The A320 family is now the most numerous aircraft in operation. A few of the oldest have been scrapped for parts, and some are ready for conversion to freighter. The market for passenger operations is mixed, with strong demand for the A321. The overall market is considered.

The used market potential of A320s

With the number of A320s built now numbering more than 4,000, and with little likelihood of a replacement before at least 2020, there is no doubt the A320 will be popular for many years. More aircraft means a higher availability of spare parts and rotable material, more competition in the maintenance market and plenty of demand for used aircraft.

All this is superfluous in the current climate, however, as the industry struggles with reduced demand and lack of finance. It is hard to 'get a handle' on the used market, because there is little consensus on how bad things are and whether they will get better or worse during 2010.

According to IBA, the London Gatwick-based consultancy, the main problem in the market is finance. IBA puts A320 values at 7-9% below base values. "This is quite respectable," says Jon McDonald, senior analyst at IBA.

McDonald says the main thing to watch out for is engines, especially on earlier model A320s. The more numerous available model is the CFM56-5A-powered aircraft, many of which went to airlines such as Northwest and Air France.

"A couple of banks were caught out and bought -5A variants, rather than the -5B. The value difference is generally $0.8-1.0 million per aircraft," says Phil Seymour, managing director at IBA.

The early IAE-powered versions had the V2500-A1 engine, which was not a great success, says McDonald. There were only about 270 built.

Buyer's market

"It's a buyer's market, but there are not many willing sellers. There is no reason to make a loss if you do not have to," says Craig Papayanis, managing director of BCI Aircraft Leasing. Although traditionally a 737 specialist, Thousand Oaks, California-based BCI has ventured into Airbus narrowbodies; acquiring some A319s and A321s, while bidding on some A320s too.

Papayanis says that BCI avoids aircraft with early IAE and CFM engines, and expects the market to remain poor beyond 2010. With so many aircraft coming off the production line and many due to come off lease, he says "it will be very difficult to extract a lease rate that is at all interesting."

He does believe, however, that the A321 is "the sweetspot of the market", with many potential buyers looking for them, rather than the A319 or even A320. "In previous markets smaller aircraft were popular to preserve premium traffic, but in this market people are looking for the lowest cost per seat, which the A321 supplies."

Papayanis believes that Europe has still not downsized much to remove capacity. "I think European airlines making decisions now to downsize, so I expect the situation for the A320 to become worse."

Chris Seymour, senior analyst with London Heathrow-based consultancy Ascend, says that earlier-built A320s are "very different beasts". There are two sub-markets due to the less desirable engines. "Some of the earlier A320s are being broken up for parts, while others are eventually destined for freight conversion," says Seymour. "Freighters would ideally have the later -5Bs, but we may see some -5A-powered versions being converted."

"The A320 should make a good freighter, and conversion costs of about $4 million mean you are looking at aircraft with market values of $10 million and less as conversion candidates.

"A320 lease rates may only bottom out next year," continues Seymour. "We will probably see more airlines failing. It also does not help when there are still lots of new deliveries. It could be 2-3 years before the market recovers, and five years before premium traffic is back to previous levels."

Freighter programme

Airbus estimates there is a need for up to 900 narrowbody freighters between 2012 and 2026, and expects to convert 400 A320s and A321 using a joint venture with Irkut of Russia. It has finally pushed ahead with the conversion programme, having shelved it in 2003.

Lars Becker, chief executive officer of Airbus Freighter Conversions (AFC) in Dresden, says that "The best aircraft for conversion would be about 15-20 years old, but it is really a question of cycles, condition, and whether it has been well maintained. The conversion for the A320 will cost $4.5 million and for the A321 $5 million, including a major check," says Becker. "Depending on condition, the major check can be $0.5-1.0 million."

Aercap is launch customer with 30 aircraft, with first delivery due for 2012. The largest market is for 727F replacement, and other ageing freighters in the US. The next is satisfying future growth in the Asia Pacific. China and India are particularly large markets.

Market values of aircraft which are viable conversion candidates range from $7-8 million up to $10 million, and there are about 300 candidate aircraft. "For now you can consider the first 500 aircraft built as potential feedstock," adds Becker.

Soeren Ferré, chief executive officer at Aercap Group Services believes freighter conversion makes even more sense now aircraft market values are so depressed, and that the "timing is quite good".

Aercap has already identified the first six aircraft that it will have converted. These are models built between 1990 and

British Airways inherited 10 A320-100s when it acquired British Caledonian, and later made a large order for A320-family aircraft. While the -100s have been scrapped, it is keeping the A320-200s. It is early-build -100s like those pictured that are the most likely freighter conversion candidates.

1993 and which have done 3,000-3,500 flight cycles a year. They are powered by CFM56-5A engines, apart from one with IAE V2500 A1s.

"Markets, especially cargo, are rebounding a bit already. America is doing better, but there is a bit of uncertainty as to how Europe will fare through the winter," says Ferre.

In terms of what aircraft are good freighter candidates, Ferré says that "the limiting factor is accumulated FCs, but Airbus is looking at lengthening design life."

Ferré thinks "there will be a rush for the A320 family freighter if the likes of UPS and FedEx go for it, and it is the only modern narrowbody freighter alternative". The A320 replacement being pushed back towards 2020 is a bad thing in the short-term, but in the long-term "it will be good because there will be so many." While Aercap's commitment is for 30, Ferré fully expects that all being well Aercap will go well beyond that.

IBA's Phil Seymour says that the key for a successful freighter programme is single large orders, with lots of similar candidate aircraft. Without that there is the expense of tailoring each freighter to individual customers. He says he would be surprised if a conversion could be done for much under $8 million in reality, and that the history of freighter conversion programmes (which previously have been mostly Boeing) is littered with problems. The issues PEMCO experienced with 727 floor beam loading is an example.

"The question is what you do with an old aircraft with $8-9 million of potential value. You could spend another $6 million, but what lease rate are you going to get in the freight market? You need a rate closer to $200,000 a month to really justify aircraft acquisition, conversion and preparation for service," says Phil Seymour.

"Feedstock could be a problem for freighter viability," continues Phil Seymour. "Freight airlines are hanging on to aircraft such as 727 freighters, which they are no longer paying anything for. These aircraft are inefficient, such that if fuel prices go up dramatically again it will change the market dramatically.

Upper wing skin corrosion being seen on early A320s is another issue which Seymour describes as a "serious problem", with some estimates putting the number of affected aircraft at 1,600.

Dennis Smirk of Amsterdam-based SKI Aviation estimates this could cost as much as $2 million to resolve. SKI Aviation is dealing with one A320 where the corrosion problem is going to take 3,500 man-hours to put right. This equates to 6-7 weeks of downtime.

A321

"A321 values have come under scrutiny with the credit crunch," says Phil Seymour. The 737-900 was unable to match the A321 in range, until Boeing belatedly introduced the -900ERA model. "This is where Airbus did well," says Phil Seymour.

With the 757 programme some 28 years old now, IBA believes the A321 will remain popular, so that finding freight conversion candidates may be difficult. If any come out of the passenger fleet they will be high-cycle ones, and it may not be viable to invest in freighter conversions. This is especially the case considering that so much else can come out during the conversion to increase costs notes Phil Seymour. Appraisers have been criticised, he says, for underestimating the cost of unforeseen complications in such programmes.

The other thing to note is that the A321-200 is far more capable but, as Phil Seymour notes rhetorically: "Who is going to let one of those go? Since the -200 was produced from 1997, it is likely to be at least 2016 before there is the remotest chance of some feedstock."

In August 2009, BAG Systems was retained by easyJet to remarket four V2500-powered A321-200s, which are still in operation with the low-cost carrier. According to Rob Morris, vice president of marketing and analysis at easyJet, having V2500 engines is not an issue for these later-build aircraft. Early-build V2500-A1-powered aircraft are scrap now, he believes, especially if they do not have the Pheonix engine upgrade.

"There are actually few A321s on the market," says Morris. "There is demand in the European charter market. The Asia Pacific will be looking for this kind of aircraft as recovery begins. Appraiser current market values for the easyJet aircraft remain in the high $20-30 millions."

Morris says that easyJet had serious offers for the aircraft previously, but that buyers struggled to find finance. BAG will help by putting together a transaction, including finance. In terms of values he says: "I am increasingly of the opinion that sticker prices mean nothing," particularly when Airbus is discounting new aircraft. "We will not know the value until we test the market," he says, which basically means securing a deal. But he does think that the A321 will prove attractive, because it has 30 more than the typical A320 for "not much more trip cost."

In terms of selling to a lessor, Morris believes it might be possible with a lease attached already, but without that lessors are unlikely to be interested because they have their own problems. ILFC's issues have been well-publicised, and almost all lessors have problems raising new finance. This means that even the sale-and-leasebacks that lessors were doing in the last recession to help airlines' cash-flows are not materialising this time.

Morris agrees that managing aircraft through the downturn is better than them being inactive. "In portfolio terms we would rather find an operator within a power-by-hour deal so the aircraft is kept warm and we are not paying for storage."

Bill Cumberlidge, executive director of UK-based KV Aviation, points to the delays in placing the ex-GB Airways A321s as a sign of the times. "The longer it takes the more the value of the aeroplanes drops," he comments. "They did not even manage to get a short-term lease, and are fighting lessors who are putting brand new A320s into the market at $200-300,000 a month."

With older A320s Cumberlidge says that a D check costs $4-5 million and engines are worth $4 million each. "This is why there are nine United Airlines aircraft parked in the desert with no engines." He believes it is important to analyse which aircraft are parked and why.

"The market is very poor," continues Cumberlidge. "It is a buyer's market where buyers should push for a good deal, such as $200,000 a month without paying reserves for say five years, and tell the lessor to take it or leave it. Few lessors will want to take such rates into a market upturn, but I believe the market will get worse and force their hands. The lessors are the ones that will feel the pinch in a downturn in the aircraft market that has not even warmed up yet. This is because people are running out of cash fast and, unlike in previous downturns, finance is extremely hard to come by. The lessors, which hold about 35% of the fleet, ordered at the peak and are taking delivery at the bottom of the market, when the lease rates will not even pay the interest."

Airbus on watch

Derek Davies says that Airbus has refined its Watchtower system, which brings together commercial, finance and production to review the backlog. "We review every delivery in a rolling 24-month window," says Davies. "This includes the status of the customer. We can help customers establish the appropriate financing, and have been known to be a lender of last resort."

Airbus says that it continues to invest about Euro 100 million ($145 million) a year in engineering work to improve the A320 family.

Airbus has been working towards an Extended Service Goal (ESG) for the A320, with the development test programme including major full-scale fatigue tests. The overall aim, says Airbus, is to increase the maintenance points from 48,000FC and 60,000 flight hours (FH) to 90,000FC and 180,000FH. It will take place in two steps, ESG1 and ESG2.

ESG1 will step up to 60,000FC/120,000FH in 2010, and development of this phase was due to be completed in July 2009. Fatigue tests were run on forward fuselage, centre fuselage, rear fuselage and wings. ESG2 will see the planned limits validated to the end goal.

Escalation of task intervals has also been achieved. This is 70% for A check tasks, 33% for C check tasks and 50% for heavy check tasks. Further escalation plans are being prepared for regulatory approval, bringing 25% in A check tasks and 20% in C check tasks, with Airbus working to allow better synchronisation of some tasks with heavy check dates, so improving aircraft availability in service.

Airbus has also introduced a new higher take-off weight variant of the A320, with a one tonne increase. AC