



Lufthansa's decision to buy the 737 was taken at a board meeting on February 19. The aircraft will be delivered in time for service on German internal routes on April 1, 1968. It is a big aircraft, with seating for up to 100. Boeing claim that it is faster than its competitors in the cruise and slower on the approach, though no figures have yet been published

BOEING'S 737

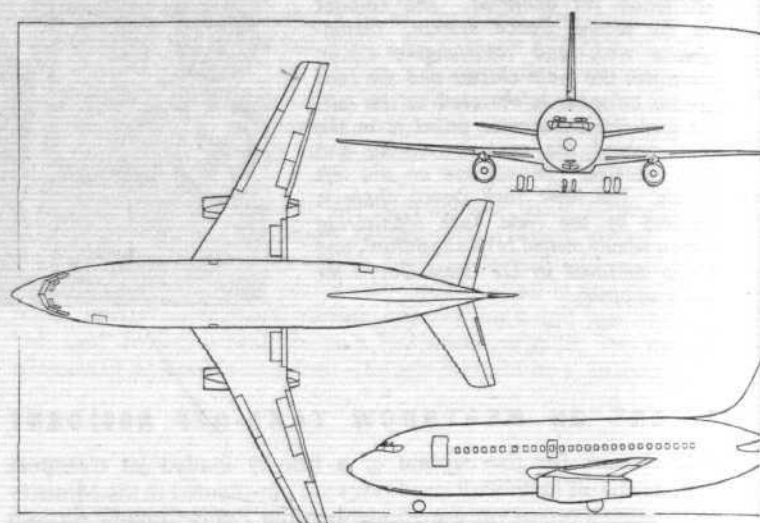
BOEING decided on February 19 to build the 737 short-haul jet, following an order for 21 from Lufthansa. It was the first time that an American aircraft manufacturer had launched a new airliner on the strength of an export order—though neither United nor Eastern, two of the "big four" US domestic airlines, was committed to a short-haul jet. This may have encouraged Boeing in their decision to go ahead. Eastern's decision only six days later to buy the DC-9 (page 312) must have come as a great disappointment.

There are two surprises: the size of Lufthansa's order, and the size of the aircraft itself. A fleet of 21 Boeing 737s will give Lufthansa a very large amount of short-haul-route capacity, even making allowance for traffic-growth and the retirement of the airline's seven L.1049G Super Constellations, seven Viscount 814s and 11 Convair 440 Metropolitans. Lufthansa's domestic passenger-kilometres in 1963 amounted to about 190m; at 2,500hr a year each, a fleet of Boeing 737s in Lufthansa's 82-seat economy-class configuration will be able to carry something like eight times that amount of annual traffic.

Although Lufthansa say that their 737s will be used "on the inner German network and on short international routes," most of the airline's intra-European services will be operated by its Boeing 727s—for which a repeat order for five has also been placed to bring this fleet of "Europa Jets" to no fewer than 15. The German airline is obviously intending to go places.

The size of the 737 itself is greater than was envisaged only two months ago, when Boeing were offering Lufthansa an aircraft with 86 seats six-abreast high-density; a gross weight of 79,000lb; a fuselage length of 81ft 10in; and a wing span of 84ft. The aeroplane that has now been bought and announced by Boeing has a passenger capacity for up to no fewer than 100 in high-density layout; a gross weight of 85,000lb; a fuselage length of 94ft and a wing span of 87ft. The 737 has thus been scaled up all round, and it has a passenger-m.p.h. work capacity greater than that of both the BAC One-Eleven and the DC-9. It is, in fact, in the traffic class of BEA's Trident 1Cs, though of shorter range.

Payload/range performance (see graph) puts the 737 in the "up-to-700 miles" bracket. All the technical and commercial claims made for the type follow closely those outlined in the paper by Mr J. E. Steiner of Boeing last autumn (*Flight*, December 10). There are no new surprises; Boeing emphasize that the under-wing location of the engines (two Pratt & Whitney JT8Ds of 14,000lb static thrust each) saves some 1,500lb in structure weight compared with the rear-engined location. Lufthansa—and Boeing—place



Provisional "Flight" general arrangement drawing

most emphasis on the "commonality" of the 737 compared with the 727 and 707.

In fact the German airline says it "made its decision largely because of its long-standing policy of unifying its fleet. Intensive study and research lasting more than a year showed that the similarity between the new aircraft and the big Boeings already in use by Lufthansa will make for considerable economy. As a large number of spares is the same for all Boeing types, Lufthansa will be able to have smaller stores of spares and fewer workshop expenses, less ground apparatus and lower expenses for training." The airline stresses not only the economic advantages of standardizing on Boeing types ("a degree of standardization which should be unique in international air transport"), but makes the point that "the passenger will find the same generous-sized cabin with all the pleasant features to which he is accustomed on long-range flights."

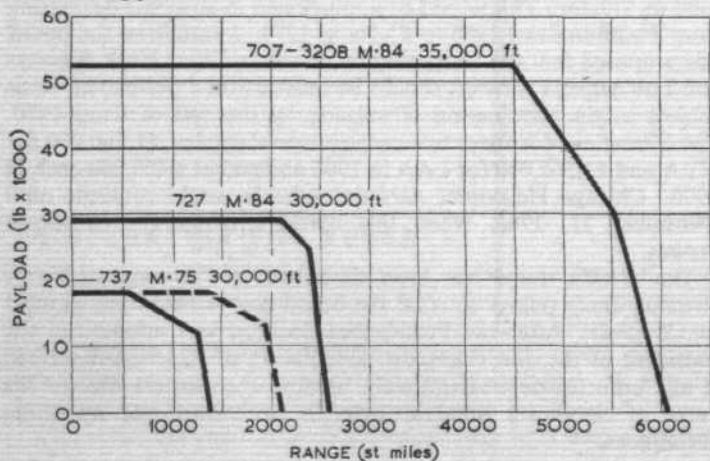
The Boeing development programme calls for a prototype 737 to make its first flight in November 1966, exactly two years after "the new ship was given full project status." Delivery to Lufthansa will start towards the end of 1967—which will enable services to begin on April 1, 1968.

Neither BAC nor Douglas has any delusions about the seriousness of this new challenge to their markets, and the sales teams of both may be expected to make the most of their two-year delivery-date advantage over Boeing. Both the One-Eleven and the DC-9 are being offered for February 1966 delivery. The One-Eleven leads on price as well as, obviously, on flight experience. BAC were quoting a price to Lufthansa of DM10.6m fully equipped—which is just over £0.95m. Unit price of the Boeing 737 to Lufthansa is £1.16m. The DC-9 costs about £1.2m fully equipped.

For European manufacturers this further crowding of the short-haul jet market will focus attention more sharply on the gap that is still unfilled. Perhaps the biggest jet airliner market of all over the next 20 or 30 years, in terms of units sold, could be for the "baby jet feederliner." The fact that Boeing have elected to go for the already over-subscribed short-haul jet market could be encouraging for Hawker Siddeley and Dassault. It would be surprising if they were not talking about a co-operative project in the HS.136/Mystère 30C category based on the Rolls/Turbomeca or B-S/Snecma engine for the proposed new Anglo-French combat trainer.

J. M. R.

Payload/range performance, with typical airline fuel reserves, for the three Boeing jets



Boeing 737 (Two Pratt & Whitney JT8D-1 turbofans of 14,000lb thrust)
 Span, 87ft; length, 94ft; height, 37ft; cabin floor width, 11.7ft; centre aisle headroom, 76in; max take-off weight, 85,000lb; max landing weight, 81,500lb; payload accommodation, 75-100 seats; forward cargo hold, 250 cu ft*; aft cargo hold, 350 cu ft*; entry doors, 34in x 72in* (fwd), 33in x 65in* (aft); fuel capacity, 2,350 imp gal; take-off (ISA, s.l.), 5,300ft; landing (ISA, s.l.), 4,750ft. *December 1964 information.