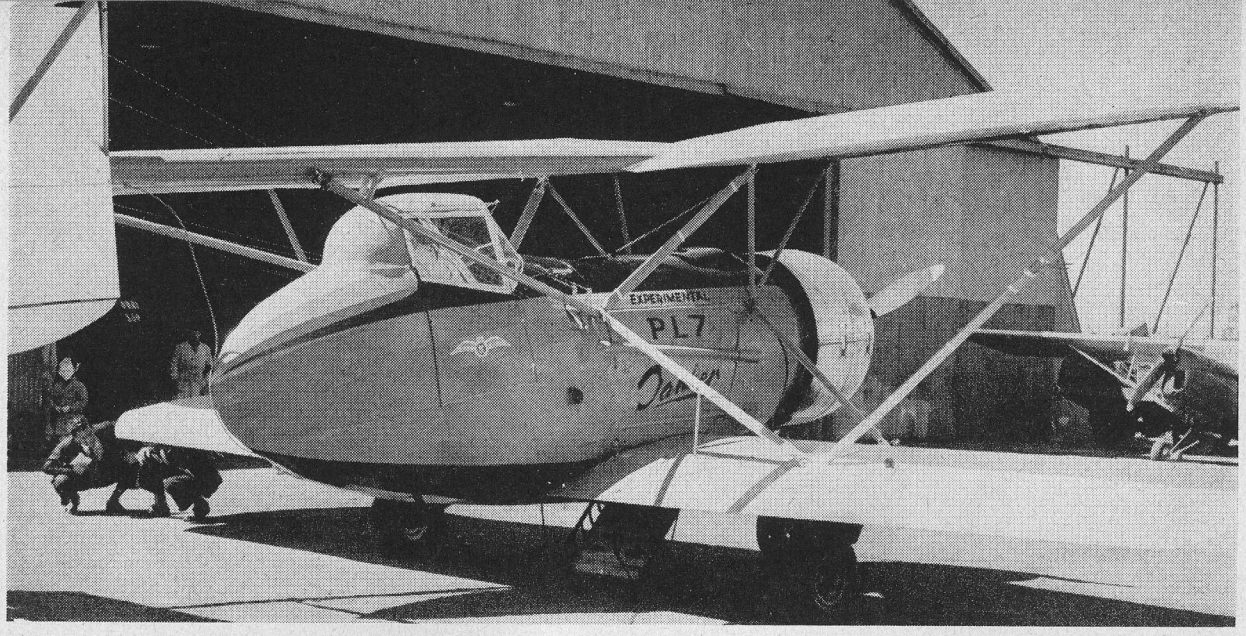

The unusual features of the experimental PL-7 Tanker, designed and built at Sydney for the agricultural market, are shown in these two views of the aircraft, above and at the foot of this page, reproduced by courtesy of Country Life.

Watch The PL-7 Tanker

KEITH ROBEY describes a Most Unusual Australian Agricultural Aircraft Design

THE latest and most unusual contender for the at present much sought after agricultural market, the PL-7 "Tanker," designed by Luigi Pellerini and built by Kingsford Smith Aviation Services Pty. Ltd., has flown for the first time at Bankstown. The PL-7 project is being closely watched by a number of agricultural operators and, if calculated performance figures come up to expectations, orders may be quickly forthcoming.

Unconventional in design and appearance, the PL-7 is a large biplane of unequal span, fitted with a tricycle undercarriage and powered by a 400 HP Cheetah 10 engine. The stubby, nacelle type fuselage is built around a welded mild steel tank which forms the hopper, with the pilot's cockpit situated in the extreme rear section. The tailplane and twin rudders are mounted on booms from the upper mainplane centre section.

The empty weight of the PL-7 is 2330 lb. and the aircraft has been designed to operate at an AUW of 5000 lb with a wing loading of 12 lb/sq ft. The 45 cu ft hopper carries a maximum load of 2186 lb or, when operating as a spray aircraft, 240 gallons. A further 70 gal may be carried under each wing in slipper tanks, giving a total capacity of 380 gal. When these figures are considered in relation to the economical operating costs of the Cheetah engine with its long overhaul life of 1200 hours and low specific fuel consumption, the PL-7 compares more than favorably with competitive types now in the process of development overseas. Calculated performance figures for the PL-7 released before the first flight quote the takeoff distance to clear a 50 ft. screen fully loaded as 475 yards and the rate of climb 740 FPM. Cruising speed, using 75% power, is 112 MPH, and the best operating speed for top dressing/spraying 70-90 MPH.

Construction of the prototype began in March, 1955, and the original schedule called for completion within twelve months. Due to unforeseen delays the prototype took 18 months to complete. All major components were static tested and proved during manufacture and in many cases jigs were made which would be suitable for initial production runs in order to save time at a later stage when production of series aircraft begins. During construction of the prototype comments and suggestions were invited from aerial agricultural operators with regard to safety factors and performance and many of their suggestions were incorporated in the design of the aircraft. All major work involved in the construction was carried out in Kingsford Smith Aviation Services' Bankstown workshops and a team of five tradesmen has been employed on the project.

During taxy tests on the evening of Wednesday, September 19, the aircraft was airborne for approximately 300 yards and on the following morning Peter Brown took the PL-7 up. Although only contemplating a short hop with a landing straight ahead the PL-7 was handling so well he decided to press on and completed a gentle circuit at 600 ft. Peter Brown commented after the first flight that he experienced no difficulty whatsoever in handling the aircraft and that it felt very much like an overgrown Tiger Moth.

Approach and landing were very simple and the aircraft appeared to be most docile during the roundout and actual touchdown. The approach was made at 65K in slightly rough air with 40% power. Slight float was apparent at the roundout and the PL-7 touched down main wheels first at approximately 40K. Peter Brown stated that, after touchdown, the aircraft could be left hands and feet off without any tendency to swing or run off. Landing roll was 150 yards using brakes only to bring the aircraft to a positive stop.