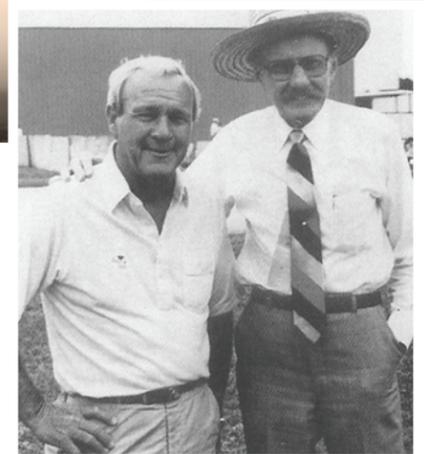


Flight Levels



MAGAZINE

For owners and operators of Twin Commander Aircraft



Bob Hoover and Arnold Palmer Remembered

The aviation world, and the Twin Commander community, have lost two of their brightest stars. Robert A. "Bob" Hoover, who Jimmy Doolittle called the best stick-and-rudder pilot who ever lived, as the best stick-and-rudder pilot ever, and Arnold Palmer, perhaps the world's

best-known owner-pilot, each had a special relationship with Twin Commanders. Palmer flew two different models of Aero Commanders early in his career as a professional golfer, and Hoover, of course, thrilled airshow audiences for years with his precision aerobatic

performances flown in his virtually stock Shrike Commander.

A PILOT WHO GOLFED

Arnold Palmer, who once said he probably would have been a professional pilot if he hadn't succeeded so spectacularly in golf, grew up about a mile from the

airport in Latrobe, Pennsylvania, and liked to spend time there listening to the stories spun by

[Continued on page 14 >](#)

A Commander Owner Makes His Way to Cannes

By Patrick Kenney



Patrick Kenney, left, and Tom Lopes ready to fly to Cannes, France.

Soon after acquiring his 690A Twin Commander at the beginning of 2016, Patrick Kenney began planning an ambitious trip for any pilot—a trans-Atlantic flight to Europe. He plans to base the airplane at Oxford, England, but the immediate destination was the Côte d'Azur. Here is his account of the journey.

Recently, I flew my still new(ish)—to me—Turbo Commander 690A from Southern California across the Atlantic to the South of France. As required by my insurance, my spouse, and common sense, I had in the right seat Tom Lopes, an experienced professional ferry pilot who also happens to be an IA/A&P and owner/operator of a couple of Turbo Commanders.

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Bob Hoover's Shrike Commander is on permanent display at the Smithsonian's Stephen R. Udhazy Center at Dulles International Airport in Washington, D.C.

A Genius Remembered

By Matt Isley, President, Twin Commander Aircraft

Geniuses come in all sizes and shapes, but appearances mean nothing when you do what you do at a level that very few people can hope to achieve. With Bob Hoover, we got both genius-level performance and an engaging appearance. As a young military pilot Bob Hoover looked the typical, confident fighter pilot, although an unusually tall one who wore an aw-shucks kinda smile. We in general aviation got to know Bob Hoover as the lanky, 6-foot 2-inch Southern gentleman who wore a straw hat, and who could fly an airplane like no one we had ever seen.

Over the years, millions of air show spectators watched in open-mouthed awe as Hoover climbed into a standard twin-engine business airplane, took off, and flew a low-level aerobatic routine that surpassed in both precision and spectacle the athletic gyrations of a purpose-built aerobatic airplane flown by a professional air show pilot.

That twin-engine business

airplane was, of course, his green-and-white Shrike Commander. Millions of people saw how the stock Commander could safely be flown right-side up and upside down through low, tight loops and 16-point rolls with both engines running, one engine running, and neither engine running. When Hoover made his dead-stick landing, engines silent and propellers feathered, he did so with just enough energy to slow, exit the runway, and roll to a stop at the foot of the crowd at air show center. Every time.

Those performances cemented Bob Hoover's reputation as the greatest pilot of our time—a genius—and the Commander as an airplane worthy of the genius pilot's attention, skill, and respect.

North American Rockwell's decision to assign Hoover the job of promoting the Commander brand by flying one at air shows was a stroke of marketing genius. There's no telling how many pilots bought Commanders because they saw Hoover perform in one.



And it's still happening. That's a remarkable testament to Hoover's impeccable reputation, and the spotlight his performances shined on the airplane he flew.

We've always had the greatest respect and admiration for what Bob Hoover accomplished as a military and civilian pilot, and as an ambassador for the Commander brand. He is gone now, and our respect and admiration is even stronger. He will be missed.

TWIN COMMANDER UNIVERSITY

We've been asking you in a series of polls where the next Twin Commander University should be held. The results pointed to one of several Texas cities as the favored venue.

For a variety of reasons, we've had to make the decision to delay the University, to spring 2018. A rebounding economy means that more companies, associations, and groups are having conferences. That has made it difficult to find an appropriate venue that can accommodate the University in our preferred time frame.

Also, we've been very busy at Twin Commander Aircraft with various projects, and we want



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to make sure we can devote the time needed to plan and stage the kind of University experience you've come to expect.

So, please adjust your calendar for a spring 2018 University. We'll be talking more about it in future issues of *Flight Levels*.



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PUBLISHER

Twin Commander Aircraft LLC
1176 Telecom Drive
Creedmoor, NC 27522
P: 919.956.4300
F: 919.682.3786

PRESIDENT

Matt Isley

EDITOR / EDITORIAL OFFICE
Mark Twombly, 1615 Serenity Ln.
Sanibel, FL 33957
P: 239.565.9151
mrtwombly@gmail.com

PRODUCTION / ADVERTISING OFFICE

Matheson Media Corp. 1024 1st Street
#204, Snohomish, WA 98290
P: 360.862.8040
markm@mathesonmedia.com or
sarahl@mathesonmedia.com



Recognizing, Managing, and Avoiding Engine Failure

By Rob Erlick

Although we're going to discuss engine failure, it is encouraging to note that with more than 13,000 engines delivered and more than 125 million hours of flight time, the TPE331 is one of the most reliable and proven turboprop engines in the world. Designed in 1959 and certified in 1965, the TPE331 was the first Honeywell turboprop engine. It was developed for multiple applications within military, regional airline, agricultural and general aviation aircraft. Recent data shows that over the last 12-month period examined (2015-2016), there were only 8 inflight shutdowns (IFSD) reported from more than 1.3 million total engine hours operated for that same time period.

There are two types of engine failure, which we define as an incident that will result in no thrust being provided by one of the engines. The first is engine flame out. Flame out occurs if there is an interruption in either the fuel or airflow, or both.

With an engine flame out, you have the benefit of being able to consider an engine restart. Flame outs are caused by inlet icing, fuel

mismanagement, or anything that can restrict the flow of fuel or air.

The second type of engine failure is engine fire or severe damage. An engine fire involves component failures, which increases the urgency to act. With an engine fire or any other condition involving component failures, there can be no engine restart considerations.

Examples of causes of severe damage are bearing failures, turbine wheel or blade failure, propeller shaft coupling failure, or the failure of any other internal rotating component.

The second most important action involving an engine failure is recognizing the problem.

The first noticeable sign of an engine failure probably will be a sudden yaw. The failed engine no longer provides thrust and instead causes additional drag, further increasing the potential for yaw if uncorrected. You may hear a surge or some other irregular sound coming from the failed engine, or maybe even detect an odor of fuel or oil.

More importantly, if you've got a strong cross scan of your

engine instruments, you'll notice the failure almost immediately. Also, you'll likely get an auto ignition light. But the absolute most definitive indication of an engine failure is the RPM indicator, since it provides information directly relating to the rotation of the engine components, without which there can be no thrust.

However, the single most important action before identifying the problem should be in the front of every pilot's mind: aircraft control. Maintaining control and simply flying the airplane is the single biggest priority ANYTIME there is any problem with the airplane's flight characteristics, especially and more specifically with engine failures.

Managing an engine failure is one thing; avoiding one is another. Calculating and complying with the appropriate reference torque prior to every takeoff can provide numerous benefits ranging from safety (takeoff assurance) to engine health and trending as well as wear reduction.

Before you fly make sure you have available the most accurate information about your aircraft and conditions, execute



the takeoff using appropriate reference torque, be vigilant of engine instrument indications, and maintain proper handling technique. Fly safely and strive to always understand the current condition of your engines.

Please remember that these tips are intended to be supplemental to the published operating procedures. For a complete study on aircraft planning and operations for takeoff, please refer to the procedures and recommendations published in the FAA/CAA-approved Airplane Flight Manual (AFM) and POM for the appropriate make and model Twin Commander. As always, pilots can make the difference in engine operating life and maintenance costs.

For additional questions on this subject or any other TPE331 engine-related issues, please don't hesitate to contact Rob Erlick, Honeywell Engines Program Pilot, at (480) 399-4007 or Flight Technical Services at FTS@Honeywell.com.

Statewide Goes with What It Knows



Mid America's North American T-28

Dave Ellison grew up and learned to fly in Oklahoma City in the 1970s. Still an active pilot, Dave is a devotee of classic aircraft—so much so that he and his brother, Jim, are part owners of a North American T-28 and Howard 250 Tri-Gear based at Mid America Flight Museum in Mt. Pleasant, Texas. Mid America prides itself on restoring vintage and warbird aircraft to flying condition. The majority of the museum's collection, including the T-28 and Howard, is in the air on a regular basis.

Dave's interest in airplanes goes beyond museums, however. About 30 years ago Dave and Jim founded Statewide Service Center, which distributes farm supplies to

some 1200 customers in half-a-dozen states within a 500- to 600-mile radius of Oklahoma City. Many of those customers are located in small, rural communities not at all served by scheduled airline service. That's an ideal mission profile for a company aircraft.

Up until a year ago Statewide chartered airplanes—King Airs, mostly—to get to customers. As the business grew, it began to make sense for Statewide to own and operate its own aircraft. But, instead of a King Air, Statewide opted for an aircraft that Dave and his brother had grown up seeing around Oklahoma City because they were manufactured in nearby Bethany. They chose a Commander, specifically a Model 840.

Why a Commander? It's "fast, very efficient, and capable of short-field takeoffs and getting into places others can't," Dave says. It fulfills the mission.

They base the Commander at Legacy Aviation Services at Clarence E. Page Airport in Yukon,

east of Oklahoma City, not far from where it was built. Legacy recently finished a complete refurbishment of the interior in Statewide's Commander, and updated the panel with Garmin GTN750 and 650 flight management systems and Garmin 345 and 335 ADS-B-compliant transponders.

The update slimmed the Commander down about 80 pounds, and the new all-leather interior looks and feels first-class luxurious and comfortable, so much so that Dave prefers to let the company's professional pilot do the flying while he relaxes in the passenger cabin, enjoying the view out the landscape windows.



Dave Ellison is a partner with brother Jim in Statewide Services and its Commander 840.



Legacy Aviation Services completed new leather interior for Statewide's 840.



Statewide's new Garmin 750 and 650 and ADS-B-compliant transponders.



Executive Aircraft Maintenance

Thirteen years after its founding, Executive Aircraft Maintenance, the Scottsdale, Arizona-based authorized Twin Commander Service Center, is undergoing a major transition. Aviation industry veterans Jeff Coffman, Bill Forbes, and Bob Ramsey have acquired the airframe maintenance and avionics side of EAM's business. The previous owners, who launched EAM in 2003—Jim Nordstrom, John Phoenix, and Mike Croye, all Honeywell veterans—retain the Honeywell-authorized engine inspection, overhaul, and service functions, as well as Aerospace Machining Center, an FBO at the Glendale, Arizona, Municipal Airport, and an engine shop in Anchorage. They will operate those businesses under the name Copper State Turbine Engine Company.



EAM Long-time manager of maintenance and a familiar face in the Twin Commander community, Rob Louviaux.

Rob Louviaux, EAM's long-time manager of maintenance and a familiar face in the Twin Commander community, will continue in that position with EAM's new owners.

"Rob's expertise with Commanders is unparalleled, and my particular love for the airplane will help too," Coffman commented.

A long-time Commander pilot and owner of an aircraft management firm, Coffman is EAM's new CEO. Bill Forbes, who launched EAM's avionics department in 2009 and has managed it ever since, is COO. Bill Corn is EAM's CFO.

EAM's new leadership will focus on airframe maintenance and avionics sales and service. "We will continue to support Commanders, and offer the most current avionics solutions for the aircraft," Coffman noted. The combination of Custom Kits from Twin Commander Aircraft and the currently available avionics upgrades from Garmin and other manufacturers serve to keep Commanders highly competitive in terms of capability, efficiency, reliability, and marketability, Coffman observed.

EAM's Twin Commander airframe capabilities include:

- Dash 10 engine conversions

- Pre-purchase evaluation
- Line maintenance and troubleshooting
- Periodic inspections
- Landing gear/brake refurbishment
- Structural and sheet-metal repairs
- Pressurization service
- NDT inspection
- Propeller service
- Ni-cad/lead acid battery service
- Paint and interior
- Off-site service

EAM will continue to work closely with Copper State to provide Twin Commander customers with seamless support of the airframe and engines. "They are just across the street," Louviaux noted.

EAM's capabilities extend to designing custom solutions to customers' unique needs. The maintenance shop recently completed refurbishment of a Commander using components taken from a customer's airplane. The 690B had experienced a runway overrun in Mexico and was deemed unrepairable. EAM



technicians traveled to Mexico to strip the 690B, which had recently been upgraded with TPE331-10T engines, dual Garmin G600s, dual GTN750s, and other equipment. "We brought the avionics and engines back to Arizona, found the customer an 840 that needed everything, and upgraded it," Louviaux said. The customer is now flying the refurbished 840.

Under Forbes's leadership, the avionics department has grown to become one of the premier Garmin panel-mount sales and installation centers in the world. Many of those Garmin products have gone into Twin Commanders. EAM has performed panel major upgrades on 36 Twin Commander, including the installation of a Garmin 950 integrated avionics flight deck.

"Part of our current focus is insuring that our Commander customers are aware of the ADS-B requirements and the best options based on their current or planned avionics configuration. In addition, we are upgrading autopilots,

Continued on page 18 >

ADS-B: What's In Your Aircraft?

By Keith Thomassen, PhD, CFII

With three-plus years until the ADS-B mandate kicks in many are still weighing their options for equipping while others have made their choices and have installed... something. One reason for the procrastination is hoping for newer and cheaper alternatives. But with all the new products that have been introduced recently—the Lynx options by L3, and the GTX 3X5 choices from Garmin come to mind—that course of inaction may provide diminishing returns. Many pilots are still puzzling over what will best work in their aircraft and also what will work with their installed equipment. Compatibility with what you have is very important, whether you're trying to save money or not.

We're all aware that airspace now requiring Mode C altitude reporting will require ADS-B ("Out" only) after January 1, 2020. This includes airspace over 10,000-foot MSL altitude, Class C airspace, and airspace under the Class B veil—that one can catch you! We also understand our choices are a transponder (1090 ES) or a 978 MHz transmitter (or transceiver). In Class A airspace it has to be the 1090 MHz option (Fig 1).

The transmission of your position via your ADS-B to ground stations must contain very specific additional parameters (see FAR 91.227) besides your PVT solution (position, velocity vector, and time) so that, among other things, the accuracy and latency of your position report can be judged as usable. This requires a WAAS-enabled position source (GPS) that is certified to work with your specific choice of transmitter. For example, if you have a Chelton EFIS using the FreeFlight 1201 WAAS GPS, you can install a Trig TT31 ADS-B Out transponder, since the pair is on the "official list." You cannot legally connect that TT31 to a GNS 480 without field approval, so check the FAA lists for compatibility (<https://www.faa.gov/nextgen/equipadsb/equipment/>).

Big brother is watching, and you can see what they see by asking for a report on your system performance. Previously, an email to the right FAA address would trigger that report, but now you fill out info on their website (<https://adsbperformance.faa.gov/PAPRRrequest.aspx>) to see how your equipment is working. Just enter the day (by the Zulu clock) of a flight (and equipment details) and you'll likely get the report within hours. If any of the many parameters in the report are shown in red, those are failing and you should call your shop or expect a call from the Compliance folks.

So what are the main considerations as you ponder your choices? First is frequency. If you won't go above 18,000 feet MSL you can go either way. Second is whether you want traffic and weather from ADS-B In. Only the 978 MHz channel has the bandwidth to provide weather, but you can get traffic on either frequency. Also, do you want this display on a panel mount or are you happy with the clutter of an iPad and portable ADS-B in the cockpit? That choice may be affected by what other systems you have, by cost, and personal preferences.

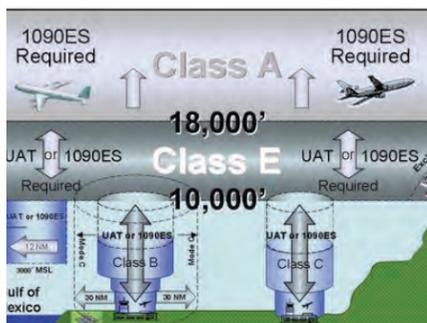


Figure 1. Airspace requiring ADS-B "Out", starting in 2020.

What traffic do you get? You will receive position reports directly from other aircraft that have ADS-B Out on whichever frequency you use for In. It can be either one, or both if your unit has dual frequency inputs (common on portable systems). If you have one frequency, the ADS-B ground station will send you traffic on the other frequency (called ADS-R for rebroadcast). It will also send you traffic reports for mode C- or S-equipped aircraft that are not participating in ADS-B. Traffic sent by the ground station must have altitude reporting.

If you have a Traffic Alert System (TAS) and satellite weather, and don't mind the cost of a weather subscription, you may want to skip at least a panel-mount ADS-B In. But note that the accuracy of the GPS position report from ADS-B In is far better than that from TAS or FAA radar (that's why they're doing it). Also, TAS sees Mode A traffic and ADS-B does not. So if you're mainly interested in the close-call traffic alerts, that could be a decider for you. Even if you have TAS and weather on a panel mount, you may still want a dual-frequency portable, if for no other reason than to have a backup. After all, traffic and weather are probably two of the best products of the modern avionics revolution (well, maybe after never again getting lost—or terrain awareness).

Some setups allow you to send both traffic sources (TAS, ADS-B) to the display and it selects the best one, by some algorithm. If

your TAS unit doesn't see a target you may still get it from ADS-B, or vice versa. Or, if both are seeing it, it may prioritize to the ADS-B for accuracy. Check out this feature when reviewing equipment options. Avidyne is awaiting FAA approval of their TAS units with built-in 1090 In, which will be merged with the TAS traffic. The 1090 In will look for direct traffic having 1090 Out as well as rebroadcast (ADS-R) traffic from ground stations.

Weather from ADS-B is different from what the satellite systems give you—the pixel density is greater for the region around you (a few hundred miles) than it is for weather further away. This is not true for satellite weather, which has the same quality everywhere. Some judge satellite weather to be superior (plus, you get it on the ground before you launch). Some display units allow you to select either one if you have both sources coming into the unit.

The third consideration is the equipment choice. If you have a Luscomb or a Cub and just want the lowest-cost Out system, this doesn't mean the choices are any easier. What equipment are you starting with? Do you have a WAAS GNS 430 for example? That takes care of

the position source, and it's certified with a large choice of transmitters. If you don't have a GPS, most ADS-B options today have a built-in WAAS GPS position source. Many planes of this category are equipping with NavWorx units since costs are modest. But check out all the manufacturers: FreeFlight, Sandia, Trig, Avidyne, L3, Garmin, and others I may have overlooked here.

Maybe you're able to treat yourself to the best at whatever cost. Taking cost off the table still doesn't make it easy, however. Your options likely still will be influenced by what you already have, not simply what you want. So, at whatever price level, your task is the same—you must plow through a large set of options. Evaluate all the equipment options, prices, and account for what you already have. This can be a daunting job.

Lastly, do your homework on shops to get the best work done at the best price. They're all very busy right now, and both quality and price can vary significantly. So don't procrastinate too long. The FAA is quite concerned (rightly so) that there is a huge backlog of aircraft that will probably equip, and time is becoming short. ✈️



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What's Back of Black? NEXRAD Can Help

By Erik Eliel

Sometimes it's what you can't see that can hurt you, and that is certainly the case with airborne weather radar. Pilots who use radar should be keenly aware of the implications of precipitation attenuation, which may manifest itself as a "radar shadow" on the display. This is just one of several scenarios where aircraft weather radar can lure the unaware into serious trouble. The good news is—in the U.S. at least—there is something pilots can do about this, provided NEXRAD data is available.

Of course, any information advocating the use of NEXRAD imagery must be prefaced with the caveat that it is never to be used tactically as a replacement for airborne weather radar. But it can augment radar nicely, and if employed properly can significantly enhance safety.

Total precipitation attenuation manifests itself as an area of black on the radar display. There are four attenuation scenarios that pilots must thoroughly understand. First, while on the ground with the tilt up, the pilot does not have the luxury of painting ground returns to look for shadows. But any convective cell that has a crescent shape (curves opposite the range-rings coupled with a steep gradient on the backside), is a classic shape that represents a cell so intense it is attenuating all the radar energy and only a portion of it is displayed. This is a very intense cell.

Airborne, pilots can paint ground returns, so anytime total precipitation attenuation is suspected, attempt to paint ground. An absence of ground returns where they should otherwise be is

confirmation of attenuation; this is valid for all airborne scenarios.

In a stratus environment, precipitation attenuation typically manifests itself as precipitation returns out to a certain distance on the display, then appears black beyond (assuming low-altitude operation with a short range selected). Attenuation is confirmed if the outer perimeter of the weather remains in the same relative position that the aircraft travels. In essence, the radar is saying that radar energy can travel only part way through the precipitation and still make the return trip to the antenna.

The embedded-cell scenario is the most complicated to recognize because it is not intuitive; it manifests itself as a combination of the stratus and convective indicators described above. The majority of what is displayed will likely be stratus returns and, like the status-precipitation scenario, those returns may end at some distance short of the outer edge/perimeter of the display, with a subtle but critically important difference.

The outer boundary of returns may be characterized by a series of dips and bulges. An untrained pilot—who just wants to get out of the turbulence and heavy rain—may think the quickest way out of the precipitation is to fly towards the black, the dip on the outer perimeter. Not so fast!

In an embedded-cell scenario, that dip may be caused by increased precipitation intensity—possibly an embedded cell preceding the dip. The bulges, on the other hand, are areas where the precipitation intensity is less;

radar energy is able to travel further and still make the trip back.

While every pilot who uses weather radar should be highly proficient identifying precipitation attenuation in all of those scenarios, on-board NEXRAD may offer a huge advantage provided it is employed wisely (and its limitations are understood) as it may reveal important details. This ranges from individual cell shape/gradient details to the depth of weather, including revealing when numerous lines/bands of weather lay in succession behind one another.

When viewing cells at longer ranges, aircraft weather radar is susceptible to another limitation known as the "dispersal effect."

This results in very intense weather, when viewed at longer distances, appearing to be understated—it looks less intense than is actually the case. Approaching a line of weather is a common scenario; the closest cells will appear most intense. But in the distance, say a hundred miles or so, the line appears to weaken. As the aircraft turns to parallel the line to head towards those apparently weak cells, they continually become more intense as distance to them decreases. Are they really growing in intensity? Maybe. But most likely what is causing this illusion is the dispersal effect. NEXRAD can reveal the truth about whether that line is actually weakening in the distance or if they are simply being displayed weaker than fact on



Precipitation attenuation results in significant shadowing behind this line of weather, making displayed details, including shape and gradient, notoriously inaccurate. Further, the weak green returns lying in the shadowed areas may be very hazardous cells that are understated due to attenuation. NEXRAD may reveal additional details about weather in the shadowed areas.

Continued on page 8 >

Custom Kit 203 For Rudder and Elevator Trim Potentiometer



Twin Commander Aircraft has released Custom Kit (CK) 203 pertaining to the elevator and rudder trim potentiometer. The kit applies to all JetProp models (690C, 690D, 695, 695A and 695B). The elevator and rudder trim potentiometer detects position and movement of pitch and yaw trim control surfaces, and sends a signal to the cockpit trim indicators.

CK203 provides approval, instructions and piece parts for the elevator and rudder trim potentiometer replacement (part numbers 85026-503 and 850633-503). Those parts no longer were available, and service centers repairing potentiometers

were having to buy alternative parts that required trimming and FAA 337 field approval. No trimming or field approval is required when installing CK203.

Estimated time to remove old parts and replace them with CK203 is 1 hour for the rudder and 1.5 hours for the elevator.

For more information, contact an authorized Twin Commander service center. <http://twincommander.com/service-centers/>

Radars Basics

What's Back of Black? NEXRAD Can Help

< Continued from page 7

radar due to the dispersal effect.

Certain areas of the country are susceptible to high-based convective weather (e.g. DEN, LAS, PHX, ABQ, etc.). In these environments, it is entirely possible for the bases of these cells to be 10,000 feet AGL, or higher. For aircraft on the ground getting ready to depart, this may pose a serious threat as it is possible that a high-based thunderstorm may reside above the scan of the beam, even with the radar antenna-tilt at full up (typically +15°). Here, the rain shaft is characterized by VIRGA—a rain shaft that in any other environment would extend to the ground. But because the underlying air is so dry in these environments, it evaporates the rain-shaft before it reaches the ground, thus eluding radar. However, the cold air, which is a byproduct of the evaporation, continues crashing downward. If NEXRAD is available, always use it to augment the radar in locating cells in these environments.

It is always a good idea—when it is safe to do so—to operate the radar during taxi to the departure runway. The primary justification for doing so is that the very hazards pilots try to avoid may emanate from any cell anywhere around the airfield. Additionally, should an emergency return be required for any reason, knowing ahead of time where the hazardous weather is located may significantly simplify planning. But because the scan of aircraft radar is limited typically to 120° (60° either side of centerline), there's usually a wedge of airspace somewhere around the airport that cannot be scanned; NEXRAD may provide information about the mystery sector.

Most pilots who use inflight NEXRAD are familiar with the

advantage it provides evaluating weather beyond practical range of the on-board radar. This is helpful to gauge trend information (intensity, direction of travel, etc.) of distant weather. But it also provides an opportunity prior to top of descent to evaluate the area between the destination and the alternate—what if any convective weather resides there. While the common divert plan assumes straight-line travel to the alternate, NEXRAD can provide critical insight—early—if intervening weather makes that straight-line divert impractical.

While the NEXRAD system possesses many limitations that users should be aware of, two of them are worth reviewing. First, there are areas of the country (mostly out west) where large geographic gaps in NEXRAD coverage exist. In these areas, as well as in most of the rest of the world, NEXRAD will be of no help at all. Second, there are areas within the U.S., again, mostly out west, where large geographic areas are covered by a single NEXRAD site. While latency exists in every NEXRAD image, it will be exacerbated in these locations.

While black on a radar display may represent an area with little or no precipitation, there are several scenarios where serious hazards may be cloaked in black. Used properly, NEXRAD can augment airborne weather radar to reveal important details about these areas.

Radars Training International's Erik Eliel conducts convective weather avoidance seminars covering use of airborne weather radar, human factors, and integrating NEXRAD technology into the overall weather strategy. He is a pilot for a major U.S. airline.



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Model 680FL Grand Commander

By Barry Collman

The 680FL was the thirteenth Commander model one to be placed into production. The first 15 were manufactured by Aero Commander Inc., as a subsidiary of Rockwell-Standard Corporation at Bethany (Wiley Post Airport), in Oklahoma City, Oklahoma; the next 112 by the Aero Commander Division of Rockwell-Standard Corporation; the penultimate 11 by the Aero Commander-Bethany Division of Rockwell-Standard Corporation; and the last 19 by the Aero Commander Division of North American Rockwell Corporation.

All 157 examples were built between March 1963 and December 1969 with serial numbers in the range 1278-1 through 1853-157, although serial number 1261-108 was converted from a 680FLP, serial number 1261-1.

Of these, 47 were initially certified in 1963; 45 in 1964; 18 in 1965; 16 in 1966; 9 in 1967; 17 in 1968; and 5 in 1969.

Originally named the Grand Commander, it was re-named as the Courser Commander in 1968. Three "Courser Liner" Commanders also were manufactured with a cabin door that featured a double-size opening, 47 x 45 inches, to enable loading of freight.

The Model 680FL was the first of the long fuselage model Commanders.

A factory document describes the Model 680FL, under Wing Drawing 5170045, modified for a 8500-lb. wing, as "certified on May 24, 1963 per CAR 3, May 15, 1956, Amendments 3-3 and 3-4. This aircraft is identical to the Model 680F except for a lengthened fuselage. A 44-inch section was added forward of the front spar and 30-inches aft of the front spar. The horizontal was extended. Later in 1963 the C.G. travel was changed to allow 10% MAC at 7000 pounds for the forward C.G. In 1964 the gross weight was increased to 8500 pounds."

The Model 680FL was indeed certified on May 24, 1963, under Type Certificate 2A4. The first 127 had 340 hp Lycoming IGSO-540-B1A engines, with the remaining 30 examples using the -B1C engine variant. The 93.5-inch-diameter Hartzell HC-B3Z30-2B/9349 propeller was used on the first 75 aircraft, while the remaining 82 used the 87-inch-diameter 9349-6.5 blades.

Gross weight was 8,000 lb for serial numbers 1261-1



Photographed at the Deland, Florida, Municipal Airport in July 2010 by Alain Juillerat, N572TN is serial number 1360-38. Originally certificated in November 1963 as N6336U, it was re-registered as N2SS in September 1975. After service in the Dominican Republic as HI-572, HI-572CA, and HI-572SP between December 1988 and January 2001, it returned to the USA as N572TN and is currently registered to Paul K. Shelton of Flushing, New York.

through 1459-85, and 8,500 lb for serial numbers 1461-86 and up. However, serial numbers 1261-1 through 1469-91 were manufactured as 8,000 lb gross weight aircraft and became 8,500 lb aircraft when modified per Aero Commander Drawing 6100028. Serial numbers 1441-76 through 1469-91 were modified per Drawing 6100028 at the factory.

Along with the fuselage stretch, the 680FL has an increase in center fuselage height of 2 inches and an increase in tailplane span of just over 18 inches.

Also, the offset, side-mounted control columns used on all short-fuselage Commanders was replaced by straight tubular columns located directly forward of the crew seats. This new control column configuration was a direct adaptation of a design that had just recently been released for the Jet Commander, and these three features became standard on all the subsequent long-fuselage Models.

The Aero Commander Service Center in Bethany introduced the popular picture window to the 680FL. This modification was per an STC that had been designed for them by the well-known engineering firm of Stewart and Pierce in Tulsa, Oklahoma.

The beaded or corrugated control surfaces were used up to and including serial number 1547-106. From serial number 1553-107 on they became the smooth or flat skin type.

Originally, the 680FL cabin entry door had a small square window and a door knob, but late-build examples had a larger

window with a flush or recessed handle. Also added was the step that automatically deployed when the door is opened.

Fourteen Models 680FL were modified to the Mr. RPM "Turbo 800" (Richard P. MacCoon), under STC SA2891WE. These had the 400 hp Lycoming IO-720-B1B(D) engines, modified with the installation of a Rajay turbocharger system under STC SE62WE, coupled with 80.625-inch-diameter Hartzell HC-A3VK-2A/V8433(N)(B)-4R propellers.

payload", establishing 383.04 km/hr (which equates to 310.685 miles, at 238.01 mph). The pilot on both of these flights was Jack F. Chrysler, a family member of the car manufacturing company. A newspaper clipping reads, in part, "Averaging speeds of 252.3 mph at 20,000 ft., with 75% cruise power settings, the speed record for the 500 km record was set flying a closed course between Oceanside and Santa Barbara, California, and for the 100 km record, between Oceanside and San Diego."



Scanned from an un-numbered negative in a factory collection, N615 is serial number 1454-82 and is seen here at Bethany-Wiley Post airport in factory paint design #A', in Bluetone White and Scarlet Red. It was sold new to the U.S. Department of the Interior on November 23, 1964. After almost 14 years of service with the agency, it was sold to the Tennessee Valley Authority, in Chattanooga, in June 1978, having been re-registered as N618D in February 1978. The registration was cancelled in 1989.

One of these, serial number 1399-25, N80TT, set two World Records on January 20, 1976. One was for "Speed over a closed circuit of 100km without payload," establishing 408.96 km/hr (which equates to 62.135 miles, at 254.116 mph). The other was for "Speed over a closed circuit of 500km without

Barry Collman's lifelong interest in airplanes began when he was growing up in a house located underneath the downwind leg to busy Northolt aerodrome, an R.A.F. base near London-Heathrow airport. As a young teenager he discovered airplane

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A Commander Owner Makes His Way to Cannes

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Our routing:

- Camarillo, CA (KCMA)
- Merced, CA (KMCE)
- Sioux Falls, SD (KFSD)
- Rome, NY (KRME)
- Goose Bay, Canada (CYJR)
- Narsarsuaq, Greenland (BGBW)
- Reykjavik, Iceland (BIRK)
- Manchester, GB (EGCC)
- Cannes, France (LFMD)



We had some hiccups along the way but, aside from the inconvenience of a long delay at the most remote stop of the routing, it was a great trip.

Day 1

We set off at the end of the day from Camarillo to Merced. Flying up the Central Valley towards Merced we had a spectacular sunset, then descended through a thick layer of smoke from a big fire over 100 miles away that burned nearly 75,000 acres near Monterey.

Day 2

We had some delays due to some random issues with planning

and the Jeppesen databases for the trip. My wasting time on avionics database problems due to either hardware issues, my mistakes, or issues with the Jeppesen databases and getting them loaded in the Garmins, was a bit of recurring theme during this trip, unfortunately. Some of this was my learning curve on the new avionics, but a decent portion of the delays were Jeppesen and Garmin issues.

With our flying against the time zones and getting a late start in the day, we ended up setting off for Cheyenne, Wyoming, in the afternoon with that being the only flight for the day. This was putting us about one day behind our planned itinerary.

The flight east over the Rockies was uneventful. We were making good time and decided to press ahead to Sioux Falls, SD. We had some very interesting storms north and south of our route near the Wyoming/Colorado border, and ended up finding a gap to navigate through at FL250. It made for some good learning on satellite weather and strategic use of the radar, as the lag between what we were seeing out of the windows and on the onboard radar was meaningful. I'd mostly been flying benign weather around the Southwestern U.S. and doing more training in the plane than using it as traveling machine, so this was a good learning experience. Of course, in Europe I'm not going to have XM weather coverage, so good to learn the radar.

Day 3

We were set to launch in the direction of Goose Bay, Canada, which was to be our departure point for the Atlantic crossing, but

unfortunately we learned that there were no hotel rooms available in Goose. So, we adjusted our plan and for Gander to be our jumping-off point for the Atlantic crossing. It's a bit longer than from Goose, but the plane has plenty of legs for this with just the built-in tanks and, barring unforeseen diversions or having to turn around, the Atlantic legs of the trip were not particularly long relative to the range in the 690A.

Even with an early start we weren't going to make Gander by nightfall, and we wanted to set off as early as possible on the first day of the Atlantic crossing, so we were resigned to a single long flight for the day.

We departed Sioux Falls for Rome, NY. The flight involved the first "international" flight I completed in the plane but it almost doesn't really count—for a brief period we were speaking with Canadian ATC over Lake Erie.

Day 4

We learned in the morning that hotel rooms had opened up in Goose Bay, so we adjusted our plan and filed for Goose rather than Gander. The flight was beautiful, up the St. Lawrence Seaway, along the coast of Canada, and into the vast green expanse of northern Canada.

Day 5

The day started with a quick aircraft refueling, update of the weather, and our briefing pack from the organizer. Everything was all set for us to head off for the first intimidating leg of the journey. We were non-HF and non-sat phone, so we ended up getting specific routing, with ICAO position-reporting requirements, and FL250 cruise altitude.

We set off bright and early from Goose Bay with a plan to



Kenney at the controls of his 690A.

fly to Narsarsuaq, Greenland, to refuel and then make Reykjavik by the end of the day. We departed heading east and began our climb at those lovely rates the Turbo Commander achieves—2,500-plus fpm. We then settled into a pleasant cruise climb where we were indicating 170 knots and covering a good deal of ground. Everything was humming along as we were sorting out the GPS waypoint we had to enter as our next reporting point. We were assigned a regular waypoint on the way out of Goose Bay—HOIST—and then 5900N/05000W. I was gearing up mentally for that first bit of truly inhospitable overflight, where I knew the engines were going to start making funny noises the same way they did during my first English Channel crossing in my single-engine Diamond DA40, with something approaching 100% of the funny noises being generated from my listening and pretty much 0% coming from the engines.

Upon reaching FL250, we leveled off and BANG! We completely lost pressurization. We popped on oxygen masks, descended, turned back towards Goose Bay, and declared an emergency. When we got to an acceptable altitude for the return to Goose Bay we canceled the emergency and flew along with me wondering WTF was that about.

Thankfully, I was flying with a pilot who also knew more than a little bit about wrenching airplanes. With my highly intuitive investigative techniques (opening the door on the compartment with the environmental systems and noticing that a hose right in front of my nose was no longer connected), we were able to very quickly turn the plane around and depart after a few seconds of work with my Leatherman, and a longer wait for refueling.

We took off on our second attempt at flying Goose Bay to Narsarsuaq (which I found myself completely unable to pronounce, despite many attempts). It was a long couple of hours over the freezing-cold Atlantic,



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A Commander Owner Makes His Way to Cannes

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It was immediately obvious what had caused the depressurization.

occasionally in and out of IMC, but not terribly eventful. Time moved more slowly than usual.

We were handed over to the local ATC, who kept us for a bit and then handed us over to the local Flight Information Service, who were a bit too laid back. It was IMC on the approach, which is outside of controlled airspace, and they were thoughtful enough to let us know another aircraft was also inbound with a similar ETA. The FISO is clearly in the information business, not in the assistance business, and pretty clearly in the “not my problem” business.

The approach descends you between the mountains east of the runway after overflying it, then takes you out west of the runway and descends you again between mountains, then over a ridge that probably seems closer than it is, and you fly over a fjord that obviously is chilly given the icebergs in it, and onto the runway. We were mostly below the clouds by halfway through the procedure, and it was a spectacular experience.

We probably would have had ample fuel to skip Greenland and continue to Reykjavik, but out of prudence and wanting to

what the heck—nothing happens on the right engine start. Within an hour we know that the right starter-generator has given up the ghost and requires replacement. Unfortunately, we are in the middle of nowhere, with something like three flights per week from Reykjavik and Copenhagen, and only a bunch of helicopter flights to other local spots.

So we had five days of unplanned, unwanted, frustrating, but strangely interesting days in Greenland waiting for the replacement starter-generator.

Day 9

Within 30 minutes of having it in our hands we had the starter-generator installed on the right engine. We were fueled up so we filed, got our bags onboard, and set off for Reykjavik. Our takeoff was on Runway 24, allowing us a scenic cruise up the fjord and up and over the beautiful and empty glacier that permanently covers the country. The fjords and visible mountains quickly gave way to the icy, barren expanses of the snow-covered glacier as we climbed en route.

We had some low-level clouds and needed to do the instrument



Where else—Iceland.

check the developing situation with the weather, we landed. We got great, quick fueling service and our info pack, with weather. We were going to be ahead of a front that didn't look very good.

I let Tom take over the start as we were in a rush to get ahead of the weather and I'm still reading the checklist as a do list. And—

approach into Reykjavik. I don't have a ton of flying experience, but it seems like in the U.S., at a reasonably-sized airport there is a low likelihood of shooting the full published approach. But, at these airports, with limited or no radar and mountainous terrain, you are much more likely to actually do what is published. And the approach is going to be a good

bit more complicated than just intercepting an ILS on a vector.

We got in pretty late and had to walk about 30 feet from the FBO to the airport hotel, where we had a nice dinner and felt like we had returned to civilization after five days in Greenland.

Day 10

We set off early in the morning with a plan to fly to Manchester for a quick refueling stop, and then down to Cannes Mandelieu. Due to the local mountains and primarily visual approaches, the airport closes at sunset. If you are late you need to divert, possibly over to Nice, which is quite expensive for overnight parking if they even have the space.

We flew from Reykjavik over the water to Scotland, which looks a bit less interesting from FL250 than it probably does from low-level flying or on the ground, then over Glasgow, and ended up getting slotted into a fairly busy Manchester. On the ground at Manchester we suddenly seemed to be famous as we were surrounded by paparazzi. The truth is we had arrived in the land of plane spotters, and it wasn't long before the first pictures of my plane in Manchester showed up on the Internet.

When I contacted clearance delivery we learned we had just missed our slot and our flight plan had expired, despite a pretty quick turnaround by the FBO. We had to contact the agent we were using to arrange fuel, a new flight plan, and a weather briefing. In a few minutes our revised flight plan was in the system.

We took off from Manchester into some of that interesting weather you get in the afternoons in the summer in southern France, with some storms and clouds with vertical development. Our IFR routing was incredibly long with a SID, multiple airways, and multiple waypoints—a long cry from what you get in less-crowded parts of U.S. airspace, where the assigned routing seems to be little more than “Direct,” which makes me feel like I'm cheating a little.

We took off and flew the assigned SID and then were pretty quickly given a vector to the UK/France border, where we resumed



On approach to Manchester, England.

our assigned routing. On the way south we flew west of London across the countryside where I first learned to fly and did my first solo cross countries. We flew over the little 2,700-foot-long runway at Fair Oaks where I completed my UK PPL, at an altitude a good deal higher than I'd ever flown through that area before.

Arriving in Cannes we experienced what sometimes happens at the end of the day, when the onshore breeze begins to shift direction. After initially being assigned the localizer, followed by the instrument approach with visual waypoints, for Runway 17, our clearance was revised to a straight-in to Runway 35. All went well and we happily parked and unloaded all my junk from the plane—computers, a bike, a stand-up paddle...the sort of stuff you carry with you when you fly your own plane and aren't on British Airways.

The line crew was pretty impressed with just how much luggage (junk) I had. The customs and border guys weren't accustomed to international turbine arrivals wearing jeans and t-shirts, so were given a bit more of a hard time than the normal just-being-waived-through, which they do for pilots with epaulets. Maybe I need to get some bars on my shoulders?

Nah! 



On the ramp at Cannes, celebrating a successful trans-Atlantic flight.

Bob Hoover and Arnold Palmer Remembered

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the local pilots. His first airplane ride was in a Piper Cub, and it sparked a desire to learn to fly.

He acted on the desire after he and his wife Winnie had spent the first years on the pro golf tour driving to tournaments with a travel trailer in tow. In his early flying days Palmer trained in various Cessna singles. "After I got down the basics, I had the thrill of my first solo flight—a spin over the Allegheny Mountains, during which I felt the power of having the controls of the airplane entirely to myself," he said. He earned his Private certificate in 1956, and soon began work on adding instrument and multiengine ratings.

In 1958 he won the Master's, then leased a Cessna 175 and hired a pilot to fly with him to events. He also chartered aircraft. "If it were a long trip, I would use a twin-engine like an Aero Commander," Palmer said.

He bought his first plane, an Aero Commander 500, in 1961.

"I liked the thought of having a twin-engine, and it was the best buy around," he said. "It was a repossessed airplane. It worked very well for me. I flew everywhere."

In 1963 he upgraded to a new Aero Commander 560F. "It had a cruising range that would enable us to make it to Palm Springs from Latrobe with just one stop, cruising at 240 nautical miles per hour," Palmer said.

In 1966 he acquired what he called his "latest capitalist tool," a Rockwell Jet Commander. In so doing he became the first professional athlete to own and fly a jet. Palmer continued to own and fly his own jets long after he retired from competitive professional golf. He made his last flight as



pilot-in-command on January 31, 2011—the day his aviation medical certificate expired—flying his Cessna Citation X from Palm Springs to Orlando. He was 81.

A decade earlier, Palmer commented on the central role that flying had played in his life. "To put it quite simply, I could never have accomplished even half as much as I have in my golf and business careers over the last four decades without having my own airplanes," he said.

THE PILOT'S PILOT

Nashville native Bob Hoover grew up in the Golden Age of aviation, and one day would become as famous as many of the pilots of that era. He was five when Charles Lindbergh made his nonstop trans-Atlantic solo flight in "Spirit of St. Louis," and was profoundly influenced by it. He began constructing model airplanes, and read everything he could about flying. He worked at a grocery store to earn money for flying lessons at Berry Field, soloing in a Taylor E-2 at age 16.

Hoover joined the Tennessee National Guard in 1940 as a tail-gunner trainee, and passed the test for Army Air Corps flight training. Despite his 6-foot-2-inch height he was assigned to fly single-seat fighters, and set

out to become the "greatest fighter pilot who ever lived." What followed was a series of harrowing escapes from accidents and near-catastrophes, including being shot down in a Supermarine Spitfire after scoring his first combat kill. After 16 months in a German prison camp, he escaped by stealing a Focke-Wulf Fw 190. A combination of great good luck and consummate innate talent and skill meant he survived those brushes with mortality, all of which contributed to his ability to control an aircraft—any aircraft—in any axis, any configuration, and seemingly in any state of distress.

Later during the war he was assigned to evaluate aircraft delivered to bases in North Africa, including the new Lockheed P-38. To demonstrate the controllability and capability of the unusual

twin-engine, twin-boom fighter he developed a stunning low-level aerobatic routine. It would serve as the basis for his later public demonstration flights in an Aero Commander.

Back in the U.S., Hoover signed up to fly the Bell X-1, the experimental rocket-powered aircraft built to break Mach 1, the speed of sound. Hoover was said to be the top choice—until the Colonel in charge of the flight test division learned that Hoover had flown a P-80 Shooting Star upside down at low level across the Springfield, Illinois, airport a few months earlier. Hoover was named backup pilot to Chuck Yeager, and had to spend the time with the program flying a chase plane and photographing Yeager in the X-1.

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A Journey to Vieques, An Unspoiled Island East of Puerto Rico

By Thierry Pouille

Up until a few years ago Vieques was an unknown name. It achieved notoriety when some local demonstrators decided they had enough of the U.S. Navy using the location as a military shooting range. It is a small island located off the eastern shore of Puerto Rico in plain view of St. Thomas (U.S. Virgin Islands), but Vieques belongs to Puerto Rico. The island is 52 square miles in size and has been unspoiled by tourism for a number of years.

Vieques is famous for its Bioluminescent Bay, which, on moonless nights, gives you a unique experience since you will be glowing in the water.

DOCUMENTATION

I am happy to report that Vieques is part of the U.S. territory and you do not need any particular

papers to fly there. A regular pilot's certificate, medical certificate, airworthiness certificate and aircraft registration are all you will need. I would highly recommend that you bring your passport since you are going to be very close to other Caribbean destinations you might want to visit for lunch. I am also happy to report Vieques is an airport of entry and you have U.S. customs agents onsite. They are both professional and very friendly. If stopping enroute for fuel or lunch, remember to file an eAPIS inbound and call Vieques customs ahead of time to report your arrival time.

GETTING THERE

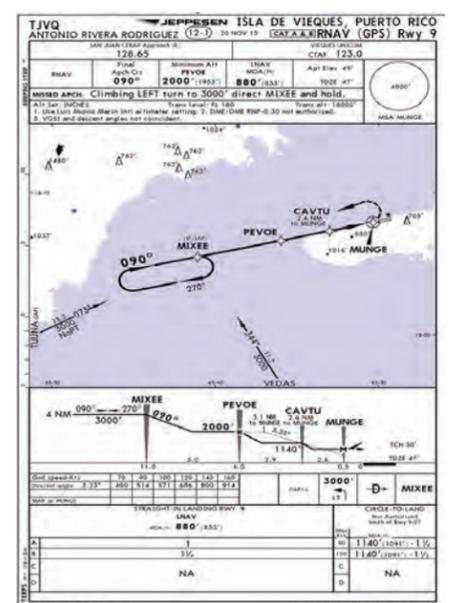
Flying to Vieques is very well suited for the Twin Commander. The island is located 970 miles southeast of Palm Beach, Florida, and believe it or not the longest



Island of Vieques is just east of Puerto Rico, about 1,000 miles from southern Florida.

leg over water with no sight of land is between the coast of Florida and the island of Nassau. For the rest of the flight you will be overflying the southern islands of the Bahamas, the Turks and Caicos, and then skirting the coast of Hispaniola communicating with Santo Domingo Center before reentering friendly U.S. skies with San Juan Center.

The flight plan filing out of Palm Beach is a very simple task. You will fly direct to Nassau using Bahamas Route BR54V (BR stands for Bahamas Route). After Nassau you will fly A555 (A stands for Amber) that will bring you all the way to Puerto Rico. In Puerto Rico you will follow Route 4 all the way to TUUNA intersection, which is the IAF for the GPS approach to Runway 09. It is a very straight shot to the runway, which is 4,300-foot long, paved, and features a full-length parallel taxiway.



RNAV approach to Vieques.

If flying offshore about 150 miles out is an issue, my advice would be to leave Amber 555 at Grand Turk VOR and proceed to the waypoint called SEKAR. That will allow you to follow the northern coastline of the Dominican Republic, and then from the eastern shore of the Dominican Republic to the



The water comes alive at night.

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Looking Back: Model 680FL Grand Commander

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"spotting"—hobbyists' observation and logging of aircraft by make, model, and registration number. The hobby began to grow into a passion as Collman joined a club of like-minded spotters. At one point he purchased a copy of the January 1966 U.S. Civil Aircraft Register, and thumbing through it came upon the Aero Commander. He was hooked. Eventually he acquired every available FAA microfiche file on Commanders, and since 1995 has made annual pilgrimages to Oklahoma City

to sift through FAA records. He now has a database with more than 96,100 records as well as a collection of negatives, slides, photographs, digital images, magazines, brochures, knick-knacks—and a very understanding wife. This series on Commander production history originally was written for the Twin Commander Flight Group, of which he is an enthusiastic member. 



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Bob Hoover and Arnold Palmer Remembered

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Following his military service he began working for North American Aviation, based at Los Angeles International Airport, a relationship that lasted for 36 years. Initially he was an engineering test pilot, evaluating the company's series of military designs—the T-28 Trojan, FJ-2 Fury, AJ-1 Savage, F-86 Sabre and F-100 Super Sabre. Later he was appointed director of customer relations and assistant to the marketing director. He was told he could continue to fly any aircraft manufactured by North American.

HOOVER'S COMMANDER

In the mid-1950s Hoover began flying civil and military aircraft at various air shows. A decade later, shortly after the 1968 merger between North American Aviation and Rockwell, he was sent to Oklahoma City to evaluate Rockwell's Aero Commander division. While touring the manufacturing operations, he saw dozens of unsold aircraft on the ramp. "Rockwell had acres of them," he said. "They were building one a month and losing \$13 million a year."

When Dick Robinson, vice president of sales and later president of the division, asked Hoover if he could develop an aerobatic routine that would bring positive attention to Commanders, Hoover thought back to the demonstration routine

he had performed in the P-38.

"The key was to see whether I could perform the P-38 maneuvers within the structural design limits of the Aero Commander," he said. "The P-38 was a fighter capable of pulling 7.33 Gs, whereas the Shrike Commander...was limited to 4.4 as a utility design."

His first public demonstration was flown at the Reading, Pennsylvania, Air Show. Soon, he was in high demand at air shows around the country. "Once those performances demonstrated the Shrike's capability, production increased from one a month, to two, and then eventually to eight," Hoover said.

In 1973 he began flying N500RA, a 500S Shrike modified with smoke and propeller unfeathering systems. Because it was a stock business aircraft, Hoover felt the Shrike was more of a challenge to fly in air show performances than his P-51 Mustang. His routine highlighted the Shrike's excellent high- and low-speed handling capabilities, and its one-engine and no-engine performance. Along with loops and 16-point rolls, Hoover performed his signature engine-out maneuvers—a loop; an eight-point roll; a 180-degree turn to a dancing touchdown, first with one wheel and then the opposite wheel; followed by the landing and



Bob Mays (left) with his wife, Janet, at an awards ceremony being congratulated by life-long friend, Bob Hoover.

engine-out taxi to air show center.

Hoover also was filmed performing a roll while pouring iced tea into a glass sitting on top of the instrument panel, and not spilling a drop.

Long-time Commander salesman Bob Mays, who was profiled in the Spring 2010 issue of Flight Levels, first met Bob Hoover in Korea, where Mays was flying North American F-86s. Hoover was there to demonstrate the F-86's manual pipper control for targeting. "When Hoover arrived I said, 'Mr. Hoover can I pick out a good airplane for you to fly?' " Mays remembers. "'No, that's alright, I'll just take this one,' he said. Then he proceeded to take off and go right into a loop with the gear and flaps down. Well, like all fighter pilots we thought we were the greatest

pilots who ever lived," Mays says. "But when we saw Hoover do that we thought, Holy Mackerel, it's time to turn in our wings."

Mays and Hoover became friends for life. "He was a wonderful gentleman, a super human being, and the best stick and rudder guy ever," Mays says.

Hoover's last flight in N500RA was in October 2003, when he and a ferry pilot flew it from Lakeland, Florida, to the Smithsonian Institution's Steven F. Udvar-Hazy Center at Dulles International Airport. Hoover taxied the airplane onto the museum floor—the only pilot ever allowed to do so—where it is on permanent display.

A Celebration of Hoover's Life was held November 18 at Clay Lacy Aviation at Van Nuys Airport in Los Angeles.





A Journey to Vieques, An Unspoiled Island East of Puerto Rico

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western shore of Puerto Rico it is a mere 60 miles over water.

You will be crossing over Puerto Rico at Borinquen, which happens to be a VOR but used to also be a Strategic Air Command B-52 bomber base until the late 1970s. The runway is 12,000 feet long and is a nice experience. You also need to know this is the base where TSA and Customs train their agents, so if you decide to use Borinquen for an airport of entry, be prepared for a unique experience. If they are actively training you could have 20 agents zooming in on you and your airplane.

Depending on weather and ATC routing, you may be able to see the Arecibo Observatory, a radio telescope in the municipality of Arecibo, Puerto Rico. It was the largest single-aperture telescope from its completion in 1963 until July 2016. You may recognize it from the James Bond movie "GoldenEye."

Vieques is busy with local traffic made up of Cessna Caravans and Cessna 402s, the commercial transport aircraft of choice in the

region. They commute from Puerto Rico's main airport to the island of Vieques, flying under the name Cape Air. In the summer months they transport passengers from the Massachusetts mainland to the island of Nantucket. There is no dedicated FBO at Vieques, and all passenger traffic needs to proceed via the main terminal.

WHERE TO STAY

The hotel choice in Vieques is somewhat limited between bed and breakfast establishments and the Martineau Bay Resort, which has been taken over by Westin and is now a W resort. It is located on the north shore on State Road 200. Wireless internet service is available throughout the property – even on the beach, where you can use your laptop to contact the office or family while soaking up the sun.

For a truly unique dining experience, I recommend a visit to the private home of Rick Gallup. A well-known chef in Puerto Rican circles who is semi-retired, Rick has a beautiful hilltop home in Vieques featuring a 360-degree view of the island. It is open for home-cooked private dining experiences. If you



Vieques airport.

are staying five days or more in Vieques, it is certainly worth a visit. Rick's mother-in-law is an artist in her late 70s and does beautiful true-to-life renderings of animals including leopards and penguins.

ACTIVITIES

As I mentioned, the Bioluminescent Bay tour is a unique experience. Depending on the time of sunset, you will depart the hotel by van to Mosquito Bay. Experienced guides will give a safety briefing before you set out in individual kayaks to paddle across the bay. Millions of dinoflagellates will come alive and light up the calm waters of the bay, creating a greenish-blue halo in the water around the kayak.

off the hotel's beach. Day trips for snorkelers also are available on large catamarans. Scuba divers will find world-class sites off shore.

THE RETURN

Vieques certainly is one of the easiest places to return to the U.S. from. With your cell phone or hotel telephone simply dial 800-WXBRIEF and you are connected to San Juan Flight Service Center to file your flight plan. Of course, mentioning Amber 555 instead of Alpha 555 will show them you are a veteran of foreign travel. You can also file with Foreflight or FLTplan.com if you have an account. After refueling, which is readily available at the airport, you are ready to go home.

Since you are leaving U.S. soil going back to Florida, there is no need to call customs to let them know that you are returning. Obviously, if a stop enroute in the Turks and Caicos or Bahamas becomes necessary, then do not forget to file an eAPIS and call customs to ask for your two-letter code.

Thierry Pouille is the founder of Air Journey (www.airjourney.com), which offers aircraft owners and pilots escorted and concierge tours of destinations around the world.



Arecibo Observatory was the largest single-aperture telescope until July 2016.



Dinoflagellates on the Bioluminescent Bay tour.

Snorkeling and scuba diving trips are readily available through the local dive shops. You will find that Martineau Bay is one of the few— if not only—resorts in Puerto Rico with good snorkeling right

Executive Aircraft Maintenance

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L-R Rob Louviaux, Bill Forbes and Jeff Coffman

and in general replacing older equipment with state-of-the-art options," Forbes said. "It's getting harder to find components for the original-equipment Collins AP-106 and Bendix autopilots in

Commanders," he added. "You will spend more on repairing the old stuff than replacing it with new."

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Coffman, who began his career as a corporate pilot at age 18, says that a Twin Commander was

the first turbine airplane he flew. "It was my first love," he laughs. He exported Commanders from Mexico to the U.S, holds FAA ATP and Mexican Commercial pilot certificates, and speaks fluent Spanish. His association with EAM dates back to when it was known as Executive Aircraft Services—before 2003; Coffman was responsible for sending EAS its first Commander customer.

The purchase of EAM, which includes hangars, offices, and a back shop, happened quickly, Coffman says. "It was fast-tracked," he says. "The dust will settle soon," he adds, "and we will modernize, improve, streamline, and make for an even better product."

For more information,

see <http://eamaz.com/> or contact Executive Aircraft Maintenance at 866-991-0905.

Twin Commander Flight Group Meets in Las Vegas

By Glenn Hancock



We arrived at Henderson Executive Airport in Las Vegas and there were only two Commanders on the ramp. I knew Morris Kernick was there but no one else. Upon walking into the FBO, it turned out there were quite a few people.

The first night we all got to know each other, and grabbed something to eat at a local restaurant. Friday morning we gathered at the airport and got things started. Every hour or so there was a different topic. We really enjoyed the great information around the investigation of the crash of our leader, Jim Metzger, last year. Usually people make stuff up that has holes you can never quite work through in your head, but his was a tale of facts that lined up and made perfect sense. It also made me realize a few things about my own plane, such as exactly why it is so important to use the gusts locks, both inside and outside on the airplane.

As the day progressed we heard from more Commander pilots and their stories of life in the Commander world.

That evening we got to listen to Morris and One-Eyed Jack (Jim Metzger) and their many adventures. I could have sat and listened to them all night telling of the Commanders they've flown all over the world. The stories of how they got some of them running made you realize that with enough motivation and thought, you can get almost anything done.

Saturday we got to hear about Steve Binnette's project bringing back his Model 980 Commander. Wow what a plane! It goes to show that with enough money and attention you can make an old Commander turn into a beautiful and reliable airplane. We also got a good lesson from Morris on the Commander landing gear and how important it is to pay attention to things. He also talked about recommended rebuilds and the

cost of parts. We got caught up on Twin Commander Aircraft LLC and some of the things they're up to.

Later in the afternoon we heard about current affairs with the new Swift fuel, and had a good discussion about diesel engines and the likelihood that they will ever replace our awesome-sounding gas-powered engines.

After all was said Saturday, we walked outside to tour the airplanes on the ramp. It was nice to hear stories and get tips about the different parts of the plane from different people. I again learned a few more things about my plane that I need to pay attention to, and it was nice to have the questions and listen to all the stories.

Saturday night we got together for a very nice dinner at the hotel and an auction. This was no normal auction, however, as the people attending brought all types of gifts to sell. The money raised will help host next year's event. The stories I heard that night about Moe Mills (the previous owner of my 680FLP) were awesome. I hadn't really heard much before that, so it was awesome that everyone had been so close to him and had great stories to tell. He owned the airplane a lot longer than I realized, and he loved purple even more than I had thought.

We laughed a lot during the auction as our auctioneer (One-Eyed Jack) was quite funny. He had people upping their bids just by blinking their eyes. I actually

purchased his external gust lock with the chicken attached. My son asked why the chicken wasn't making money, and I told him the story that the crash must have scared the squeaker out of him.

For some reason I won three awards at the meeting this year, but I think maybe it was because they were afraid I might not come back. Giving me everything that had to be returned would be a good way to make sure I did. It was very fun and the group is a lot closer than I imagined. We are very happy to have been let in and hope we stay close to everyone as time progresses.

Oh, and thanks for making so much fun of Moe's airplane. I've been flying this bird all over the country, and spent two weeks in the Caribbean with no real issues. Now because of all the fun it looks like I've got a bad crankshaft seal that I will have to fix when I arrive home in Georgia at the end of the week. At least I won't have to wonder what I will be doing this weekend.

Glenn Hancock is a group leader in the Twin Commander Flight Group (www.aerocommander.com) and created a new Forum for the Group: <http://www.twincommandergroup.com/index.php>





Playing Aviation Insurance Poker With a Deck of 21?

By Dale Barnard

We all know that there are 52 playing cards in a deck. However, there are currently 21 aviation insurers offering liability and property coverage in the United States. Are you sure you understand the hand you're dealt with them?

With many new carriers in the picture, your aviation insurance choices have more than doubled in the last dozen years. With all these new choices we see more aircraft owners take a gamble with an insurer they know little about let alone understand the coverage they purchased. An owner's knowledge may be limited to just the annual premium they must pay.

Here are the top 10 considerations when purchasing

aviation insurance for your Twin Commander, or any aircraft for that matter:

1. Hire an aviation insurance broker that knows your aircraft type, use, and pilot requirements and make sure the broker can access all markets on your behalf (i.e. Gallagher Aviation).
2. Renewal documentation: Provide complete and accurate details on your aircraft hull value, liability limit, entity names, lien holder, territory and any changes from the prior policy period.
3. Have your aviation insurance broker confirm that you have the highest limits and all ancillary coverages available, such as family assistance coverage.

4. Concerning aircraft documentation, make sure to include in your important onboard documents a "To Whom It May Concern" (TWIMC) certificate evidencing your aircraft's insurance coverage. If you overfly Mexico, the European Union or the U.K., make sure those certificates are printed in color and included.

5. Financial Integrity: Make sure your insurer is, at minimum, A.M. Best "A" rated.

6. Know your policy's pilot warranty requirements, and make sure the active pilots qualify and maintain currency.

7. Know what uses and activities will void your policy. Performing criminal acts with your

aircraft such as drug trafficking, or flying into excluded areas such as war zones without prior approval, will likely void coverage.

8. If your aircraft is dry leased, make sure the lease conforms with FAR Part 91 requirements and isn't operated under Part 134.5, otherwise known as illegal charter. Commercial use can also void coverage if it is not an approved use.

9. Request written confirmation for any recurrency extension, coverage exceptions or pilot approvals that fall outside of the policy's requirements.

10. Pay your aviation insurance premium promptly to avoid cancellation.

Whether or not you currently know your aviation insurance coverages, it is crucial to have the broadest policy possible from an "A" rated insurer that's competitively priced. By taking the time now to ensure you have broad, competitive coverage while understanding its limitations, you will save time and potentially millions of dollars in the event you experience an accident.

Dale Barnard is manager for Gallagher Aviation's Twin Commander program. A lifetime aviator, Dale brings more than three decades of aviation experience to clients. A U.S. Marine Corps veteran, active pilot, aircraft owner and EAA Flight Leader, Dale has presented at Twin Commander University. He can be reached at Dale_barnard@ajg.com.



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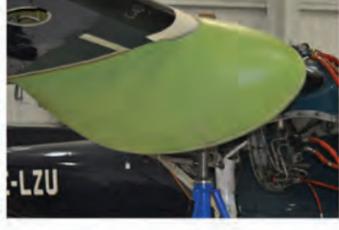
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