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COMMERCIAL AIRCRAFT OF THE WORLD

300/400-Series: American Airlines, 30; Philippine Air Lines, 4; British Eagle, 5; Taca, 2; Lacsa, 2; Laker, 4; Channel Airways, 3; Autair (now Court), 4; Austral, 4; Vasp, 2; government and corporate, 4; Bavaria, 5; Tarom, 6; Gulf Aviation, 2. Total 78.

475-Series: Faucett, 2; Air Pacific, 2; Air Malawi, 1. Total 5.

500-Series: Court, 9; BEA, 18; BUA, 8; Philippine Air Lines, 3; Austral. 3; Caledonian/BCAL, 5; Paninternational (Munich), 4; Bahamas, 2; British Midland, 3; Germanair, 4; Bavaria, 3; Aviateca, 1; Phoenix, 1; Lacsa, 3; LIAT, 1; Transbrasil, 3. Total, 71.

See page 648 for tabular data and page 673 for drawing.

BAC One-Eleven 700 The One-Eleven 700 is a project study based on the use of the proposed 15,0001b-thrust Rolls-Royce Spey -67 with a new front fan and a higher bypass ratio than current Speys. The aircraft would have a gross weight similar to that of the Series 500—about 105,0001b—but would seat up to 124 in a slightly stretched fuselage. The aircraft would be optimised around seat-mile economies and would overcome the performance deficiencies which the standard One-Eleven with a hush-kit would suffer (see Flight for August 9, page 228).

Boeing 707 Production rate of the 707 is running at about one a month and this will double next February. Orders con-tinue to be received slowly but surely and the first deliveries to the Chinese Civil Aviation Administration have been made. The Boeing 707/720 family dates back 19 years to the roll-out on May 14, 1954, of the 367-80 prototype.
Produced as a demonstrator for both commercial and mili-tary markets, the 367-80 was designed and built entirely from company funds. The investment was more than $16 million and was known in the industry as "Boeing's $16 million gamble." The US Air Force ordered a derivative (which became the KC-135 aerial tanker) in August 1954, one month after the 367-80's first flight. The KC-135 made its maiden flight on August 31, 1956, and the early order made a significant contri-bution to paving the way for the commercial production pro-gramme. When Pan American ordered the -120 in late 1955 it began discussions with Boeing for a transatlantic develop-ment. Pratt & Whitney came up with the power in the form of the 17,5001b, 78kN-thrust JT4A-11 turbojet. With an 8ft, 2-4m-longer fuselage and space for up to 195 seats, the 707-320 first flew in 1959.

In August 1959, less than a year after the -120 had entered service, Pan American began replacing it on the North Atlantic with the -320. Towards the end of 1956 BOAC ordered a version of the -320 powered by Rolls-Royce Conway 508 bypass engines of 17,5001b, 78kN thrust, a variant known as the 707-420. The turbofan principle—taken a stage further in the form of the P&W JT3D-3 of 18,0001b, 80kN thrust and applied to a -320 airframe with improved leading- and trail-ing-edge high-lift wing devices, wing-tip modification to cut cruising drag, and structural modifications for an increased gross weight—led to the 707-320B with substantially improved payload-range performance. This aircraft entered service with Pan American in June 1962 and made it possible for airlines to schedule year-round direct flights from Europe to the US West Coast. A convertible mixed cargo/passenger version of the -320B known as the 707-320C was first flown in February 1963 and entered service in May that year.
The smaller and cheaper 720 series was developed from the original 707-120 for medium- and short-haul operations. The design has wing modifications to permit higher cruising speeds at low altitudes, has better airfield performance, and is powered by the P&W JT3C-7 turbojet. The first flight was late in November 1959. The 720B with an almost identical airframe is powered by 18,0001b, 80kN-thrust P&W JT3D-3 turbofans with optional JT3D-7s at 19,0001b, 84-5kN.

Boeing 720/720B orders: 154.

Boeing 707-120/120B/420 orders: Air France, 21; Air-India, 6; American, 56; British Airways, 18; Braniff, 5; Continental, 5; Cunard Eagle, 2 (now with British Airways); El Al, 3; Luft-hansa, 5; Pan American, 34; Qantas, 13; Sabena, 7; South African, 3; TWA, 68; USAF, 3; Varig, 3. Total, 252.

Boeing 707-320B orders: Aerolineas Argentinas, 4; Air France, 8; Air-India, 3; American, 10; Avianca, 2; British Airways, 2; CAAC, 4; El Al, 3; Lufthansa, 12; Malaysia-Singapore, 3 (now with Singapore International); Northwest, 10; Olympic, 2; Pan American, 60; South African, 2; TAP, 7; TWA, 38; USAF, 6 (4 Awacs). Total, 176.

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Boeing 707-320C orders: Aerolineas Argentinas, 2; Air France, 9; Air-India, 2; Airlift International, 3; Alia, 2; American, 37; British Airways, 8; Braniff, 9; British Eagle, 1 (now with British Airways); British Caledonian, 2; Cameroon, 1; China Air, 2; CAAC, 6; Canadian Armed Forces, 5; Continental, 13; United Arab, 8 (now Egyptair); El Al, 2; Ethiopian, 2; Executive Jet Aviation, 2; Flying Tiger, 4; German Air Force, 4; Iran Air, 3; Irish International, 4; Korean, 1; Kuwait, 5; LAN-Chile, 1; Lufthansa, 6; MEA, 4; Nigeria, 2; Northwest, 26; Olympic, 4; PIA, 7; Pan American, 34; Portuguese Air Force, 2; Qantas, 21; Sabena, 7; Saudia, 2; Seaboard, 2; South African, 5; Sudan 2; Tarom, 3; TWA, 17; Varig, 6; Wardair, 2; Western, 5; World, 9. Total, 304.

See page 644 for tabular data and page 671 for drawing.

Boeing 727 The Advanced 727-200 is being produced at 8J

2 a

month and may well go higher. The type is back in its own production hangar after sharing a common line with the 737 and 707 last year. Sales continue unabated and the success o the 727 has been instrumental in the delay in the launch of the 7X7 project.
One of the reasons for the success of the 727 is the willing-ness of Boeing to keep the aircraft modern and to continue its development to meet customer demand. For example, on May 1, 1972, certification was obtained for a 185,2001b version bought by Iberia. Hardly had the first of Iberia's 16 been delivered when the company announced certification of the 727 at a new gross weight of 191,0001b, 86,600kg and the approval by FAA of the higher-thrust JT8D-15 engine with noise-reduction treatment of the nacelle. Shortly before that, Sterling Airways of Denmark purchased three 727-200s at a gross weight of 208,0001b, 94,300kg for delivery in November and December this year.
The -200 model, as originally developed, traded range for increased capacity; the Advanced 727 at the higher gross weight incorporates beefed-up structural components and additional fuel that will enable Sterling to fly 187 economy passengers up to 2,500 n.m. non-stop.
Standard on the 727 is the new "superjet look" interior that offers the passenger not only a more spacious looking cabin, but increased head and shoulder room resembling the wide-body aircraft in widespread service. An optional gravel-runway kit is offered, as is supplementary fuel capacity up to 2,400 US gal, automatic spoilers and a Mark III brake anti-skid system that improves the stopping capability of the 727 under all runway conditions.
The 727 programme reached a significant milestone on September 21, 1972, when total sales of the model passed the 1,000 mark, on the strength of a 14-aircraft order from Delta Air Lines. While some propeller aircraft were produced in their thousands for both military and civil use, this is the first airliner in history to exceed 1,000 orders for a commercial version alone.

Boeing 727-100 orders: All Nippon, 8; American, 58; Ansett, 4; Avianca, 4; Braniff, 6; BWIA, 3; CP Air, 4; China Air, 2; Cruzeiro, 3; Dominicana, 1; Eastern, 50; Faucett, 1; Frontier, 5; Iran Air, 4; Japan Air Lines, 12; Japan Domestic, 2 (now with Toa Domestic); LAB-Rolivia, 1; LAN-Chile, 2; Lufthansa, 16; Mexicana, 4; National, 13; Northeast, 8 (now with Delta);