



The 1977 air-show season saw the emergence of a new display team, the Leisure Sport Warbirds. Among the acts was a mock combat engagement between replicas of two First World War arch-enemies: Sopwith Camel and Fokker Triplane. **BRIAN LECOMBER**, who flew the Camel throughout the season, describes what it's like to fly these fearsome looking machines.

RIGHT from the beginning, the Leisure Sport enterprise presented a unique opportunity to demonstrate aeroplanes which most people thought were gone for ever from the skies of Europe. From the pilots' point of view, moreover, we were agreeably surprised to be told at the outset that the aircraft were there to be used: most of us had expected to receive stern instructions merely to fly the Camel and Triplane around gently and sedately the right way up. You can imagine our delight, then, on finding that we were immediately encouraged to aerobat the machines and work up a combat display routine.

The first thing the purist notices about the Camel and Triplane is that the engines are wrong. The real Camel and Fokker DR1 had rotary engines (Clerget, le Rhône or Bentley in the Camel, and Thulin le Rhône or Oberusel in the Triplane), while both the Leisure Sport replicas are powered by 165 h.p. Warner Super Scarab radials. This modernisation has tamed both machines considerably by removing the awesome gyroscopic effects of the rotary engines and their enormous propellers. Otherwise the aeroplanes are painstakingly accurate replicas. Both were built largely from the original drawings and specifications, the only beefing-up being one or two very minor material changes in the Triplane. Apart from the engines and the innards of the machine guns, the only other departures from the genuine article are the covering materials and the use of glass fibre for the Camel's fuel tanks, and stainless steel for the Triplane tank. The Camel even has the correct mountings for a Clerget rotary engine, and the fuel system is identically pressurised by a genuine 1917 air-driven pump.

What are they like to fly? Taking the Camel first, your initial impression after the engine has been started is that this is going to be a noisy, draughty and extremely interesting experience. Thanks to T. O. M. Sopwith's insistence on concentrating all the major weight (pilot, fuel, guns) in the first six feet of the fuselage, you are sitting very close indeed to the source of the din. At the same time, the small propeller of the air compressor is whirling round a foot away from—and exactly in line with—your starboard ear. The rather long flying wires are vibrating like bow-strings, and the lower wings (thanks to Sopwith's other

Flying the Sop

obsession—lightweight construction) are flexing with a peculiar rippling-wave effect of sympathetic resonance in time with the engine.

Taxiing out, you find that the rudder response on the ground is minimal without energetic bursts of power to blow the tail round. This practice is fraught with danger, however, since the combination of very low wing loading plus considerable dihedral on the lower wing endows the Camel with almost kite-like properties if you get the into-wind wing moving at more than walking pace in anything but the gentlest of breezes. The only really safe answer is to "volunteer" a couple of wing-men to hold you down and assist the turns by heaving on the struts.

After the obvious instability of taxiing, the take-off is easier than you expect. The ground roll is very short indeed—200ft-300ft, depending on the breeze. The elevators and rudder become effective very quickly, and the Camel drifts off the ground at just under 40 m.p.h. indicated. Any competent Tiger Moth pilot would have little difficulty with the Camel on take-off providing he remembered to point the device exactly into wind: any sort of crosswind component creates the most alarming impression that the beast is about to pick itself up and turn turtle as soon as you begin to accelerate.

Once in the air, however, you are due for something of a shock. Within seconds of leaving the ground you are making your first acquaintance with almost total control disharmony. The Camel is mildly unstable in pitch and considerably unstable in yaw, and both elevator and rudder are extremely light and sensitive, with very little feedback pressure. The ailerons, on the other hand, are in direct and quite awe-inspiring contrast. When Herbert Smith designed the Camel in the winter of 1916/17, aileron technology was very much in its infancy. The prevailing philosophy appears to have been that if you wanted to roll faster, you simply made 'em bigger! The Camel, accordingly, has four enormous young barn doors which require an equally enormous force to be moved quickly. And when you have moved them, the wing section is so degraded by their deflection that the roll response is very slow indeed: much, much slower than a Tiger Moth's for example. At the same time, moreover, the aileron drag is quite staggering. If you take your feet off the rudder bar and bank to the left the Camel will instantly yaw sharply to the right and keep going, the effect of aileron drag being vastly more powerful than the "conventional" secondary effect of roll.