



Widgeon Mk III (Cirrus III).



Widgeon Mk III (cabin conversion) (Cirrus III).

THE WESTLAND FAMILY . . .

five-cylinder Armstrong Siddeley Genet of 70 h.p., and in this form was known as the Widgeon Mk II. Flown by its owner, Dr. Whitehead-Reid, it was familiar at flying meetings of the 1920s.

Widgeon Mk III Late in 1926 it was decided, in the light of experience with the Widgeon Mk II, to redesign the type for quantity production. The wing was made of constant chord and thickness, the fuselage lines were completely revised, the cockpits moved aft (so that the forward seat was completely under the wing), and an oleo undercarriage was fitted. Originally the engine was an 80 h.p. A.D.C. Cirrus II, but later machines, to suit specific requirements of private owners, were powered with the Armstrong Siddeley Genet, D.H. Gipsy, or Cirrus Hermes. Span was 36ft 4½in, length 23ft 5½in, wing area 200 sq ft, and with the Cirrus II engine the empty and gross weights were 852 lb and 1,400 lb. Top speed was 100 m.p.h. and landing speed 42 m.p.h.

Widgeon Mk IIIA This designation applied to the Widgeon III with a split-axle wide-track undercarriage in place of the original narrow-track cross-axle type.

Widgeon Mk III (Seaplane) Two Widgeon IIIs, with Cirrus III engines, were mounted on a Saunders twin-float undercarriage.

Widgeon Mk III (Cabin Conversion) One Widgeon III was fitted with a coupé top.

Widgeon Mk III (Metal Fuselage) Widgeon G-AAGH had a fuselage of square-section duralumin tubes, similar in construction to that of the Wapiti.

Widgeon (A.B.C. Hornet) A Widgeon was flown with an A.B.C. Hornet flat-four engine of some 80 maximum horse power.

AUTOGIROS

C.29 The C.29, which was built during 1934, was a very advanced Autogiro indeed. Designed by Westlands in conjunction with Senor Juan de la Cierva, of the Cierva Autogiro Co., it was a five-seater, powered with an Armstrong Siddeley Panther engine driving a two-blade Fairey-Reed metal airscrew. The rotor and the rotor mechanism (the latter being of the direct-control type, wherein the rotor hub could be moved and the plane of the rotors varied relative to the fuselage) were constructed by the Cierva company, while the airframe was entirely Westland-built. Of square-section steel and duralumin tubing, the fuselage was of good aerodynamic form and carried a deep-chord fin-and-rudder assembly. The tailplane had oblique fins at its extremities and the port half had an inverted aerofoil section to offset airscrew torque effect. Tests disclosed formidable ground resonance, thought to be rotor vibration, and development was shelved until further experience could be obtained from smaller experimental autogiros. Although taxied, the aircraft was never flown, and was finally abandoned on the death of Senor de la Cierva. Rotor diameter was 50ft, fuselage length 38ft, weight empty 3,221 lb, gross weight 5,000 lb, estimated maximum speed 160 m.p.h., and landing speed 21 m.p.h.

C.L.20 In the designation of this aircraft the "C" denoted Cierva and the "L" Lepère—M. George Lepère being chief engineer of Lioré et Olivier, French licensees of the Cierva company. An attractive side-by-side two-seater, the C.L.20 had a Pobjoy Niagara S seven-cylinder radial engine of 90 h.p., and its wide-track faired undercarriage was carried on outriggers. The fuselage was of welded-steel tubing, and the cabin was liberally provided with transparent panelling. The three blades of the direct-control rotor could be folded for parking. Successful test flights were made by R. A. C. Bric, but the war intervened before production

could be started. Rotor diameter was 32ft, length 20ft 3in, weight empty 840 lb, gross weight 1,400 lb, maximum speed 106 m.p.h. and landing speed 25 m.p.h.

HELICOPTERS

S-51, Series A As built at Yeovil, the majority of Westland S-51s have been powered with the Alvis Leonides engine, denoted by "Series A" in the designation. The centre portion of the S-51 fuselage is of welded steel tubes; it carries the main wheels and rotor-head structure, and houses the engine and tanks, together with auxiliaries such as the electrical generator, radio and batteries. The Alvis Leonides 521/1 is mounted horizontally in the fuselage centre-section and drives the main rotor (originally having composite blades, but now all-metal) through a vertical shaft and double epicyclic reduction gearing. The cabin seats four, with the pilot in front and the three passengers abreast at the rear. Flying controls consist of a collective-pitch lever, on the port side of the pilot's seat, and a central control column. Jointly these control the pitch of the main rotor blades by means of mechanical linkages to selector valves on servo-operated hydraulic jacks. (On the earliest machines of the type the control was of the direct manual type.) Foot pedals operate the pitch change of the tail rotor blades, and on the collective-pitch lever is a twist-grip, acting as an engine-throttle fine adjustment, which can be operated



C.L.20 Autogiro (Pobjoy Niagara S).



(Above) C.29 Autogiro (Armstrong Siddeley Panther). (Below) S-51 Series A (Alvis Leonides 521/1).

