



**2007 POCKET GUIDE
TO
BUSINESS
AIRCRAFT**

ALAN PEAFFORD

SUPPORTED BY

***Rockwell
Collins***

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Foreword

BUSINESS aviation is probably at its most exciting since the day the world woke up to Bill Lear's concept that led to the coining of the phrase "jetsetter." In 2006 some 13 business aircraft received certification or were first delivered to customers – as we enter 2007 there are close to another 20 business aircraft in serious development.

This pocket book was created to bring together all of the aircraft that are regularly used for business and corporate purposes – and to look too at those aircraft in development that should see certification within the next couple of years.

The book wouldn't have been possible without the support of Rockwell Collins Inc. During the research phase of this 2007 edition the name Rockwell Collins kept popping up as manufacturers talked of development and improvement in both cockpit and cabin technologies. The Cedar Rapids' company develops smart communications and aviation electronics solutions and it is clear that its technology and innovation has been put to good work in advancing the goals of business aircraft manufacturers around the world. We are proud that the company wanted to be part of this project.

I would also like to acknowledge the assistance of the marketing and communication professionals at the aircraft manufacturers who have painstakingly dealt with our enquiries to help us ensure the accuracy of the data used in the book.

Producing this pocket guide is a team effort and I would especially like to acknowledge the great effort of Philip Nasskau who broke away from his attempt to start a career as a commercial pilot in order to do a great job as my technical researcher and editorial assistant; and to colleagues from the *Flight International* and *Flight Evening News* teams who contributed so much. I would particularly like to thank the wonderful Kate Sarsfield, Business Aviation editor, *Flight*, for her wise counsel and enthusiastic support; and the talented Giuseppe "Joe" Picarella and Tim Brown for their skills and enthusiasm that produces such masterpieces as the cutaways you will find at the start of each section. The originals – and more – can be found on the www.flightglobal.com website.

We hope you will find this book of use and would welcome your suggestions for additions and revisions for next year's edition.

Safe – and comfortable – landings.

Alan Peaford, NBAA, October 2006.



The cover image shows the exciting Piaggio P180 Avanti II in action as VIP transport with the Italian air force. Here five of the aircraft - fitted with Rockwell Collins Proline 21 avionics – fly in formation.

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Piaggio P180 Avanti II
Pilatus PC-12
Piper Meridian
Quest Kodiak

VERY LIGHT JET AIRCRAFT



Aircraft in this category have jet engines and a useful load of less than 5,000lbs. The first chapter deals with aircraft that are aimed at owner-pilots; the second chapter is for Ultra Light VLJs - aircraft primarily aimed at the air-taxi market with useful load of less than 3,500lbs and no separation between cockpit and main cabin. The third chapter is for aircraft that would be described as very light or "entry-level" business jets.

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LIGHT JET AIRCRAFT



This category covers business jets with a useful load of more than 5,000lbs but less than 10,000lbs. The first chapter is for the classic light jet with a useful load of less than 7,500lbs with the second chapter as the "Super Light Jets" over 7,500lbs.

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The Mid-Size Jets are determined by having a useful load of between 10,000lbs and 20,000lbs and/or a maximum take off weight (MTOW) in excess of 20,000 lbs. The first chapter deals with class Mid-Size Jets below 15,000lbs and the Super Mid-Size deals with aircraft over 15,000lbs or with a much greater MTOW.

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This category covers the top of the range business aircraft all with useful loads exceeding 20,000lbs or an MTOW exceeding 40,000lbs and falls into three chapters. The first is for Large Jets, the second Super-Large Jets with extra capacity or range and the third is for the Ultra Long Range Jets

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Farnborough Aircraft
Gulfstream
Honda
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Sikorsky
Sino Swearingen
Spectrum

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PERFORMANCE AND SPECIFICATION DATA

The performance and specification data given in the pocket guide are provided from manufacturers' figures where available and are subject to change.

■ Rate of climb is shown at standard MTOW using all available engines.

■ Take off distance is shown at Sea Level, ISA, MTOW to clear 50' obstacle.

■ Landing distance is shown at Sea Level, ISA, MLW, to clear 50' obstacle with nil reverse

■ Max range is shown as full fuel with an average passenger load. The total number of passengers and crew from the figures is shown in parenthesis.

■ Weight figures are shown as Standard MTOW.

1 Outlook

Business Aviation is facing a record year

THE week that a foiled terrorist plot in London brought chaos to the transatlantic commercial air transport world, I was stepping on to a Hawker 800 I had chartered from Club 328 at London's Biggin Hill to join friends and family in Florence, Italy.

Although there was increased security at the executive terminal, the flight took off on time, landed ahead of time and the fast track treatment with the airport's FBO team meant we were where we were supposed to be when we were supposed to be there.

Across the world charter operators reported increased enquiries and bookings – some by as much as 30 percent.

If the terrorists achieved one thing, they have taken down the barrier that led many industrialists and corporations – particularly in Europe – to resist the strong argument to make use of business and corporate aviation services.

Business in the USA has long recognised the advantage of the business aircraft. Now Europe and particularly Russia are buying into that message in a big way.

As we enter 2007, it is against a backdrop of excitement and optimism in the business aircraft industry.

Honeywell whose market forecast has set the scene for the industry planning for the past 15 years is describing 2007 as a banner

year. 2006 was already a record year but the Phoenix-headquartered company is projecting 1,000 new aircraft to be delivered in 2007 and 12,000 business jets over the next ten years, generating industry sales of US\$195 billion at today's prices.

Honeywell's Business Aviation Outlook tracks purchase expectations for business jets with gross take-off weight (GTOW) of less than 100,000lbs down to the entry level jets. At this point the forecast does not take into account the new revolutionary Very Light Jets (VLJ) that could be set to do what Henry Ford did for the automobile industry.

There is still a disconnect between many in the industry and those revolutionaries such as Eclipse Aviation's Vern Raeburn who believe that affordable, mass-produced, small business jets will do more for SMEs than the traditional business jets have done for the larger corporations.

Some manufacturers are adopting a "wait and see" approach. One industry analyst told me that this smacks of the same approach that the American automobile industry had when it ignored the entry of Japanese cars to its market. But behind the scenes the industry is working at creating greater differentiation between the categories or class of business aircraft travel.

Business aviation will never be insulated from economic cycles, but it's clear that manufacturers help stimulate demand with new models incorporating advances in aviation technology. Improved engines, safety systems, cockpit avionics and cabin information and comfort improvements along with advances in aerodynamic design can deliver compelling gains in value to fleet operators, pilots and passengers.

Honeywell's forecast found that like the 2005 survey findings, European operators reported a particularly strong increase in expectations to purchase additional versus replacement aircraft for their fleets, an indication of overall confidence among operators in the region.

The Asia/Africa/Middle East region once again ranks as the area with the highest purchase expectations which grew for the fourth consecutive year to a record level exceeding 50 percent – the highest reading in the history of the survey. Confidence in Asian economic growth is also boosting interest in longer-range aircraft with state of the art avionics.

North America is expected to account for about 61 percent of business jet deliveries over the next five years,

But it is the issue over the VLJ nomenclature that will lead the fighting ground. The VLJ sector will stratify into two, or possibly three, segments that reflect not only the size of the aircraft, but also their price, performance and target market. The divisions are becoming evident as the order books for these new small jets begin to build.

In this book I have segmented them into Personal Jets – a real entry-level jet, if not an entry-level business jet where we shall see companies such as Cirrus following the lead of Diamond in offering an aircraft that is a natural step up from the turboprop recreational owner-pilot who may still fly for business purposes. Honeywell argues that there is a cut-off between the classic very-light and the ultra-light jets (such as the Eclipse 500 and the Adam 700) which is around the \$2-2.5 million mark. Honeywell's survey indicates a potential 10-year demand from corporate flight departments for up to 1,000 ultra light jets, but this is dwarfed by the 4000 aircraft expected to be delivered to owner-pilots over the same period.

The total excludes any demand from fractional-ownership or air-taxi operators.

Embraer's forecast of 2,515 VLJ deliveries between 2006 and 2016 covers aircraft ranging from the D-Jet to the Phenom 100, and so is not directly comparable with Honeywell's. The total also excludes the air-taxi market, which the Brazilian manufacturer tentatively estimates at 2,500-3,000 aircraft over the 10-year period.

Canadian manufacturer Bombardier also

BEHIND THE SCENES THE INDUSTRY IS WORKING AT CREATING GREATER DIFFERENTIATION BETWEEN THE CATEGORIES OR CLASS OF BUSINESS AIRCRAFT TRAVEL.

published its market forecast predicting at least 600 aircraft a year for the industry excluding air taxis and fractional operators. Bombardier suggests that the entry into the market of aircraft such as the Eclipse, the Mustang and others could grow the traditional market. Bombardier's James Hoblyn said "It should bring more people into wanting jets and there is natural progression. More than eighty percent of business jet buyers are existing owners; the growth comes from new demand which can be in other countries or as people move from chartering into owning aircraft."

Bombardier sees increasing demand from new international markets such as China and Russia. "We are now at the position where half our business is from North America and the other half from the rest of the world. The industry generally has 60% of sales in North America. We believe that the emerging economies will be creating a new call of potential buyers."

Whatever way you look at it from the humblest of piston engined aircraft, through powerful turboprops, to large corporate helicopters, personal air taxis, business jets and immaculate air palaces inside the frame of a converted airliner, Business Aviation in 2007 will thrive.

ALAN PEAFORD