

Airliners of the World

METROPOLITAN

CONVAIR DIVISION OF
GENERAL DYNAMICS CORP.
SAN DIEGO, CALIFORNIA



FOLLOWING World War 2, the Convair Division of General Dynamics Corporation was one of the first organizations to offer a general-purpose airliner of then-modern conception intended for the rapidly growing network of short and medium stages. The first Convair-Liner, the CV-240, flew in prototype form on March 16, 1947, and the first certificated CV-240 was delivered to American Airlines on February 28, 1948.

Basically the 41,790-lb CV-240 had a conventional airframe, with a circular-section (usually unpressurized) fuselage of 106.5in internal diameter, a two-spar wing bearing an exceptional (for 1946) area of Fowler flap, a nosewheel undercarriage with single shock-struts carrying twin wheels, all units retracting forwards, manual flying controls by servo tabs, hot-air airframe de-icing and advanced ancillary-power systems. Unconventional features were the optional installation of a large flight of passenger stairs under the rear fuselage, facing aft, and thrust-augmentation by using the exhaust to inject cooling air over the two Pratt and Whitney Double Wasp CA18 engines and discharging air and exhaust through double propelling nozzles behind each nacelle, over the trailing edge.

When it went into service the 240 set a new standard of workaday air-transport at cruising speeds which almost met the claimed figure of 300 m.p.h. As far as can be determined the following are the present operators of the CV-240: Aerolineas Argentinas, 4; American Airlines, 75 (originally 79); Canadian Pacific, 5; Continental, 5; Ethiopian, 2; Garuda Indonesian, 8; K.L.M., 7; L.A.I., 5; Mohawk, 3; Northeast, 6; Orient, 3; PanAm, 5; Sabena, 5; Swissair, 7; T.A.A., 5; Varig, 5; and Western, 9. It is nostalgic to note that in June 1948 we recorded Convair's decision to "raise the price to approximately £100,000."

In October 1951 the prototype CV-340 first flew. This model was produced by a direct "stretch"; the fuselage was pulled out by 16in forward of the wing and 38in behind, raising the standard seating from ten rows of four to eleven rows; the wing was markedly increased in span, from 91ft 9in to 105ft 4in; and series CB16 engines were fitted. The maximum weight was established at 47,000 lb. The standard 340 can carry 44 passengers and baggage a stage-distance of 1,260 statute miles, with A.T.A. reserve fuel, cruising at 284 m.p.h. at 18,000ft on 1,200 b.h.p. per engine. Fuel is carried in two 729-gal integral tanks filling the inter-spar box beyond the engine nacelles (in the CV-240 each tank held 416 gal). The cabin is pressurized to a dP of 4.16 lb/sq in.

Production 340s have been delivered since March 1952. The present operators are Aeronaves de Mexico, 4; Aerovias Venezolanas, 5; Alitalia, 4; Ansett, 2; Braniff, 26; Continental, 14; Delta, 20; C.M.A., 8; Finnair, 3; Garuda Indonesian, 8; Hawaiian, 5; J.A.T., 3; K.L.M., 14; LACSA, 2; Lufthansa, 4; National, 12; Philippine, 3; REAL, 8; Saudi Arabian, 10; Cruzeiro do Sul, 4; and United, 55. In addition, some 350 military versions of the 240 and 340 have been delivered to the U.S. Air Force and Navy.

Latest, and last, of the Convair-Liner family is the CV-440, which has been named Metropolitan. It incorporates many detail engineering improvements affecting general equipment and comfort. In particular, the cabin soundproofing has been revised and enhanced and a new engine exhaust system, with a rectangular final outlet, is specified. The engine is the CB17-series Double Wasp, giving 2,500 h.p. if water-injection is fitted. The certificated weight with this engine

is 49,100 lb. An optional extra, not originally available on earlier machines, is weather radar.

Certain operators are converting their present Convair-Liners to Metropolitan standard, a notable example being K.L.M. None the less, 88 new 440s have already been sold—partly owing to Convair's ability to offer early delivery. In chronological order, the following orders have been placed; REAL, 4; S.A.S., 11; Finnair, 1 (delivered February 1956); Sabena, 12; Swissair, 8 (increased to 11 in May 1956); Iberia, 5; Continental, 3 (delivered in recent weeks); National, 6; Delta 5; Eastern, 12; Braniff, 14; Alitalia, 2; and J.A.T., 1. Aircraft of 440 type have also been supplied to the U.S.A.F. (6), the R.A.A.F. (2) and business houses (3). These sales have raised the production run of the Convair-Liner family (including military variants) to more than 1,000.

CONVAIR CV-440

Two Pratt and Whitney R-2800 CB17 rated at 2,500 h.p.
Dimensions: span, 105ft 4in; length, 79ft 2in (81ft 6in with radome); height, 28ft 1½in; wing area, 920 sq ft; dihedral, 6 deg 30 min; track, 25ft; wheelbase, 26ft 1½in.

Weights: empty, 31,305 lb; max. payload, 12,880 lb (useful load, 16,695 lb); zero-fuel weight, 45,000 lb; max. landing weight, 47,650 lb; maximum weight, 49,100 lb with CB17 engines (48,000 lb with CB16 engines).

Performance: field length for take-off (see p.10): 4,930ft; rated-power climb at s.l., 1,192ft/min; mean t.a.s. at 45,000 lb at 1,200 b.h.p. with cowl-flaps closed, 289 m.p.h. at 20,000ft with consumption of 175 gal/hr; range (zero-wind) in above conditions, with 1,500 lb fuel reserve, 1,040 st.m.; stall at 46,500 lb, 85 m.p.h.; landing field length (reduced flap at 46,800 lb), 4,010ft.

