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COMMERCIAL AIRCRAFT OF THE WORLD

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DC-9 The fortunes of the new DC-9 Super 80 have dominated the DC-9 programme over the past year. The refanned, super-stretched version of the twinjet was given a go-ahead as expected in October last year, following orders from Swissair and Austrian Airlines. The first Super 80 is due to fly in July, and deliveries are due to begin in spring 1980.
McDonnell Douglas' decision to launch the Super 80 fol-lowed very strong pressure from Swissair, and it was only a few months before the launch decision that the manufacturer decided not to insist on an order from a major US airline before go-ahead. At the time the order was announced, Eastern was expressing strong interest in the Super 80, but the carrier has since ordered the Boeing 757 to fill the same requirement.
Launch orders included a conditional commitment for four aircraft from US regional carrier Southern Airways, but the order was cancelled in June of this year. One maior influence on Southern's decision was the fact that the US Air Line Pilots' Association (Alpa) is adamant that the Super 80 must be flown by a three-man crew. Earlier DC-9s are two-crew aircraft in US service; Alpa-dominated airlines, however, regard the similarly sized but later 737 as a three-crew air-craft. (Wien Air has succeeded in breaking Alpa's hold, and following a long industrial dispute now operates its 737s with two pilots only.) The addition of a third crew member would seriously jeopardise the economics of the Super 80.

US sales of the Super 80 have al=o met strong competition from Boeing, which has set an extremely low price for the appreciably larger 757 and has been offering generous buy-back terms on 727s to bridge the gap between the start of Super 80 deliveries and availability of its own new twin. Despite this, however, the Super 80 continues to be a highly attractive proposition on short high-density routes and is establishing an increasing lead over any theoretical competi-tors such as the European Jet. The question is whether McDonnell Douglas can persuade existing DC-9 operators to trade up to the Super 80 rather than to the 757.
The aircraft has received a substantial boost, however, from Pacific Southwest's decision to adoot the type as a 727 replacement. PSA intends to operate the aircraft with a two-man crew, subject to negotiations with its own house union. Toa Domestic Airways has al»o signed orders for the Super 80, and the manufacturer appears to have got over the gloom which followed the Southern cancellation.
The Super 80 differs in no great detail from the aircraft briefly described in last year's edition of this survey, with a fuselage stretched by eight frames forward and one frame aft compared with that of the DC 9-50. a 28 per cr.nt bi»>?er wing, extended tips and a slightly modified tailplane. (Full details will be found in our data tables.) McDonnell Douglas has chosen a completely revised avionic system for the Super
80. with digital technology and a fully electronic head-uo disnlav develooed by S"ndstrand and incorporating a small cathode-ray tube to display computer-generated approach information. The new digital flight-guidance system will con-trol the autothrottle to tv-ovide the APR (automatic power reserve) facility for the JT8D-209 engines.

Swissair is d"e to accept 15 Super 80s between March 1980 and March 1981, and PSA is also due to take four aircraft in the first year. The S'-per 80 is thus likely to account for an increasing slice of DC-9 production from 1980. although orders for the DC-9-30 and DC-9-50 have been healthy enough this year. The DC-9 family should clock up its 1,000th order before long if orders continue at the pre"ent rate. The DC-9-30, DC-9-40 and DC-9-50 all remain on offer.
The DC-9-22, proposed for the Japanese Stol contest in 1977, has now been droooed, and McDonnell Douglas has proposed the DC-9 SuDer 80SF. combining the wing and engines of the Super 80 with the fuselage of the DC-9-40 and capable of carrying 120 passengers out of a 4,000ft strip. With the Super 80SF, McDonnell Douglas' approach to the Japanese contest has come full circle, because the aircraft is basically identical to the DC-9-QSF of 1976; the wing and powerplant studies carried out for the QSF eventually led to the DC-9-55 project

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and thus to the Super 80, and the Super 80SF is now being proposed as a derivative of the Super 80 programme. How-ever, it is now much more attractive both to McDonnell Douglas and to Toa Domestic Airlines, because most of the development costs have been covered under the Super 80 programme and the aircraft will have high commonality with TDA's Super 80s.
Developments of the DC-9 Super 80 could include still further increases in fuselage length, but the closest prospect could be installation of the more powerful JT8D-217, rated at 21,0001b thrust, to improve hot-and-high performance. The Super 80 could also form the basis for a further stretched aircraft with CFM56 engines.

DC-9-10/15 orders: Aeromexico 10, Air California 2, Air Canada 6, Avensa 2, W. J. Brennan 1, Delta 14, Eastern 15, Hawaiian 2, Hughes AirWest 9, KLM 6, LAV 1, Ozark 6, Saudia 3, Southern Airways 6, Standard 2, Swissair 5, Tracey Invest-ment Corp 1, Trans Texas (now Texas International) 2, TWA 20.. Total 113

DC-9-10F/CF orders: Continental 19, Trans Texas (now Texas International) 5. Total 24

DC-9-20 orders: SAS 10

DC-9-30 orders: Aeromexico 7, Air Canada 44, Air Jamaica 3, Alitalia 35, Allegheny 41, ALM 3, Ansett 12, ATI 14, Atlantis 3, Austrian 9, Avensa 1, Aviaco 12, Caribair 3, Delta 63, Dominicana 1, East African 3, Eastern 72, Garuda 18, H. Hefner (Playboy) 1, Hawaiian 8, Hughes AirWest 16, Iberia 31, Inex Adria 4, Italian Air Force 2, JAT 14, KLM 9, Korean I, LAV 3, Martinair 1, North Central 20, Northeast 14, Ozark II, Pan Adria 1, Pacific Southwest 2, Purdue 2, Southern Air-ways 9, Sudflug 2, Swissair 19, TAA 12, Trans Texas (now Texas International) 13, THY 10, unannounced 7. Total 556