

# Family favourites

Boeing's new-generation 737 is the same, only different



GUY NORRIS/SEATTLE

**E**XACTLY 30 YEARS ago, the first Boeing 737 was taking shape at the company's plant in Renton, Washington. At the time, not everyone was convinced that the "Baby Boeing" gamble would be a winner.

The concern was real. In 1966, Boeing was already behind in the marketing war with Douglas, which had its DC-9, and the British Aircraft Corporation, which offered its One-Eleven. Interest in the 737 was so slack during the initial years of production that Boeing even considered cancelling the programme.

In the long run, Boeing need not have worried. Successive improvements, high reliability and its growing reputation as a money-maker made the 737 very popular. By 3 September, 1996, when the first -700 fuselage is due to arrive at Renton by train from Wichita, Kansas, sales of the type will be close to 3,500. Not only is this roughly comparable with total sales of all other Boeing standard-body aircraft put together (707/720/727 and 757), but it also equals the total commercial jet-airliner output so far of McDonnell Douglas (MDC) and exceeds the sells of Airbus Industrie by more than 1,000 aircraft.

Boeing expects sales of the new-generation 737 to reach or exceed 400 around the time of the Farnborough air show, breaking yet another

record for a commercial aircraft which is yet to be built, let alone to be flown. Even Boeing has been caught off guard by the apparent rush of new-generation 737 sales. In early 1996, Boeing twice announced plans to increase 737 production and finally, at the end of June, it revealed plans to boost monthly production to 17 by 1998.

The build-up is due to begin in January 1997, about a month before the first flight of the -700. Monthly rates will move from ten to 12 by the second quarter. By the end of 1997, with both the -700 and -800 models in flight test, the rate will be 15 a month.

The jump to 17 begins in January 1998, coinciding with the first flight of the -600. For the first year, at least, the bulk of production will still be current-generation 737s, for which Boeing still holds an order backlog of more than 200, but this will quickly give way to the new-generation 737 by 1998. It is likely that the rate will be further pushed to around 23 a month by the turn of the century, exceeding even the halcyon days of the early 1990s, when 737 production peaked at 21 a month.

## BIGGER WING

At first glance (especially on the ground), it will be hard to tell the difference between the current and new 737s. Even the -800, which is the only one of the new-generation 737s to be

longer than its current equivalent, will differ visually only slightly from its -400 predecessor.

In flight, however, the larger (34.4m) span of the aircraft's extensively redesigned wing will be an instant giveaway. The slender wing, reminiscent of the 757 design, is the key to achieving three main improvements over the current family. With 25% more area and 30% more fuel capacity, it will enable each of the three versions to carry proportionately more payload, achieve a higher service ceiling and be flown further.

At a time when Boeing is on the verge of launching a re-winged 747, the experience gained on the 737 has become more significant. "This is because the new 737 is the first Boeing derivative with a new wing," says Jack Gucker, 737-600/700/800 programme director.

"The aircraft has a significantly changed wing, both in design and materials as well as manufacturing," says Doug Caton, former leader of the wing integrated-product team and now part of the 747-500/600X effort.

"We settled on one aerofoil shape, one planform and one chord, as well as sweep, dihedral and area, when we froze the high-speed line around January 1994," says Caton. That was the culmination of studies which Boeing had been conducting since the early 1990s into its next-generation 100- to 200-seater.

Five major proposals were discussed, ranging from all-new designs to very simple derivatives.