CFM56-3 is the biggest factor in conferring better performance on the 737-300. It develops 20,000lb of thrust and has a bypass ratio of 5:1

refanned JT8Ds to produce the Super 80,
now called MD-80. But the JT8D-200
series was really only an intermediate
step, having a bypass ratio of just 1 • 7:1. So
Boeing's 737-300 is the first small narrow-body with high-bypass turbofans.
Since a key characteristic of such turbofans is low noise, it comes as no surprise that quietness is a 737-300 selling point. Airlines are interested in quietness "mostly as an insurance", says Gregoire, because there are no definite regulations that would prohibit 737-200s flying.
The seriousness of noise is underscored, however, by local limits imposed by some airports, such as John Wayne Airport in Los Angeles, Washington-National, Sydney, Hamburg, and Frankfurt. Gregoire describes the limits imposed by these cities as "almost Stage III". He explains that 737-200s fitted with special mixers can meet airport limitations (DLH is a West German airline with several such aircraft), and points out that the DC-9-30 cannot. It remains to be seen exactly how quiet the 737-300 will be, but Boeing is predicting around lOdB less noise at take-off than a -200.

Gregoire agrees that the MD-80 is the -300's main competitor, and concedes that "it is giving Boeing a hard time on price". He claims superior performance for the -300, however, particularly in terms of range. The MD-80 also happens to be a larger aircraft than its Boeing counter-part, though this will change if the MD-90 is launched (MD-90 is the modern equiva-lent of a DC-9-30).

What size market does Boeing's crystal ball predict for the 737-300? Gregoire gives a conservative estimate of 500 units through to 1995, representing about a half of the market for this class of aircraft, when 150-seaters are included. If Boeing launched a 737-400 or 7-7, it would have to share this market. Gregoire believes that, of the pair, the -400 has the best chance of being launched. He emphasises that

Boeing has yet to decide, however, and that go-ahead depends on the market—and competition such as A320. Boeing now has orders for 50 737-300s, plus options on a further 40 (see table above). The biggest customer is US Air with 20 orders and ten options. The latest is CP Air with ten aircraft signed up. "We are starting to see very high interest in the -300 now", adds Gregoire, because the aircraft is approaching roll-out.
Given that high-bypass turbofans are
the heart of the 737-300's appeal, one is tempted to ask why the combination has only just "arrived". Availability of the

737-300 SALES

US Air
Southwest Airlines
Orion
Western Airlines
America West
CP Air

TOTAL

Orders
20
10
5
3
2
10

50

Options
10
30

— — — —

4 0

20,0001b-thrust CFM56-3s is perhaps the main reason, though buoyant 737-200 sales probably dissuaded Boeing from stepping out earlier. Fitting a large engine under a small wing must also have appeared impossible at first.
CFM56-3 is perhaps most easily visual-ised as the baby brother of CFM56-2, now gracing the pylons of DC-8-71s, -72s, and
- 73s, in addition to KC-135s. The only major difference is that the CFM56-3 has a fan that is a scaled-down version of GE' CF6-80. Both engines are, of course produced by CFM International, a

revenue-sharing venture of General Electric and Snecma. The CFM56-2 has a cor
derived from the F101 engine that GE produced to power the B-l bomber, plus a new fan and low-pressure turbine supplied by Snecma. (Flight, April 18, 1981). It went through an unusually long gestation but is now doing "very nicely, thank you".

Accommodating a "fat" engine under

the 737 wing has been relatively straightforward according to Boeing, who ought to
know. Foreign object damage, caused b large turbofan "vacuum cleanering", has been a principal concern. The Renton solution is simple enough. Move the nose undercarriage aft and down a little,
thereby slightly increasing ground-
clearance at the front of the engine. Ther
is no change to the noseleg itself, or to th
main undercarriage dimensions.

The result is an inlet-to-ground

Boeing has transplanted its 757 passenger cabin into both the 737-200 and the -300. Crushed
honeycomb is used extensively in the trim panels

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