ADVERTISEMENT

Maximizing your investment in private air transport

December 2017/January 2018 | Vol. 15 No. 7 | bjtonline.com

BUSINESS JET TEM JELEN



FLY LIKE YOU OWN IT.

BESPOKE. PRIVATE AIR TRAVEL.

NICHOLAS AIR

ADVERTISEMENT



commitment to personal service begins when we assist you in choosing the best membership program and aircraft for your travel needs, while providing an honest assessment of NICHOLAS AIR programs versus your current solutions. NICHOLAS AIR has proven to be the perfect choice for personal and business travelers alike, all of whom are seeking the highest standards in aircraft quality and customer service.

FLY AT YOUR DESIRED LEVEL.

NICHOLAS AIR presents four membership options ranging from an easy to use Jet Card to Aircraft Management. Our cost-efficient programs are designed to maximize your time in the air and on the ground. We are confident one of our membership levels will suit your needs. From our Personal Travel Representatives in our Operations Center to our pilots greeting you planeside, you can be assured an exceptional level of customer service.



OUR PLANES, OUR PILOTS.

Very few Jet Card providers can make the statement of "Our Planes, Our Pilots," With NICHOLAS AIR as the owner and operator, our Members see and feel our attention to detail, our commitment to quality. Some providers own their planes, but don't operate them. Some providers operate their planes, but don't own them. At NICHOLAS AIR, we do both, and we do it with the Jet Card industry's youngest fleet, provided with highly competitive pricing, backed by a flawless safety record, and the perfect touch of Southern Hospitality.

CRAVE THAT NEW PLANE SMELL?

With guaranteed availability and an average aircraft age under five years, NICHOLAS AIR takes pride in offering luxurious and modern cabin amenities our Members appreciate. As owner and operator of our fleet, we maintain all aircraft to the highest standards. Our fleet is chosen for safety, versatility, and efficiency to suit all your travel needs. Choose from our Pilatus PC-12s, Phenom 100, Citation CJ3, Phenom 300, and Citation Latitude jets. As a Member, you will quickly discover that our staff is your staff. Join the club and fly on your schedule.

Explore membership options at NicholasAir.com or call 866.935.7771 to speak with one of our aviation experts.











In nature, the falcon is a fierce fighter. In business, the Falcon 8X is just as powerful and agile. Every inch reflects its military DNA, with lean and mean aerodynamics and advanced Digital Flight Controls to get you to places others can't. Nothing flies like a Falcon because no other jet is built like one. **Fierce. Fast. Agile. Falcon 8X.**





INSIDE **BJT**

DECEMBER 2017/JANUARY 2018

24

FLYING

14 ON THE ROAD

To some, Las Vegas is Sin City, the Marriage Capital of the World, or Lost Wages. To our columnist, it's something else.

32 INSIDE CHARTERS

The charter business is undergoing changes that could produce a mix of good and bad news for customers.

34 FACTORY-NEW AIRCRAFT

Embraer's Legacy 500 defines a new market niche while exhibiting more strengths than any other aircraft in its price range.

40 TAXES, LAWS, AND FINANCE

How to turn passive business jet losses into tax-time wins.

42 PREOWNED ANNUAL REPORT

Making sense of a deluge of data.

44 USED AIRCRAFT REVIEW

The Bell 222 may be the most beautifullooking helicopter ever built, says our reviewer, but beauty isn't everything.

64 EXIT

Public officials on private jets.



24 IT'S A BIRD, IT'S A PLANE, IT'S...AN UBER?

Manufacturers are developing small, electrically powered aircraft that can take off and land vertically in urban areas and that cost much less to operate than helicopters.

On the Cover: Auto auctioneer Dana Mecum.

photographed for Business Jet Traveler by Jason Brant

30 FINDING THE CAUSE

Investigators almost always discover the triggers for aviation accidents. Here's how they do it, and what their reports accomplish.







The best-selling business jet in the world four years in a row, Embraer's Phenom 300 platform achieved breakthrough status and dominated as the largest, fastest, longest range single-pilot aircraft on the market. And now, with the introduction of the brand-new Phenom 300E, a whole new standard in value and customer experience has been set. Designated "E" for "enhanced," this modern, clean-sheet light jet delivers top-tier performance and next-generation avionics, along with a revolutionary new interior design for improved ergonomics, ease of maintainability, advanced connectivity and unmatched comfort and space. Add to that the industry-exclusive upper technology panel, plus the segment's largest baggage compartment and lowest operating costs, and it's easy to see why the Phenom 300E is truly in a class by itself.







PHENOM 300: SAFETY, ADVANCED AVIONICS, COMFORT

"What inspired my purchase was a combination of the passion and love of aviation and to pilot a jet like the Phenom 300. But also for business purposes, I can fly around the world and meet with vendors who supply us raw materials. I can meet with retailers, so it's very exciting to fly very quickly to them and avoid the delays and cancellations of commercial air travel. Plus, you can fly into smaller airports that are closer to your destination.

And what got me so excited about Embraer was its DNA building airliners, the ERJs. I always tell people Embraer forgot it's building executive jets. They still believe they're building airliners for endurance, safety, redundancy.

Embraer treats me as well or better than its airline customers. The company goes out of its way to keep the plane upgraded with service bulletins, improving the systems of the plane, improving every aspect of the airplane. I like the fact that Embraer is just constantly improving the Phenom 300, and they do a phenomenal job of keeping parts in stock.

The plane is very stable. Passengers like the combination of the safety of the airplane, the advanced avionics, combined with the comfort of the plane. The lavatory being externally serviceable is awesome for both the owners/operators and passengers. And the new Phenom 300E interior is far superior to anything else I have seen before.

I wanted the latest, greatest, best, safest technology, and Embraer had it all, from the avionics to the engines to the systems."



Wayne Gorsek, Founder & CEO, DrVita.com
 Watch Wayne's story and request more information at
 EmbraerExecutiveJets.com/Wayne



INSIDE **BJT**

DECEMBER 2017/JANUARY 2018



PEOPLE

16 DANA MECUM

He auctions more **collectible cars** than anyone else in the world, thanks partly to his private jet.

TIME OFF

48 LOW-LEVEL FLYING

Acura's latest NSX is a long-awaited sequel to the disruptive original. Has the wait been worth it?

52 OUTDOOR ADVENTURES

Waiting for the annual whale invasion in northern Mexico.

54 GETAWAYS

Cambodia's Angkor Archaeological Park contains the **awe-inspiring** remains of ancient Khmer Empire capitals.

60 GREAT GOLF

Upstate New York's Turning Stone Resort and Casino.





DEPARTMENTS

6 UP FRONT

The bizav story that headlines don't tell.

8 MAILBOX

On when to buy jets, the Audi R8, and more.

10 ON THE FLY

Live like royalty, how air traffic controllers work, a **Leonard Cohen exhibition**, and more.

62 CALENDAR

Prague's **Christmastime magic**.

Coming Soon in BJT

- Aircraft Financing
 Special Report
- Visiting **Scotland**
- King Air 350 Blackhawk XP67A Review

FEATURED CONTRIBUTOR



GORDON GILBERT

Gilbert—whose report on aircraft accident investigations begins on page 30—is a freelance aviation writer. A former news editor at *Aviation International News*, **BJT**'s sister publication, he has been writing about the business jet industry for more than 45 years, focusing on safety and regulatory subjects. Before joining *AIN*, Gilbert wrote for other aviation magazines, coauthored several aviation training manuals, and worked as a line-service technician for a fixed-base operator at Southern California's Van Nuys Airport.

Gilbert earned his writing and aviation credentials in the 1960s, obtaining B.A. and M.A. degrees in journalism and mass communications from California State University, and serving a four-year stint as a U.S. Army Aviator. He resides in Sharon, Massachusetts, just south of Boston and close to Norwood Memorial Airport, from where he still enjoys flying.



25 Park Lane, London W1K 1RA

Up Front

arlier this fall, Tom Price resigned as U.S. Secretary of Health and Human Services after racking up half a million dollars in government-paid air charter fees. Not long after that, the *Wall Street Journal* reported that former General Electric CEO Jeff Immelt's corporate jet was often followed by a second jet whose sole purpose was to take over in case Immelt's broke down.

As Mark Phelps notes in "Public Officials, Private Jets" (*page 64*), such news items are not exactly good for our industry's image.

However, they're also not representative of the vast majority of business aviation users. The positive contributions that our industry makes to society may not produce as many headlines, but they far outweigh any negatives.

In the aftermath of hurricanes Irma and

Maria, for example, the general aviation community jumped into action to coordinate rescue and critical aid efforts for leveled communities in the Caribbean and especially Puerto Rico. Jet Aviation got its FBO's generators up and running at Luis Muñoz Marín International Airport within 16 hours of the storm's passing—and by mid-October had handled 1,000 humanitarian flights, ferrying supplies in and people in need out. Herds of business aircraft began to arrive to other FBOs in the region, such as Million Air and Signature Flight Support in San Juan. Fuel provider World Fuel Services kept pace, delivering jet-A.

Two more shining examples among hundreds: Dallas Mavericks owner (and 2010 BJT cover subject) Mark Cuban dispatched his

Boeing 757 to Puerto Rico six times, delivering nearly one million pounds of food, water, and vital equipment; and Houston-based Waste Management sent its Falcon 900EX to the island with 3,000 pounds of medical supplies. Countless other corporations and individual aircraft owners pitched in, usually waiving fees and picking up all expenses.

In fact, business aviation engages in charitable pursuits year-round, not just when natural disasters strike. Case in point: Corporate Angel Network, which coordinates free flights

> to treatment for cancer patients. I recently joined CAN's board after years of seeing the impact of its work, including the extensive help that it gave to someone close to me as she faced a rare, terminal cancer and needed to seek out new drug trials. Besides providing

critical lift to treatment, CAN—through a vast network of top medical connections—helps provide hope and stability to patients who feel as if their worlds are crumbling.

In any business sector, it's inevitable that excesses will occur and that those excesses will grab the headlines. But let's not forget how headlines can distort—and how much good our industry actually does.

Jenn 1

Jennifer Leach English Editorial Director jenglish@bjtonline.com

Our October/November 2016 edition has been named Best Full Issue of a Consumer Travel Magazine in this year's prestigious Folio: editorial competition, beating such well-known finalists as *AFAR* and Time Inc.'s *Travel + Leisure*. We also received honorable mention for Best Single Article in a Consumer Travel Magazine, for Chris Allsop's "Bear Baiting" (August/September 2016). This is the second time that **BJT** has won Best Full Issue of a Consumer Travel Magazine in the Folio: competition; we've also received honorable mention for this award three times and been named Best Transportation/Travel Magazine (a now-discontinued category) in three other years. We were honored as Best International Publication in this year's Aerospace Media Awards, moreover; and—competing with all business magazines, not just aviation or travel titles—we have in three years been cited for General Excellence by the American Society of Business Publication Editors.

EDITORIAL

Editor-in-Chief Matt Thurber
Editorial Director Jennifer Leach English

Editor Jeff Burger

Group Production Manager Tom Hurley

Production Editor Lysbeth McAleer

Associate Production Editor Martha Jercinovich

Art Director John A. Manfredo

Contributors Chris Allsop, Chris Caswell, Mary Ann DeSantis, Bob Ecker, Marion Flanagan, Margie Goldsmith, Mark Huber, Bradley S. Klein, Debi Lander, Thomas R. Pero, Mark Phelps, Kim Rosenlof, Chana R. Schoenberger, Joe Sharkey, Helen Ann Travis, Jeff Wieand, James Wynbrandt

Graphic Designers Mona L. Brown, John T. Lewis, Grzegorz Rzekos

Lead Web Developer Michael Giaimo

Web Developer Evan Williams Video Producer Ian Whelan

Editorial Assistant Samantha Cartaino

EDITORIAL CONTACTS

214 Franklin Ave., Midland Park, NJ 07432 (201) 444-5075 • editor@bjtonline.com

BUSINESS

Managing Director Wilson S. Leach Group Publisher David M. Leach Publisher Anthony T. Romano Associate Publisher Nancy O'Brien Advertising Sales

Melissa Murphy-Midwest (830) 608-9888 Nancy O'Brien-West (530) 241-3534 Anthony T. Romano-East/International Joe Rosone-East/International/Middle East (301) 834-5251

Diana Scogna-Italy (33) 6 62 52 25 47 Georges France-Paris (33) 1 6082 9888 Victoria Tod-Great Lakes/UK (203) 798-2400

Marketing Manager Zach O'Brien

Audience Development Manager Jeff Hartford Onsite Logistics Manager Philip Scarano III

Sales Coordinator Nadine Timpanaro

Advertising/Sales Secretarial Staff Cindy Nesline Director of Finance & Human Resources

Accounting Manager Marylou Moravec Accounting/Administration Staff Mary Avella, Bobbie Bing

ADVERTISING CONTACTS

Michele Hubert

214 Franklin Ave., Midland Park, NJ 07432 (201) 345-0079 adsales@bjtonline.com

THE CONVENTION NEWS COMPANY, INC. - AIN PUBLICATIONS

Subscription inquiries and address changes: subscriptions@bjtonline.com

Suiness Jet Traveler (ISS M1554-1339) is published eight times per year (bimonthly, plus U.S. and China Buyers' Guides) by The Convention News Co., Inc., 214 Franklin Ave, Midland Park, N D (7342, (2001) 444-675. Copyright © 2017. All rights reserved. Reproduction in whole or in part without permission of The Convention News Co., Inc. is strictly prohibited. The Convention News Co., Inc. also publishes Aviation International News, Alkalerts, AlN Defense Perspective, AlN Air Transport Perspective, AlNVI, Business Jet Traveler, BJTwaypoints, ABACE Convention News, Dubla Alrishow News, EBACE Convention News, Dubla Alrishow News, MBA Convention News, LaBACE Convention News, MEBA Convention News, Paris Airshow News, Singapore Airshow News: Mobile Apps: Aviation International News: AlNonline. Postmaster: Send address changes to Business Jet Traveler, P.O. Box 47628, Plymouth, MM 55447 USA. Allow at least eight weeks for processing, include old address as well as new, and an address label from a recent issue if possible. PublicATION AIRL AGREEMENT NO. 40649046, RETURN UNDELIVERABLE CANADIAN ADDRESSES TO PITNEY BOWES INTERNATIONAL MAIL, STATION A, P.O. BOX 54, WINDSOR, ON N94 615, or e-mail: returnsli@inexpb.com.

THE VIEW IS MARVELOUS FROM OUR NEW GULFSTREAMS. Our Gulfstream Fleet Has Arrived. Be the first to take a new G450 around the world. New fractional shares are only available at Flexjet through an exclusive arrangement with Gulfstream. See what's possible when two iconic brands come together to create something truly exceptional. **FLEXJET** 866.365.1159 | FLEXJET.COM YOU WON'T JUST BE FLOWN, YOU'LL BE MOVED.

M@ILBOX



EXIT STRATEGIES

"Exit Strategies" [Taxes, Laws, and Finance, August/September 2017] was clearly written by a broker who needs more business and, if someone is in a lease, that limits his ability to soak the aircraft owner for more broker fees.

The lease return inspections and associated costs are no different from an aircraft owner selling the aircraft and going through a pre-buy inspection that will most likely be required by the buyer. A lease return process is not as [author Jeff] Wieand put it "wallet emptying," at least not any more than a prebuy inspection for a sale would be. The biggest difference is the owner had to pay an aircraft broker a six-figure check to list and sell that aircraft.

Under a lease, you do not have to pay any remarketing fees. When looking at the cost to exit a lease at maturity versus selling an owned aircraft, you need to add in an exorbitant broker fee. When you look at all the benefits that leasing offers and at the true costs of the return process, leasing starts to make a lot of sense. That is why most *Fortune* 100 companies choose leasing.

Tim Brice via email

Jeff Wieand replies: The article focused on the downside of lease financing, not the benefits, which have been discussed in numerous BJT articles, some of which I wrote. The problem with a lease is that it provides little flexibility. If the lessee wants out and the lessor is unwilling to negotiate, the lessee is basically trapped. Of course, a loan can have problems, too; you can owe more to the bank than your aircraft is worth, for example. But with a loan, at least you can sell the aircraft whenever you want to (subject to an initial "blackout" period) and are free to negotiate the prebuy work scope and the

obligation to fix discrepancies. In fact, you have the option of selling the aircraft on a wholesale basis with no prebuy at all! And no, I am not a broker. Our consulting firm represents buyers of business jets only. We do not represent aircraft for sale.

AUDI R8 PROS AND CONS

Enjoyed your article on Audi's R8 [Low Level Flying, April/May 2017], especially your line about how "an exciting mechanical symphony of growing intensity emanates from behind me as we quickly approach the incredible 8700-rpm redline of the V10."

I agree the R8 is a fast, quick, and fine-handling car with good braking, but what troubles me is it has a very dull exterior appearance. For \$180,000, I think one would expect more in terms of looks. The R8 is downright ugly and dull. If Audi wants to sell more R8s, it must come up with a better-looking design.

Harry Lastinger via email



TIME TO BUY?

"Time to Buy?" [2017 Buyers' Guide] is a onesided view, especially when it comes to cost of ownership. You must compare the interest cost on the higher-priced aircraft and the significant depreciation and insurance costs (usually based on a percentage of hull value) on newer versus older aircraft. Typically, these higher costs way overshadow the gains in fuel efficiency and maintenance of newer jets.

A good example is the Westwind, a coast-to-coast, nonstop, quiet, and comfortable aircraft. A really nice one was \$2 million before the 2008 meltdown and this same aircraft can now be purchased for under \$600,000. It is reliable and fast, has Honeywell engines, and almost

everything else is made in the U.S. Compare that with any similar jet under five years old—factoring in the difference in investment and interest, depreciation, and insurance costs—and you will see a significant savings with the Westwind. You get way more bang for the buck with older aircraft and the depreciation is minimal.

Parts for these older aircraft are available and quite reasonably priced as well—another money saver. So, unless it is for ego or status/sex appeal, one should seriously consider an excellent older aircraft. It does the same job and is just as safe, fast, and comfortable as the newer ones.

David Candler posted on bjtonline.com

ALEJANDRO BULGHERONI

Alejandro Bulgheroni [cover story, April/May 2017] brokered a deal with the Taliban? How much did they get? Is there any unethical success that you guys won't celebrate?

Duane Mader posted on bjtonline.com

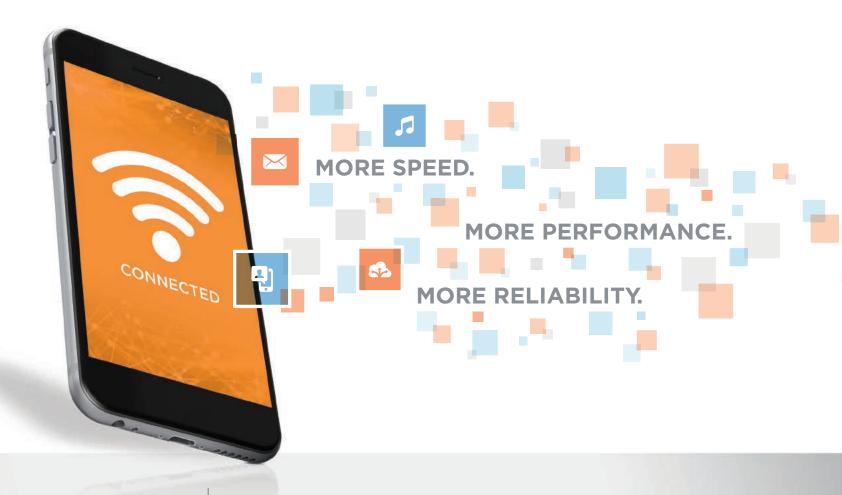
As the article stated, it was not Alejandro but rather his brother Carlos who brokered a deal with the Taliban. It should be noted, also, that BJT did not "celebrate" this deal, nor do we necessarily endorse any statements or actions by any of the people we interview. —Ed.



Your comments are welcome. Please e-mail letters to editor@bjtonline.com. Include your name, address, and a daytime telephone number. Letters are subject to editing and are presumed to be for publication unless the writer specifies otherwise.

BIGGER, BETTER, BOLDER IN-FLIGHT CONNECTIVITY

Unlock the Value of More with Viasat



WORK.

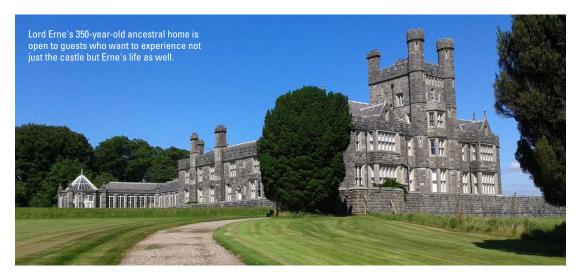
CONNECT.

CONFERENCE.

STREAM.

With both Ka-band and Ku-band in-flight internet options, Viasat offers the best connectivity for business jets. Viasat Ka-band service—with a guaranteed rate of 4 Mbps and up to 16 Mbps on all plans—has the highest speeds and greatest satellite capacity, and our Ka-band shipset won't take up valuable baggage compartment space. Viasat Ku-band service offers plans up to 6 Mbps at a much better service price than older L-band systems. Make sure you ask for Viasat.





An Earl's Home Is Your Castle

"I'm like the Earl of Grafton in *Downton Abbey*, but I'm real," says 46-year-old John Crichton, the Earl of Erne/Baron of Fermanagh, whose father was King George VI's godchild. The seventh-generation

Lord Erne lives at Crom Castle, his 350-year-old ancestral home, which occupies 2,200 parkland acres in Northern Ireland's Lake District.

Maintaining such a residence isn't inexpensive, which may explain

why many castle owners, including this one, make them available for film crews, weddings, and vacation rentals. Be that as it may, Lord Erne has recently begun offering a more unusual proposition, one that lets guests experience not just his home but his daily life: for all-inclusive nightly prices starting at £950 per person, he invites guests to join him in his activities and also make requests. He might escort you on a lake excursion in his longboat or bring you along for tea with his cousins, the Duke and Duchess of Abercorn. He will give you a tour of the castle and gardens, chat with you over cocktails in the drawing room, and lead you to a candlelit dinner followed by a ceilidh (social event) or a visit to Blakes of "the Hollow," one of Ireland's most famous pubs.

Lord Erne's guests fly into Belfast or Dublin—or to St. Angelo Airport in nearby Enniskillen, which can accommodate private jets—and stay in one of Castle Crom's six bedrooms or two staterooms, all with ensuites. For more information, email info@cromcastle.com, call +44 028 677 38004 or visit cromcastle.com.

—Margie Goldsmith



RESTAURANT ULO

Hotel Arctic, Ilulissat, Greenland, phone 299 94 72 63, hotelarctic.com

You might be surprised to discover superb cuisine in a small town more than 200 miles north of the Arctic Circle. Yet that's just what you'll find at Restaurant Ulo in the four-star Hotel Arctic in fascinating Ilulissat, Greenland. Chef Jeppe Ejvind Nielsen employs local ingredients such as reindeer, musk ox, amazing fresh fish, and shellfish to create masterful meals.

Start with a sublime snowcrab soup with angelica leaves or the expertly seasoned reindeer with garlic and parsley served with dried reindeer heart as a garnish. (It's a Greenlandic delicacy and better than it sounds.) My favorite entrée is the fresh halibut, which arrives with cabbage in a



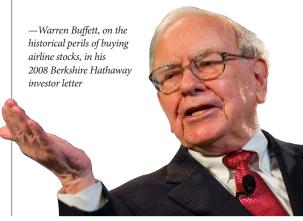
white cream sauce. For dessert, go for the homemade gooseberry ice cream, local berries, or lemon crème brûlée. And add a cup of Greenlandic coffee, which combines good local coffee with Irish whisky, Grand Marnier, Kahlua, sugar, and whipped cream.

Restaurant Ulo also features an impressive list of 5,000 wines from around the world, including a huge selection of Champagnes and sparkling wines. There's a good by-the-glass selection, too.

With brilliant views of the harbor and icebergs floating by, Restaurant Ulo offers great service, a fine dining experience, and a taste of a different world. —*Bob Ecker*

QUOTE **UN**QUOTE

"If a farsighted capitalist had been present at Kitty Hawk, he would have done his successors a huge favor by shooting Orville down."



IS TAKING ROAD TRIPS, WITHOUT THE ROAD.



 Guaranteed access to our private fleet of King Air 350i and Citation Excel/XLS aircraft with as little as 24 hours' notice

 Exclusive access to Wheels Down, a unique lineup of once in a lifetime events and experiences

WHEELSUP.COM 855-FLY-8760

Wheels Up does not operate aircraft: FAA licensed and DOT registered air carriers participating in the program exercise full operational control of all flights offered by or arranged through Wheels Up. All aircraft owned or leased by Wheels Up are leased to the operating air carrier and are operated exclusively by that air carrier.

WHEELS UP UP THE WAY YOU FLY

How Air Traffic Controllers Guide Your Flights

You don't see air traffic controllers when you travel, but if your trips are trouble-free, they deserve considerable credit. At least a dozen of them track the progress of every flight you take.

Their work starts even before you take off. First, your pilots contact ATIS (automatic terminal information service), a continuously updated



recording that reports the active runway number, weather conditions, and other data. Then they call "clearance delivery" to obtain the route, or flight plan, that they must follow from the departure airport to their destination. Next they contact "ground control" and advise it that they have the ATIS information and a clearance and are ready for taxi instructions. Only after the crew acknowledges those instructions is the aircraft ready to taxi from the parking ramp to the runway.

At the departure end of the runway, the pilots contact the air-traffic-control tower, which clears them for takeoff. As the aircraft climbs away from the airport, the tower controller hands it off to a departure controller, who oversees it until it reaches its cruise phase, at which point one or more en route controllers take over. The en route controller and the crew maintain continuous radio and radar contact.

As the aircraft nears its destination, the crew listens to the arrival airport's ATIS before calling "approach control," which sequences the flight for landing. When the airplane is about 10 minutes from touching down, it is handed off to the tower controller, who clears it to land. Once it does so and leaves the runway, ground control provides taxi instructions to the ramp. -Gordon Gilbert

Giving Back



Putting Out Fires

Direct Relief-which operates the largest charitable medicine program in the U.S.-is supplying fire-ravaged Northern California with pharmaceuticals, medical supplies and equipment, personal-care items, and cash. The organization, which was founded in 1948, coordinates with other nonprofits and local public health authorities to ensure effective use of resources. It is also aiding victims of the Mexican earthquakes and Rohingya refugee crisis and has, since 2000, distributed more than \$3.4 billion in essential material resources worldwide.

Of the more than 8,000 charities rated annually by Charity Navigator, only 56 received an overall score of 100-and Direct Relief is in the No. 1 spot on Charity Navigator's Best Charities Everyone's Heard Of list. In 2016 this charity earned a 100 percent fundraising efficiency rating from Forbes and an "A" rating from CharityWatch and was named to Fast Company's list of the World's 10 Most Innovative Nonprofits. -Lysbeth McAleer

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.

A Montréal Tribute to Leonard Cohen



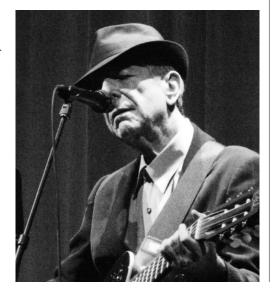
As part of Montréal's 375th anniversary celebration, the city's Museum of Contemporary Art (MAC) is presenting Leonard Cohen—Une brèche en toute chose/A Crack in Everything.

The exhibition opened November 9th, a year after the singer/

songwriter/poet's death, and employs a variety of media to shed light on his work and life. American artist Jenny Holtzer projects text onto buildings while Israeli film director Ari Folman's Depression Box allows visitors to confront Cohen's dark themes. An exhibition by filmmaker Kara Blake, The Offerings, features audio and video interview material and was inspired by Business Jet Traveler editor Jeff Burger's book, Leonard Cohen on Leonard Cohen: Interviews and Encounters.

"Two and a half years ago, we proposed this exhibition to Leonard and he loved the idea," says co-curator Victor Shiffman. "Over the last six decades, this Montréal-born artist created the most touching, human work. What better way to pay tribute to his life and work on the 50th anniversary of his first [album] release?"

The exhibition will continue through April 9, 2018. Info: macm.org/en —Margie Goldsmith







To some, it's Sin City, the Marriage Capital of the World, or Lost Wages.

To our columnist, it's simply a fascinating place to visit.

by Joe Sharkey



couple from London were visiting us in southern Arizona while they were on a road trip

through the Southwest. They were bound next for the Grand Canyon, and then on to Los Angeles.

"You might want to stop in Las Vegas," I suggested.

This was well before the horrific recent mass shooting at the Mandalay Bay Resort there, but they looked aghast. "Oh, no, I hear that's so tacky," the wife said. Tacky? You want to talk tacky? Brighton in the U.K. is tacky. The Hollywood Walk of Fame is tacky. Mount Rushmore is tacky. Las Vegas, though, left mere tacky behind over decades and evolved—neon blazing into the desert night like a light show from Hades—into the apotheosis of glitz, the epitome of extravaganza, a place not to be missed if you're exploring the real America on a road trip through the Southwest.

"Just as Disney did with amusement parks, the creators of the new Vegas took seedy American artifacts—gambling halls and roadhouses—and reinvented them as something grand," writes Kurt Anderson in his fascinating new book, *Fantasyland: How America Went Haywire*. Vegas, he says, towers as a basilica within our "fantasy-industrial complex."

OK, though I always thought it was just an interesting, laid-back place with a small-town feel if you shield your eyes from the glare. I visit Vegas on occasion, usually to do research at an event or convention, and I imagine you do, too. Business travel, a pillar of Vegas's economy, has grown steadily in recent years, according to the Las Vegas Convention and Visitors Authority. Last year, 15 percent of the 43 million visitors came for conventions and meetings or other business.

Corporate and private jets? Big time. For example, more than a thousand of them routinely arrive for major events like championship boxing matches. Given McCarran International Airport's proximity, you can stand on the Strip and practically count these beauties sailing in like royal barges on the ancient Nile. In 2017, as in many past years, the National Business Aviation Association held its mammoth annual convention in Las Vegas.

Incidentally, in the 1950s, when the U.S. conducted atomic bomb tests at the Nevada Proving Ground

in the desert 65 miles northwest of town, the chamber of commerce celebrated the explosions, and thousands of visitors thronged the Strip to cheer as the towering mushroom clouds ascended majestically into the sky. There was even an annual Miss Atomic Bomb contest, with contestants in swimsuits festooned with frilly simulated mushroom clouds.

Now, *that* was tacky—but it was also long ago. Today, you can get a cogent sense of those strange times in context if you wander off the Strip and up Flamingo Road, to

where the National Atomic Testing Museum is housed in a building that looks like a giant bomb shelter.

"Flamingo Road," of course, is an evocative name. In 1946, at the birth of the Atomic Age, the flashy mobster Benjamin "Bugsy" Siegel christened the mostly barren Strip with the opening of the then-fabulous Flamingo Hotel. It had 150 rooms along with a casino and showroom. In old photos, it looks as tacky as a New Jersey Turnpike rest area. Its namesake replacement on the site today soars far beyond common "tacky," with 3,600 rooms, 72,000 square feet of casino, and a courtyard garden habitat for actual flamingos.

Incidentally, Ben Siegel famously hated to be called Bugsy, as in "crazy as a bedbug." In the 1991 movie *Bugsy*, an impudent cab driver insists that everybody refer to the gangster as Bugsy, and a Siegel henchman warns: "Not to his face they don't."

One of the things I like most about Vegas is that it is not the least bit coy about addressing the past, when myth was busy marrying reality in the wedding chapel of history. The Atomic Testing Museum is one example. Another is the downtown Mob Museum, where the whole history of the Mafia and its intersection with law enforcement is terrifically presented. It's a museum that will not insult the intelligence of the well-informed.

I do miss the *Mob Experience*, an extravaganza that opened in 2011 at the Tropicana Hotel and closed in 2013. It had live actors within a serious museum brimming with 1,500 Mafia artifacts, many of them donated by families of legendary mobsters. Bugsy Siegel's personal artifacts

were lovingly displayed in a recreation of his living room. Bugsy, of course, was murdered gangland-style in 1947 at his girlfriend's house in Beverly Hills. Apparent cause of death: wasteful spending of mob money.

As I was leaving, I asked a young woman at the ticket counter where the museum had gotten the Bugsy display. She said it came from the family and was being supervised by Siegel's loving daughter, Millicent. Millicent, she said, was a charming, elegant elderly woman who visited regularly to ensure that Bugsy's stuff was being cared for.

"One thing, though, when she's here?" the girl added.

"What's that?"

"You can't call him Bugsy."

Joe Sharkey (jsharkey@bjtonline.com), the author of six books and a longtime **BJT** contributor, wrote a weekly business column for the *NewYorkTimes* for 16 years.





DANA MECUM



Among his rewards for auctioning more collectible cars than anyone else in the world is a private jet that helps him sell even more.

by Mark Huber

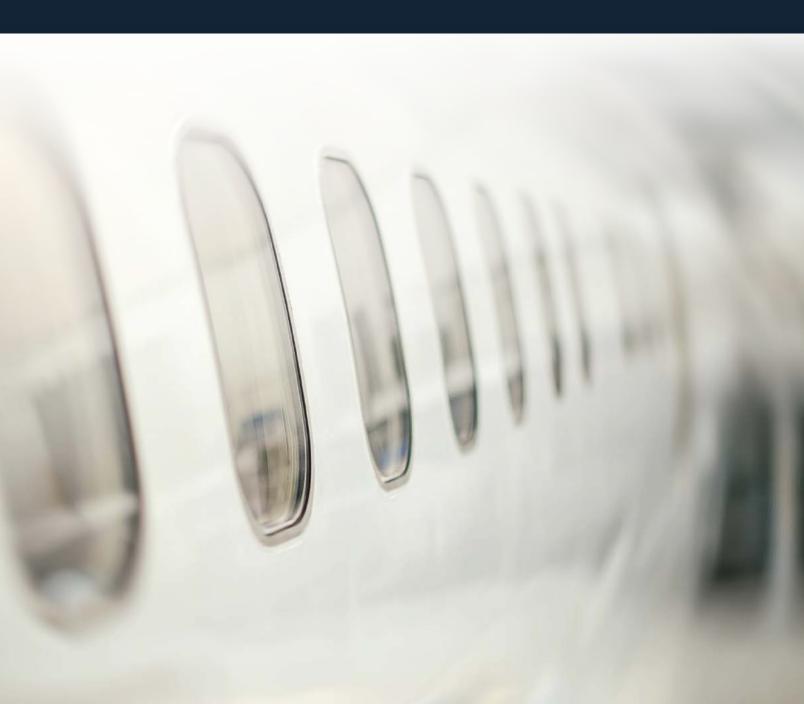
It's three hours before show time at the Schaumburg, Illinois Convention Center. Inside and in adjacent circus tents sit 795 cars—everything from a much-coveted 1937 Cord to a much-maligned 1976 Ford Pinto. The Mecum Auctions show is revving up. A blend of contemporary rock music and oldies is blaring through the speakers, television cameras are in place, and Mecum's traveling army of 200 workers-including a blue-shirted operations team and a black-shirted block team are attending to final preparations.

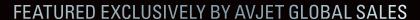
There is one exception to the dress code: president Dana Mecum. He is wearing a yellow company shirt and matching baseball cap, but otherwise looks much like the 10,000 customers who will attend this weekend event. But Mecum isn't just any car guy. His company auctions more collectible autos than any other in the world at 14 annual events across the U.S., including a monster 3,000car, 10-day, \$100 million extravaganza each January in Kissimmee, Florida. Mecum in recent years has also branched out into motorcycles, collectible



A VIEW FROM THE INSIDE WITH THE WORLD'S LEADING AIRCRAFT BROKERS











14 Passenger VIP Configuration with a Private Stateroom • One U.S. Owner • 1,531 Hours / 733 Landings 12-Year C4 Inspection Completed 3/2013 by AAC, Dallas Including Landing Gear Overhaul / Exchange Eligible for FAR 135 Certification

S/N 29200



THE GLOBAL LEADER IN LARGE CABIN AIRCRAFT SALES



LOS ANGELES MARC J. FOULKROD +1 (818) 480-9964

SALES | ACQUISITIONS | CONSULTING AVJETGLOBAL.COM

WASHINGTON D.C. ANDREW C. BRADLEY +1 (410) 626-6162



A MARKET VIEW FROM THE WORLD'S LEADING AIRCRAFT BROKERS

by James Wynbrandt

Across the globe, market watchers report aircraft transaction activity is on the upswing. We convened a panel of experts from five leading brokerage firms to get their views on today's business aircraft marketplace and where it's heading. An edited transcript of their comments follows.

THE PANEL



Marc Foulkrod, chairman and CEO, Avjet

Los Angeles-based Avjet Global Sales, a division of Jet Aviation, specializes in large-cabin jets. Founded in 1979, Avjet also manages and operates a large-cabin charter fleet that includes a BBJ, bringing added value to its transaction services.



Steven Gade, vp, marketing and business development, Duncan Aviation

Renowned for its maintenance, repair, and overhaul (MRO) services, **Duncan Aviation**, headquartered in Lincoln, Nebraska, was established as an aircraft sales brokerage in 1956 and added aircraft acquisition services in 1991.



Todd Jackson, vp of acquisitions, Elliott Jets

its roots to the aircraft sales division of Moline, Illinois-based Elliott Aviation, founded in 1936. In 2014 Elliott expanded its transaction arm, bringing industry veterans onboard and enhancing services, rebranding the division as Elliott Jets.



Jay Mesinger, president and CEO, Mesinger Jet Sales

Based in Boulder, Colorado, family-owned and -operated Mesinger Jet Sales was founded in 1982 by Jay Mesinger, a business jet brokerage pioneer. Today the second generation of Mesingers—his four children—has joined Jay and his wife at the firm.

What should a client expect from an aircraft broker?

- Jay Mesinger—Most people probably think of a brokerage service simply as a company that buys and sells airplanes for clients, but to compete today, a broker needs to add value to the transaction. It's a team process, and we pay special attention to the people, not just the airplane. A lot of personalities and skill sets are involved. That includes aviation attorneys, the buyer and/or seller, and all their in-house counsel, all the people who deal with risk management, the tax experts and financial planners, and the maintenance facility that will be inspecting the airplane. We work with these groups to orchestrate and navigate, and keep everyone informed and focused.
- Todd Jackson—We have the ability to determine the best airplane for the mission, and to help clients better understand the asset they're buying: what it will cost to own and operate, where the airplane is in its life cycle of maintenance, avionics and interior, the expenses they're likely to face. The transaction itself requires communication among five parties: the buyer, seller, brokers representing each, and the maintenance facility conducting the pre-buy inspection. All those parties need to be involved in understanding any problem and the solution. We guide them through the process. There's also power in working with an aircraft sales and brokerage company that is a full-service MRO facility [like Elliott], to leverage the strength of both disciplines. We had a recent transaction where some mechanical issues were found during the pre-buy, and we were able to get better pricing

from our service center than the customer was quoted by the local shop, and have the parts sent.

- Marc Foulkrod—The term "broker" does many of us an injustice in that we are more than just intermediaries who put the buyer and seller together. You need a team of people who are well versed in all aspects of aviation. We have to understand everything from a market standpoint, legal standpoint, operational standpoint, and lastly a risk standpoint. Being deficient in any of these disciplines adds risk to the deal and lowers your success rate. Many of these deals are terribly complex, and each is different and has its own potential pitfalls, with multiple parties on both sides of the transactions, many of them with completely different agendas.
- Steven Gade—These deals are complex—they're not like buying a suit from the rack. If we're buying an airplane, we're communicating with the client's CFO, the chief pilot, the DOM [director of maintenance]. If we're selling an airplane, we're dealing with those people on the seller's side, and the buyer's broker. We're also communicating with the facility doing the pre-buy. Hundreds of emails and points of contact happen throughout the process. On the sales side, there are test flights for the buyer, demo flights, and working out who pays for what. We're currently helping a client sell an airplane by providing a crew to perform a post-pre-buy flight test. That's just one of the myriad details in a transaction of this nature.







Buyers and sellers now have access to unprecedented amounts of data on preowned inventory and valuations. What impact is this having on the marketplace and the brokerage field?

- Steven Gade—Buyers do have access to more information about what is for sale and what just sold, but there are also more makes and models than ever, and more aircraft-specific complexities and risks than ever. Our role is to engage all of the experts on our team to eliminate risk and maximize value. The knowledge that we have combined with our experience of being in the trenches day in and day out for decades allows us to lead our clients through the path of least resistance. In this business, with all the technical and compliance issues, a couple of misunderstood acronyms, such as in avionics, can make a huge difference.
- Marc Foulkrod—Yes, the amount of information that is available now from reputable third parties is immense. But much of it is generic in form and some of it is outdated by the time it reaches the buyer or seller. A perfect example: online valuation services and services that report transaction figures. Most of the information is good for showing the trend in prices, but the actual price data is outdated by the time the prospect gets it. With prices falling so rapidly during the past few years, this data can confuse buyers and sellers. With transactional data, or sale numbers, most services give basic information on the aircraft specs but no story about the deal. Was there a back-to-back involved? What was the maintenance history? Any damage history? Why did the owner sell? These are among the factors that determine price.
- **Todd Jackson**—The internet has allowed people to gather more data and become more educated on all aspects of ownership. It's good and bad. Because of the tremendous amount of information, buyers sometimes have a tough time getting focused. Or you can have a deal in place with a potential buyer on Friday; then they spend the entire weekend on Controller, and by Monday there are three other airplanes they think they're interested in. Moreover, operational costs cannot be fully understood by reading data from a paid service or a report. It takes in-depth knowledge of items like avionics obsolescence issues, engine program costs versus benefits, and major inspection intervals. We try to educate our customers to not just look at the price tag of the airplane.
- Jay Mesinger—I don't think that all the data necessarily makes owners and buyers more savvy, but I think they're more cognizant of making sure they're buying fuel and sourcing maintenance at the best price. Price and cost have never been as important or as focused on as in the recent past. As a result, we've put more emphasis on speaking more eloquently and proactively to clients about real-time market valuations. We're in the market every day. Sometimes you can't get actual sale prices, but you can get a range and you have to interpolate a little bit—buyers say they paid less, sellers say they got more. This lack of transparency is one of the factors that makes our sophisticated industry unsophisticated.







Some transaction-tracking services report that average time on market for business jets is increasing. How can a broker get a client's aircraft to move at a fair price today?

- Todd Jackson—We understand that every day an aircraft is on the market it will decline in value. That is why we price the aircraft correctly the first time, aggressively market it, and utilize our industry relationships to find a buyer fast, and get the aircraft sold. Our number-one goal is to minimize the time on market while maximizing the sale price, and our aircraft listings have a record of selling faster than the industry's median days on market. This comes from a combination of in-depth knowledge of each of the markets in which we operate and providing clients with accurate sale-price expectations. We also work with a large network of industry partners and end users to create more sales opportunities.
- Jay Mesinger—If you establish the right price through thoughtful consideration, the sooner you can get in and get out, the better you'll do. The average time on market for all the airplanes we've sold in 2017 is 34 days. That's because we price the aircraft correctly and back it up with data. A client might get less than they wanted, but if they held out for that price, the airplane would sit on the market and eventually they'd have to accept less than they could have gotten when the airplane was first listed. Preowned prices may be going down at a lower and slower residual loss rate than we've recently seen, but they're still going down, and the longer the aircraft is on market the less you're going to get for it.
- Marc Foulkrod—The reason some airplanes sit on the market is simple: sellers either don't want to hear what their aircraft is really worth or are using brokers who are scared to sit down and properly educate them about why their aircraft is worth what it is. The key to successfully selling an aircraft in a reasonable amount of time and maximizing the sale price is using accurate, up-to-the-minute data, and many times telling sellers what they don't want to hear. Anytime a broker claims he can get more for your aircraft than all the other brokers say, that should raise a red flag. A good broker can negotiate better terms of the deal, but we don't make the market; we simply report it.
- Steven Gade—There are really two segments of the resale aircraft market: those aircraft that are realistically priced based on current market conditions and those that are not. You could have four airplanes for sale, three on the market for three months, and one for three years, and the average is skewed by one outlier. An accurate measure of average days on the market should include only the segment that is realistically priced. A qualified broker can reduce a seller's days on the market by educating the seller on market conditions and working together to develop sales and pricing strategies that will result in a sold aircraft in a reasonable amount of time. It is important that we as brokers do not confuse listings as the end game.

Where do you find the best values today, and where do you see the market going over the next year?

• Marc Foulkrod—I think there are good values throughout each segment of the market, but in particular, large cabin, and more specifically, aircraft such as the Gulfstream G550, where values have plummeted to levels unthinkable just a few years ago. This is an aircraft that is still in production and can cost upwards of \$45 million from the manufacturer, yet you can buy one that is 10 years old with good pedigree for \$15 million.

In Europe, we are finally seeing years of stagnation and selling begin to reverse. I think in 2018 you'll see the shift from net sellers to net buyers in the eurozone. Also, we've seen the influx of Asian buyers. They want new aircraft, or as near new as possible. Back here domestically, it's all about value and price. Everything else is secondary.

• **Todd Jackson**—When Elliott Jets starts the aircraft acquisition process there is no specific avenue to find the best opportunity. Most of the time, the top aircraft choices come from off-market sources such as banks, other broker-dealers, OEMs, and even long-time customers looking to sell their aircraft. We have the financial ability to take trade for our own inventory, and that opens a lot of doors for us. Across the board, inventory levels are decreasing. This has not yet seemed to affect price, but it has led to fewer choices for buyers.

North America is still clearly the dominant purchaser of airplanes, but we're starting to see European buyers come back. Asia remains very much a large-cabin region, where the light and midsize jets we spend the bulk of our time on haven't taken hold yet.

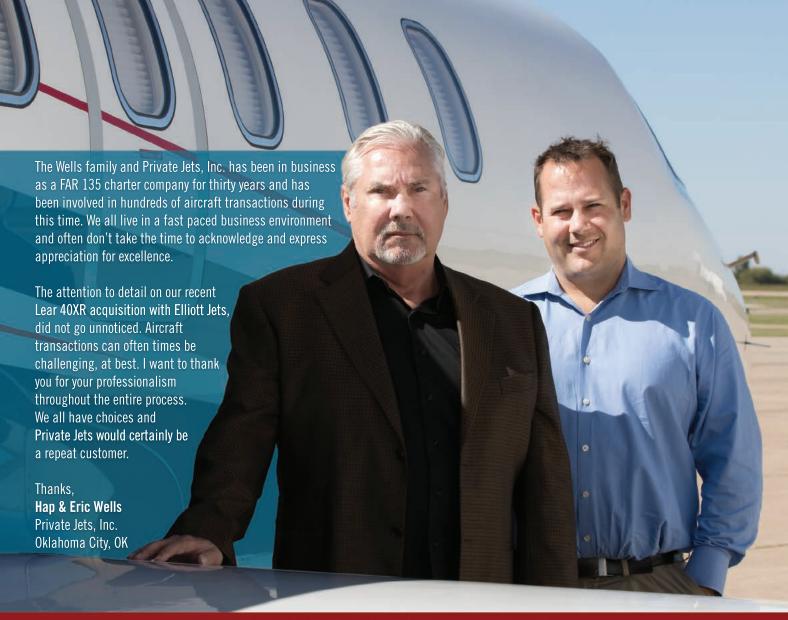
• Jay Mesinger—Value to me is not price; price is a one-time thing, and cost is a lifetime thing. If you misjudge what value means and think it's just the cheapest, it's not going to be the best value. Buy a great plane at the right price, take advantage of what the seller has invested in the airplane, and in fact maybe even spend a little more for it. At the end of the day, that's the best value.

Today, most buyers are in North America while a tremendous amount of inventory is outside North America, where it originally sold. Typically it's more expensive to import airplanes for a domestic client, but because we're quickly eating up domestic inventory, we're more involved with imports. The higher demand will soften the residual value loss rate.

• **Steven Gade**—Across the board, the current resale market represents the best retail buying opportunity for business aircraft that anyone can remember. As for where to find the best values, the more important question is how you compare, select, and acquire the best value.

The market is still sluggish but recently there's been more buyer enthusiasm. We've seen segments with lower-hanging fruit, such as the Challenger 300, Falcon 2000EX, and 7X, get picked off due to the low level of prices for what the aircraft offer in terms of age, cabin, performance, and desirability.





PROVIDING EXCELLENCE AT EVERY LEVEL

The team at Elliott Jets combines a highly experienced, process-driven aircraft sales team with 350 of the industry's most experienced technical aircraft experts at Elliott Aviation. Listing an aircraft with Elliott Jets ensures you have the power of our entire organization under one roof working on your behalf. We employ experts in all technical competencies including maintenance, avionics, paint, interior, accessories, parts and flight services. From contract and pricing negotiations to all aspects of managing the pre-buy, our team works in your best interest to keep your aircraft moving throughout the entire sale. At Elliott Jets, we're...



ELLIOTTJETS



How and when do you advise buyers to consider resale values?

- Steven Gade—We advise our clients to prepare five-year budgets that include realistic depreciation expectations. As part of this process, we provide detailed information that includes estimated costs and downtime for maintenance requirements during this period. The timing of certain events can significantly impact the value of the aircraft and the total cost of ownership. We keep in close contact with our clients after the sale, as we have generally established close working relationships with them through the process, and in many cases personal relationships with them. Our clients' level of satisfaction, measured on the basis of repeat business, is at the 95 percent level.
- **Todd Jackson**—It's difficult to speculate about what's going to happen with the value of a particular make and model: whether the OEM will continue to build it, parts availability, and avionics obsolescence all come into play. When we talk to clients about an aircraft, we talk about the depreciation
- schedule and when it might make sense to transition out. Accountants need to be involved in these types of questions. We can utilize all kinds of variables to make better-educated guesses, but the reality is that none of us know what they'll be worth. The market will ultimately determine future values. The number-one advice we always give is to keep your aircraft well maintained at a reputable maintenance facility. That will create more resale value.
- Jay Mesinger—The first thing to advise clients is that they're buying a depreciating piece of equipment. In the recent past, residual values went down 20 to 25 percent per year, and that's not sustainable. We believe airplanes will probably depreciate 8 to 10 percent per year. Whatever the decline, if you get in at the right price today, you will not be dissatisfied with buying an airplane and accepting that it will go down in value. People who got involved in owning airplanes from about 2003 through 2008 think aircraft went up in value every year, because they almost



always did. Today, some people may say, "I want to wait for prices to stabilize before I buy," but I guess they'll wait forever.

• Marc Foulkrod—Resale values are the most difficult topics to discuss with buyers, but they're one of the most important factors. Today, buyers not only want to know the best value in the marketplace, they want to discuss what their aircraft will be worth in five years when they contemplate selling it. If you had asked the industry's leading brokers in 2007 or 2008 to predict what someone's aircraft would be worth five years out, all of them would've been dead wrong. Even the largest financial institutions with hundreds of Harvard quants would've been way off. People should buy the aircraft that comes closest to meeting their mission profile at the best value, and then maintain the aircraft properly. When you sell, you want to have the best-maintained aircraft, with modern upgrades, so it stands above the rest. The best-maintained aircraft will retain their value better.





What's your best advice for buyers and sellers in today's market?

- **Todd Jackson**—Buy the airplane that meets your mission and fully understand any operational costs associated. For sellers: price your airplane correctly.
- **Steven Gade**—Align yourself early in the process with a team you trust and that will work hard on your behalf. Spend time together discussing objectives and strategies and be patient, but be ready to act when the right opportunity arises.
- **Jay Mesinger**—My best advice is to put smart people around you who are transparent and honest, and believe them. Let them do their job.
- Marc Foulkrod—Focus on the details. Buying an aircraft is not like buying a car. It's a multimillion-dollar investment and the wrong decision can have huge financial consequences. Also, when hiring a broker, don't focus on the cost of doing so, but the value of what you are contracting for. A good broker you can trust is worth many multiples more than his fee. People learn this the hard way.









Contact the Experts

Marc Foulkrod, Avjet Global Sales: ceo@avjetgs.com; +1 (818) 480-9964

Steven Gade, Duncan Aviation:

steve.gade@duncanaviation.com; +1 (402) 479-1551

Todd Jackson, Elliott Jets:

tjackson@elliottjets.com, +1 (612) 382-0386

Jay Mesinger, Mesinger Jet Sales: jay@jetsales.com, +1 (303) 444-6766







DANA MECUM

farm tractors, and road art, the former two driving their own events. Altogether in 2017, Mecum will handle some 20,000 consignments, including 14,000 cars, and generate revenues in excess of \$400 million.

For generations of Americans who came of age with octane in their blood, a Mecum event is more than just a car auction; it's a bucket-list item.

Nine out of 10 attendees will not bid; rather, they come just to ogle at precious metal and recall a youth long past. Thanks to television, the auctions reach a wider audience, providing 600 hours of annual programming on NBC's Sports Network, where the events draw more viewers than anything except Europe's Premier League football.

To be sure, Mecum auctions some pricey iron, but the ordinary and even sometimes the ridicu-

lous cross the block as well. At Schaumburg, you could have bid on a 1996 Ford F-150 pickup or, for you ice hockey aficionados, a 1992 Zamboni. Mecum understands diverse tastes and does not discriminate. To him, you're a fellow car guy, and that's all that matters. He takes a floor-level seat on the auction block and the customers begin approaching.

"Hey, Dana, I brought my nephew," says one. "Would you sign his badge?" Mecum cheerfully obliges.

"Dana, I've been coming since 1988," says another. "Do you remember me?" Mecum not only remembers, he recalls where they first met.

"I watch you on TV all the time," says a third attendee. I came up from Tennessee to see this and I told my cousin I wasn't leaving until I shook your hand. I'm a car guy, but I don't own anything like this."

"You don't have to own them to enjoy them," Mecum answers.

Mecum—who runs the Wisconsin-based, 300-plus-employee busi-

ness with his wife, Patti, four sons, and CEO Dave Magers—grew up in the car business. His father had a Pontiac dealership in Marengo, Illinois and later resold Avis rental cars, becoming the nation's largest fleet dealer before getting wiped out by high interest rates in the 1980s and later recovering.

Mecum's first auction, in 1988, ended in disaster when 90 mph winds hit, followed by a storm of litigation from unhappy customers. "My wife asked

me what I was going to do. I said, 'Hell, we might as well have another auction.' There was no business plan—it was just survival." For 15 years, Mecum soldiered on without making a profit, plowing his earnings from another automobile business into the auction company to keep it afloat. At one point, someone offered to buy him out. Mecum asked for \$500,000 because that's how much debt he had.

Luckily, the buyer balked, because the business has thrived to the point where Mecum can now afford to get around in his own Cessna Citation Excel.



"The era I come from,

everyone had gas and oil in

their veins. Today, people

have computers and cell

phones in their veins."



STREAM MORE SPEND LESS

UNLIMITED DATA. LIMITED-TIME OFFER.

Sign up now for the transformative connectivity of the SmartSky 4G LTE-based beamforming network. Use all the data you want for an affordable, fixed monthly fee on the Enterprise plan.

Go to smartskynetworks.com/unlimited to see how much you can save.



What are your favorite cars in your personal collection?

I used to have Corvettes and muscle cars, because those are the cars I was driving when I was a kid. But when I started this business, customers would always want those cars. It was the way I was feeding my family so I would always sell them. Then I fell in love with Indy race cars because none of my customers wanted them. I loved the romance and the history about them, and I really liked the fact that customers weren't always wanting my car. My first one was a Rex Mays Gilmore Special that was on the pole at Indy in 1935 and 1936. I still have it.

How did you get into this business?

I bought 40 semi tractors. I didn't know anything about trucks so I traded 10 of them for four rental houses. The tenants started calling me in the middle of the night to fix this and that. So I went back to the guy I traded the trucks to and gave him his houses back and told him he could keep the trucks. He said, "You know, you're going to lose a lot of money," and I said, "Yeah, but I'm going to get a lot of sleep." So a guy from North Carolina shows up with 40 collector cars and I traded him the rest of my trucks for the cars. So I had these 40 and 15 of my own and decided to have an auction.

When did you start flying privately?

I got a Citation Ultra in 2011 and moved up to an Excel in 2015. The Ultra couldn't make trips to the West Coast without stopping for fuel.

What made you decide to buy the Ultra?

I was looking at King Airs, but a friend told me I should really be looking at a jet. He said he had one for me. Even put the N number registration I wanted on it—N50LD [for "SOLD"]. But I couldn't get my head around the expense.

Then I had a flight from O'Hare. It took me two hours to drive to the airport. I'm in the security line for an hour, get pulled out for a pat down in a private room and that takes

let me pay them. They say I have to go back to ticketing and come through security again. So I refuse and tell the gate agent to call security because either I'm getting on the plane in first class or I'm going to jail. Meanwhile, the plane is delayed an hour for some other reason, and finally they let me on. We back up from the tarmac and sit there for two hours. So my two-and-a-half-hour flight winds up taking nine hours when you count the drive to the airport.

a while, and finally I get to the gate, where I

decide to use mileage to upgrade to first class.

They tell me I owe \$5.43 tax but they won't

When we land, my phone rings. It's the guy with the jet with "N5OLD" on it. I bought it.

It's one of the best decisions I've ever made. We get to a lot of business we wouldn't otherwise get because of the time factor. I can leave home in the morning, call on a piece of business, and be home for dinner, a trip that used to take three days on the airlines. And the worst thing is to be ready to close a deal with a customer and have to say, "Sorry, I have to leave to catch my plane."





Dana Mecum's **Cessna Citation Excel**

Variable cost/hour (latest model)	\$1,944
Seating (executive/maximum)	7/11
Range	1,786 nm
Max. cruise speed	433 kt
Max. takeoff weight	20,000 lb
Cost range (used)	\$2.3-3.3 M

Sources: Conklin & de Decker Aircraft Cost Evaluator and Aircraft Performance Comparator, Vref Aircraft Value Reference

Assumptions: Jet fuel, \$4.17/gal. NBAA IFR range with four passengers (200 lb each including baggage), NBAA IFR reserve fuel, 200 nm alternate





I'm 63 now. Money isn't as important as quality of life. Sure, you think of the extra business you can get to with a plane, but nothing beats just getting home every night.

How has the plane enhanced your bottom line?

Over the last five years, we've been selling more collectionspeople with 15, 20, 30 cars—and those are the people we are getting to with the plane. We get most of the single-car consignments from television and internet exposure but the plane helps us get to the collections and that helps increase our bottom line.

We're in the air two or three days every week. The first few years, I was the only one flying but now my sons are. I've told the other consignment guys, if they have a quick deal and other things to do, use the plane.

So you got over your concerns about the economics of aircraft ownership?

I used to fill the seats when we would go to an auction for economy but I got past that. Now when I get ready to come home I'm coming home. And I don't have to fly the chicken and pig express [the airlines]. Besides, I've got a great pilot who really watches expenses. He always tanks up where fuel is cheap.

You did something unusual in a family-owned business in that you hired an outside CEO. What was your thinking?

I was a control freak, and around 1999 I got sick and had to let go and let other people do things. That was part of how I got sick: I was trying to do everything. So I learned a great lesson from that. I know what I can do well, and I have to let other people do what they can do well.

I had a hard time managing when we had six people. We have 130 in the home office now. [CEO] Dave Magers spent 37 years at Country Financial, and he has the financial background we needed.

How important has television been to the business?

Immensely. In 2008, before the banking debacle, 80 or 90 percent of our business was car dealers who would buy from us and then resell from little retail lots and in trader magazines. The recession put a lot of those people out of business. Fortunately, we started on TV at the same



time so overnight we rolled from 80 to 90 percent of customers being dealers to 80 to 90 percent being the end consumer. The dealers that survived that period turned into sellers at our auctions. Their new business model was housing their cars in low-cost warehouses and bringing them to public auction. Without TV, not only would we not have grown, we might not have survived.

What's the rarest car you've auctioned?

Rare does not necessarily mean valuable. Value depends on desirability, quality, and then rarity and who owned the car. We sold Steve McQueen's Porsche for \$2 million. That car, had he not owned it, would have been worth \$350,000. In today's marketplace, the restorer comes into it as well. Also, say you have two \$1 million cars and one has been in five

well-known collections. That one is going to bring more money.

What's the most expensive car you've sold?

In 2009, we sold a 1965 Shelby Daytona Cobra coupe for \$7.25 million. In 2014, we sold a 1964 Ford GT40 [prototype] for \$7 million.

Sellers can be emotional about their cars. How do you get them to lift the reserve [price] when the bidding is not moving?

It's important to have a crowd [at an auction], whether they're bidders or just attendees. You can have a car with a value of \$20,000. If there's no one in the audience, you can have a \$30,000 bid and the guy won't sell. Alternatively, you can have a \$30,000 car with a \$20,000 bid and if every seat is full, the guy will sell. I've seen it a thousand times: a guy turns down the best offer he'll ever get because there aren't enough people in the room.

The other thing is energy. If you have a good roll of selling cars, it's contagious. If we're selling a small collection with reserves, we try and arrange it so that the first few cars sell for sure. Otherwise, the crowd quits bidding on that collection because they think the seller isn't serious. So a lot of mind games go on. The main thing is making people happy. If they are, it's easier to get them to a decision.

What advice would you give a first-time buyer?

Buy what you like, not just because you think it's a bargain. Because if you ever try to sell something you don't like or don't know anything about, you're going to have a hard time. If you buy quality and pay too much, the price will



"I've seen it a thousand times: a guy turns down the best offer he'll ever get because there aren't enough people in the room."



catch up and you will either make money long term or at least get your money back. So enjoy what you are buying and know something about it.

Another thing for a first-timer: don't ever go to an auction alone. Even if the guy you take with you knows nothing about cars, it helps to have someone who is on your side and you can talk to. The other thing is come to an auction [before buying] and practice bid in your mind.

Where do you see the business going from here?

The shortcoming is the age of the consumer. Look out there [at the audience]. See the age? [Almost all appeared to be over 50.] Long-term we think it will be OK, but the era I come from, everyone had gas and oil in their veins. Today, people have computers and cell phones in their veins.

Over the last 60 years our prices have gone up for four or five years, then they've stabilized, then they've gone down for a few years, then they've gone back up [to a new high]. But every time they go higher, the lane gets thinner.

A good example is Duesenbergs. Twenty years ago, all Duesenbergs were worth a million bucks. Today 80 percent are worth \$750,000 to \$1 million and the rest are worth \$3 million to \$10 million. Every time the prices go up, what is considered investment grade gets thinner. So we are going to have a lot of inventory, but are we going to have enough of the kind of inventory the crowd supports as it ages? That's a big concern.

The other thing is that now we have two business models. Our core business has always been sales commissions. We now have limitless entertainment [revenue potential] if we can learn to harness it. So far, we have used it to sell more cars. Now we have thousands of people who come and will never buy a car. They're here for the entertainment. So that's a challenge going forward. We think entertainment can be 25 times the size of our regular business.

Any thoughts about your next plane?

I was on a customer's Falcon 7X a few weeks ago, and that was really nice. Maybe in three years or so I'd buy one, but that wouldn't be for business. We've got nine grandkids, and we like to go places.

Mark Huber (mhuber@bjtonline.com) has contributed regularly to BJT since 2005. This interview has been edited and condensed.







It's a bird, it's a plane, it's...an Uber?

Manufacturers are developing small, electrically powered aircraft that can take off and land vertically in urban areas and that cost much less to operate than helicopters. But don't expect to book a ride soon.

by Mark Huber

prototype unmanned Volocopter twoseat air taxi made its first autonomous test flight in Dubai, UAE on September 25. The city hopes to have a low-altitude network of these air taxis in place in time for the World Expo there in 2020; and it plans to handle up to 25 percent of all its urban transport with the vehicles by 2030.

Both Dubai and Dallas are launch markets for the Elevate network that Uber unveiled last April. Its goal: to bring autonomous, small, electrically powered vertical-takeoff-and-landing craft (eVTOL) to densely populated urban areas and enable consumers to order them up on their smartphones—just as they summon a ground Uber taxi now. Proponents of the vehicles hope that fares will be around \$1.32 per passenger mile—only a bit higher than what it costs to operate a car and about one-third of the price of operating a turbine helicopter. The vehicles would take off and land on rooftops and in parking lots and other confined spaces; seat two to four passengers; fly at altitudes up to 4,000 feet at 75 to 175 mph; and have an unrefueled range of up to 200 miles. For the economic model to work they would need to

be mass-produced, relatively inexpensive—likely \$250,000 or less—and simple to maintain.

Technologically, this endeavor promises to be as vexing as the NASA Apollo program that put men on the moon. That's why Uber has hired a NASA scientist as the program's director of aviation engineering. Mark Moore spent 32 years at the space agency, concentrating mainly on electric flight. He says the Uber Elevate vehicles will require "precise digital datalinks" onboard for real-time deconfliction data to be communicated between vehicles, to ensure they don't collide.

The amount of that deconfliction data could be substantial. Uber chief product officer Jeff Holden says the company's modeling suggests a demand for up to 200,000 air trips per day in the



demonstration cities. He adds that working with NASA and the FAA will be critical in developing the network. Uber is partnering with those governmental bodies to develop and test scheduling and separation methods to ensure safe flight. "We're going to have a lot of these aircraft in the air," Moore says. "NASA is going to be a tremendous partner to make this a reality."

This new low-altitude frontier will be complex from a regulatory point of view, as the scheme needs to address many air traffic control and vehicle safety regulations and concerns. Dr. Jaiwon Shin, associate administrator for the aeronautics research mission directorate at NASA, says a likely urban air traffic control model for the network would follow along the lines of the UTM (Unmanned Aerial Systems Traffic Management) system currently being developed. He adds, however, that deployment of the Elevate network would likely test government regulators' ability to work with industry expeditiously and that industry needs to be mindful of aviation safety requirements. "The FAA is learning that it has to move much faster—at the speed of innovation," he emphasizes.

ber first made the case for urban vertical flight last year in a widely distributed white paper entitled, "Fast-Forwarding to the Future of On-Demand Urban Air Transportation." Benefits of the widespread deployment of such a system, according to the company, would include congestion reduction, time savings, and lower overall infrastructure costs compared with ground-based transportation. "This isn't going to be easy," admits Holden, "but this can be done sooner than later."

Holden says the key to getting the network in place is "radically changing the type of aircraft we're manufacturing here and doing it at mass scale." Those aircraft would incorporate distributed electric power propulsion and fly-by-wire controls to improve speed, efficiency, redundancy, reliability, and safety while reducing noise and emissions. "Helicopters won't work because of noise, cost and energy efficiency, and speed limitations," Holden says.

To that end, Volocopter and several other manufacturers—including such major airframers as Bell Helicopter and Embraer—already are at work designing concept vehicles. Several, such as the Volocopter, have even flown.

Earlier this year, German start-up Lilium conducted a successful unmanned flight of its two-seat Eagle prototype eVTOL craft. The design features 36 low-vibration electric jet engines mounted to wings via 12 moveable flaps, which are pointed downward on takeoff and landing to facilitate vertical lift but gradually transition to a horizontal position to provide forward thrust. The engines are shielded to protect each other from the impact of uncontained failure. They have a small fan diameter and limited drag and feature a simple design of two bearings, one shaft, and simple rotors. The



design of the aircraft makes it easily maneuverable during transition flight, a key advantage in an urban environment, says Lilium CEO Daniel Wiegand. "We can fly curves during climb and descent," he says. The aircraft has a range of about 162 nautical miles and a top speed of 186 mph.

Last April, Aurora Flight Sciences—which Boeing recently announced it would acquire—flew a one-quarter-scale prototype vehicle based on the XV-24 aircraft that it is developing for the military. The Aurora design features separate propulsion systems for hover and cruise and uses eight distributed lift rotors mounted on booms and one main aft-mounted propulsor along with a main wing and three lifting surfaces. Once the aircraft transitions past the stall speed (40 mph) in cruise flight, the lift rotors shut down.



Airbus says subscale versions of its Vahana tiltwing eVTOL have already flown and that a full-scale version will be in the air by the end of 2017. The goal is for production aircraft to be fully autonomous and to be equipped with low-altitude ballistic recovery system parachutes.

arter Aviation Technologies has partnered with Mooney to develop a four- to six-seat vehicle that uses Carter's slowed rotor compound design and cruises at 175 mph. Carter CEO Jay Carter points out that the high-inertia main rotor is always turning and in effect functions as a main parachute while providing directional control all the way down to the ground in an emergency.

While Bell Helicopter hasn't yet produced an eVTOL for public viewing, Scott Drennan, the airframer's director of engineering innovation, says his company's design would be robust enough to fly 2,000 hours per year; be "modular, adaptable, and scalable"; be able to use a variety of powerplants; have both civil passenger and military logistics applications; and likely be certified under the FAA's powered-lift category, a new section of the Federal Aviation Regulations developed for tiltrotors. Drennan's boss, Michael Thacker, Bell's executive vice president for technology and innovation, is more sanguine about the project, saying, "We're working with Uber to make sure we can do it in a safe and appropriate manner."

Clearly, designing and even flying a prototype eVTOL is the easy part of the equation; the bigchallenge is manufacturing one that can meet the mission and pass regulatory muster, says Patrick Conners, who is manager of manned aircraft for the Workhorse Group.

Workhorse has developed a variety of hybrid electric vehicles, including step vans and pickup trucks. In June, it unveiled its two-seat SureFly hybrid gas-electric VTOL concept at the Paris Air Show. SureFly has a maximum payload of 400 pounds, a range of 70 miles, and a cruising speed of 70 mph. The aircraft is powered by a fossilfueled generator engine linked to a parallel bank of battery packs offering redundant power and eliminating the need for long battery recharging between flights. The electrical system powers motors linked to four propeller arms, each with two contra-rotating propellers. The batteries can power the motors if the generator fails. The airframe also has a ballistic parachute.

Workhorse plans to begin test flights this year and intends to achieve FAA certification in late 2019. However, in its current form, SureFly would not likely meet FAA certification requirements and Connors estimates the program would need at least \$40 million to accomplish that goal and that a mass market needs to exist to justify the investment. "Our target price is \$200,000," he says. "We can make money if we sell 10,000 a year. Right now, in the U.S. only 1,200 helicopters are sold per year. If we sold only 50 of these per year we couldn't get the price down to \$200,000."

Economics aside, daunting technological issues remain. Workhorse is still looking for a production



engine that's light and powerful enough to meet the performance goals of its hybrid design. Connors estimates that the company needs to find an engine that generates 300 horsepower and weighs only 200 pounds, and that means an internal-combustion rotary engine or a small turbine akin to what is found in auxiliary power units on corporate jets. "The challenge is getting it as light as possible and getting the most power," Connors says. Workhorse has extensive experience with battery-powered vehicles, and Connors notes that current batteries are too heavy and take too long to charge to be practical for daily use in the eVTOL mission; emerging technology from major automakers such as Toyota may change that in the coming years, he adds, but for now, "hybrid is the way to go."

Industry veteran **Mark Huber** (mhuber@bjtonline.com) has reviewed aircraft for **BJT** since 2005.

Treasures under wraps

It's holiday time, but don't get stressed out. We have something on our list for everyone on yours.

by Jennifer Leach English

(A) Nature's Perfect Designs

Artist Gogo Ferguson's original inspiration for her Gogo jewelry line was the beach on her hometown island of Cumberland, Georgia. That's where she started to study the intricate designs of shells and sea creatures such as coral and starfish, which eventually led her to develop pieces such as the hand-forged "spiny murex conch double cuff bracelet." As the jewelry line grew, Ferguson looked beyond the sea to other elements of nature, and today her "rattlesnake vertebrae" design is one of Gogo's bestsellers. We especially love her elegant strands of large pearls, which can make you feel like the most mystical of mermaids. Ferguson's pieces are created with silver, gold, and natural bone. Also available are tabletop items such as a "cockle shell serving ladle," as well as cufflinks and other jewelry for men. \$45 to \$7,200 at gogojewelry.com

(B) Head-turning Beach Buggy

Here's the perfect "wow" present for someone who could use some jaunty wheels to get to and from the beach or just around the neighborhood. The Moke was originally designed for the British army by Alec Issigonis (creator of the Mini), but today it is mainly used for fun. It comes in several vibrant colors and has been updated to include power steering, choice of manual or automatic transmission, waterproof seats, and other modern features. From \$15,975 (electric) and \$24,000 (gas)



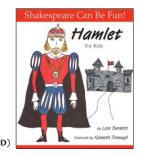
(c) Five Novel Ideas

at mokeamerica.com

For the story lover in your life who is always looking for a good book, how about a curated stack of novels that have been recognized with the highest possible honors? Our suggestions: The Underground Railroad (2017 Pulitzer Prize winner), by Colin Whitehead; Never Let Me Go, by Kazuo Ishiguro (2017 Nobel Prize-winning author); A Visit from the Goon Squad (Pulitzer Prize 2011 winner), by Jennifer Egan; The Brief Wondrous Life of Oscar Wao (2008 Pulitzer Prize winner), by Junot Diaz; and Vintage Munro: Nobel Prize Edition, by Alice Munro (2013 Nobel Prize-winning author). About \$10 to \$20







(D) A Child's Plaything

You might be surprised at how well Shakespeare's stories resonate with young children, who love the plays' drama, gossip, and humor. The Shakespeare Can Be Fun! series is a remarkable set of books by a former elementary school teacher who tailors the bard's language just enough to captivate youngsters. The books, which feature intricate illustrations, include musings from students. About \$10 each

(E) Lions, Tigers, and Bears

The World Wildlife Foundation's Symbolic Species Adoptions allow critter lovers to adopt a wild animal. (Available species include pandas, lion cubs, hyenas, African elephants, threetoed sloth, and many more.) Along with a certificate of adoption, your gift recipient will receive a plush replica of the animal, plus a photo and species card; some kits also include a gift bag or box. \$25 to \$250 at worldwildlife.org

Another idea for animal lovers is a yearly family membership to the local zoo. All-access passes typically pay for themselves within two or three visits, allow entry without waiting in line, include invitations to members-only events, and provide discounts on souvenirs and food. About \$100 to \$250 at big-city zoos

(F) This Gift Will Always Be Cool

For the design-first person with a quirky taste for beauty: this hand-painted, stainless steel, single-door refrigerator might be the perfect place to store perishables while bringing museum-quality artwork to the kitchen. Designers Dolce & Gabanna have teamed up with several artists to create eight works of art, and the results are mesmerizing. \$50,000 at neimanmarcus.com





(H) Take Adventure Along for the Ride

A cool gadget that can also come in handy when it's too far to walk is the Jupiter Bike, which is powered by a lithium rechargeable battery. The bike folds up small enough to fit in a backpack and can carry you as much 10 miles at up to 15 mph.

\$799 at jupiterbike.com

(G) A Bargain Bourbon Buzz

We understand the allure of 20-year reserve bourbons, but if you need to buy a bunch of bottles to spread around, we recommend Clyde May's. This aged, small-batch craft whiskey seems to always disappear fast from serve-yourself bars, leaving everyone with a light and happy buzz. And the price won't break the bank. Under \$50 via mayswhiskey.com







(I) Put a Kayak in Your Jet

Oru kayaks, inspired by origami, make bulky boats a thing of the past: they fold up to the size of a large briefcase but are easy to reassemble, making them ideal for stowing in the back of your airplane. Choose from three models, which weigh only 26 to 34 pounds. \$1,299 to \$2,499 at orukayak.com



(J) Snow Cones and Giggles

This Japanese bear ice shaver looks so cute that we were initially skeptical about whether it would be functional, but we tested it dozens of time with kids as young as three, and it proved to be durable and easy to use, not to mention giggle-inducing. (The bear's eyes move as you turn the handle).

\$78 at store.moma.org



(L) Great Coffee, Anywhere

After seeing our office colleagues whip out their Aeropress coffee and espresso makers on the road, we decided to try one ourselves. This gadget, which can make up to four cups, produces a taste and smoothness you aren't likely to get from the typical brewed pot and is the result of years of scientific studies on making perfect joe. Approximately \$35, including tote bag, at amazon.com



(κ) Hang Your Family on the Tree

These hand-painted wooden Christmas tree ornaments are custom-made to represent everyone in your family, including the animals. Around \$205 and up for four ornaments at etsy.com/shop/goosegrease



Jennifer Leach English (jenglish@bjtonline.com), BJT's editorial director, interviewed Jet Aviation's Rob Smith for our October/November issue.

Music Boxes

Seeking gift ideas for a popular-music lover? These box sets shine new light on old gems.

by Jeff Burger

(1) Sgt. Pepper's Lonely Hearts Club Band, the Beatles. Celebrate the 50th anniversary of this fabled album with an edition that features a new stereo mix by original producer Sir George Martin's son, Giles. Other goodies include two CDs with previously unreleased session material, a hardcover book, and a DVD and Blu-ray that offer surround-sound mixes and a documentary about the LP's creation.

(2) Woody Guthrie: The Tribute Concerts. This three-CD box renders obsolete a long-out-of-print vinyl collection that culled highlights from a pair of 1968 and 1970 Woody Guthrie tribute concerts. The new 100-track package offers unabridged recordings of both shows, plus interviews with the artists and two engrossing hardcover books. The performances—by Bob Dylan, Joan Baez, Pete Seeger, Odetta, Tom Paxton, and many other folk giants—are heartfelt and memorable. And songs like "(Deportee) Plane Wreck at Los Gatos" underscore how relevant Guthrie remains.

Dvlan. This 36-CD opus delivers every known recording from a legendary three-continent tour that featured backup by the Band and many of Dylan's best early songs. Granted, the set lists differ little from show to show, and most listeners would probably be



this box. (Dylan's label ostensibly included every concert simply because European copyright law would have put any omitted material into the public domain after 50 years.) But the package is priced as if it contained far fewer CDs than it does, and for fans of the Nobel Prize winner, music doesn't get any more compelling than this.

(4) Complete Third, Big Star. Multiple labels rejected this "power pop" band's third album, which finally appeared in 1978, four years after it was recorded, and later came to be regarded as an influential classic. This 69-track, three-CD set combines



the original LP with revelatory rough mixes and alternate and demo takes; also here are fine covers of songs by acts Big Star admired, among them the Beach Boys, the Velvet Underground, and the Beatles.

(5) A New Career in a New Town (1977-1982), David Bowie. After Bowie's 2016 death, his record label issued two 12-CD sets that together covered the first eight years of his music-making; this third box, with 11 CDs, documents an additional six years. That's 35 discs—and we've still got 33 years to go. This latest box, the best of the three to date, includes Low and Heroes, two of Bowie's most adventurous albums, plus a hardcover book and much

helped the Stones expand their focus beyond R&B-spiced rock, incorporates instruments ranging from theremin and electric dulcimer to sitar and mellotron, and foreshadows the 2013 film Her with a lyric about an "affair with a random computer." The set includes remastered stereo and mono versions of the album on CD andfor those who want the complete 1960s experience—vinyl. **BJT**

Business Jet Traveler editor Jeff Burger (jburger@bjtonline.com) has covered popular music throughout his career. His latest book is Lennon on Lennon: Conversations with John Lennon.



Finding the cause

National Transportation Safety Board investigators almost always discover the triggers for aviation accidents. Here's how they do it, and what their reports accomplish.

by Gordon Gilbert

urbine business airplanes have fewer serious accidents than all other segments of general aviation and are on a par with the airline industry in this regard. But when a mishap does occur, an investigation is launched to determine how it happened and what can be learned to help prevent similar future occurrences. Countries with any appreciable aviation activity have federal-level accident investigation branches. In the U.S., the Federal Aviation Administration (FAA) and the National Transportation Safety Board (NTSB) perform official inquiries.

The FAA investigates incidents and accidents that usually involve

little or no injury to aircraft occupants or people on the ground and little or no damage to the aircraft. It can issue regulations and suspend airman certificates as a result of its probes.

The NTSB, an independent, non-regulatory agency, investigates accidents that result in serious injury, loss of life, or substantial damage to the aircraft or other property. The Safety Board—which is considered the world's premier authority in its field and often assists other countries in their investigations-has an exceptional track record. In only a few investigations has it ever failed to determine a probable cause.

An NTSB investigation begins with the dispatch of a "Go Team" to the scene of the accident, where they collect evidence. This involves gathering parts of the damaged or destroyed aircraft; arranging for transportation of the bulk of the aircraft to a secure location; and obtaining air traffic control and cockpit voice recorder tapes, flight recorder data, and statements from witnesses and accident survivors.

Within about three weeks after the crash, the NTSB posts a preliminary report on its website. It contains a general description of what happened, where the accident occurred, weather and wreckage information, and the number

and extent of injuries. This report also indicates the aircraft make, model, and registration; the operator's name; whether the flight was private or a charter; and the name of the NTSB investigator in charge.

The deep investigation process involves separate groups, each of which consists of Safety Board members who are experts in different areas, including weather, air traffic control, cockpit and flight data recorders, airframe, avionics, engines, hydraulics, pneumatics, aircraft performance, and human factors. These groups have the daunting task of analyzing the evidence in hopes of discovering clues as to how and why the accident happened. Sometimes, the NTSB invites outside specialists and experts to assist or observe.

It can take several weeks or months to finish this evidence analysis, follow up on witness statements, transcribe voice and data recordings, and ascertain the accident crew's flying credentials and pilot experience. Once the NTSB completes all these tasks, it creates and posts on its website a public docket that is divided into the findings from each of the specialized groups.

At about the same time, the Safety Board posts its factual report. This document summarizes in narrative form the facts derived from each of the group's findings as detailed in the public document. It does not incorporate opinions or draw conclusions about the accident's cause.





Based on its evidence analysis and the input of testimony, if a public hearing is held, the Safety Board will release a final report containing the probable cause and factors that may have contributed to the accident. At this point, 12 to 24 months have typically passed since the accident.

Once an investigation is complete, the NTSB issues recommendations to the FAA. Recommendations that have resulted in rules that have helped to reduce the number and severity of aviation accidents include those requiring certain aircraft to be equipped with ground-proximity warning systems, traffic alert and avoidance systems, weather-detection systems, and cockpit voice and flight-data recorders.

Besides being the impetus behind requirements to have safety equipment installed, National Transportation Safety Board recommendations are often directed at operational issues.

Case in point: investigations into a pair of 2004 and 2005

A Half Century of Investigating Accidents

This year, the National Transportation Safety Board marks its 50th anniversary of investigating aviation and other transportation accidents in the U.S. Congress created the agency on April 1, 1967, and just two days later, it started working on its first major case: the Lexington, Kentucky crash of a twin-engine Beechcraft air taxi that killed the pilot and all eight passengers.

Established initially as part of the then-new Department of Transportation, the NTSB replaced the Civil Aeronautics Board Bureau of Safety, which had existed since 1940. But it wasn't until 1975 that the Safety Board became an independent agency, giving it the freedom to do its job unencumbered by political pressure.

Today, the NTSB annually investigates, on average, 1,600 aviation accidents and major incidents, as well as dozens of highway, rail, pipeline, hazardous-material, and maritime accidents. Over the years, it has released more than 14,500 safety recommendations, of which more than 80 percent have been implemented. Nearly 40 percent of the NTSB's recommendations and more than 98 percent of its investigations relate to aviation. —*G.G.*

accidents that exposed shady practices, illegal operations, murky responsibilities, and poor federal oversight of the air-taxi business. The NTSB believed these were examples of an industry-wide problem, and it made recommendations that ultimately led to proposals for tighter regulations, improved policies, and better federal supervision of the air-taxi community. The Safety Board also advised that it be made clear that brokers-often the first point of contact for passengers seeking air-taxi flights—are not aircraft operators and thus do not have operational responsibility for flights.

The FAA accepted many of the NTSB's recommendations, but it wasn't until 2013 that the Department of Transportation issued a notice of proposed rule-making to turn those recommendations into law. As the NTSB had advised, the proposal would require air-taxi brokers that rely on others to perform flights to disclose the name of the entity that operates the aircraft. In addition, the proposed rules would require air taxis

In only a few investigations has the NTSB ever failed to determine a probable cause.

to disclose the names of the aircraft owner and all brokers involved in arranging a flight.

The rules were initially set to be adopted in late 2016 but have yet to be finalized. Nevertheless, today many brokers and providers of on-demand flights attempt to vet aircraft operators, usually via third-party companies specializing in aviation safety audits.

In the 2005 crash and in many prior air-taxi flights, the operator lacked an air-charter certificate (Part 135) but had entered into a charter management agreement with the holder of such a certificate. Such arrangements created the opportunity to easily hide illegal operations. Amazingly, in the 2005 case, the company without the Part 135 certificate operated for two years before the accident, based on its agreement with the certificate holder and with tacit FAA approval. Despite these findings, the FAA chose not to issue new regulations as requested in the recommendations that stemmed from the accident.

Even with recommendation responses not being acceptable to the Safety Board, the air-taxi community has steadily improved the safety and clarity of its operations. This has resulted from regulatory and advisory materials, charter marketing and competitive forces, outside auditing, and self-appraisal. Jet air-taxi operations are now one of the safest segments of professionally flown turbine business airplanes.

Gordon Gilbert (ggilbert@bjtonline.com) is a former senior editor at **BJT** sister publication *Aviation International News*.



How three trends could affect you

The charter business is undergoing changes that could produce a mix of good and bad news for customers.

by James Wynbrandt

hen it comes to making charter arrangements, do you usually book directly with an operator or through a broker? I'll tell you why I ask after noting that it's been a great year for companies that charter out jets that they manage as well as those that own the fleets they operate. The number of charter hours flown is higher than at any time since before the Great Recession, prompting Argus International CEO Joe Moeggenberg to call current charter operations "the star of business aviation."

Indeed, the aviation data company says flight activity among the top 25 U.S. charter operators rose by double digits in the first half of 2017, even adjusted for fleet growth: their charter rosters grew more than 5 percent from the same period last year (from 991 to 1,045 aircraft) while flight hours jumped nearly 16 percent (from 412,005 to 476,988). That translates to a blistering 457 flight hours for the average aircraft during the first half of the year versus 416 hours in the same period last year.

These are high numbers any way you look at them, but the figures are skewed by the owned-and-operated fleets: XOJet (#3), Travel Management Company (#4), JetSuite (#9), and Zetta Jet (#14), as well as management company Gama Signature (#1), which operates Wheels Up's owned fleet. These operator-owned aircraft typically rack up more hours than do privately owned airplanes chartered out by management companies.

A variety of changes—some with potentially far-reaching consequences—are contributing to the current market activity, and if you book directly with an operator rather than through a broker, you're positioned to reap the benefits first. Here are three trends, and what they mean to you:

Charter operators are serving as brokers. Relations between charter operators and brokers have improved as the former have come to appreciate the value and service the latter provide. Some operators have downsized in-house sales departments and outsourced

charter bookings to brokers, but a more notable trend may be that several major lift providers have established in-house brokerages.

At Priester Aviation, about 30 percent of charter revenue now comes from brokerage, says senior vice president Gary Gennari. At JetSuite, charter brokerage "is probably the fastest-growing" part of the business, says vice president Cameron Gowans. XOJet, operator of Citation Xs and Challenger 300s, has also gone big on brokerage, with "fantastic" results, says Brad Stewart, president and CEO: "Through the middle of the year, we've done about \$100 million annualized in brokerage business, versus \$200 million to \$250 million on fleet revenue."

Likewise, membership program Wheels Up established its Flight Desk brokerage arm last year to find lift for customer missions that are beyond the capabilities of its King Air 350is and Citation Excel/XLSs. Now Flight Desk is "one of our fastest-growing initiatives," says CEO Kenny Dichter. "We'll exit 2017 with a \$50 million [annual] run rate on that business."

This new focus on brokerage services means that it may be easier for you to get lift through your regular operator, even if the aircraft you need isn't in its fleet. At JetSuite, Gowans notes that customers "don't necessarily want to go outside" his company for sourcing charter "and ask us to find an airplane for them." Similarly, Gennari says that because of Priester's "high-touch customer service, clients want to go with us" for arranging charter even when no appropriate aircraft from its own fleet is available.

Charter companies are financing jets. The last time charter demand got as high as it is now, management companies started guaranteeing revenue to aircraft owners to get them to move their jets from competing fleets—a plan that went awry when the economy collapsed in 2008. Today, some management companies have decided it's easier to add lift by helping their charter customers buy airplanes, and they've set up financing arms for that purpose.

Houston's Wing Aviation used its new finance department to help customers buy a PC-12, King Air 200, Citation Excel, and Phenom 300. The aircraft were then added to Wing's charter fleet, reducing its age and increasing its diversity. That's in line with the company's "goal to have one of every class," says president David Riddle.

Jet Linx, meanwhile, has partnered with Global Jet Capital on its just-launched Sign & Fly operating lease program, for aircraft already flown by the management company. And last year, Priester Aviation introduced a turnkey-purchase charterrevenue program, taking advantage of low preowned-aircraft prices and high charter demand. Priester finds an aircraft suitable for its charter fleet, adds the jet to its certificate, puts it to work, and then sells it to a heavy charter customer with a revenue stream in place. Having "the [revenue] component was absolutely a part of the decision process" in recent charter client purchases of three jets, says Gennari.

If you're a charter customer, this trend could mean more lift in your operator's fleet—maybe including an aircraft with your name on the registration. "We already have clients pursuing the [ownership] opportunity with our help and Global Jet Capital's," says Jamie Walker, Jet Linx's president. Adds Priester's Gennari: "More of these [purchase deals] are in the pipeline."

A pilot shortage is beginning to affect air charter. "The situation is going to have an impact on the Part 135 [charter] industry," says Moeggenberg.

The shortage is "all across the spectrum," notes Don Haloburdo, vice president and general manager of flight services at Jet Aviation. Instead of the 30 days it previously took to find and hire a qualified flight crew, "it's taking 60 or 90, or even more time," he says.

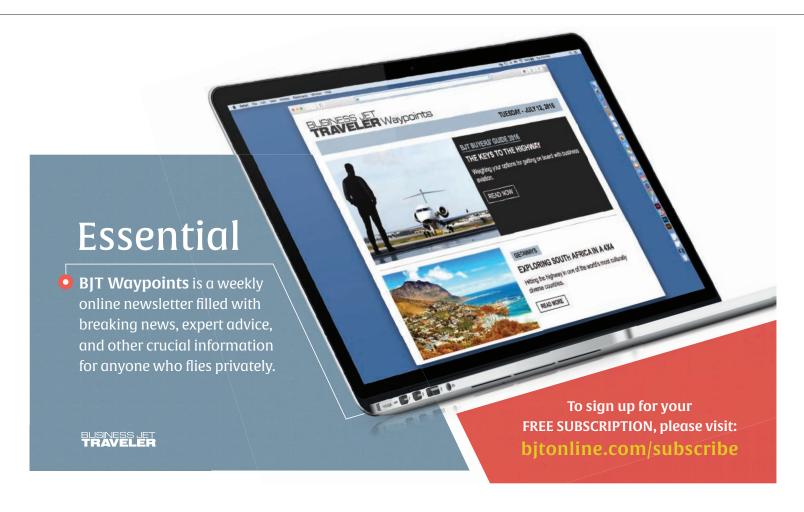
"These airplanes getting delivered into the business aviation market are designed to go from New York to Beijing, L.A. to Tokyo," Haloburdo adds. "Finding crewmembers who have the experience to accomplish those trips is not easy." Salaries and job expectations are rising, and pilots are exhibiting "a lot more choosiness" in accepting offers, he says.

Operators are seeking ways to adapt. Contour Aviation in Smyrna, Tennessee has developed "our own in-house farm system" that can take an employee from ground handler to charter pilot, says CEO Matt Chaifetz. Contour helps employees obtain their required ratings and ultimately moves them into the left seat of a jet cockpit. One of the company's Learjet pilots began her career in ground ops, as did a Challenger 605 pilot.

That's encouraging, but the pilot shortage is likely to be with us for a while, and what it probably means for you is higher charter prices. The shortage is "driving salaries up significantly, but that's not doing anything to fix the problem," says Haloburdo. "It's just making it expensive for owners." Adds Moeggenberg, "The salary and benefits that well-qualified pilots can now command is on the uptick, and at some point, that's going to have to be passed on to the consumer. Charter rates have got to go up."

There is an upside, if you deal directly with a charter operator: when resources are limited, the operator is likely to give preference on bookings of whatever aircraft is available to you rather than to a broker representing an unknown customer.

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



FACTORY-NEW AIRCRAFT

Legacy 500



It defines a new market niche while exhibiting more strengths than any other aircraft in its price range.

by Mark Huber

In September, Embraer delivered its first American-built Legacy 500 from its Melbourne, Florida assembly plant. The 500, which sells for \$20 million (or \$22 million, typically equipped) defines a new market niche between a traditional medium business jet and a super-medium. Altogether, the Brazilian airframer has delivered more

than 50 of the ships to customers in 12 countries since the FAA certified the model in October 2014.

Granted, the midsize sector of the bizjet market has been largely flying in a holding pattern amid the contrails of the last recession, but given all the value this aircraft brings to the market, more of them should be rolling off the assembly line. At least that's the impression I came away with after flying in one last year.

There simply is no other airplane in the 500's price range that gives you a true wide stand-up, flat-floor cabin with all the latest luxuries, a cavernous luggage hold, smooth and full fly-by-wire digital flight controls mated to glass-panel avionics, superb short-field capability, and transcontinental range. The least-expensive competitor that offers all this is the larger Gulfstream G500, which is slated for deliveries early next year and costs more than twice as much.

Jay Beever, Embraer's vice president of interior design, led the team that developed the Legacy 500 interior. Beever started his career in the car business, and he has a deep understanding of



FACTORY-NEW AIRCRAFT

industrial design. His mantra: "It's ergonomics first, craftsmanship second, then design." On the 500, he says, "We really tried to break all the rules, break all the paradigms of what the airplane should be at the price point. The idea is to give people value but offer more."

Beever points to the optional veneer granite flooring in the entryway, the slim blackglass tech panel over the passenger seats, and the large sidewall tables between the forward club seats. "This is our flagship for technology and aesthetic DNA," he says, pointing out the ways the cabin's intelligent design makes it easier, faster, and cheaper to service and replace components such as lighting, cabin management, and seating.

While the 500's computerized, side-stick flyby-wire flight controls enhance its safety, Beever notes that they also add to passenger comfort: "Some [aircraft] owners may say, 'I don't care what the pilot has to deal with. I want comfort in the cabin.' But the cabin is actually where you feel [the benefits of fly-by-wire] the most." And, Beever emphasizes, mating side sticks to the flight control system as opposed to traditional control yokes makes for even smoother pilot inputs and therefore a smoother ride for passengers.

Embraer's attention to detail in the cabin appears to have paid off. The seats are comfortable and articulate smoothly, the drink rail is positioned correctly, and the gaspers blow air at the right velocities. The proprietary upper technical panel provides flight-status information, ambient lighting, and access to cabin controls. The control buttons appear as the passenger's hand approaches the panel and fade when not

But the aircraft's biggest attraction is its spacious size. Its flat-floor main cabin measures about 27 feet long, 7 feet wide, and 6 feet tall, and the 500 has 150 cubic feet of baggage space-110 in the external compartment and

another 40 in a closet that you can access through the lavatory. There's a large, well-appointed forward galley, and opposite it, you can have galley annex storage or a single, side-facing seat that is ideal for a cabin attendant. Or you can have a side-facing, two-place divan opposite a small refreshment center. The wet galley features hot and cold water, four gallons of potable water, crystal storage, an ice drawer, compartments for china and silverware, a 110V power outlet, an optional monitor, and an espresso maker.

Behind the galley is the two-zone main cabin with seating for eight to nine passengers. Possible configurations include two club-four groupings of single seats or a forward club-four











NEW YORK'S LARGEST

S-76® HELICOPTER FLEET

AAG It's about time. It's about service.

New York's Premier Executive Helicopter Service for more than 25 Years. Unparalleled Safety, Service, Reliability.

Call AAG at 1.877.SIK.7676















FACTORY-NEW AIRCRAFT

followed by a half-club with a three-place, berthing divan on either the right or left side. Half-club pairs of single seats can be rotated back-to-back and then reclined together to form a comfortable sleeping surface.

With the seats positioned and folded down in this manner, the 500 provides sleeping for four passengers. Behind those accommodations is the lavatory, complete with solid door, vanity, basin, and an externally serviced vacuum toileta luxury not usually seen in an airplane of this size. Another atypical feature for an aircraft in this segment: the main cabin door has a pressurized seal that inflates with engine bleed air to reduce cabin noise.

Beyond the cabin, there are all kinds of other advances and thoughtful details you wouldn't expect to find on an aircraft in this category. For example, the 500 is available with an enhanced vision system that includes a compact, optional head-up display to facilitate landings in the lowest visibilities. The multiscan weather radar adjusts automatically to remove ground clutter. The winglets are bolted on, which makes them easier to replace should wingtips encounter any "hangar rash."

Other features make the 500 easier to manage on the ground. An access door on the nose allows ground crews to disconnect the steering for easier towing; a green light illuminates inside



the door when the aircraft is safe to tow. Ramp crews no longer need to enter your aircraft to disconnect the parking brake prior to towing. The 500 has a smart-locking single-point refueling system that displays fuel volume and allows your crew to select the amount to be loaded.

What all this adds up to is an airplane that is unmatched in its category for style, comfort, technology, and attention to detail. The midsize BJT bar has been raised.

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

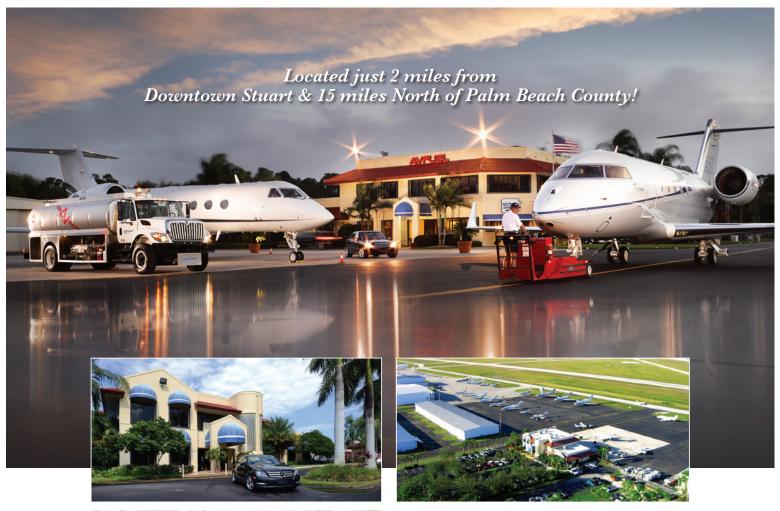




*NBAA IFR reserves; 200 nm alternate; 4 passengers (200 lb each)











STUART JET CENTER, LLC

- Concierge Services
 - Aircraft Charter
- Aircraft Maintenance
- Aircraft Sales
- Aircraft Hangars
 - Executive Offices

2501 SE Aviation Way, Stuart, FL 34996

Phone: 772-288-6700 • Fax: 772-288-3782 • Toll free: 877-735-9538

www.stuartjet.com

Turn bizjet passive losses into tax-time wins

Many aircraft-related deductions can't be used to reduce taxable income, but exceptions apply.

by Jeff Wieand

usiness jets are expensive to own and operate, so their use has the potential to generate significant tax deductions. Unfortunately, those deductions sometimes turn into passive losses, especially for jet owners who rely on chartering their aircraft as a business activity.

On the face of it, you might think it preferable to have "passive" rather than "active" losses, but the opposite is true. Expenses are supposed to be tax deductible when you incur them in the course of generating income. If you're not actively involved in generating that income, however, the Internal Revenue Service generally deems the activity "passive" (something of a contradiction in terms) and designates the associated expenses as "passive losses."

You can use passive losses only to offset passive income. That means you can't reduce taxable income from an "active" trade or business or from interest and dividends by deducting passive losses. That's fine if you have gobs of passive income, but otherwise you may be forfeiting substantial tax deductions. The forfeited "losses" include not only the fixed and variable costs of operating the aircraft, but tax depreciation as well. The good news-sort of-is that to the extent you have insufficient passive income, passive losses aren't



actually lost; they're merely suspended just in case you have sufficient passive income in the future to use them. If you're carrying passive losses from an activity forward this year, though, there's a good chance you'll be doing the same thing next year.

How passive is passive? The IRS defines a "passive activity" as a trade or business in which you don't "materially participate" or a rental activity. Here's the problem for jet owners: unless you have your own charter certificate, to charter your aircraft you must in effect lease (rent) it to a charter certificate holder who in turn charters it to its customers, paying you the lion's share of the revenue. Putting

a business jet out for charter, in other words, is almost inevitably a rental activity.

Rental activities are often called "per se passive," but six exceptions apply to the rental classification, including relatively short average rental periods and the provision of "extraordinary" personal services in the rental business, a key factor in an IRS Revenue Ruling that characterized the lease of a business jet to an affiliated company as "not a rental activity." The most difficult exception to apply to business jets is holding the aircraft as an investment that you anticipate will appreciate. The IRS might accept that for a B17 Flying Fortress, but not for your G550.

ven if you qualify for an excep-Lion from the rental classification, you must still demonstrate that the activity isn't passive. To do that, you have to show you "materially participate" in the trade or business. According to the tax code, this means you have to be involved in the activity on a regular, continuous, and substantial basis. The IRS has identified several ways to do this, such as spending more than 500 hours in the business annually, or more than 100 hours each year and more than anyone else. These tests won't help you, though, if the business is a rental activity like charter; the tax code says that your participation in a rental activity can be as material as you want, but it doesn't change the character of the activity. For a jet charter business, you still have to find an exception that applies to rentals.

There is another option, though, called "grouping." This works for taxpayers who do materially participate in a business, just not sufficiently in the one that owns the jet: the two businesses can be "grouped" together as what the IRS calls "an appropriate economic unit" for measuring gain or loss under the passiveactivity rules. If you can show that you materially participate in the unit as a whole, the losses of the unit are treated as "active."

Whether two or more activities constitute an appropriate economic

unit depends on what the IRS calls a "facts and circumstances" test, which is the agency's way of saying it considers the matter too complicated to promulgate a hard-and-fast rule. Nevertheless. the IRS has identified several factors that have the "greatest weight" in evaluating whether activities represent an appropriate economic unit. These factors include the similarities and differences of the activities (don't try grouping your aircraft charter business with a nail salon on Main Street), the extent of common ownership and control, and geographical location. Another factor is interdependence: the activities will be more likely to look as if they belong together for tax purposes if they share employees or customers, use a single set of books, buy or sell goods together, and the like.

It's easier to say what doesn't qualify as an appropriate economic unit than what does. The tax code requires that you group activities, not entities, and each activity grouped must be a trade or business or a rental activity. In *Williams v. Commissioner*, for example, the Tax Court wasn't persuaded that any similarity existed between "the business of renting an airplane and that of telephone sales training" and declined to find an appropriate economic unit.

Even if the activities are "similar," nexus between them is still important, and the more the better. Thus, to provide an example of a grouping that works, the IRS said that a partner in ABC and DEF can group ABC's activity of selling nonfood items to

grocery stores with DEF's trucking activity where the main part of DEF's business is transporting goods for ABC.

The grouping rules have many hidden traps, so don't try grouping in the dark; study the rules carefully. For example, not all business activities can be grouped, and special rules apply for grouping rental and non-rental activities. Further,

Taxpayers
who materially
participate in a
business, just not
sufficiently in the
one that owns
the jet, can group
the businesses
together for
measuring gain or
loss under passiveactivity rules.

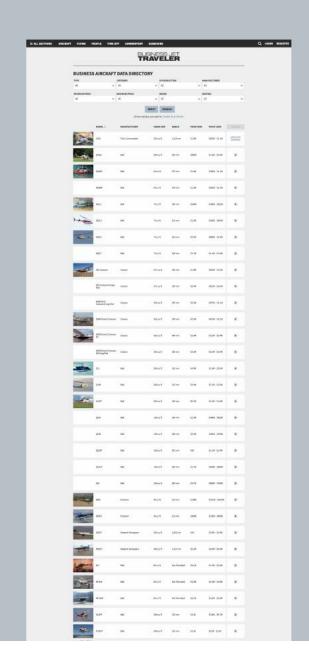
in 2010 the IRS changed the reporting rules for grouping activities. Under the revised regulations, you must report a new grouping in your tax return for the first year in which two or more activities are grouped or in which you add an activity to an existing group or regroup activities. According to the IRS, failure to file the reports when required will result in each activity being treated separately for tax purposes, though it's still possible in many cases to file a retroactive grouping election on a return for a subsequent year.

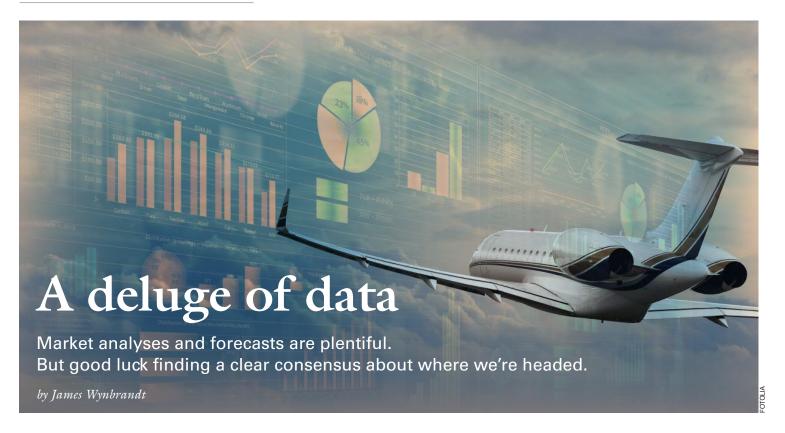
Jeff Wieand (jwieand@bjtonline.com) is a senior vice president at Boston JetSearch and a member of the National Business Aviation Association's Tax Committee.

BJT AIRCRAFT DIRECTORY

A data-packed, photo-rich guide to every major business jet, turboprop, and helicopter.

BJTonline.com/AircraftDirectory





hether you're a prospective buyer or seller, you may well be feeling confused about the preowned aircraft market's course this year. First, an expanding array of transaction and residual-value reports and forecasts is producing a flood of information, oftentimes conflicting. Add in more finely parsed analyses from traditional market data providers—and the differences in the fleets they track and their reporting methodologies—and

the potential for a muddled market view becomes wide enough to fly a fleet of preowned BBJs through.

But as the 10th anniversary of the 2008 aircraft market meltdown nears, we can say that the preowned arena continued this year its search for stability and positive indicators; and it did so against a now-perennial backdrop of declining values and glass-quarter-full optimism levels. Aircraft value tracker *Vref* captured the spirit of the 2017 market in its third-quarter

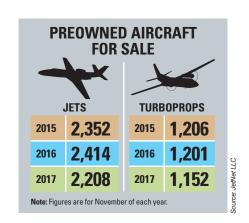
newsletter: "Although this segment continues to trend down," it said of values for preowned business jets, "the decline is much less than in the recent past. We are viewing this as a positive change."

The *Vref* report found that values of late-model large-cabin business jets, considered the backbone and bellwether of the preowned market, had declined 10 percent year over year—outstripping the value loss in jets of other cabin categories or vintages. That

hardly seems evidence of the "new enthusiasm" the firm detects in the market, but it could be the new reality.

"The values for cabin class aircraft are starting to imitate values for luxury cars," says Anthony Kioussis, president and CEO of appraisal firm Asset Insight. "The depreciation curve is much steeper in the beginning of the asset's life, and the final effect we believe is going to be a loss of somewhere around 50 percent, perhaps more,

AIRCRAFT THAT HAVE RETAINED VALUE Here are some models tracked by AircraftPost.com that have lost the least value since last year— or in a few cases actually gained value.											
Out-of-Production Models					Current Models						
Туре	Model	2016	2017	Change	Model	2016	2017	Change			
Light	Learjet 45	\$1.6M	\$1.55M	-3.1%	Embraer Phenom 300	\$ 7.15M	\$7.16M	+0.1%			
Medium	Learjet 60	\$1.6M	\$1.60M	0%	Citation Sovereign	\$11.4M	\$12.0M	+5.3%			
Large	Global Express	\$8.9M	\$8.40M	-5.6%	Gulfstream G550	\$38.0M	\$36.0M	-5.3%			
J	Global Express	***	**			\$38.0M	\$36.0M	-5.3%			



in the first five to seven years of an aircraft's service life."

Asset Insight has developed a process that tracks "maintenance exposure," taking into account the costs of making an aircraft squawkfree and mandate-compliant in determining value. The company also continually tracks the maintenance status and related financial exposure of some 1,800 fixed-wing aircraft listed for sale to chart the fluctuating asset quality of market inventory. In its fourth-quarter 2017 report, Asset Insight found that average ask price "reached yet another all-time low" (\$11.58 million for large jets, \$2.95 million for medium jets, and \$1.88 million for light jets), while the "ask versus final transaction gap worsened" (to 12.5, 14.8, and 7.9 percent respectively).

On the other hand, transaction volume has increased, according to both market and anecdotal data. Michael Dwyer, managing partner at Guardian Jet, pronounced the market "extremely strong" at a presentation in September. JetNet reported a 5.5 percent increase in retail transactions for the first half of this year versus 2016, while Amstat put the year-over-year increase at 8.4 percent. The disparity in figures results in part from the differing fleets these and other services track. Amstat follows about 22,000 business jets worldwide; JetNet tracks about 37,000 aircraft representing some 225 models of business jets, turboprops, and helicopters.

Meanwhile, the bifurcated market observed in the aftermath of the Great Recession—with transaction activity of newer versus older preowned aircraft trending (and often reported) separately—has now been trifurcated. Amstat, in an effort to make its data "more granular," subdivided transaction activity in light, medium, and heavy jet categories into Newer

(10 or fewer years old), Mid Age (11–20), and Older (more than 20 years old) airframe divisions in a report delivered in October. In all three cabin classes, the newest jets had the greatest increase in year-over-year transaction activity, topping out at an eye-popping 38.2 percent jump among large-cabin jets. But as Amstat noted: "While these percentages seem high, [given the thin market] a few transactions plus or minus will have a significant impact from one period to another."

"We're not seeing price stabilization in any of the markets, and as the longer-range aircraft continue to plummet in value, that is putting pressure on ancillary markets," says AircraftPost's Dennis Rousseau.

One promising trend reported by several analysts: a decline in preowned inventory, bringing these figures down to near 10 percent of the in-service fleet for some models—lows not seen since before the meltdown—and portending a halt to the steep drops in pricing and values of the last decade. "We're starting to hit the mark on what we project a sale or purchase price to be when we get to a closing, where we'd been behind the eight ball, catching a falling knife, since 2008," Dwyer says.

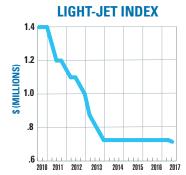
But AircraftPost, which tracks some 11,000 business jets worldwide, sees no evidence of inventory shrinkage. It reports that 14.5 percent of long-range jets, 17 percent of medium-size models, and 19 percent of the light jets in service are currently for sale.

"Unfortunately, we're not seeing price stabilization in any of the markets, and as the longer-range aircraft continue to plummet in value, that is putting pressure on ancillary markets," says Dennis Rousseau, AircraftPost's founder and president. The transaction data service also reports that time on market has continued to lengthen, a statistic based on the average number of days on market not of aircraft for sale, but rather of aircraft that have sold. Among light jets that changed hands so far this year, days on market ballooned to 599 from 477 in 2016; for medium jets, the figure rose to 580 from 482 last year; but for large jets, days on market actually dropped, from 674 last year to 631 in 2017. (Note that largecabin models have seen the largest value loss and the most sales activity among jets this year, according to market watchers. That suggests that if prices keep dropping, buyers will eventually come.)

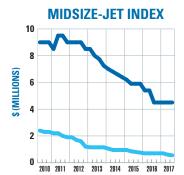
The bottom line is that the preowned arena continues to be a buyers' market. Inventory remains high, though quality, latemodel aircraft are the first to find new owners.

Sellers are not likely to be as happy as buyers these days, because valuations may have declined more than they anticipated when they bought their aircraft. Then, again, sellers are often disappointed regardless of what price they get. "It doesn't matter if you're selling an aircraft, a motorcycle, or a car," says Rick Cox, *Vref*'s publisher. "Everybody thinks it's worth more than it really is."

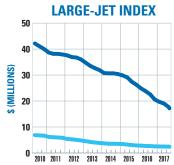
James Wynbrandt (jwynbrandt@bjtonline.com), a multiengine instrumentrated pilot, is a longtime **BJT** contributor.



This older-models index is a compilation of data for the 1991 Beechjet 400A, 1993 Cessna CitationJet, 1990 Citation II, 1990 Citation V, 1982 Falcon 10, 1985 Westwind II, and 1991 Learjet 31A. Data for late-model light jets is not available.



- This late-models index is a compilation of data for 2008 models of the Challenger 300, Challenger 605, Citation XLS+, Citation Sovereign, and Gulfstream G150.
- This older-models index is a compilation of data for the 1988 Citation III, 1992 Citation VII, 1990 Gulfstream Astra SP, 1990 Hawker 800A, and 1993 Learjet 60.



- This late-models index is a compilation of data for 2010 models of the Global 5000, Embraer Legacy 650, Falcon 7X, Falcon 900EX, Gulfstream G450, and Gulfstream G550.
- This older-models index is a compilation of data for 1990 models of the Bombardier Challenger 601-3A, Falcon 50, Falcon 900, and Gulfstream IV.



It may be the best-looking helicopter ever made, says our reviewer, but beauty isn't everything.

by Mark Huber

ang around beautiful machines long enough and one maxim will get burned into your brain: the better it looks, the more time it will spend in pieces. When I was a teenager, some of my classmates' fathers had serious car fetishes and could recount comical breakdown stories, chapter and verse, for hours. Likewise, my favorite flying eye candies are all maintenance nightmares. I suspect the late novelist James M. Cain must have moonlighted as an aircraft mechanic and worked on one of them. How else could he have mined the depths of depravity to spin the phrase, "She looked so good it made me want to hit her with a hammer"?

Which brings us to perhaps the best-looking civil helicopter ever made: the Bell 222. When the airframer first displayed the mock-up of this

clean-sheet light twin in 1974, it wowed the rotorcraft community with its slick, shark-like silhouette. This was an aerodynamic design that could have easily been conceived by Enzo Ferrari. It was going to be the coolest corporate helicopter of all time—with room for two pilots and five or six passengers in the back in executive configuration. It didn't take much for viewers of the 1980s television series *Airwolf* to suspend everything they learned in high school physics and buy into the proposition that a 222 could be modified to fly at twice the speed of sound, as opposed to its true 130 knots. (That was actually the most believable part of the show's wildly improbable scripts. But I digress.)

Aside from the sexy styling, on paper the 222 looked like a winner. The two-bladed main rotor system borrowed extensively from

Bell's popular Vietnam-era Cobra gunship and featured lubrication-free bearings mated to the Noda Matic vibration-reduction system that Bell had developed for its stretched Huey, the 214ST, designed in the main to service offshore oil platforms. The 222 featured landing gear that retracted into aerodynamic sponsons, dual hydraulic and electrical systems, and single-pilot IFR capabilities.

Deliveries of the 222 began in 1980, and it wasn't long before the model number began to seem like shorthand for too many repairs, too much downtime, and too much expense. The LTS101 engines were problematic from both reliability and maintenance standpoints; pilots needed to exercise inordinate care during the start sequence, and few made it to their recommended overhaul interval—which was only

The 222 was such a good instrument platform that it was the first helicopter to be certified for single-pilot operations without an autopilot.

1,800 hours on the early 222s. The anti-vibration equipment on the main rotor system required frequent repair and didn't quite deliver as promised; and the complex avionics were a radio shop's full-employment program. The fuel/passenger/range tradeoff was poor, moreover. (The running joke with the 222 is that it can carry passengers and fuel, but not both.) And the hourly operating costs were simply ridiculous (*see chart*).

The 222 also became notorious for accidents: 26 percent of the fleet logged mishaps, and 23 percent of them were fatal, killing a total of 27, according to the National Transportation Safety Board. The mechanical causes were in the main all related to various flavors of engine and rotor-system failures, many involving design issues. In 1982, the NTSB found that the first 79 aircraft made were produced with defective drive-link assemblies that could fracture in flight, causing loss of control. Seven years later, it noted that engine turbine blades had failed 87 times on 222s. In both cases, corrective measures were taken, but they didn't do much to enhance the 222's reputation.







All of this notwithstanding, the 222 was such a good instrument platform that it was the first helicopter to be certified for single-pilot IFR operations without an autopilot. Consequently, many pilots—provided they weren't also the individuals underwriting the maintenance—have loved the 222. That is, when it has been flying.

Bell began addressing the 222's shortcomings almost immediately, with model variations that never seemed to get it quite right, a sad preview of coming attractions that would characterize the company's attempt to penetrate the light-twin space for decades—until the Bell 429 was certified in 2009. Bell built 82 of the original 222As, which featured Lycoming 618 shp



Specifications & Performance

· ·	
Passengers (executive)	5
Pilots	2
Range*	240 nm
Maximum cruise speed	134 ktas
Cabin dimensions	Height: 4.8 ft
	Width: 4.8 ft
	Length: 70.9 ft
*seats full, VFR 30 min reserve fuel	
Economics	
Total variable flight cost/hour	\$1,672
Total fixed cost/year	\$415,781
Source: Conklin & de Decker	

Visit **BJTonline.com** for a searchable aircraft guide that contains detailed performance, specifications, and expense data for this and all other popular business aircraft.



(shaft horsepower) LTS 101 650C-3 engines and a 40-foot-diameter main rotor disc.

These engines had a lot of problems. Fuel capacity was 188 gallons in the main fuselage tank with an additional 48 gallons in the sponsons, which made the 222A about a two-and-a-half-hour ship without reserves, burning about 74 gallons an hour at 130 knots. This still gave the helicopter respectable full-fuel payload running with a bare-bones utility interior—akin to the kind used to transport offshore oil workers. But install a heavier executive interior and it becomes a different story.

So in 1982, Bell debuted the 222B, which it aimed more specifically at the corporate market. This variant featured a two-foot-longer main rotor and more powerful—and thirstier—680 shaft horsepower dash 750 engines, which Honeywell has done a good job of debugging in recent years with service bulletins and modifications that also make them more efficient. The extra power came with a price—fuel consumption increased to between 84 and

88 gallons an hour—but it gave the "B" better performance than its predecessor: speed rose to 135 knots; rate of climb improved from 1,580 to 1,730 feet per minute; range jumped from 324 to 378 nautical miles; and 402 pounds were added to maximum takeoff weight.

In 1983, Bell rolled out the 222UT, a version that replaced the retractable wheeled landing gear with skids. This chopped empty weight by 40 pounds but more importantly freed up room in the sponsons for additional fuel. Capacity on the 222UT increased by 74 gallons to 310, giving the model an unrefueled range of 486 nautical miles. This proved popular with offshore and medevac operators in particular.

However, engine problems continued to dog all flavors of the 222, and it developed a reputation as a hangar queen, an *Airwoof*. Some frustrated customers had already turned to a third-party provider to retrofit Allison (Rolls-Royce) engines into their 222s as early as 1988. (Those helicopters are now known as 222SPs.)

Bell finally reached its limit and, in 1992,

A 222 will induce ramp envy wherever you go, and the ones on the market today are relatively low time for their age and inexpensively priced.

introduced the Model 230, which attempted to salvage its foray into Light Twin Land. The ship jettisoned the LTS 101 engines in favor of the Allisons that had proven so popular and reliable on Bell's own JetRanger singles; introduced a new main rotor anti-vibration system; and fitted the craft with better fuel and electrical systems. But the damage to the brand had already been done; light-twin buyers turned to manufacturers from France, Italy, and Germany and that's largely where they remain today. Altogether Bell sold just 189 Model 222s and 38 Model 230s before it was back to the drawing board yet again. Only 85 remain in operation and just 30 of those are in the U.S. At press time, seven had sold in 2017 and the majority of those were for parts.

Should you buy a 222? It will look amazing in your hangar or on your lawn and induce ramp envy wherever you go. And the 222s on the market today are relatively low time for their age and inexpensively priced: you can find one in good condition for around \$500,000 and sometimes less—as low as \$200,000, according to the price-tracking service HeliValue\$. "They are not moving," says HeliValue\$'s Jason Kmiecik. "There are a few guys flying them just for joy-riding purposes," he notes. "But it's a lot of aircraft for the price."

Parts ships are common; in fact, if you want to buy a 222, the most cost-effective option might be to pick up two—a flying ship and a parts ship. If you need just a "once in a while" helicopter and can live with unscheduled, expensive maintenance that occurs with a tad too much regularity, strap in for the adventure. But if the words "dispatch reliability" are important to you, stay away. Or you'll be reaching for that hammer.

Industry veteran **Mark Huber** (mhuber@bjtonline.com) has reviewed aircraft for **BJT** since 2005.

Bell 222B compared with other aircraft

Model	First year produced	Variable cost/hour	Seats exec/max	Range (nm)	Normal cruise (kt)	Max takeoff weight (lb)	
Bell 222B	1982	\$1,672	5/9	313	142	8,250	
Leonardo A109C	1989	\$1,145	5/7	146	147	5,997	
Airbus AS365N2z	1990	\$1,619	6/12	420	151	9,369	

Assumptions: Bell is 1987 model; other aircraft are 1999 models. Jet fuel: \$4.17/gal. Variable cost: fuel plus maintenance reserves.

Four passengers (200 lb each includes baggage). Two pilots. Maximum cabin altitude: 8,000 ft. VFR reserves.

Sources: Conklin & de Decker Aircraft Performance Comparator and Aircraft Performance Comparator





FARNBOROUGH INTERNATIONAL AIRSHOW 2018

Sunday 15th July to Sunday 22nd July 2018





Aviator is the only hotel located on the perimeter of the Farnborough International Airshow. Beat the traffic and queues and be at the Show within 5 minutes, via our exclusive private entrance.

Airshow Dining — From £35 per person

The perfect VIP setting to enjoy the Airshow with unrivalled views of the air displays. Choose from a selection of all day dining options including Lunch, Afternoon Tea and Dinner in Aviator's award winning Brasserie.

Hospitality Packages — From £75 per person

Our hospitality packages are available in our Brasserie or private event spaces and can include arrival Champagne, an open bar, a three course gourmet lunch, Afternoon Tea, and panoramic Airshow views from our viewing Terrace.

airshow@aviatorbytag.com or 01252 555893

Acura NSX

The new model
is a long-awaited sequel to
the disruptive original.
Has the wait been worth it?

Story and photos by Ian Whelan

In the 1980s, exotic cars were glamorous, but were often unreliable, possessed questionable ergonomics, and frequently required a high skill level and muscle to make the most of their capabilities. Fans of models like the Ferrari 328 understood that to enjoy them you had to deal with some quirks.

Then, in 1989, Honda, the Japanese automaker known for building reliable everyday transportation, debuted the first-generation NSX under its Acura marque at the Chicago Auto Show. The name stood for New Sportscar experimental, and it allowed the company to showcase its engineering capability in the first true supercar that you might also want to use for daily transportation.

Honda proved that it was possible to set new benchmarks in practicality, dependability, refinement, and technology while providing a superb driving experience. The NSX's mid-mounted naturally aspirated, all-aluminum 270-hp 3.0L V6 engine—complete with forged pistons, titanium connecting rods, and variable valve timing—was a state-of-the-art masterpiece. It revved to 8000 rpm, unheard of for its time,

and was mated to a five-speed manual gearbox. Its lightweight, stylish all-aluminum body was, in fact, a first for a production automobile. The old guard took notice and was forced to improve its own products. The Japanese supercar was sold until 2005 without an immediate successor, and has since achieved a cult following.

Technology and design have changed quite a bit since then, along with expectations. Honda's competitors have caught up and then continued to set new standards for what it means to build a world-beating supercar. Meanwhile, in 2012, Honda debuted a concept for a successor NSX. Since then, anticipation has been building, and enthusiasts have been wondering how the forthcoming car would measure up.

While you won't find much aesthetic similarity between the 2017 model and the original, the designers crafted a stunning shape, especially in its Nouvelle Blue Pearl paint. It's easy to admire the contours, intakes, and vents, which all serve a purpose as the air flows through, around, and under the body, producing aerodynamic







downforce while cooling the machinery. I love the way the windows curve in beneath the rear pillars, creating a flying buttress.

The successor NSX, now standing for New ■ Sports eXperience, still represents the best of Honda's engineering capability but follows a more complex formula. The engine is again a V6, but it has grown to 3.5L and is supplemented by twin turbochargers, delivering 500 hp and 406 lb-ft torque. Aluminum remains predominant in the structure, but carbon fiber and other composites are used, too. In the biggest departure from the original formula, this NSX takes advantage of Honda's hybrid expertise, utilizing two electric motors at the front axle, and one between the engine and the nine-speed dual-clutch transmission. The cumulative power output is 573 hp and 476 lb-ft of torque. This is an incredibly fast car, capable of 0-60 in 2.7 seconds.

The electric motors don't simply improve fuel economy and add power. They provide drive for the front wheels in the Super Handling All-Wheel Drive system and also fill in before the turbos spool up and during gear changes, eliminating the sensation of turbo lag. Their torque can be dynamically directed to the front left or right wheels, working with the rear brakes to stabilize and rotate the car.

The cockpit is spacious with great visibility and would be a fine place to spend a day traversing hundreds of miles. My six-foot-threeinch frame easily settles into the comfortable perforated-leather sport seat. The dashboard doesn't have a lot of buttons to distract you, as most functions are integrated into the seveninch touchscreen, which also supports Apple CarPlay and Android Auto. I used the latter and it was excellent.

The standout control is the Integrated Dynamics System in the center of the dashboard, which allows you to select one of four driving modes. Each setting progressively changes the NSX's tune, affecting throttle response, brakes, steering, suspension dampers, stability control, electric assist, and engine sound.

ACURA NSX AT A GLANCE Base price





While you won't find much aesthetic similarity between the 2017 model and the original NSX, the designers crafted a stunning shape.

<u>Acura</u> NSX

While driving in Sport mode, which is probably the closest mode to "normal," I heard a subtle growl emanating from the engine behind my head. Occasionally you'll notice the whir of the electric motors and turbocharger induction whoosh. Gear changes are smooth. In this mode, the hybrid system will seamlessly switch between full EV mode, going whisper quiet, or using the V6 for propulsion, depending on how you're driving. While full electric mode isn't why you might choose to own this car, it is fun to experience. Ride quality is firm, but it doesn't jar much, even on rough suburban roads. Sport mode is usable in most everyday situations but won't limit your enjoyment even though it's not the most aggressive setting. Quiet mode encourages the system to depend on the electric motors even more, but the gas engine isn't actually any quieter, and it still cycles on occasionally to maintain the battery's charge.

Switch to Sport Plus mode, and the true supercar personality emerges. The V6 stays on full time, the exhaust and intake systems open up to release the engine's full wail, the gearshifts quicken, steering tightens, and the suspension stiffens. Stab the throttle and the response is immediate. The electric motors do their job, and the result is a massive wall of torque forcing you against your seat as the engine revs up to 7500 rpm. The tachometer needle flies to its upper reaches in a blink, so while using the manual transmission mode you'll have to recalibrate your









brain to change gears before hitting the rev limiter. The symphony of mechanical sounds from the engine, turbos, and electric motors provides the sense that there's quite a bit going on here. Track mode ramps up the dynamic systems even further, and also offers launch control. The four driving modes provide quite a bit of bandwidth to satisfy both the novice and experienced driver in all types of situations.

C teering is extremely responsive and communicates well for a modern car. When you turn in sharply, the body remains flat, and it's easy to place the NSX perfectly while cornering. The weight is well managed, and the center of gravity is quite low. Between the steering and magnetic suspension damper tuning, you likely wouldn't realize that the Acura weighs over 3,800 pounds. The variable-ratio electric steering rack allows you to keep your hands at nine and three o'clock on the perfectly sculpted steering wheel even on the tightest turns. Even at low speeds the experience is lively and engaging, but get the car moving on twisty back roads and it will give you the confidence to take corners faster than you would have thought possible.

The massive carbon-ceramic brakes work in tandem with the electric motors to slow the vehicle and regenerate power for the battery. The brake pedal is electronically connected to the hydraulics, and they provide feedback with an electric motor that is tuned to tell your foot what's happening without the usual unpleasant sensations that come through on other hybrids when the regeneration

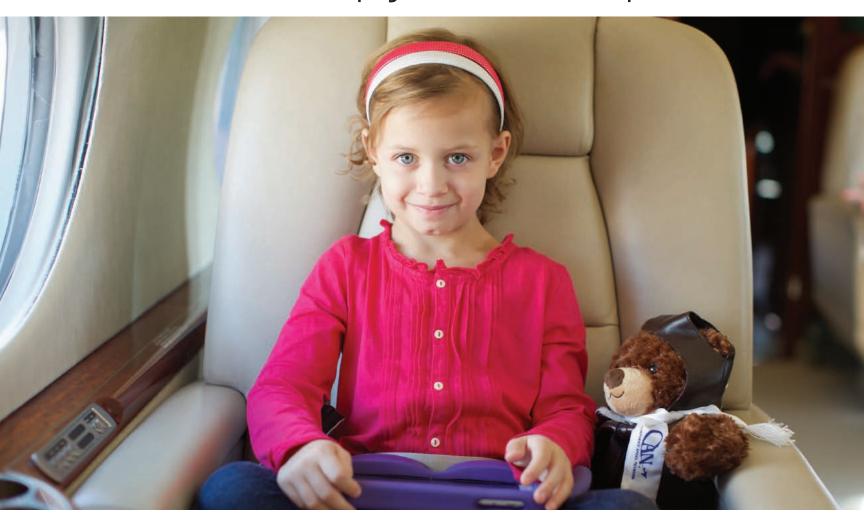
kicks in. They just feel like great, normal brakes. All this technology is integrated in a way that makes it easy for all drivers to enjoy the NSX's capabilities without fear of getting in over their heads, but it will be exciting for the enthusiast to explore its full performance capabilities.

However, performance isn't the only reason to own this vehicle, which turns heads and receives plenty of compliments. One detail that might surprise you is that this Japanese supercar is being built in Honda's Performance Manufacturing Center in Marysville, Ohio rather than in Japan. The company offers tour packages to buyers to watch hand-assembly of engines, view the final assembly of your car, and drive the Acura Proving Grounds track.

I wish that this iteration of the NSX had more in common with the lightweight simplicity and understated styling of the original, as it is one of my favorite cars. However, the secondgeneration NSX is impressive, and it's doubtful that buyers will be left wanting. The way the car employs hybrid technology bears similarity to its use in hypercars like the Porsche 918, McLaren P1, and Ferrari LaFerrari, but the NSX is available for a fraction of the cost of those models. It does everything a modern supercar should, yielding exceptional performance at a competitive price, and with a high degree of refinement, just like the original did over 25 years ago. It was well worth the wait.

lan Whelan (iwhelan@bjtonline.com) is BJT's video producer and a longtime auto enthusiast.

Fill an empty seat with hope.



Give a cancer patient a lift on your next flight.

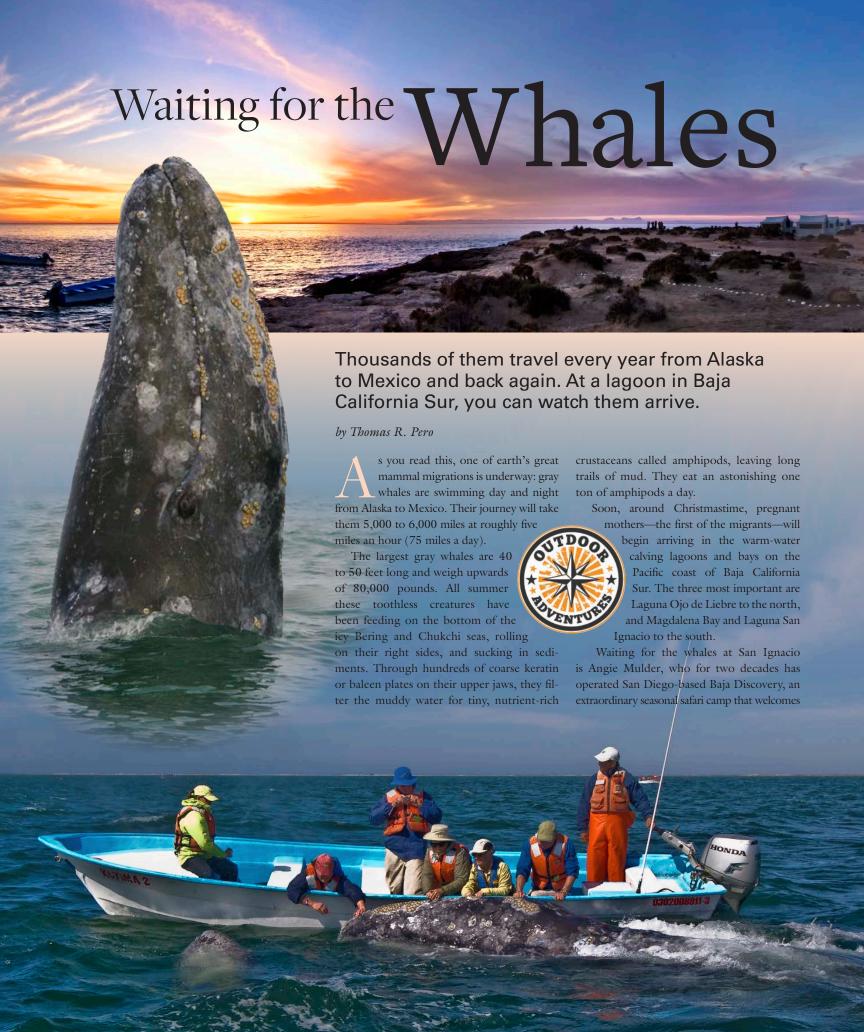
Corporate Angel Network arranges free flights to treatment for cancer patients in the empty seats on corporate jets.

Since 1981, Corporate Angel Network, a not-forprofit organization, has worked with more than 500 major corporations including half the *Fortune* 100, to fly more than 50,000 cancer patients to specialized treatment and currently transports 225 patients each month.

The process is simple. Corporate Angel Network does all the work. All you have to do is offer an empty seat to a cancer patient on your next flight.











visitors fascinated with the returning whales.

"We have such a gorgeous spot," says Mulder. "To sit here and look out and know that it's always been this way is awe-inspiring."

Mulder inherited her love of the austere but exquisitely beautiful Baja from her late aunt, Karen Ivey, who gave up a career as a Chicago social worker to lead natural-history trips here. Ivey watched with joy as the population of gray whales-with national and international protection—was restored to historic abundance. In 1994, the gray whale became the only whale species removed from the U. S. Endangered Species list.

"My aunt was a special woman," Mulder says. "She was the first to employ local people here as guides and cooks. She gave them a living. They respected her for that."

San Ignacio is special because today it is part of the internationally recognized and protected El Vizcaino Biosphere Reserve. Fully two-thirds of the 17-milelong lagoon is off-limits to tourists, leaving the whales undisturbed.

Mulder says the peak time for experiencing the spectacle is mid-February through mid-March, when hundreds of nursing, calving, and mating gray whales bring the bright shallows to life.

Males and females without new calves are the first to depart. Pregnant females and nursing mothers with their newborns stay, waiting until their calves are ready for the long journey, from late March to late April. A few linger into May with their young calves, which at birth are about 15 feet long and weigh some 2,000 pounds.

In the Pacific Northwest springtime, when rare bright days provide a clearing through the sheets of gray rain drenching green stands of cedar and fir, the returning whales can be seen from off the Olympic Peninsula and Vancouver Island. They are heading back, as they have for thousands of years, to their summer homes in the Arctic.

Thomas R. Pero (tpero@bjtonline.com) is publisher of Wild River Press and the author of the new hunting book Turkey Men.

A Bit of History

Isla Abaroa

Isla Ana



During the winter of 1855–56, a Maine whaling captain named Charles Melville Scammon sailed south from San Francisco to Baja California. He found gray whales mating and giving birth in

them for their boiled-down oil. His harpooners knew that if they targeted the playful and vulnerable 15-foot calves, the fiercely protective 50-foot mothers would not flee. They would ram the harpoon boats trying to protect their young. For this they were called "devil-fish."

Scammon was not only a whale and seal hunter, but also a naturalist and the author of an 1874 book, The Marine Mammals of the North-western Coast of North America: Described and Illustrated, Together with an Account of the American Whale-fishery. Like books of similar genre by fellow New England authors Melville and Thoreau, it was a financial failure at the time. Today, it's considered a classic. —T.R.P.



ANGELACO III. Archaeological Park





No matter how many guidebooks, magazine articles, or travel blogs you read, you won't be completely prepared for the sprawling wonder of Cambodia's Angkor Wat temple complex, the world's largest religious monument.

The complex is part of Angkor Archaeological Park, which spans nearly 100,000 acres. Located three miles northeast of the northwestern Cambodia city of Siem Reap, where I stayed during my visit, the UNESCO World Heritage Site contains the remains of several Khmer Empire capitals from the 9th to 15th centuries.

When the park was named a UNESCO site in 1992, it was added to the organization's List of World Heritage in Danger, because it was threatened by thieves and illegal excavations and dotted with landmines. UNESCO launched a successful campaign to restore and safeguard the site, which was removed from the endangered list

Many of the sanctuaries here display the Hindu concept of temple-mountain, where the temple is built in a mountain-like

pyramid shape and topped by five towers, representing the five peaks of mythical Mount Meru.

Early Angkor temples were conceived as Hindu worship sites. Around 1200, Jayavarman VII, a king of the Khmer Empire, converted to Mahayana Buddhism and set out on an extraordinary construction spree, building the new capital city of Angkor Thom, which includes Bayon, Ta Prohm, Preah Khan, and other Buddhist structures. However, his successor,



Above: vehicles and pedestrians enter Angkor Thom through the main gate. Four faces resembling Buddah are carved on its tower. Below: Angkor Wat Temple, Siem Reap, Cambodia.



Traveler Report Card

ACCOMMODATIONS (A+):

In Siem Reap, I stayed at Tara Angkor Hotel, which serves hot and cold breakfast and has Wi-Fi, an indoor pool and spa, a fitness center, a babysitting service, and an airport shuttle. The hotel has 206 spacious and tastefully decorated guest rooms and suites.

Victoria Angkor Resort & Spa is within easy walking distance of sites within Siem Reap, including Royal Park and the Old Market. The hotel serves breakfast and has Wi-Fi, an outdoor pool and spa, and a babysitting service. The 130 guest rooms and suites evoke the elegant atmosphere of the 1930s.

Lynnaya Urban River Resort Siem Reap is an upscale boutique property with 46 contemporary-designed rooms. It is in the township and only 15 minutes from the temples of Angkor Wat. The hotel serves breakfast and has Wi-Fi, a pool and spa, shuttle bus service, and airport transportation.

FOOD (A):

Tara Angkor Hotel offers two restaurants and two lounges that feature a wide variety of Cambodian and Western entrees. This is a good option if you don't want to venture out after a day of sightseeing. You can, however, take a tuk-tuk (a motorcycle with a four-person trailer) into downtown Siem Reap, where numerous restaurants serve everything from pizza and curry to traditional Cambodian food.

For fine dining, Mango Cuisine is an excellent choice. Located in the heart of the city, the restaurant is known for its service, presentation, and European recipes as well as vegetarian, vegan, and gluten-free entrees. For more casual dining, visit Try Me, which offers Asian, Cambodian, and Western options. The restaurant also delivers.

ACTIVITIES (A+):

Tuk-tuk drivers will take you from your hotel to Angkor Wat or on longer tours to other temples. There is also great souvenir shopping in downtown Siem Reap at the Old Market, where hundreds of merchants offer everything from clothing and linens to spices and artwork. Your driver can take you here and return at an agreed-upon time to transport you back to your hotel.



ARE YOU FLYING INTO A DEPARTMENT OF LABOR AUDIT?

If you provide a 401(k) retirement plan for employees, you should be aware that the U.S. Department of Labor has stepped up its oversight of these arrangements and you can no longer afford to take a hands-off approach to managing them.



Plan fiduciaries (typically you as the employer or as a designated committee) must ensure that everything possible is being done to act exclusively in the best interest of the plan participants. That means adopting an ongoing due diligence process that starts by conducting a fiduciary and operational assessment of the 401k plan to determine and document its current state.

Qualified Governance Assessment

AEPG® Wealth Strategies can help you with this assessment and we are offering a special 15% discount to all *Business Jet Traveler* readers.

Contact AEPG® Wealth Strategies and mention this ad to receive your Qualified Governance Assessment and special discount.

AEPG® Wealth Strategies is a nationally recognized leader in the 401(k) and pension plan industry. As an ERISA 3(38) fiduciary, AEPG® Wealth Strategies helps where you need it most, protecting you from significant personal Liability as a trustee or investment committee member. To obtain your plan's Qualified Governance Assessment, call or email:

Donald M. Goldberg at 800-660-4015 or dgoldberg@aepg.com





Traveler Fast Facts

WHAT IT IS:

Angkor Archaeological Park contains the remains of several Khmer Empire capitals from the 9th to 15th centuries, including the world's largest religious monument. Located in northwest Cambodia, it is three miles north of Siem Reap and 200 miles north of the capital of Phnom Penh.

CLIMATE:

From November to January, temperatures are in the high 60s F, but by April they rise to the 90s, making early morning and late afternoon the best times to tour the temples here. May to October, Cambodia's wet season, accounts for almost 75 percent of the country's rainfall. Throughout much of this period, daytime temperatures average 75 to 80.

GETTING THERE:

Siem Reap International, which has an 8,366-foot runway, is Cambodia's busiest airport. It caters to charter flights as well as 16 commercial carriers, including Korean Air, Asiana Airlines, and Vietnam Airways. For private-jet arrival info, call +855 12 938 522, extension 6321, or email rep.tc@cambodia-airports.aero.

WHAT TO KNOW BEFORE YOU GO:

You'll need a visa, which you can easily obtain when you arrive in Siem Reap. If your hotel doesn't offer shuttle service, you can take a tuk-tuk from the airport. U.S. currency is widely accepted. Temple tickets are available at a checkpoint on the way to Angkor Archaeological Park. You can opt for passes good for a day; any four days of a week; or any seven days of a month. You must cover your shoulders and knees before entering the temples.

Jayavarman VIII, returned to Hinduism and embarked on an equally massive destruction project, systematically defacing Buddhist images and even crudely altering some to be Hindu again. Hinduism eventually lost out to Buddhism.

Hundreds of temples and other religious structures are scattered across the landscape, but Angkor Wat is the most famous. Its image even appears on the nation's flag.

This 12th century templemountain was built as a spiritual home for the Hindu god Vishnu. The structure, which took about 30 years to finish, is

an architectural triumph laden with artistic treasures, including the bas-relief galleries that line many of its walls and tell tales of Cambodian history, legends, and daily life.

The morning I spent here with my tour group, monkeys darted everywhere, grabbing whatever food they could snatch from unsuspecting visitors. As I walked toward Angkor Wat, which welcomes thousands of tourists from around the world every day, locals approached, trying to sell me everything from guidebooks and scarves to t-shirts; but they excused themselves politely if I told them I

wasn't interested in buying. It was a festive atmosphere, and everyone seemed to be smiling in the hypnotic shadow of the intricately designed, wellpreserved shrine.

Having walked through the first building, I continued toward the heart of the Angkor Wat complex. The final building I visited here was the most elaborate, with swimming pools on two floors. Buddhist monks blessed visitors, who constantly took pictures.

Our second day of exploring began with a stop at Angkor Thom, the last capital of the Khmer Empire.



The tour bus driver dropped off our group so that we could walk along a bridge leading to one of the walled city's five gates. On the right side of the bridge are sculptures of 54 frowning demons; on the left, 54 smiling gods guard the city. Many of the original heads were stolen over time and have been replaced with contemporary works.

Each of the temple's entry towers stands 75 feet tall and is adorned with four faces representing the rulers of the four cardinal points at the summit of Mount Meru in the Hindu religion. Because Angkor Thom was originally Buddhist, each face actually looks more like a smiling Buddha.

Angkor Thom was a fortified city of priests, officials of the palace and military, and buildings for administering the kingdom. In addition to its amazing gates, its perimeter features several additional towers, each with four faces looking down from lofty heights. Sure-footed visitors can climb stairs

to equally high vantage points. Intricate carvings in Angkor Thom adorn vast walls and offer a glimpse into everyday life as well as religious symbols and tradition.

Our next stop was Ta Prohm temple. Used in the filming of both Raiders of the Lost Ark and Lara Croft: Tomb Raider, it seemed to me to be more mysterious than mystical. Strolling along narrow corridors and into hidden courtyards, I found visitors less gregarious here; most seemed concentrated on the beauty of a maze-like temple that is slowly being overtaken by the jungle.

After lunch at a family-owned restaurant, we reboarded our bus for a 45-minute ride to the diminutive Banteay Srei, a beautiful 10th century Hindu temple. Banteay Srei—Citadel of Women—is made of deep red sandstone and takes on a deep pink glow in the afternoon sunlight. Small compared with the other temples I visited, it is adorned with exquisite, finely detailed carved scenes of Hindu legend.

Completed in 967, Banteay Srei remained in use until at least the 14th century. It is the only major temple at Angkor not built for a king. It was constructed by one of King Rajendravarman's counselors, Yajnyavahara, and dedicated to Hindu gods Shiva and Vishnu. The temple was rediscovered in 1914.

Our tour guide explained that the center doorway was reserved for the king and the two much smaller ones for everyone else. We walked around the many peaked structures in the center of the square while photographing buildings, doorway arches, and carved reliefs. Decoration covered almost every available surface.

I spent three days exploring Angkor Archeological Park, but it would be easy to devote a week or longer to the area. Every temple has its own personality and was built to honor a different faction of the Buddhist or Hindu religion. Each is a window into the rich history of Cambodia.

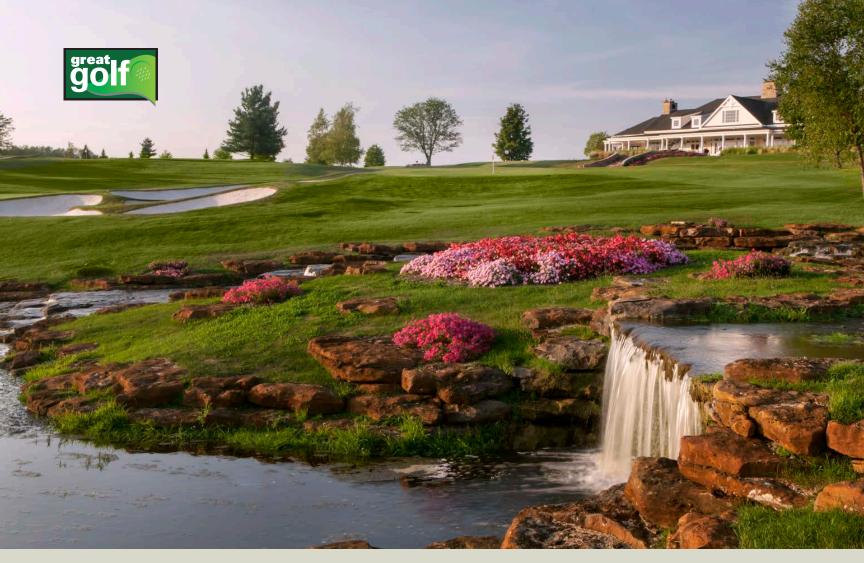


Our tour guide explained that the center doorway was reserved for the king and the two much smaller ones for everyone else.



Marilyn Jones (mjones@bjtonline.com) has visited 45 countries and written about them all for print and online publications such as Dallas Morning News and TripAdvisor.com. Exodus Travels covered the cost of her airfare, lodging, and tour for her Cambodia trip.





Verona, New York's

Turning Stone Resort Casino

Native wetlands enhance three fine 18-hole courses near Syracuse, New York.

by Bradley S. Klein

he Turning Stone Resort, just 30 miles east of Syracuse, New York, offers 707 guest rooms, a casino, nightclubs, restaurants, a 33,000-square-foot spa with cardio training and whirlpool, and a 5,000-seat theater, which has hosted such artists as Jay Leno, Tim McGraw, Alicia Keys, and Barry Manilow. Its best attraction, though, may be its three 18-hole golf courses.

The courses at the 3,400-acre resort which the Oneida Indian Nation owns and operates-make respectful use of native wetlands and wildflowers.

Shenendoah, a Rick Smith design that opened in 2000, has just emerged from a thoughtful renovation that has seen seven new, replacement holes woven seamlessly into, over, and around the original layout. The result is a classically inspired layout with lots of cross-bunkers and alternative paths to play from tee to green.

The course contrasts perfectly with the more modern, hopscotch variety of aerial golf demanded by Kaluhyat, a 2003 Robert Trent Jones, Jr. design that rewards precision and consistency through a kaleidoscopic minefield of colorful native flora.









Atunyote, a Tom Fazio design from 2004, is the most expansive and visually accessible of the three courses. It's also the course reserved for the casino's premier guests and has been home to some big-time championships, including a PGA Tour event where Dustin Johnson secured his first Tour win (2008).

The golf mix at Turning Stone includes two shorter alternatives—Sandstone Hollow, a nine-hole par 3; and Pleasant Knolls, a regulation-length,

nine-hole layout—that are popular with families and newcomers and for those "emergency nines." And despite the cold winters here, golfers don't have to put away the clubs off-season, thanks to an indoor golf dome big enough to accommodate short game training and full wedge play.

Bradley S. Klein (bklein@bjtonline.com) is the architecture editor of *Golfweek*. His latest book is *Wide Open Fairways*.





COURSES:

For more information about the golf courses at Turning Stone, visit turningstone.com or call (800) 771-7711.

AIRPORTS:

Syracuse International Airport (SYR) in Syracuse, New York, is 36 miles to the west and has a 9,003-foot runway. Griffiss International Airport (RME) in Rome, New York, is 15 miles northeast and has an 11,820-foot runway.



TRAVELER CALENDA!

Now through January 29

IRVING PENN EXHIBITION

Paris. Following a successful exhibition at New York's Metropolitan Museum of Art, the iconic works of American photographer Irving Penn are on display at the historic Galeries nationales du Grand Palais. More than 200 of Penn's elegantly simple photographsmade throughout his nearly 70-year career—can be viewed at the Beaux-Art palace. Info: grandpalais.fr/en

CRYSTAL CHARITY BALL

Dallas. Since 1952, the sole purpose of this beautiful gala has been to aid children's charities in Dallas County. This year's theme will be "Evening in the Alps." Info: crystalcharityball.org

December 7-10

ART BASEL MIAMI BEACH

Miami Beach, Florida. Over 200 of the world's leading international modern and contemporary art galleries display paintings, sculptures, installations, photography, film, video, and digital art. Collectors can find works from young artists as well as museumcaliber masterpieces. Info: artbasel.com

December 7

LA SCALA OPERA HOUSE OPENING NIGHT

Milan, Italy. Known as the world's most venerated opera house-and Milan's historical, cultural, and



social center—the 18th-century II Teatro alla Scala will open a new season with the passionate love story Andrea Chénier. Info: teatroallascala.org/en

December 12-January 6

CHRISTMAS SEASON IN LOS CABOS

Cabo San Lucas, Mexico. Trade in your eggnog and parkas for margaritas and swimsuits this holiday season. The festivities last for nearly a month with many holy days and fiestas. And the picturesque Sea of Cortez and Pacific Ocean offer a perfect setting for intimate gatherings with family and friends. Info: http://goo.gl/xJX9nX

January 18-25

J.P. MORGAN TOURNAMENT OF CHAMPIONS

New York. The best-known and most-viewed squash tournament in the world celebrates its 21st year in Grand Central Station's Vanderbilt Hall. The





remarkable glass-enclosed courts will host 112 male and female competitors from more than 20 countries on six continents. Info: tocsquash.com

January 23-26

WORLD ECONOMIC FORUM

Davos, Switzerland. The mission of the 48th annual meeting—Creating a Shared Future in a Fractured World—aims to rededicate leaders from all walks of life to developing a shared narrative to improve the state of the world. Info: weforum.org

January 25-28

WINTER X GAMES 2018

Aspen, Colorado. The world's best skiing, snowboarding, and snowmobiling competition returns to the spectacular Rocky Mountains. Acclaimed musical artists and bands promise to make this a full festival experience. Info: xgamesaspen.com

January 26-28

ST. MORITZ POLO WORLD CUP ON SNOW

St. Moritz, Switzerland. The world's pre-eminent snow polo tournament since 1985—and the only polo tournament played on a frozen lake—this sporting and social event is a fixture at this world-class winter destination. Info: snowpolo-stmoritz.com



For a long-range events calendar, please visit bitonline.com/calendar.

Prague's Christmastime Magic

The Czech Republic's capital city of Prague is a winter wonderland of lights, castles, concerts, cafes, and Christmas markets galore from now through January 6. This city will charm you any time of year, but it is particularly magical during the holidays, when you can sample all manner of local food and drink. And with opera and ballet season in full swing, don't miss The Nutcracker or the Christmas carolers in the Old Town Square. Info: prague.eu -Lysbeth McAleer





THE BUSINES

Where opportunities are infinite

Enjoy unparalleled access to global leaders of aviation, aerospace and defence. Network, develop business, and gain insights into the forefront of industry technologies and solutions.

Be part of aviation's ascent - register now.

SINGAPORE AIRSHOW 2018

ASIA'S LARGEST AEROSPACE AND DEFENCE EVENT

6-11 FEBRUARY • CHANGI EXHIBITION CENTRE

Register your attendance now at www.singaporeairshow.com/register

















Public officials, private jets

Does it make sense to forego the airlines for a particular trip? The answer depends partly on who's flying—and who's paying the bill.

by Mark Phelps

he hot question of whether Trump Administraofficials misused charter flights didn't get much attention at the recent National Business Aviation Association convention. Nor should it have. The role of the business aviation industry is to provide a service at a fair price, not to gauge whether the customer's purchase is appropriate. It's up to users—and those paying their bills-to determine that. In the case of flights by White House officials, the ones paying the bills are the U.S. taxpayers.

When an individual or a privately held company owns an airplane, there are no restrictions on who can use it and when. There is also no distinction between business and leisure travel, except as regards taxes. At publicly held companies, however, strict government regulations determine how corporate aircraft may be used for personal travel.

Those rules can be complicated. For example, they cover in great detail how to determine partial reimbursement, if any, for business flights that include personal side trips and/or family members. If senior management fails to ensure that approved trips are legal and aboveboard, it faces possible charges for defrauding stockholders. And of course, only costs that qualify as legitimate business expenses are tax deductible.

But the rules are murky for government officials using private charter flights, and only slightly clearer for travel on military or civilian government aircraft. There are certainly times and itineraries when it is appropriate for a public official to take advantage of the efficiency of private air transport. And sometimes it's necessary to have access to the secure communications of a government airplane. But opting

international flights on military aircraft. By way of comparison, during President Obama's eight years in office, his two HHS secretaries used commercial flights for their domestic travel.

President Trump said he was "not happy" with Price's use of private charter, and the Secretary

for an airline for routine travel is certainly easier on the budget, and the much higher cost of private flights needs to be defendable when taxpayers are footing the bill.

The recent charter flying by Secretary of Health and Human Services Tom Price apparently was not. News reports that went unchallenged by the White House counted some 26 flights since May (Price was confirmed for the cabinet position in February), costing approximately \$400,000. In addition, Price was found to have incurred \$500,000 worth of expenses associated with

resigned, saying, "I was not sensitive enough to my concern for the taxpayer. I know as well as anyone that the American people want to know that their hard-earned dollars are being spent wisely by government officials." Price offered to reimburse \$52,000 to cover the cost of "his seat" on the 26 charter flights.

Meanwhile, the U.S. Treasury's Office of Inspector General is investigating possible ethics violations involving Treasury Secretary Steve Mnuchin's trip in an Air Force jet to Fort Knox in Kentucky to review the U.S. gold reserves. Mnuchin's

wife accompanied him and posted a photo on Instagram that showed her descending the airstair in expensive designer clothing. The trip coincided with the recent total solar eclipse, and the destination was within the path of totality, sparking skepticism from Administration critics about the flight's true purpose.

A Treasury statement defended the trip, saying, "The Secretary of the Treasury at times needs to use a government aircraft to facilitate his travel schedule and to ensure uninterrupted access to secure communications. The Department of the Treasury sought and received the appropriate approval from the White House." The department said Mnuchin reimbursed the government for his wife's travel, "in accordance with the longstanding policy regarding private citizens on military aircraft." No dollar figure was given.

The private flying spotlight has also zeroed in on Secretary of the Interior Ryan Zinke and EPA Administrator Scott Pruitt for ethically questionable charter expenses. Time will tell whether their stories, or Mnuchin's, play out like Price's. Clearly, in any case, whenever someone does misuse business aviation, the harm goes beyond the dollars spent. Everyone else's sense of fairness is violated, and the reputations of the service providers are sometimes unfairly compromised, as well.

Mark Phelps (mphelps@bjtonline. com) is the executive editor at AIN Publications, which publishes BJT.





SEAMLESS CONNECTIVITY

Introducing an exclusive Connectivity Service with Satcom Direct.
Enjoy total flexibility, endless options and Gulfstream signature service.
Gulfstream. Unparalleled Support.

GULFSTREAM.COM/CONNECTIVITY



Well Heeled

Nearly a third (28%) of our readers have a net worth of more than US \$10 million—and one in five has a net worth that exceeds \$25 million.*



To obtain your free subscription, visit: bjtonline.com/newsub





CONFIDENCE IS EARNED

That's why our worldwide 4,000-person-strong customer support network is with you every step of the way.

How we serve you is just as important as how your aircraft performs.

Discover promise in every journey.

GULFSTREAM.COM

