



Vickers Vanguard (Rolls-Royce Tyne RTy. 11s)

COMMERCIAL AIRCRAFT OF THE WORLD

Index by Aircraft Page 621
Explanatory Notes Page 577



Tu-110 This four-jet development of the Tu-104 series, with a fuselage about 10ft longer and seating 100, has now been abandoned, in view of the successful development of the Tu-104B.

Tu-114 This is the largest airliner in the world and has been adopted by Aeroflot as a standard type. The first Tu-114 flew in 1957, and four or more are believed to exist, one of which has flown non-stop from Moscow to New York. The Tu-114 is a civil development of the so-called Bear strategic bomber. Aeroflot expect to inaugurate services before the end of this year; early routes will probably be Moscow - Khabarovsk and Moscow - Peking. An operator's drawing appears on page 604.

Powerplant: Four NK-12 turboprops, probably de-rated from the military power of 12,000 s.h.p. to 9,000-10,000 s.h.p. Eight four-blade, contra-rotating propellers of over 18ft diameter, with electric synchronizing and pneumatic emergency feathering.

Dimensions: Span, 177ft 2in; length, 154ft 10in; height, 38ft 8in; wing area, 3,014 sq ft.

Weights: Max. take-off weight is believed to be in excess of 400,000 lb.

Payload accommodation: This was fully described in *Flight* of August 21, 1959. A Russian document states that passenger capacity is from 120-220, depending on range. The version seen at the Paris Show this year had 170 seats (not counting a 48-seat dining hall).

Performance: Not precisely known, but the Russians claim that the aircraft can fly non-stop from Moscow to Vladivostok, Peking, New York or Rangoon in 10-12 hr. Cruising speeds on recent long-range flights have been of the 400-420 kt order (460-490 m.p.h.).

Tu-114D This is more or less a conversion of the Bear bomber, and Mr. Tupolev has stated that it is intended to transport quite a small number of passengers with baggage, mail and other urgent freight over very long distances. One flight of 5,350 miles has been made at an average speed of about 435 kt (500 m.p.h.), and on landing the pilot stated that sufficient fuel remained for a further flight of 930-1,250 miles.

VICKERS-ARMSTRONGS (AIRCRAFT) Weybridge, Surrey, England.

Viking Designed as a replacement for the Douglas DC-3, and derived from the Wellington bomber, the unpressurized VC-1 Viking first flew on June 22, 1945. Three main versions of this 21-27 passenger airliner were produced: the Viking IA with wings and tailplane of fabric-covered geodetic, the Viking I with wings and tailplane of conventional metal construction and—the most numerous variant—the Viking IB, which featured a 28in longer forward fuselage. A total of 166 Vikings were built, including three prototypes. B.E.A. was the first Viking operator and many ex-B.E.A. aircraft are in service with British and continental independents. A total of 102 Vikings are owned by 25 airlines; some have been converted to freighters. Current secondhand market price is about £20,000, although Vikings have been offered for £5,000.

Powerplant: Two Bristol Hercules 634 of 1,675 b.h.p. driving 13ft 3in de Havilland or Rotol four-bladed propellers.

Dimensions: Span, 89ft 3in; length, 62ft 10in; height, 19ft 6in; wing area, 882 sq ft.

Weights: Max. take-off, 34,000 lb; landing, 33,250 lb; capacity payload, 7,120 lb; weight less fuel and payload, 24,000 lb.

Payload accommodation: Cabin volume, 1,665 cu ft; baggage and freight volume, 250 cu ft; cabin length, 39ft 3in; max. width, 7ft 11in; max. height, 6ft 8in; usable floor area, 249 sq ft; max. seats, 27.

Fuel capacity: 750 Imp. gal (5,400 lb).

Performance: Cont. cruising speed, 182 kt (209 m.p.h.) at 10,000ft and 32,500 lb, with fuel consumption of 88 Imp. gal/hr; balanced field length, sea level, I.S.A., 3,600ft; landing distance from 50ft (unfactored),

3,650ft. Range A (max. payload), 1,000 n.m. (1,150 st.m.); range B (max. fuel), 1,946 n.m. (2,242 st.m.) at 149 kt (171 m.p.h.) at 10,000ft with 4,600 lb payload.

Viscount 700D The Viscount had its origins in the Brabazon Committee Type IIB requirement of March 1945 for "a 24-seat aircraft, powered with four gas turbine engines driving airscrews for European and other short-to-medium range services." The V.630 Viscount prototype, seating up to 36 passengers, made its first flight on July 16, 1948, but for B.E.A. it was stretched into the V.700 with 1,400 s.h.p. RDa.3 Darts and seating up to 53 passengers; the prototype V.700 first flew on August 28, 1950. A month before, the V.630 prototype had been used by B.E.A. on the world's first scheduled commercial passenger services with a turbine-powered aeroplane; the Corporation commenced services with its production V.701s on April 19, 1953. A total of 285 V.700s have so far been sold; the basic V.700D differs from the V.700 in having the more powerful RDa.6 Darts, more fuel and increased take-off weight.

Considerable effort was expended in making the Viscount suitable for North American use after T.C.A.'s initial contract for 15 aircraft was placed in 1952. These changes included conversion for two-pilot operation with U.S. instruments, radio and other equipment, provision for weather radar, carry-on luggage racks, airstairs and braking units on the port propellers. These features were also embodied in the 65-seat V.790 variant for U.S. and other local service carriers which was not built, but B.E.A.'s V.701 Viscounts are being converted to a high density version with 63 seats and airstairs. The Viscount 700's secondhand price is around £200,000-£250,000, although the market for these aircraft seems to be temporarily inactive. New aircraft can still be purchased from Vickers; the 700 D price is £400,000 (\$1,100,000).

Flight references: July 15, 1955 (history and origins; development of North American versions), January 31, 1958 (Local Service Viscount).

Powerplant: Four Rolls-Royce RDa.6 Dart 510 turboprops of 1,740 e.h.p. (1,600 s.h.p.) each driving 10ft Rotol propellers.

Dimensions: Span, 93ft 8½in; length, 81ft 10in; height, 26ft 9in; wing area, 963 sq ft.

Weights: Max. take-off, 64,500 lb; landing, 57,500 lb; zero fuel, 50,168 lb; capacity payload, 11,842 lb; weight less fuel and payload, 38,326 lb.

Payload accommodation: Cabin volume, 2,230 cu ft; baggage and freight volume, 358 cu ft; cabin length, 45ft; max. width, 9ft 11in; max. height, 6ft 6in; usable floor area, 430 sq ft; dimensions of main door, 63½in x 55in (elliptical); max. seats, 53.

Fuel capacity: 1,967 Imp. gal plus 75 Imp. gal water-methanol.

Performance: Cont. cruising speed, 270 kt (310 m.p.h.) at 20,000ft and 57,500 lb; corres. fuel consumption, 320 gal/hr; balanced field length at max. take-off weight, sea level, I.S.A., 5,310ft; sea level, I.S.A. +15 deg C, 5,850ft; 5,000ft, I.S.A., 7,200ft; landing distance from 50ft (unfactored), 2,920ft; range A (max. payload), 1,518 n.m. (1,748 st.m.); range B, 1,678 n.m. (1,932 st.m.) at 271 kt (311 m.p.h.) with 10,400 lb payload.

Viscount 800, 810, 840 Development of a stretched version of the Viscount had been started by B.E.A. and Vickers before the V.701 had entered airline service, and on February 11, 1953, B.E.A. ordered 12 V.801 Viscounts. This version, powered by four 1,690 e.h.p. RDa.5 Darts, was to have had a fuselage 13ft 3in longer than the V.701s. But the V.801 was abandoned because it was too large for traffic requirements as then foreseen, and it was replaced by the V.802, for which B.E.A. placed an initial order on April 14, 1954. This version is 3ft 10in longer than 700-series Viscounts, but this stretch, together with moving the rear pressure bulkhead back 5ft 5in, gives an extra 9ft 3in of usable cabin length, and a seating capacity of up to 70. Powered by the same Dart 510s as the Viscount 700D, the first 800-series Viscount, a V.802 for B.E.A., had made its initial flight on July 27, 1956, and entered passenger service on the London - Paris route on February 18, 1957. A total of 66 Viscount 800s has been sold to seven airlines; this total includes B.E.A.'s V.806s which are, in effect, interim versions because they have 1,890 e.h.p. (max. take-off) RDa.7 Dart 520 turboprops, while the Viscount 810 has 1,990 e.h.p. RDa.7/1 Dart 525s.

Apart from more powerful Darts, the Viscount 810 differs from the 800 in having a structure strengthened to cater for a higher landing weight and an ultimate cruising speed of 400 m.p.h. This 810 version of the Vickers turboprop came about largely because of a Continental Air Lines' requirement for a Viscount with the increased capacity of the V.800, but with more power (to overcome the temperature/altitude limitations of such hot and high mid-Western airports as Denver), and range sufficient for the non-stop operation of such sectors as Denver - Los Angeles. Other operators ordered Viscount 810s, and 57 have been sold so far to 11 airlines and to one executive operator. Hunting-Clan's three V.833s have non-standard Dart 530s which, unlike the Dart 525s, are not de-rated; they give the full 2,105 e.h.p. for take-off, thus overcoming temperature/altitude limitations on the African Safari routes, whereas the Dart 525 engine is de-rated from 2,105 e.h.p. to 1,990 e.h.p. for take-off. The true 400 m.p.h. Viscount is the Viscount 840, which differs from the 810 in having more powerful RDa.11 Dart 541s of 2,350 e.h.p. each for take-off; these give it a 400 m.p.h. cruising speed. Viscount 810s can be converted to 840 standard, and Viscount 840s will be built if orders are obtained.

A grand total of 408 Viscounts of all versions has been sold to 51 operators—40 of whom are airlines—in 32 countries. A handful of executive Viscount 700s, some of which are operated in military markings, have been supplied to various foreign governments as V.I.P. and personnel transports. References: *Flight*, February 22, 1957 (Viscount 802 description); February 28, 1958 (Viscount 810 description) and April 17, 1959 (order book). An operator's drawing appears on page 602. The following figures apply to the Viscount 810:—

Powerplant: Four Rolls-Royce RDa.7/1 Dart 525 turboprops of 1,990 e.h.p. (1,800 s.h.p. plus 500 lb thrust), driving 10ft Rotol propellers.

Dimensions: Span, 93ft 8½in; length, 85ft 8in; height, 26ft 9in; wing area, 963 sq ft.