DEDICATED TO HELPING BUSINESS ACHIEVE ITS HIGHEST GOALS.

NBAA

RULES OF THUMB FOR BUSINESS AIRCRAFT OWNERSHIP AND OPERATING OPTIONS

RULES OF THUMB FOR BUSINESS AIRCRAFT OWNERSHIP AND OPERATING OPTIONS

May 14, 2012

Disclaimer: This NBAA publication is intended to provide Members with a introduction to the rules of thumb surrounding aircraft ownership and operating options. However, these general rules of thumb may not apply to every company's particular situation. Each company's mission profile and financial considerations are unique. Therefore, readers are cautioned that this publication is not intended to provide more than an illustrative introduction to the subject matter. Since the materials are necessarily general in nature, they are no substitute for the advice of qualified advisors addressing a specific set of facts that readers may face.

Introduction

Given the multitude of aircraft ownership and operating options, it is not surprising that there can be confusion regarding the nature of the various options and the methods for determining which option is best suited to a particular business. This publication is intended to educate NBAA Members about the most common aircraft ownership and operating options available today and to provide some rules of thumb to help them identify the best option for their on-demand air transportation needs.

This NBAA publication outlines the advantages and disadvantages of whole aircraft ownership, fractional aircraft ownership and aircraft charter, including flight cards and block charter programs, and suggests guidelines regarding which option is best suited to a particular travel profile and annualized hourly aircraft usage. The resource concludes with a case study containing detailed cost evaluations.

Whole Aircraft Ownership

Whole aircraft ownership is the most basic form of ownership. As annual demand exceeds 175 flight hours, whole ownership becomes economically viable. Under whole ownership, the aircraft owner directly employs the pilots, mechanics and other personnel necessary to the operation of the aircraft or contracts for some or all such services with an aircraft management company. The process of acquiring an aircraft requires selection of competent aviation tax and FAA counsel, an aircraft acquisition broker or consultant, and perhaps an aircraft lender. When selecting whole ownership, the most important decision is selecting the right aircraft for the company's mission profile that fits in the company's budget. As a general rule of thumb, it is recommended to purchase an aircraft that supports as much as 90 percent of the travel requirement. For the exceptions, other on-demand transportation resources, like charter, can be used. When considering the budget for purchase, the costs of owning, operating and maintaining the aircraft must be considered in addition to the acquisition cost of the aircraft.

WHOLE OWNERSHIP ADVANTAGES

Qualitative advantages of whole aircraft ownership include:

- Complete flexibility on scheduling usage on an ad hoc, short notice, basis (including operation under Part 91 of the Federal Aviation Regulations, or FARs – generally the most flexible form of aircraft operations).
- Generally greater availability of tax deductions, including those for depreciation and interest.
- Direct influence on operational safety and service standards, thereby promoting a world-class safety and service culture within the organization.
- Turnkey piloting and maintenance oversight (if an outsourced aircraft management company is utilized).
- Complete customization of the aircraft interior and exterior.

WHOLE OWNERSHIP DISADVANTAGES

Qualitative disadvantages of whole aircraft ownership include:

- Inflexibility on choice of aircraft size/type to fit each trip; stated conversely, the aircraft size/type is determined by reference to greatest needs, and capital is invested with reference to the majority of trips.
- With whole ownership, it provides the greatest amount of travel flexibility but also the greatest amount of commitment financially and administratively. There are structures and services (joint ownership, aircraft management companies) to reduce this burden. Overall, the commitment level is still high versus fractional aircraft ownership or charter.

As with any asset, there is a certain amount of risk. Operationally, there is a potential liability to the owner and operator that must be properly insured. Safety and standards must be managed well.

Fractional Aircraft Ownership

Fractional aircraft ownership combines many of the advantages, while eliminating some of the disadvantages, of whole ownership. In a classic fractional aircraft ownership program, companies purchase an undivided tenants-in-common interest in a particular aircraft over a specific term (usually five years). Typically each one-sixteenth interest entitles the owner to 50 flight hours per year, although newer programs are innovating on this concept to offer smaller interests with fewer flight hours or usage calculated based on the number of calendar days that the owner reserves the aircraft.

The fractional concept has proven successful because an ownership share allows the owner to access the entire fleet of aircraft managed by the program, facilitating both scheduling flexibility and, depending on the fractional program, aircraft type/size selection, which allows the owner to select the aircraft best suited to the mission on a flight-by-flight basis. Fractional aircraft ownership offers a consistent level of service and standardization. Administratively, the program providers will have a specified point of contact making scheduling and changes easy.

Anyone anticipating as many as 175 flying hours per year should give serious consideration to fractional aircraft ownership. This metric can vary upwards in situations where companies need multiple cabin sizes and range capabilities, as well as "simultaneous usage" requiring multiple aircraft on a single day. The 175 hours metric is suggested because the effective hourly cost of traditional whole ownership and the cost of fractional aircraft ownership will approximate each other, depending on a variety of assumptions made. Primary among these assumptions is the residual value of the aircraft after several years. Because fractional programs may cause aircraft to accrue an average of 1,300 hours per year (versus an average of 400 hours per year for a wholly owned aircraft), and further because the only "buyer" of the aircraft is the fractional program itself, the market value of the fractional aircraft can be expected to decline far more rapidly than with whole aircraft ownership. Offsetting this consideration is that the capital outlay is only a percentage of the capital outlay with whole aircraft ownership.

Consider the following hypothetical example: an aircraft valued at $20 million with a 3 percent annual decline in value results in a loss of $600,000 in capital in year one; the same aircraft is purchased in a fractional program. If the owner required 200 annual hours, then one-quarter share would be purchased, costing $5 million. The fractional aircraft would have to decline in value at least 12 percent in the first year in order for the owner to suffer a loss of $600,000 in capital.

There are several fractional providers to consider with different operational models and footprints. Some fractional programs are small with only a few aircraft and serve a regional market, with aircraft based at only one or two airports. Other programs are large organizations with numerous aircraft of various makes and models, serving national and international markets. Customers of the larger programs can have an aircraft pick them up at any suitable airport in the U.S., and parts of the Caribbean, Canada, Mexico, Central America and Hawaii, and not be charged for deadhead time. Smaller regional fractional programs typically have more restrictions on where they will pick up or drop off, and may charge for deadhead time if the trip does not begin or end at the home operating base of the aircraft. These smaller programs typically attract owners by offering lower fees. With the larger programs, enhanced service parameters translate to increased fees.

FRACTIONAL OWNERSHIP ADVANTAGES

Qualitative advantages of classic fractional aircraft ownership include:

- External turnkey management and high-level, concierge-style services.
- Guaranteed buy-back provisions (less a "remarketing" commission).
- Interchange provisions allow access to multiple aircraft with different cabin size and range abilities.
- Greater degree of anonymity while traveling within a fractional fleet.
- Flexible operating parameters under FAR Part 91, Subpart K, or alternatively, less flexible operating parameters under FAR Part 135, however, with enhanced liability-protection planning.

That last point is worth elaborating on. Fractional program aircraft may be operated under either the general operating rules of FAR Part 91, Subpart K, or under the commercial charter rules of FAR Part 135. Under Subpart K of Part 91, the customer is legally responsible for ensuring that the aircraft is operated in accordance with all applicable laws and regulations, and may be held liable for damages arising from any accident involving the aircraft.

Conversely, when a fractional aircraft is operated under Part 135, the fractional program provider is legally responsible for the operation of the aircraft. Some fractional programs operate all program flights under Part 135. Some fractional programs may not be licensed to operate under Part 135 and therefore operate all flights under Subpart K of Part 91. Most large fractional programs typically operate under Subpart K of Part 91, but are licensed to operate under Part 135 and will do so for any or all flights for any owner who requests it.

FRACTIONAL OWNERSHIP DISADVANTAGES

Qualitative disadvantages of classic fractional aircraft ownership include:

- Increased federal taxes on operations.

- Due to the nature of the fractional model, the aircraft are constantly moving to meet the travel needs of numerous customers, so as a customer, the flexibility of travel is somewhat limited. Trip requests and changes have minimum notice requirements that can be limiting for some passengers.
- Less scheduling flexibility and availability especially during peak periods of usage. During those peak periods, trips can be outsourced to local charter providers on various aircraft.
- Fractional programs have a contractual term; at minimum three years. The early termination provisions are expensive to exercise, so if a business aviation option needs flexibility to change with the travel or company demands, fractional aircraft ownership has limitations.
- A fractional contract will allot a specific number of flight hours per year (e.g., 100 hours per year). A limited number of unused hours will often roll over and some programs permit excess hours to be "borrowed" from the upcoming year. Excess usage hours are typically limited per year with penalties above a threshold, so it is important for a fractional owner to regularly track historic and projected usage throughout the term.

Aircraft Charter

If a company flies fewer than 50 flight hours per year, ad hoc air charter is likely the best option. Flight card and block charter programs also may be considered. However, as will be illustrated in the case study at the end of this resource, charter can be economically disadvantageous with annual utilization requirements in excess of 100 hours per year.

AD HOC CHARTER ADVANTAGES

The use of ad hoc charter for business flights will give greater flexibility as to when and where the charter client can fly versus the use of scheduled airline service. With ad hoc charter, the client controls the departure time for the flight and can fly into and out of a larger number of airports than those served by scheduled air carriers.

Depending on charter aircraft available in the immediate area (within 100 miles), charter affords the ability to match the aircraft with the specific travel need. Thus, if a charter customer can use a smaller, more efficient aircraft for regional travel, the blended hourly cost will be lower.

Charter has tremendous convenience associated with its "ad hoc" nature. The client has no long-term commitment, no capital outlay and no need for aviation expertise. Charter pricing also is generally very competitive, as it ultimately represents pricing that is "subsidized" by the aircraft owner. This subsidy exists because the charter pricing in the United States does not reflect cost of capital, and further only reflects a small contribution towards the fixed-cost overhead of the aircraft.

AD HOC CHARTER DISADVANTAGES

There are several disadvantages to the use of ad hoc charter rather than other alternatives discussed in this resource. Clients will not necessarily be guaranteed a flight on a specific aircraft, although they certainly could request a specific aircraft and receive a confirmation prior to departure.

As a company's need for charter grows, the ability to have access to a specific aircraft becomes increasingly difficult. An aircraft on a charter certificate is primarily dedicated to support its owner. Charter trips are scheduled on an as-available basis and approved by the aircraft owner.

If a specific aircraft is not a requirement, often a charter client can use multiple aircraft or even multiple charter companies. While this can bring some potential cost efficiencies, there is a high potential for variability in aircraft quality and service. The aircraft chartered could be of any vintage or layout and the user may not know ahead of time all of the amenities it will contain.

Ad hoc charter users also will not choose the flightcrew assigned to operate the aircraft. They will not determine the amount or types of insurance coverage for the charter flight scheduled. Additionally, the oversight of multiple vendor relationships can become burdensome.

NBAA has published an *Aircraft Charter Consumer Guide* at www.nbaa.org/charter, which provides pre-screening questions customers should know the answers to before committing to fly with a charter operator.

FLIGHT CARD AND BLOCK CHARTER PROGRAMS

Flight card programs have made fractional program fleets available to persons with aircraft utilization requirements of fewer than 50 hours per year. With a flight card program, a customer generally pre-pays for a certain number of flight hours (typically 25) on a certain make and model of aircraft, and thereby gains access to the fractional fleet of the fractional program affiliated with the flight card program. Whenever the customer flies, the total number of flight hours flown is debited from the card. When the flight hours are all used, the customer has no further obligation to buy another card. Most large fractional programs have one or more affiliated flight card programs.

Block charter programs are similar to the flight card programs associated with large fractional programs, but usually provide for access to fleets of aircraft that are managed by charter operators rather than fractional fleets. Following the success of the fractional program flight card model, these block charter products often are branded as "jet cards." Aircraft in charter fleets tend to be older, on average, and do not have standardized interiors and amenities like those aircraft in fractional program fleets.

With some block charter programs, users may have access to only the charter fleet of a single charter operator. Other

cards provide access to aircraft offered by many charter operators. In order to offer such access, the program is effectively acting as a charter consolidator/broker. Be aware, however, that the hourly rate pricing reflects infrastructure costs and profit margins, and is not simply cost, plus a percentage fee for the service. The business model of these programs requires them to keep their costs to a minimum and to remain competitive vis-à-vis charter companies.

Flight card programs generally offer all of the conveniences normally associated with fractional aircraft ownership. With respect to flight cards tied to fractional programs, there may be a slight cost premium associated with the lower annual aircraft utilization being purchased by the customer. Block charter programs, since they are tied to charter fleets, and therefore reflect charter fleet pricing, conveniences and inconveniences (e.g. older fleet averages), may generally reflect a price advantage vis-à-vis flight cards.

NBAA urges customers who are considering investing in a block charter/jet card program to complete due diligence on the program provider. Ideally, payment for block charter/jet cards will be placed into escrow and payment will be transferred from that account at the completion of a flight. Unfortunately, some consumers have lost significant sums of money dealing with unscrupulous brokers who were selling jet cards.

A Case Study in Aircraft Options

To better illustrate the selection of a specific business aviation solution, the following case study examines the economic breakeven points as well as other important considerations. Additionally, the case study will highlight specific variables and how they may impact the overall decision.

In this particular case study, the following basic assumptions were used:

- The company is a publicly traded company based in the Midwest.
- The overall mission profile determined that a mid-size jet is best suited for their travel needs.
- Primary use will be business with minimal personal use.
- The company's tax position gives it an ability to take advantage of depreciation (MACRS five-year) and all deductions.
- Reasonable charter resources are available nearby but deadheading is required for 25 percent of all flight hours.
- Average leg length is 1.2 hours.
- Ownership is based on a $11 million cash purchase, no like-kind exchange, with a sale at the end of the period using 4 percent annual market depreciation.
- There is no charter revenue or joint ownership.

More specific assumptions are footnoted at the end of the resource.

Under these assumptions, the chart appearing at the top of the next page demonstrates how the cost per hour for the options of charter, fractional and whole ownership vary with total flight hours. The total cost considers an all-in, post-tax, five-year ownership cycle to include all entry/exit costs.

For this specific case study, charter is economically viable up to approximately 125 flight hours per year. Fractional aircraft ownership has an economic advantage over ownership to nearly 175 flight hours per year. Whole aircraft ownership is the best economic option above 175 hours annually.

At 250 flight hours annually, the total cost savings of whole aircraft ownership versus fractional aircraft ownership is $2.25 million over the five-year period; i.e., (($6,500 - $4,700) x 250 x 5).

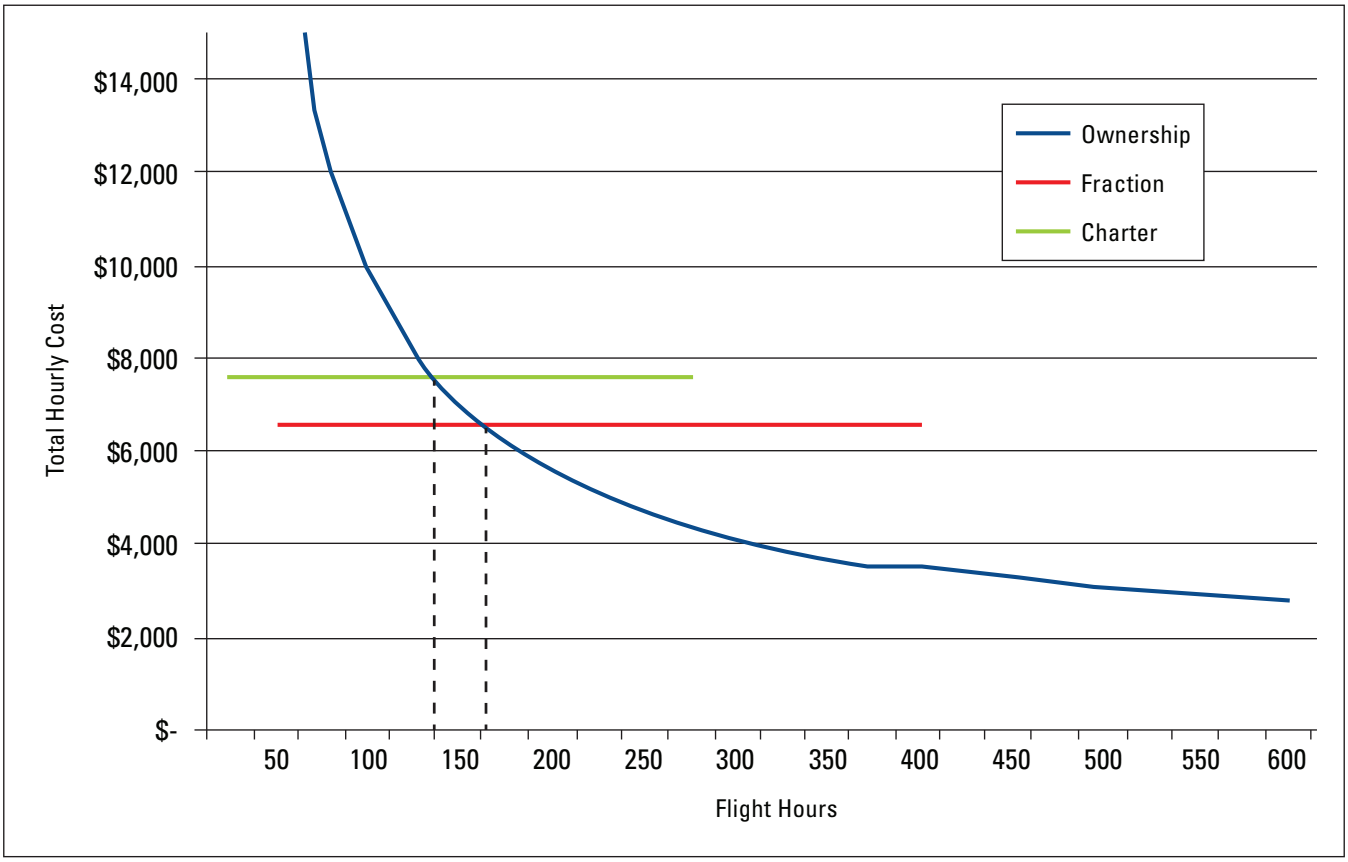
At 150 flight hours per year, the savings of fractional versus ownership is $375,000; i.e., (($7,000 - $6,500) x 150 x 5).

Conversely stated, the premium of whole aircraft ownership is $375,000.

There are important factors to consider before selecting one option over another. In previous sections, this resource highlighted numerous advantages and disadvantages that can qualify one option over another. Additionally, there are a number of economic considerations that are quantifiable. The degree to which they impact a decision should be strongly considered, and should include:

CHARTER ECONOMIC CONSIDERATIONS

- With charter, the customer is responsible for repositioning cost billed at the same hourly rate. So if charter aircraft are not readily available and repositioning is required, the overall cost will be higher.
- Repositioning costs also hold true for one-way trips. If the trip terminates at a destination away from the home airport, the customer is responsible for the cost of relocating the aircraft back home. There is a niche market of operators trying to sell repositioning legs as one-way trips at a discounted rate. However, the ability for the aircraft to match a specific itinerary can be challenging.
- Should a charter trip include idle days between travel days (e.g., depart on Monday and return on Friday), the charter customer is responsible for crew expenses and customarily a daily aircraft "away" fee.
- With these considerations, charter typically is most cost efficient when the aircraft is based locally, and when the trip is out and back within a day or two.



FRACTIONAL ECONOMIC CONSIDERATIONS

- Fractional shares are depreciable assets with lower capital outlay versus whole ownership. With fractional aircraft ownership, the fixed costs are allocated among the various owners by their pro rata share, effectively reducing the overall fixed costs.
- Fractional programs may offer a long term lease, instead of a purchase, providing essentially identical rights and privileges to the fractional aircraft owner, but with the added benefit of a pre-determined capital outlay for the "ownership cost" by virtue of the fixed lease payments.
- Increased management and infrastructure costs exist within fractional programs. Generally, costs to manage a fractional aircraft share (those costs are reflected in both the monthly management fee and the occupied hourly rate) can approximate the costs to manage a whole aircraft for the larger share size purchases (e.g., a quarter-share size).
- Fractional programs have no empty leg or repositioning fees, resulting in the ability to be picked up or dropped off in any city without added costs or inconvenience.
- As mentioned earlier, for fractional programs with multiple aircraft models, the ability to interchange between them is an added benefit and can have a direct cost impact. For example, a fractional aircraft owner of a mid-size jet flown regionally can step up to longer range jet for a coast-to-coast trip. While the overall fixed costs will stay the same, there is a higher fuel surcharge and an interchange ratio for flight hours, (e.g., 1:1.5) consuming more flight hours and effectively raising the variable cost. The inverse is true when stepping down in aircraft size.
- For each leg, fractional programs bill for actual flight time plus an additional 0.2 hour to account for taxi time. Thus, a 1.0 hour flight is billed at 1.2 hours. This effectively reduces the total number of flight hours available to the fractional aircraft owner by as much as 20 percent.
- Many fractional programs have minimum leg lengths, usually 1.0 hour. Therefore, if a flight is 0.6 hour, the billable amount is rounded up to 1.0 hour. A limited number of specific city pairs can be identified and waived from this provision.
- Fractional aircraft experience increased market value depreciation due to high utilization (e.g., some contracts permit as much as 1,700 hours of annual utilization).

WHOLE OWNERSHIP ECONOMIC CONSIDERATIONS

- Whole aircraft ownership has a large capital outlay with financing and leasing options also available.
- As with any asset, the aircraft owner is at risk to the market depreciation of the aircraft. Keeping the aircraft in top condition and watching market trends are recommended. Conversely, the opportunity for appreciation in the value of the aircraft only exists with whole aircraft ownership.
- Whole aircraft ownership brings the responsibility of maintenance and refurbishment costs. These costs are variable and can be very high – upward of $1 million or more depending on the event and aircraft – so these costs must be projected and planned. Conversely, if smoother cash flows are preferred, maintenance and parts programs are available to allow owners to pay toward a major event in smaller increments. These programs can also provide additional benefits for unscheduled maintenance.
- Whole aircraft ownership has the potential for reduced operating costs through generation of charter revenue, most commonly through a management company operating under their charter certificate. Other forms of joint or shared ownership can alleviate some of the ownership costs.

When considering a company's needs and options, it is important to create a model that is very specific to it. Some of the important cost variables to consider when evaluating the choices:

- Taxes – Can the company take advantage of all the tax deductions around the various options? Or should an operating lease be considered? Is bonus depreciation available and does the aircraft qualify? Is the company replacing a like-kind asset and considering a 1031 exchange? Creating a tax plan helps maximize benefits and minimize surprises.
- Aircraft Age – Is the company considering a new aircraft with the benefits of warranty? Or is the aircraft older and in need of refurbishment or equipment upgrades? All ownership costs should be examined for a specified period to include start-up, transition, maintenance, upgrade and exit.
- Charter – Is the company considering charter to offset some costs? Are the charter revenue expectations realistic? Know the market and be conservative in charter estimates. If justification of an aircraft relies on charter revenue, then carefully reassess the need.
- Fuel – The single largest variable cost of ownership is fuel. Close management of this cost is critical. Examine fuel purchasing programs and negotiate the best deal.

In the end, every solution is unique. There are dozens, if not hundreds, of variables to consider. The decision should be made on a thorough analysis that closely matches the company's financial, cultural and service needs.

For additional guidance on business aircraft acquisition issues and best practices, visit the NBAA web site at www.nbaa.org/taxes.

CASE STUDY FOOTNOTES AND ASSUMPTIONS

Company profile:

- Company and aircraft based in Illinois
- 40 percent corporate tax rate
- 3 percent annual inflation rate

Aircraft:

- Mid-size aircraft
- $11 million acquisition cost, cash purchase
- Five years in age, no warranty cost benefits
- Enrolled in engine and parts maintenance programs
- 4 percent market depreciation
- $400,000 total start-up and exit costs to cover brokerage, inspections, parts/tooling

Operations:

- $5.00/gallon fuel expense
- Average leg length is 1.2 hours
- 10 percent deadhead/ferry hours
- Crew staffing is two pilots up to 400 hours, three pilots at 400+ hours
- Maintenance staffing expense calculated at $100/hour with 1.5 maintenance hours/flight hour
- No administrative or scheduling staff included
- 30 percent benefit factor on all salaries

Fractional Program:

- One eighth share, 100 hours
- $22,000 monthly management fee
- $2,800/hour occupied hourly fee
- $1,400/hour fuel surcharge
- 8 percent annual market depreciation
- 7.5 percent remarketing fee

Charter:

- $3,900/hour charter rate
- $500/hour fuel surcharge
- 25 percent deadhead/ferry hours

ACKNOWLEDGEMENTS

NBAA thanks the volunteers of NBAA's Tax Committee who developed and reviewed this Association publication. Special appreciation is extended to its principal authors, Keith G. Swirsky and Christopher B. Younger, GKG Law, P.C., and Jeff Agur, The VanAllen Group, who volunteered their time and expertise on behalf of NBAA Members.

ABOUT NBAA

Founded in 1947 and based in Washington, DC, the National Business Aviation Association (NBAA) is the leading organization for companies that rely on general aviation aircraft to help make their businesses more efficient, productive and successful. Learn more at www.nbaa.org.

Join NBAA today at www.nbaa.org/join.