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Guardian Avionics

Southern
Africa Safari

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TWIN & TURBINE

FOR THE PILOTS OF OWNER-FLOWN, CABIN-CLASS AIRCRAFT

OCTOBER 2025 \$3.95 US
VOLUME 29 NUMBER 10



Owner's Corner

Jimmy Graham

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Courtesy of Omar Barrera for Jimmy Graham

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for free www.twinandturbine.com

Editor's Briefing

by Lance Phillips



NBAA-BACE 2025

NBAA-BACE, the business aviation convention and exhibition, is upon us. Our annual trek to Las Vegas is one of anticipation and excitement for all of us who use our aircraft to further our businesses and enhance our lives. The 2025 version of BACE is interesting for a few reasons.

NBAA will be reformatting its static display, now called Aircraft Connection, bringing you closer than ever to the diverse fleet powering business aviation forward. Connect with Bombardier, Cirrus, Gulfstream, Honda, Pilatus, Textron, and other leading manufacturers at Henderson Executive Airport. Aircraft Connection will be open to attendees on Tuesday, October 14, from 1:00 PM until 5:30 PM, and on Wednesday, October 15, from 9:00 AM until 5:00 PM. It won't be open on Thursday.

Also new on Wednesday, October 15, will be an industry Maintenance & Operations event in the West Hall. Maintenance and Operations: Practical Insights for Peak Performance is an excellent opportunity for you and your maintenance provider, DOM, or local technician

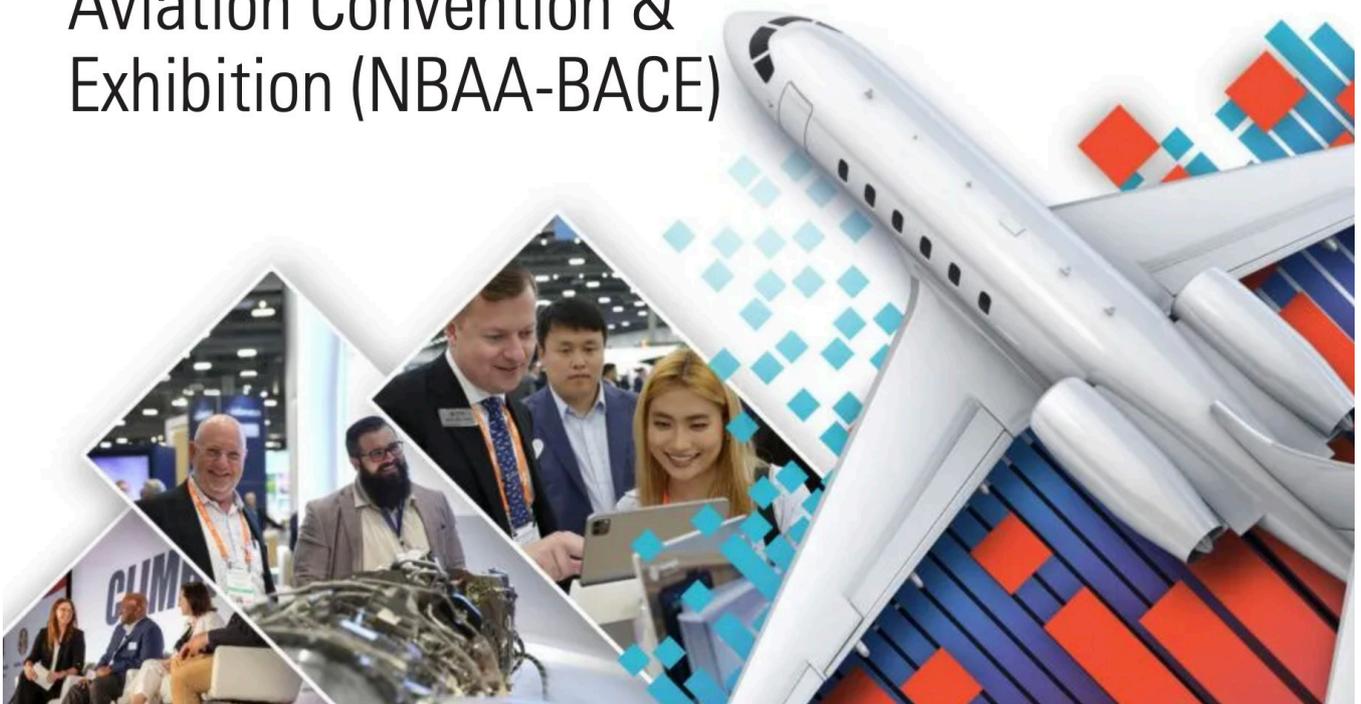
to gain invaluable, real-world maintenance and operations knowledge expertly compiled and presented for your immediate application. This inaugural event will delve into the intricacies of both new and legacy aircraft platforms. Expect to receive critical guidance on adhering to scheduled maintenance best practices, effectively managing aircraft upgrades, and developing the essential proficiencies needed to adeptly address aircraft on ground (AOG) situations when operating away from your home base.

Visit the NBAA-BACE website here to learn more and add the M&O session to your Show Planner <https://tinyurl.com/77zvvrp4>



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Guardian of the Panel: Nighthawk Flight Systems' Avionics Disruptor Takes Flight

by Tigre Pickett



What empowers a David to take on a Goliath? Is it sheer will? Courage? Leveraging the right tool for the takedown? These are the questions presented by Nighthawk Flight Systems' upcoming Guardian Cockpit Avionics System. Unveiled at AirVenture this year, Guardian looks to challenge Garmin head-on in the avionics space that Garmin has long dominated.

Nighthawk Flight Systems may sound like a bold new upstart, but you might already know of their prior work as Sandel Avionics—makers of impressive, compact display systems across a range of air transport and military aircraft, with a small GA presence.

Given their storied DNA as a successful avionics producer, when Nighthawk Flight Systems unveiled their prototype Guardian—a “next generation cockpit avionics system” in direct competition with Garmin's avionics dominion—it seems the stage is set for a possible David vs. Goliath showdown.

Nighthawk Flight Systems: New Brand, Deep Avionics Lineage

Rich Pickett and I were recently invited to tour Nighthawk Flight Systems' production facility in Vista, CA—an unassuming corporate location near McClellan-Palomar airport, where they design, test, build, and repair

their display systems. Carrying some impressive credentials—ISO 9001 and AS9100 certified, as well as FAA Part 21 production and Part 145 repair certificates—Nighthawk isn't a doe-eyed upstart; it's a proven player in avionics.

On the factory floor, we chatted with Erik Mortensen, Director of Operations, a 31-year veteran of the company who has overseen many projects. We discussed how production products pass through the factory, where all circuit boards are printed in-house, assembled with chassis produced by a third party, and assembled at the Vista location.

Spare parts are stored in a series of inventory racks to support new builds as well as fulfill warranty and service claims in a timely manner—something Paul Martin, President & CEO of Nighthawk and a former Lockheed Martin Skunk Works executive, was keen on continuing with the Guardian avionics rollout.

Following our tour, we had a chance to sit down with Paul and two of Nighthawk's executives—David Lanning, CTO, and John Morton, Chief Engineer—to discuss why Guardian is worth a pilot or OEM's consideration for an avionics upgrade or inclusion in a new factory-built aircraft.

Treading on Goliath's Turf

Before we dive deeper, let me say: I love technology. As a child of a Chief Nerd, my entire life was filled with the

newest technology and gadgets my dad (Rich, if you didn't connect the last name) brought home. It was no different for our airplanes. We owned the first Bose headsets (the ones with silicone ear pads), and he was also one of the first pilots to fly with Garmin's earliest portable GPS units.

As fans of Garmin's products and pathway, we've yet to come across compelling alternatives to their dependable and ubiquitous systems. They've built their empire and reputation by consistently pushing the envelope and delivering dependable and user-friendly products.

So, when I heard that a new touchscreen PFD avionics system was out that didn't look or feel like a flimsy knockoff, I was intrigued and thought, "Is Nighthawk a worthy foil to Garmin's Goliath? Does it stand a chance to take market share in an area that Garmin dominates?"

Guardian looks to challenge Garmin's dominance in the cockpit avionics space—not by replicating integrated flight decks like the G3000, but by offering a modular, high-fidelity alternative to traditional panel-mount systems. While it isn't aiming to replace every flight deck—yet—it's carving out a compelling niche for retrofit and light OEM applications that may be underserved or overpriced by today's avionics giants.

Guardian: First Look and Component Overview

Just a stone's throw from EAA's Theatre in the Woods, we first met Paul and John at their AirVenture booth in Oshkosh. On display were two simulator mockups featuring their newest offering: Guardian.

Upon first glance, Guardian doesn't look remarkably different from other PFDs like a G1000 or Dynon. It's a black frame, a color screen, and some knobs. On closer inspection, you realize there are no buttons, just three knobs, and that's because this is more like a Garmin TXi touchscreen flight display.

The next thing you notice is the visuals. Looking at the demo units, I thought I was flying in a simulator— a fully 3D synthetic environment rendered in real time, complete with mapped buildings, terrain, and obstructions. The synthetic renderings were impressive, and I could see how situational awareness would be improved by them (especially for low altitude pilots and helo operations), but it was also initially a tad overwhelming for me at first since I'm used to seeing less detail and more approximated terrain features like we have in the G1000 NXi display in our Cessna Turbo 206H. Of course, the 10-year-old pilot flying next to me took to it like a pilot getting their medical back.

"We can tell you where the ground is, its relation to you, and you can see the box canyon you're in and what you will and won't hit." — Paul Martin, CEO

That kind of clarity is mission-critical—especially in low-level and off-airport operations where terrain, wires, and obstacles can mean the difference between a safe return and a tragic outcome. Guardian's synthetic vision combines high-resolution 3D terrain with TAWS and HeliTAWS overlays, delivering real-time awareness at 500 feet AGL



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and below—ideal not only for fixed-wing but also rotary-wing operations. Terrain, obstacle, and wire databases are blended into a unified display with intelligent alerting, while avoiding excessive nuisance warnings that plague traditional systems during off-airport or hover work.

After testing out the flight simulator, John Morton gave us a tour of what makes Guardian unique. Beyond the robust synthetic vision capabilities, Guardian is designed around simplicity. The high-definition 12" PFD/MFD touchscreen display (with 11.6" viewable area) allows for quick splitting of the PFD into various display modes to view charts and other data via the center toggle switch. Reducing weight and complexity, a single cable connects the display to the brains of the system—an elegant feature that should make installation a breeze. Paul also remarked that they reduced the display's bezel to just 0.3 inches of the panel for a cleaner fit and easier integration.

Plans are set for a similar style 7" PFD/MFD (7" viewable area) in landscape or portrait models. Both of these PFD/MFD displays, depending on their use and setup, feature multi-touch controls, oleophobic glass coatings, and are visible in the brightest sun.

How Does Guardian Stack Up?

While not a direct one-to-one comparison, the table below highlights key display specs across Nighthawk's Guardian system, Garmin's TXi flight displays, and Garmin's integrated G3000 and G5000 flight decks.

Guardian and TXi displays are standalone retrofit or OEM-capable touchscreen systems, whereas Garmin's G3000 and G5000 are fully integrated flight decks (with

limited retrofit potential and usually OEM-installed). The comparison is included to help readers understand display evolution in terms of resolution, brightness, aspect ratio, and sunlight-readability—not as a direct market overview.

For many, staying within the Garmin ecosystem is a key value add—while others may find Guardian's modularity, display quality, and pricing compelling enough to consider a new path.

The brains behind Guardian rest in the NEST—a light-weight modular chassis that houses Line Replaceable Units (LRUs) that Nighthawk calls Blades.

Each Blade handles an important function of system operation and navigation (more on that below). Gone are the complex cables of other LRUs, thanks to a proprietary and simple connector called a Blade Link. This small connector links each blade in series, further refining the NEST. Installation is fast and simple with four screws connecting each Blade Link.

The Guardian NMC 1000 Mission Computer Blade is capable of driving two displays, so a four-display panel will require two Mission Computers and likely a separate NEST to maintain separation. Thankfully, initial tests have shown that the NEST can be located anywhere in an aircraft up to 25 feet from the Guardian display via that single connecting cable, so precious space behind the firewall can be used for other equipment.

First Phase Blades

Paul laid out Nighthawk's planned phased rollout of their Guardian components. Available first for Part 23 Class I

Feature	Guardian 7"	Guardian 11.6"	Garmin TXi 7"	Garmin TXi 10.6"	Garmin TXi 12.1"	Garmin G3000 / G5000
Type	Touchscreen display	Touchscreen display	Touchscreen display	Touchscreen display	Touchscreen display	Integrated flight deck
Type	PFD/MFD Display	PFD/MFD Display	PFD/MFD Display	PFD/MFD Display	PFD/MFD Display	Integrated Flight Deck
HD Display	✔ Yes	✔ Yes	✘ No	✘ No	✘ No	✘ No
Multi-Point Touchscreen	✔ Yes	✔ Yes	✘ No	✘ No	✘ No	✘ No (Only G3000/G5000 Prime)
Diagonal Size	7.0"	11.6"	7.0"	10.6"	12.1"	14.1"
Orientation	Portrait & Landscape	Landscape	Portrait & Landscape	Landscape	Landscape	Landscape
Resolution	1920 x 1200 (Full HD+)	1920 x 1080 (Full HD)	800 x 480 (WGA)	1280 x 800 (WXGA)	1280 x 800 (WXGA)	1280 x 800 (WXGA)
Aspect Ratio	16:10	16:9	5:3 (15:9)	16:10	16:10	16:10
Brightness (nits)	>1500	1600	1100	1400	1800	Not Published
Sunlight Readable	✔ Yes	✔ Yes	✔ Yes	✔ Yes	✔ Yes	✔ Yes
Anti-Fingerprint Coating	✔ Yes (Oleophobic)	✔ Yes (Oleophobic)	✘ No	✘ No	✔ Yes	✘ No (Only G3000/G5000 Prime)

and II aircraft will be their Mission Computing Unit (NMC 1000) Blade, Smart I/O (NIO 1000) Blade, and their ADAHRS (NRS 1000) Blade.

- **MCU Blade:** handles graphics and user interface processing, supports two independent displays, synthetic vision, TAWS (fixed/rotary wing), TCAS, FIS-B WX, Radar Altimeter, and ADS-B in traffic display. It also covers audio annunciation, WiFi/Bluetooth, and integrates with external EFBs, transponders, engine instruments, and GPS/FMS. Standby battery control and interface are also handled by the MCU.
- **SIO Blade:** a flexible interface unit to handle input-output for various existing aircraft systems, including single/dual GPS/FMS, DME, ADF, TACAN, ADS-B In transponder, TAD/TAS/TCAS I/II, Stormscope, ARINC-708(A) Weather Radar, analog/digital Autopilots with Flight Directors, single/dual Engine Interfaces (through Electronics International EDC-33P-S), Remote Audio Control (e.g. PS Engineering) and standby ADAHRS (adding dissimilar cross-check capability with Mid-Continent's MD302 SAM).
- **RS Blade:** contains standard connections to provide inputs for the Air Data Computer and a tactical-grade Attitude/Heading Reference System.

Future rollouts—planned for mid-2026—for full Part 23 and 27 will offer a more capable NRS Blade called the Aircraft Navigation Unit (NNU 1000) Blade that will have an integrated GPS/FMS, plus an NCN 1000 COM/NAV Blade and a remote ADS-B In transponder with optional diversity.

Cessna 340 Test Bed & First Launch Customer

At AirVenture, the Nighthawk team shared that their first flight testbed is planned for a Cessna 340A. Installation, as of this writing, is underway at a McClellan-Palomar avionics shop. The first phase installation is testing the 12" display, mounting the NEST behind the panel, and coupling it with an S-TEC Autopilot. The goal is to get certified for Part 23 Class I and II aircraft.

As of this writing, Guardian is still in the certification and flight test phase and is not yet available for installation in certified aircraft. That said, the company is actively pursuing FAA approval for Part 23 Class I and II aircraft via an AML-STC pathway.

As testing and certification progress, the team will move into Phase 2, where two 12" displays and two 7" displays will be installed. Genesys digital autopilot and an Electronics International engine instruments interface will also be installed and tested. Remote mounting—up to 25 feet away or more—of a second NEST will also be tested.

In Q2 2026, Nighthawk will test the NNU 1000 Blade, NCN 1000 Blades, a remote transponder, and plans to secure full Part 23 and 27 certifications.

To round off their EAA announcements, Nighthawk shared that they have already secured their first OEM partner aircraft: the Comp Air Aviation 6.2 6-passenger kit and factory-assist-built aircraft. Nighthawk aims for 200 deliveries over the next five years. Guardian versions for both pistons and turboprops will be available in this family of aircraft.

Will David Take Goliath's Market Share?

Time will tell, obviously, if Nighthawk's Guardian system can meet timelines and promises. So far, and from what we've gotten to test and play with, if Nighthawk can deliver, then Garmin will have a viable competitor for the partially and fully-integrated avionics and interface market.

Current estimated retail pricing for two 12" displays with a NEST and three initial Blades is \$45,000 (if you only want one display, take \$5k off). For a four-display installation—think 2 PFDs, 2 MFDs, 2 ADAHRS, and 2 I/Os—the estimated total is \$110,000 due to the need for an additional NEST. Both options are roughly 30% less than other legacy options currently available.

One of the most David-like efforts by Nighthawk was Paul's promise to provide software updates for free, and no enablement fees for things like TAWS Class A or B, HTAWS, ADS-B/TCAS Traffic, Weather Radar, Radio Altitude, SynthViz, ForeFlight, or Seattle Charts (Jepp charts are in the works). Features like WiFi, Bluetooth, and dual USB-C data and charging ports are also built in, something Garmin layers on the final total price.

Once an aircraft is stripped of its existing equipment and any gremlins are neutralized, John estimates that an installation would take 5 to 7 days for the Guardian system. This will vary based on the state of the aircraft, and the majority of the time is in repinning—so long as there isn't much fixing or replacing of old wiring, new owners should be up and flying in under two weeks.

Dealers are also in talks with Nighthawk to carry their products, with up to 40 of them showing interest as of this writing. All the above can be taken with a grain of salt, as much of what I've seen in my limited time in the aviation industry has come with promises that sometimes fall short. If the Nighthawk executive team delivers on their vision, owner-operators and OEMs alike may finally have a capable, modular, and affordable alternative to the default Garmin systems. 



Tigre Pickett is a commercial single- and multi-engine pilot type rated in the Citation 525-series jets. With his father and Co-Captain, Rich Pickett, Tigre manages multiple CitationJets in southern California. Tigre has a passion for aviation and loves to fly various aircraft, exploring new destinations with his family in their Cessna Turbo 206. You can follow his exciting journey as a professional pilot alongside Captain Pickett on their YouTube channel and find more aviation content on **PersonalWings.com**.



“

Under the wing of my rented 1967 Cessna 182, the canyon meanders through this spectacular and empty country in southern Namibia. ”



Entering the desert from Sossousvlie

Flying Africa:

A Backcountry Story

Photos and story by Peter Fraser

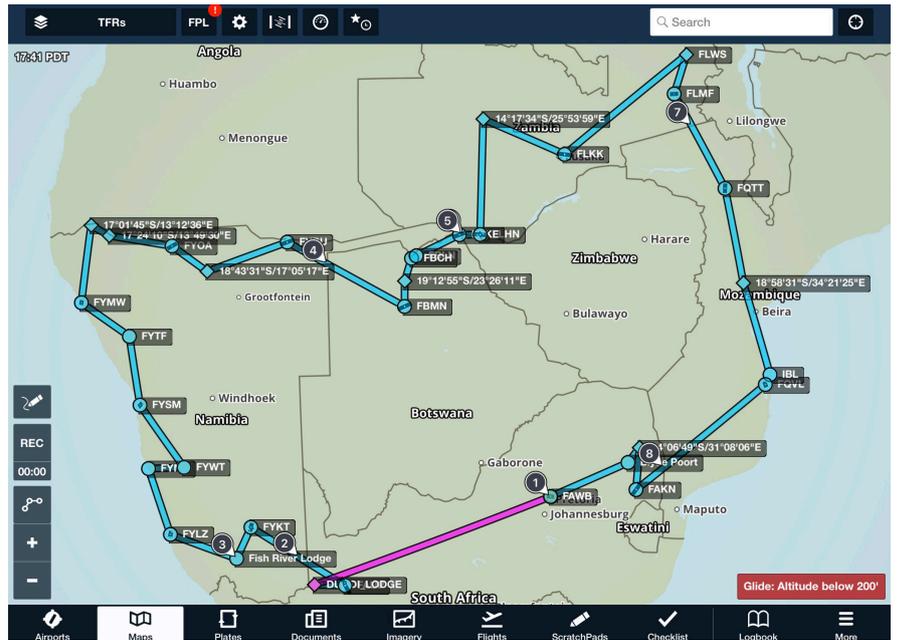
A dirt strip stretches out as nothing but wild animals and endless African landscapes expand to the horizon. Pushing the throttle toward the blue, the cloudless sky beckons. Gaining speed, a thirsty flat six is fed more nourishment. Pull back until the lightness of the nose wheel breaks firmament. On to the next dirt strip, the next game lodge, and another day of discovery. This is the magic of flying around southern Africa.

The second-largest canyon in the world is unfolding before my eyes. Under the wing of my rented 1967 Cessna 182, the canyon meanders through this spectacular and empty country in southern Namibia. Landing on the rough and rocky Fish River Canyon Lodge airstrip is the start of a month-long flying trip through South Africa, Namibia, Botswana, Zambia, and Mozambique.

Ushering in the Next Generation

Renting the aircraft from Bush Pilot Adventures at Wonderboom Airport outside Pretoria was the first step in obtaining a South African pilot license validation. We got a thorough briefing on the differences in regulations, radio procedures, and airspace. Then it was off to demonstrate our flying competence to the examining instructor. This took about an hour and included what you would do in a U.S. biennial flight review, plus some additional work on how to scope out a remote dirt strip, not only for its condition but also to check for wild animals. We had previously sent copies of all our flying documents to Bush Pilot Adventures, who had forwarded them to the appropriate authority. With sign-offs in hand, validations were issued, and we were free to fly off into the wilds of the African bush.

With the help of GPS and ForeFlight charts, finding these remote strips was child's play. The strips serving every one of the twelve lodges we visited were, without exception, long and flat, not requiring any super-pilot, short-field landing expertise. Because they were gravel or dirt, care of course had to be taken to avoid dinging the props. These strips were remote, just long dirt clearways in the African bush.



Route around southern Africa

We called the lodge before each arrival with our estimated arrival time, and we were always met with a Toyota Land Cruiser, the ubiquitous African bush transport, waiting alongside the strip when we arrived. At a couple of landing spots, we had to put thorn bushes around the tires to prevent Hyenas from chewing on the rubber, which they apparently enjoy.

Between each successive country, we had to check in and out at international airports – not that these were

necessarily large, but all had paved runways. The bigger airports had control towers. These are the easiest and least expensive border crossings I have experienced in 40-plus years of international flying. The officials in every country were friendly and helpful, a real pleasure which added to the relaxed feeling of the whole adventure.

All 48 flying hours of the trip were low-level VFR, the magnificent countryside rolling under our wings, unfolding and ever chang-



Epupa Falls Airstrip



Yours truly, with thorn bushes around the tires

ing; from desert dunes to scrub bush, to forests, to mountains, to river flooded deltas, to Victoria Falls. The vistas below were mostly remote, with few signs of human habitation. Sometimes we caught sight of elephants and other animals roaming. Other times, we saw big rivers, their waters flowing slowly through the parched land. Huge dry sandy river beds were waiting for the rains. We saw small villages of scattered huts, small farming plots, and herds of cattle and goats. The slow pace of African rural life unfolded beneath our magical flying carpet.

Flying circuits over Victoria Falls, or low-level over the game-filled Busanga plains, or high above the stunning multitude of blues of the Indian Ocean, butting up against the dunes of Mozambique's Bazaruto Island, was breathtaking. Landing in the middle of the African bush, drinking gin and tonics as the sun set over a wandering herd of elephants or a pride of lions. Each lodge we stayed at was luxurious and unique. Most had only five to eight cabins, evoking feelings of intimacy and connection. These feelings are hard to find in the modern Western world. Here is a world far away from the crowded, noisy,



Okovango waters



An elephant on the road to the airstrip

frenetic goes on of normal life. It is a break, a renewal of things forgotten, a reconnection with the wild, with the earth and the slow and steady beat of raw nature, a balm for the spirit, and a place that will live in your heart. It is a reminder to linger, not to rush, and to enjoy the moment, to live.

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Peter Fraser was born in the heart of Africa and spent 40 years test flying and delivering aircraft worldwide. He is a skydiver, sailor, paraglider, lover of the great outdoors, and inveterate traveler. You can order Peter's book "World Beneath My Wings" on Amazon today.

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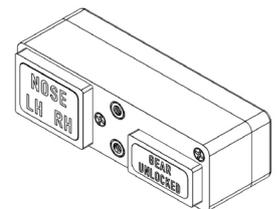
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Editor's Pics

Photos by David Miller
& Story by Lance Phillips



In March 2025, Twin & Turbine highlighted our On Final writer, David Miller, and his new (to him) Beechcraft Baron. After flying at the flight levels for many years, David transitioned from kerosene to gasoline. In that cover article, with photos mostly by me, David described his methodology used in finding the perfect aircraft to scratch the itch for flying after jet propulsion became impractical.

David found the ideal Baron, one of the pressurized persuasion, to meet his current aeronautical needs. And as all of us who own fine motoring vehicles, he likes to take pictures of his new prized possession. So, this month, we get to feast on David's photos of the twin out of Wichita.

Thank you, David!



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41	ASTRA 1125SP
59	ASTRA 1125FPX
21	BEECHJET 400
266	BEECHJET 400A
250	BOEING BBJ
513	CHALLENGER 300
317	CHALLENGER 350
29	CHALLENGER 3500
29	CHALLENGER 600
25	CHALLENGER 601-1A
108	CHALLENGER 601-3A
52	CHALLENGER 601-3R
351	CHALLENGER 604
283	CHALLENGER 605
78	CHALLENGER 650
3	CHALLENGER 800
53	CHALLENGER 850
5	CHALLENGER 870
504	CIRRUS VISION SF50
130	CITATION 500
375	CITATION 525
345	CITATION BRAVO
207	CITATION CJ1
107	CITATION CJ1+
255	CITATION CJ2
245	CITATION CJ2+
489	CITATION CJ3
267	CITATION CJ3+
464	CITATION CJ4
192	CITATION ENCORE
85	CITATION ENCORE+
405	CITATION EXCEL
13	CITATION I
277	CITATION I/SP
436	CITATION II
50	CITATION II/SP
164	CITATION III
173	CITATION LATITUDE
58	CITATION LONGITUDE
376	CITATION M2
510	CITATION MUSTANG
142	CITATION S/II
366	CITATION SOVEREIGN
118	CITATION SOVEREIGN+
315	CITATION ULTRA
289	CITATION V
27	CITATION VI
135	CITATION VII
324	CITATION X
39	CITATION X+
314	CITATION XLS
358	CITATION XLS+
17	DORNIER ENVOY 3
33	ECLIPSE 550
317	ECLIPSE EA500
20	EMBRAER LEGACY 450
83	EMBRAER LEGACY 500
113	EMBRAER LEGACY 600
72	EMBRAER LEGACY 650
16	EMBRAER LINEAGE
379	EMBRAER PHENOM 100
580	EMBRAER PHENOM 300
113	EMBRAER PRAETOR
57	FALCON 10
21	FALCON 100
15	FALCON 200
272	FALCON 2000
5	FALCON 2000DX
23	FALCON 2000EX
162	FALCON 2000LX
148	FALCON 2000LXS
25	FALCON 20C
15	FALCON 20C-5
17	FALCON 20D
1	FALCON 20D-5
1	FALCON 20E
48	FALCON 20F

75	FALCON 20F-5
182	FALCON 50
5	FALCON 50-4
8	FALCON 50-40
115	FALCON 50EX
282	FALCON 7X
70	FALCON 8X
173	FALCON 900
28	FALCON 900C
21	FALCON 900DX
351	FALCON 900EX
99	FALCON 900LX
22	GULFSTREAM G100
130	GULFSTREAM G150
238	GULFSTREAM G200
305	GULFSTREAM G280
13	GULFSTREAM G300
11	GULFSTREAM G350
324	GULFSTREAM G450
131	GULFSTREAM G500
641	GULFSTREAM G550
465	GULFSTREAM G650
16	GULFSTREAM G-I
15	GULFSTREAM G-II
12	GULFSTREAM G-IIB
87	GULFSTREAM G-III
175	GULFSTREAM G-IV
319	GULFSTREAM G-IVSP
202	GULFSTREAM G-V
113	GULFSTREAMG 600
32	HAWKER 1000A
5	HAWKER 1000B
7	HAWKER 125-1A
2	HAWKER 125-1AS
1	HAWKER 125-600A
55	HAWKER 125-700B
66	HAWKER 4000
216	HAWKER 400XP
53	HAWKER 750
142	HAWKER 800A
16	HAWKER 800B
408	HAWKER 800XP
44	HAWKER 800XPI
100	HAWKER 850XP
176	HAWKER 900XP
213	HONDA JET
4	LEARJET 23
44	LEARJET 24
64	LEARJET 25
3	LEARJET 28
614	LEARJET 31
22	LEARJET 35
56	LEARJET 36
140	LEARJET 40
470	LEARJET 45
102	LEARJET 55
418	LEARJET 60
17	LEARJET 70
158	LEARJET 75
294	PREMIER I
6	SABRELINER 40A
2	SABRELINER 40EL
2	SABRELINER 40R
5	SABRELINER 60
9	SABRELINER 60ELXM
48	SABRELINER 65
11	SABRELINER 80
1	SABRELINER 80SC
1	SUKHOI SBJ
3	SYBER JET SJ30
52	WESTWIND 1
14	WESTWIND 1124
47	WESTWIND 2

TURBOPROPS - 16,319

CHIEF PILOTS & OWNERS

COUNT	AIRCRAFT
210	AVANTI
1	AVRO RJ70
483	CARAVAN 208
2275	CARAVAN 208B

37	CHEYENNE 400
140	CHEYENNE I
21	CHEYENNE IA
218	CHEYENNE II
49	CHEYENNE III
39	CHEYENNE IIIA
58	CHEYENNE IIXL
238	CONQUEST I
292	CONQUEST II
77	DAHER TBM-700A
96	DAHER TBM-700B
113	DAHER TBM-700C
383	DAHER TBM-850
134	DAHER TBM-900
70	DAHER TBM-910
102	DAHER TBM-930
138	DAHER TBM-940
66	DAHER TBM-960
165	DE HAVILLAND DHC
49	EPIC E1000
1	FOKKER 70
37	JETSTREAM 31
70	JETSTREAM 32
64	JETSTREAM 41
32	KING AIR 100
474	KING AIR 200
21	KING AIR 200C
8	KING AIR 200T
261	KING AIR 250
46	KING AIR 260
190	KING AIR 300
10	KING AIR 300LW
695	KING AIR 350
91	KING AIR 350C
35	KING AIR 350ER
397	KING AIR 350I
6	KING AIR 350IER
73	KING AIR 360
7	KING AIR 90
7	KING AIR A/B90
65	KING AIR A100
155	KING AIR A200
32	KING AIR A90
89	KING AIR A90-1
93	KING AIR B100
1154	KING AIR B200
118	KING AIR B200C
121	KING AIR B200GT
6	KING AIR B200SE
8	KING AIR B200T
46	KING AIR B90
306	KING AIR C90
40	KING AIR C90-1
193	KING AIR C90A
402	KING AIR C90B
78	KING AIR C90GT
112	KING AIR C90GTI
165	KING AIR C90GTX
18	KING AIR C90SE
257	KING AIR E90
172	KING AIR F90
29	KING AIR F90-1
5	MERLIN 300
14	MERLIN IIB
5	MERLIN III
27	MERLIN IIIA
45	MERLIN IIIB
14	MERLIN IIIC
4	MERLIN IV
11	MERLIN IV-A
34	MERLIN IV-C
91	MITSUBISHI MARQUISE
16	MITSUBISHI MU-2F
1	MITSUBISHI MU-2G
11	MITSUBISHI MU-2J
28	MITSUBISHI MU-2K
10	MITSUBISHI MU-2L
18	MITSUBISHI MU-2M
23	MITSUBISHI MU-2N
25	MITSUBISHI MU-2P
46	MITSUBISHI SOLITAIRE
70	NEXTANT 400XT
1	NEXTANT G90XT

1081	PILATUS PC-12 NG
836	PILATUS PC-12/45
216	PILATUS PC-12/47
300	PIPER JETPROP
91	PIPER M500
263	PIPER M600
601	PIPER MERIDIAN
292	QUEST KODIAK 100
3	QUEST KODIAK 900
15	ROCKWELL COMMANDER
6	STARSHIP 2000A
54	TURBO COMMANDER 1000
21	TURBO COMMANDER 690
134	TURBO COMMANDER 690A
136	TURBO COMMANDER 690B
80	TURBO COMMANDER 840
27	TURBO COMMANDER 900
26	TURBO COMMANDER 980

TWIN PISTON - 7,649

OWNERS

COUNT	AIRCRAFT
37	BARON 56TC
1677	BARON 58
428	BARON 58P
119	BARON 58TC
3	BARON A56TC
355	BARON G58
108	CESSNA 310
167	CESSNA 340
552	CESSNA 340A
50	CESSNA 402B
124	CESSNA 402C
27	CESSNA 404
317	CESSNA 414
452	CESSNA 414A
42	CESSNA 421
28	CESSNA 421A
309	CESSNA 421B
707	CESSNA 421C
59	CESSNA T303
112	DIAMOND D42
20	DIAMOND IA
186	DUKE B60
80	PIPER 600 AEROSTAR
3	PIPER 600A AEROSTAR
45	PIPER 601 AEROSTAR
4	PIPER 601B AEROSTAR
201	PIPER 601P AEROSTAR
24	PIPER 602P AEROSTAR
589	PIPER CHIEFTAIN
26	PIPER MOJAVE
301	PIPER NAVAJO
255	PIPER SENECA
74	ROCKWELL COMMANDER
168	ROCKWELL SHRIKE

HIGH PERFORMANCE MOVE-UP SINGLES - 10,002

OWNERS

COUNT	AIRCRAFT
393	BEECH BONANZA
441	CESSNA 182
55	CESSNA 206
428	CESSNA P210N
22	CESSNA P210R
58	CESSNA T182
1220	CIRRUS SR20
3733	CIRRUS SR22
2048	CIRRUS SR22T
121	MOONEY ACCLAIM
37	MOONEY ACCLAIM ULTRA
407	MOONEY OVATION
12	MOONEY OVATION ULTRA
263	PIPER MALIBU
199	PIPER MATRIX
565	PIPER MIRAGE

It is Better to give than to Receive

by Lawrence Searcy



Lawrence, the author, and Robert Sr.

On a late afternoon in October 2017, I received a call from a friend asking for a favor. Rob had just received tragic news that his brother-in-law, who suffered from depression, had passed away earlier in the day. The brother-in-law had been hospitalized trying to get his mental illness under control, but his mind's self-determination won out over his rational self. He left a wife and two young children wondering what more they could have done to help him. The family lived in Atlanta with no relatives in close proximity for support.

Rob rushed to get his parents to Atlanta that evening to help his sister cope with what had just occurred. He called the airlines, but the last flight to Atlanta had departed earlier in the day. His parents faced a long drive or waiting until the next day to get to their daughter. Rob called me for a favor and asked if I could get his parents to Atlanta that evening. I told him to have his parents meet me at the airport.

I rushed home to get my headset and flight bag from the house and tell my wife what had happened. At the time, I was flying a 1980 Mooney M20J that I shared with



I purchased the Mooney from a former member of the LSU board. Hence, the purple and gold.

a partner. I called my partner, explained the situation, and confirmed that he was not flying that night. I drove to the airport, pulled the plane out of the hangar, filed a flight plan to Cobb County International, checked the weather, and preflighted the plane in less than 30 minutes. Rob's parents arrived, thankful for the opportunity to have a plan to get them to their daughter and grandchildren quickly.

For those who have owned or flown in a Mooney, you know that the boarding procedure is not the easiest nor the most graceful. It is even worse trying to get a couple who are a little older and less flexible than their younger selves into the back seat and passenger seat. Entering through the small

co-pilot door while walking on the wing is not something that comes naturally to everyone, especially for a couple in their mid-70s. I was worried about cramming them in, but Rob's mom managed to fold herself into the back seat with some effort, and his dad sat down on the wing and scooted into the co-pilot seat. Rob's mom waved off the offer of a headset, preferring to sit in silence. Rob's dad sat up front with me. We made casual conversation during the flight to pass the time, but I knew he was just trying to be polite and gracious. There is no good way to counsel someone in grief with such a tragedy being so close in time.

We arrived in Atlanta in the late afternoon. They hailed a ride of some sort, and I turned around and left them with a hug, a handshake, and some comforting words. I flew back home alone that night as my first long night flight in months. The sun was setting into my face; it felt peaceful, and I was glad to be alone. The sky was clear, and the air was smooth. On any other day, this would be the picture-perfect flight. I was happy to be alone in my thoughts. My kids at the time were 17, 15, and 7. My mind was occupied by thoughts of how I would handle a similar situation as my kids grew older. Their pain must have been overwhelming.

I landed back home well after dark and reflected that I was happy to be able to provide this small service for the family. Up until that time, I had only flown for myself. Participating in selfish flying pursuits – family trips, business, the occasional hundred-dollar hamburger on a Saturday. I had not been asked for something like this before and had probably not thought to offer.

In the years since that trip to Atlanta, similar favors would be returned to me any



Rob Jr. and Robert Sr.





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number of times from other pilots. My partner in the Mooney came to get me after my dad's funeral, knowing I was not mentally confident to fly back home. A co-worker flew to Beaumont and rescued me after my engine failure and emergency landing. Numerous times, other pilots have offered to help me retrieve my plane from an annual inspection in another city. When I was just a VFR pilot, I flew to South Texas for a hunt and got stranded by a week of low ceilings, and had to drive seven hours home. A friend flew me back down a week later to retrieve my plane, saving me from another long drive. I heard stories at my dad's funeral of my dad flying a couple to their honeymoon when their flight was cancelled and even retrieving a dead relative from West Texas so the family could have a timely funeral. Pilots love to fly, or they wouldn't pursue it as a career or hobby. But these acts of kindness have nothing to do with flying. These favors are acts of compassion for someone in need. Our community is one of pilots helping pilots and pilots helping people.

Eight years after that October 2017 flight, I received a call from Rob's dad asking if he could meet with me and my wife after work. We were friends and often hunted and fished together, so the request was not out of the ordinary. We opened some wine, and my wife put out a cheese tray. I thought for sure I was going to be asked to be on some charitable board or committee. Instead, they arrived with a large box and handed it to me as they walked in. They both sat in our living room recounting the day I took them to Atlanta. I was amazed that this was coming up so many





The artist is Deborah Allison from Alpine, Texas, and now Santa Fe, New Mexico. The painting hangs in our home in Alpine.

years later. Rob's dad started by saying how thankful he was for that flight almost a decade earlier. He continued by explaining that for a long time, he and his wife searched for some memento to show their appreciation for that flight. I was amazed that it had weighed on them for so long and that they felt the need to do anything more than say thank you. In the box was a painting that they saw in a Santa Fe gallery. This painting just spoke to them as the perfect "thank you." I'm not sure I have ever been so moved by a gift. It now hangs prominently in our ranch house next to the kitchen.

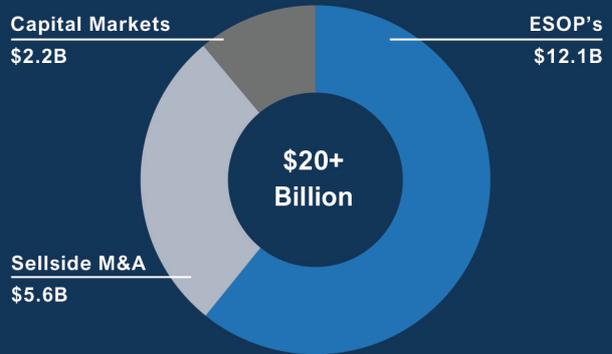
The painting is of two men wearing cowboy hats looking away from the painter. They could be my age or maybe a little older. They are sitting at a bar or lunch counter. Their faces are not visible, but they face the small, short-order kitchen, and the cook in the window seems to be listening to their conversation. The two men appear deep in thought and contemplating life. They seem to know that while we can beg for more time, we are constantly being robbed of it. They also know now is the time to act because we are all burning daylight.

Our flying careers, whether they are personal or professional, are finite. Eventually, our bodies or our insurance broker will end our opportunities to keep doing this awesome thing that so few of us get to do. As pilots, we are lucky to have the "freedom to move about the country" as the Southwest commercial says. Use the skills you have acquired to help someone in need. There is no need to join a specific charitable organization (although that is a great idea as well). Instead, let it be known you are available. If presented with an opportunity, seize it. I can only hope the call for help comes infrequently, because it often means someone we know is in distress. But as pilots, we have resources, and we should answer that call. I'm glad I did and will happily do so again. **T&T**

Lawrence S. Searcy Jr is a 1300-hour private and instrument-rated pilot with TBM 700A (current), Mooney M20J (prior), and Piper Malibu Mirage (prior) experience. Lawrence is an avid pilot, flying approximately 130 hours a year for business and pleasure throughout the United States.



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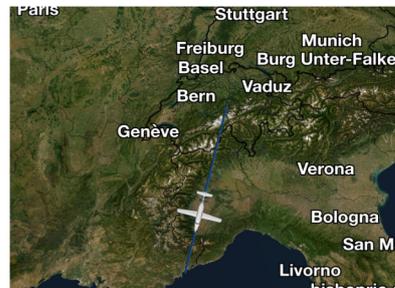
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Jimmy Graham

by Grant Boyd

PHOTOS COURTESY OF KELLEY HAMMOND AND OMAR BARRERA



PHOTO COURTESY OF KELLEY HAMMOND

Jimmy Graham wound up playing tight end in the National Football League, but his initial career trajectory led him to believe he would be a military pilot.

"This all started at the age of four, when I sat in front of a TV that had the movie *Top Gun* on it. I was a military kid at the time living in Germany on a base, so I really had this dream of one day being a fighter pilot," Graham recalled.

"You know, once I got to six-foot-four, I realized that was a pipe dream. So, I started playing basketball and

started dunking on people instead. And when I was in college, I had the opportunity to go up in an Extra 300. I remember we went out over the water, and we were inverted. That day I said, 'I am going to do whatever it takes to learn this one day.'

Becoming a pilot wouldn't be as far in the future as Graham initially expected. A late transition to the gridiron from the hardwood gave him the flexibility and means to pursue aviation.

"I switched to football in college and six months later got drafted into

the NFL, even though I didn't know what I was doing. Next thing I know, I'm a rookie behind Jeremy Shockey playing with Drew Brees and Reggie Bush. After my rookie season, they basically said that I was going to be the starter next year and it was my position to lose," he said.

"And most guys, when they first get into the league after rookie year, it's the first time you've had time and money. We got beaten up in the second round [of the playoffs], so we were home in January, and they basically said, 'Listen, don't get arrested.



PHOTO COURTESY OF KELLEY HAMMOND

We'll see you for offseason training in April. I hadn't earned anything yet and was just this basketball player trying to play football. To stay focused, instead of going out [to party], I actually went to flight school every morning at 7:00 a.m. in the offseason. That would become my routine for ten straight years, and I used the season during our breaks to study. I wanted to know everything, and if you ever asked any of my old teammates, I was never the guy on the team plane to watch a movie. I always had a book in my hand, and it usually had something to do with aviation."

Graham's coachability and tenacity translated well in the cockpit, and he earned a private pilot license during his first offseason. The long-term goal from the outset was to get into aerobatics, but flying was also useful when travelling between his main residence in Southern Florida and the four towns he played in during his football career. He had originally purchased a G36 Bonanza to travel between Miami and New Orleans, and shortly after purchased an Extra 330LX, which he still owns to this day.

A highlight of his time as a Saint was leading the league in receiving touchdowns during the 2013 season.



PHOTO COURTESY OF KELLEY HAMMOND

After five years in New Orleans, he started a new adventure in 2014 after being traded 1,800 nautical miles northwest.

"Seattle has one of the best owner-ships in all of football, with Paul Allen, who was an absolute brain. I ended up being really close with him because of aviation, and he was a special hu-

man who shared a lot with me about his passion for the upcoming things that he had (like the biggest hangar in the world, with the biggest plane). It was magical being able to be with him, and I got to meet a lot of his friends," Graham said.

"My first week on the job, this guy came in and said, 'Hey, I hear you



PHOTO COURTESY OF OMAR BARRERA



PHOTO COURTESY OF OMAR BARRERA

are a pilot?' I said that I was, and he replied that he used to own the team and asked if I had ever thought about being a seaplane pilot. I said that I was saving that for an offseason, but John [Nordstrom] was like 'Well, I flew in today. Do you want to go out back and fly the Beaver?' Seattle is one of the biggest aviation communities in the world, and it was a special community to be a part of."

Seaplane flying would become a regular fixture of Graham's Seattle experience, and he would ultimately have a 1957 Army Beaver restored, which he flew between Lake Washington and the practice facility. Three seasons with the Seahawks came and went quickly before he packed up and went to Green Bay in 2018. This is where he began his next aviation journey – Turbo Commander ownership.

"Getting in and out of Green Bay was the worst thing humanly possible. If you leave from Miami, you're going to go to Chicago or through Detroit. It's going to be delayed or cancelled every time. I was pretty tired of flying to Chicago and the flight getting cancelled and renting a car to make it to practice on time," he said.

"When I was in Seattle, I was lucky enough to be introduced to Joe Clark, who said whenever I retired, he'd like to mentor me in the business space. He had sent me a picture of a Turbo Commander and said that I was a Turbo Commander pilot. I looked at the plane and was like, 'This thing's ugly. What's going on?' But when I was looking for options for commuters back into my time as a Packer, I ran the numbers on basically everything. The 421, King Air 200, and Citations up through the [CJ]4; basically, everything single-pilot was looked into. I was always coming up short on something. If it wasn't range, then it wasn't power. If it wasn't power, it was speed, the ability to land anywhere, or carry full fuel and fill the seats. I remembered that turboprop that Joe Clark was talking to me about, so I looked into it."

What Graham thought the aircraft lacked in aesthetics was more than

made up for in its performance. He was excited to learn about all of the impressive things that Bob Hoover did to push the athletic aircraft past its known limits.

"You always think of a high wing being slower, right? When it comes to speed, you're not thinking of them. But once I looked into all the numbers and realized I could fit in the thing, I talked to a ton of pilots and mechanics. I had looked into a Cheyenne 400LS, and the thing is an absolute beast, but it doesn't have support. After reading all the articles and books, hearing Joe Clark and everyone else tell me it's a pilot's plane and that I was going to love it, I said, 'Okay, the Turbo Commander is the one' and actually purchased mine without ever flying one."

The aircraft was essentially rebuilt, with new paint, interior, and an avionics upgrade with Garmin components. One of the interesting aspects of the model worth mentioning is that there are many different variants, all of which have their own nuances and optional equipment. Specific intricacies like nose wheel steering and Garrett engines were some things to become acquainted with, and the five-time Pro Bowler easily translated his book knowledge of this aircraft during simulator training and three days of in-aircraft training.

"From day one, it was just unbelievable. I was just shocked at what this plane could do when it came to short-field takeoffs and landings. I flew to the West Coast four times last year, to Idaho. Its ability in the mountains is untouched. I actually fly mine out of a grass strip, and technically the book is 1,800 feet [for landing distance] and 2,100 for taking off but for me my limit is 2,500 feet for taking off or landing, no matter the surface (unless there is snow and then it's 3,000)," he said, advising that the aircraft perfectly fits his mission. A frequent flight is from Southern Florida to The Bahamas, where Graham is a private lender.

"The 960's time to climb to 18,000 is less than nine minutes, and then the range on it. I know a lot of people love

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the PT6; it's a great engine that's done a lot, but when it comes to instant power, climb, and fuel burn, there's nothing that beats a Garrett. If you chop power and put that prop forward, it'll be a big speed brake, and

you'll be descending at 5,000 feet a minute. I mean, it's incredible."

Graham notes that the aircraft gets him to Chicago or Boston non-stop from Miami with full seats and fuel. The aircraft, which is one of the

few built by Gulfstream, isn't RVSM equipped, so he's flying as high as FL280 – while burning 220 pounds per side an hour.

"Really, the biggest advantage is the TPE331-10. It's just a beast of an

“ Really, the biggest advantage is the TPE331-10. It's just a beast of an engine and sips fuel.”

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engine and sips fuel. When doing single-engine emergency [work], I've had 500 plus feet per minute [when climbing]. And the engine was upgraded and put into an engine program that increased the TBO to 7,000 hours from 5,000 hours. That is something a PT6 would never do, and being at 2,000 hours a side right now, I will be flying high in the sky with Black Pearl for some time now," Graham advised, highlighting his favorite aspects of the aircraft.

"The biggest downside is the learning curve of the systems. The Garretts are very complex, and you have to fully understand the engine checks and what you are looking for before you depart. The biggest thing is the Negative Torque System. Without it, you won't be able to fully feather the prop in an engine-out situation, and that's a no-go item. The props are huge and would create insane drag," he explained.

"The electrical system and bus panel are a lot. And the hydraulic system

is as well. The biggest learning curve is the nose wheel steering, which at first is very different, and the pilot's load is significant. There are a lot of systems to manually operate. The biggest problem is that it has a few items to get the gear down, but inside the cockpit, for the pilot, you have to know how to manually extend if all the auto systems fail. The good thing is if you do, most likely land on the belly and your props will never touch – saving you from destroying the most expensive parts of the rebuild."

Graham spent his 2023 season back in New Orleans. He has since continued putting much of his energy towards fitness and aviation, and officially retired from the National Football League in July of this year. When not behind the oars of a rowboat or on a bike, he is often in the sky, flying for business, pleasure, or connecting others to aviation. He founded the Jimmy Graham Foundation, which flies a Huey UH-1 helicopter, "to provide life-changing

and impactful experiences through the freedom of flight...recognize the accomplishments and sacrifices of all eras and provide flights for unfamiliar and underprivileged youth as an introduction to aviation." And in the same vein, he also inspires the next generation of aviators through EAA's Young Eagles program, which he was named the chairman of last year. **T&T**



Grant Boyd is a private pilot with eight years of experience in aviation business, including marketing, writing, customer service, and sales. Boyd holds a Bachelor's and a Master's of Business Administration degree, both from Wichita State University, and a Doctor of Education degree from Oklahoma State University. He was chosen as a NBAA Business Aviation "Top 40 Under 40" award recipient in 2020.

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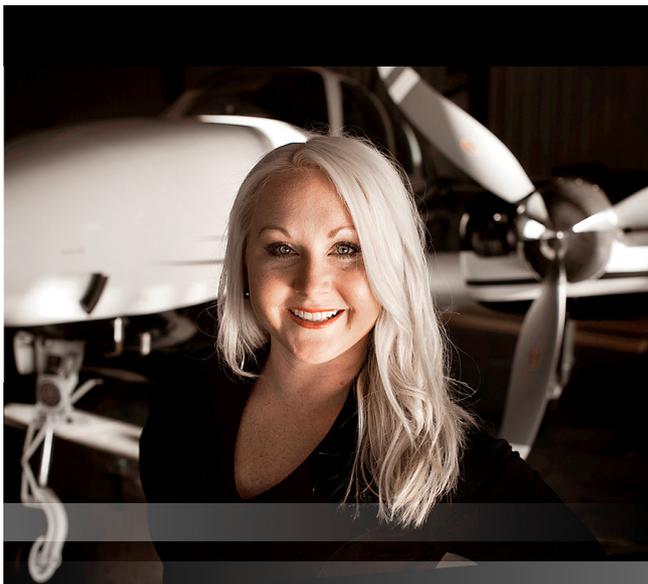
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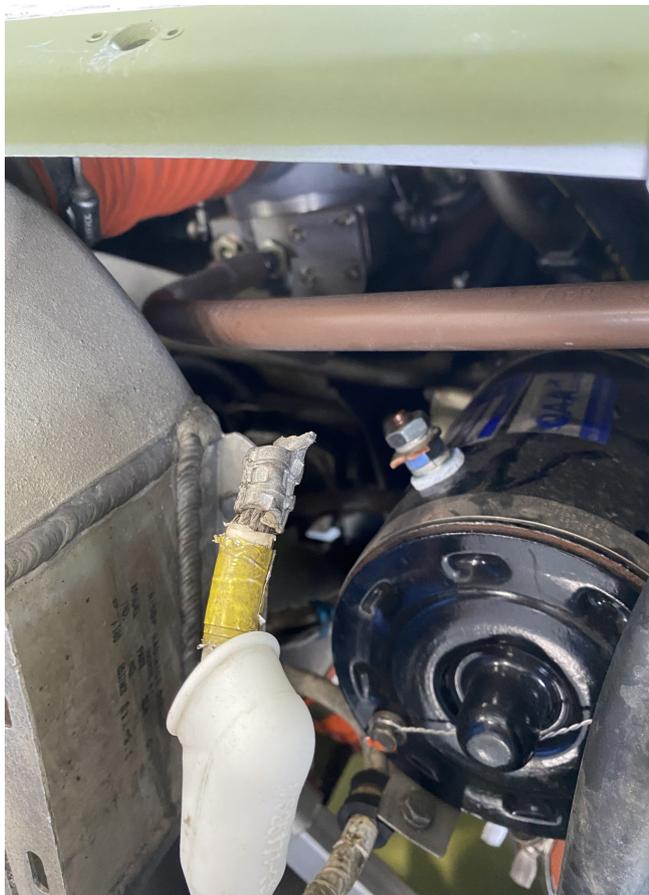
Boost pumps on. Mixture rich, then cut off. “Clear left,” I yelled out the storm window. The PBaron’s Continental engine on the left side roared to life as I rotated the starter switch. Left alternator on. Oil pressure in the green. I glanced right to make sure nothing was in the way for the same procedure on the right engine.

The prop didn’t move an inch. Nothing. “Well, that sucks,” I muttered. The engine has less than one hundred hours since overhaul. It’s immaculate. I checked the circuit breakers. No joy. I tried the starter again. Dead silence. Then the sinking feeling.

I am not going anywhere today.

This was not going to be a simple fix.

Months earlier, the on-airport shops at Addison (KADS) chuckled when I asked if they could handle my PBaron



The culprit

maintenance needs. There were no openings. “Call me in a year,” they said. One actually posted a notice on their website that they were not taking any new customers. I scoured the region and found a shop in Denton, Texas (KDTO). Precision Aircraft Maintenance. It was thirty miles to the north of Addison. I had only been there once for a simple oil change. Their shop was full of airplanes, too. I doubted they would drive to Dallas to tackle my AOG Baron.

From my silent cockpit, I called them. “This is Wesley Pearce, who is this?” “Hey Wesley, this is David Miller, the guy with the nice PBaron. You probably don’t remember me.” I explained my predicament.

“Okay, I will grab some tools and head down that way, he said. “You mean right now, as in RIGHT NOW?” I replied. “Yeah, it’s probably the starter. It’s about \$2,500. I can pick one up on the way, but I need to look at yours first. If it’s not the starter, the parts folks charge a 20 percent restock fee, and that’s just wasted money.” An hour later, Wesley was on scene.

He removed the cowling.

The starter looked brand new. “It’s not the starter,” he said. From the picture, it was obvious. The cable connector supplying power to the starter was completely severed.

“That’s the worst looking crimp I have seen in a while,” said Wesley.

My \$2,500 repair was about to be a whole lot less.

We hung out in the hangar and talked about engine oil use and PBaron oddities. It was refreshing to learn from someone who really knows the airplane. And in less time and for less money than a repair on my German-made car, Wesley had the PBaron ready to go.

The small shop, in the small town, was the right choice.

Fly safe. 

David Miller has owned and flown a variety of aircraft from light twins to midsize jets for more than 50 years. With 6,000 plus hours in his logbook, speaks nationally and writes on a variety of aviation safety topics. You can contact David at davidmiller1@sbcglobal.net.

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