

## **Aerospace Market News : Sample pages.**

Thanks for downloading the sample pages.

Our issues are large in terms of byte size and we have found it is more practical to send out selected pages from a single issue to illustrate what we provide each month. Also, some of our tables are rather detailed, and long.

This way we can also explain what we do in each section of AMN every month

These pages have been taken from the January 2009 issue.

Between them are pages just like this one with further details about the next section.

The next three pages are the cover, contents page and the first two pages of our Market Comment.

The Market Comment explains changes to the order, delivery and backlog positions of Large Commercial Jets and Jet Engines. It normally runs to four of five pages.

# Aerospace Market News

January 2009

## The big question - could 2009 actually be a record year?

If you add up the manufacturer's projections of deliveries this year, the total is more than in 2008 and more, even, than in 1999 which was the record year. The big question is whether finance will be available for all those aircraft.

Earlier projections of production levels this year have already been revised down but even so it looks like a very good year.

At one point it had been thought that a total of 1,100 large commercial jets would be delivered this year. Go back just over a year and the projection for 2008 was for rather more than the 858 aircraft that were, ultimately, delivered. What brought the overall total down last year was not diminishing demand, but the strike at Boeing. In the three months to the end of November the U.S. manufacturer delivered 21 new jets. In December the figure was 41.

Had the strike not happened, the Boeing total for the year might have been around the 480 mark, if not slightly higher, instead of 375.

If Boeing had delivered 480 new jets, instead of being the second best year in terms of large commercial jet delivery numbers since 1999, last year might even have been a record year. It was certainly a record year for Airbus. But both manufacturers have scaled back their expectations of delivery numbers for this year.

Airbus say their total will be about the same as last year which implies two record years, back-to-back. No further disruptions are expected at Boeing's facilities and the company is likely to deliver roughly the same number of new aircraft as the European competitor which in turn means more than last year.

Taken together, the total would be well above the record 914 new aircraft deliveries of 1999 which in turn means a new, all-time record and this would be despite the severe economic downturn. It would mean a very good year, not just for the aircraft manufacturers but also for the engine companies. They delivered close to 1,800 large civil jet engines last year which, just like aircraft deliveries, was the second best year for them since 1999. If all goes well, the total number of new engine deliveries this year will also be an all-time record. But it is very much a case of "if all goes well".

What cannot be ruled out are production rate cuts, perhaps not in the first half of the year, but maybe towards the end of the year. As recession deepens and

finance becomes harder to find, the manufacturers might have to slow things down somewhat. Airbus has already mentioned freezing rate increases and has also said that it will not rule out production rate cuts. Boeing will be looking to make up the ground lost due to the strike but may have to revise production rates downwards if demand falls.

That, in turn, suggests that the prospects for 2010 and 2011 might not be that bright. It usually takes a year or so for production rates to fall after a downturn has started. It rather looks as though the same sort of thing will happen again. Much, of course, depends on how rapidly government interventionist measures can kick-start various major economies but, even then, recovery could take a while. 2009 may be relatively unaffected, so far as large commercial jets are concerned, but 2010 could be difficult.

It is not just a matter of finance, of course. Demand for air transport is falling and demand for new aircraft is rather low right now. Ordering is way down.

In the regional aircraft market, there is no hint of rate cuts, *yet*. ATR expects to deliver more than 60 aircraft this year, slightly more than last year. Embraer intends to deliver around 200 new aircraft, again a similar number to last year though the figures are boosted by early deliveries of the Phenom.

Bombardier has not yet made any announcements about production but first deliveries of the CRJ1000 later this year may help to push the company's total delivery figure up.

For the manufacturers of business jets and general aviation aircraft, it is a very different picture. Staff layoffs started late last year and much slower production is anticipated this year. Sales of new business jets, particularly in the large North American market, are predicted to be low this year and production rates will be slashed. General aviation manufacturers are always the first to suffer from a downturn and anticipate significantly reduced delivery numbers this year.

For the large commercial jet industry, it would seem that 2009 will get off to a relatively good start and, provided finance is available, it could actually turn out to be a rather good year in terms of delivery numbers.

A record year? Perhaps. Boeing lost over two months of production last year. If there is no disruption this year and if the money is actually available for all those new aircraft, delivery numbers should be up.

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**Market Comment :**

**After a good start, the downturn in 2008 was much in evidence.**

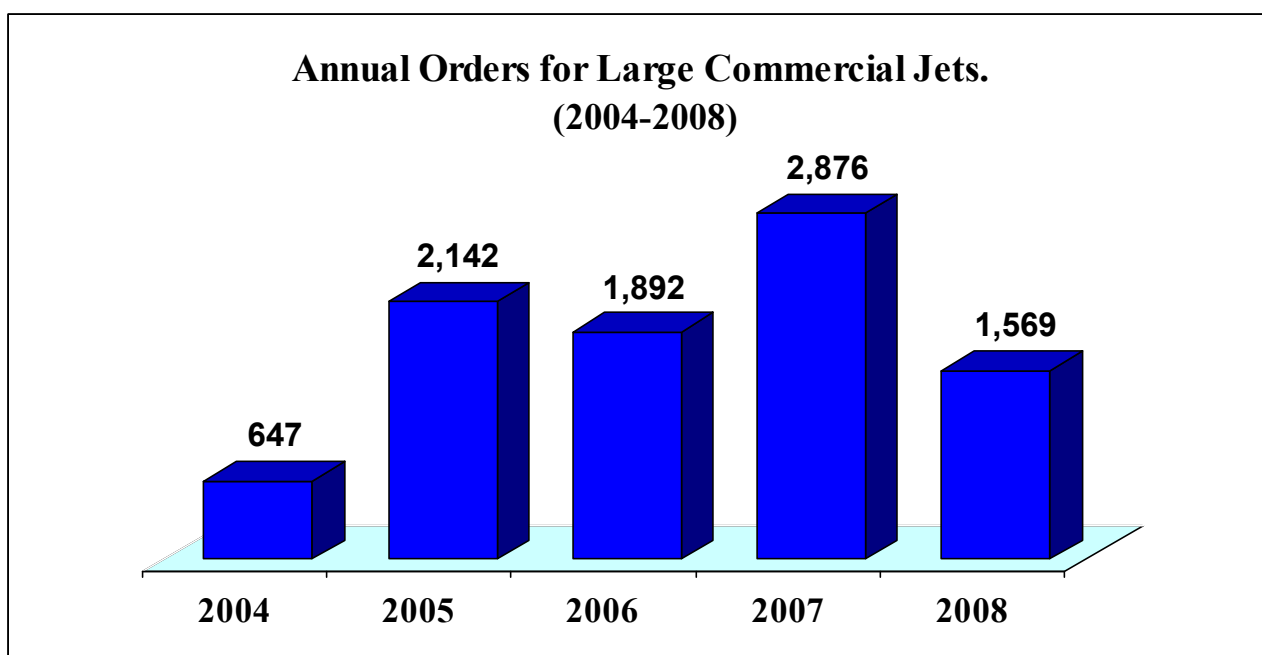
	<b>Airbus</b>	<b>Boeing</b>	<b>Total</b>
Backlog on December 31, 2008	3,715	3,714	<b>7,429</b>
Gross Orders in 2008	900	669	<b>1,569</b>
Net Orders in 2008	777	662	<b>1,439</b>
Orders in December 2008	22	23	<b>45</b>
Deliveries in December 2008	46	41	<b>87</b>
Deliveries in 2008	483	375	<b>858</b>

Over a year ago Airbus and Boeing were saying that they expected orders in 2008 to be far lower than the total of 2007. After three bumper years, some form of a slow-down seemed almost inevitable especially since the global economy had started to contract anyway. In the event, the gross order intake last year probably surprised the manufacturers. The impetus of 2007 carried on into the first half of last year and two thirds of all orders placed in the year came in the first six months. And then there was July, another terrific month. Exactly 1,300 new jet aircraft were ordered between the start of the year and the end of July, or 83% of total aircraft orders in the year. After that, things were not quite so good but the odd thing was that the first quarter was an all time first quarter record for orders; the third quarter of last year was the second best Q3 ever - actually beaten only by the third quarter of 2007 - and the fourth quarter was the worst in terms of the order intake since the second quarter of 2004 which was just before the last recovery took place.

Last year was an odd year in many respects. The year-end backlog was a record for a year-end but it was quite far below the July figure. The end-of-quarter backlog had increased for 17 consecutive quarters, but dropped for the first time since 2004 in the fourth quarter of last year. That is not all. The second quarter of last year saw a new record for quarterly large commercial jet deliveries but the fourth quarter was the worst for a single quarter since Q4 of 2005. As people often say, this is a very interesting industry.

Deliveries, of course, were down in the last few months of last year due to the strike at Boeing. The company effectively lost over two months of production and has said that had it not been for the strike there would have been an extra 105 aircraft deliveries. The total number of deliveries last year was 36 below the total for 2007 so it probably would have been a record year. If everyone has the money for all the new aircraft scheduled for delivery this year and if there are no production rate cuts, 2009 will be the new record year for the industry. After all, it wasn't lack of demand that contributed to lower production last year than in the previous year, it was a strike. Trouble is, this year the money might be in short supply and demand may be slipping.

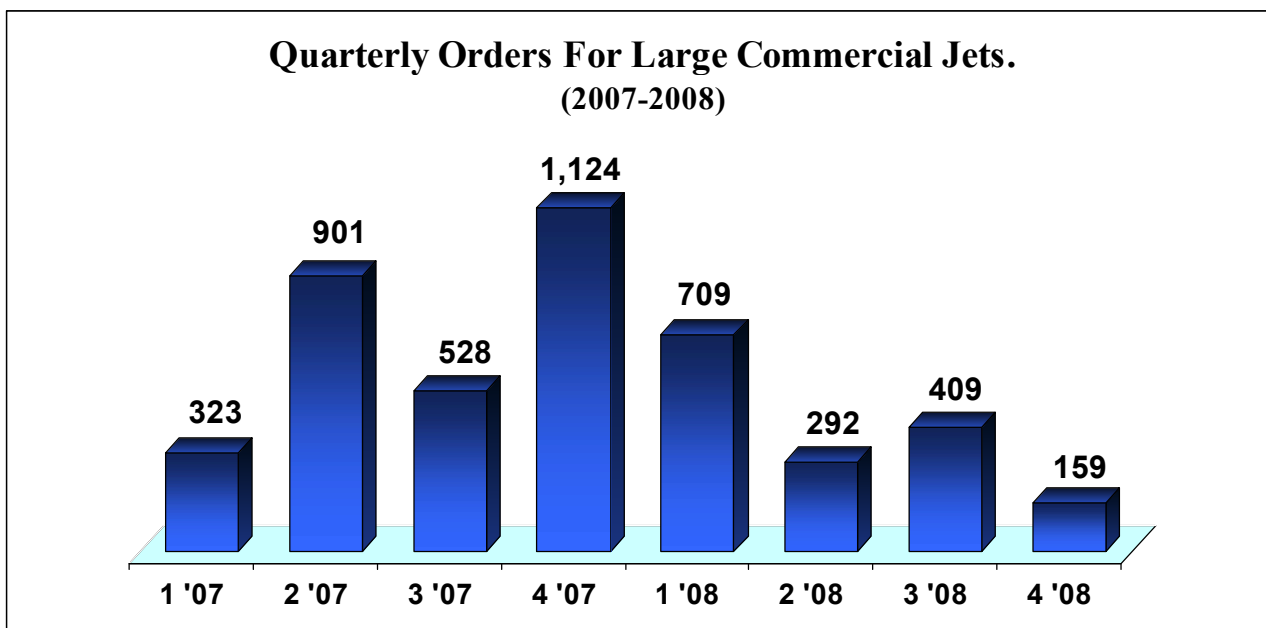
The order intake last year was below the levels of the previous three years. It was well below the 2007 total and more than 300 below the 2006 level but, there again, there have been orders for nearly 8,500 new large commercial jets in the last four years and the backlog at the end of last year was more than 4,800 aircraft larger than it was at the end of 2004. It has very nearly tripled in four years.



The order intake, however, has been progressively declining. There have been a few upward blips but the general trend has been down since the fourth quarter of last year. In fact the total number of aircraft ordered in Q4 last year was one seventh the number of Q4 of 2007, or 965 fewer. Third quarter orders were boosted by the Airbus intake announced at Farnborough - a major air show always seems to attract a large number of new order announcements - but it does have to be remembered that Airbus had no new orders in August, the month after Farnborough.

The 2008 order intake was just over 1,300 fewer than in 2007, roughly half the 2007 intake. Orders in the first half of the year were boosted by first quarter orders which accounted for 45% of the total number of new aircraft ordered in the year. That particular statistic probably sums up the slowdown during the year. As the chart (below) shows, orders progressively shrank as the year ground on. The year started well enough and some order announcements may well have been held over for the air show in July, but after that things changed rapidly. Fewer new aircraft were ordered in the last five months of the year than in July.

Another aspect to this is that not one single aircraft program took more orders in 2008 than in 2007. They all had fewer orders. And then there is the impact of cancellations. While there were not, actually, that many cancellations, some programs did finish the year with negative net figures. There were 1,569 gross orders and, if you count the five cancelled A310s, 1,439 net orders.



**Orders for Large Commercial Jets.**

Program	Number of Aircraft ordered in 2006	Number of Aircraft ordered in 2007	Gross Aircraft Ordered in 2008	Net Aircraft Ordered in 2008
737	739	850	488	484
747	72	25	4	3
767	12	36	29	28
777	75	143	54	54
787	160	369	94	93
A318	4	13	5	-13
A319	252	185	54	-11
A320	322	676	446	442
A321	105	40	54	54
A310	0	0	0	-5
A330	104	202	140	137
A340	15	23	6	1
A350	15	281	186	163
A380	17	33	9	9
<b>Total</b>	<b>1,892</b>	<b>2,876</b>	<b>1,569</b>	<b>1,439</b>

NB : The Net figure for 2008 includes the five cancelled Iraqi A310s.

The next two pages are from our section on the Current Backlog.

We have detailed tables and charts showing all the latest changes to both major and minor aircraft programs so that, for example, you can see what the overall position for the 737 program is, and also what has happened to the 737-700, -800 and -900.

This is followed by a single page from our Quarterly analysis of the Geographic Backlog. The tables in this section show individual program backlogs by major geographic region.

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## The Large Commercial Jet Backlog :

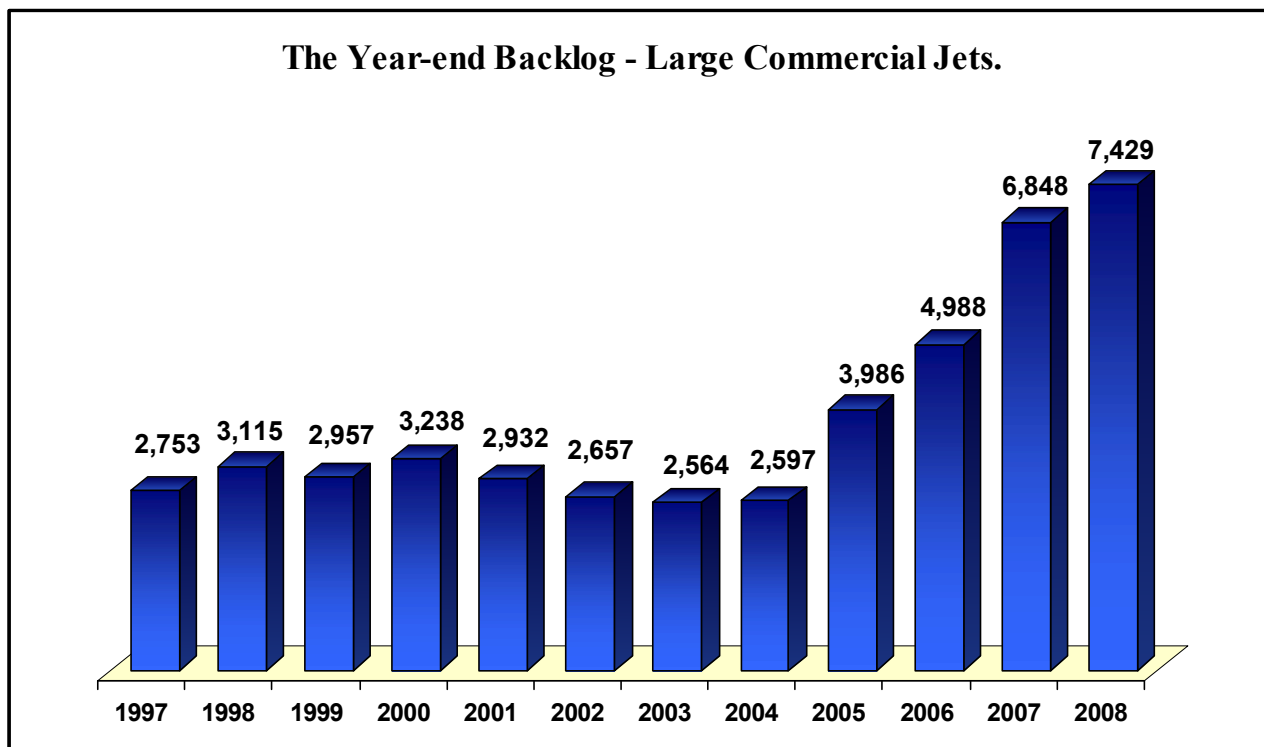
### **A record for a year-end, but higher earlier in the year.**

The backlog figure on December 31 last year was a new year-end high - a record in fact - but there were higher figures at the end of each of the previous five months and the peak was back in July. In fact, it may be some time before the backlog exceeds the July figure again. Higher delivery numbers coupled with a low order intake will almost certainly erode the large commercial backlog, reversing the upward trend that has gone on for so long. The long period when monthly and even quarterly orders exceeded delivery numbers has come to an end.

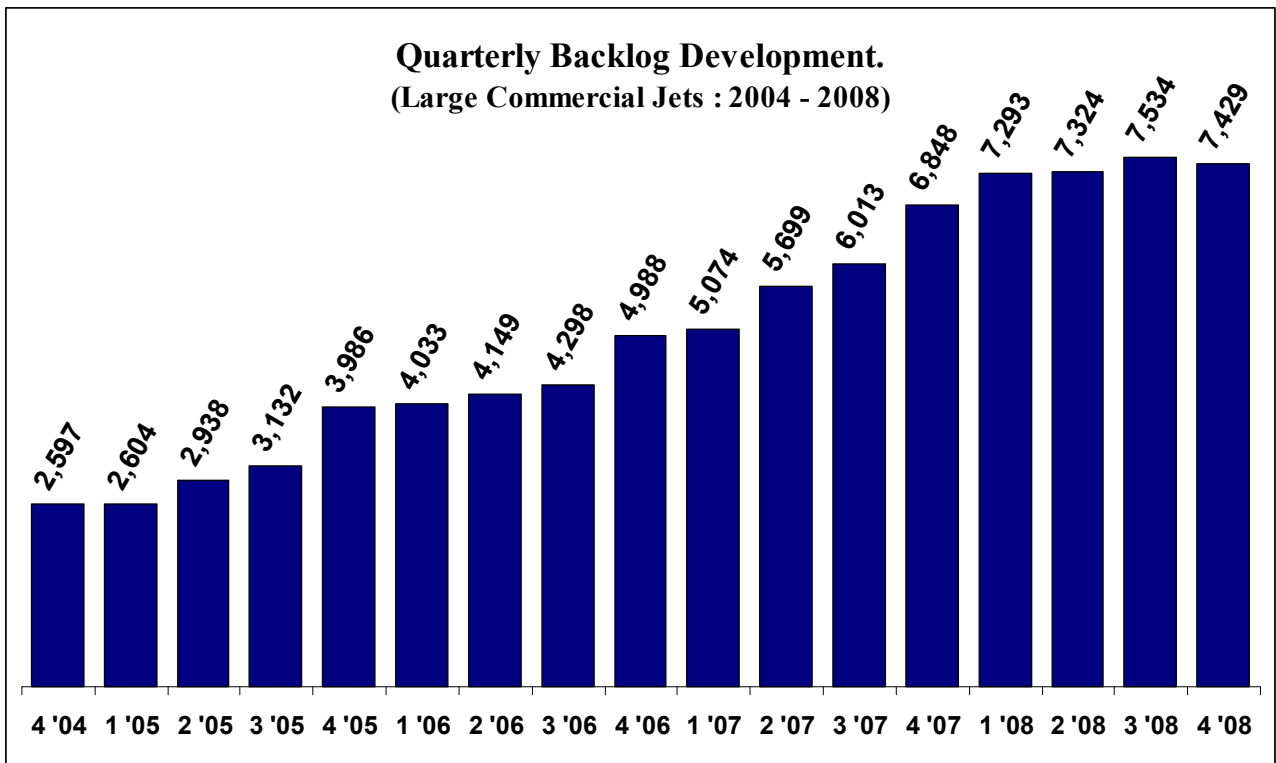
It is anticipated that the order intake this year will be far below the delivery total and the 2009 year-end backlog could be around 400 aircraft below the current level, and that would be before any cancellations are taken into account. Orders slowed rapidly towards the end of last year and the backlog suffered as a result. The December backlog total figure was the lowest for six months and, in terms of the quarterly backlog, it was the first time there had been an end-of-quarter fall since the second quarter of 2004. The quarterly backlog figure, taken at the end of each quarter, had actually increased for 17 consecutive quarters, probably the longest consecutive increase in history. But what perhaps best illustrates just how serious a decline it was comes in the form of the statistic that it was the largest quarter-to-quarter fall since the last quarter of 2001, seven years ago.

Boeing and Airbus finished the year with virtually identical backlog figures. Airbus had just one more aircraft on the order book. The Airbus backlog was up 294 aircraft on the figure at the start of the year, and up 52 since the end of June. Boeing's backlog growth was very similar; up 287 aircraft on the level at the start of the year, and 53 up since June.

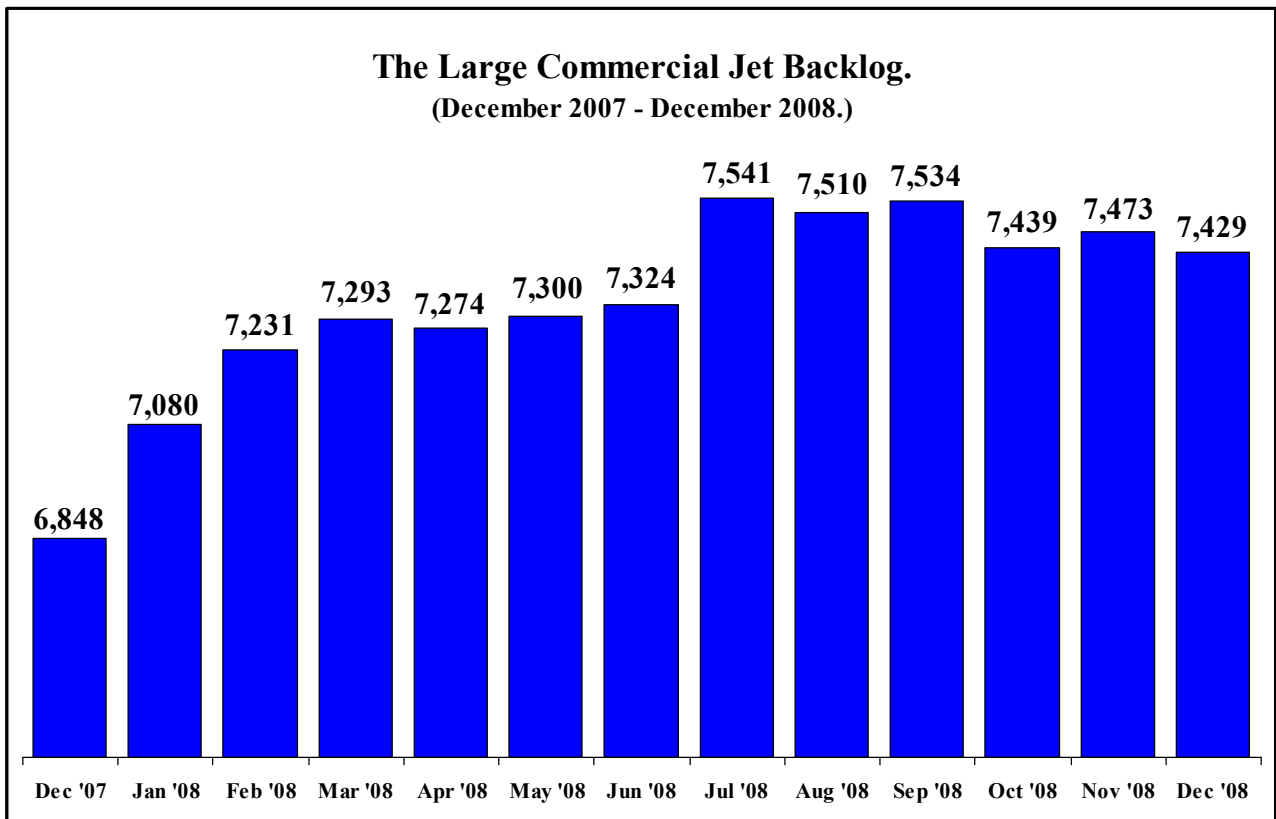
As always, backlog growth has not been evenly distributed. In fact, Boeing's 747 and 777 programs ended the year with smaller backlogs. The 747-400F and 747-400ERF were down eight and six aircraft respectively though the 747-8 backlog was up three. The 777F backlog was down seven and the 777-200LR was down eight. What counteracted these falls was a nine aircraft increase in the 777-300ER backlog. Airbus also lost ground with some programs. Cancellations and fewer orders took a heavy toll on the A318 (down 30 aircraft) and the A319 (down 161 since the start of the year). The A310 was finally cancelled last year - Iraqi Airways had five on order for nearly 20 years. Few orders for the A340 - there were six last year - contributed to this program being down 17 aircraft. The A380 backlog also declined; there were orders for nine and 12 were delivered.



**The year-end backlog :** The end of year figure for 2008 was another all-time high though it does have to be remembered that the backlog was higher each month from July to November and the year-end total is actually 112 aircraft lower than the peak at the end of July. All the same, it was a record figure for a year-end and is nearly three times the size of the backlog at the lowest point of the last downturn. That there was some slowing in backlog growth is evident from the chart. The backlog gain in 2008 was less than a third of the gain the previous year and was also the lowest year-to-year gain in four years.



**Quarterly Backlog Development :** The end of quarter backlog figure had increased for 17 consecutive quarters up until the fourth quarter of last year when it dropped for the first time since Q2 of 2004. In fact, the decline of 105 aircraft in Q4 last year was the largest quarter-to-quarter fall since late 2001.



**The Large Commercial Jet Backlog :** The December backlog, while being much larger than in December 2007 and indeed larger than at any time in the first half of last year was also the lowest month-end figure for six months. It came down as a result of a combination of higher delivery numbers - Boeing recovered production in December - and a low monthly order intake.

## The Geographic Backlog :

### **The Middle East accounted for over half the backlog gain in 2008.**

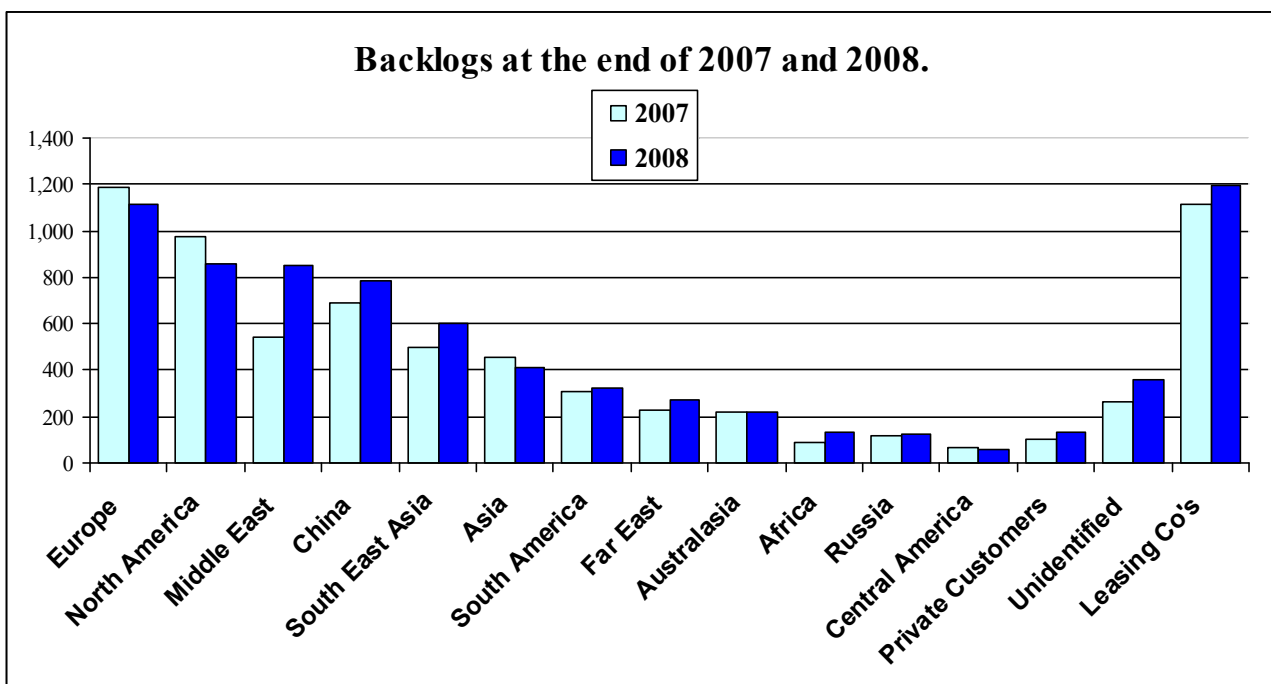
At the end of last year the large commercial jet backlog was 581 aircraft larger than at the end of 2007, despite some months of relatively poor orders. Of the backlog gain between the start of 2008 and the end of the year, direct orders by the airlines accounted for more than half the total. However, it was not as though airlines in all the major regions increased the size of their order books. In fact, there were some fairly large backlog declines though what offset these was the increasing order books of Mid East airlines.

At the end of 2007, airlines around the world had firm orders for 5,444 aircraft with a further 1,474 coming from the leasing companies, private individuals and unidentified customers. By the end of last year, the airlines had orders for 5,745 aircraft, with a further 1,684 aircraft orders from lessors, private individuals and unidentified customers. The airline gain of 301 aircraft amounted to an increase of 5.5%. The total gain, which includes everyone who placed orders, amounts to 8.5%.

However, the backlog held by Asian carriers dropped 44 aircraft (9.7%); the backlog of European airlines dropped by 73 aircraft (6.1%) and nowhere was the decline more evident than in North America where the direct airline order book fell by 117 aircraft, or 12%. Middle Eastern airlines, on the other hand, added 308 aircraft to their direct order books last year, a gain of 56.8% which was, by far, the largest increase in both numeric and percentage terms of any geographic region as well as being a larger gain than the leasing companies. The total order book of Mid East airlines stood at 850 aircraft at the end of the year, or just five aircraft fewer than the total for North American airlines. Airlines in South East Asia had the second largest order book gain last year, up 106 aircraft (21.3%) on the level at the end of 2007.

Clearly, many airlines are shifting from direct orders to leasing and a large proportion of the leasing companies' aircraft orders will be for customers in major regions like North America, Asia, Europe and the Far East. Indeed, the relatively large number of orders placed by unidentified customers are also likely to have come from customers in major regions. What is interesting about the direct airline orders broken down by geographic region though is that not only are there some very noticeable gaps in the origin of orders (the table on page 20 illustrates this rather well) but also that airlines in Europe, the Mid East and China have the largest backlogs for most aircraft programs. For example, North American airlines have the largest number of 737 orders of any region though European airlines have just 12 fewer on order. Chinese airlines have the largest number of A320s, A321s and A330s on order, Mid East airlines have the largest number of A350, A380 and 777 orders and European airlines have the most 787s, 747s A340s and A319s on order.

Regional shares of the backlog are slowly changing. In the last 12 months the North American airlines' share of the total has dropped from 14.2% to 11.5% and the European share has dropped from 17.4% to 15%. In the same period, the Mid East share of the total backlog has increased from 7.9% to 11.4%. Even the share held by the leasing companies has fallen, though only by a fraction of a percentage point.



Each month we provide a detailed analysis of new Orders and also the latest Deliveries.

The Orders section shows the number of orders taken by each aircraft program over the past year and each month we list all the customers and their orders.

Every Quarter we also provide an analysis of quarterly ordering trends so that comparisons can be made with what has happened in the past.

The next three pages are from our section on Orders.

We also list all the Recently Announced Orders and a single page showing how we report those follows the Orders section.

(This particular section is useful for people who are selling direct to airline customers since new order announcements do not always immediately appear on the firm order books.)

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## Large Commercial Jet Orders :

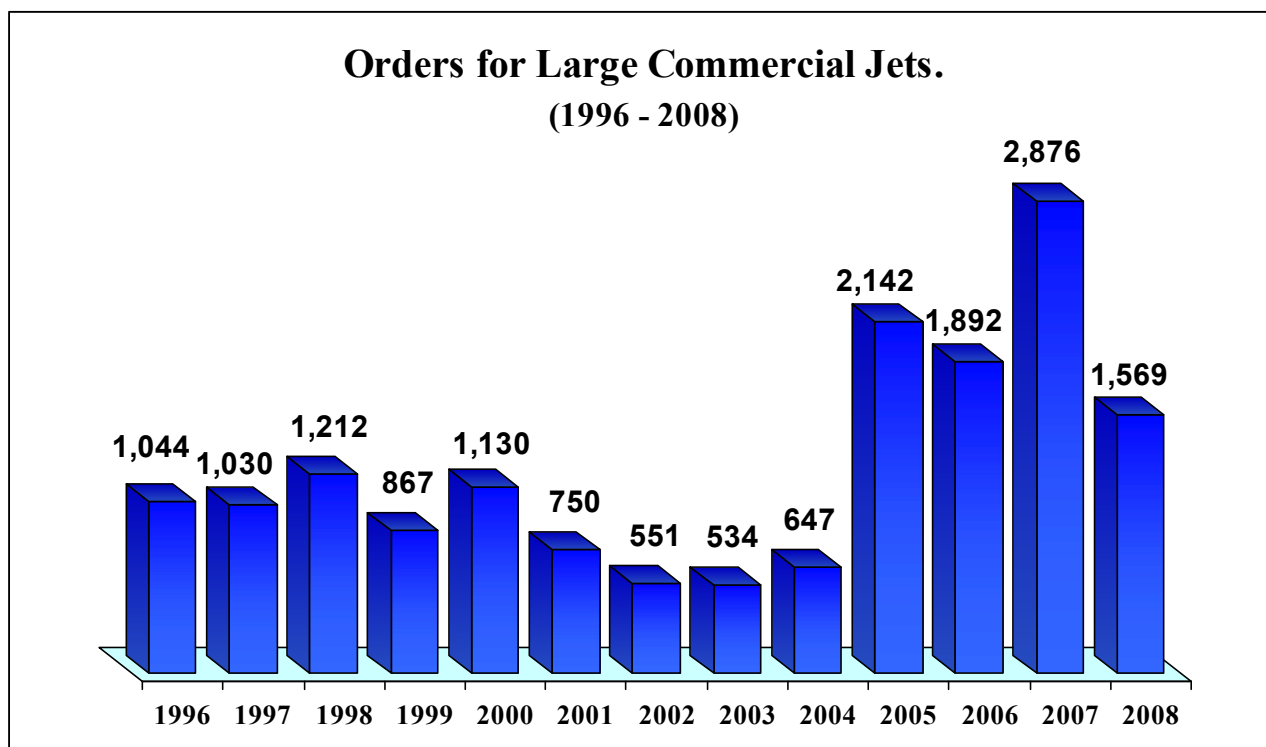
### **The worst Quarter for orders since early 2004.**

Last year proved to be a year of massive contrasts as demand for new aircraft slowed. In terms of the order intake, the first quarter was an all-time record for a first quarter. The third quarter was the second best third quarter ever. The momentum of new orders that had started in late 2005 and which continued all the way through 2007 continued into the early part of 2008. However, by the last quarter of last year, things were very different indeed. Orders had been slowing during the year anyway, but there was no sudden surge in orders in the last few months, and nothing of the kind in December. It is the first time in five years that that has happened. The industry has been used to a good December order figure but last year it failed to materialise. The order intake in the last month of the year was one twelfth that of December 2007, which perhaps illustrates how much demand had slowed.

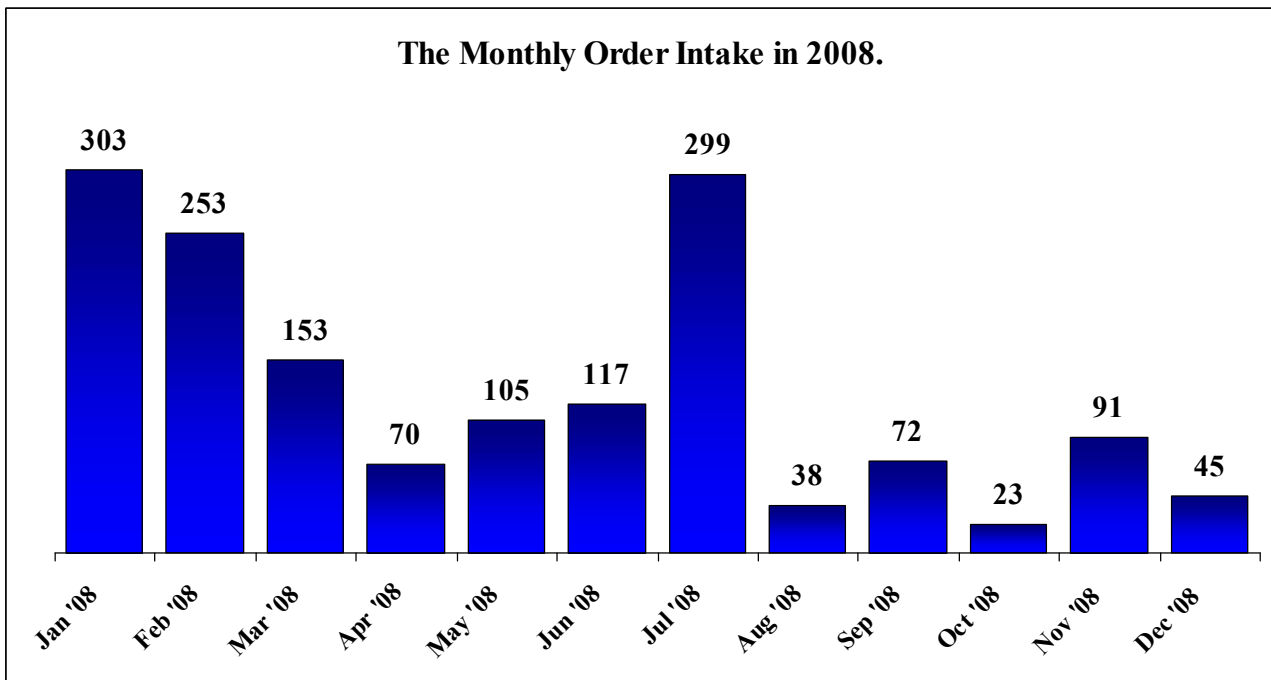
It was not just what happened in December which made a difference. The fourth quarter was the worst single quarter in terms of new orders since the second quarter of 2004. A total of 159 new aircraft were ordered in Q4 of last year, one seventh of the total in Q4 of 2007. Airbus had a poor quarter though the second quarter of last year provided even fewer orders. In fourth quarter terms, it was the lowest for Airbus since Q4 of 2003. For Boeing, Q4 of last year provided the lowest number of new orders for a single quarter since Q1 of 2004. It was also the lowest fourth quarter order intake figure for the U.S. manufacturer in 25 years.

After July last year, orders became few and far between. Airbus had no orders in August and Boeing had seven in November. This, perhaps, is a sign of things to come. The total number of orders taken last year was expected to be far lower than in 2007 anyway. It had even been thought that new orders in 2008 might be around half the 2007 level. In the event, the strong order intake in the first seven months of the year offset the decline in the last few months and while the total was the lowest for four years, the manufacturers can hardly complain - over the last four years there have been orders for 8,479 new jet aircraft which is actually more than the combined total for the previous 10 years.

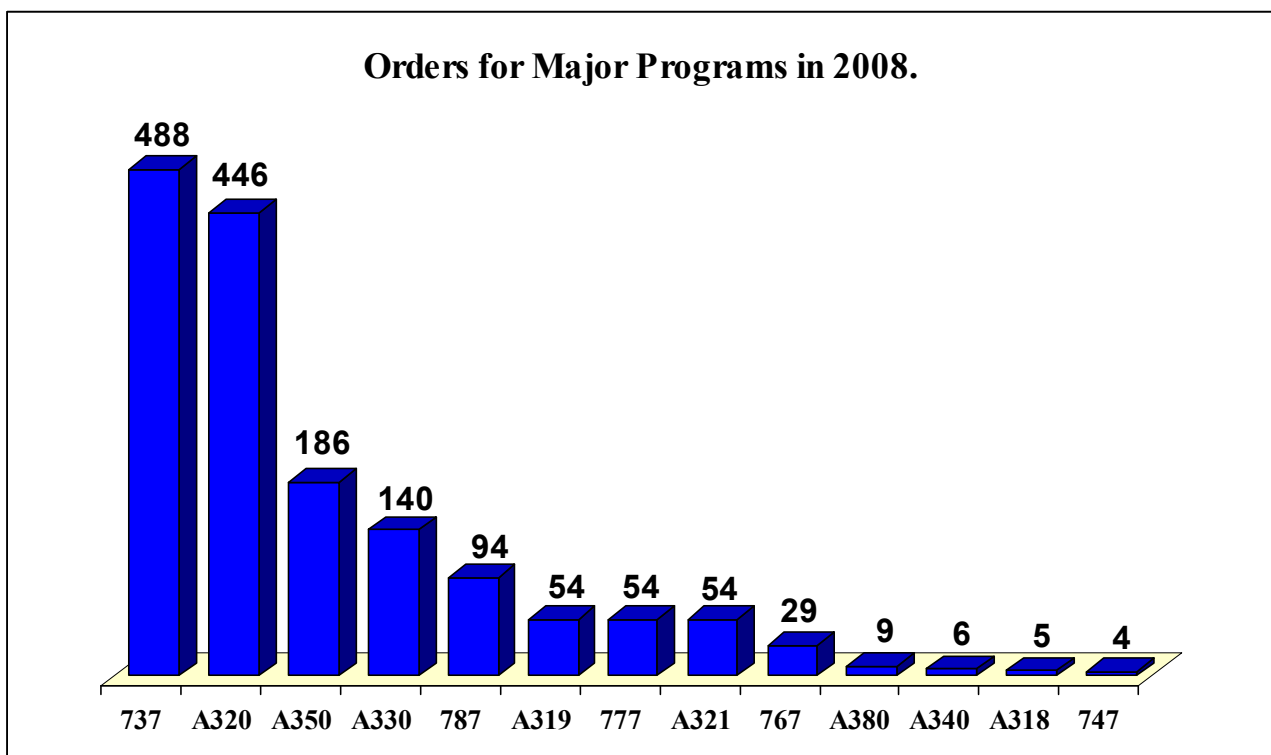
By the end of the year, Airbus had taken gross orders for 900 new aircraft. The company's net figure was 777. Boeing had 669 gross orders and 662 net.



**Orders for Large Commercial Jets :** Over a year ago the manufacturers were saying that they expected a far lower order intake in 2008 than in 2007. The impetus of 2007 ordering carried over into the early part of last year with just over 1,000 orders, or roughly two thirds of the total for the year coming in the first six months. In the end, the final result for the year may have been a little higher than the manufacturers had hoped for. After four outstanding years with gross orders for nearly 8,500 new aircraft in that time, things are now expected to change. The order intake for 2009 is expected to be way down, possibly back to the levels of 2003 and 2004, and this trend could carry on into 2010.



**Monthly Orders Intake :** The slowing of the order intake is made clear on this chart - orders in the first seven months of the year vastly exceeded the monthly intake in the five remaining months. There was, of course, the Farnborough air show in July which the manufacturers used to announce a whole raft of new orders but since then the intake has been small in comparison. There were orders for 1,300 aircraft in the first seven months of last year, an average of 108 per month, followed by orders for 269 aircraft in the last five months, a monthly average of 54.



**Orders for Major Programs :** The 737 and the A320 were always going to be in first and second place in the order stakes, and in that order, but the fact is that the A320 Family, which directly competes with the 737 programs, took orders for 559 aircraft last year. The 787 did well but the majority of orders came in previous years. This program had orders for 369 aircraft in 2007 and the 2008 intake was a quarter of that. The A350 did well in 2007 with orders for 281 aircraft and while the total of 186 last year was somewhat less, it was still nearly double the 787 intake. The 767 did well in 2008 on the back of delays to 787 deliveries but new orders for the A380 and other four-engine aircraft programs were disappointing and are unlikely to improve this year.

### Summary Orders by Month.

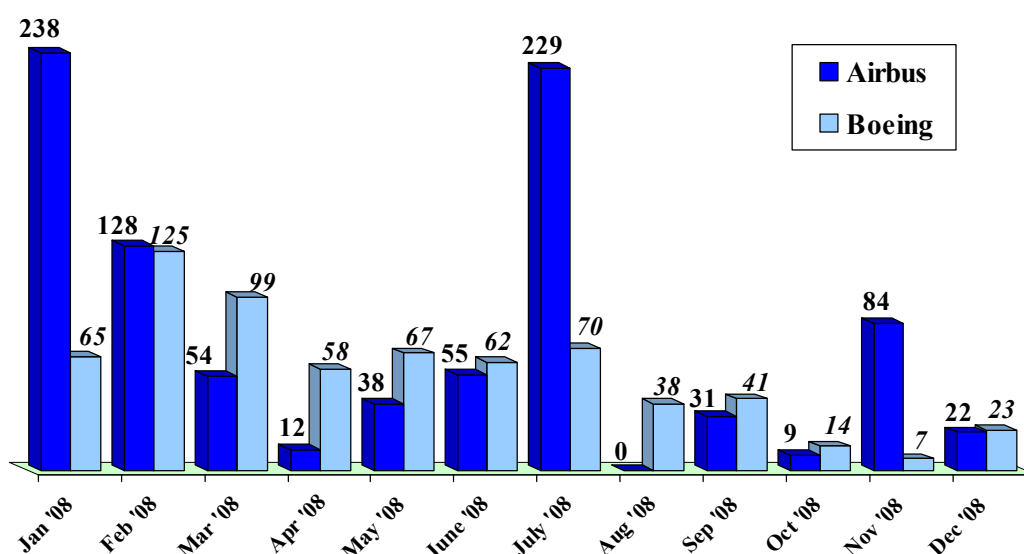
Aircraft	Dec '07	Jan '08	Feb '08	Mar '08	Apr '08	May '08	June '08	July '08	Aug '08	Sep '08	Oct '08	Nov '08	Dec '08
A318				2		2		1					
A319	1	6	3	11			6	1		6	4	17	
A320	207	204	34	14		14	5	118		17		36	4
A321			28			6		5					15
A330	25	10	15	26	6	16	32	31			4		
A340	5									2	1		3
A350	4	18	45	1	6		12	73		6		25	
A380	12		3									6	
737	212	22	111	54	49	61	58	66	32	18	10	2	5
747	5	1			1					1		1	
767									2	18	4	4	1
777	14	2	14	10	4	6	4	4	4	4			2
787	56	40		35	4								15
<b>Total</b>	<b>541</b>	<b>303</b>	<b>253</b>	<b>153</b>	<b>70</b>	<b>105</b>	<b>117</b>	<b>299</b>	<b>38</b>	<b>72</b>	<b>23</b>	<b>91</b>	<b>45</b>

### Orders for Large Commercial Jets in December 2008.

Customer	Model	No. of Aircraft	Engine Choice
COPA Airlines	737-800	4	CFM56-7B
Boeing Business Jet	737-900BBJ	1	CFM56-7B
Boeing Business Jet	767-400ER	1	CF6-80
Unidentified Customer	777-300ER	2	GE90-115B
Unidentified Customer	787-9	15	TBD
Uzbekistan Airways	A320	4	CFM56-5B
Aeroflot	A321	6	CFM56-5B
Nile Air	A321	9	TBD
Private Customer	A340-500	1	Trent 500
Iberia	A340-600	2	Trent 500
<b>Total Orders in December</b>		<b>45</b>	

TBD = To be decided.

### Monthly Orders by Manufacturer in 2008.



**Monthly Orders by Manufacturer :** Airbus started the year well and had two months of ordering peaks as well as a number of poor months. Boeing's monthly order intake was rather more conservative in the first half of the year but trailed off towards the end.

## **Recently Announced Commercial Aircraft Orders :**

### **Air Austral - Airbus A380 (MoU for two)**

January 15. Air Austral of La Reunion has signed a Memorandum of Understanding with Airbus for the purchase of two A380s in a single-class configuration.

In a single-class configuration the aircraft will seat around 840 passengers. Air Austral plans to operate the A380 through one of its subsidiaries on its high-density route from La Reunion to Paris, France. No engine choice has been made at this stage.

### **Colgan Air - Bombardier Q400 (15)**

January 15. Colgan Air, Inc., a wholly owned subsidiary of Pinnacle Airlines Corp., has signed a firm order to acquire 15 Q400 turboprops. The transaction involves the conversion to firm orders of 10 conditional orders and the exercise of five options placed by Pinnacle in 2007. Colgan Air's operations are based in Manassas, Virginia.

Based on the list price of the Q400, the contract is valued at approximately \$432 million.

### **FedEx - Boeing 777 Freighter (15)**

January 12. FedEx is to exercise options to purchase 15 additional 777 Freighters. The options are part of the carrier's original 15-aircraft 777 Freighter order from 2006.

FedEx has placed the largest number of firm orders for the 777 Freighter.

### **Government of Thailand - Embraer ERJ 135 (One firm)**

Embraer has signed a contract with the Royal Thai Army for a second ERJ 135 jet. This will be the third ERJ for Thailand. At the end of last year, Embraer delivered one aircraft to the Royal Thai Army and the other to the Royal Thai Navy. The aircraft will be used to transport government officials and will also be used as Medevac aircraft.

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Not many that month!

The next three pages show how we report Deliveries.

The text is our analysis of delivery patterns and trends over the past few months.

Note that the table which shows all the deliveries in December 2008 has been cut short to save space.

## Large Commercial Jet Deliveries :

### **Far fewer deliveries in the second half and final Quarter of 2008.**

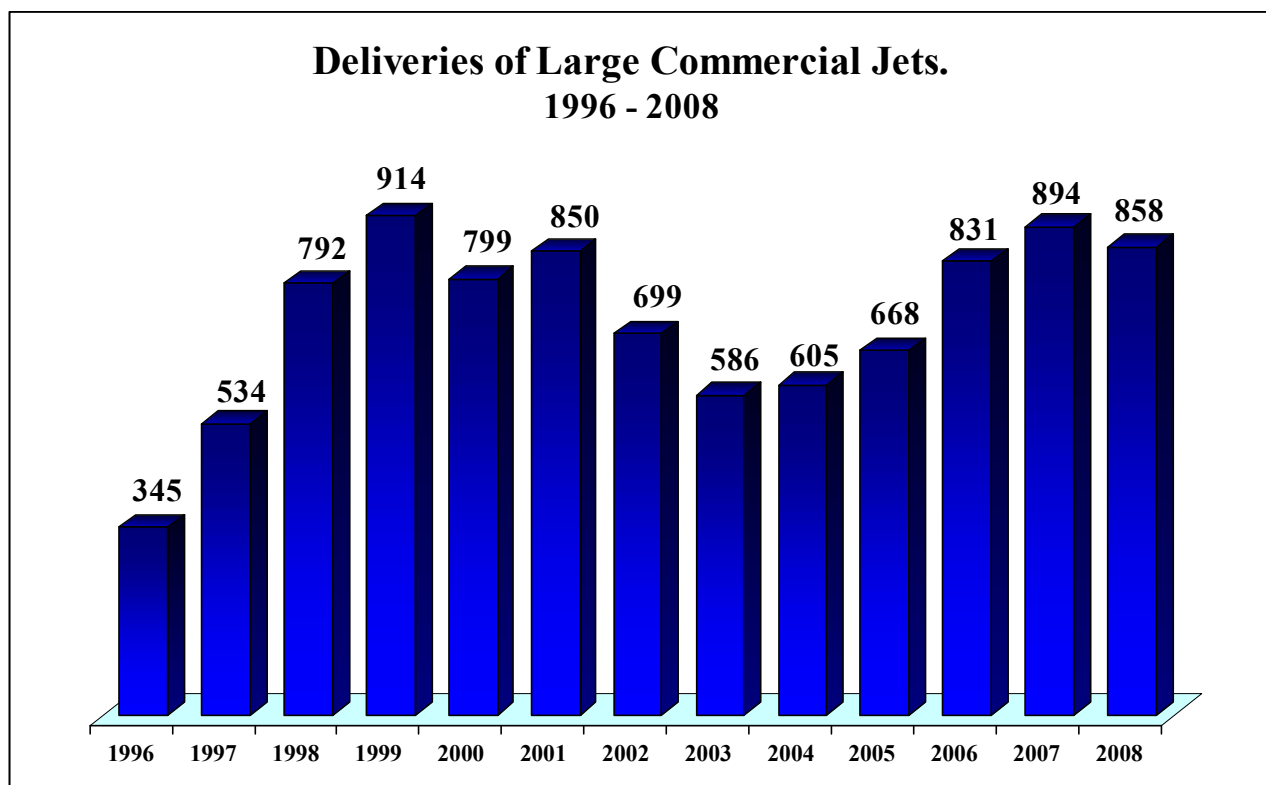
After four consecutive years of increasing annual delivery numbers, it had been hoped that 2008 would be the fifth consecutive year. It had also been hoped that it would be a record year. As it happened, delivery numbers fell though not because of any lack of demand. It was simply a case of Boeing's numbers being affected by the strike. The U.S. manufacturer delivered 375 new jets last year, fewer than in 2006 even, and says that had it not been for the strike, the number would have been about 105 aircraft greater. Airbus delivered a total of 483 jets last year, 30 more than in 2007 and the total was a record for the company. It could have been a record year for the industry, better even than the 1999 figure.

The other side to this is that it was not just the strike that affected delivery numbers; July and August figures are invariably slightly lower than previous months and last year was no exception, other than that the numbers were far lower than expected. From the high of 90 deliveries in June, the figure dropped to 77 in July and then 65 in August.

September, the first month of the IAM strike at Boeing, saw delivery numbers fall still further, to 46, the lowest for a single month since September 2005 which was when Boeing last had a strike. Between September and November, Boeing delivered 21 aircraft and this affected both the second half delivery figure and the fourth quarter figure. In the first half of last year there were 486 large commercial jet deliveries which suggested at the time that 2008 could be a record year. The second half year figure was considerably lower however, with a total of 372 deliveries. What was ironic was that the delivery total for the second quarter of last year was a record for the industry but the fourth quarter figure of 184, which was four less than Q3, was the lowest for a single quarter since Q4 of 2005.

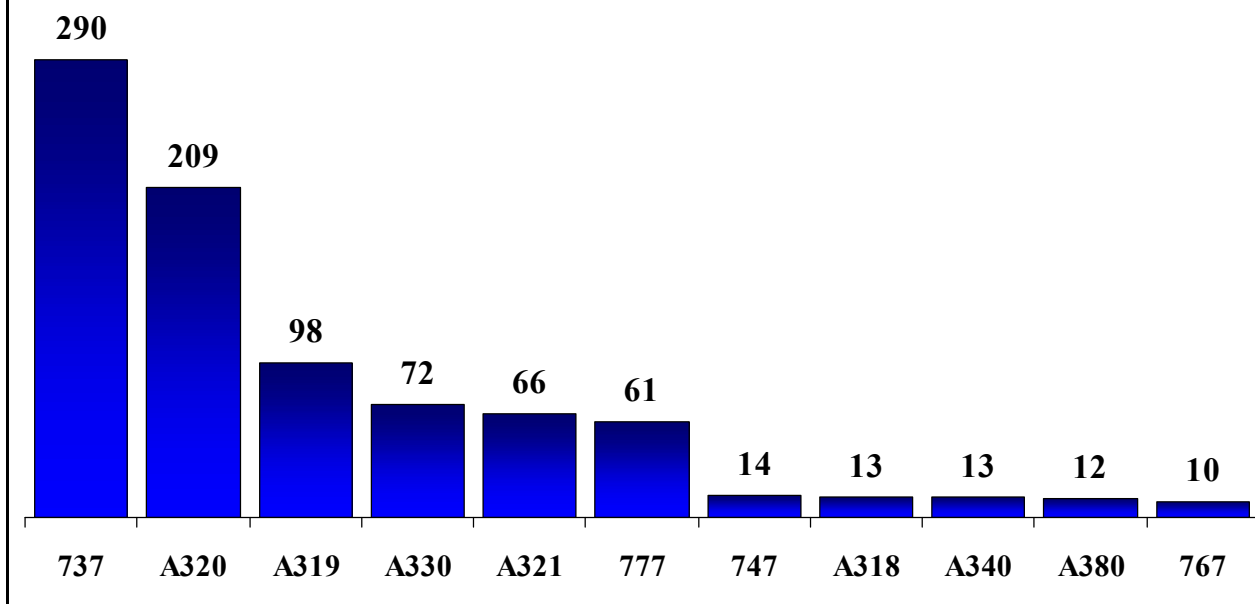
Having said this, despite the fourth quarter being a miserable quarter in overall terms, it was actually a new record for Airbus. The European manufacturer delivered 134 aircraft in Q4, an all time company quarterly record. Airbus had been increasing delivery rates since August last year and had 46 deliveries in both November and December. While this rate may continue in the early part of this year, it will slow: The company is expecting about the same number of deliveries this year as in 2008.

Boeing's guidance for this year is for between 480 and 485 deliveries. Add that to the Airbus figure and the total for 2009 could be around 960 deliveries which in turn would be a new industry record.



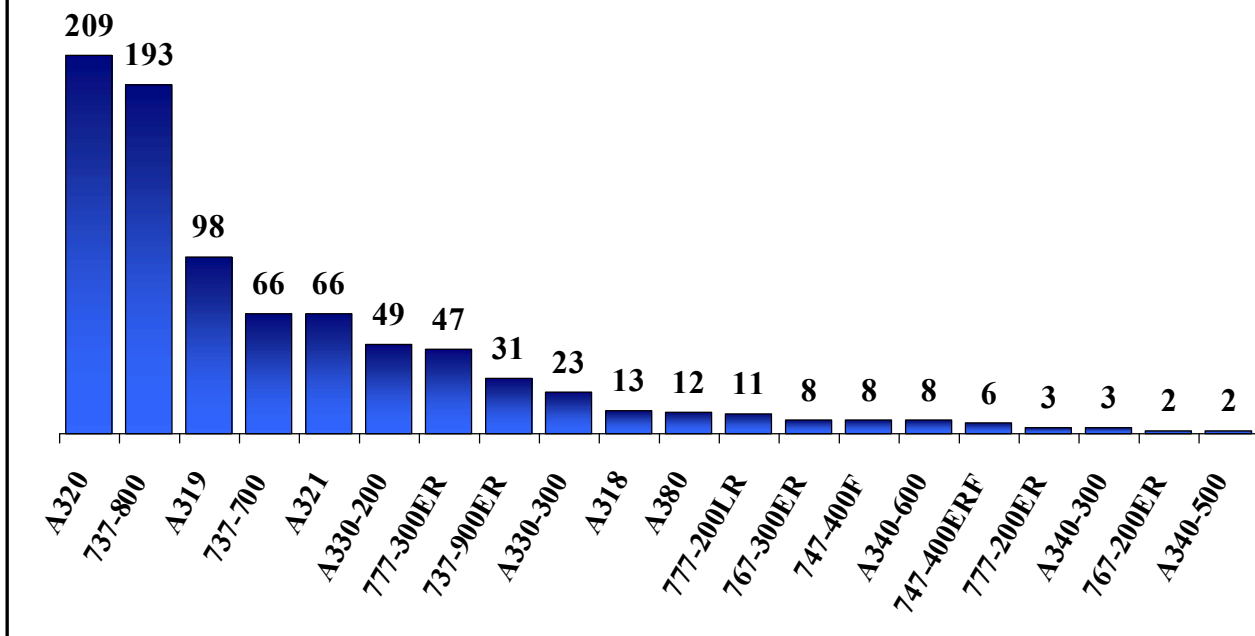
**Annual Deliveries :** Had there not been a strike at Boeing there would have been more deliveries last year than in 2007 and the total for the year might even have challenged the 1999 figure for the all-time record. It would also have been the fifth consecutive year in which deliveries had increased. The final total for the year was, however, the third largest annual figure and the second highest this decade.

## Large Commercial Jet Deliveries in 2008.



**Deliveries in 2008 :** Boeing delivered 40 fewer 737s last year than in 2007. There were also 22 fewer 777s, but just two fewer 747s and also two fewer 767s. Airbus delivered 14 more A320s, 15 more A321s, four more A319s and two more A340s. It was also the first full year of A380 deliveries. However there were six fewer A330 deliveries and four fewer A318 deliveries.

## Minor Program Deliveries in 2008



**Minor Program Deliveries in 2008 :** The 737-800 had delivered the largest number of aircraft of any minor program at the end of October but the A320 took over in November.. The A330-300 delivered two fewer aircraft last year than in 2007 though the A330-200 delivered six more. The last of the A340-300s was delivered during the year and while the A340-500 delivered one more aircraft than the previous year, the A340-600 delivered eight, the same as before though this was 10 fewer than in 2006. There were 43 fewer 737-700 deliveries last year, providing another year of decline - there were 119 deliveries in 2006 and 109 in 2007. There were 19 fewer 737-800s but 22 more 737-900ER deliveries. Another Boeing program that delivered far fewer for another year was the 777-200ER; there were three deliveries last year, 19 in 2007 and 23 in 2006. The 777-300ER, also affected by the strike, delivered six fewer aircraft.

### Deliveries of Large Commercial Jets in December 2008.

Customer	Model	Number	Engines
Air Berlin	737-700	1	CFM56-7B
Delta Air Lines	737-700	1	CFM56-7B
KLM - Royal Dutch Airlines	737-700	1	CFM56-7B
Sonair	737-700	1	CFM56-7B
Air China	737-800	1	CFM56-7B
Alaska Airlines	737-800	1	CFM56-7B
All Nippon Airways	737-800	1	CFM56-7B
BOC Aviation	737-800	1	CFM56-7B
Continental Airlines	737-800	1	CFM56-7B
Delta Air Lines	737-800	1	CFM56-7B
GECAS	737-800	3	CFM56-7B
GOL Airlines	737-800	1	CFM56-7B
ILFC	737-800	2	CFM56-7B
JAL International	737-800	1	CFM56-7B
Royal Air Maroc	737-800	1	CFM56-7B
Ryanair	737-800	4	CFM56-7B
Shanghai Airlines	737-800	1	CFM56-7B
TUI	737-800	1	CFM56-7B
Turkish Airlines	737-800	2	CFM56-7B
United States Navy	737-800	1	CFM56-7B
Boeing Business Jet	737-900BBJ	1	CFM56-7B
Continental Airlines	737-900ER	2	CFM56-7B
Lion Air	737-900ER	1	CFM56-7B
SpiceJet	737-900ER	1	CFM56-7B
Nippon Cargo Airlines	747-400F	1	CF6-80C2
LAN Airlines	767-300ER	1	CF6-80C2
Emirates	777-200LR	1	GE90-115B
Air Canada	777-300ER	1	GE90-115B
Emirates	777-300ER	1	GE90-115B
GECAS	777-300ER	1	GE90-115B
Qatar Airways	777-300ER	1	GE90-115B1
TAM	777-300ER	2	GE90-115B
Air Berlin	A319	1	CFM56-5B
easyJet	A319	3	CFM56-5B
Iberia	A319	1	CFM56-5B
TAM-Linhas Aereas ( BOC Aviation)	A319	2	V2524-A5
Aegean Airlines	A320	1	V2527-A5
Aeroflot (Aerventure)	A320	1	CFM56-5B
Air One	A320	3	CFM56-5B6/P
AirAsia	A320	2	CFM56-5B4
British Airways	A320	2	V2527-A5
China Eastern Airlines	A320	1	V2527-A5
Etihad Airways (CIT Leasing)	A320	1	V2527-A5
GECAS	A320	1	CFM56-5B
Interjet	A320	2	CFM56-5B4
jetBlue Airways	A320	1	V2527-A5
Philippine Airlines	A320	1	CFM56-5B4
Royal Air Force of Oman	A320	1	CFM56-5B
TAM-Linhas Aereas	A320	1	V2527-A5
Turkish Airlines	A320	1	V2527-A5
Wizz Air	A320	1	V2527-A5
Air Berlin	A321	1	CFM56-5B
Air China	A321	1	CFM56-5B
Sichuan Airlines	A321	1	V2530-A5

**This table has been cut short to save space.**

Every month we have a detailed section on Current Production Rates.

This deals with all the individual large commercial jet, regional aircraft and business aircraft programs.

We provide notes on all the programs with details of delivery rates and how these might change.

The next two pages show the start of our section on large jets and also how we report regional aircraft.

This is typically a six-page section published every month.

Subscription prices and electronic order forms can be downloaded  
from our website :

**[www.aerospace-market-news.com](http://www.aerospace-market-news.com)**

## Current Production Rates.

### Production Guideline.

	2007	2008	2009
<b>Airbus</b>	453	483	± 480
<b>Boeing</b>	441	375	± 480
<b>Bombardier</b>	121	± 124 *	± 130
<b>Embraer</b>	169	204	± 200
<b>ATR</b>	44	55	± 64

\* Estimate. Bombardier's figures are not yet available.

### Large Commercial Jet Production.

Aircraft	Delivered in 2006	Delivered in 2007	Delivered in 2008	2009 Projected
Airbus (all models)	434	453	483	480
Airbus A320 Family	339	367	386	386
Airbus A330/A340	86	79	85	76
A318	8	17	13	12
A319	137	104	98	98
A320	164	195	209	211
A321	30	51	66	65
A300-600R	9	6		386
A330	62	68	72	68
A340	24	11	13	8
A380		1	12	18
Boeing (all models)	397	441	375	480
Boeing 717-200	5			
Boeing 737 (excl BBJ)	290	330	284	356
BBJ	11	5	6	6
Boeing 747	14	16	14	6
Boeing 767	12	12	10	16
Boeing 777	65	83	61	96
Boeing 787				0
<b>Total Large Commercial Jets</b>	<b>831</b>	<b>894</b>	<b>858</b>	<b>960</b>

### Notes on Current and Future Production Rates : Large Commercial Jets.

N.B. The \* symbol is used to show that there have been changes to our program remarks since the last issue. Where the symbol is not shown, there has been no change.

#### **Airbus A318 \***

There were 13 deliveries last year. The backlog at the end of last year was 20. Deliveries had been running at a rate for four per quarter in the second and third quarters of last year but dropped to two in Q4. With a relatively small backlog, most of which is made up of executive jet versions, it would seem unlikely that there will be any production rate increase this year and the projection of 12 deliveries for 2009 may turn out to be high.

#### **Airbus A319 \***

At the end of last year the backlog was 396 and there were 98 deliveries during the year. Interestingly, Airbus delivered 29 in both the first and last quarters of the year, but just 18 in Q3. The projection for this year is for 98 deliveries again or a monthly average of just over eight aircraft. There were 137 deliveries in 2006 and 104 in 2007. With a significantly lower year-end backlog than at the start of the year, it will be difficult to justify a much higher production rate this year.

## Notes on Current and Future Production Rates : Regional Aircraft.

### **ATR**

\*

ATR delivered six ATR42s and 49 ATR72s last year. In 2007 the company delivered seven ATR42-500s and 37 ATR72-500s. ATR plans to deliver 64 aircraft this year, eight of which will be ATR42-500s. The company had been saying that from 2009 the annual production rate would be 80 aircraft but that rate has clearly been revised down. Most delivery slots are now filled until 2011. At the end of the year the backlog was 18 ATR42s and 151 ATR72s. The new -600 series which was launched in late 2007 currently has a backlog of 39 aircraft. Last year orders were taken for three ATR42-600s and three ATR72-600s, together with three ATR42-500s and 34 ATR72-500s. The maiden flight of the -600 series is scheduled for this year and the -600 will enter service in 2011.

### **Bombardier Aerospace**

\*

Bombardier's latest quarterly figures are to the end of October. Up to that point the company had delivered 48 CRJs and 51 Q-Series aircraft. The CRJ backlog was 165 aircraft at the end of October and the Q-Series had a backlog of 113 aircraft, six more than at the end of January. While final figures are not yet available it is thought that there were about 52 CRJ and 51 Q-Series deliveries last year.

### **Bombardier Business Jets**

\*

In 2007, Bombardier delivered 226 business jets including 51 Challenger 300s, 35 Challenger 604s and 12 Challenger 850/870/890s. In 2006, the company delivered 213 business jets. The figures for 2008 are not yet available but it is thought that about 245 business jets were delivered. In both the First and Second Quarters of this year there were 67 business jet deliveries. The Third Quarter figure was 59 which includes 28 Challengers, 19 Learjets and 12 Global 500/XRS. There were 23 Learjet 60 deliveries in 2007, 15 in 2006. In addition, there were 27 Global 500 deliveries in 2007, up from 18 in 2006.

### **Bombardier CRJ700**

\*

It is thought that there were three deliveries last year - final figures are not yet available - and that there will be three deliveries this year. In 2005 there were 64 deliveries and there were six in 2007. The backlog at the end of October last year was 48 aircraft.

### **Bombardier CRJ900**

\*

The backlog at the end of October was 78 (it was 93 at the end of January). There were 46 deliveries in the 10 months to the end of October. There were 55 deliveries in 2007 and 40 in 2006. The delivery projection for 2008 was for about 48 aircraft.

### **Bombardier CRJ1000**

\*

The backlog at the end of October was 45. My Way has 15 on order, Brit Air has increased the order for eight to 14 and Adria Airways has an order for one. An unidentified customer has a further 15 on order. Conversions from the CRJ900 account for 15 of the backlog. Deliveries begin in the Fourth Quarter of 2009 and it is thought that there will be four deliveries this year.

### **Bombardier Q Series**

\*

The Q-Series backlog was 113 at the end of October, the same number as at the end of July. The Q200 has three aircraft on backlog, the Q300 has seven and the Q400 has a backlog of 103. There were 60 deliveries in 2007 and it is thought that in 2008 there were about 55 deliveries. By the end of October there had been 51 deliveries; two Q200s, seven Q300s and 42 Q400s. The projection for 2009 is for two Q 200s, four Q300s and 40 Q400s.

### **COMAC ARJ21.**

The Commercial Aircraft Corporation of China (COMAC) has orders for 206 ARJ21s, including five ordered by GECAS in November. First deliveries of the ARJ21-700, to Shandong Airlines, were originally scheduled for September 2009 but will now start in the first Quarter of 2010.

### **Embraer**

\*

Embraer delivered 59 aircraft in the Fourth Quarter (11 executive jets, 44 to the commercial market and four to the defence/government segment) The company delivered 204 aircraft last year, including two Phenom 100s and two Legacy 600s. The original idea was to deliver between 10 and 15 Phenoms in 2008 but this did not happen.

Every month we have a large section on Aircraft Engines with details of each engine program's order book.

We show the most recent order book changes and also list cancellations. There are also details of the share of the market held by each program.

We also have details of engine production and we show exactly how many engines from each program have been delivered.

The next two pages are from the Engines section. The page following them shows how we report the customers for each engine program. What we have are complete customer lists for all the civil jet engine programs.

## Aircraft Engines :

### **A record year-end Engine Order Book.**

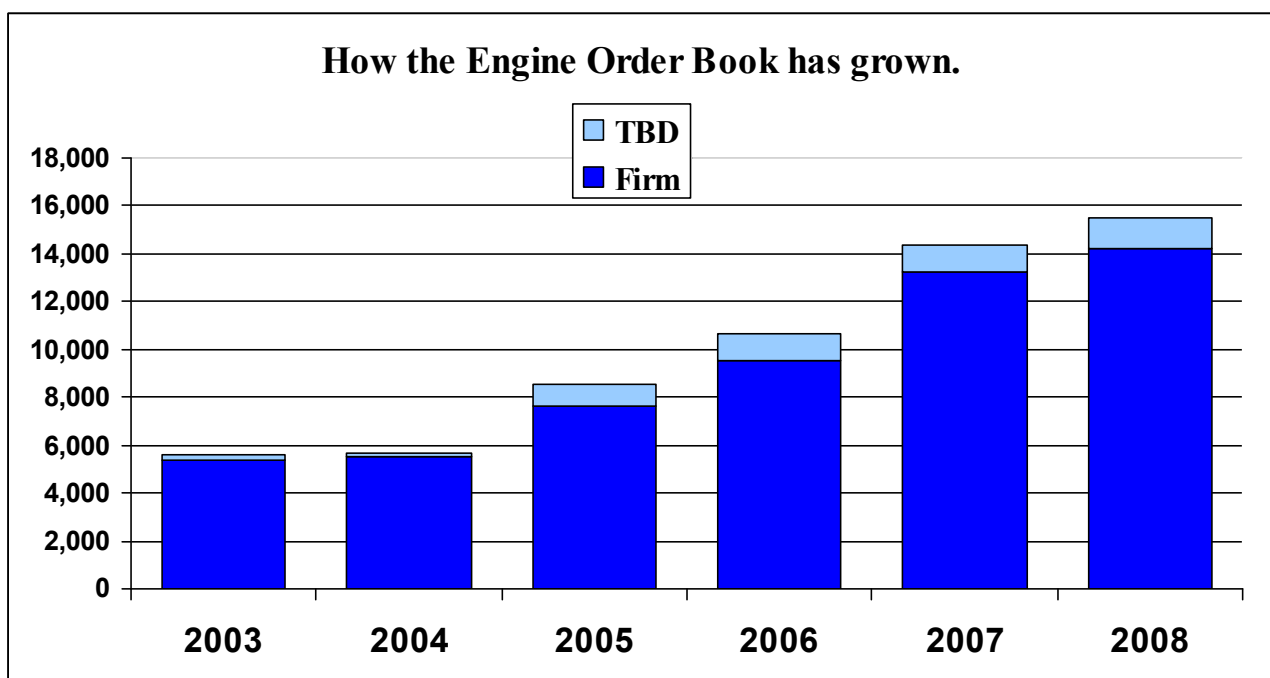
By the end of last year the firm engine order book was lower than it had been at the end of July but it was still a record year-end figure. It was up by very nearly seven percent on the level at the end of 2007 which in turn means that there were over 920 more engines on firm order than was the case a year ago.

By the end of December there were orders for 14,194 firm engines and choices still had to be made on a further 1,310 engines. In effect, the total engine requirement for all large commercial jet aircraft on backlog order at the end of the year was 1,100 more than at the start of the year. The total requirement figure of 15,504 engines was also a record for a year-end but it too had been higher at various times during the year (the figure of 15,570 at the end of July was the all-time peak).

Considering how rapidly the aircraft order intake slowed during the year, the gain in the firm engine order book was remarkable. What perhaps puts the effect of slower ordering in perspective is the point that during 2007 the firm order book increased by just over 3,700 engines, or four times as many as last year. If one looks at quarterly figures, one finds that there were more than eight times as many new firm engine orders in the fourth quarter of 2007 than there were in the final quarter of last year.

In fact, the enormous growth in the firm order book over the past few years has also meant that it has almost doubled in size since the end of 2005. The total engine requirement has increased by over 6,900 engines in that same three-year period which in turn represents an improvement of just over 80%.

Considering that the aircraft manufacturers think that the order intake in 2009 will be far, far lower than last year, the engine order book may have already peaked. Deliveries of new engines will probably outstrip the order intake to the extent that the total engine requirement figure (i.e. all the engines required for all aircraft on firm backlog order) will slowly and progressively decline in 2009. The firm engine order book figure, which is slightly less because there are nearly 640 aircraft on firm backlog order still without an engine selection, may also have peaked back in July. It really rather depends on how soon decisions are made on the To Be Decided element of the market. However, after so much order book growth over the last few years, any slow decline is hardly going to hurt very much. After all, if the current order book declined by one third, it would be back to fourth quarter 2006 levels and would still represent over five years of production, at current rates. There may well be a decline this year - in fact it seems rather likely - and some engine programs may be hard hit, but in overall terms there are still an enormous number of engines on order. Of course, these engines are scheduled for delivery over several years and some engine programs have yet to even begin to deliver but the simple fact remains that the order book has grown at a considerably faster rate than the actual production rate. (In the last two years there have been just over 3,600 new engine deliveries and in that time, despite this number of deliveries, the total order book has grown by over 4,800 engines.)



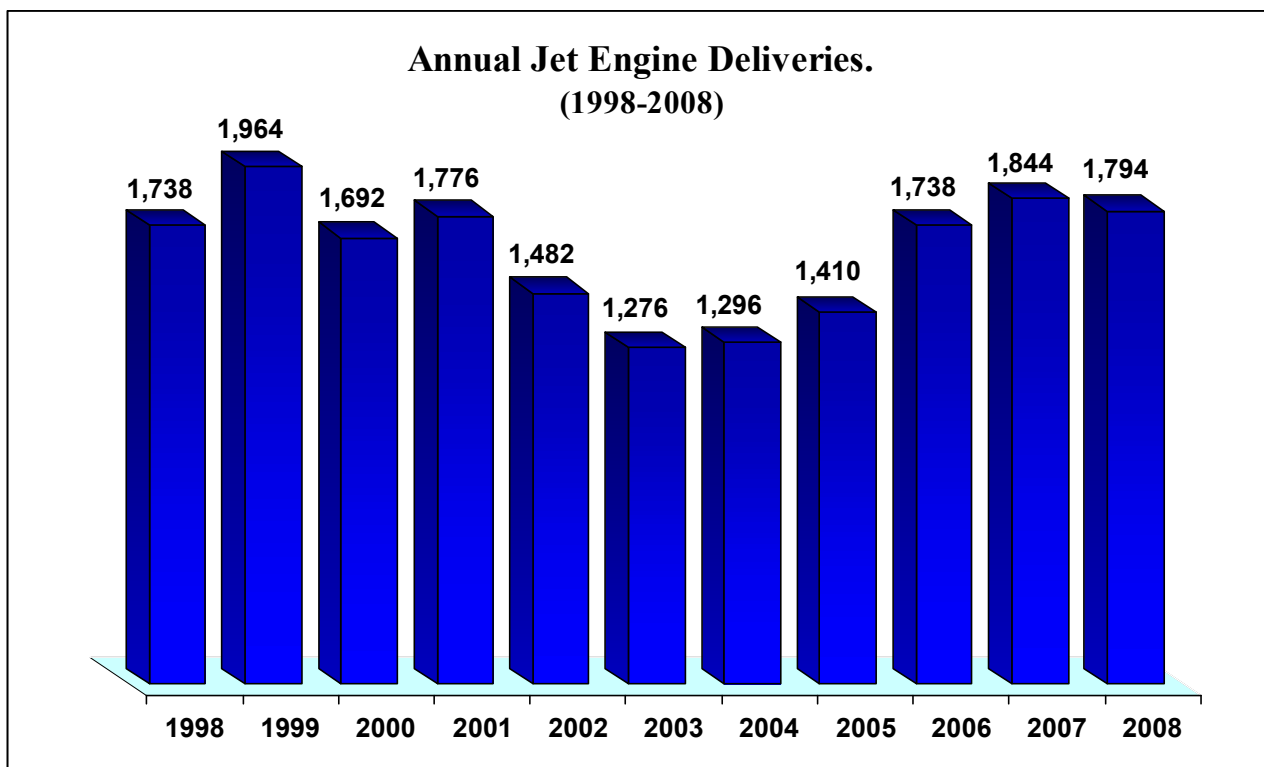
**Note :** TBD = To Be Decided. Not all firm-ordered aircraft have engine choices. The total of Firm Orders *plus* TBDs is the Total Engine Requirement of all aircraft on firm backlog. At the end of 2008 the requirement was 15,504 engines.

New engine orders last year varied enormously from month to month. The high was in February with orders for 502 large civil jet engines. The monthly intake then dropped considerably before picking up again in July, coincidentally the month of Farnborough. In October there were firm orders for 48 new engines, 156 in November and then 48 again in December. What was particularly striking about the December figure was that it was exactly 1,000 engines fewer than were ordered in December 2007, something that perhaps illustrates how rapid the downturn has been.

While there were very few aircraft order cancellations during the year, the loss of the Skybus A319 order impacted the CFM56-5 order book and by the end of the year this program had 124 fewer firm engines on order than at the start of the year. The program had ranked as the second largest, behind the CFM56-7 for several years but shortly before the end of the year the ranking position had slipped to third place, behind the V2500. Interestingly enough, the V2500 order book actually only gained 28 firm engines between the start of the year and December 31. What is perhaps even more amazing is that the V2500's order book gain ranks as the fifth largest gain of all programs. It is way behind the leaders - The Trent XWB order book grew by over 500 engines, the CFM56-7B order book grew by 388, the Trent 700 order book grew by 178 engines - but the reality of the market situation is that eight engine programs finished the year with smaller order books than at the start of the year. That there was any gain in the firm engine order book at all can be put down to buoyant sales of just four aircraft programs - the A320, A330, A350 and 737. Together these programs accounted for eight out of every ten orders last year.

Turning to deliveries, while there were fewer new engine deliveries than in 2007 (actually only 50 fewer) much of the decline can be attributed to lost production at Boeing. Had there not been a strike, the total for the year would have been well above the 2007 figure. Even so, the total delivery figure for last year was not only the second largest this decade but also the second largest number since 1999 which was the year with the all-time high. Deliveries in 2009 could still exceed the 1999 total despite the fact that the aircraft manufacturers have scaled back their production rate ambitions. Airbus will deliver about the same number of aircraft in 2009 as in 2008, or roughly 480, and Boeing is expected to deliver a similar number. For the U.S. manufacturer this will be a higher number than in 2008, made possible by the lack of the strike.

Things could still go wrong, of course, and production may have to slow later in the year, but as things stand at present, it does look as though the engine manufacturers will have another good year. It may be a different story in 2010 and 2011, but with new aircraft programs coming on, engine delivery numbers in those years might not fall that far relative to the figures for 2007 and 2008.



**Annual Engine Deliveries :** But for the strike at Boeing, the 2008 engine delivery total would have been marginally larger than the 2007 figure which in turn would have made it the best year for the engine manufacturers since 1999. What is interesting here is that the total number of engine deliveries in the last three years is just 56 fewer than in the 1999-2001 period. The figure for 2009 is still expected to be well above the 2007 total and it could even exceed the 1999 all-time record.

## The Firm Jet Engine Order Book on December 31, 2008 :

### CFM International.

#### Firm Engine Order Totals.

	Total on Order Sep 30 2006	Total on Order Dec 31 2006	Total on Order Mar 31 2007	Total on Order June 30 2007	Total on Order Sep 30 2007	Total on Order Dec 31 2007	Total on Order Mar 31 2008	Total on Order June 30 2008	Total on Order Sep 30 2008	Total on Order Dec 31 2008
CFM56-5	1,738	1,844	1,874	2,232	2,332	2,362	2,384	2,324	2,456	2,238
CFM56-7	2,898	3,120	3,030	3,260	3,592	4,152	4,350	4,486	4,584	4,540
<b>Total</b>	<b>4,636</b>	<b>4,964</b>	<b>4,904</b>	<b>5,492</b>	<b>5,924</b>	<b>6,514</b>	<b>6,734</b>	<b>6,810</b>	<b>7,040</b>	<b>6,778</b>

#### CFM56-5

Customer	Aircraft on Backlog	Engine Choice	Number of aircraft on order on Dec 31, 2008	Number of Engines on order on Dec 31, 2008
B H Airlines	A319	CFM56-5A	2	4
Northwest Airlines	A319	CFM56-5A4	5	10
Aeroflot	A321	CFM56-5B	16	32
Aerventure	A319	CFM56-5B	6	12
Afriqiyah Airlines	A319	CFM56-5B	1	2
Afriqiyah Airlines	A320	CFM56-5B	9	18
Air Arabia	A320	CFM56-5B	44	88
Air Berlin	A319	CFM56-5B	1	2
Air China	A320	CFM56-5B	22	44
Air China	A321	CFM56-5B	17	34
Air France	A320	CFM56-5B	11	22
Air France	A321	CFM56-5B	7	14
AirBlue	A320	CFM56-5B	14	28
Airbus Exec Jets	A318	CFM56-5B	15	30
Avianca	A319	CFM56-5B	14	28
Avianca	A320	CFM56-5B	30	60
Aviation Capital Grp.	A319	CFM56-5B	5	10
Aviation Capital Grp.	A320	CFM56-5B	20	40
Aviation Capital Grp.	A321	CFM56-5B	5	10
AWAS	A320	CFM56-5B	45	90
British Airways	A318	CFM56-5B	2	4
Cebu Pacific	A320	CFM56-5B	10	20
China Southern	A319	CFM56-5B	8	16
China Southern	A320	CFM56-5B	25	50
CIT Leasing	A321	CFM56-5B	3	6
CIT Leasing Corp.	A319	CFM56-5B	5	10
Croatia Airlines	A319	CFM56-5B	4	8
East Star Airlines	A320	CFM56-5B	6	12
EasyJet	A319	CFM56-5B	75	150
EasyJet	A320	CFM56-5B	25	50
GECAS	A319	CFM56-5B	12	24
GECAS	A320	CFM56-5B	48	96
Germanwings	A319	CFM56-5B	6	12
Go Air	A320	CFM56-5B	16	32
Gulf Air	A320	CFM56-5B	15	30
Hamburg International	A319	CFM56-5B	7	14
Hamburg International	A320	CFM56-5B	4	8
ILFC	A319	CFM56-5B	6	12
ILFC	A321	CFM56-5B	3	6
Indian Airlines	A319	CFM56-5B	10	20
Indian Airlines	A321	CFM56-5B	10	20

**This table has been cut short.**

## Undelivered Orders :

We list the entire large commercial jet Backlog by customer and engine choice every month.

There are two tables in this section: The first shows changes in the last month and a cut-short example appears on the next page.

This is followed by a single page from our 14-page table listing all the customers. This particular table also shows their backlog positions on a quarterly basis going back to mid-2007.

## Undelivered Orders - Large Commercial Jets.

The table on this page (which runs over to the next page) shows the backlog change in the last month. The long table that follows shows customer backlog positions on a Quarterly basis from June 2007 onwards. On both tables, where the engine choice has yet to be made, this is shown by "TBD" in the engine choice column, meaning To Be Decided.

### Changes in the last month - Backlog Orders.

Customer	Aircraft	Engine choice	November 2008 Backlog	December 2008 Backlog	Change
Air Berlin	737-700	CFM56-7B	23	22	-1
Delta Air Lines	737-700	CFM56-7B	6	5	-1
KLM	737-700	CFM56-7B	11	10	-1
Sonair	737-700	CFM56-7B	1	0	-1
Air China	737-800	CFM56-7B	47	46	-1
Alaska Airlines	737-800	CFM56-7B	21	20	-1
All Nippon Airways	737-800	CFM56-7B	10	9	-1
BOC Aviation	737-800	CFM56-7B	26	25	-1
Continental Airlines	737-800	CFM56-7B	1	0	-1
COPA Airlines	737-800	CFM56-7B	9	13	4
Delta Air Lines	737-800	CFM56-7B	34	33	-1
GECAS	737-800	CFM56-7B	98	95	-3
GOL Airlines	737-800	CFM56-7B	94	93	-1
ILFC	737-800	CFM56-7B	14	12	-2
JAL International	737-800	CFM56-7B	20	19	-1
Ryanair	737-800	CFM56-7B	147	143	-4
Shanghai Airlines	737-800	CFM56-7B	6	5	-1
TUI	737-800	CFM56-7B	22	21	-1
Turkish Airlines	737-800	CFM56-7B	2	0	-2
U.S. Navy	737-800	CFM56-7B	6	5	-1
Unidentified	737-800	CFM56-7B	230	229	-1
Continental Airlines	737-900ER	CFM56-7B	19	17	-2
Lion Air	737-900ER	CFM56-7B	166	165	-1
SpiceJet	737-900ER	CFM56-7B	1	0	-1
Nippon Cargo Airlines	747-400F	CF6-80	2	1	-1
LAN Airlines	767-300ER	TBD	2	0	-2
LAN Airlines	767-300ER	CF6-80C2	6	7	1
Boeing Business Jets	767-400ER	CF6-80C2	0	1	1
Unidentified	767-400ER	CF6-80C2	1	0	-1
Emirates	777-200LR	GE90-115B	3	2	-1
Air Canada	777-300ER	GE90-115B	2	1	-1
Emirates	777-300ER	GE90-115B	30	29	-1
GECAS	777-300ER	GE90-115B	15	14	-1
Qatar Airways	777-300ER	GE90-115B1	13	12	-1
TAM	777-300ER	GE90-115B	6	4	-2
Unidentified	777-300ER	GE90-115B1	3	5	2
First Choice Airways	787-8	GENx-1B	12	0	-12
Thomson Airways	787-8	GENx-1B	0	12	12
Unidentified	787-9	GENx-1B	0	15	15
Air Berlin	A319	CFM56-5B	2	1	-1
BOC Aviation	A319	TBD	7	5	-2
EasyJet	A319	CFM56-5B	78	75	-3
Iberia	A319	CFM56-5B	1	0	-1
Aegean Airlines	A320	V2527-A5	12	11	-1
Aerventure	A320	CFM56-5B4	17	15	-2
Air One	A320	CFM56-5B6/P	47	44	-3
AirAsia	A320	CFM56-5B4	121	119	-2
Airbus Exec Jets	A320	CFM56-5B4	5	4	-1
British Airways	A320	V2527-A5	12	10	-2
China Eastern Airlines	A320	V2527-A5	35	34	-1
CIT Leasing Corp.	A320	V2527-A5	36	35	-1
GECAS	A320	CFM56-5B	49	48	-1
Interjet	A320	CFM56-5B4	14	12	-2
JetBlue Airways	A320	V2527-A5	59	58	-1
Philippine Airlines	A320	CFM56-5B4	3	2	-1
TAM	A320	V2527-A5	33	32	-1

## Undelivered/Backlog Orders – Large Commercial Jets.

(Backlog at the end of the month shown.)

Customer	Aircraft	Engine choice	June 2007	Sep 2007	Dec 2007	Mar 2008	June 2008	Sep 2008	Dec 2008
Aeromexico	737-700	CFM56-7B	13	11	10	10	10	10	10
Aeromexico	737-800	CFM56-7B	1						
Aerosvit	737-800	CFM56-7B		7	7	7	7	7	7
Air Berlin	737-700	CFM56-7B	25	25	24	24	24	23	22
Air Berlin	737-800	CFM56-7B	60	60	60	60	59	58	58
Air China	737-800	CFM56-7B	25	25	22	22	20	47	46
Air Europa	737-800	CFM56-7B	32	31	31	31	28	28	28
Air India	737-800	CFM56-7B	11	9	8	7	6	5	5
Air Sahara	737-800	CFM56-7B	10	10					
AirTran	737-700	CFM56-7B	65	63	63	60	55	55	55
Alafo	737-800	CFM56-7B	6	6	6	6	6	6	6
Alaska Airlines	737-800	CFM56-7B	32	33	29	26	23	21	20
All Nippon Airways	737-700	CFM56-7B	21	19	18	16	15	15	15
All Nippon Airways	737-800	CFM56-7B	12	12	12	12	10	10	9
American Airlines	737-800	CFM56-7B	47	47	48	52	52	87	87
Arik Air	737-800	CFM56-7B		10	10	10	7	14	14
Arik Air	737-900ER	CFM56-7B					3	3	3
Atlant-Soyuz	737-700	CFM56-7B		4	4	4	4	4	4
Aviation Capital Grp	737-700	CFM56-7B	15	30	30	30	49	64	64
Aviation Capital Grp.	737-800	CFM56-7B	14	11	11	11	9	6	6
AWAS	737-800	CFM56-7B			33	33	33	33	33
Azerbaijan Airlines	737-900ER	CFM56-7B	2	2	2	2	2	4	4
Babcock & Brown	737-800	CFM56-7B			20	20	20	20	20
Biman Bangladesh	737-800	CFM56-7B					2	2	2
Blue Air	737-800	CFM56-7B				2	2	2	2
Blue Air	737-900ER	CFM56-7B					3	3	3
BOC Aviation	737-700	CFM56-7B	1	3	2	4	5	5	5
BOC Aviation	737-800	CFM56-7B	42	39	38	31	26	26	25
Boeing Business Jet	737-700BBJ	CFM56-7B	20	22	21	23	22	22	22
Boeing Business Jet	737-800BBJ	CFM56-7B	2	2	4	4	5	6	5
Boeing Business Jet	737-900BBJ	CFM56-7B	5	6	6	6	8	8	8
Buraq Air	737-800	CFM56-7B	1	1	1	1	1	1	1
China Eastern Airlines	737-700	CFM56-7B	14	13	12	12	12	11	11
China Eastern Airlines	737-800	CFM56-7B	6	6	6	6	6	6	6
China Southern	737-700	CFM56-7B	5	29	28	28	28	28	28
China Southern	737-800	CFM56-7B	12	39	38	37	37	37	37
CIT Leasing Corp.	737-700	CFM56-7B	10	10	15	15	15	15	15
Continental Airlines	737-700	CFM56-7B	22	22	24	44	37	37	37
Continental Airlines	737-800	CFM56-7B	15	15	13	9	5	2	
Continental Airlines	737-900ER	CFM56-7B	27	27	27	20	21	19	17
COPA Airlines	737-700	CFM56-7B	2	1	1				
COPA Airlines	737-800	CFM56-7B	8	8	7	8	7	9	13
DAE	737-700	CFM56-7B			70	70	70	70	70
Delta Air Lines	737-700	CFM56-7B	10	10	10	10	10	6	5
Delta Air Lines	737-800	CFM56-7B	46	43	40	36	34	34	33
Egyptair	737-800	CFM56-7B	10	9	8	8	8	7	7
FlyDubai	737-800	CFM56-7B						50	50
Futura	737-800	CFM56-7B	3	3	3	3	3	3	
Garuda Indonesia	737-700	CFM56-7B	18	18	18	25	25	25	25
GECAS	737-700	CFM56-7B	1						
GECAS	737-800	CFM56-7B	62	59	109	107	103	98	95
GECAS	737-900ER	CFM56-7B	4	4	4	6	2	2	2
GOL Airlines	737-700	CFM56-7B						1	1
GOL Airlines	737-800	CFM56-7B	74	69	101	100	98	94	93
Government of Iraq	737-800	CFM56-7B					30	30	30

What about Regional Aircraft, Business Aircraft and General Aviation ?

We do have details on these industry segments though the figures come out on a Quarterly basis.

Q4 figures for general aviation, for example, were in our February issue but the following two pages show (a) how we report on the latest GA trends and, (b), how we show the information.

Hopefully, this has given you a good insight to what we publish in Aerospace Market News every month.

We do hope it has been helpful.

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## General Aviation :

### **Turboprops did well in 2008 but overall GA delivery numbers fell.**

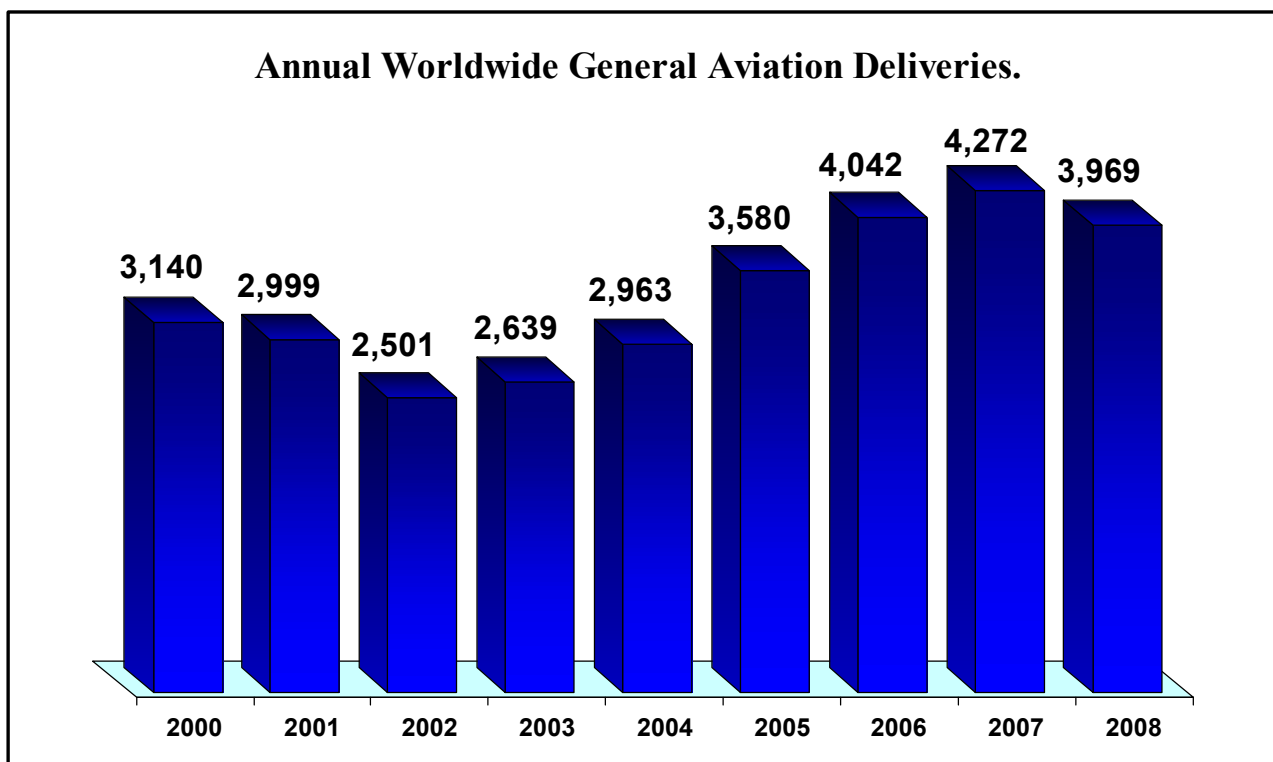
Last year saw the first fall in overall General Aviation delivery numbers for five years but, even so, the figure for turboprops was well up. In fact, the turboprop total in the Fourth Quarter was a record for a single quarter and, by definition, the best Q4 figure for this segment of the industry ever.

There were 535 turboprop deliveries worldwide last year, an increase of nearly 17% on the 2007 figure of 459. The Fourth Quarter total was 195 turboprop deliveries, worldwide, which in turn is an improvement of over 22% on the Q4 2007 figure. Deliveries of U.S. made turboprops were also up last year, by 43 aircraft or nearly 15%. The Fourth Quarter figure for U.S. made turboprops was 119 aircraft, or 19 more than in Q4 of 2007.

Business jet deliveries were also up last year, with a gain of 177 aircraft worldwide for the year which is a 15.6% improvement on 2007 levels. There were 1,315 business jet deliveries last year but the total for the fourth quarter was down on the previous two quarters both in terms of U.S. made aircraft and also in terms of worldwide manufacture.

Where the industry had the most difficulty was in the piston-powered segment of the market. There were 2,199 deliveries last year against 2,675 in 2007. The drop was nearly 21%, or 556 aircraft. Usually, in this segment of the industry, the Fourth Quarter is the best quarter of the entire year. In fact, this has been going on for 20 years or more but everything changed last year. Deliveries of U.S. made piston powered aircraft dropped to 437 in Q4 from 544 in the third quarter which in turn meant that it was the lowest delivery total for a Q4 since 2002. The same applies to worldwide deliveries which hit a record of 818 in Q4 of 2007 but dropped to 473 in the final quarter of last year. Again, this was the lowest Q4 figure since 2002.

Total GA deliveries last year dropped by just over seven percent to 3,969 aircraft but, clearly, this overall decline was massively skewed by the fall in delivery numbers of piston powered aircraft. The increased number of business jet and turboprop deliveries pushed industry billings to a new high of \$24.8 billion for the year, up 13.4% on the \$21.9 billion in 2007. But there is another aspect to the overall decline: Cirrus Design and Diamond Aircraft each delivered just over 160 fewer aircraft last year than in 2007 and the impact of just these two manufacturers' figures was enormous. A handful of other manufacturers also delivered fewer aircraft, but not to the same extent. Others delivered more aircraft last year than the previous year. For example, despite a very poor fourth quarter, Eclipse delivered 63 more aircraft last year than in the previous year. Gulfstream delivered 18 more, Bombardier delivered 21 more, Cessna delivered 26 more and Piper delivered 47 more.



**Worldwide Deliveries :** While the total for 2008 was just over 300 fewer aircraft deliveries, in fact most of the decline can be attributed to just a handful of companies. Both Cirrus Design and Diamond Aircraft each delivered around 160 fewer aircraft last year than in 2007.

### Business Aircraft and General Aviation Deliveries.

Aircraft	Engine	Q1 '07	Q2 '07	Q3 '07	Q4 '07	2007	Q1 '08	Q2 '08	Q3 '08	Q4 '08	2008
<b>Adam Aircraft</b>											
A500	TS10-550-E	0	0	1	2	3					
<b>Total Adam Aircraft</b>		<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>					
<b>Airbus</b>											
Airbus ACJ 318/319/320	CFM56-5	3	2	5	2	12	2	4	2	1	9
<b>Total Airbus</b>		<b>3</b>	<b>2</b>	<b>5</b>	<b>2</b>	<b>12</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>9</b>
<b>Alpha Aviation</b>											
120T	O-235				2	2					
160A	O-320-D2A	2	3	3	1	9	1				1
160Ai	O-320-D2B		1		1	2					
<b>Total Alpha Aviation</b>		<b>2</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>13</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>American Champion</b>											
Adventurer 7GCAA	O-320-B2B	1	3	2		6	1		1		2
Aurora 7ECA	O-235-K2C		2	1	1	4		1	1	1	3
Champ 7EC	O-200-A	1	6	6	8	21	1	1	3	2	7
Super Decathlon 8KCAB	AE10-360-H1B	5	5	4	9	23	5	7	5	7	24
Citabria Explorer 7GCBC	O-320-B2B	1	4	2	1	8	1	5	1	1	8
Scout 8GCBC	O-360-C1G	2	2	3	1	8	3	3	3	1	10
<b>Total American Champion</b>		<b>10</b>	<b>22</b>	<b>18</b>	<b>20</b>	<b>70</b>	<b>11</b>	<b>17</b>	<b>14</b>	<b>12</b>	<b>54</b>
<b>Boeing Business Jets</b>											
BBJ1 (-700)	CFM56-7B	3		2	2	7	1	1		1	3
BBJ2 (-800)	CFM56-7B								1		1
BBJ3 (-900ER)	CFM56-7B								2		2
<b>Total Boeing Business Jets</b>		<b>3</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>7</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>6</b>
<b>Bombardier Aerospace</b>											
Challenger 300	HTF 7000	12	13	10	16	51	15	16	13	16	60
Challenger 604/605	CF34-3B	10	9	7	9	35	15	8	11	10	44
Global 5000	BR710A2-20	7	9	6	5	27	6	8	6	6	26
Global Express/XRS	BR710A2-20	5	7	3	6	21	5	8	6	7	26
Challenger 850 /870 /890	CF34-3B1	3	2	4	3	12	4	7	4	2	17
Learjet 40XR	TFE 731-20-BR	6	6	6	7	25	7	6	7	2	22
Learjet 45XR	TFE 731-20-BR	8	8	9	7	32	7	6	8	5	26
Learjet 60	PW305A	5	3	5	10	23	8	8	4	6	26
<b>Total Bombardier</b>		<b>56</b>	<b>57</b>	<b>50</b>	<b>63</b>	<b>226</b>	<b>67</b>	<b>67</b>	<b>59</b>	<b>54</b>	<b>247</b>
<b>Cessna Aircraft</b>											
172 Skyhawk	IO-360-L2A	21	22	34	56	133	7	16	20	12	55
172S Skyhawk SP	IO-360-L2A	47	75	52	66	240	34	67	55	72	228
182 Skylane	IO-540-AB1A5	19	44	13	85	161	16	35	37	21	109
T182 Turbo Skylane	IO-540-AK1A	16	47	35	42	140	21	37	32	15	105
206 Stationair	IO-540-AC1A5	4	8	2	6	20	5	5	3	4	17
T206 Turbo Stationair	IO-540-AJ1A	26	23	19	43	111	14	21	29	31	95
350 Corvalis	IO-550-N				1	1	3	3	7	1	14
400 Corvalis TT	TSIO-550-C				1	1	13	27	35	35	110
208 Caravan I	PT6A-114A	5	6			11	5	7			12
208B Caravan 1B	PT6A-114A	9	14	20	25	68	12	17	25	35	89
510 Citation Mustang	PW615 F		10	15	20	45	15	19	30	37	101
525 CJ1+	FJ44-1AP	6	7	11	10	34	4	6	3	7	20
525A CJ2+	FJ44-3A-24	7	13	10	14	44	11	14	17	14	56