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Terry Bradshaw, photographed for **Business Jet Traveler** by Stewart Cohen.



STEWART COHEN

SPECIAL SECTION:

AIRCRAFT BUYERS' GUIDE

Featuring articles on **best values** in business aircraft (*page 30*), hiring an **aircraft broker** (*page 36*), and shopping for **hangar space** (*page 38*), plus our **comprehensive directory** of jets, turboprops, and helicopters (*page 40*) and listings of aircraft brokers, financial institutions, and airframers (*page 50*).



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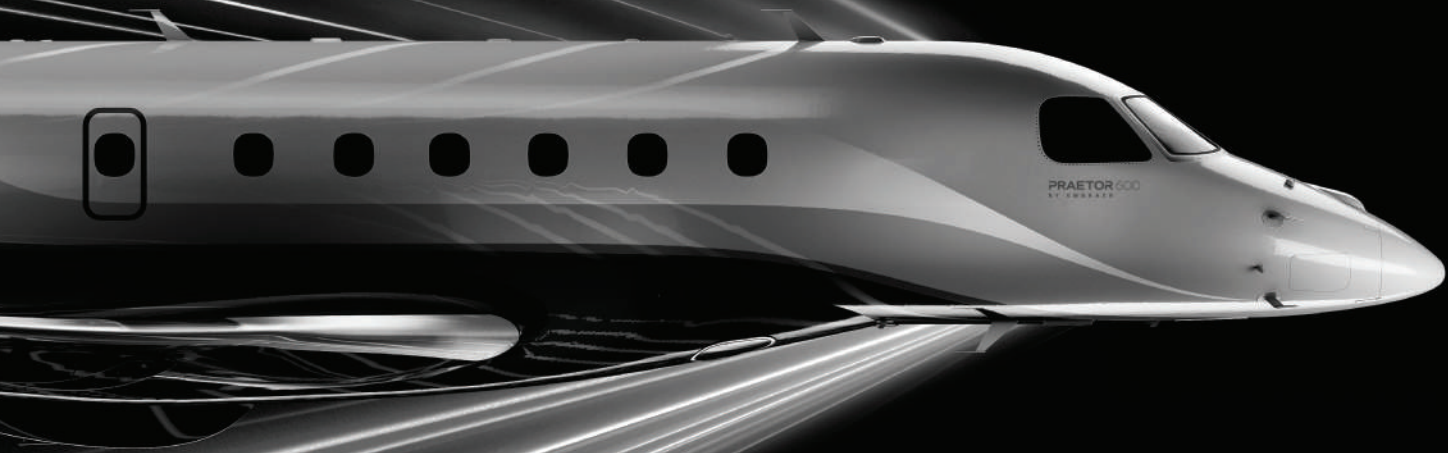


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56 Great Summer Getaways off the Beaten Path

You'll probably be staying close to home in the months ahead, but it's not too soon to start daydreaming about 2021. Seven travel writers suggest vacation destinations you might not have considered.



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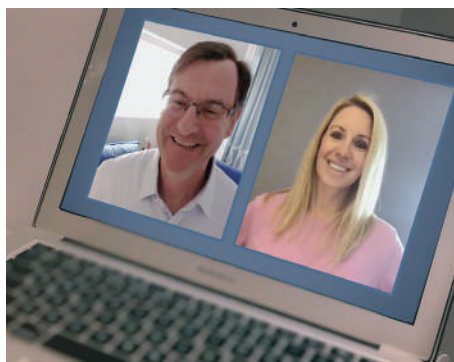


We begin preparing each issue of **Business Jet Traveler** long before it arrives in your mailbox. Working far in advance of our publication date allows us the time we need to research, write, edit, fact check, proofread, and design and redesign pages, to make sure that we give you the best possible magazine.

Several stories in this edition—such as “Great Summer Getaways Off the Beaten Path” (page 56) and Thomas Pero’s Outdoor Adventures column on rafting in Idaho (page 62)—were completed before the COVID-19 crisis stopped the world in its tracks. We chose to keep them in the issue to remind you of the adventures waiting for you once this nightmare ends.

In the meantime, we’ve been covering the impact of coronavirus on business aviation, with special reports in our biweekly newsletter, **BJT Waypoints**, and at BJTonline.com/covid19. There you’ll find information about how private jet companies are tackling the crisis with a variety of measures, such as stringent disinfection protocols. (One service provider treated its entire fleet to an antimicrobial protective coating early on.) You’ll also discover many stories about the myriad ways that bizav companies are giving back—for example, by making delivery runs for hospitals and manufacturing personal protective equipment for first responders.

BJT is headquartered just outside New York City, the epicenter of the pandemic, and my colleagues and I have been working from home with no end date in sight. Our challenges have likely been similar to yours. Recently, I was navigating my five-year-old’s pre-K Zoom



Consulting via Zoom during the pandemic with Charles Alcock, an editor at one of our sister publications.

“alphabet pajama party” while simultaneously participating in my own Zoom call with business colleagues. With my daughter’s event proceeding in the background, I kept muting and unmuting the audio on my laptop while trying to simulate a normal work environment.

Of course, nothing is normal right now, and our hearts go out to everyone who has been impacted by COVID-19, which has brought enormous challenges to every aspect of travel, business, and life. We hope you stay safe—and that this issue will provide a welcome distraction from the crisis by helping you focus on things you’ll do and places you’ll go when better times return.

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P.S. The polls open June 1 for the 10th annual edition of our Readers' Choice Survey, the results of which will be published in our winter issue. Please take a few minutes to share your views on all aspects of flying privately. We know that manufacturers and service providers review these results carefully and that your participation will greatly help your fellow travelers. BJT donates money to Corporate Angel Network for every completed survey, which means you will also be helping cancer patients in need of free flights to treatment. To take the survey now, simply go to: BJTonline.com/2020survey

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Why Art Collectors Are Flying Privately

Art, as they say, is everywhere. That’s why traveling to see it by business jet is such a boon for collectors and curators. Flying privately lets them view as many works as possible quickly and conveniently, whether they’re dropping in at the Venice Biennale or detouring to check out Walter de Maria’s *The Lightning Field*, a land art sculpture in New Mexico’s remote high desert.

The first time Eleusis Art Advisory founder Liddy Berman chartered a jet to enhance a client’s experience was to visit Marfa, Texas, a small town several hours’ drive from the nearest airport served by airlines. That’s where pioneering artist Donald Judd purchased a decommissioned Army base in the 1970s to convert it into an art haven.

“Today, Marfa stands as an international art destination,” Berman says. “Taking my client and her daughter to see [Judd’s] studio, his library, and his exceptional major installations and those of his peers was a great opportunity



Above: Some itineraries include side trips to see art exhibitions such as Sterling Ruby’s *Specter*. Below: Eleusis Art Advisory founder Liddy Berman, who charts business jets to take clients to see artworks for sale.

for them to connect to the artwork in a deeper way. Minimalism has since become a major focus of their collection.”

If a trip to view a collection or exhibition requires a refueling stop, Berman will factor in arts destinations en route—perhaps Robert Smithson’s *Spiral Jetty*, a 1,500-foot sculpture in Utah’s Great Salt Lake, or Sterling Ruby’s *Specter*, which was on display last year in a Southern California desert.

Berman notes that chartering a business jet allows her clients to see art not only around their busy schedules but before other prospective buyers. She recalls chartering a jet for an East Coast client to view works in West Coast storage following the death of a major collector.

“By going straight to the source, we were the first people to view the works,” Berman says. “My client was able to choose which pieces he wanted before they went to the open market.”

Argentine collector Federico Castro Debernardi, who created an arts foundation in Buenos Aires, in 2014, grew up flying privately, as this was often the only way to travel between farms his family owned in Argentina, Uruguay, Paraguay, and Brazil.

Now living in Monaco, he often flies to London on business, to Art Basel, and to the Greek island of Mykonos or the South of France to relax, often bringing friends, artists, and curators along so they can discuss the latest arts news.

“The good thing about flying private is that I can invite people,” Debernardi says. “Given that art is so word of mouth, it’s one more productive occasion during the day for your collecting.” —Gemma Z. Price



🏠 Suggestions for Shut-ins

Book: By 2015, health-technology company Theranos was valued at almost \$10 billion and its young founder, Elizabeth Holmes, was a billionaire who appeared on magazine covers and mingled with prominent politicians and CEOs. Now the company is defunct, and Holmes could face up to 20 years in prison. *Bad Blood: Secrets and Lies in a Silicon Valley Startup*—a superbly researched page-turner by the *Wall Street Journal*’s John Carreyrou—explains what happened.

Blu-ray: Ingmar Bergman produced many classic films in his career, and you’ll find nearly all of the best ones in *Bergman’s Cinema*, including *Persona*, *The Seventh Seal*, *Scenes from a Marriage*, and *Fanny and Alexander*. If you’re still stuck at home after watching all 39 films, you can turn to the set’s 248-page book and countless video bonus features.

Streaming: Critics raved about *Unorthodox*, a four-part Israeli miniseries now on Netflix that tells the story of a woman who abandons her Hasidic sect and starts a new life. Based loosely on a true story, the film combines brilliant storytelling and camera work with a career-making performance by Shira Haas in the lead role. —Jeff Burger

🗣️ QuoteUnquote

“You never know how many friends you have until you get a helicopter.”

—saying on a needlepoint pillow in the apartment of the late billionaire investor Pete Peterson

SOURCE: NEW YORK TIMES





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Whales by the Thousand

Churchill, Manitoba, known for its polar bears, is also the “Beluga Whale Capital of the World.” This remote Canadian village—accessible only by airplane and train—offers visitors an opportunity to see whales found solely in Arctic and sub-Arctic waters. In July and August, thousands of them make their way to the relatively warm Churchill River to give birth to their calves.

Nicknamed “sea canaries” for their high-pitched whistles, clicking, and chirping, these whales look from a distance like whitecaps as they continually surface and dive.

You have several options for observing them. On boat tours, it’s easy to watch the whales as they swim just under the surface, their gray babies by their side. Zodiacs offer a particularly close look, because the whales come right up to them. Kayaking and paddle boarding are other ways to view these intelligent and curious mammals. —Marilyn Jones

Minerals Can Be Rock-Solid Investments

Minerals have been popular collectibles for centuries but they’re particularly in vogue now, at least partly because they’ve often proven to be such good investments. “I’ve seen ones selling for a hundred times what they were selling for 20 or 30 years ago,” says Daniel Trinchillo, founder, CEO, and president of Fine Minerals International. “And I’ve seen collections worth five and 10 times what they cost five or 10 years earlier.”

Collecting minerals started to become more popular in the 1960s and 1970s, when buyers began focusing less on their scientific significance and more on their aesthetic beauty. (New York City’s American Museum of Natural History is opening a minerals wing next year that will reflect this trend.) “What is important to collectors,” says Trinchillo, “is how the object makes them feel and the

impact when they recognize that it hasn’t been cut or polished or manipulated by man. It came out of the ground like this.”

Stuart Wilensky, founder and president of New York’s Wilensky Exquisite Minerals, considers minerals to be works of art. “Like diamonds,” he says, “all minerals are unique and must be judged by several criteria.” Wilensky ranks specimens on a one-to-10 scale, based on factors such as crystal size, quality, form, and definition; color; contrast; luster; transparency; and the “wow factor.”

“There are specimens so vastly superior, so amazingly wondrous, and of such shocking beauty and quality that they rate above all others,” says Wilensky. “They are the nearly unobtainable holy grails I call the 11s, the finest-known examples.”

If you plan to collect minerals, do your research. Go to galleries, museums, and gem shows to discover what’s in demand and what resonates with you. When you’re ready to buy, find an experienced dealer to help you and to make sure your mineral has the attributes that will allow it to appreciate. And bring money: prices for collectible minerals, which typically start above \$1,000, can go as high as \$5 million. —Margie Goldsmith



Rhodochrosite on quartz and tetrahedrite, valued at \$1.5 million.

Giving Back

Project C.U.R.E

Project C.U.R.E. (Commission on Urgent Relief and Equipment) provides donated medical equipment and supplies to under-resourced hospitals and clinics throughout the world. The nonprofit, established in 1987 in Denver, collects and sorts new and overstocked medical supplies from various sources, including manufacturers, wholesalers, and individuals. It then distributes them in places where they are needed most.

The organization, which has served 134 countries, also offers outreach programs. C.U.R.E. Clinics connects volunteer medical professionals from the U.S. with providers in underdeveloped nations while Kits

for Kids provides families with basic but hard-to-obtain medicine-cabinet and hygiene items, such as antibiotic ointment, bandages, and soap.

When the COVID-19 pandemic overwhelmed the U.S., Project C.U.R.E. switched its focus from developing countries to its own backyard, donating 100 percent of its masks, gloves, and personal-protection equipment to first responders in the six major cities where it operates distribution centers. The organization also conducted donation drives resulting in 60 pallets of medical supplies and joined with major corporations to procure masks, bio-protective suits, and other crucial gear. —Jennifer Leach English

BJT readers—who represent one of the highest-net-worth magazine audiences anywhere—clearly have the means to contribute to a better world. To help you do that, we spotlight deserving organizations in every issue. All of them have received a four-star overall rating from Charity Navigator (charitynavigator.org), which evaluates philanthropic institutions based on their finances, accountability, and transparency.



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Breakfast at the hotel

At upscale, big-city venues, it's a time-consuming ritual. Elsewhere, it could be anything from a sumptuous buffet to barely edible.

by Joe Sharkey

As the saying goes, there's no such thing as a free lunch. However, there often is such a thing as a free breakfast on the road.

When I travel, which is mostly for business, I'm eager to get going early. To me, breakfast is not the most important meal of the day, despite what we keep hearing. At a big-city, full-service hotel, I'll pass on breakfast downstairs and grab something at a coffee shop on the street because I hate the time-consuming morning restaurant ritual: wait to be seated; wait for coffee and menu; order food and wait; eat; wait for the check; and then pay \$25, plus tip, for some eggs, bacon, and toast.

However, much of my business travel is away from cities and upscale hotels, in places where the best lodging options are quality mid-scale chains. Fiercely competitive, nearly all offer free breakfast, usually in buffet spreads of varying quality but with one constant: you grab what you want—then you eat it and beat it.

Last year, on a combined business and leisure 13-day driving trip that my wife and I took along with our puppy from Arizona to New York and back, we experienced a range of free hotel breakfast buffets—some meager, some

sumptuous. I usually ignore online ratings, but I pretty much agree with the *NBC Today Show* travel experts' listing of the six hotel chains with the best free breakfasts: Hyatt Place, Embassy Suites, Hampton Inn, Homewood Suites, Residence Inn, and Country Inn and Suites.

I'd almost add a seventh to that list: La Quinta, where we spent four nights because the chain is very dog friendly. I say "almost" because, while La Quinta has been aggressively upping its game through the top mid-scale niche since Wyndham acquired it early last year, two of the franchises we encountered evidently didn't get the memo and offered wan buffet breakfasts consisting basically of coffee, cereal, yogurt, and questionable scrambled eggs.

The late gourmand Julia Child was famously grouchy about hotel buffets in general and buffet scrambled eggs in particular. "Eat the hot food. It is the least likely to poison you," she once advised. "Scrambled eggs on a buffet? I am wary," she added darkly.

Incidentally, if you're wondering how those eggs get scrambled, the answer is that they often come frozen in "boil-in-the-bag" packs. A kitchen worker boils



the bag, fluffs the eggs, and dishes them up. I checked hotel buffet wholesalers and the typical cost for 30 pounds of liquified scrambled eggs is about \$35 (in six five-pound bags). Sausage runs \$31.99 per case of 200 links, 0.8 ounce each.

The notion that breakfast is the most important meal of the day stems in part from aggressive advertising in the early 20th century for Kellogg's Corn Flakes. In the 1920s, pork producers enlisted the public relations impresario Edward Bernays, who persuaded 4,500 physicians to attest to the virtues of bacon, rather than grains, as the basis of a healthy breakfast. Egg producers then got into the act and made it eggs and bacon.

There's still a lot of debate about breakfast's importance, though. I consulted a friend who knows the subject. Jeff Wilkinson is a retired Marine colonel who spent 2019 at the U.S. military base in Kandahar, Afghanistan, as project manager for DynCorp, a civilian contractor that supplies a range of military-operations logistics, including food service, which Wilkinson ran as part of his job. Last year, DynCorp served 3.4 million breakfasts at Kandahar.

"Breakfast is very important when you're working seven days a week, 12

hours a day," he said. He rattled off the most popular breakfast-buffet items at the dining halls DynCorp operates in Kandahar for thousands of troops and civilian workers. "Omelets to order, number one. Crepes with fillings. Pancakes and waffle stations. Pigs in a blanket. Hot and cold cereals. Shrimp. Grits, big favorite. Fresh bakery items. Fresh melons, bananas, grapes, pineapples, papayas, oranges, apples. Blended-fruit drink stations..."

"You do those boil-in-a-bag scrambled eggs?" I asked.

He looked aghast. "We have a nutritionist on staff," he said.

BJT



Joe Sharkey

(jsharkey@bjtonline.com), the author of six books and a longtime **BJT** contributor, wrote a weekly business travel column for the *New York Times* for 16 years.



Terry Bradshaw

The former NFL quarterback is a football legend. He's also a self-described "airplane junkie."

by Margie Goldsmith

When former NFL football star and current *Fox NFL Sunday* sports analyst Terry Bradshaw enters a room, heads turn. Everyone recognizes the six-foot-three longtime Pittsburgh Steelers quarterback whose hands seem almost as big as baseball mitts and who has one of the most powerful arms in NFL history. The Shreveport, Louisiana-born Bradshaw, who these days sports a scruffy gray beard and a mustache, puts people at ease by repeating their names frequently in conversation.

Having played for 14 seasons with the Steelers and led them to four Super Bowl wins and eight AFC Central championships, he has since become one of his sport's most popular—and most active—retired stars. Besides cohosting *Fox NFL Sunday* since 1994, the now 71-year-old Bradshaw has coauthored five books, recorded country western and gospel songs, and had cameo acting roles in TV shows. He also breeds quarter horses on his 800-acre Oklahoma ranch (which he plans to sell and replace with a Texas ranch). In addition, he will soon perform a one-man Las Vegas show that's based on his life and star along with his family in an E! comedy docu-series, *The Bradshaw Bunch*.

Bradshaw has a quick and self-deprecating sense of humor. Asked to name his worst gridiron play ever, he cackles and responds in his Louisiana drawl, "My worst plays far exceed my good plays. There's way too many."

Of course, there were also more than a few good plays—enough to fuel a lifestyle that in addition to the Oklahoma ranch now includes homes on the Big Island of Hawaii and in Sarasota, Florida, plus a pair of business jets.



PATRICK RIVERA

Bradshaw performs in Las Vegas, provides commentary for *Fox NFL Sunday*, and spends time on his horse farm.



STEWART COHEN

Terry Bradshaw

What made you decide at a very early age that you wanted to play professional football?

I looked in the window of a Sears store in Iowa where we were living and saw a mounted football, Iowa Hawkeye helmet, shoulder pads, and cleats. It just mesmerized me, so I asked Santa Claus for a football. When I got it, I knew nothing about football, but it was like the heavens opened up, and the love affair started.

What is your best football memory?

Super Bowl IX, when [Pittsburgh Steelers founding owner] Art Rooney was presented the Lombardi Trophy. We'd just defeated the [Minnesota] Vikings. Mr. Rooney was loved and revered throughout the National Football League, and everybody was pulling for him—kind of like [Kansas City Chiefs coach] Andy Reid this year. To see him get that award was quite rewarding for me.



STEWART COHEN



“[At a very early age], I asked Santa Claus for a football. When I got it, it was like the heavens opened up, and the love affair started.”

What are your thoughts on CTE [chronic traumatic encephalopathy, the brain degeneration caused by repeated head traumas]?

I understand CTE and what has happened. I played with [the late] Mike Webster [the first former NFL player to be diagnosed with CTE]. I understand that brains have been analyzed after players have died and we find out that they had CTE, Aaron Hernandez being the latest.

Your own battle has been with depression, and you've been very open about that.

I've never dodged [the subject of] depression. Depression is real, and it's a disease. Men need to know that it's OK, that it's not their fault. Cancer can be treated and it's not something to be ashamed of, but depression for men has always represented a weakness. That's just so far from the truth. Mine goes up and down. I've had depressions that lasted for months, primarily only when I went through a divorce.

You've been married four times. Do you have any thoughts on the institution?

First of all, I've really been married once, and that's my current wife. The other three were just practice.

What's the one thing in your life that you regret the most?

I'm Christian, and I grew up in a family that doesn't believe in divorce. I'm extremely embarrassed that I have to say, “divorced three times, married four times.”

What advice would you give someone entering into a marriage?

Your wife should be your best friend. Share as much as you can. The more you share, the happier you're going to be together and the better the chance for survival. Don't ignore red flags, because there will be trouble.

The Steelers had a down year in 2019. Do you feel that they're on the decline or was that just an anomaly?

What happened is they lost Antonio Brown, then [Le'Veon] Bell, then they lost their tight end. Then Ben Roethlisberger, their quarterback, was injured. If Ben comes back, they're going to be fine. I thought Mike Tomlin did his best coaching job last year holding that team together, because they were in the playoff run right to the end. They've got to get their quarterback situation solved, and they've got to get some play-makers.

Which current player and coach would you most like to have played with?

Bill Belichick is easily the greatest coach we've ever had. I would love to have played for Tom Landry, Don Coryell. The player I'd

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Terry Bradshaw

love to have played with is Tony Gonzalez, the tight end from the Kansas City Chiefs.

Are there any quarterbacks in the NFL draft who you think will be particularly good pros?

There's no formula for finding a great quarterback coming out of college. Nobody knows their heart; nobody knows their poise. Joe Burrow [Louisiana State University] I think is a lock. And Tua [Tavonai] at [University of] Alabama.

What did you think of this year's Super Bowl?

Loved it! I was there! My wife's a Chiefs fan and I picked the 49ers, so she just started talking to me today.

You seem to have a lot of fun on camera with the crew at Fox NFL Sunday. What makes the show tick?

We're all good friends. We all care and love one another, and that is just huge.

Why do you fly privately?

I need a plane to take care of all my business needs. Before I started flying private 14 years ago, I had to get to a commercial airport in Dallas, hope everything was on time, get where I was going, do the job, and

then either have to stay overnight or fly to the next city. I had to buy [an airplane] because I just couldn't get where I needed to be on my timeframe and save my health. I realized flying privately would give me 40 extra days at home with the hours saved.

How did you go about buying an aircraft?

I studied planes for four years, asked a lot of questions, and read all the books. I just bought a new plane, and now I'm already planning my next purchase. I went to the plane show in Vegas [the National Business Aviation Association's convention and exhibition last October]. Call me crazy, I just love planes.

What's the airplane you just bought?

A Lear 40XR, which services all my needs. It's affordable and the operational cost fits my budget. I also have a Lear 31A. I love the speed, I love the look—classy, sexy. But I'm a big guy and the 40XR gives me about six more inches [of headroom] inside the cabin and gets me everywhere I need to go.

My goal is to move up to a [Bombardier] Challenger 300 or a 604. I've also been looking at the Gulfstream 450 because nothing speaks class like a Gulfstream. And I've looked at the [Cessna Citation] Latitude. If we had a



PHOTOS: STEWART COHEN

Bradshaw shares a laugh with his wife, Tammy.

plane that could make Hawaii, we'd get over there more to see our grandkids. I'm waiting for the price to come down a little bit.

On what basis do you buy a plane?

You don't buy it for your ego, you buy it for business. Can it get four people where we need to go? Six people? I love the Falcons. I've wanted to buy a Citation X, because I think that's just a cool-ass plane.

Why do you need two airplanes?

My 31A just had a 300-hour maintenance check. If I have two planes, as much as we're traveling, I'll always have one ready to go. Also, I paid \$700,000 for my 31A. Why would I want to get rid of it? I'll hold it until I get the 40XR broken in, and then I'll move it. I try to keep planes no more than two years and then I flip them. My pilots know. They say, "Well, boss, how long we going to keep this one?"

You owned a Gulfstream G150 for a very short time. Why?

Someone saw me get out of it and said, "That Terry Bradshaw?" They said, "Yeah. That's his G150." They called my broker, Don Gantt [of Million Air Dallas], and said, "Will he sell his G150?" Don said, "Well, he just got it." They said, "If he'd sell it, what would you want for it?" Don priced it and the guy said, "OK, we'll buy it." He called me, and I said, "What? I just got it!"

What's the best airplane you've ever owned?

The Lear 60. I loved the Citation XL, too. If I want to be classy and sexy, really fast, and safe, of course I'm going Lear. If I want a plane that's safe, economical, affordable, and the direct costs all match up, I'd fly a Citation XL until moving up into the Latitude or the X. I've owned a [Citation] CJ2 and loved it. It was affordable, but it wouldn't get me to California or New York, so I bought the wrong plane. That's my fault, not the CJ2's fault. It's an awesome jet.

What did you buy next?

A Lear 35 because it's the first plane I ever flew inside of, and Bill Lear's son flew me on it from Vegas to Kansas City. I told my brother, "One of these days, I'm going to own one of

these bad boys." We landed and I didn't want to get off the plane. I love sitting in a private jet, kind of like I'm in love with football.

If you had a gazillion dollars and could buy any airplane, what would it be?

I am an airplane junkie. If I had a gazillion dollars, I wouldn't buy one plane, I'd buy bunches of planes. I would buy something extremely sexy and cool. I don't know what Gulfstream's latest plane is, but it's pretty friggin' cool. [It's the G700. —Ed.] If I wanted a plane that I could stand up in and that's wide, I would probably go with the Challenger 300 or [the latest] Gulfstream. I don't think I would want a big, big plane. I just want comfort. I have talked about the [Cessna Citation] Sovereign, but probably I'd go with the Challenger 300.

Have you ever considered getting a pilot's license?

Nope. I wouldn't be alive today if I had a license, because I tend to daydream. Or I'd run out of gas because I'd forget where I'm going. If I hit turbulence and got into clouds, I would panic. I only have the desire to own.

You've been a supporter of the Republican Party over the years. What do you think of it today?

I've been a Republican, but now I'm a registered independent. I don't want to alienate anyone, and the minute you say, "I'm a Democrat" or "I'm a Republican," you're kicking off the other side. I want the best person [in the White House], and I'll pick the one who's most like the way I feel.

Of all your accomplishments, what do you most want to be known for?

I want to be known for being a good guy, a good friend, and a morally sound, highly ethical person. Is there anything better than someone saying, "God, he's such a good guy?" **EJT**

Margie Goldsmith

(mgoldsmith@bjtonline.com), a longtime **BJT** contributor, interviewed the Rolling Stones' Chuck Leavell for our fall 2019 issue. This interview has been edited and condensed.

FASTFACTS

NAME: Terry Paxton Bradshaw

BORN: Sept. 2, 1948 (age 71) in Shreveport, Louisiana

EDUCATION: Graduated from Louisiana Tech University

FOOTBALL CAREER: Selected by Pittsburgh Steelers in 1970 NFL Draft. Threw "Immaculate Reception" pass in 1972, among the most famous plays in NFL history. Threw for 209 yards in Super Bowl X in 1975, including 64-yard touchdown pass, which NFL Films has selected as the "greatest throw of all time."

ENTERTAINMENT CAREER: Has appeared in TV commercials, had cameo roles in TV shows, starred in the film *Failure to Launch*. Sports analyst and cohost of *Fox NFL Sunday* since 1994. Recorded six albums of country western and gospel music and made the Top 20 on *Billboard's* country chart. Cowrote *No Easy Game* (1973), *Terry Bradshaw, Man of Steel* (1979), *Looking Deep* (1989), *It's Only a Game* (2001), and *Keep it Simple* (2002).

HONORS: Named NFL's Most Valuable Player (1978, 1979) and All-Pro and All-AFC (1978). Inducted into Louisiana Tech Sports Hall of Fame (1984), Louisiana's Sports Hall of Fame (1988), Pro Football Hall of Fame (1989), College Football Hall of Fame (1996). Won four Super Bowl titles (1974, 1975, 1978, 1979). Led Steelers to eight AFC Central championships. Is the only NFL player with a star on Hollywood Walk of Fame.

PERSONAL: Owns homes on Big Island of Hawaii and in Sarasota, Florida, and a ranch in Oklahoma. Married four times. Two daughters, Rachel, 32, and Erin, 30, with third wife. Married since 2014 to Tammy, who was his girlfriend for more than a decade before that. Tammy has a daughter, Lacey, 30, and two grandchildren, Zurie, 6, and Jebadiah, 2.

**FACTORY-NEW
AIRCRAFT**



Learjet 75 Liberty

It lacks some of the original 75's features, but it costs millions less.

by Mark Huber

Will the company that rescued the Learjet brand be the same one to bury it?

That's the question that has dogged Bombardier ever since the company flushed development of the futuristic Learjet 85 program in 2015—after throwing \$1.4 billion at it during the previous decade. This left Bombardier with just two variants of the Learjet in the market—the airframe that first flew in 1995 and was the basis for the Models 40 and 45.

The current Learjet 75—an updated version of the 45—is the only Learjet left in production. Bombardier is manufacturing it at the anemic rate of just one per month. Meanwhile, competitive aircraft from Embraer, Pilatus, and Textron collectively saw deliveries of nearly 180 in 2019.

Bombardier aims to change that with a new variant of the 75 called the Liberty. It eliminates features and some standard equipment and two passenger seats, but it comes at a greatly reduced price: \$9.9 million versus \$13.8 million for the original 75.

Industry analysts and some long-time Learjet customers have been publicly nonplussed. Speaking of Learjet last October, Flexjet chairman Kenn Ricci told Bloomberg News, “All good things must come to an end.”

Ricci made his remarks as Bombardier, a highly diversified conglomerate with a serious debt problem, was navigating through a period of enormous organizational and financial upheaval. Over the last year, it has either disposed of, or entered into

agreements to dispose of, its turboprop, commercial jet, flight training, and commercial rail businesses to pay down debt. These transactions have not eliminated the debt, but they have made it more manageable.

Perhaps more importantly, the parts and pieces sales will allow Bombardier to exclusively focus on its business jet enterprise. In addition to Learjet, Bombardier produces the popular Challenger and Global brands of business aircraft, and it sold 76 and 54 of those models respectively last year, producing revenues of \$5.6 billion. In February, then-Bombardier CEO Alain Bellemare characterized the company's business jet division as a \$7 billion enterprise with an order backlog of more than \$15 billion.



FACTORY-NEW AIRCRAFT

Bombardier's business jet focus doesn't necessarily answer the question of what will happen to the Learjet brand. But it is important to note that the company rescued that brand once before, when it acquired it from the depths of dysfunction in 1990, improving existing models and introducing new ones—like the 45.

Bombardier launched the most recent iteration of that aircraft, the aforementioned Model 75, in 2013. The 75 featured new avionics, tweaked engines, revised winglets, and a restyled interior. The new engines and avionics helped the 75 retain the value proposition offered by its predecessors, the Model 45 and 45XR: midsize comfort and performance with light-jet operating costs.

The Honeywell TFE731-40BR engines in the back, at 3,850 pounds of thrust each, have 10 percent more takeoff power than the engines that powered the 45. That gives the 75, which is aided by new canted winglets, faster climb times, better short-field performance, and improved high/hot capabilities. The engines are 4 percent more fuel

efficient than the Dash 20BRs they replace, feature improved turbine sections, and make innovative use of ceramic coatings on critical components such as ducts and turbine shrouds.

The 75 also debuted the Bombardier Vision cockpit, which is based on the Garmin G5000 touchscreen avionics system and includes synthetic-vision technology and new GWX 70 weather radar. In addition, it allows pilots to control cabin lighting and to dial directly into the Gogo Business Aviation Wi-Fi system or the Iridium satphone via the touchscreens while wearing their headsets.

The 75's restyled cabin borrows innovations from the aborted midsize-plus Learjet 85, including side-wall cutouts for increased onboard personal storage, a smoother-looking headliner, and revamped passenger service units. Passenger seats were refoamed and resculpted in two-tone leather for added comfort and a more modern appearance; however, they use the same frames as the seats on the 45.

The Learjet 75 has a 30 percent larger galley than the 45—enough room to serve eight

passengers—thanks to elimination of the right-hand forward closet. The lavatory has been redesigned, yielding a more contemporary look and better functionality with increased storage space. The 75 also comes with a wider selection of cabin materials and finishes.





While laudable, these changes weren't enough to overcome the 75's chief market handicaps: its price and operating costs. Similar aircraft from Embraer and Textron's Cessna unit, albeit a little slower and with somewhat smaller cabins, were selling for up to almost \$5 million less than the \$13.8 million 75. And, unlike the 75, those aircraft were certified to the less stringent Part 23 of the U.S. Federal Aviation Regulations, could be flown single-pilot, and had lower direct operating costs.

Discounted fleet orders from operators such as Flexjet and the U.K.'s Zenith were able to keep the 75's production line open. By late 2017, however, Bombardier admitted that the potential for the aircraft had dwindled to one delivery per month—a prediction that has held close to steady for the last three years.

So in 2019, Bombardier announced the Learjet 75 Liberty in an effort to regain market share—or at least keep the lights on at Learjet's Wichita assembly line. The aircraft eliminates the two forward aft-facing cabin seats, which are replaced by two fold-down ottomans mounted to the forward bulkhead; this creates a pair of executive seats with legroom comparable to what you might find in a large-cabin jet. These seats are accompanied by two oversized and more substantial fold-out sidewall tables.

The external accent lights, auxiliary power unit (APU), and lav sink—all standard on the 75—are

optional on the Liberty. Removing features saves weight and that in turn boosts the Liberty's range by 40 nautical miles to 2,080. But there are downsides. Without an APU, you'll need an independent ground power source to avoid draining the batteries if you want to operate cabin air conditioning or run electrical systems while sitting on the ramp with the engines off. Competing aircraft from Cessna and Embraer don't come with APUs either, but the Embraer Phenom 300E does allow you to run the right engine while on the ramp in "APU mode" to provide cabin cooling.

Customers can still purchase a 75 by ordering a Liberty and optioning the removed equipment, including the additional two forward cabin seats. The *raison d'être* for the Liberty, according to a Bombardier spokesman, is that it is "rightly scoped for the market and competes more directly with light jets."

And for those who value more personal space and light-jet capital costs, who value the inherent increased safety that an airplane built to the Part 25 "transport category" provides, the Liberty may scratch an itch. But in the larger universe, this type of product tuning serves merely to keep an iconic brand on life support. The price of truly reinvigorating Learjet may be beyond what a restructured Bombardier is willing to pay and more than the market will support.



2020 Learjet 75 Liberty at a Glance

Price	\$9.9 million
Crew	2
Passengers	6–7
Range*	2,080 nm
Maximum cruising speed	464 kt
Service ceiling	51,000 ft
Maximum takeoff weight	21,500 lb
Takeoff distance at MTOW	4,440 ft
Cabin	Height: 4 ft 11 in
	Width: 5 ft 1 in
	Length: 19 ft 10 in
Baggage	External: 50 cu ft
	Internal: 15 cu ft

*4 passengers, 2 crew, NBAA IFR reserves | Source: Bombardier

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Mark Huber

(mhuber@bjtonline.com), an aviation industry veteran, has reviewed aircraft for BJT since 2005.

COVID-19 strikes the business jet market

Transactions have all but ceased, but prospective aircraft sellers and buyers should take steps now to prepare for better times.

by James Wynbrandt

Buy, sell, or hold? We're talking about a private jet, not your investment portfolio, as the preowned market deals with the symptoms of COVID-19, which render aircraft values largely unknowable and paralyze the mechanics of transactions. Indeed, you can do little to exercise your options responsibly until the world returns to some level of stability, but here are key considerations to keep in mind while you're waiting.

First, recognize that the market had serious pre-existing health issues on the eve of the coronavirus pandemic. "Everybody was in agreement it would be a tough year," says Jason Zilberbrand, president of valuation and appraisal service Vref. "We made [value] corrections at the end of last year and the beginning of this year."

The arc of year-end retail business jet transactions going back to 2017 reflects a market that was "teetering" as 2020 approached, agrees Jay Mesinger, president and CEO of Mesinger Jet Sales. In December (usually a top month for deal closings), transactions totaled 405 in 2017; rose to 427 amid 2018's market resurgence; and fell to just 367 in 2019.

With global GDP a primary market metric and driver, the International



Monetary Fund's downward revision last October to just 3 percent expected growth for 2019—the lowest rate since the 2008 financial crisis—evidenced a slowdown already in progress, says AircraftPost founder and president Dennis Rousseau. "In any uncertain times, [business aircraft] markets tend to drop," he added.

Then COVID-19 hit. Monthly transactions declined about 19 percent from March 2019 to March 2020 (from 204 to 165—and 60 percent from April 2019 to April 2020 (206 to 82), says JetNet's Paul

Cardarelli, vice president of sales at the transaction-data specialist. (He notes that the April 2020 figures are preliminary and may be slightly low, as the FAA imposed a 72-hour quarantine on submitted transaction paperwork due to this virus—just one of the new and evolving transaction norms.)

Moreover, inventory—which had declined to below 10 percent of the fleet in 2018 for the first time in a decade—is "on the precipice of exceeding" that benchmark and creating "a definitive buyer's market," says Cardarelli.

Since the pandemic began to overtake the U.S. economy, transactions

have all but ceased due to uncertainties about recalibrated aircraft values, widespread disruption of required services, and buyers' and sellers' own business and financial concerns, brokers say. Buyers have largely suspended all contracted purchases, even at the risk of forfeiting deposits. Aircraft owners venturing into the current market, rather than setting an ask price, are specifying "make offer," to gauge buyer sentiment.

Among additional impediments to business as usual: financing is unavailable, as lenders don't know where aircraft values will land. Also, with the

U.S. having been a net importer of preowned business jets, COVID travel restrictions preclude aircraft based overseas from being brought into the country. Domestically, simply delivering an aircraft to an agreed-upon location for a customary viewing and/or prepurchase inspection is fraught with peril: How can flight crews return home without breaching social-distancing protocols and triggering the need for a quarantine period? Moreover, an inspection facility could be forced to shutter due to a virus crisis, stranding an aircraft in the midst of the process. And a part needed to comply with a purchase agreement may now be unavailable because of disruption of the global supply chain, another symptom of the epidemic.

Meanwhile, industry professionals are looking at past calamities in an effort to fathom where COVID will take the market. But they acknowledge that the dotcom bust, 9/11, and the Great Recession were finite events, with consequences and conclusions easier to calibrate than possible impacts of a mysterious and lethal virus.

Nonetheless, pros recommend steps you can take now to prepare for a market reopening. If you plan to sell an aircraft, use this downtime to get maintenance and upgrades performed that will make your jet stand out in what is likely to be an increasingly competitive marketplace.

If you were about to list your aircraft, or if your aircraft is currently for sale, you'd be well advised to do nothing until more clarity emerges on pricing, financing, and

the shape of the market to come.

If you're planning to take advantage of reduced pricing to buy your first jet or upgrade to a more capable model, start working with your advisers now to identify and research the best options for your needs. Another note for would-be buyers: as in previous market collapses, brokers report fielding calls from bottom fishers with cash and expectations of profiting off desperation, inquiries the pros typically disregard. (Indeed, sellers reportedly aren't resorting to panic pricing.) But brokers admit cash deals with motivated sellers are available to buyers who know what they want, and seek reasonable discounts.

Meanwhile, some in the transaction community are viewing this as an opportunity to find new ways to streamline and automate the process, from adoption of online tools for examining aircraft and logbooks to wider use of "desktop" aircraft appraisals sanctioned by the Uniform Standards of Professional Appraisal Practices.

Long-term, many bizav boosters view the pandemic as spurring greater demand for aircraft ownership, and private aviation in general, due to increased concerns about the health risks of commercial air travel and its uncertainties in times of crisis. However, the consensus is that months of sluggish activity and declining values will characterize the market in the interim. But keep in mind that aircraft buyers and sellers just survived a decade of such conditions, so a few quarters of additional uncertainty shouldn't present an insurmountable challenge. **EJT**



James Wynbrandt
(jwynbrandt@bjtonline.com), a multi-engine instrument-rated pilot and regular **BJT** contributor, has written for the *New York Times*, *Forbes*, and *Barron's*.



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Pilatus PC-12NG

If you want a go-almost-anywhere, do-almost-anything aircraft,
this is your best option.

by Mark Huber

The versatility of the Pilatus PC-12 single-engine turboprop harkens back to the earliest days of aviation.

Then, there were precious few runways. The “airport” was anywhere you landed, be it a dusty road, a frozen lake, or a farm field. Airplanes generally were not purpose-built; the same ones that bombed Germans in World War I were later used to deliver the mail.

Over time, aircraft became more specialized, designed for specific missions, and the construction of airports proliferated. Today, there are more than 5,000 public and 14,000 private-use airports in the U.S. But there

remains a vibrant niche for go-almost-anywhere, do-almost-anything aircraft—ones that are unfettered by an absence of pavement and able to swallow passengers and cargo with equal aplomb. Since 1994, the Pilatus PC-12 has dominated that niche, combining go-anywhere utility with creature comforts that include a pressurized cabin, near 300-knot speed, and more than five hours of endurance.

At \$5.4 million (typically equipped), the latest iteration of the PC-12 isn't the least expensive single-engine turboprop, but it is arguably the most versatile. The nearly 17-foot-long, six- to nine-passenger flat-floor cabin is virtually



About Pilatus

Stans, Switzerland–based Pilatus is known for its turboprops and to date has sold more than 1,700 PC-12s and hundreds of other types of turboprop military trainers and utility aircraft. Flying since 1959, its PC-6 “Porter” utility hauler gained fame for being able to take off and land in places where airplanes seemingly should not go.

Thanks to the strength of its turboprop sales, privately held Pilatus has been solidly profitable over the years with its durable if somewhat staid product offerings. Plodding along with a line of versatile aircraft for niche buyers willing to pay a premium for Swiss quality, the company has eschewed trendiness at every turn since its founding in 1939, taking its time to evaluate new markets and develop products.

And, while some airframers are slaves to price points, Pilatus seems impervious to such pressure, confident that customers understand their aircraft’s unique value proposition. A few years ago, a senior company executive told me the company had no intention of ever competing on price. “We’re not a low-cost provider,” he said.—*M.H.*



the same size as that in the \$6.3 million Beechcraft King Air 250 twin-engine turboprop. The PC-12 tackles rough runways with ease and features a beefy aft cargo door that is large enough to accommodate all-terrain vehicles, jet skis, and some household appliances.

Plus, it provides pressurized comfort at altitudes to 30,000 feet and speeds up to 285 knots, with stylish executive cabins fashioned by BMW. And it can take all manner of abuse: PC-12s have operated more than 1,000 hours per year in Australia’s outback and in the Arctic Circle, flying just about any mission you can throw at them—including cargo, air ambulance, surveillance, and executive transport.

Adaptability and good operating economics make the PC-12 the mainstay of U.S. fractional-ownership firm PlaneSense, according to CEO George Antoniadis. The company, which operates the world’s largest civil fleet of the model, routinely uses runways under 3,000 feet long. And you can land and takeoff on strips that are more than a third shorter than that. Stall speed at maximum takeoff weight is a ridiculously slow 67 knots, remarkable for a 10,000-pound airplane. The trailing-link landing gear smooths out the sloppiest of landings and facilitates touchdown on paved or unpaved surfaces.

Pilatus has refreshed the PC-12 several times since its first production models rolled off the assembly line. Updates have included improved avi-



onics, better handling, sharper interiors, more engine power, and a new propeller. Moreover, many aftermarket improvements are available from third-party providers for legacy models. These include anti-skid brakes, cabin Wi-Fi, additional cabin soundproofing, and autothrottle—features that substantially decrease pilot workload. As most PC-12s are flown single-pilot, this is a welcome development.

Pilatus delivered the first PC-12NG (new generation) in 2008 and continued production of the upgraded model through early this year before replacing it with the PC-12NGX. (The NGX features restyled cabin seats, updated avionics, and a tweaked engine that boosts maximum cruising speed to 290 knots.)

The NG offers a host of improvements, including the jet-class Honeywell Apex glass panel avionics system and a retuned Pratt & Whitney PT-6A-67P engine that delivers better high-altitude performance, bumping the maxi-



2008 Pilatus PC-12NG at a Glance

Average price	\$3.1 million
Crew	1–2
Passengers (executive)	6–9
Top cruising speed	280 kt
Range (4 passengers)	1,635 nm
Cabin	Height: 4 ft 10 in
	Width: 5 ft
	Length: 16 ft 11 in

Sources: Vref (price), Pilatus

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imum cruising speed up to 280 knots. The NG also features new winglets; reworked aileron surfaces that make it more responsive in the roll axis; an automatic, digital cabin-pressurization system; and an increased maximum takeoff weight of 10,450 pounds.

Later models of the NG, beginning in 2016, added a five-bladed Hartzell composite propeller with swept blades and a minor aerodynamic cleanup that yields an increased maximum cruise speed of 285 knots (at 20,000 feet). In 2018 Pilatus also upgraded the control software for the PC-12NG and developed a service plan for all PC-12 models that cuts maintenance costs by 20 to 40 percent. On average, a PC-12 costs one-third less per hour to operate than a twin-engine, 200-series King Air.

Last year, the company delivered 83 PC-12s. Prices for used PC-12NGs range from \$3.1 million for a 2008 model to \$4.8 million for last year's model, according to the aircraft valuation service Vref. Few airplanes hold their value better and no other currently produced model matches what a PC-12 can do. **BJT**



Mark Huber
(mhuber@bjtonline.com), an aviation industry veteran, has reviewed aircraft for **BJT** since 2005.

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Best Values in Business Aircraft

by Mark Huber



LEONARDO AW119KX



BELL 429WLG

MARK WAGNER

The distillation of a bargain aircraft: extra value at a competitive price. The “extra” could relate to speed or range, short-runway performance, or cabin size and amenities. Best-value aircraft deliver one or more of these things better than their peers. They aren’t necessarily the bestsellers in their class, but for the right buyer, they could offer the perfect mix of airframe, engines, avionics, capabilities, and panache. Here are some picks in categories ranging from single-engine helicopter to VIP-configured airliner variants.

Single-engine Helicopter

LEONARDO AW119KX

Passengers: 4–7 | Range: 515 nm
Price: \$3.7 million

The AW119Kx combines single-engine operating economics with the sort of interior you’d expect to see in a light twin-engine model. The helicopter’s cabin is nine inches wider and provides almost one-third more volume than that of its nearest competitor—and the AW119Kx boasts a cruising speed that is more than 10 knots faster.

You can choose Garmin G1000Nxi VFR avionics or a Genesys instrument panel, which enables flight in instrument conditions. The aircraft, which can be flown with one or two pilots, is derived from Leonardo’s durable AW109 light twin but is powered by a single Pratt & Whitney 1,002-shaft-horsepower engine. It can be configured for a variety of roles, including law enforcement, firefighting, EMS, passenger transport, military, and flight training.

Light-twin Helicopter

BELL 429WLG

Passengers: 4–7 | Range: 412 nm
Price: \$8.4 million

What should a 90-year-old former U.S. president alight from when skydiving? The Bell 429, of course. When the late George H.W. Bush made the jump in 2014, the helicopter was selected partly for its large

cabin doors, one of the model's most distinctive features, which provide easy egress.

Again, this is a case of speed and cabin size driving value. The 204-cubic-foot, five-foot-wide, flat-floor cabin (including a 74-cubic-foot baggage area) can be outfitted with a variety of executive interiors and can accommodate single-seat widths from 15.5 to 21.5 inches. The 429 features faster cruising speeds than other Bells—up to 150 knots. You also get something that's absent in some other helicopters in its class—a smooth ride—thanks to live-mount vibration dampers on the main gearbox.

Single-engine Turboprop

PIPER M600

Passengers: 5–6 | Range: 1,658 nm
Price: \$2.9 million

The M600 is a longer-range derivative of Piper's Meridian turboprop single. Its new wing—which is only a few inches longer than that on the M500 (formerly the Meridian)—enables it to hold more fuel, and that accounts for its heftier maximum takeoff weight: 6,000 pounds versus 5,092 for the M500. The new wing is also home to a wider-track main landing gear whose design makes crosswinds of up to 17 knots easier to navigate on the runway.

Surprisingly, the difference in required takeoff distance between the two airplanes when fully loaded is less than 200 feet, but the M600 needs more than 500 feet of additional runway to stop. This is an aircraft that can easily use runways shorter than 3,500 feet (sea level, standard temperature). The M600 does particularly well under high-altitude/high-temperature conditions like those encountered in places such as Telluride, Colorado.

Fuel burns are about the same in the M600 and M500 at cruise power—39 and 37 gallons per hour, respectively—and both aircraft have a service ceiling of 30,000 feet. The M600 comes with a solid five-year, 1,500-hour airframe warranty (seven years and 2,500 hours for the engine). It features Garmin G3000 glass-panel avionics with advanced safety features, including one that lets the pilot or his front-seat passenger activate a system that automatically lands the aircraft at the nearest airport.

Priced more than \$1 million below comparably equipped albeit somewhat faster single-engine turboprops, the M600 has obvious market appeal, a time-tested fuselage, modern avionics, and pleasant flying qualities.



PIPER M600

Twin-engine Turboprop

BEECHCRAFT KING AIR 90GTX (TEXTRON AVIATION)

Passengers: 5–7 | Range: 1,260 nm
Price: \$4.2 million

The King Air series 90 twin-turboprop has been produced in one form or another since 1964. Over the years, the aircraft has received numerous cabin makeovers and avionics and engine upgrades. The current model, the \$4.2 million C90GTX, has been in production since 2010. It features a swept-blade “turbofan” aluminum propeller, winglets, and dual

aft-body strakes that improve performance and stability. The strakes allow for reduced minimum-control speed and increased directional stability in all phases of flight. They also reduce the airplane's aft-body aerodynamic drag, slightly increasing cruise speeds.

The four-blade propellers have a 30-degree sweep and are six inches longer than the previous ones. They shorten the GTX's takeoff roll by 600 feet to 1,984 feet and landing roll by 10 percent over a 50-foot obstacle to 2,160 feet, compared with legacy models of the aircraft. The GTX can also fly 200 nautical miles farther and carry 350 pounds more payload with full fuel than its progenitor. In addition, the new propellers allow an rpm reduction



BEECHCRAFT KING AIR 90GTX

SPECIAL SECTION: AIRCRAFT BUYERS' GUIDE

for cruise-power settings that reduces cabin noise to a level found in most new luxury automobiles. Flight-deck avionics have been upgraded to the Collins Pro Line Fusion touchscreen glass-panel system with features including synthetic vision.

Compared with a very light jet, the C90GTx delivers a larger cabin and minor speed differences on short hops. The cabin is more than 12 feet long, nearly five feet tall, and five and a half feet wide. These attributes, combined with twin-engine security and modern technology, make the GTx a top performer even 55 years after the first 90 series King Air was delivered.

Light Jet

BOMBARDIER LEARJET 75 LIBERTY

Passengers: 6–7 | Range: 2,080 nm
Price: \$9.9 million

The current model 75—an updated version of the 45—is the only Learjet left in production. In an effort to keep the product line going, Bombardier is introducing a variant of the 75 called the “Liberty” that eliminates features and some standard equipment and two passenger seats. Concurrently, compared with a stock model 75, the price is being slashed by \$3.9 million, down to \$9.9 million for the Liberty.

The eliminated forward seats are replaced by two fold-down ottomans mounted to the forward bulkhead, creating a pair of executive seats with legroom comparable to what you might find in a large-cabin jet. These seats are also serviced by a pair of oversized and more substantial fold-out



sidewall tables. The external accent lights, auxiliary power unit, and lav sink, all standard on the 75, are optional on the Liberty. Removing features saves weight and that in turn boosts the Liberty’s range by 40 nautical miles to 2,080.

You can still order a 75 by buying a Liberty and optioning the removed equipment, including the additional two forward cabin seats. The *raison d’être* for the Liberty, according to a Bombardier spokesman, is to offer a product “that’s rightly scoped for the market and competes more directly with light jets.”

Unlike many other light jets, the Liberty does require two pilots. However, for those who value more personal space and light jet capital costs—as

well as the inherent increased level of safety of an airplane built to “transport category” standards—the Liberty could be a good fit. (See page 20 for a full review of this aircraft. —Ed.)

Midsized Jet

EMBRAER PRAETOR 500

Passengers: 7–9 | Range: 3,340 nm
(4 passengers) | Price: \$17 million

Embraer has rebadged and retooled its midsized jet with new interiors, more fuel capacity, new winglets, increased engine thrust, and updated avionics. Derived from the Legacy 450, the Praetor 500 offers a 5,800-foot cabin altitude and a six-foot-high flat-floor cabin.

The new “Bossa Nova” interior features redesigned seat stitching, carbon-fiber accents, and a minimum of visible switchology. The latter is largely thanks to an upper tech panel, which displays flight information and provides cabin-management-system features for Honeywell’s Ovation Select. Gogo Vision entertainment is optional with the addition of Gogo Avance L5 air-to-ground connectivity equipment. Global airborne connectivity is available with Viasat Ka-band satcom and IPTV.

The Collins Pro Line Fusion avionics have new capabilities, including MultiScan radar that adds vertical weather and predictive wind shear, cockpit display of ADS-B In traffic, and a synthetic vision guidance system that enables approaches in poor visibility. Embraer’s enhanced vision system, the



MARK WAGNER

Collins HGS-3500 compact head-up display, and a Honeywell inertial reference system are options that give the 500 navigation and safety enhancements typically found only in large-cabin jets.

New, larger winglets and additional fuel capacity help to boost the range in the 500 by 350 nautical miles. With the extra fuel's weight comes the need for more pavement, however: fully loaded, the 500 requires 4,222 feet of runway for takeoff.

Super-medium Jet

GULFSTREAM G280

Passengers: 8–10 | Range: 3,600 nm
Price: \$25 million

A decade ago, Gulfstream reworked the G200 super-midsize jet, an aircraft lauded for its flat-floor, stand-up cabin but often knocked for maintenance problems and long-runway requirements. The improved aircraft, the G280, features more powerful Honeywell high-efficiency turbofans; a new wing; and a restyled, far more functional interior that delivers large-cabin comfort.

The new engines power the G280 up to 41,000 feet in just 20 minutes and reduce cabin noise. The redesigned transonic wing considerably shortens required takeoff distance under full load. The aircraft can now comfortably use 5,000-foot runways. Up front, the G280 is guided by a PlaneView cockpit built around the Collins Pro Line Fusion system. It features three large, high-resolution 15-inch LCD displays and can be outfitted with synthetic and enhanced vision, enabling landings in the worst weather and the most challenging topography.



EMBRAER LEGACY 650E

The G280 features a large, 154-cubic-foot baggage compartment that is accessible in-flight. Three basic cabin layouts are available in eight-, nine-, and 10-passenger configurations, including double-club and club with half-club opposite a three-place, side-facing aft divan. Overall cabin length is 25 feet, 10 inches from the forward edge of the lavatory to the aft edge of the galley. The lavatory is four feet wide and has a wardrobe closet, two large windows, a sink with a raised ledge, and a vacuum toilet system. Cabin altitude at 45,000 feet is a comfortable 7,000 feet, and the G280 has Gulfstream <https://ai-npublications.slack.com/archives/C011UA7RFA5>'s "100 percent fresh air system."

Large-cabin Jet

EMBRAER LEGACY 650E

Passengers: 8–10 | Range: 3,900 nm
Price: \$26 million

Priced like a super-midsize jet but with the roominess of a large-cabin model, the \$26 million Embraer 650E builds on its predecessor, the Legacy 650, and adds an upgraded Honeywell Primus Elite Advanced Features avionics suite that has synthetic vision and autothrottles as standard equipment. Also incorporated are a restyled interior and the Honeywell Ovation Select cabin entertainment and management system. Primus Elite Advanced features replace all CRT flight displays with more reliable LCDs. The new aircraft comes with a 10-year or 10,000-flight-hour warranty.

Compared with the super-midsize crowd, the Legacy's cabin is 60 percent larger, measuring 1,410 cubic feet. It is 43 feet long, six feet high on later models (five feet 10 inches on earlier ones), and just under seven feet wide with seating for 14, although 10 is more reasonable.

The typical executive cabin features a forward galley and closet; four large executive seats arranged in a facing group sharing two foldout tables; four slightly smaller seats with a conference table and an opposite-facing credenza; and an aft stateroom area with two more large single seats, a foldout table, and an opposite-facing divan or couch. The divan is available with a berthing top that slides out to create a comfortable sleeping surface. The six large executive seats recline, track forward, and aft and swivel.



GULFSTREAM G280

SPECIAL SECTION: AIRCRAFT BUYERS' GUIDE

The Legacy's 240-cubic-foot baggage compartment can hold 1,000 pounds and can be accessed in flight through the roomy 92-cubic-foot lavatory. The lavatory contains a generous wardrobe closet, ideal for in-flight clothes changing.

Large-cabin, Long-range Jet

DASSAULT FALCON 8X

Passengers: 12 | Range: 6,450 nm
Price: \$59.3 million

The 8X is a stretched, longer-range version of the popular 7X trijet. The aircraft builds on the features, flight characteristics, and superior operating economics that have made the 7X popular, adding more utility and luxury.

The 8X has a range of 6,450 nautical miles (with eight passengers and three crew, at Mach 0.8), 500 more than the 7X. The extra range—courtesy of an additional center-fuselage fuel tank and a lighter, redesigned wing—enables the 8X to fly nonstop from Hong Kong to London, Paris to Singapore, and Beijing to Los Angeles. The reworked wing also keeps the 8X competitive on short runways: it needs 6,000 feet to take off fully loaded but can stop in 2,150 feet.

The aircraft is designed for long-range comfort with a cabin altitude of just 3,900 feet at a cruising altitude of 41,000 feet. With nearly 1,700 cubic



feet of space, you can choose from more than 30 cabin layouts in three zone configurations. Possibilities include turning the aft cabin into a media lounge with oversized divans and a pop-up monitor or making it a separate stateroom with a sliding pocket door. Mid cabin, there's space to install a six-seat conference grouping. With 33 cabin windows, the 8X delivers more natural cabin light in more places. Other attributes of the 8X include an optional vacuum toilet in the forward cabin and a better cockpit that features super-comfy seats and the new EASy 3 glass-panel digital avionics.



Bizliner

AIRBUS ACJ319NEO

Passengers: 19 (typical) | Range: 6,750 nm (8 passengers) | Price: \$85 million (plus cabin completion)

The Airbus ACJ319neo (new engine option) features fly-by-wire flight controls mated with new-generation, fuel-efficient engines that significantly boost range and cut operating costs. The ACJ319neo's range is 6,750 nautical miles—more than 600 nautical miles better than that of the legacy ACJ319, with eight passengers, albeit at a relatively pokey Mach 0.82.

But you're paying for comfort, not speed. The 950-square-foot cabin measures about 12 feet wide and 78 feet long. All that space means the only limiting factors as to what goes in the cabin are weight, price, and your imagination. The Atelier Pagnani Automobili design house has schemed an ACJ319 cabin with a "sky ceiling," a generous amount of curves, and partitions that can change from clear to opaque electronically.

The layout features separate cinema, dining, and lounge areas. An improved environmental-control system lowers the cabin altitude to 6,400 feet at cruise flight. Better efficiency means the airplane can carry less fuel, and that leaves a lot more room for baggage: 222 cubic feet on the ACJ319neo. With this model, you can be assured of lower fuel burns, the latest technology, plenty of room to stretch out, and a level of decadent comfort that only airplanes this big can provide. **BJT**

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Hiring an Aircraft Broker

Looking for help with a sale? Here's how to find a firm that gets results.

by Jeff Wieand

No matter what they sell—used cars, securities, aircraft—brokers don't always enjoy the best public reputation. In my experience, though, most aircraft brokers do try to represent the best interests of their clients. That doesn't mean, of course, that they're equally good at their jobs. Here are some things to consider when hiring a broker to sell your business jet.

The first step is to identify some candidates. You may find that they come to you. Brokers are always looking for listings and sometimes contact people they think might be interested in selling an aircraft. Obviously, you shouldn't hire a brokerage just because it's the first one to call you. One place to investigate further is the website of the International Aircraft Dealers Association (IADA, formerly

NARA). As of this writing, iada.aero lists 42 IADA "accredited dealers," including some of the best-known business aviation brokers in the U.S.

The IADA website would greatly simplify your search if not for the fact that the vast majority of aircraft brokers (including many well-known ones) are not members of that organization. You can find many more on the National Business Aviation Association's website (nbaa.org), which lists over 500 companies engaged in aircraft sales. To whittle this list down to a manageable number of candidates, you will have to consult people you know and trust. Firms that deal regularly with brokers, such as aircraft acquisition consultants and aviation attorneys, are often good sources of referrals.

Once you have narrowed the list to several candidates, ask them for marketing proposals, which

if nothing else will show you how firms that want to market your aircraft market themselves. Visit brokers' websites to see how they sell other aircraft, and arrange meetings with each candidate, if possible. If you can get references, call them; a prominent broker once told me he was astonished by how few prospective clients contact the references he provides.

One of the most important considerations in evaluating brokers is their experience. Has a brokerage been in business for 30 years or is it just starting out? What aircraft has it sold in the last few years? Does the list include aircraft like yours? A broker specializing in, say, the Cirrus SR20/22 would be a poor choice to market a Bombardier Global 6000. The Cirrus broker won't have the experience in the Global 6000 market needed to price your aircraft

for sale or advise you about whether to accept or counter offers below your asking price. Nor will it have the expertise to deal with Global 6000-specific questions from potential buyers, such as “How does the Global 6000 differ from the Global Express XRS?”

If you’re looking for aircraft-specific experience, consider retaining the manufacturer to broker your airplane. Most business-jet manufacturers have a department dedicated to brokered sales of its preowned aircraft. As of this writing, for example, Gulfstream’s website lists 12 of its preowned jets for sale, including five G650s. It’s reasonable to conclude that these folks know the Gulfstream market.

Yet such multiple listings of the same model jet point to a potential problem. Suppose you are selling s/n 8 of model X and the candidate broker already has a listing for s/n 9. When prospective buyers call, you may worry that the brokerage will push the other aircraft, especially if it has had the listing for a while. You may have the same concern about a broker that is also a dealer (not to mention the manufacturer) that actually *owns* the competing aircraft. To further complicate the issue, a competitive situation can also arise between different models of aircraft that are archivals, such as the Falcon 2000 and Challenger 604.

Of course, brokers rarely have listings of aircraft with consecutive serial numbers. Even if the serial numbers are close, the two aircraft might still be priced quite differently, based on factors such as airframe time, equipment, and damage history. But there may nevertheless be advantages to selecting a broker even if it has other listings for your model and the concerns seem valid. As suggested earlier, multiple listings may be evidence of the broker’s depth of experience with your kind of aircraft. True, someone may call about your airplane and end up buying another one listed by the broker. But the reverse is also possible; buyers who call the broker about another aircraft may end up buying yours.

Incidentally, brokering of competing aircraft is not the only conflict of interest a broker can have. Consider whether the broker also represents jet buyers or is in the jet appraisal business. Under some circumstances, these activities can also create conflicts for the broker. I remember speaking to a seller who, after its aircraft languished on the



A GOOD BROKERAGE AGREEMENT SHOULD STATE THE FOLLOWING:

- » How the broker is compensated. A flat fee? A percentage of the sale price?
- » When the broker is to be paid. Most expect payment when the sale closes.
- » How long the agreement lasts. Three to six months is fairly standard.
- » The circumstances under which the broker is due a commission if the aircraft is sold after the agreement expires.
- » Responsibility for sales and marketing expenses. Such expenses are often the broker’s responsibility. Expenses of a demonstration flight are a subject of negotiation between buyer and seller.
- » Who is authorized to accept, reject, and counter offers.

market for months, was distressed finally to receive an offer...from another client of his own broker. (“How am I supposed to evaluate this offer?” the seller wondered.)

A classic issue in selecting an aircraft broker is the size of the organization. A big brokerage with listings for 30 jets may seem to completely outclass a one-person shop. But at least when you call the one-person shop, you know who you’ll get. On the other hand, when you call the big operation, you may find yourself shunted off to a junior staffer—the same one potential buyers of your aircraft may be talking to. If you selected a broker based in part on how well you interacted with someone there, you may want to ensure that he or she will be per-

sonally managing the sale of your aircraft.

One reason you should request proposals from several brokers is to compare the brokerage fees and the handling of marketing expenses. You may want to negotiate your own fee arrangement. Rather than agree to pay the broker \$150,000 no matter what the sale price is, for example, you could offer to pay based on a sliding scale: \$130,000 at price X and \$170,000 at price X+Y.

You need not insist on hiring a broker in your area. Working with someone local can have minor advantages, but it’s less important than hiring a reputable, experienced broker who will work hard to sell your aircraft.

Don’t pick a brokerage because it has the lowest commission. You don’t want to overpay, but you also want to make sure the firm you hire is properly motivated to sell your aircraft.

Don’t hire a broker just because it says your aircraft is worth more than the competition says it is. Is the firm smarter than everybody else, or is it just trying to get the listing? You don’t want to get a call from your broker after two months asking for a drastic price reduction because it turns out your Hawker 800A isn’t worth \$10 million.

And don’t let the broker act as your attorney, providing and negotiating a purchase agreement. Get your own aviation lawyer.

A brokerage arrangement should be written down. Most brokers have a form of agreement, and you should review it before making a final decision on which broker to retain. The agreements are subject to negotiation (*see box*). If you already know prospective buyers for the aircraft, make sure the agreement contains an exclusion stating that no commission will be due if one of them ends up buying it.

No matter whom you hire, keep in mind that you may have to wait a while to get your price—and that your aircraft is unlikely to go up in value in the meantime. **BJT**



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Finding a Home for Your Aircraft

ADOBE STOCK

It's a good time to be in the hangar business but not so good a time to be shopping for space in one.

by Jeff Wieand

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ocating hangar space at airports like the New York area's Teterboro and White Plains is becoming a serious challenge for jet owners. Hangars at desirable locations sell out even before they're built. In some cases, you may have to reserve space in a hangar well before you even buy your aircraft, and worse, you may have to put up a non-refundable deposit or actually start paying the rent just to hold the space.

All in all, it's a good time to be in the hangar business, for the immediate result of a dearth of

space is easy to guess: the cost of hangaring a jet goes up. But even exorbitant rents are not enough at some places to satisfy lessors who have taken to requiring a minimum annual fuel "uplift" at their hangars to sweeten the deal further. If you don't need that minimum fuel, you'll have to pay for it anyway.

The best chance of finding space at a crowded airport may be to have your aircraft managed by a company that owns or leases its own hangars or has guaranteed hangar space. All other things being equal, a company would much prefer filling its hangar with managed airplanes rather than non-managed ones.

The best chance of finding space at a crowded airport may be to have your aircraft managed by a company that owns or leases its own hangars or has guaranteed hangar space.

If space isn't available where you want to be, your options are limited. If you're replacing a jet, you may be able to substitute the new aircraft in the hangar for the old one. This leaves the old aircraft sitting outside until you sell it, unless you move it to another location that has room. And swapping the space won't work at all if you're trading up from, say, a Citation II to a Global 6000.

In some cases, you may be able to strike a deal on a "space available" basis with the hangar lessor, who essentially agrees to move your aircraft into the hangar when there's room and to park it on the ramp when there isn't. The agreement should include a commitment to provide regular guaranteed hangar space when it becomes available, which gets you on (and maybe at the top of) the waiting list.

An obvious disadvantage of a "space available" arrangement is that your aircraft spends a lot of time parked outside—a worrisome issue in wet, sandy, or otherwise inhospitable climes. The best that you can say for this plan is that it's cheaper to keep your airplane outside than in the hangar. If the outdoors is unacceptable, the alternative is to hangar the aircraft at the closest airport that has room until space opens up.

Hangar and fuel prices may well be cheaper at the distant interim airport, but there are drawbacks, too. Unless you plan to drive to that airport every time you want to fly, the aircraft will have to be flown to your location, which involves expense and adds airframe and engine times and cycles. Basing the airplane in a different location, even temporarily, may also have state and local tax consequences that you must consider before you take the plunge; in the case of a newly acquired aircraft, it can actually be helpful for tax purposes to hangar somewhere else for a time.

Local government entities or "airport authorities" generally own and/or operate airports. Space in a hangar will either be leased directly from the airport sponsor or subleased from an FBO or other service provider that, in turn, leases the space from the sponsor. In the latter case, the sublease may contain provisions regarding what happens if the head lease terminates. The lease will ordinarily also cover office space for the crew for an additional charge.

Assuming you and the hangar lessor have agreed on a term, a monthly rental fee, and the termination rights, the main issue in a hangar lease is: who is liable for what? From your perspective as the jet owner, the purpose of the lease is to retain a company that will safely store your aircraft so you can sleep at night. You also want to hold the company responsible if it doesn't do the job well, and the potential liability for a lessor in a large jet hangar is enormous. The collapse of hangars at Washington Dulles during the 2010 "snowmageddon" resulted in the total loss of three Globals, a Falcon 900EX, a Falcon 2000EX, a Hawker, and a Beechjet. Various other aircraft were seriously damaged.

Who pays for losses like that? The hangar lessor's idea, of course, is to make you responsible. The lessor will furnish the draft lease, which is likely to contain a catalog of proposed defaults by you, including the failure to comply with any term of the lease; it will also probably require that you indemnify the lessor for any damages or expenses arising from any of those defaults or its negligence or willful misconduct.

On the other hand, the lease may be entirely silent regarding defaults by the lessor and contain instead a lengthy "disclaimer" of any lessor liability and/or a limitation of liability for incidental, consequential, and punitive damages designed chiefly for the lessor's benefit. Lessors may also disclaim responsibility for the aircraft when it's not on the ground, not on the premises, not in the hangar, and not under the care, custody, and control of the lessor. They may also adorn the lease with a long list of rules and regulations governing the behavior of lessees (with regard to storing

equipment, blocking fire doors, and playing music in the hangar, for example).

The hangar lessor's concern is not entirely unwarranted. A business jet hangar is likely to be full of expensive airplanes and is not a good place to play tag, toss around a baseball, or barbecue steaks. A growing source of liability in recent years has been environmental pollution from fuel, oils, lubricants, solvents, and heavy metals; even a few drops of trichloroethylene in an Olympic swimming pool can trip federal standards. However, both the hangar lessor and the aircraft owner are potentially responsible for such pollution, and some hangars around the country have been empty for years, even decades, because no one wants to clean up the sites.

One would hope that insurance would cover most liabilities. Here again, the lessor's proposed hangar lease is likely to require you to carry liability, hull, automobile, and workers' compensation coverage, often with minimum amounts, but none of them may cover environmental liability. To protect you, the lease should also require the hangar lessor to carry hangar keeper's liability, workers' compensation, and general liability coverage in appropriate amounts, and contractual indemnities and disclaimers should run both ways.

Hangar leases are often presented as "contracts of adhesion" to which changes are strongly discouraged or "impossible," often because the sublease from the hangar lessor supposedly must mirror its head lease with the airport authority. In truth, the leases are usually negotiable to some extent, though negotiating leverage may be at a minimum where hangar space is at a premium. Nevertheless, given the issues involved, you should ask your aviation attorneys to review any hangar lease carefully before entering into it.



AIRCRAFT DIRECTORY

As soon as its first owner departs from the manufacturer's delivery center, a new airplane technically becomes used (or preowned). For various reasons, however, 10 years after an aircraft's final production date is generally considered the milestone separating "newer" used business aircraft from "older" ones.

In deciding which aircraft to cover, we went well past this 10-year mark to provide information on certified business airplanes and helicopters manufactured since 2000. This means our list includes some models built before that year, as long as they were still being produced as recently as 2000. As a rule, a long production run is indicative of a successful aircraft.

Our thanks to Conklin & de Decker, which provided nearly all of the production, specifications, and performance data for this directory, as well as cost figures. Visit bjtonline.com/aircraft for an interactive version of these listings.

PRICING

Cost figures represent the manufacturers' list prices for current or most-recently produced models.

PASSENGER SEATING

The typical passenger seating on the aircraft is not the maximum certified seats. These numbers may vary for different operations (corporate, commercial, EMS, etc.).

CABIN DIMENSIONS

Cabin volume is the interior volume, with headliner in place, without seats or other furnishings. Cabin width, height, and length are based on a completed interior. Width and height are the maximum within that cabin space. In "cabin-class" aircraft, the length is measured from the cockpit divider to the aft pressure bulkhead (or aft cabin bulkhead, if unpressurized). For small-cabin aircraft, the distance is from the cockpit firewall to the aft bulkhead.

RANGE

For jets and turboprops, unless otherwise indicated, it's the maximum IFR range with four passenger seats occupied, using the NBAA IFR alternate fuel reserve calculation for a 200-nautical-mile alternate. For helicopters, it's the VFR range with all passenger seats occupied.

PRODUCTION STARTED/ENDED

Year of the first delivery to the year of the last serial-number delivery.

N/A=Not Available

JETS



Aircraft	Price (\$ millions)	Production		Cabin					Range (nm)
		Year started	Year ended	Pax (typical)	Volume (cu ft)	Height (ft)	Width (ft)	Length (ft)	
AIRBUS									
ACJ318 Elite	\$77.4	2005	In Production	19	5,300	7.3	12.1	70.9	6,360
ACJ319	\$82.0	1998	In Production	19	5,843	7.3	12.1	78.8	6,360
ACJ320	\$85.0	1989	In Production	19	6,825	7.3	12.1	91.0	6,360
ACJ321	\$115.0	1997	In Production	19	8,547	7.3	12.1	113.8	N/A
BEECHCRAFT/TEXTRON AVIATION									
Beechjet 400A	\$6.7	1990	2003	7	305	4.8	4.9	15.6	1,318
Hawker 4000	\$22.9	2008	2012	8	746	6.0	6.5	25.0	3,177
Hawker 400XP	\$7.8	2004	2010	8	305	4.8	4.9	15.5	1,318
Hawker 750	\$13.3	2008	2011	8	551	5.8	6.0	21.3	2,081
Hawker 800XP	\$13.2	1995	2005	8	551	5.8	6.0	21.3	2,539
Hawker 800XPi	\$13.2	2005	2005	8	551	5.8	6.0	21.3	2,539
Hawker 800XPR	N/A	2011	N/A	8	551	5.8	6.0	21.3	2,825
Hawker 850XP	\$14.1	2006	2009	8	551	5.8	6.0	21.3	2,615
Hawker 900XP	\$16.1	2007	2012	8	551	5.8	6.0	21.3	2,825
Premier I	\$5.7	2001	2005	6	285	5.4	5.5	13.6	1,072
Premier IA	\$7.1	2006	2012	6	285	5.4	5.5	13.6	1,072
BOEING									
BBJ	\$71.4	1998	N/A	19	5,396	7.0	11.5	79.2	6,230
BBJ 2	\$88.8	2001	N/A	19	6,525	7.0	11.5	98.5	5,722
BBJ 3	\$96.5	2006	N/A	19	7,290	7.0	11.5	107.3	5,722
BBJ Max 7	\$91.2	2018	In Production	19	N/A	N/A	N/A	85.7	7,000 (8 pax)
BOMBARDIER									
Challenger 300	\$21.0	2003	2014	8	930	6.1	7.2	23.7	3,220
Challenger 350	\$26.7	2014	In Production	8	930	6.1	7.2	23.7	3,356
Challenger 604	\$26.8	1996	2007	10	1,146	6.1	8.2	28.4	4,033
Challenger 605	\$21.0	2007	2015	10	1,146	6.1	8.2	28.4	4,063
Challenger 650	\$32.4	2015	In Production	10	1,146	6.1	8.2	28.4	4,000
Challenger 850	\$32.0	2006	2012	15	1,964	6.1	8.2	48.4	2,946
Global 5000	\$50.4	2005	In Production	13	1,889	6.3	8.2	42.5	5,137
Global 5500	\$46.0	2019	In Production	12-17	N/A	6.2	8.0	40.8	5,900 (8 pax)
Global 6000	\$62.3	2012	In Production	13	2,002	6.3	8.2	48.4	6,600 (8 pax)
Global 6500	\$54.0	2019	In Production	12-17	N/A	6.2	8.0	40.8	6,600
Global 7500	\$72.8	2019	In Production	14	2,637	6.2	8	54.4	7,700
Global Express	\$45.5	1999	2005	13	2,002	6.3	8.2	48.4	6,460
Global Express XRS	\$58.5	2005	2012	13	2,002	6.3	8.2	48.4	6,390
Learjet 31A	\$6.5	1991	2003	6	281	4.4	5.0	12.9	1,251
Learjet 40	\$8.0	2004	2007	6	369	4.9	5.1	17.7	1,631



MARK WAGNER



C/OJR

JETS continued







Aircraft	Price (\$ millions)	Production		Cabin					Range (nm)
		Year started	Year ended	Pax (typical)	Volume (cu ft)	Height (ft)	Width (ft)	Length (ft)	
Bombardier (continued)									
Learjet 40XR	\$10.8	2005	2012	6	369	4.9	5.1	17.7	1,601
Learjet 45	\$10.3	1998	2007	8	415	4.9	5.1	19.8	1,889
Learjet 45XR	\$13.2	2003	2012	8	415	4.9	5.1	19.8	1,841
Learjet 60	\$12.6	1993	2003	7	447	5.7	5.9	17.7	2,134
Learjet 60XR	\$14.7	2007	2013	7	447	5.7	5.9	17.7	2,182
Learjet 70	\$11.3	2013	N/A	6	369	4.9	5.1	17.7	1,920
Learjet 75 Liberty	\$13.8	2013	In Production	8	415	4.9	5.1	19.8	1,899

CESSNA/TEXTRON AVIATION									
Aircraft	Price (\$ millions)	Year started	Year ended	Pax (typical)	Volume (cu ft)	Height (ft)	Width (ft)	Length (ft)	Range (nm)
Citation Bravo	\$6.2	1997	2006	7	292	4.7	4.8	15.8	1,610
Citation CJ1	\$4.2	2000	2005	5	201	4.8	4.8	11.0	887
Citation CJ1+	\$5.2	2005	2011	5	201	4.8	4.8	11.0	1,022
Citation CJ2	\$5.7	2000	2006	6	248	4.8	4.8	13.6	1,331
Citation CJ2+	\$6.5	2005	2015	6	248	4.8	4.8	13.6	1,452
Citation CJ3	\$7.3	2004	2015	6	286	4.8	4.8	15.7	1,748
Citation CJ3+	\$8.3	2014	In Production	6	286	4.8	4.8	15.7	2,040
Citation CJ4	\$9.2	2010	In Production	7	293	4.8	4.8	17.3	2,022
Citation Encore	\$8.1	2000	2006	7	314	4.8	4.8	17.3	1,695
Citation Encore+	\$9.2	2007	2009	7	314	4.8	4.8	17.3	1,712
Citation Excel	\$10.3	1998	2004	7	422	5.7	5.5	18.5	1,786
Citation Latitude	\$16.7	2015	In Production	9	587	6.0	6.4	21.1	2,787
Citation Longitude	\$27.0	2019	In Production	8	N/A	6.0	6.0	25.0	3,422
Citation M2	\$4.7	2013	In Production	6	201	4.8	4.8	11.0	1,550
Citation Mustang	\$3.5	2006	2017	4	163	4.5	4.6	9.8	800
Citation Sovereign	\$17.8	2004	2013	9	571	5.7	5.5	25.3	2,920



Aircraft	Price (\$ millions)	Production		Cabin					Range (nm)
		Year started	Year ended	Pax (typical)	Volume (cu ft)	Height (ft)	Width (ft)	Length (ft)	
Citation Sovereign+	\$17.9	2013	In Production	9	585	5.7	5.5	25.3	3,095
Citation VII	\$11.4	1992	2000	7	422	5.7	5.5	18.4	1,742
Citation X	\$23.1	1996	2012	8	538	5.7	5.5	23.9	3,140
Citation X+	\$23.4	2014	2018	8	593	5.7	5.5	25.2	3,460
Citation XLS	\$11.3	2004	2009	8	422	5.7	5.5	18.5	1,871
Citation XLS+	\$13.0	2008	In Production	8	422	5.7	5.5	18.5	1,896

CIRRUS

G2 Vision	\$2.3	2016	In Production	4	170	4.1	5.1	11.5	1,200
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DASSAULT

Falcon 2000	\$24.6	1995	2007	10	1,028	6.2	7.7	31.2	3,213
Falcon 2000DX	\$29.5	2008	2010	10	1,028	6.2	7.7	31.2	3,378
Falcon 2000EX EASy	\$30.2	2004	2009	10	1,028	6.2	7.7	31.2	3,878
Falcon 2000LX	\$32.9	2007	2013	8	1,028	6.2	7.7	31.2	4,079
Falcon 2000LXS	\$34.1	2013	In Production	8	1,028	6.2	7.7	31.2	4,046
Falcon 2000S	\$28.9	2013	In Production	10	1,028	6.2	7.7	31.2	3,539
Falcon 50EX	\$21.4	1997	2007	9	569	5.9	6.1	23.5	3,366
Falcon 7X	\$53.8	2007	In Production	12	1,506	6.2	7.7	39.1	5,754
Falcon 8X	\$57.5	2015	In Production	12	1,695	6.2	7.7	42.7	6,450
Falcon 900B	\$26.2	1986	2000	12	1,270	6.2	7.7	33.2	4,000
Falcon 900C	\$31.6	1998	2005	12	1,270	6.2	7.7	33.2	4,000
Falcon 900DX	\$38.0	2005	2010	12	1,270	6.2	7.7	33.2	4,050
Falcon 900EX EASy	\$41.4	2003	2010	12	1,270	6.2	7.7	33.2	4,630
Falcon 900LX	\$43.8	2010	In Production	12	1,270	6.2	7.7	33.2	4,750

EMBRAER

Legacy 450	\$16.6	2015	In Production	7	705	6.0	6.8	24.0	2,844
Legacy 500	\$20.0	2014	In Production	8	823	6.0	6.8	27.5	3,095
Legacy 600	\$26.0	2002	2015	13	1,656	6.0	6.9	49.8	3,429
Legacy 650	\$31.6	2010	2017	13	1,656	6.0	6.9	49.8	3,919
Legacy 650E	\$25.9	2017	2019	N/A	1,656	6.0	6.9	49.8	3,919
Lineage 1000	\$53.0	2009	2013	19	3,914	6.6	8.8	84.3	4,554
Lineage 1000E	\$53.0	2013	In Production	19	3,914	6.6	8.8	84.3	4,600
Phenom 100	\$4.1	2008	2013	5	212	4.9	5.1	11.0	1,045
Phenom 100E	\$4.3	2013	2017	5	212	4.9	5.1	11.0	1,178
Phenom 100EV	\$4.3	2016	In Production	5	212	4.9	5.1	11.0	1,178
Phenom 300	\$9.0	2009	2017	7	324	4.9	5.1	17.2	1,974
Phenom 300E	\$9.5	2017	In Production	N/A	324	4.9	5.1	17.2	1,811

GULFSTREAM

GIV-SP	\$32.8	1992	2002	13	1,658	6.2	7.3	45.1	4,136
GV	\$43.1	1995	2002	13	1,812	6.2	7.3	50.1	6,500
G100	\$12.1	2001	2006	7	304	5.6	4.8	17.1	2,790
G150	\$15.7	2006	2016	7	521	5.8	5.8	17.7	3,018
G200	\$23.3	1999	2011	8	869	6.3	7.2	24.5	3,394

JETS continued



Aircraft	Price (\$ millions)	Production		Cabin					Range (nm)
		Year started	Year ended	Pax (typical)	Volume (cu ft)	Height (ft)	Width (ft)	Length (ft)	
Gulfstream (continued)									
G280	\$24.5	2012	In Production	8	888	6.3	7.2	32.3	3,400
G300	\$25.5	2003	2004	13	1,658	6.2	7.3	45.1	3,774
G350	\$36.0	2005	2012	14	1,658	6.2	7.3	45.1	3,846
G400	\$32.5	2003	2004	13	1,658	6.2	7.3	45.1	4,136
G450	\$43.2	2005	2016	14	1,658	6.2	7.3	45.1	4,363
G500 (Old Model)	\$50.5	2003	2012	18	1,812	6.2	7.3	50.1	5,910
G500	\$43.5	2018	In Production	13	1,715	6.3	7.9	41.5	5,200
G550	\$61.5	2003	In Production	18	1,812	6.2	7.3	50.1	6,820
G650	\$64.5	2012	In Production	18	2,421	6.4	8.5	53.6	7,000
G650ER	\$66.5	2014	In Production	18	2,421	6.4	8.5	53.6	7,500
G600	\$57.9	2019	In Production	19	1,884	6.2	7.5	45.2	6,500 (8 pax)

HONDA AIRCRAFT

HA-420 HondaJet	\$4.5	2012	2018	5	N/A	4.8	5.0	12.1	1,223
HondaJet Elite	\$5.3	2018	In Production	5	N/A	4.8	5.0	12.1	1,437

NEXTANT AEROSPACE

Nextant 400XT*	N/A	1986	2003	7	305	4.8	4.9	15.5	2,005
Nextant 400XTi*	\$5.2	2004	In Production	7	305	4.8	4.9	15.5	2,013

ONE AVIATION

Eclipse 500	N/A	2006	2008	3	109	4.2	4.7	7.6	574
Eclipse 550	\$2.9	2013	2017	3	109	4.2	4.7	7.6	1,125

PILATUS

PC-24	\$10.1	2017	In Production	8	501	5.1	5.6	23	2,000
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SYBERJET

SJ30	\$7.3	2006	2010	5	210	4.3	4.7	12.5	1,876
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TURBOPROPS



Aircraft	Price New (\$ millions)	Production		Cabin					Range (nm)
		Year started	Year ended	Pax (typical)	Volume (cu ft)	Height (ft)	Width (ft)	Length (ft)	
BEECHCRAFT									
King Air 250	\$6.3	2011	In Production	6	303	4.8	4.5	16.7	1,051
King Air 350	\$6.4	1990	2009	8	344	4.8	4.5	19.2	1,535
King Air 350ER	\$7.8	2008	2009	8	344	4.8	4.5	19.2	1,878



Aircraft	Price (\$ millions)	Production		Cabin					Range (nm)
		Year started	Year ended	Pax (typical)	Volume (cu ft)	Height (ft)	Width (ft)	Length (ft)	
King Air 350i	\$7.4	2010	In Production	8	344	4.8	4.5	19.2	1,535
King Air 350iER	\$8.4	2010	In Production	8	344	4.8	4.5	19.5	2,238
King Air B200	\$5.3	1981	2008	6	303	4.8	4.5	16.7	1,164
King Air B200GT	\$5.9	2008	2013	6	303	4.8	4.5	16.7	1,164
King Air C90B	\$2.8	1992	2005	5	218	4.8	4.5	12.4	828
King Air C90GT	\$3.0	2006	2007	5	218	4.8	4.5	12.4	869
King Air C90GTi	\$3.4	2008	2010	5	218	4.8	4.5	12.4	869
King Air C90GTx	\$3.8	2010	In Production	5	218	4.8	4.5	12.4	1,061

CESSNA

208 Caravan	\$2.0	1985	In Production	9	271	4.5	5.3	12.8	831
208B Grand Caravan	\$2.2	1990	2013	9	352	4.5	5.3	16.4	786
208B Grand Caravan EX	\$2.6	2013	In Production	9	352	4.5	5.3	16.8	738

DAHER

TBM 700C2	\$2.7	2003	2006	5	143	4.1	4.0	10.0	1,024
TBM 850	\$3.4	2008	2013	5	143	4.1	4.0	10.0	1,171
TBM 900	\$3.9	2014	2015	5	143	4.1	4.0	10.0	1,730
TBM 910	\$3.9	2017	In Production	5	143	4.1	4.0	10.0	1,730
TBM 930	\$3.9	2016	2019	5	143	4.1	4.0	10.0	1,730
TBM 940	\$4.1	2019	In Production	5	143	4.1	4.0	10.0	1,730
Kodiak 100 Series II	\$2.2	2008	In Production	5	248	4.5	4.8	15.5	1,132

NEXTANT AEROSPACE

Nextant G90XT*	\$2.6	1971	In Production	5	218	4.8	4.5	12.4	1,240
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*The XT and XTi variants are part of a factory remanufactured program.



MARK WAGNER

TURBOPROPS continued

Aircraft	Price (\$ millions)	Production		Cabin					Range (nm)
		Year started	Year ended	Pax (typical)	Volume (cu ft)	Height (ft)	Width (ft)	Length (ft)	
PIAGGIO									
Avanti P180	\$6.4	1990	2005	6	393	5.8	6.1	14.9	1,300
Avanti P180 II	\$7.2	2014	2015	6	393	5.8	6.1	17.5	1,410
Avanti Evo	\$7.4	2005	In Production	6	393	5.8	6.1	17.5	1,410
PILATUS									
PC-12	\$3.4	1995	2008	7	356	4.8	5.0	16.9	1,604
PC-12 NG	\$4.9	2008	2019	7	356	4.8	5.0	16.9	1,638
PC-12 NGX	\$5.4	2019	In Production	7	356	4.8	5.0	16.9	1,803
PIPER									
M500	\$2.2	2015	In Production	5	164	3.9	4.2	12.3	1,000
M600	\$2.9	2016	In Production	5	165	3.9	4.2	12.3	1,812
Meridian PA 46TP	\$2.2	2001	2015	5	106	3.9	4.2	12.3	1,000
VIKING AIR									
DHC-6-400 Twin Otter	\$5.9	2010	In Production	19	581	4.9	5.3	18.5	485

ROTORCRAFT

Aircraft	Price (\$ millions)	Production		Cabin					Range (nm)
		Year started	Year ended	Pax (typical)	Volume (cu ft)	Height (ft)	Width (ft)	Length (ft)	
AIRBUS HELICOPTERS									
AS332L1 Super Puma	\$21.7	1986	2011	12	479	5.1	5.9	22.3	406
AS332L2 Super Puma	\$14.8	1993	2007	9	479	5.1	5.9	25.8	392
AS350B2	\$2.4	1990	In Production	4	61	4.3	5.4	6.6	312
AS350B3 (2B)	\$1.9	1997	2008	4	61	4.3	5.4	6.6	300
AS350B3 (2B1)	\$2.1	2008	2011	4	61	4.3	5.4	6.6	300
AS355N TwinStar	\$2.5	1993	2006	3	106	4.3	5.4	6.6	320
AS355NP TwinStar	\$3.9	2007	In Production	4	61	4.3	5.4	6.6	315
AS365N2 Dauphin	\$6.7	1990	2001	6	186	4.6	6.3	7.2	420
AS365N3 Dauphin	\$8.6	1998	2010	6	186	4.6	6.5	7.2	354
AS365N3+ Dauphin	\$10.5	2011	In Production	6	186	4.6	6.5	7.2	341
BK117C1	\$4.1	1992	2003	8	147	4.2	4.9	6.7	221
EC130B4	\$2.4	2000	2012	5	65	4.2	6.1	7.2	280
EC135P1	\$3.4	1997	2004	5	100	4.2	4.7	5.9	254
EC135P2	\$4.5	2004	2006	5	100	4.2	4.7	5.9	254
EC135P2+	\$4.7	2006	2011	5	100	4.2	4.7	5.9	254



Aircraft	Price (\$ millions)	Production		Cabin					Range (nm)
		Year started	Year ended	Pax (typical)	Volume (cu ft)	Height (ft)	Width (ft)	Length (ft)	
EC135P2e	\$5.2	2011	In Production	5	100	4.2	4.7	5.9	278
EC135T1	\$3.5	1997	2004	5	100	4.2	4.7	5.9	262
EC135T2	\$3.7	2004	2006	5	100	4.2	4.7	5.9	262
EC135T2+	\$4.7	2006	2011	5	100	4.2	4.7	5.9	254
EC135T2e	\$5.2	2011	In Production	5	100	4.2	4.7	5.9	256
EC145	\$8.7	2001	In Production	8	143	4.2	5.6	7.4	274
H120	\$2.0	1997	In Production	4	54	4.1	4.4	7.5	240
H125	\$2.9	2011	In Production	4	61	4.3	5.4	6.6	300
H130	\$3.3	2012	In Production	5	65	4.2	6.1	7.2	268
H135 (P3)	\$5.5	2014	In Production	5	100	4.2	4.7	5.9	278
H135 (T3)	\$5.7	2014	In Production	5	100	4.2	4.7	5.9	256
H145	\$9.7	2013	In Production	8	143	4.2	5.6	7.4	260
H155	\$13.8	2003	In Production	6	225	4.4	6.7	8.4	373
H175	\$16.8	2012	In Production	10	434	4.6	6.8	12.5	390
H215C1	\$18.4	2016	In Production	12	N/A	5.1	5.9	19.6	406
H215L1	\$18.4	2016	In Production	12	479	5.1	5.9	22.3	406
H225	\$27.9	2005	In Production	12	595	4.8	5.9	25.8	354

BELL									
206B3	\$1.4	1977	2010	3	54	4.2	3.9	3.3	270
206L4	\$2.6	1993	2017	5	73	4.2	3.9	5.0	253
407	\$3.1	1996	2011	5	84	4.2	4.8	5.0	293
407GX	\$3.0	2013	2017	5	84	4.2	4.8	5.0	337
407GXi	N/A	2018	In Production	5	84	4.2	4.8	5.0	337
407GXP	\$3.5	2013	2018	5	84	4.2	4.8	5.0	337
412EP	\$11.2	1994	In Production	6	208	4.4	8.0	8.6	337
412EPI	\$11.0	2013	In Production	6	208	4.4	8.0	8.6	312
427	\$4.3	1999	2010	5	102	4.2	4.6	5.8	325
429	\$6.4	2009	In Production	5	130	4.1	5.0	9.8	276

ROTORCRAFT continued



Aircraft	Price (\$ millions)	Production		Cabin					Range (nm)
		Year started	Year ended	Pax (typical)	Volume (cu ft)	Height (ft)	Width (ft)	Length (ft)	
BELL (continued)									
430	\$8.0	1996	2008	5	158	4.8	4.8	8.3	276
505 Jet Ranger X	\$1.5	2016	In Production	N/A	61	4.4	4.8	7.2	242

ENSTROM

280FX	\$0.48	1985	In Production	1	40	3.9	4.4	4.1	214
480	\$0.46	1994	2000	3	32	4.0	5.7	5.0	155
480B	\$1.2	2001	In Production	3	32	4.0	5.5	5.0	165
F-28F	\$0.47	1981	In Production	1	40	3.9	4.4	4.1	214

LEONARDO

AW101	\$28.0	1994	In Production	10	970	6.2	8.2	21.3	466
AW109 Grand	\$6.4	2005	2010	5	178	4.2	5.3	7.7	360
AW109 GrandNew	\$5.5	2010	In Production	5	178	4.2	5.3	7.7	357
AW109 K2	\$3.8	1993	2003	5	125	4.3	4.7	5.4	75
AW109 Power	\$4.8	1997	In Production	5	125	4.2	5.3	6.9	260
AW109 Trekker	\$5.0	2014	In Production	5	178	4.2	5.3	7.7	357
AW119 Ke	\$3.6	2007	2013	5	121	4.2	5.3	6.9	380
AW119 Koala	\$3.0	2000	2006	5	121	4.2	5.3	5.8	380
AW119 Kx	\$3.3	2013	In Production	5	121	4.2	5.3	6.9	380
AW139	\$11.0	2004	In Production	8	282	4.7	7.2	8.9	460
AW139 Enhanced	\$11.0	2016	In Production	8	282	4.7	7.2	8.9	460
AW169	\$8.0	2014	In Production	6	223	4.3	6.7	7.1	366
AW189	\$15.3	2015	In Production	8	396	4.7	8	11.41	600

MD HELICOPTERS

MD500E	\$1.9	1983	In Production	3	51	4.4	4.5	3.5	174
MD500ER	\$1.9	1983	In Production	3	51	4.4	4.5	3.5	174
MD520N	\$2.6	1992	In Production	3	51	4.4	4.5	3.5	138
MD530F	\$2.5	1984	In Production	3	51	4.4	4.5	3.5	206
MD600N	\$2.9	1997	In Production	5	92	4.4	4.5	6.0	235
MD902 Explorer	\$7.2	1998	In Production	4	113	4.1	4.8	6.3	205

ROBINSON

R22 Beta II	\$0.30	1997	In Production	1	N/A	4.0	3.6	4.3	161
R44 Cadet	\$0.34	2016	In Production	1	46	4.1	3.8	5.7	204
R44 Raven I	\$0.42	2003	In Production	3	46	4.1	3.8	5.7	204
R44 Raven II	\$0.53	2003	In Production	3	46	4.1	3.8	5.7	251
R66 Turbine	\$1.0	2010	In Production	3	50	4.3	4.5	6.7	260

SIKORSKY

S-76C+	\$8.5	1996	2005	6	205	4.5	6.3	8.8	335
S-76C++	\$11.6	2006	2013	6	205	4.5	6.3	8.8	335
S-76D	\$15.0	2013	In Production	6	205	4.5	6.3	8.8	329
S-92	\$27.0	2002	In Production	10	685	6.0	6.4	19.2	439

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AIRCRAFT BROKERS

Absolute Flight Services

(absoluteaviation.co.za, +27 (0)11 548 3000)
Lanseria, South Africa.

Aerolineas Ejecutivas

(aerolineasejecutivas.com, +52 (55) 42 09 02 00)
Mexico City.

AeroSolutions Group

(aerosolutions.com, 703-257-7008)
Manassas, Virginia.

Represents aircraft ranging from piston singles to business jets and helicopters.

Aircraft Marketing

(aircraftmarketing.com, 702-260-3333)
Las Vegas.

Serves buyers and sellers of turbine-powered aircraft in Americas, Europe, Far and Middle East, and Asia.

Aircraft Sales Group

(sellajet.com, 630-884-8177)
Chicago. Also: Pensacola and Fort Lauderdale, Florida.

Aircraft analytics, acquisition, and resale.

Avjet Global Sales

(avjetglobal.com, 818-480-9964)
Burbank, California. Also: Annapolis, Maryland.
Specializes in Gulfstreams, Bombardier Globals, and Boeing BBJs.

Avpro

(avprojets.com, 410-573-1515)
Annapolis, Maryland.
Focuses on large-cabin business jets. Also handles turboprops and rotorcraft.

Axiom Aviation

(axiomav.com, 216-261-8934)
Cleveland.

Axis Jet

(axisjet.com, 916-391-5000)
Sacramento, California.

Banyan Air Services

(banyanair.com, 954-491-3170)
Fort Lauderdale, Florida.
Handles acquisition and sales of turbine-powered aircraft.



MILLION AIR

Bloomer de Vere Dahlfors

(jettransactions.com, 805-484-6605)
Van Nuys, California. Also: Newport Beach, California; West Palm Beach, Florida.

Bombardier Aerospace

(businessaircraft.bombardier.com, 866-538-1247)
Richardson, Texas.

Boutsen Aviation

(boutsen.com, +377 93 30 80 02)
Monaco. Also: Dubai, United Arab Emirates.
Helps with purchase and sale of new and used aircraft.

Business Aircraft Leasing

(baliaircraft.com, 615-361-3781)
Nashville, Tennessee.

Charlie Bravo Aviation

(wepushtin.com, 512-868-9000)
Georgetown, Texas.
Handles sale and acquisition of business jets, turboprops, and turbine rotorcraft.

Clay Lacy Aviation

(claylacy.com, 818-989-2900)
Los Angeles.
Authorized dealer for Quest Kodiak in Pacific Northwest and Northeast U.S.

Corporate Fleet Services

(cfsjets.com, 704-359-0007)
Cornelius, North Carolina. Also: San Antonio; Atlanta; Chattanooga, Tennessee; Westlake Village, California.

Cutter Aviation

(cutteraviation.com, 602-253-4030)
Phoenix.

Dallas Jet International

(dallasjet.com, 214-459-3303)
Dallas. Also: Colleyville, Texas.
Offers aircraft appraisals and evaluations and provides acquisition and marketing services. Buys and sells positions in new aircraft and maintains inventory of aircraft for sale.

Dassault Falcon Jet

(dassaultfalcon.com, 201-541-4556)
Little Ferry, New Jersey.

Desert Jet

(desertjet.com, 800-381-5387)
Palm Springs, California.

Dumont Group

(dumontgroup.com/sales, 302-777-1003)
New Castle, Delaware.
Also: Bloomington, Illinois; Burleson, Texas.

Duncan Aviation

(duncanaviation.aero, 269-969-8400)
Battle Creek, Michigan. Also: Lincoln, Nebraska
and other locations.

Eagle Aviation

(eagle-aviation.com, 803-822-5520)
Columbia, South Carolina.

Eagle Creek Aviation Services

(eagle-creek.com, 317-293-6935)
Indianapolis. Also: Zionsville, Indiana; Naples,
Florida; Frankfort, Indiana.
*Deals in piston and turboprop aircraft, business
jets, and helicopters.*

Elliott Jets

(elliottjets.com, 800-447-6711)
Milan, Illinois.
Elliott Aviation's sales arm.

Embraer Executive Jets

(embraerexecutivejets.com, 321-751-5050)
Melbourne, Florida.

Exclusive

(ecsjets.com, 888-522-0883)
West Palm Beach, Florida.

Exclusive Aircraft Sales

(fargojet.com, 651-450-6200)
Eden Prairie, Minnesota.

Flightstar

(flightstar.com, 800-747-4777)
Savoy, Illinois.

Freespeed Aviation

(freespeedaviation.com, 310-362-6909)
Newport Beach, California.

Freestream Aircraft

(freestream.com, 201-365-6080)
Teterboro, New Jersey. Also: London, Beijing,
Bermuda.

Gantt Aviation

(ganttaviation.com, 512-863-5537)
Georgetown, Texas.

General Aviation Services

(genav.com, 847-726-5000)
Hawthorn Woods, Illinois.
*Has handled some \$2.5 billion in business-jet
transactions.*

Global Wings

(gwjets.com, 561-391-3919)
Boca Raton, Florida.

Guardian Jet

(guardianjet.com, 203-453-0800)
Guilford, Connecticut.

Gulfstream Aerospace

(gulfstream.com, 912-965-4178)
Savannah, Georgia.

Hatt & Associates

(hattaviation.com, 303-790-1050)
Denver. Also: Scottsdale, Arizona; Wichita, Kan-
sas; Calgary, Canada.

Hopkinson Aircraft Sales

(hopkinson.aero, 403-291-9027)
Calgary, Canada.
*In business for more than 40 years. Has handled
upwards of 4,000 preowned and new aircraft
transactions.*

International Jet Traders

(intljettraders.com, 954-491-1941)
Fort Lauderdale, Florida. Also: Sao Paulo, Brazil.

Jack Prewitt and Associates

(jackprewitt.com, 817-283-2826)
Colleyville, Texas.

JBA Aviation

(jba.aero, 713-850-9300)
Houston. Also: Grand Haven, Michigan; Tulsa,
Oklahoma; Argentina.
Specializes in turbine-powered business aircraft.

Jet Methods

(jetmethods.com, 877-538-6384)
Carlsbad, California.

JetAviva

(jetaviva.com, 512-410-0295)
Kansas City, Kansas. Also: Atlanta; Denver;
Georgetown, Texas; Los Angeles; Madison, Wis-
consin; New York; San Francisco; Washington;
Mexico City; Montreal.

JetBrokers

(jetbrokers.com, 636-532-6900)
St. Louis. Also: Chicago; Detroit; Casa Grande,
Arizona; Yeovil, England; Geneva.
*Has handled more than 700 business jet and tur-
boprop transactions over past 20 years.*

Jetcraft

(jetcraft.com, 919-941-8400)
Raleigh, North Carolina. Also: Minneapolis.
*Sells 60 or more aircraft annually. Has reps
throughout U.S., and in Europe, Middle East, Asia,
and Africa.*

Jeteffect

(jeteffect.com, 562-989-8800)
Los Angeles. Also: Dallas; Atlanta; Palm Beach,
Florida; Virginia Beach, Virginia.
*Team includes former corporate pilots, aeronauti-
cal engineers, and finance experts.*

Latitude 33 Aviation

(l33jets.com, 800-840-0310)
Carlsbad, California.
Handles acquisitions and sales.

Leading Edge Aviation Solutions

(leas.com, 201-891-0881)
Parsippany, New Jersey.
*Family business focused on midsize and larger
business aircraft maintains banking relationships
and extended credit lines.*

Luxaviation

(luxaviation.com, +352 4252 52)
Luxembourg.

Mac Air Group

(macairgroup.com, 888-359-7600)
South Portland, Maine.

Meisner Aircraft

(meisneraircraft.com, 262-763-6600)
Burlington, Wisconsin.

Mente Group

(mentegroup.com, 214-351-9595)
Addison, Texas.
*Dallas-area firm helps individuals and companies
with sales and purchases.*

Mesinger Jet Sales

(jetsales.com, 303-444-6766)
Boulder, Colorado.
*Family-owned brokerage, established 1974, helps
clients worldwide buy and sell new and preowned
business jets.*

Million Air Dallas

(millionairdallas.com, 972-248-1600)
Addison, Texas.

SPECIAL SECTION: AIRCRAFT BROKERS, FINANCIAL INSTITUTIONS, AIRCRAFT MANUFACTURERS

Mountain Aviation

(mountainaviation.com, 877-700-2491)
Broomfield, Colorado.

National Airways

(nac.co.za, +27 11 267 5000)
Johannesburg, South Africa.

Ogarajets

(ogarajets.com, 770-955-3554)
Atlanta.

Forty-year-old company has presided over some \$4 billion in preowned and new business aircraft transactions.

Par Avion

(paravionltd.com, 713-681-0075)
Houston. Also: Ridgewood, New Jersey.
Specializes in sale of preowned Bombardiers, Citations, Falcons, Gulfstreams, Hawkers, and Phenoms.

Paramount Business Jets

(paramountbusinessjets.com, 877-727-2538)
Leesburg, Virginia.

Piedmont Aircraft

(piedmontaircraft.com, 704-896-8978)
Clemmons, North Carolina.
Specializes in turboprop, high-performance piston, and light-jet aircraft transactions.

Pollard Aircraft Sales

(pollardaircraft.com, 817-626-7000)
Fort Worth.
Handles transactions involving piston, turboprop, and executive jet aircraft.

QS Partners

(qspartners.com, 877-356-0747)
Boulder, Colorado.
Netjets-owned company specializes in aircraft sales and acquisitions.

SC Aviation

(scaviation.net, 866-290-9999)
Chicago. Also: Milwaukee and Janesville, Wisconsin.

Skyservice

(skyservice.com, 888-759-7591)
Toronto. Also: Ottawa, Calgary, and Montreal, Canada.

Smartjets

(smartjets.com, 954-771-1795)
Fort Lauderdale, Florida.
Handles preowned and new business jets, executive-configured airliners, and helicopters.

Sojourn Aviation

(sojournaviation.com, 316-733-6500)
Cleveland.

Solairus Aviation

(solairusaviation.com, 800-359-7861)
Petaluma, California. Also: Harrison, New York; Englewood, Colorado.

Southern Cross Aviation

(scross.com/aircraft-sales, 954-377-0320)
Fort Lauderdale, Florida. Also: Charlotte, North Carolina; Nashville, Tennessee; Uruguay.
Founded 1989. Specializes in turboprops and light business jets.

Southern Sky Aviation

(southernskyaviation.com, 205-703-9737)
Birmingham, Alabama.

Sunwest Aviation

(sunwestaviation.ca, 888-291-4566)
Calgary, Canada.

TAG Aviation

(tagaviation.com, +41 22 717 00 00)
Geneva. Also: Farnborough, England; Bahrain; Malta.

Textron Aviation

(txtav.com, 316-517-8270)
Wichita, Kansas.
Beechcraft, Cessna, and Hawker manufacturer also sells preowned aircraft.

The Jet Business

(thejetbusiness.com, +44 845-521-5555)
London.
Brokerage specializes in long-range, large-cabin jets and executive airliners. Headquartered in high-tech, retail-style storefront.

Twinjet Aircraft

(twinjet.co.uk, +44 (0) 1582 733615)
Luton, England.

Velocity Jets

(velocityjets.com, 866-575-5387)
Fort Lauderdale, Florida.

Voyager Jet Center

(voyagerjet.com, 412-267-8000)
West Mifflin, Pennsylvania.

Welsch Aviation

(welschaviation.com, 703-787-8800)
Washington. Also: Amagansett, New York; Savannah, Georgia; Houston.
Established 1949. Assists with aircraft acquisitions, sales, and marketing.

Wentworth Aero

(wentworth.aero, 301-869-4600)
Potomac, Maryland. Also: New York, Boston.
Brokerage, established 1992, specializes in acquisition and disposition of corporate and private aircraft. Approximately half of business involves cross-border transactions.

Western Aircraft

(westair.com, 800-333-3442)
Boise, Idaho.

Western Airways

(flywesternairways.com, 800-373-0896)
Houston.
Founded 1974.

Wetzel Aviation

(wetzelaviation.com, 303-468-4800)
Englewood, Colorado.

Wing Aviation

(wingaviation.com, 866-944-9464)
Houston.

FINANCIAL INSTITUTIONS

1st Source Bank

(1stsource.com, 800-513-2360)
South Bend, Indiana.

Bank of America Merrill Lynch

(bofaml.com, 469-294-7167)
Frisco, Texas.

BB&T Equipment Finance

(bbt.com, 800-226-5228)
Towson, Maryland.

BMO Harris Equipment Finance

(bmoharris.com, 866-867-2173)
Chicago.



Chase Equipment Finance
 (jpmorgan.com/commercial-banking)
 Chicago.

CitiPrivate Bank
 (privatebank.citibank.com, 800-870-1073)
 New York.

Citizens Asset Finance
 (citizensbank.com, 603-634-7522)
 Manchester, New Hampshire.

City National Capital Finance
 (citynationalcm.com/home/private/creditcard,
 305-577-7333)
 Miami.

Commerce Bank
 (commercebank.com, 847-295-4601)
 Lake Forest, Illinois.

Credit Suisse
 (credit-suisse.com, +41 (0) 800 88 88 74)
 Zürich, Switzerland.

Deutsche Bank Private Wealth Management
 (deutschewealth.com, 312-537-1926)
 Chicago.

Export-Import Bank of the United States
 (exim.gov, 202-565-3946)
 Washington.

Fifth Third Equipment Finance
 (53.com, 866-475-0729)
 Boston.

First American Equipment Finance
 (faef.com, 800-801-3830)
 Fairport, New York.

First National Capital
 (firstncc.com, 866-750-3622)
 Foothill Ranch, California.

First Republic Bank
 (firstrepublic.com, 800-392-1400)
 San Francisco.

Global Jet Capital
 (globaljetcapital.com, 844-436-8200)
 Danbury, Connecticut. Also: Boca Raton,
 Florida.

Key Equipment Finance
 (key.com, 216-689-3232)
 Cleveland.

PNC Aviation Finance
 (pncaviationfinance.com, 888-339-2834)
 Boise, Idaho.

RRML Capital Resources
 (rrmlcapital.com, 201-731-4811)
 Paramus, New Jersey.

Stonebriar Commercial Finance
 (stonebriarcf.com, 469-609-8500)
 Plano, Texas.

Textron Financial
 (textronfinancial.com, 800-551-5787)
 Wichita, Kansas.
Formerly Cessna Finance Corp.

UMB Bank
 (umb.com, 316-266-6002)
 Wichita, Kansas.

U.S. Bank Equipment Finance
 (usbank.com, 800-253-3468)
 Denver.

Wells Fargo Private Bank
 (wellsfargo.com/theprivatebank, 312-592-5621)
 Chicago.

AIRCRAFT MANUFACTURERS

Airbus Corporate Helicopters
 (airbuscorporatelandco.com/website/en/ref/
 home.html, +800 55 55 97 97)
 Marignane, France.
Manufactures light, medium, and heavy helicopters.

Airbus Corporate Jets
 (acj.airbus.com, +33 5 61 93 33 33)
 Toulouse, France.
*Makes ACJ318, ACJ319, ACJ320, and ACJ321,
 plus VIP widebodies.*

Beechcraft/Textron Aviation
 (beechcraft.txtav.com, 316-517-8270)
 Wichita, Kansas.
Makes several King Air models.

Bell
 (bellflight.com, 817-280-2011)
 Fort Worth.
*Textron-owned company has delivered more than
 35,000 helicopters.*

Boeing Business Jets
 (boeing.com/commercial/bbj, 206-655-1131)
 Seattle.
Makes BBJs plus VIP widebodies.

Bombardier
 (businessaircraft.bombardier.com, 514-861-9481)
 Montreal.
Makes Learjets, Challengers, and Globals.

Cessna Aircraft/Textron Aviation
 (cessna.txtav.com, 316-517-8270)
 Wichita, Kansas.
Makes Caravans, Citations.



Cirrus Aircraft

(cirrusaircraft.com, 800-279-4322)
 Duluth, Minnesota.
Product line includes piston models and the Vision Jet, which is billed as a personal jet that is intended to be owner-flown.

Daher

(daher.com, +33 5 62 41 77 88)
 Tarbes, France.
Makes TBM 910/940/Kodiak 100.

Dassault Falcon

(dassaultfalcon.com, +33 1 47 11 81 24)
 Saint-Cloud, France.
Makes Falcon models.

Diamond Aircraft

(diamondaircraft.com, 888-359-3220)
 London, Canada.
Manufactures full line of piston aircraft.

Embraer Executive Jets

(embraer.com, 321-751-5050)
 Melbourne, Florida. Also: São Paulo, Brazil; Farnborough, England; Beijing; Dubai, United Arab Emirates ; Singapore.
Manufactures and completes Phenom, Legacy, Praetor, and Lineage jets.

Enstrom Helicopter

(enstromhelicopter.com, 906-863-1200)
 Menominee, Michigan.
Manufactures light, single-engine piston, and turbine helicopters.

Epic Aircraft

(epicaircraft.com, 541-318-8849)
 Bend, Oregon.
Manufactures single-engine E1000.

Gulfstream Aerospace

(gulfstream.com, 800-810-4853)
 Savannah, Georgia.
Makes G280, G500/600, G550, G650, G650ER.

Honda Aircraft

(hondajet.com, 336-662-0246)
 Greensboro, North Carolina.
Makes HondaJet.

Kopter

(koptergroup.com, +41 44 552 33 33)
 Wetzikon, Zurich, Switzerland.
Turbine-helicopter maker now owned by Leonardo.

Leonardo Helicopters

(leonardocompany.com, 215-281-1400)
 Philadelphia.
Italy-based company manufactures helicopters that were previously branded as AgustaWestland.

MD Helicopters

(mdhelicopters.com, 480-346-6300)
 Mesa, Arizona.
Product line includes MD 500E, MD 530F, MD 520N, MD600N, MD Explorer.

Nextant Aerospace

(nextantaerospace.com, 216-261-9000)
 Cleveland.
Remanufactures business jets (e.g., Nextant 400XTi is a rebuilt Beechjet 400/A/XP).

One Aviation

(oneaviation.aero, 877-375-7978)
 Albuquerque, New Mexico.
Makes Eclipse jet.

Piaggio Aerospace

(piaggioaerospace.it, +39 0182 267911)
 Italy. Also: West Palm Beach, Florida.
Makes Avanti EVO.

Pilatus

(pilatus-aircraft.com, +41 41 619 67 00)
 Stans, Switzerland. Also: Broomfield, Colorado; Adelaide Airport, Australia.
Makes PC-12NG turboprops and PC-24 twin-engine light jet.

Piper Aircraft

(piper.com, 877-879-0275)
 Vero Beach, Florida.
Makes full line of turboprops and piston models.

Robinson Helicopter

(robinsonheli.com, 310-539-0508)
 Torrance, California.
Models include R66, R22, R44.

Sikorsky Aircraft

(sikorsky.com, 800-946-4337)
 Stratford, Connecticut.
Lockheed Martin company's products include S-76 and S-92 helicopters and M28 turboprop airplane as well as light turbine and light piston helicopters.

SyberJet Aircraft

(syberjet.com, 210-764-3500)
 Cedar City, Utah.
Makes SJ30, which it bills as the world's fastest and longest-range light business jet.

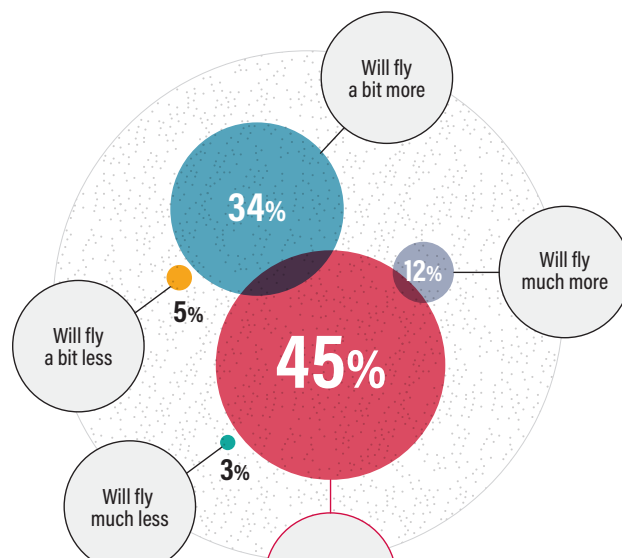
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WHY WAIT TILL NOVEMBER TO VOTE?

The polls open June 1 at BJT, where you can talk back to the bizav industry by telling us about your favorite aircraft and service providers.

When you complete the survey, we'll say thanks two ways: we'll enter you in a drawing for an American Express gift card and we'll make a donation on your behalf to Corporate Angel Network, which arranges free flights to treatment on business jets for cancer patients and their families.*

BUSINESS JET
TRAVELER



*For contest and donation rules and details, please visit bjtonline.com/contestrules.

Great Summer Getaways off the Beaten Path

Editor's note: Before the coronavirus crisis hit, we asked some of our intrepid travel writers to suggest their favorite relatively little-known vacation spots. They pointed us to enticing destinations on four continents. We realize you may not be going anywhere this summer, but it's not too soon to start dreaming and planning for 2021.





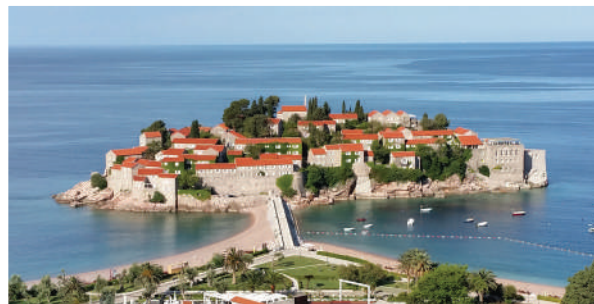
Left: Shipwreck Beach, Zakynthos
Above: Perast, Kotor Bay, Montenegro

MONTENEGRO

Montenegro—one of the smaller pieces of the Balkan jigsaw—is often overlooked in favor of its northerly neighbor, Croatia, but it punches well above its weight as a holiday destination. Offering 70 miles of sparkling Adriatic coastline hedged in by the soaring hinterland that gives it its name (Black Mountain), this bijou republic offers a heady blend of shimmering superyachts, tumultuous history, and true wilderness.

Northerly Kotor, reached via the fjord-like Bay of Kotor, is probably its best-known destination (and the second most popular cruise port in the Eastern Mediterranean after Venice). Over its history, Montenegro has been absorbed into various empires (they came for the strategic significance, but probably stayed for the beaches); and in Kotor's mazy Old Town, a UNESCO World Heritage Site, the architectural stamp of the Venetians remains attractively in place.

Travel south, and you'll arrive at the Budva Riviera—a series of sand-and-pebble beaches that act as Montenegro's rakia-fueled party central in warmer months. Emblematic of the riviera's glamor is the fairy-tale tombolo of Sveti Stefan—a village-turned-Aman-resort that hosted stars like Elizabeth Taylor in



Sveti Stefan, Montenegro

the 1970s and tennis great Novak Djokovic's nuptials in 2014. You can stay in any of the village's renovated stone houses in the summer, while eight suites are available year-round within Villa Miločer, which dates from the 1930s and was the summer residence of the Serbian royal family.

Historic Ulcinj, on the Albanian border, is the country's southernmost city and well worth a visit for its pretty minarets and quieter sense of the modern. Quieter still is rugged Durmitor National Park, the hinterland's headline act in the country's northwest—a glacier-sculpted region that's a magnet for hikers, adrenaline junkies, and, come winter, the ski set.

But when summer arrives, it's the often-solitary hikes amid serene glacial lakes and limestone peaks (many more than a mile high) that are the draw; and there's also the plunging Tara Canyon—Europe's deepest. Even more striking is the Mausoleum of Njegoš, precariously balanced on the summit of Mount Lovćen, a visit to which can literally cap off a sublime summer break. —Chris Allsop

BROOME, AUSTRALIA

It's easy to lose track of time in this Western Australian beach town, more than two hours by air from the state capital of Perth. Broome gained notoriety as a pearling outpost, but its natural beauty makes it a terrific vacation spot.



Camels on Cable Beach in Broome

On a hot summer afternoon here, Town Beach offers an idyllic place to swim or simply gaze out at the vast sparkling blue sea, but by evening it can transform into a mudflat crawling with crabs. In a matter of hours, over 30 feet of ocean can completely disappear. These dramatic tides also conceal fossilized dinosaur footprints at Gantheaume Point, about six kilometers southwest of Broome. At high tide, the vibrant orange rocks vanish into the Indian Ocean, while low tide reveals a stretch of rock pools. There's only a short window of time, so everyone rushes to hunt down the footprints before the water returns to swallow them up.

Broome is on the edge of the Kimberley, a remote region of Western Australia that's rich with gorges, waterfalls, wildlife, and bulging boab trees. At the red bluffs of Riddell Beach, you can watch goanna skitter into the bush while breaching humpbacks explode out

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PIXABAY



of the ocean. You can also see more of the Kimberley by taking a scenic flight over the unusual horizontal falls or traveling in a four-wheel-drive across the Dampier Peninsula to Cape Leveque.

In Broome, you can window-shop for pearls in historic Chinatown, drive onto Cable Beach to watch tourist-toting camels, browse the Courthouse Markets, and work your way through the beer list at Matso's Broome Brewery, trying to choose a favorite. (Don't miss the ginger beer.) The summer days are sticky and hot, but you can always cool down under a swaying palm tree or with a refreshing swim in the ocean—if the tide is right. —*Lauren Fitzpatrick*

ZAKYNTHOS, GREECE

As part of the Ionian archipelago (along with Corfu, Kefalonia, and Lefkada), the Greek island of Zakynthos isn't like Mykonos. Or Santorini. And while its gorgeous calling card—the blindingly blue Shipwreck Beach—has launched a million postcards, calendars, and Instagram photos, the island is not a tourist magnet. Excursions to Shipwreck Beach, via tour boat, are widely available, but you have to share the experience. Zakynthos is perhaps better appreciated as a hideaway, a place where you can easily find a table at a taverna overlooking a sparkling cove and indulge in yogurt-based tzatziki dip, moussaka, and fresh fish.

The island begs for exploration, so rent a car and drive the coastal, cliff-top road to Mikro Nisi, a family-owned taverna. You might have the road to yourself as you head deep into seaside ravines, passing the odd monastery or orange juice bar. The taverna appears out of a shimmer of olive trees: just past a little pebbly cove, it stands on the headland, the stone walls and blue rails of its patio ornamented with nothing more than orange life preservers. You can choose your fish from a



Large photo above: Gantheaume Point, Broome
Above and right: Sea turtle and blue caves at Zakynthos island





Above: St. Andrews and the Algonquin Resort
Below: Statues in Oslo

drawer full of ice, then swim around the fishing boats that bob off the pretty promontory.

If you're feeling ambitious, drive to Zakynthos's west coast, crossing the thickest part of the island. Stop in a village in the interior—where you might be the only visitor—to pick up some local olive oil soaps. Unlike the better-known, drier Cyclades, this island is lush, with verdant valleys necklaced with rows of Mediterranean cypress. Sometimes you might have to stop for a sheep crossing.

The twisty drive to Porto Limnionas—a subtropical fjord with a chic beach club—is worthwhile. You can rent a lounge chair and order pasticchio (Greek lasagna); and while it's being prepared, you can swim from end to end, exploring limestone caves and appreciating the perfect clarity of the waters that surround one of Greece's finest and most unusual islands, a little-known spot where near-solitude is among the foremost charms.

—Drew Limsky

ST. ANDREWS- BY-THE-SEA, CANADA

St. Andrews in New Brunswick, Canada—a charming, little-known coastal town founded in 1783—offers beautiful and historical architecture on streets laid out in a formal grid. Also known as St. Andrews by-the-Sea, it's just a mile from Robbinston, Maine, though the nearest border crossing is 18 miles away. Passamaquoddy Bay and the Bay of Fundy, which surround the peninsula of St. Andrews, have some of the world's highest tides, up to 52 feet.

Start your visit with Genny Simard of Turtle Shore Adventures. A biologist and trivia expert, she'll point out all the town's colorful history by Jeep or on foot—your choice. Then, stroll along the waterfront, which offers excellent restaurants and tourist shops. Watch the lobster boats return home to the wharf. Beachcomb, play golf, try sea kayaking, or take a boat tour.

A perfect way to see the Bay of Fundy at low tide is by bicycle. Off-Kilter Bike riders don kilts (in honor

of the town's sister city, St. Andrews in Scotland) and pedal across the ocean floor to Ministers Island. The trip includes a visit to an historic estate on the island that a railroad magnate once owned.

Fifteen types of whales are in the region, and Jolly Breeze offers whale watching on a super-fast jetboat. The intrepid can join a shark-tagging excursion or try saltwater fishing with St. Andrews Sport Fishing. Take the kids to the Fundy Discovery Aquarium for the fun-filled and informative Tidal Trek: Beach Crab Grab.

Don't miss Kingsbrae Garden, a 27-acre horticultural masterpiece with 2,000 species of perennials. You can have lunch al fresco at Kingsbrae Garden's restaurant, Savour in the Garden. For dinner, choose the freshest farm produce and seafood at the Rossmount Inn (book it well in advance).

Where to stay? The Algonquin Resort is on a hill overlooking the town and offers a golf course and spa. Here, the bellmen have always worn kilts. St. Andrews became Canada's first seaside resort town when the Algonquin was built in 1889 for well-heeled Bostonians who wanted to escape the city.

—Margie Goldsmith

OSLO, NORWAY

Norway's capital offers a taste of Europe, but without the crowds. Its cosmopolitan streets and access to incredible natural resources deliver an enjoyable balance.

Oslo is a small, vibrant city (population 690,000) offering culture, delicious and diverse food and wine, and a beautiful waterfront scene. You can fly here nonstop via multiple airlines from many U.S. cities.

Opened in spring 2019, Amerikalinjen is Oslo's newest hotel. It has modern and spacious rooms, with every amenity you could ask for. Menus change seasonally at its creative restaurants, and an in-house bagel bakery is opening soon.

A five-minute walk from Amerikalinjen is the Oslo Opera House, which features a full schedule of concert and dance events. The modern architecture and abundant artwork, inside and out, will keep you entertained until the show begins.



PIXABAY

TOURISM NEW BRUNSWICK



LAKE ERIE SHORES AND ISLANDS, OHIO

Driving from Port Clinton to Vermilion in northern Ohio takes just over a half hour. Exploring the area, though, requires several days. The region, which borders Lake Erie, offers noteworthy islands, wildlife viewing, fishing, boating, nautical history, and a premier amusement park.

Three islands are accessible by seasonal ferry service from Port Clinton—Sandusky, Catawba Island Township, and Marblehead—or you can take a flight from Erie Ottawa Airport. Private aircraft can land at this airport, which has a 5,646-foot runway, as well as at the airports on each of the three islands.

Best known for the village Put-in-Bay and the 352-foot-high Perry's Victory and International Peace Memorial, South Bass is the most popular of the islands. The monument was built a century ago to honor Master Commandant Oliver Hazard Perry and those under his command who fought in the War of 1812's Battle of Lake Erie. It additionally signifies the long-lasting peace between Great Britain, Canada, and the U.S. Also on the island are wineries, crystal caves, museums, other tourist attractions, and a nine-hole golf course.

Middle Bass, a much quieter island, offers a historic district, a wildlife refuge, and charming inns and cottage rentals. Make sure to tour Lonz Winery, reportedly once the nation's largest producer of wine.

Above: Oslo Opera House
Below: Sunrise from coast of Kelleys Island on Lake Erie and the Marblehead Lighthouse

In summer, the vibrant waterfront is the place to be—restaurants spill onto the sidewalks and food trucks round out the offerings. The rooftop bar of the Thief hotel is one of the best spots to take in the city. The skyline and the Oslofjord will hold your attention.

You can't leave this city without a jump into the fjord. It's a calming alternative to the bustling environment of shopping, dining, and exploring. Floating nearby saunas can help you to warm up afterwards.

You can get a good taste of Oslo in as few as three nights. Ideally, though, you should give yourself more time in Norway to enjoy all the activities just outside the city—fishing, golfing, cycling, hiking, kayak tours, swimming, paddleboarding, and fjord cruises.

Norwegian people are happy and live long for a reason.

—Amy Siegal





Perry's Victory International Peace Memorial

It closed in 2000 but recently reopened as part of the island's state park.

At just over four square miles, Kelleys Island is the largest American island in Lake Erie. European pioneers started to arrive in the early 1800s when the first limestone quarries began operation. Limestone is still quarried on the island, which includes Glacial Grooves, a National Natural Landmark and the largest easily accessible such grooves in the world. Rent a golf cart and explore the island's natural beauty.

Marblehead Peninsula, between Lake Erie and Sandusky Bay, is most often associated with its lighthouse. Built in 1821, it is the oldest lighthouse in continuous operation on the Great Lakes. The beacon and keeper's house serve as a museum. Also of interest is Johnson's Island, site of the only Civil War prison designated specifically for officers, where you'll find a cemetery for Confederate officers.

The area's biggest claim to fame is Cedar Point, an amusement park that fills a 364-acre Lake Erie peninsula in Sandusky. The park, which started as a bathing beach, celebrates its 150th anniversary this year. It offers 70 rides, including 18 world-class roller coasters, plus Cedar Point Shores Waterpark, show arenas, marinas, and hotels.

Also helping to make the area a great vacation destination are several quaint villages; miles of sandy beaches; and such museums as the Thomas Edison Birthplace Museum, Liberty Aviation Museum, Merry-Go-Round Museum, Sandusky Maritime Museum, and Ottawa County Historic Museum. —Marilyn Jones

CUSCO, PERU

Cusco is the ultimate destination for a city vacation in the Peruvian highlands, and June to September is the best time to enjoy all it has to offer. Though these months represent the height of the southern-hemisphere winter, they see idyllic days with the clear high-altitude sunlight accentuating the vibrantly colored architecture and traditional clothing of the inhabitants.

Temperatures, which peak around 67°F, are cool enough for pleasant trekking and for exploring the

many Inca sites around the city. During these months, you'll avoid the rain showers that complicate a visit at other times, turning the steep, cobbled alleys of the old town into cascades and the mountain trails to marshes. Nighttime temperatures can drop below freezing, making for cozy evenings around a fire and nights swaddled in alpaca-wool blankets.

This is the best time to be in Cusco, but since it's high season you'd be wise to book lodging and tours a couple of months in advance. The lively indigenous markets are in full swing and the city constantly seems to be gearing up for a series of unique festivals that date back to the time of the Inca: *Qoyllur Rit'i* (Snow Star Festival) and *Inti Raymi* (Festival of the Sun) take place in June and *Pachamama Raymi* (Earth Mother Day) happens in August.

Machu Picchu and the Inca Trail that leads to it are the great drawing cards of this region; paradoxically, the network of ancient trails and mysterious temples—such as the Sacsayhuamán ruins around the outskirts of the city—are often overlooked. To get the most from your visit, hire a guide. And because altitude headaches can be a problem, be sure to schedule rest periods.

Take time to simply wander, soaking up the backstreet ambiance and pausing at café terraces or coca-tea vendors (the ideal antidote to the altitude). Take time, too, for people-watching in the almost 500-year-old Plaza de Armas, with its incredible cathedral and the nearby Qoricancha (or Coricancha), considered the center of the Inca universe.

Ancient Cusco was laid out to represent a sacred jaguar, and it is said that the roar of that jaguar was once heard across an empire that stretched 2,500 miles. Today Cusco is a mere shadow of its old self, yet this vivacious and fascinating mountain city remains the spiritual home of the Quechua people and of one of our planet's richest, most alluring cultures. —Mark Eveleigh



Above: festivities in Cusco and Plaza de Armas, Peru
Below: morning in Machu Picchu



A rafting experience you won't soon forget

On Idaho's Middle Fork of the Salmon River, says our columnist, "you are swept downstream and into a new, fresh existence."

by Thomas R. Pero

I have rafted rivers from the Russian Arctic to Alaska, but I was never more in awe than when I first experienced Idaho's Middle Fork of the Salmon River. It was in the summer of 1986, and it was spellbinding.

Looking up at immense cliffs, I saw rare bighorn sheep peering down on our passing raft. I remember soaking in natural hot springs along the river and gazing up at an inky sky ablaze with a million stars.

I also recall the feeling of utter calm that overcame me the day after we launched. When you are on the river, you're living on its terms and are part of its cycles. You are swept downstream and into a new, fresh existence. There is no turning back.

The Middle Fork of the Salmon flows through the three-million-acre Frank Church—River of No Return Wilderness. In 1968 the Middle Fork was one of only eight pristine freshwater streams included in the

original National Wild and Scenic River Act.

Approximately 10,000 visitors raft the river each year, from late May through early September. This is the so-called "lottery season," when the U.S. Forest Service awards specific launch dates to private rafters and commercial outfitters to protect the river from overcrowding and assure everyone a quality wilderness experience. A typical trip includes six days on the river and five overnight camps on bars.

Over 104 miles, 102 named campsites are assigned in advance to each group. Campers must practice a strict leave-no-trace principle—all firewood must be brought in and lit in steel fire pans; all human and food waste must be contained and carried out.

David and Heidi Cline of Middle Fork Adventures host visitors on week-long raft trips. "You could spend 10 lifetimes exploring this vast wilderness and never



see it all,” says David. He and his wife welcome young and old guests from all over the world, including many families, and provide delicious riverside meals.

“We met on a river in Colorado, and we were married on an island,” David recalls. We were young whitewater guides.” Several years ago, he says, they came to the realization that they could either spend the rest of their lives as dirt-poor rafting guides, and likely never have a family, or start their own outfitting operation. They moved to Idaho.

“Most of all,” David says, “I want to share this wonderful place with our two sons.” Charlie is four and Dylan is one. Last summer, Charlie experienced his first trip on the river, camping under the stars and feeling the thrill of racing through the rushing rapids. Since then, he has been asking, “Daddy, are we going back?”

EJT

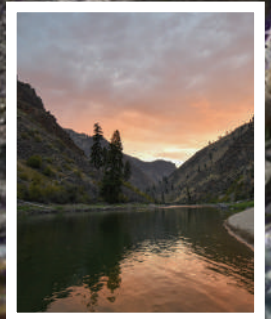
A Bit of History

For some 3,000 years, the nomadic Tuka-Deka people lived along the Middle Fork of the Salmon River. They subsisted mostly on bighorn sheep, which skilled hunters killed from talus rock blinds as the animals came down to the river to drink. They also gathered freshwater mussels and steamed them in ovens. On sheltered rock walls and hidden caves, the curious explorer can still find their ancient written history: astonishing red ochre pictographs painted by shamans using dehydrated iron oxide mixed with clay—sacred visions of the animals and the hunt.

David Cline and his son, Charlie.

Thomas R. Pero

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ALL PHOTOS: MIDDLE FORK ADVENTURES





Are supersonic business jets a good idea?

Yes, says our columnist. In fact, they make more sense now than they would have in the days of the Concorde.

by Mark Phelps

Even the most virulent critic of developing a supersonic business jet has to admit—at least deep down—that crossing oceans and continents in a few short hours would be cool. It would take us one step closer to science fiction.

For thousands of years, human flight of *any* kind was science fiction. The seminal goal of all forms of transportation—since the invention of the wheel—has always been to get there in less time, wherever “there” might be. Higher, farther, and faster has always been the holy trinity worshiped by aircraft designers.

Ergo, if a regular business jet is a good idea, wouldn't a supersonic one be that much better? To answer that, we need to weigh the cost against the benefit. One place to start is at the advent of the jet age, around the middle of the last century.

Early jet airliners had one main benefit. They were faster than previous aircraft, cutting flight time from New York to Paris by more than half. “Only seven hours to brush up on your French,” read one Pan Am ad.

But their liabilities were not inconsequential. They needed longer runways, burned lots more fuel, made much more noise, and left four long plumes of sooty smoke on every takeoff. Back then, however, these airliners spelled progress and few people objected, even if they weren't members of the jet set.

Since then, fuel burn and emissions have been reduced by 80 percent compared with those of the first Boeing 707s. We're now setting Stage 5 noise standards for the next generation of high-bypass turbofans—four generations quieter than the original “blowtorch” turbojets. But airport access for airliners has remained pretty much comparable, which is where business aviation came in.

Early business jets arrived shortly after the first jet airliners. In the late 1950s and early 1960s, Lear Jets (the brand name used to be two words), Sabreliners, and JetStars started replacing repurposed World War II piston bombers and cargo planes as executive transports. Even the airline Pan Am launched a private-jet charter arm using Dassault Falcons built in France—sourced by none other than Charles Lindbergh.

Going virtually anywhere on their own schedule proved invaluable for corporate travelers, even in piston aircraft; and adding jet speeds—which caught business flying up with the airlines—made business aviation even more indispensable. Over the years since, business aircraft have matched or exceeded airliners' progress in mission versatility, fuel efficiency, and environmental cleanliness.

So, is a supersonic business jet the next step? Or would the environmental cost be too great? Unfortunately, some misleading numbers muddy the answers to those questions.

For example, one of the leading reports critical of supersonic air travel bases its statistics on “current technology.” The report doesn't specify, but is it reasonable to assume that means either today's Mach-2+ military aircraft or the only civil supersonic aircraft ever certified, the Anglo-French Concorde airliner?

The warfighting mission of military aircraft arguably overrides environmental concerns. And the Concorde, along with its four massive Rolls-Royce/Snecma Olympus afterburning engines, was designed in the era when the Boeing 707 ruled the skies. All current design programs involving supersonic civil aircraft not only are based on 21st century research but are subject to current noise and emissions standards.

As for sonic booms, the Boeing-backed Aerion S2 supersonic business jet, for one, is designed to fly as effectively at subsonic speeds as it does at Mach 1.4. The Concorde was able to fly only over-water routes. GE's airliner-based Affinity engine, earmarked for the Aerion program, also meets Stage 5 noise and emissions standards.

Further, NASA research is showing promising results in exploring complex algorithms for mitigating a sonic boom. If NASA can prove that true “current technology” in fact defeats the sonic boom, thus-outdated regulations could be amended to permit overland supersonic flight.

But the political optics of a supersonic business jet remain a “wall in the sky” that rivals the sound barrier first broken in 1947. Maybe one way to convince society of the acceptability (if not the coolness) of supersonic travel would be to ask average motorists whether they could envision situations where it would be worth more money—and even more emissions—to cut drive time in half, or better. Not for every trip, but for when there's an important enough reason to get there that much faster.

Such an alternative already exists—the airplane. Jet travel is now commonplace; a situation no one envisioned when the 707 first went into service. Maybe it's time to take the next step, not to darken the skies with Mach-busting jets, as critics fear, but for the situations when those extra hours saved might, indeed, be worth the cost. The supersonic business jet can lead the way. **BJT**



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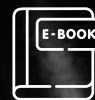


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