

# A340-200/-300 aftermarket & values

**The A340-200/-300 are no longer first generation aircraft. Supply of widebodies remains tight, and values and lease rates of used aircraft are strong. The supply of spare CFM56-5C engines is tight.**

**T**he A340-200 and -300 are niche aircraft, operating in small numbers with a group of particular airlines. A large number were traded up to 2004, but sales have been minimal in the past two years due to the general shortage of widebodies.

The major trades of A340s since the aircraft's entry into service involve three main groups of -200s and four to six main groups of -300s.

The -200s that have been traded include seven ex-Lufthansa aircraft, six of which were sold to South African Airways (SAA), and one to the Government of Jordan. Four Philippine Airlines aircraft were sold to Aerolineas Argentinas, while four Sabena aircraft went to Royal Jordanian and another to Air France.

The largest and best-known trade of -300s is the 17 Singapore Airlines (SIA) aircraft that were bought by Boeing as part of an order for 777-200s. These A340s were subsequently leased to new operators, and then sold to lessors with leases attached. The three main operators

of these aircraft are Cathay Pacific, Emirates and Gulf Air. One aircraft is also operated by China Airlines and another by Etihad.

Another three aircraft were sold by SAA to Jet Airways. Virgin Atlantic disposed of four aircraft, of which one went to Finnair, another to lessor AerCap and two to Air Comet of Spain.

Air Canada also disposed of three aircraft, and Aom of France sold its two to SriLankan. Sabena's two -312s are now in operation with Air Namibia.

The general surplus of aircraft in the 2002 to 2005 period has been superseded by a shortage of aircraft and a consequent hardening of values and lease rates. Few aircraft are coming available, and those that are, are being traded in a short period. "The extent of the shortage is illustrated by the fact that airlines are now signing five-year leases that do not start for another 18 to 24 months," explains Bill Cumberlidge, director of asset finance, head of aviation asset management at Allico Finance.

The A340-300 market is not a liquid one, but values have firmed up in recent

years. "Lease rates have hardened over the past two years from about \$450,000 per month to the region of \$550,000 per month," continues Cumberlidge. "The general supply of aircraft will remain tight when future delivery slots of 787s, 777s and other types are considered, so lease rates for A340-300s could pass the \$650,000 mark over the next few years. Sale values are more theoretical, because operators are holding on tight to their aircraft."

Gary Fitzgerald, commercial and contracts direct at Avinco explains that trading and market values have to consider maintenance condition: "The A340-300 requires a heavy check every five years, which is relatively frequent, and is one factor affecting value. The maintenance status of the four engines also has to be considered, as well as time remaining on the landing gear." One final issue is the cost of interior refurbishment or reconfiguration. This can incur a cost of \$5-8 million for an aircraft of this size.

Heavy maintenance visits are either IL or D checks, and can cost \$1.2-3.1 million. Performance restorations cost \$1.4-1.6 million, while overhauls cost \$2.2-2.6 million. Landing gear exchange and overhauls cost in the region of \$1.2 million. An aircraft that requires a heavy check and has little remaining time on two or three of its engines can therefore be devalued by \$5.5-9.5 million. Additional consideration has to be given for interior reconfigurations, which can incur costs of \$4-5 million.

Cumberlidge estimates that values of aircraft with a low maintenance status are in the region of \$30 million, while examples in an average maintenance condition will have values of \$40-45 million. Prices of \$45 million or more are being asked for aircraft that are 12-13 years old. The A340-300 is, of course, no longer a first generation aircraft.

These are general values, and as Fitzgerald explains there are many variants and combinations of maximum take-off weight (MTOW) and engine types in the fleet. "A lot of the older aircraft have -5C2/F or -5C3/F engines, which give the aircraft poor operating performance. The value of aircraft with these engines is therefore discounted," says Fitzgerald. "Later aircraft with -5C4 engines have the best performance, and the aircraft is relatively cheap to operate



*There have been several trades of A340-200s and -300s. The supply of widebodies has tightened in recent years, and values have strengthened as a consequence. Monthly lease rates of have climbed over the past two years from about \$450,000 to about \$550,000. The shortage of aircraft means rates could rise further to about \$650,000.*

and has good performance. It can carry about 20 tons of belly freight, for example. The values of these aircraft are strong, but transactions also have to be considered in relation to them having leases attached or not attached. Many aircraft are stuck with major operators, and are not coming available.

"Lease rentals for mid-1990s aircraft are in the \$500,000-550,000 per month range," continues Fitzgerald "and rates for -200s are not much lower. Values for older aircraft are in the \$30-40 million range, but younger aircraft with -5C3 and -5C4 engines and higher take-off weights are worth in excess of \$50 million if they are in a good maintenance condition."

One issue to consider is possible future roles for the A340. Some lessors have reportedly expressed interest in a possible passenger-to-freighter conversion programme. While the aircraft would make a good long-range freighter and provide an attractive volumetric payload, its values are too high at present to make conversion economically viable.

### CFM56-5C

A crucial element in the aftermarket is the CFM56-5C. The engine has a reputation for limited on-wing removal intervals, and is consequently in high

demand. "We have more than 10 -5Cs in our portfolio, and demand is strong because of the removal intervals. The engines we have are new, which we ordered from CFMI in 2007. These are all -5C4s," says Don Nunemaker, executive vice president and general manager leasing at Willis Lease. "There is always demand for leased engines, many of them for more than five years. We have even signed some leases for 10 years in 2007."

Another factor driving demand is that a larger number of A340s have been traded, and when this occurs spare engines do not always follow the aircraft. "There is not an overhang of engines in the market, so there are few available for short-term leases and aircraft-on-ground (AOG) situations. This keeps values and rentals strong," explains Nunemaker. "An example of the level of demand is that we have an engine coming back off lease, and have three airlines that all want to sign a long-term lease for it after it comes out of the shop visit. Other factors are that there were relatively few CFM56-5Cs manufactured, their reliability is not so good, and airlines do not seem to want to invest in widebody engines. This last point is probably because the A340 is no longer a first generation aircraft, and airlines are thinking of phasing it out at some point.

One more problem is that operators also want the quick engine change (QEC) kit, which has to be custom built by CFMI, and usually takes six to eight weeks." The continued shortage of engines and the high demand created by their general short supply could have negative consequences for the aircraft in the secondary market, therefore making it expensive for second-tier users to operate. This will have a negative impact on the A340's values.

Lease rentals are close to the market rates for the CFM56-5A/-5B. Nunemaker estimates long-term rates for used engines are \$75,000-85,000 per month, and \$85,000-95,000 per month for younger and new engines. Rates for short-term leases, of less than a year, are higher.

Engine lessees also have to pay maintenance reserves, which include the three elements of shop visit maintenance, life limited parts (LLPs) and the QEC. Total reserve depends on style and environment of operation, average flight cycle time, and average de-rate. Reserves for engines operating at average cycle times are in the region of \$210 per engine flight hour (see *A340 maintenance analysis and budget*, page 17). [AC](#)

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