FLIGHT

THE GLOSTER "GOLDFINCH"

Bristol "Jupiter" Mark VII Engine

THE latest type of Gloster military aeroplane, of which particulars may be published, is the "Goldfinch," a single-seater fighter fitted with the Bristol "Jupiter" Mark VII engine. Put very briefly, it may be said that the "Goldfinch" is the all-metal version of the well-known Gloster "Gamecock," of which large numbers are in use by the British Royal Air Force. There are differences other than those of construction, but the "family likeness" is unmistakable. Fitted with the Bristol "Jupiter VII," which is a direct-drive supercharged engine specially designed to give maximum power at a considerable altitude, the "Goldfinch" develops its maximum horizontal speed (172 m.p.h. = 277 km./h.) at a height of about 10,000 ft. (3,050 m.), but still maintains a very excellent speed at greater heights, so that even at 20,000 ft. (6,100 m.) the speed is as high as 157 m.p.h. (253 km./h.). The climb of the "Goldfinch" is equally excellent, as will be realised when we state that the altitude of 20,000 ft. is reached in 16 mins. 9 secs. If we add that the "service ceiling" (*i.e.*, the altitude at which the rate of climb is 100 ft./min.) is 26,800 ft. (8,170 m.), it will be realised that the "Goldfinch" is a machine which, in point of performance, has few superiors.

The Gloster "Goldfinch": Side View. Note the neat cowling of the Bristol "Jupiter VII" Engine.

["FLIGHT" *Photograph*

Constructional Features

Of the aerodynamic design of the "Goldfinch" little need be said here. The machine differs hardly at all from the "Gamecock" in this respect, but the results of the Gloster company's experience in the design of racing aircraft are traceable in several details. The machine is of the normal single-bay biplane type, employing, as have done Gloster machines for a number of years, a high-lift aerofoil in the upper wing and a thin section aerofoil in the lower. It is, however, in the constructional design that the greatest interest of the "Goldfinch" lies, since all-metal construction is now demanded by the British Air Ministry, and this is the first machine incorporating this feature to be produced by the Gloster Aircraft Company.

Steel is the material chiefly used in the construction of the "Goldfinch," with Duralumin here and there to suit local requirements. The fuselage is a steel tube structure, in which use is made, in the front portion, of square-section tube for struts as well as longerons, no wire bracing being employed in this portion. The portion from aft of the pilot's cockpit to the stern post is built as a separate unit, bolted to the front one, and is of circular-section mild steel and Duralumin

The Gloster "Goldfinch": Three-quarter rear view.

"FLIGHT" *Photograph*