Helicopters in Europe

FOURTEEN DIFFERENT TYPES SEEN AT PARIS

The Cessna CH-1, not shown at Paris, has a nose-mounted 260 h.p. Continental engine.

FOUR notable achievements in the helicopter world provided a background to the opening of the recent Paris Show. The first was the remarkable feat of the S.N.C.A.S.O. Djinn helicopter in landing at full load on the summit of the Jungfrau mountain in the Swiss Alps, a height of 13,669 feet. There followed, on June 6th, a landing by Jean Moine in a Bell 47-G2 on Mont Blanc, altitude 15,781 feet, now the highest recorded landing by a rotating wing aircraft. On the same day the S.N.C.A.S.E. pilot-engineer Jean Boulet climbed to a height of 8,260 metres (27,100 feet) in the new Alouette II, thereby establishing a new world altitude record for helicopters. Finally, on June 13th, the Bristol 173 twin-engined helicopter, flown by C. T. D. "Sox" Hosegood, succeeded in reducing the flight time for a non-stop helicopter flight from the centre of London to Le Bourget, Paris, to exactly 2 hours.

Those taking part in this London-to-Paris flight stressed afterwards that no special attempt had been made to set up a record time for the flight; it was just a cross-country flight at normal cruising speed. Nevertheless, much interest had been shown in the preparations for the Le Bourget visit and the machine was seen off from the South Bank by Mr. John Profumo, Parliamentary Secretary to the Ministry of Transport and Civil Aviation. Its average cruising speed for the journey was 112.5 m.p.h. The Bristol 173 arrived at Le Bourget in time to give a short demonstration before landing.

During the course of the week at Paris, the helicopters taking part in the display gave impressive performances amid the array of faster-than-sound fixed-wing prototypes; particularly so the little Djinn which was untiring in its efforts to give short passenger flights to the maximum number of people in the time available. In all, some fourteen different helicopter types were represented, a brief description of which is given here.

Alouette I and II Both machines, designed and manufactured by the S.N.C.A.S.E., were on view. Powered by the Turboméca Artouste II gas turbine, with a maximum rating of 400 h.p., the Alouette II incorporates many interesting new features. Rotor speed is controlled by an automatic fuel supply governor which obviates the need for a twist-grip throttle and the normal throttle/collective-pitch linkage. The cockpit control is a simple lever which increases or decreases the collective-pitch directly and also actuates the governor, thereby ensuring that the correct power supply is immediately and automatically available for any desired flight condition. The absence of clutch allows considerable simplification in the transmission system, from both design and maintenance points of view.

As a five-seater, at sea level, the Alouette II uses only 300 of the available 400 h.p., with the result that performance can be maintained at high altitude and in tropical conditions by using the excess power. Its weight-lifting capacity was ably demonstrated when one of the two machines flying lifted a small Citroen truck (weighing over half a ton) on an external sling and flew around with it at a height of 200 feet or thereabouts with apparent ease. Up to the present time five machines have been built and a production line is being planned.

Agusta-Bell 47G A production machine was flown into Le Bourget from Italy to take its place on the exhibition stand. Giovanni Agusta have delivered 40 model 47G's built under licence and their rate of production has now been stepped up to 8 machines per month. The price is 23 million lire, 13 million francs, or £13,000 sterling. The company is represented in France by Fenwick-Bell of Paris who operate a helicopter flying school at the old Aeroport de Paris and who are also representatives of the American corporation. The British representatives are Hordern-Richmond, Ltd.

Bell 47, G2 and 47H The latest Bell helicopter, the de-luxe three-seater 47H, powered by a Franklin engine of 200 h.p., has attracted much attention. The machine at Paris had been brought down on loan from its German owners, Hubschrauber Vertriebs G.M.B.H. but, unfortunately, was unable to fly because the formal German registration had not been completed. The internal fittings and finish are indisputably excellent and this helicopter sets a new high standard for a small executive communication vehicle.

The actual machine which had been landed on the summit of Mont Blanc, the Bell 47G2, powered by a 260 h.p. Lycoming engine de-rated to 200 h.p. was to be seen at Le Bourget. The use of a de-rated engine, the makers claim, increases considerably the engine overhaul life and also engine maintenance problems.

According to the pilot, Jean Moine, the mountain landing was made without difficulty, in spite of no little turbulence caused by a 20 knot wind, and there was a sufficient reserve of power, with a passenger aboard, to enable the machine to hover in the ground cushion in the normal way before touching down.

Bristol 171, 173 and 191 Being the only twin-engined helicopter displayed, the Bristol 173, with its new four-bladed rotors, also attracted much attention. A model of the Bristol 191 was displayed for the first time on the company's stand. This machine has been ordered in quantity for anti-submarine work and will be powered by two Leonides Major engines. The ubiquitous Sycamore, in the hands of Captain Peter Wilson, carried out a number of flights throughout the week. After the Salon, it went on to visit a German helicopter convention at Stuttgart organized by the German helicopter group, Studengemeinschaft fur Hubschrauber, and from there to Innsbruck, for mountain rescue demonstrations in the Austrian Tyrol.

Cessna CH-1 Although the actual machine was not present at the Cessna stand, information was available on this most recent newcomer to the helicopter scene. The Cessna CH-1, designed originally by Charles M. Seibel, is an all-metal machine powered by a 260 h.p. Continental engine. This is located forward in the nose so that the pilot and passengers occupy the space immediately below the centre of gravity. Outstanding performance figures are quoted by the manufacturers and it seems likely that this elegant machine, backed by the well-known light aircraft production experience of Cessna, will prove to be a worthy rival of its contemporaries.

S.N.C.A.S.O. Djinn A formation of six Djinns of the French Air Force provided an impressive sight in the official flying demonstration and one of these sturdy little helicopters, piloted by Colonel Fourcault of Helicop-Air, the French distributors, was flying throughout the week. The flying controls are strictly orthodox, comprising stick, rudder pedals and collective-pitch lever with twist-grip throttle attached. As might be expected from its diminutive size, the Djinn is extremely light to handle and is highly manœuvrable, the asbestos-covered rudder operating in the efflux from the gas turbine being a most effective yawing control. While it is capable of performing a wide variety of commercial tasks, it will, undoubtedly, find its *forte* as a light and economical training helicopter. Availability on the civil market is expected by the summer of 1956 after existing military production commitments have been met.

For the first time, S.N.C.A.S.O. revealed a model of a new, and apparently large, single-rotor helicopter powered by twin turboprop engines carried on a high stub wing below the rotor