

CIVIL AIRCRAFT No. 27

THE CHILTON D.W.1.

MONOPLANE

BY E. J. RIDING



IN comparison with the English Electric Co.'s "Wren," described in last month's issue, I am dealing this month with a machine belonging to the same ultra light category but of a period some fifteen years later.

Readers can see for themselves how much progress had been made in design during those years by comparing the two specifications.

The Chilton monoplane was designed and built by two ex-D.H. Aircraft Technical School students—Messrs. A. W. Dalrymple and A. R. Ward—during 1936-37. Chilton Aircraft, as their firm was called, then proceeded to put the machine into production at Hungerford and also to produce the 4-cylinder in-line water-cooled Carden Ford aero engine—a standard Ford 10 engine adapted for aeroplane work.

The prototype D.W.1, G-AESZ, was painted red with aluminium wings and tail surfaces and it attended many aviation meetings from the time it was built until the outbreak of war. It caused much comment on account of its fine handling qualities and "fighter-like" performance.

Two other D.W.1's, G-AFGH and G-AFGI, were built in 1938, 'GH appearing at the R.Ae.S. Garden Party at Heathrow doped in a pale blue and aluminium

colour scheme. In April, 1939, the first D.W.1.A G-AFSV, appeared equipped with a 44 h.p. inverted in-line air-cooled Train 4.T.—a slightly lighter and more powerful engine than the Carden Ford. This was to have been the standard production model had not the war intervened. Painted black with white letters, 'SV achieved a notable success by winning the Folkestone Aero Trophy. All four D.W.1's as well as a D.W.2, G-AFSW, are still on the civil register.

Construction.

Fuselage: Semi-monocoque built up from spruce longerons and cross members covered with plywood. Cantilever wing built in three pieces (centre section containing the undercarriage and the two outer wing panels). Two spruce and plywood box spars carried normal pattern spruce and ply-webbed ribs. Plywood covering aft to rear spar, remainder including ailerons fabric covered. Manually operated split flaps extending over 50 per cent. of wing. Fixed cantilever tailplane and fin; fabric-covered elevators and rudder. Fuel: eight gallons in fuselage tank.

Cantilever undercarriage units completely enclosed in streamlined "trousers" of which the front half was detachable for inspection and maintenance.

Photos by E. J. Riding.



Specification: 32 h.p. Carden Ford: Span, 24 ft. 0 in.; length, 18 ft. 0 in.; wing area, 77 sq. ft.; weight empty, 398 lb.; weight loaded, 640 lb.; speed, max., 112 m.p.h.; cruising, 100 m.p.h.; landing, 35 m.p.h.; range, 500 miles (60 m.p. gallon). Price, £315. 44 h.p. Train 4.T.: Span, 24 ft. 0 in.; length, 18 ft. 0 in.; wing area, 77 sq. ft.; weight empty, 380 lb.; weight loaded, 650 lb.; speed, max., 135 m.p.h. cruising, 115 m.p.h.; landing, 35 m.p.h.; range 400 miles. Price, £375.