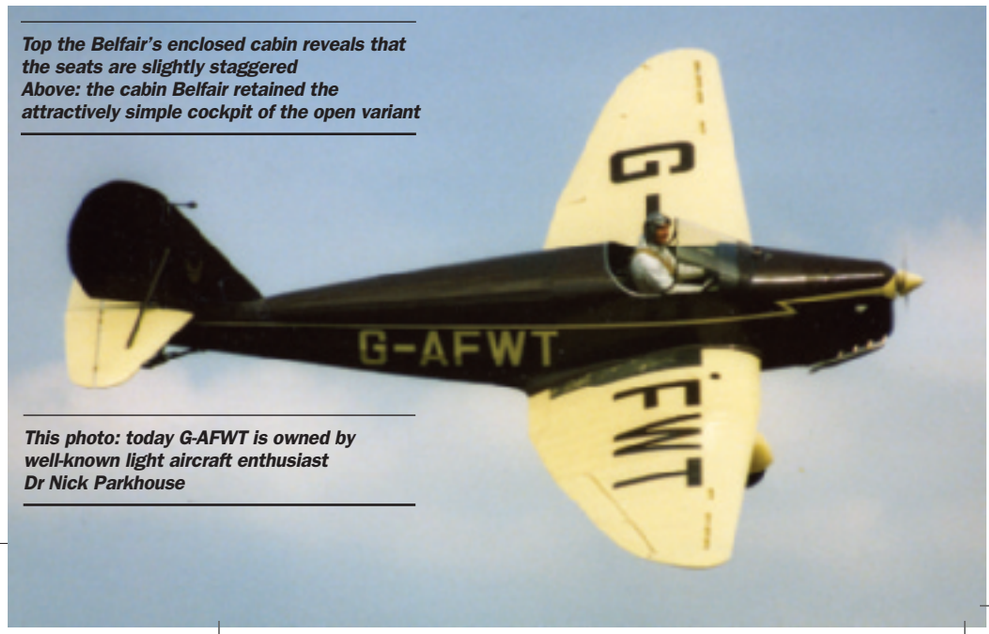
In normal flight the Tipsy has that feeling of open-cockpit freedom that goes with so many machines of the pre-war era, but with the added pleasure that there is no upper wing to block the view. In balanced flight the generous one-piece curved windscreen ensures that the draught is only moderate, but experiments in the yawing plane can lead to mini gales on the face and neck. The overall effect, though, is very pleasing especially in calm conditions.

Prior to landing, the flaps are only moderately effective and with a clean airframe the glide angle is fairly flat, so care and judgment are essential to arrive over the fence at the right height and position. The short undercarriage makes it advisable to delay the hold-off a little later than one might expect, but also this means that the round-out to achieve a three-pointer is more modest than is the case on a machine with longer legs. As with the take-off, on touchdown the rudder lacks effectiveness and I would not be happy to try a landing in more than the mildest of crosswinds. The tailskid, though, helps to keep the run reasonably short.

All in all, in my limited experience, I enjoyed the Tipsy, which provides a basis for some very pleasant flying. It is unfortunate that so few were built, but at least four of the eighteen British specimens remain on the UK register, so all is not lost. Shortly after the end of World War 2, another single-seat design emerged in the form of the Tipsy Nipper, which was of a very different layout from the earlier products. I flew it a couple of times and as the cockpit is so narrow, one's elbows fit inside the mid-set wing! That, though, is another story.

(*There has been some discussion about the use of the word 'Trainer' for the British-built version, as production records show them all as 'Bs'. The name may have been introduced later to differentiate between the two variants and the author has used this term for just that purpose.*) ■

Top the Belfair's enclosed cabin reveals that the seats are slightly staggered
Above: the cabin Belfair retained the attractively simple cockpit of the open variant



This photo: today G-AFWT is owned by well-known light aircraft enthusiast Dr Nick Parkhouse