

A340-500/600 SPECIFICATIONS

A340-500/600 changes compared to A340-300



Dimension	-500	-600	Dimension	-500	-600
Overall Length	67.8m	75.3m	Fuel capacity	213,120litres	195,620litres
Wingspan	63.5m	63.5m	Powerplant	Rolls-Royce Trent 553	Trent 556
Height	17.8m	17.8m	Thrust	53,000lb	56,000lb
Wing area	437m ²	437m ²	Three class	313	380
Maximum take-off	365t	365t	One class	440	485
Maximum landing	236t	254t	Optimum cruise speed	Mach 0.83	Mach 0.83
Operating empty	170.4t	177t	Maximum cruise speed	Mach 0.86	Mach 0.86
Maximum payload	43.3t	55.8t	Range	15,750km (313 pax)	13,900km (380 pax)

Source Airbus Industrie

early 1996, followed by two more during 1997. A fifth will take place during the Farnborough air show this month. Around 15 airlines are usually represented, including both existing and prospective customers.

One of the first focus group-inspired changes was the decision to study a larger, 20-frame (10.6m) stretch of the A340, says vice-president marketing Colin Stuart. "Then British Aerospace came up with a modified wing solution incorporating an insert and providing 20% more area," says Brown.

CAPACITY AND RANGE

The 20-frame stretch, combined with larger wing and higher thrust engines "...provided the best balance of capacity and range", says Stuart. Dubbed the A340-600, the new model can carry some 380 passengers over similar ranges to those of the A340-300. At about the same time, Airbus also began examining a model slightly larger than the 295-seat A340-300, but with the -600's bigger wing and engines. The outcome is the ultra-long-range 313-seat A340-500.

General Electric signed a six-month exclusive agreement in April 1996 to study the development of a new engine for the stretched A340. By now, Airbus was looking for an engine in the 50,000/60,000lb-thrust bracket. The talks fell

through in early 1997 when the two organisations could not agree on key issues, including commercial terms. After considering an offer from Pratt & Whitney, Airbus selected Rolls-Royce to provide its Trent 500 - a derivative of the Trent 700/800 - announcing the agreement at the Paris air show in June 1997, when the A340-500/600 programme also received the commercial go-ahead. Although the deal with R-R is effectively exclusive in the medium term, P&W continues to discuss the possibility offering an engine of the PW4000 on the A340-500/600 with Airbus.

The Trent 500 will be offered at thrust ratings between 52,000lb and 60,000lb. It incorporates

the 2.47m-diameter fan, case and accessories of the A330's Trent 700, with scaled intermediate pressure (IP) and high pressure (HP) compressors and the high-speed, low-loading HP and IP turbines of the Trent 800. These elements are combined with an all-new high-lift low pressure turbine.

Although a full launch was not announced at Paris, the Airbus board's amber light cleared the way for the aircraft to be offered to airlines. By the time of the full commercial go-ahead last December, commitments stood at around 100 aircraft from seven customers. The programme will require an investment of some \$2.5 billion, and the consortium is aiming to capture at least half of the 1,500 sales forecast for the category through to 2010.

LATEST REQUIREMENTS

During 1997, the baseline specifications were tweaked to meet the latest requirements of potential customers, and slight increases in maximum take-off (MTOW), maximum landing and zero-fuel weights yielded a 370km increase in range. At that time, Airbus was battling against Boeing, offering the 777-200X to provide Singapore Airlines (SIA) with a 206-seat aircraft with a range of 16,260km to fly non-stop between Singapore and Los Angeles. The tweaks clearly achieved their aim, as SIA confirmed its selection of the A340-500 in May, with an order for up to 10 aircraft.

The A340-600 is some 10.6m longer than the -300 and will be able to carry 380 passengers (three-class) over 13,900km, some 370km further than today's A340-300. The A340-500 has a slightly stretched -300 airframe (to balance the enlarged wing) and extra fuel capacity, creating a 313-seater with a range of over 15,750km. The -500 will be powered by the baseline 53,000lb-thrust Trent 553, while the -600 will have the Trent 556, rated at 56,000lb.

Both variants are offered with a baseline MTOW of 365t, some 90t greater than the heaviest -300 now available. To cater for the increased weights, Airbus has replaced the A340's existing twin-wheel centre main gear with a four-wheel unit. The consortium revised the centre gear installation after input from the CFG, which wanted more cargo space. The gear had originally been designed to retract aft, but will now stow forward, enabling the rear cargo hold to be extended forward and providing space for two additional pallet positions.

Michel Delort, A340-500/600 chief project engineer, says that Airbus is working to finalise the systems design on the new models, a task which should be concluded by year-end. "The focus group meetings are running in parallel with working groups and design/build teams to ensure that we have a 'mature' aircraft at entry into service. Specific topics include systems, flight operations, structure, cabin, cargo and ground handling and engine nacelles," he says.

Delort says wing aerodynamic design was frozen in January 1997. Since then Aerospaiale,

A340-500/600 CUSTOMER LIST - AUGUST 1998

	Orders		Options		Total
	-500	-600	-500	-600	
Air Canada	2	3	-	10	15
Egyptair	-	2	-	2	4
Emirates*	6	-	6	-	12**
Eva Air	6	-	6	-	12**
Lufthansa	-	10	-	10	20
Singapore Airlines	5	-	5	-	10*
Swissair	-	9	-	10	19
Virgin Atlantic	-	8	-	8	16
Total	19	32	17	40	108

* customer undisclosed by Airbus Industrie

** commitment (firm contract not signed)